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NATOPS FLIGHT MANUAL PERFORMANCE DATA NAVY MODEL F/A-18E/F 165533 AND UP AIRCRAFT

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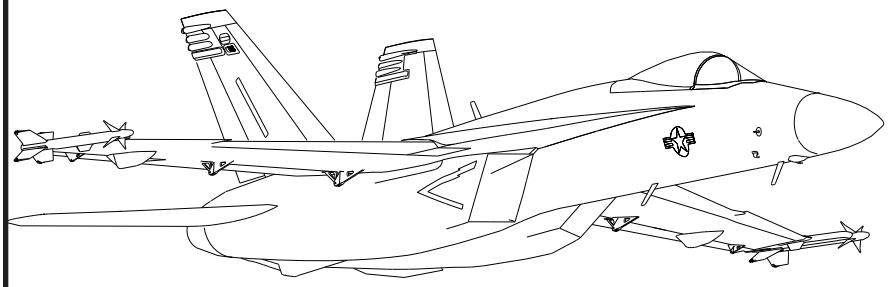

EFN523-1-1-001

ISSUED BY AUTHORITY OF THE CHIEF OF NAVAL OPERATIONS AND UNDER THE DIRECTION OF THE COMMANDER NAVAL AIR SYSTEMS COMMAND.

PERFORMANCE DATA **11**

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DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, D.C. 20350-2000

01 July 2002

LETTER OF PROMULGATION

1. The Naval Air Training and Operating Procedures Standardization (NATOPS) Program is a positive approach toward improving combat readiness and achieving a substantial reduction in the aircraft mishap rate. Standardization, based on professional knowledge and experience, provides the basis for development of an efficient and sound operational procedure. The standardization program is not planned to stifle individual initiative, but rather to aid the commanding officer in increasing the unit's combat potential without reducing command prestige or responsibility.

2. This manual standardizes ground and flight procedures but does not include tactical doctrine. Compliance with the stipulated manual requirements and procedures is mandatory except as authorized herein. In order to remain effective, NATOPS must be dynamic and stimulate rather than suppress individual thinking. Since aviation is a continuing, progressive profession, it is both desirable and necessary that new ideas and new techniques be expeditiously evaluated and incorporated if proven to be sound. To this end, commanding officers of aviation units are authorized to modify procedures contained herein, in accordance with the waiver provisions established by OPNAVINST 3710.7, for the purpose of assessing new ideas prior to initiating recommendations for permanent changes. This manual is prepared and kept current by the users in order to achieve maximum readiness and safety in the most efficient and economical manner. Should conflict exist between the training and operating procedures found in this manual and those found in other publications, this manual will govern.

3. Checklists and other pertinent extracts from this publication necessary to normal operations and training should be made and carried for use in naval aircraft.

M. J. McCABE
Rear Admiral, U.S. Navy
Director, Air Warfare

PERFORMANCE DATA

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RECORD OF CHANGES

Change No. and Date of Change	Date of Entry	Page Count Verified by (Signature)

INTERIM CHANGE SUMMARY

The following Interim Changes have been canceled or previously incorporated in this manual:

INTERIM CHANGE NUMBER	REMARKS/PURPOSE

The following Interim Changes have been incorporated in this Change/Revision:

INTERIM CHANGE NUMBER	REMARKS/PURPOSE
1	F/A-18E/F Post Conference Advance Change

Interim Changes Outstanding - To be maintained by the custodian of this manual:

INTERIM CHANGE NUMBER	ORIGINATOR/DATE (or DATE/TIME GROUP)	PAGES AFFECTED	REMARKS/PURPOSE

SUMMARY OF APPLICABLE TECHNICAL DIRECTIVES

Information relating to the following technical directives has been incorporated in this manual.

Change Number	ECP Number	Description	Visual Identification	Effectivity
	6060	Integration of High Pressure Pure Air Generator (HIPPAG) Into LAU-127 Launcher	None	(P) F/A-18E 165779 & Up (P) F/A-18F 165793 & Up

Information relating to the following recent technical directives will be incorporated in a future change

Change Number	ECP Number	Description	Visual Identification	Effectivity

Preface

SCOPE

The NATOPS Flight Manual Performance Charts are issued by the authority of the Chief of Naval Operations and under the direction of Commander, Naval Air Systems Command in conjunction with the Naval Air Training and Operating Procedures Standardization (NATOPS) Program. This manual contains information on performance data and effective operations. However, it is not a substitute for sound judgement. Compound emergencies, adverse weather or terrain, or considerations affecting the lives and property of others may require modification of the procedures contained herein. Read this manual from cover to cover. It's your responsibility to have a complete knowledge of its contents.

APPLICABLE PUBLICATIONS

The following applicable publications complement this manual:

- A1-F18EA-NFM-000 (NATOPS Flight Manual)
- A1-F18EA-NFM-500 (Pocket Checklist)
- A1-F18EA-NFM-600 (Servicing Checklist)
- A1-F18EA-NFM-700A/C/D/E (Functional Checkflight Checklists)
- A1-F18EA-TAC-000 (Volume I Tactical Manual)
- A1-F18EA-TAC-010 (Volume II Tactical Manual)
- A1-F18EA-TAC-100 (Volume III Tactical Manual)
- A1-F18EA-TAC-020 (Volume IV Tactical Manual)
- A1-F18EA-TAC-300 (Tactical Manual Pocket Guide)

HOW TO GET COPIES

Each flight crewmember is entitled to personal copies of the NATOPS Flight Manual and appropriate applicable publications.

One Time Orders. If this publication is needed on a one time basis (without future updates), order it from stock by sending an electronic DD 1348 requisition IAW NPFC pub 2002D.

Automatic Distribution (with updates). To automatically receive future changes and revisions to NAVAIR technical manuals, an activity must be established on the Automatic Distribution Requirements List (ADRL) maintained by the Naval Air Technical Data and Engineering Service Command (NATEC). To become established on the ADRL, notify your activity central technical publications librarian. If your activity does not have a library, you may establish your automatic distribution by contacting the Commanding Officer, NATEC, Attn: Distribution, NAS North Island, Bldg. 90, P.O. Box 357031, San Diego CA 92135-7031. Annual reconfirmation of these requirements is necessary to remain on automatic distribution. Please use your NATEC assigned account number whenever referring to automatic distribution requirements.

NOTE

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from current stock. To get publications from stock, see One Time Orders above.

Once established on automatic distribution for this or any other NAVAIR technical publication, your activity must submit an ADRL report on floppy disk at least once every 12 months to update or confirm their automatic distribution requirements.

NOTE

Activities not submitting an ADRL report on floppy disk for more than 12 months may be dropped from distribution of all NAVAIR technical publications.

UPDATING THE MANUAL

To ensure that the manual contains the latest procedures and information, NATOPS review conferences are held in accordance with OPNAVINST 3710.7 series.

CHANGE RECOMMENDATIONS

Recommended changes to this manual or other NATOPS publications may be submitted by anyone in accordance with OPNAVINST 3710.7 series.

Routine change recommendations are submitted directly to the Model Manager on OPNAV Form 3710/6 shown on the next page. The address of the Model Manager of this aircraft is:

Commanding Officer
VFA-122
U. S. Naval Air Station
Lemoore, CA 93245-5122
Attn: F/A-18E/F Model Manager
Autovon: 949-2402
Commercial: (559) 998-2402

Change recommendations of an URGENT nature (safety of flight, etc.,) should be submitted directly to the NATOPS Advisory Group Member in the chain of command by priority message.

NATOPS/TACTICAL CHANGE RECOMMENDATION
OPNAV 3710/6 (4-90) S/N 0107-LF-009-7900 DATE

TO BE FILLED IN BY ORIGINATOR AND FORWARDED TO MODEL MANAGER

FROM (originator)	Unit
TO (Model Manager)	Unit

Complete Name of Manual/Checklist	Revision Date	Change Date	Section/Chapter	Page	Paragraph

Recommendation (be specific)

☐ CHECK IF CONTINUED ON BACK

Justification

Signature	Rank	Title

Address of Unit or Command

TO BE FILLED IN BY MODEL MANAGER (Return to Originator)

FROM	Date

TO

Reference
(a) Your change Recommendation Dated _____

☐ Your change recommendation dated _____ is acknowledged. It will be held for action of the review conference planned for _____ to be held at _____

☐ Your change recommendation is reclassified URGENT and forwarded for approval to _____ _____ by my DTG _____

/s/_____ MODEL MANAGER | _____ AIRCRAFT

YOUR RESPONSIBILITY

NATOPS Flight Manuals are kept current through an active manual change program. Any corrections, additions, or constructive suggestions for improvement of its content should be submitted by routine or urgent change recommendation, as appropriate, at once.

NATOPS FLIGHT MANUAL INTERIM CHANGES

NATOPS Flight Manual Interim Changes are changes or corrections to the NATOPS Flight Manuals promulgated by CNO or NAVAIRSYSCOM. Interim Changes are issued either as printed pages, or as a naval message. The Interim Change Summary page is provided as a record of all interim changes. Upon receipt of a change or revision, the custodian of the manual should check the updated Interim Change Summary to ascertain that all outstanding interim changes have been either incorporated or canceled; those not incorporated shall be recorded as outstanding in the section provided.

CHANGE SYMBOLS

Revised text is indicated by a black vertical line in either margin of the page, adjacent to the affected text, like the one printed next to this paragraph. The change symbol identifies the addition of either new information, a changed procedure, the correction of an error, or a rephrasing of the previous material.

WARNING, CAUTIONS, AND NOTES

The following definitions apply to "WARNINGS", "CAUTIONS", and "NOTES" found throughout the manual.

WARNING

An operating procedure, practice, or condition, etc., which may result in injury or death, if not carefully observed or followed.

CAUTION

An operating procedure, practice, or condition, etc., which may result in damage to equipment if not carefully observed or followed.

NOTE

An operating procedure, practice, or condition, etc., which is essential to emphasize.

WORDING

The concept of word usage and intended meaning which has been adhered to in preparing this Manual is as follows:

"Shall" has been used only when application of a procedure is mandatory.

"Should" has been used only when application of a procedure is recommended.

"May" and "need not" have been used only when application of a procedure is optional.

"Will" has been used only to indicate futurity, never to indicate any degree of requirement for application of a procedure.

AIRSPEED

All airspeeds in this manual are in knots calibrated airspeed unless stated in other terms.

MANUAL DEVELOPMENT

This NATOPS Flight Manual was prepared using a concept that provides the aircrew with information for operation of the aircraft, but detailed operation and interaction is not provided. This concept was selected for a number of reasons: reader interest increases as the size of a technical publication decreases, comprehension increases as the technical complexity decreases, and accidents decrease as reader interest and comprehension increase. To implement this streamlined concept, observance of the following rules was attempted:

a. The pilot shall be considered to have above average intelligence and normal (average) common sense.
b. No values (pressure, temperature, quantity, etc.) which cannot be read in the cockpit are stated, except where such use provides the pilot with a value judgement.
c. Only the information required to fly the airplane is provided.
d. Notes, Cautions, and Warnings are held to an absolute minimum, since, almost everything in the manual could be considered a subject for a Note, Caution, or Warning.
e. No Cautions or Warnings or procedural data are contained in the Descriptive Section, and no abnormal procedures (Hot Starts, etc.) are contained in the Normal Procedures Section.
f. Notes, Cautions and Warnings will not be used to emphasize new data.
g. Multiple failures (emergencies) are not covered.
h. Simple words in preference to more complex or quasi-technical words are used and unnecessary and/or confusing word modifiers are avoided.

A careful study of the NATOPS Flight Manual will probably disclose a violation of each rule stated. In some cases this is the result of a conscious decision to make an exception to the rule. In many cases, it only demonstrates the constant attention and skill level that must be maintained to prevent slipping back into the old way of doing things.

In other words, the "Streamlined" look is not an accident, it takes constant attention for the NATOPS Flight Manual to keep its lean and simple concept to provide the pilot with the information required.

PART XI

PERFORMANCE DATA

F414-GE-400

CHAPTER 1

Introduction

1.1 INTRODUCTION

This section is divided into chapters 1 thru 11 to present performance data in proper sequence for preflight planning. All data are based on flight test or the contractor's estimate, U.S. standard day, 1962 conditions and/or provisions to correct for non-standard temperatures, and using JP-5 fuel. Unless noted otherwise, there is no significant difference between using JP-5 or JP-8. When using JP-4 fuel, fuel flows and fuel used quantities are approximately 1 % lower. All reference to gallons is U.S. gallons.

1.2 GLOSSARY OF TERMS

1.2.1 Indicated Airspeed. Indicated airspeed (IAS) is the pitot static airspeed indicator reading, as installed in the aircraft, without correction for system errors.

1.2.2 Calibrated Airspeed. Calibrated airspeed (CAS) is indicated airspeed corrected for static source error.

1.2.3 Equivalent Airspeed. Equivalent airspeed (EAS) is calibrated airspeed corrected for adiabatic compressible flow for the particular altitude. EAS is equal to CAS at sea level in standard air.

1.2.4 True Airspeed. True Airspeed (TAS) is the aircraft speed over the ground in no wind conditions. True airspeed is EAS corrected for density altitude.

1.2.5 Takeoff Speed. Takeoff speed is the speed at which the main gear lifts off the ground.

1.2.6 Nosewheel Lift-Off Speed. Nosewheel Lift-off speed is the speed at which the nosewheel lifts off the ground.

1.2.7 Pressure Altitude. Pressure Altitude is the vertical distance from the standard datum. This is a theoretical plane where air pressure (corrected to 15°C) is equal to 29.92 inches of mercury (Hg). The indicated pressure altitude may not be the actual height above sea level due to variations in temperature, lapse rate, atmospheric pressure, and errors on the sensed pressure.

1.2.8 Density Altitude. Density altitude is pressure altitude corrected for temperature. When conditions are standard, pressure altitude and density altitude are the same. Consequently, if the temperature is above standard, the density altitude is higher than the pressure altitude. If the temperature is below standard, the density altitude is lower than the pressure altitude.

1.2.9 Density Ratio. Density ratio is a single factor representation of a combination of temperature and pressure altitude.

1.2.10 Combat Ceiling. Combat ceiling is the altitude where the rate of climb is 500 feet per minute at either military (MIL) or maximum afterburner (MAX AB) rated power.

CHAPTER 2

Standard Data F414-GE-400

2.1 DRAG INDEX SYSTEM

Cruise, climb, range, endurance, and descent charts contained in this section are presented in a drag index format. Before using the charts a total drag index figure (drag count) for the specific aircraft configuration must be determined. The basic aircraft is defined as an F/A-18 configured with wingtip AIM-9 missiles and has a Drag Index equal to zero (DI=0). Two types of drag must be accounted for when determining the total drag index with external stores, the basic store drag and the interference drag. Basic store drag is the drag count assigned to specific stores and their associated suspension equipment. Interference drag develops between stores on adjacent wing and fuselage stations and for selected centerline stores. The magnitude of this drag is a function of the distance between stores, airspeed, and aircraft angle of attack. In general, interference drag increases as the distance between stores decreases, as airspeed increases above 0.6 Mach, and as angle of attack decreases.

2.1.1 Sample Problem. The following sample problem is presented to demonstrate the method of computing both types of drag. Total drag at various Mach numbers and dash angle of attack is calculated for the following interdiction mission store loading. As drag information is obtained it is entered on a Drag Computation Form (figure 2-1).

Station	Store Load
1	Wingtip AIM-9
2	Mk-83 CFA
3	Mk-83 CFA
4	480 gallon fuel tank
5	FLIR
6	EMPTY
7	NAVFLIR
8	480 gallon fuel tank
9	Mk-83 CFA
10	Mk-83 CFA
11	Wingtip AIM-9

2.1.2 Determining the Basic Store Drag. Basic store drag is the additional drag imposed when external stores are carried. The drag index values for selected stores in the inventory are presented in figure 2-2. Using the example station 2 load (pylon and MK-83 CFA), the basic store drag index is 10.0. The drag for each of the other stations (including fuselage stations) is similarly found and recorded in the Drag Computation Form (figure 2-1). The total of the drag on all stations is the basic store drag index (for the interdiction load example, DI = 142.0).

2.1.3 Determining Interference Drag. Because of the large combination of stores which can be carried, a table of interference drag code numbers (figure 2-3) has been devised to aid in computing interference drag while carrying any combination of external stores. These code numbers are used to compute an approximate interference drag index. The interference drag index is presented as a function of total interference code number and dash angle of attack or cruise angle of attack (figure

2-4). Only the loadings that generate interference drag are given an interference code. Wing tip mounted missiles do not produce interference drag.

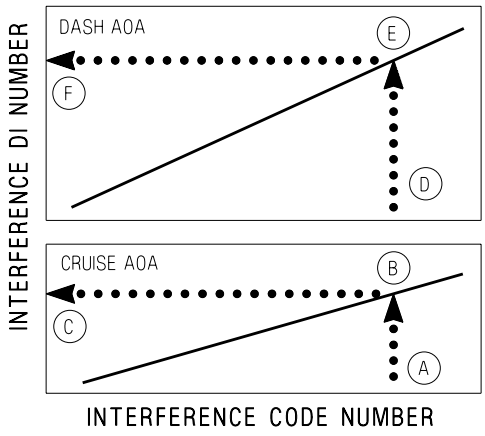
To calculate an interference DI number it is first necessary to obtain the interference code number corresponding to loadings which produce interference drag. For example, using the sample configuration, the MK-83 LD on the outboard station pylon produces interference drag with the MK-83 CFA on the midboard pylon station. The interference code number representing this drag equals 28.1. The interference code numbers for the other stations producing interference drag can also be found in the table. The individual code numbers are then summed to obtain a total interference code number for the configuration (for the interdiction load example, total interference code = 182.2).

The interference DI charts (figure 2-4) are used to convert the configuration total interference code number to a DI number. The interference DI is a function of Mach number and either cruise AOA (greater than approximately 2.5°) or dash AOA (approximately 2.5° or lower). For the sample problem considered, the dash angle of attack chart is used. The total interference code number of 182.2 gives the interference drag indexes shown on the drag computation form (figure 2-1).

2.1.3.1 Sample Problem.

A. Interference code number	180	D. Interference code number	180
B. Cruise AOA Mach number	.85	E. Dash AOA Mach number	.85
C. Cruise AOA Interference DI number	41.5	F. Dash AOA Interference DI number	49.8

SAMPLE INTERFERENCE CODE NUMBER TO INTERFERENCE DRAG INDEX NUMBER CONVERSION



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2.2 AIRSPEED CONVERSION CHART

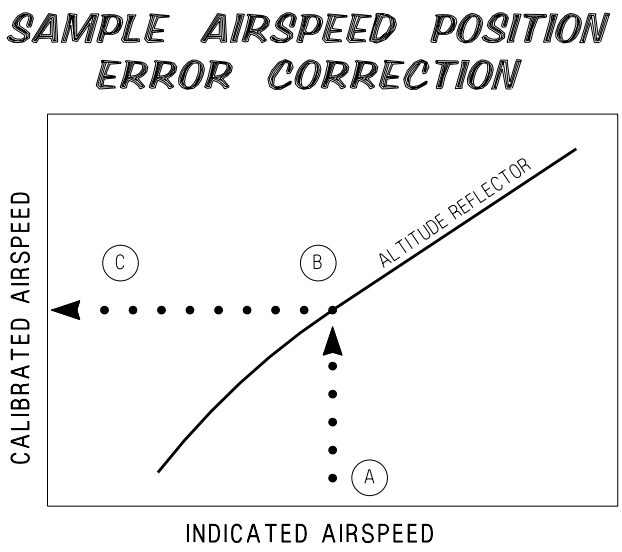
The Airspeed Conversion chart (figure 2-7) provides a means of converting calibrated airspeed to true Mach number and true airspeed.

2.3 AIRSPEED POSITION ERROR CORRECTION CHARTS

Under normal conditions, airspeed position error is automatically compensated for by the FCC air data function. However, if a malfunction of the air data function occurs, position error must be applied to the cockpit standby indication. These charts (figures 2-8 and 2-9) provide a direct-reading conversion from indicated airspeed to calibrated airspeed and from indicated Mach number to true Mach number.

2.3.1 Sample Problem.

Indicated Airspeed (figure 2-8)		Mach Number (figure 2-9)	
A. Indicated airspeed	500 knots	A. Indicated Mach number	1.0
B. Altitude	20,000 feet	B. Altitude reflector	
C. Calibrated airspeed	525 knots	C. True Mach Number	1.08



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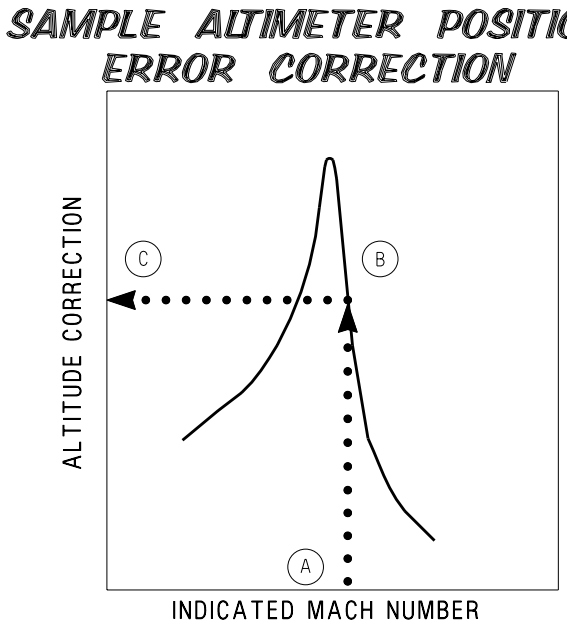
2.4 ALTIMETER POSITION ERROR CORRECTION CHARTS

Under normal operating conditions, the FCC air data function compensates for the static source position error. If the air data function fails in flight, the standby altimeter can be used. However, these readings must be corrected by means of the Altimeter Position Error Correction chart (figure 2-10, sheets 1 and 2). These charts provide altitude correction (ΔH) for indicated airspeeds up to 240 knots below 10,000 feet and for indicated Mach numbers up to 2.0 Mach at altitudes of sea level, 20,000 feet, and 40,000 feet.

2.4.1 Use. Enter the applicable chart with the indicated Mach number or indicated airspeed. Project vertically upward to intercept the applicable altitude curve, then horizontally left to read the altitude correction (ΔH). Apply ΔH to the assigned altitude and fly assigned altitude +ΔH.

2.4.2 Sample Problem.

A. Indicated Mach number	1.1	C. Altitude correction (ΔH)	-2280 feet
B. Assigned altitude	20,000 feet	D. Assigned altitude +ΔH(B+C)	17,720 feet



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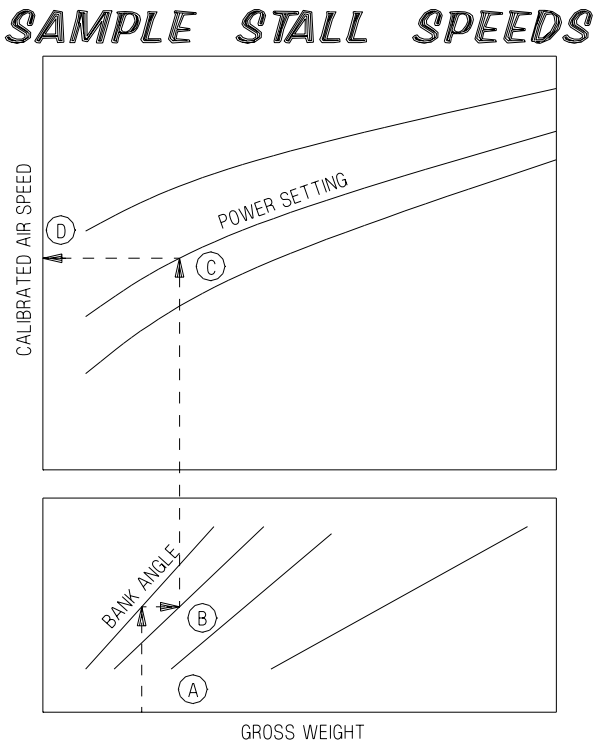
2.5 STALL SPEEDS CHART

The Stall Speeds chart (figure 2-11) presents stall speeds for various combinations of gross weight, bank angle and power setting at maximum lift. The data is valid for both full and half flap configurations.

2.5.1 Use. Enter the chart with the applicable gross weight and project vertically up to intersect the 0° bank angle. From this intersection, project horizontally right to the appropriate bank angle. From this point, project vertically up to the appropriate power setting curve, then horizontally left to read the corresponding stall speed.

2.5.2 Sample Problem.

A. Gross weight	50,000 lbs.	C. Power setting	Military Thrust
B. Bank angle	30°	D. Stall speed	120 knots



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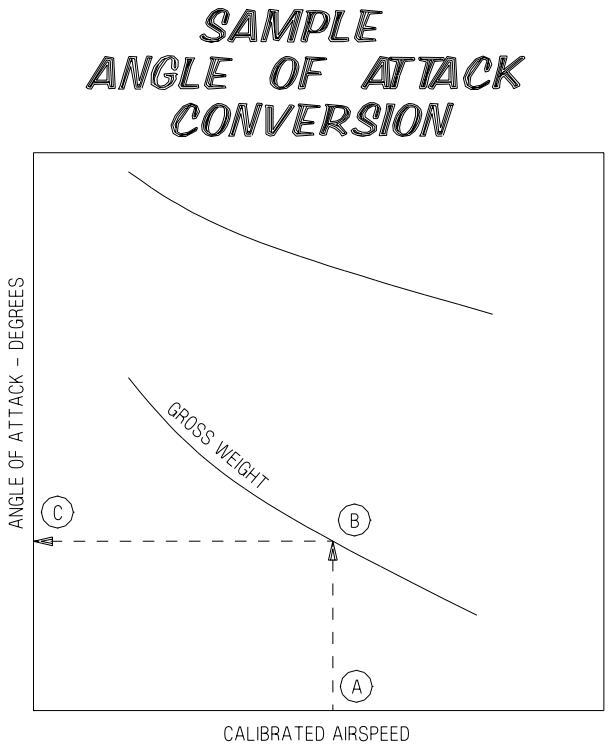
2.6 ANGLE OF ATTACK CONVERSION CHART

This chart (figure 2-12) presents the corresponding angle of attack in degrees for various combinations of calibrated airspeed and gross weight. The data are based on stabilized 1 G level flight conditions with separate plots for both 30° and 40° flap settings with landing gear down.

2.6.1 Use. Enter the applicable plot at the airspeed scale and project vertically up to intersect the appropriate aircraft gross weight curve. From this intersection, project horizontally left to read the corresponding angle of attack for the specified flight condition/configuration.

2.6.2 Sample Problem. Configuration - Gear Down, Flaps 40°

A. Calibrated airspeed	160 KCAS	C. Corresponding angle of attack	6.5°
B. Gross weight	50,000 lbs.		



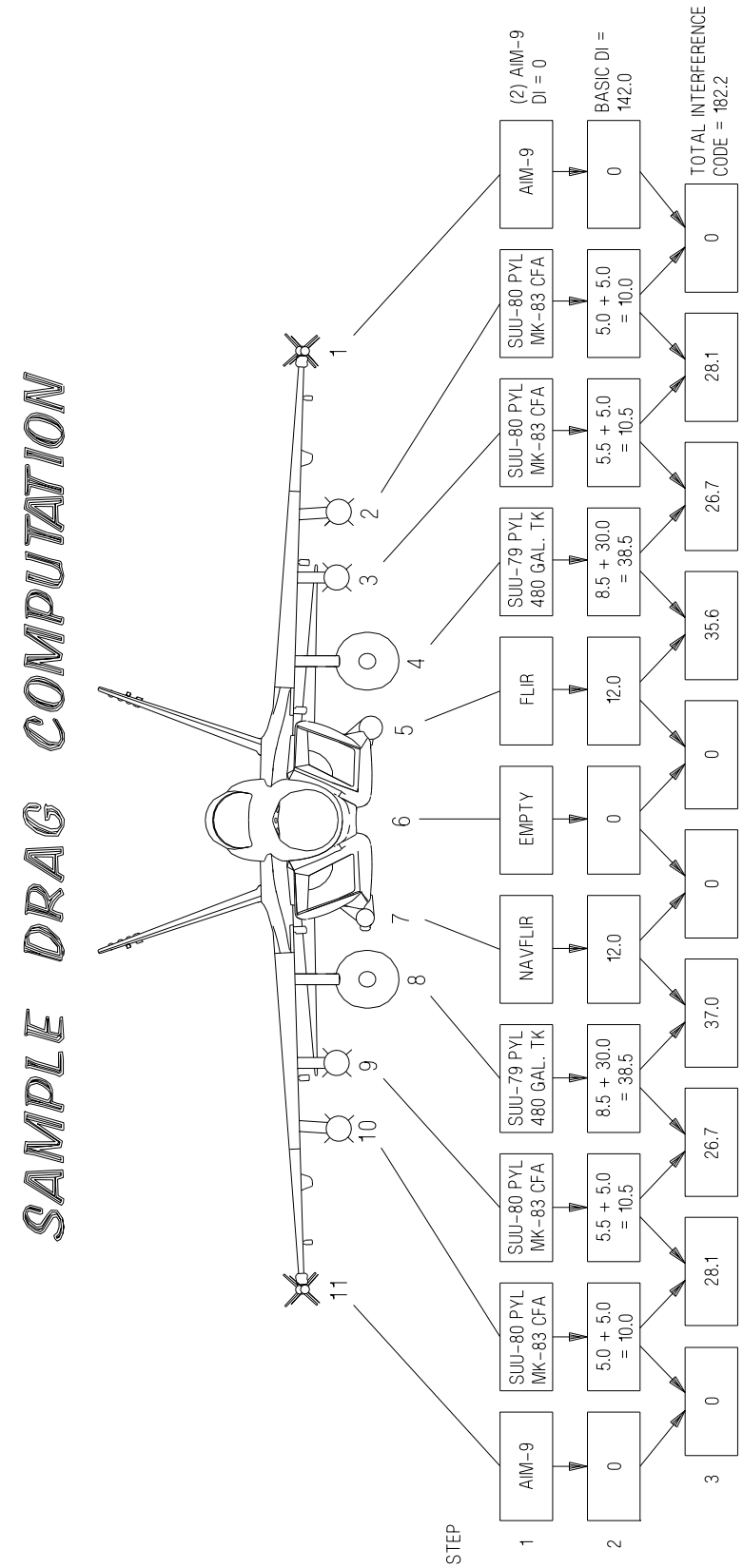


Figure 2-1. Sample Drag Computation

SUMMARY OF STORE DRAG INDEX NUMBERS

STORE	VERSION	WEIGHT PER STORE LB	CARRIAGE/DRAG
INTERNAL CANNON			
M61 Internal Cannon	M61A2 light cannon (included in aircraft GW) Ammunition (weight for 412 rounds) - M55 & M220 TP/TP Tracer M56 & M242 HEI/HEI Tracer PGU-27/B & PGU-30/B TP/TP Tracer PGU-28/B SAPHEI	449 231 231 238 236	0
MISSILES			
AIM-7 Sparrow III	AIM-7M: monopulse seeker AIM-7M (H-build): improved GCS AIM-7P: improved low altitude capability ATM-7M: live trainer--telemetry 'warhead' ATM-7P: live trainer--telemetry 'warhead' CATM-7F-3: captive trainer	509 510 509 509 509 510	LAU-115: 8.0
AIM-9 Sidewinder	AIM-9L-1: all-aspect CATM-9L-1: captive trainer AIM-9M-1, -3, -4, -6, -8 CATM-9M-2, -4, -6, -8: captive trainer	196 195 196 195	2 on wingtips: 0.0 1 on wingtips: -2.0 dash, 1.0 cruise 0 on wingtips: -4.0 dash, 2.0 cruise LAU-127: 5.0
AIM-9X Sidewinder		188	2 on wingtips: -1.0 dash, 3.0 cruise 1 on wingtips: -2.5 dash, 2.5 cruise 0 on wingtips: -4.0 dash, 2.0 cruise
AIM-120 AMRAAM	AIM-120A AIM-120B (production improvements) 1 AIM-120C (C-3/C-4 only) CATM-120B inert captive trainer CATM-120C inert captive trainer JAIM-120A instrumented (AAVI) JAIM-120B live trainer, telemetry "warhead" 1 JAIM-120C (C-3/C-4 only), live trainer, telemetry "warhead"	348 348 348 342 340 347 335 347	Fuselage: 4.0 Outboard pylon with LAU-127: 4.0 Dual (standard pylon, requires LAU-115 plus LAU-127): 3.0
AGM-65 Maverick	AGM-65E: Laser Guided A/A37A-T9: TGM-65E: captive laser trainer AGM-65F: IIR ship attack profile CATM-65F: captive IIR trainer	642 642 669 669	LAU-117: 8.0
AGM-84D Harpoon	AGM-84D-1: Block C ATM-84D-1: exercise--telemetry "warhead" ATM-84D-1A: exercise--inert warhead CATM-84D-1: inert captive trainer	2 1221 2 1213 2 1221 1151	Pylon: 11.5
AGM-84E SLAM	AGM-84E-1C ATM-84E-1C: exercise--telemetry "warhead" CATM-84E-1C: captive trainers	1366 1360 1360	Inboard pylon: 16.0 Midboard pylon: 12.0
AGM-84H/K SLAM-ER	AGM-84H AGM-84K (with ATA)	1480 1487	Inboard pylon: 18.0 Midboard pylon: 14.0
AGM-88 HARM	AGM-88A: Block II seekers AGM-88B: Block II, III, and IIIA seekers AGM-88C: Block IV and V seekers ATM-88B: live trainer, inert warhead CATM-88A: captive trainer CATM-88B: captive trainer (Block II, III, and IIIA seekers) CATM-88C: captive trainer (Block IV and V seekers)	800	LAU-118 Inboard: 12.0 Midboard: 9.0 Outboard: 10.0
FUEL TANKS			
480 Gallon External Fuel Tank	Empty weight On wing (with 3264 lb fuel) On centerline (with 3216 lb fuel) with wing tanks On centerline (with 3216 lb fuel) without wing tanks	381 3645 3597 3597	Inboard pylon: 30.0 Midboard pylon: 21.0 Centerline pylon with wing tanks: 22.0 Centerline pylon without wing tanks: 19.0
A/A42R-1 Refueling Pod	A/A42R-1 Aerial Refueling Store (ARS)	2863 full 843 empty	Centerline pylon: 21.0

Figure 2-2. Summary of Store Drag Index Numbers (Sheet 1 of 5)

SUMMARY OF STORE DRAG INDEX NUMBERS (CONT)

STORE	VERSION	WEIGHT PER STORE LB	CARRIAGE/DRAG
BOMBS			
BLU-110A/B 1,000-lb TP Bomb	Mk 83 CFA, M904 or blunt nose Mk 83 CFA, TDD or ogive nose BSU-85 Retard, pilot option LD/HD	3 995 3 989 3 1,031	CFA centerline pylon: 4.5 CFA inboard, midboard, and outboard pylon: 5.0 CFA inboard CVER: 9.0 CFA midboard CVER: 4.0 BSU-85 centerline pylon: 8.7 BSU-85 inboard, midboard, and outboard pylon: 7.0 BSU-85 CVER: 9.0
BLU-111A/B 500-lb TP Bomb	BSU-86 Retard, TP pilot option LD/HD	3 560	Centerline pylon: 5.1 Inboard/midboard pylon: 5.2 Outboard pylon: 8.0 CVER: 8.0
CBU-99 TP Rockeye II	CBU-99/B: Mk 339 CBU-99A/B: FMU-140	506 509	Centerline pylon: 7.7 Inboard, midboard, and outboard pylon: 8.0 CVER: 9.0
CBU-100 NTP Rockeye II	CBU-100/B: Mk 339 CBU-100A/B: FMU-140	490 493	Centerline pylon: 7.7 Inboard, midboard, and outboard pylon: 8.0 CVER: 9.0
Mk 82 500-lb Bomb (Mod 1: NTP Mod 2: TP)	BSU-86 retard, NTP, pilot option LD/HD BSU-86 retard, TP, pilot option LD/HD	3 558 3 567	Centerline pylon: 5.1 Inboard/midboard pylon: 5.2 Outboard pylon: 8.0 CVER: 8.0
Mk 83 1,000-lb Bomb (Mod 4: NTP Mod 5: TP)	Mk 83 CFA, NTP, M904 or blunt nose Mk 83 CFA, NTP, TDD or ogive nose Mk 83 CFA, TP, M904 or blunt nose Mk 83 CFA, TP, TDD or ogive nose BSU-85 retard, NTP, pilot option LD/HD BSU-85 retard, TP, pilot option LD/HD	3 986 3 980 3 1005 3 999 3 1022 3 1041	CFA centerline pylon: 4.5 CFA inboard, midboard, and outboard pylon: 5.0 CFA inboard CVER: 9.0 CFA midboard CVER: 4.0 BSU-85 centerline pylon: 8.7 BSU-85 inboard, midboard, outboard pylon: 7.0 BSU-85 CVER: 9.0
Mk 84 2,000-lb Bomb	Mk 84 Mods 4/7, NTP, CFA Mk 84 Mods 3/5/6, TP, CFA	3 1992 3 2031	Pylon: 7.0
GBU-10 (Mk 84) LGB	NTP GBU-10D/B and E/B TP GBU-10D/B and E/B	4 2114 4 2153	Pylon: 13.0
GBU-12B/B Paveway (Mk 82) GBU	NTP GBU-12C/B and D/B TP GBU-12C/B and D/B	4 610 4 619	Pylon: 5.8
GBU-16/B Paveway (Mk 83) GBU	NTP GBU-16A/B and B/B TP GBU-16A/B and B/B	4 1112 4 1131	Centerline pylon: 12.0 Inboard, midboard and outboard pylon: 10.0
GBU-24B/B Low level LGB	BLU-109A/B live or BLU-109A(D-1)/B inert TP warhead	2396	Inboard pylon: 25.0 Midboard pylon: 17.0
JDAM Joint Direct Attack Munition	GBU-31(v)2/B JDAM (Mk-84) GBU-31(v)4/B JDAM (BLU-109)	2056 2135	Mk-84, pylon:7.0 BLU-109, inboard: 12.0 BLU-109, midboard: 10.0
JSOW Joint Standoff Weapon	AGM-154/A	1041	Inboard pylon: 10.0 Midboard pylon: 8.0

Figure 2-2. Summary of Store Drag Index Numbers (Sheet 2 of 5)

SUMMARY OF STORE DRAG INDEX NUMBERS (CONT)

STORE	VERSION	WEIGHT PER STORE LB	CARRIAGE/DRAG
PRACTICE STORES			
BDU-45/B Inert Mk 82 w/side-mounted spotting charges	BSU-86 Retard NTP, pilot option LD/HD BSU-86 Retard, TP, pilot option LD/HD	3 547 3 556	Centerline pylon: 5.1 Inboard/midboard pylon: 5.2 Outboard pylon: 8.0 CVER: 8.0
BDU-48 Practice Bomb	BDU-48/B: HD practice bomb carried on IMERs	10	IMER forward: 1.4 IMER aft: 0.8
BDU-57/B Laser Guided Training Round	LGTR II (PAVE Way II simulator)	89	IMER: 6.0
BDU-59 Laser Guided Training Round	BDU-59/B LGTR BDU-59A/B LGTR	89 89	IMER: 6.0
BDU-60 Laser Guided Training Round	BDU-60/B LGTR II BDU-60A/B LGTR II	89 89	IMER: 6.0
Mk 76 Practice Bomb	Mk 76 Mod 5: LD practice bomb carried on IMERs	25	IMER forward: 1.2 IMER aft: 0.6
MINES			
Mk 62 Quickstrike Mine	5 OA 06K: Mk-16 paratail, NTP Mod 0, OA 06: Mk-16 paratail, NTP Mod 0, OA 06: Mk-16 paratail, TP 5 OA 09K: BSU-86 retard, NTP Mod 0, OA 09: BSU-86 retard, NTP Mod 0, OA 09: BSU-86 retard, TP	536 536 545 552 552 561	Inboard/midboard pylon: 5.2 Outboard pylon: 8.0
Mk 63 Quickstrike Mine	5 OA 03K: MAU-91 retard, NTP Mod 0, OA 03: MAU-91 retard, NTP Mod 0, OA 03: MAU-91 retard, TP 5 OA 06K: Mk-12 paratail, NTP Mod 0, OA 06: Mk-12 paratail, TP Mod 0, OA 06: Mk-12 paratail, NTP	1056 1056 1075 1003 1003 1022	Pylon: 10.0
Mk 65 Quickstrike Mine	5 OA 01K with fairing, NTP Mod 0: Mk-57 TDD, with fairing, TP OA 01/02: Mk-131/132 batteries Mod 1: Mk-58 TDD, with fairing, TP OA 01/02: Mk-131/132 batteries	2446 2402 2413	Pylon, fairing on: 13.1 Pylon, fairing off: 37.7
CHAFF/FLARES (EXTERNAL CARRIAGE)			
ALE-47 Chaff/Flare Dispensers	AN/D-56/ALE-47 standard dispenser housing (with carts or shorting caps), or AN/D-59/ALE-47(V) long dispenser housing (with carts or shorting caps) RR-129/AL chaff RR-144/AL training chaff MJU-8/B flare (training use only) MJU-8A/B decoy device MJU-27/B flare MJU-27A/B flare 6 MJU-35/B flare (long) 6 MJU-36/B flare (long) MJU-38/B flare SM-875/ALE flare simulator SM-875A/ALE flare simulator RT-1489/ALE Gen-X act payld	 30=8.9 lb 30=8.9 lb 30=18.0 lb 30=18.0 lb 30=23.7 lb 30=25.2 lb 30=37.5 lb 30=24.0 lb 30=18.0 lb 30=5.2 lb 30=6.1 lb 30=35.0 lb	N/A
LUU-2 Flare	LUU-2A/B 1.6 Mcp for 5 minutes. No CV operations. LUU-2B/B 2.0 Mcp for 4 minutes. CV operations authorized	29	IMER forward: 3.1 IMER aft: 1.6

Figure 2-2. Summary of Store Drag Index Numbers (Sheet 3 of 5)

SUMMARY OF STORE DRAG INDEX NUMBERS (CONT)

STORE	VERSION	WEIGHT PER STORE LB	CARRIAGE/DRAG
PYLONS, RACKS, LAUNCHERS			
ADU-773A/A Adapter	SUU-80 to LAU-127 internal adapter P/N 74A730501-1003	15	N/A
BRU-32	BRU-32B/A ZRF SUU-78/-79/80 ejector rack	76	N/A
BRU-33 CVER	BRU-33A/A ZRF Canted Vertical Ejector Rack	200	Pylon: 10.0
BRU-41/A IMER	BRU-41/A ZRF Improved Multiple Ejector Rack	240	Pylon: 16.8
BRU-42/A ITER	BRU-42/A ZRF Improved Triple Ejector Rack	124	Pylon: 16.8
LAU-10C/A	With 4 HE frag rockets, fairings on With 4 HE frag rockets, fairings off Empty, fairings on Empty, fairings off	616 610 113 107	CVER, fairings on: 7.9 CVER, fairings off: 27.8
LAU-68D/A	With 7 HE frag rockets, fairings on With 7 HE frag rockets, fairings off Empty, fairings on Empty, fairings off	269 263 73 67	CVER, fairings on: 3.1 CVER, fairings off: 13.1
LAU-10D/A	With 4 HE frag rockets, fairings on With 4 HE frag rockets, fairings off Empty, fairings on Empty, fairings off	655 649 152 146	CVER, fairings on: 7.9 CVER, fairings off: 27.8
LAU-115 Launcher Adapter	LAU-115D/A wing pylon adapter for AIM-7, P/Ns 74A730351-1021	133 max	Pylon: 3.0
LAU-116 Sta 5/7 AIM Ejector	LAU-116B/A for AIM-120	68	Fuselage, empty station only: 4.6
LAU-117 AGM-65 Launcher	LAU-117(V)-2/A wing pylon adapter for one AGM-65 Maverick	135	Pylon: 5.0
LAU-118 AGM-88 Launcher	LAU-118(V)-1/A wing pylon adapter for one AGM-88 HARM	100	Pylon: 3.0
LAU-127 AIM Launcher	LAU-127A/A and LAU-127B/A. Included in aircraft GW when wingtip mounted. Also used with ADU-773 (single) for AIM-120 carriage	95	Outboard pylon: 2.0 Wingtip: See AIM-9 Sidewinder Dual mount on LAU-115: 2.0
LAU-127C/A HIPAAG Launcher		112	Wingtip: See AIM-9X Sidewinder
SUU-78	SUU-78A/A centerline pylon P/N 74A736001-1007 (with BRU-32B/A)	183	1.0
SUU-79	SUU-79A/A (Rev A) inboard/midboard wing pylon P/N 74A096524-1003 and P/N 74A730401-1015 (with BRU-32B/A)	350	Inboard pylon: 8.5 Midboard pylon: 6.5
SUU-80	SUU-80A/A Low Drag Wing Pylon (with BRU-32B/A) SUU-80A/A Low Drag Wing Pylon (with ADU-773)	194 138	Midboard pylon: 5.5 Outboard pylon: 5.0
Empty Station		0	0
Blank-Off Panel	Used when LAU-116 not carried on stations 5 or 7	14	0

Figure 2-2. Summary of Store Drag Index Numbers (Sheet 4 of 5)

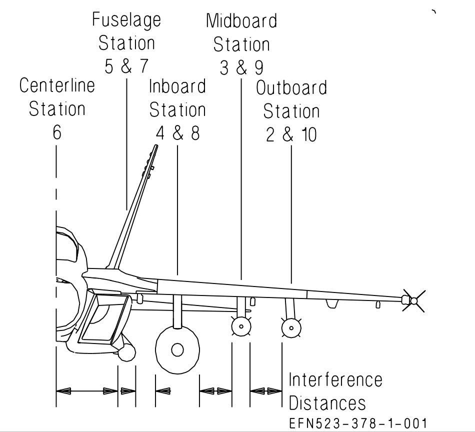
SUMMARY OF STORE DRAG INDEX NUMBERS (CONT)

STORE	VERSION	WEIGHT PER STORE LB	CARRIAGE/DRAG
PODS			
AAR-55 Nav FLIR Pod	AN/AAR-55 Thermal Imaging Navigation Set (TINS)	214	Station 7: 12.0
AAS-46 Targeting FLIR Pod	AN/AAS-46 FLIR (non-laser) AN/AAS-46A (with laser capability) AN/AAS-46B (with laser capability, non-operational laser spot tracker)	366 388 388	Station 5: 12.0
AWW-13 Advanced Data Link	Phase II AWW-13 for SLAM, MIL-STD-1760 interfaces	707	Centerline pylon: 3.0 Inboard pylon: 6.0
ASQ T TACTS Tactical Aircrew Combat Training System	7 AN/ASQ T-16: Aircraft Instrumented Subsystem Internal (AISI) AN/ASQ T-17: P4A 7 AN/ASQ T-31 (V): AISI(k)	8 32 9 188 8 31	LAU-127: 4.2 Wingtip: See AIM-9
ATFLIR	AN/ASQ TAC-228 V (2)	412	Fuselage: 12.0
SHARP	AN/ASD-12 (XN-1) (V)	2100	Windows Stowed: 26.0 Windows deployed: 27.0
TOWED DECOY			
ALE-50 Towed Decoy Dispensers	AN/ALE-50 Towed Decoy Dispenser: with tow-line standoff mast and decoys		N/A
DECOY			
TALD	ADM-141C	400	ITER: 7.9
LOCATOR MARKERS			
Mk-58 Marine Locator	Mk-58 Marine Locator Marker (MLM)	13	IMER forward: 3.1 IMER aft: 1.6

NOTES

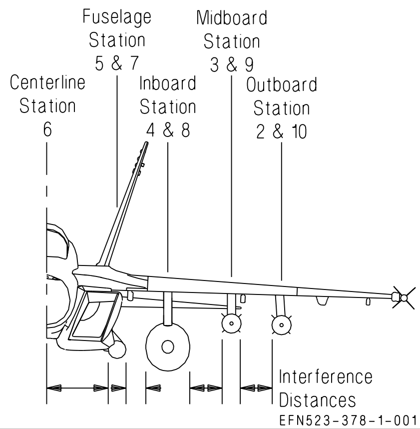
1. AIM-120C-3 (P/N 3819625-100, C-4 P/N 38196-101), JAIM-120C (C-3 P/N 3819655-100/101, C-4 P/N 3819655-102/103).
2. Weights apply to gray missiles. White missiles weigh 52 lbs less.
3. Weights include nose plug (blunt unless specified), warhead, fin, and 4 lb tail fuze.
4. Weight reflects Mk-80 series warhead. MXU-735 nose plug, and a 4 lb tail fuze.
5. The operational assembly suffix K (Laying) indicates an inert exercise and training mine with no mod number.
6. MJU-35 and -36 require deeper AN/D-59/ALE-47(V) dispenser housing. Shorter expendables shall not be loaded in this housing.
7. Mounted in gun bay (no drag). Not cleared for gun firing operations.
8. Includes weight of antenna P/N 185140-2 (AS-3564/ASQ-T16) or P/N 3200AS409-1 (AS-4319/ASQ).
9. Includes three ballast weights (weights required for TACTS pod carriage).

Figure 2-2. Summary of Store Drag Index Numbers (Sheet 5 of 5)



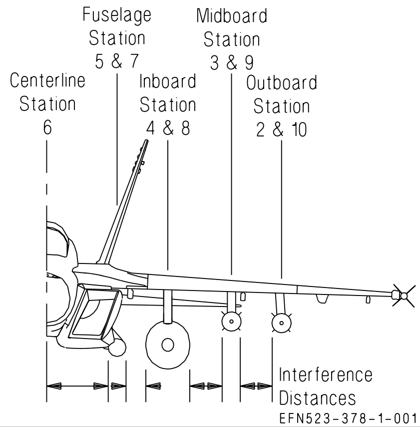
			Fuselage Station				Midboard Station																	
							CVER										ITER/IMER							
			AIM-120	NAVFLIR	Target FLIR	ATFLIR	Mk-82/BSU-86	Mk-83LD	Mk-83/BSU-85	BLU-110	BLU-111	CBU-99 Rockeye	CBU-100 Rockeye	BDU-45	LAU-10 Rockets	LAU-68 Rockets	TALD (centerline only)	BDU-57 LGTR II (centerline only)	BDU-59 LGTR (centerline only)	BDU-60 LGTR II (centerline only)	LUU-2B Flare (shoulder or centerline)	Mk-76 (shoulder or centerline)	BDU-48 (shoulder or centerline)	Mk-58 MLT (shoulder or centerline)
Centerline Station		Mk-82/BSU-86	10.2	6.3	10.7	10.7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Mk-83LD	11.9	7.9	12.3	12.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Mk-83/BSU-85	11.9	7.9	12.3	12.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		BDU-45	10.2	6.3	10.7	10.7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		GBU-16 Paveway	11.9	7.9	12.3	12.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		BLU-110	11.9	7.9	12.3	12.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		BLU-111	10.2	6.3	10.7	10.7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		480 Gallon External Fuel Tank	20.8	16.9	21.3	21.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Aerial Refueling Store (ARS)	20.4	16.4	20.8	20.8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		AWW-13 Advanced Data Link Pod	12.4	8.4	12.8	12.8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		SHARP Pod	18.5	14.5	18.9	18.9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		CBU-99 Rockeye	11.5	7.6	12.0	12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		CBU-100 Rockeye	11.5	7.6	12.0	12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Inboard Station	CVER	Mk-82/BSU-86	31.1	38.0	36.6	36.6	37.9	39.5	39.5	39.5	37.9	39.1	39.1	37.9	39.6	37.4	25.8	22.8	22.8	22.8	31.4	30.5	30.4	31.3
		Mk-83LD	32.9	39.8	38.4	38.4	39.5	41.1	41.1	41.1	39.5	40.7	40.7	39.5	41.3	39.0	27.5	24.4	24.4	24.4	33.0	32.2	32.0	32.9
		Mk-83/BSU-85	32.9	39.8	38.4	38.4	39.5	41.1	41.1	41.1	39.5	40.7	40.7	39.5	41.3	39.0	27.5	24.4	24.4	24.4	33.0	32.2	32.0	32.9
		BLU-110	32.9	39.8	38.4	38.4	39.5	41.1	41.1	41.1	39.5	40.7	40.7	39.5	41.3	39.0	27.5	24.4	24.4	24.4	33.0	32.2	32.0	32.9
		BLU-111	31.1	38.0	36.6	36.6	37.9	39.5	39.5	39.5	37.9	39.1	39.1	37.9	39.6	37.4	25.8	22.8	22.8	22.8	31.4	30.5	30.4	31.3
		CBU-99 Rockeye	32.5	39.4	38.0	38.0	39.1	40.7	40.7	40.7	39.1	40.4	40.4	39.1	40.9	38.7	27.1	24.0	24.0	24.0	32.6	31.8	31.7	32.5
		CBU-100 Rockeye	32.5	39.4	38.0	38.0	39.1	40.7	40.7	40.7	39.1	40.4	40.4	39.1	40.9	38.7	27.1	24.0	24.0	24.0	32.6	31.8	31.7	32.5
		BDU-45	31.1	38.0	36.6	36.6	37.9	39.5	39.5	39.5	37.9	39.1	39.1	37.9	39.6	37.4	25.8	22.8	22.8	22.8	31.4	30.5	30.4	31.3
	ITER/IMER	TALD (centerline only)	19.2	26.1	24.7	24.7	25.8	27.5	27.5	27.5	25.8	27.1	27.1	25.8	27.6	25.4	13.8	10.8	10.8	10.8	19.4	18.5	18.4	19.3
		Mk-76 (shoulder or centerline)	23.2	30.1	28.7	28.7	30.5	32.2	32.2	32.2	30.5	31.8	31.8	30.5	32.3	30.1	18.5	15.5	15.5	15.5	24.0	23.2	23.1	23.9
		BDU-48 (shoulder or centerline)	23.1	30.0	28.6	28.6	30.4	32.0	32.0	32.0	30.4	31.7	31.7	30.4	32.2	30.0	18.4	15.3	15.3	15.3	23.9	23.1	23.0	23.8

Figure 2-3. Interference Code Numbers (Sheet 1 of 6)



			Midboard Station – Pylon																										
			AIM-120 (dual)	AIM-7	Mk-82/BSU-86	Mk-83LD	Mk-83/BSU-85	Mk-84LD	BDU-45	BLU-110	BLU-111	CBU-99 Rockeye	CBU-100 Rockeye	480 Gallon External Fuel Tank	GBU-10 Paveway	GBU-12 Paveway	GBU-16 Paveway	GBU-24	GBU-31(v)2/B JDAM (Mk-84)	GBU-31(v)4/B JDAM (BLU-109)	AGM-65 Maverick	AGM-84D Harpoon	AGM-84E SLAM	AGM-84H/K SLAM-ER	AGM-88 HARM	AGM-154/A JSOW	Mk-62 Quickstrike Mine	Mk-63 Quickstrike Mine	Mk-65 Quickstrike Mine
Centerline Station		Mk-82/BSU-86	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Mk-83LD	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Mk-83/BSU-85	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		BDU-45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		GBU-16 Paveway	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		BLU-110	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		BLU-111	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		480 Gallon External Fuel Tank	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Aerial Refueling Store (ARS)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		AWW-13 Advanced Data Link Pod	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		SHARP Pod	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		CBU-99 Rockeye	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		CBU-100 Rockeye	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Inboard Station	CVER	Mk-82/BSU-86	36.8	24.8	26.2	27.8	27.8	29.8	26.2	27.8	26.2	27.4	27.4	36.7	29.8	26.2	27.8	29.8	30.0	28.8	26.8	27.5	27.5	27.5	25.8	27.4	26.2	27.8	31.2
		Mk-83LD	38.5	26.4	27.8	29.4	29.4	31.4	27.8	29.4	27.8	29.0	29.0	38.4	31.4	27.8	29.4	31.4	31.6	30.4	28.4	29.2	29.2	29.2	27.4	29.1	27.8	29.4	32.9
		Mk-83/BSU-85	38.5	26.4	27.8	29.4	29.4	31.4	27.8	29.4	27.8	29.0	29.0	38.4	31.4	27.8	29.4	31.4	31.6	30.4	28.4	29.2	29.2	29.2	27.4	29.1	27.8	29.4	32.9
		BLU-110	38.5	26.4	27.8	29.4	29.4	31.4	27.8	29.4	27.8	29.0	29.0	38.4	31.4	27.8	29.4	31.4	31.6	30.4	28.4	29.2	29.2	29.2	27.4	29.1	27.8	29.4	32.9
		BLU-111	36.8	24.8	26.2	27.8	27.8	29.8	26.2	27.8	26.2	27.4	27.4	36.7	29.8	26.2	27.8	29.8	30.0	28.8	26.8	27.5	27.5	27.5	25.8	27.4	26.2	27.8	31.2
		CBU-99 Rockeye	38.1	26.0	27.4	29.0	29.0	31.0	27.4	29.0	27.4	28.7	28.7	38.0	31.0	27.4	29.0	31.0	31.2	30.1	28.0	28.8	28.8	28.8	27.0	28.7	27.4	29.0	32.5
		CBU-100 Rockeye	38.1	26.0	27.4	29.0	29.0	31.0	27.4	29.0	27.4	28.7	28.7	38.0	31.0	27.4	29.0	31.0	31.2	30.1	28.0	28.8	28.8	28.8	27.0	28.7	27.4	29.0	32.5
		BDU-45	36.8	24.8	26.2	27.8	27.8	29.8	26.2	27.8	26.2	27.4	27.4	36.7	29.8	26.2	27.8	29.8	30.0	28.8	26.8	27.5	27.5	27.5	25.8	27.4	26.2	27.8	31.2
	ITER/IMER	TALD (centerline only)	24.8	12.8	14.1	15.8	15.8	17.8	14.1	15.8	14.1	15.4	15.4	24.7	17.8	14.1	15.8	17.8	17.9	16.8	14.8	15.5	15.5	15.5	13.8	15.4	14.1	15.8	19.2
		Mk-76 (shoulder or centerline)	29.5	17.5	18.8	20.5	20.5	22.5	18.8	20.5	18.8	20.1	20.1	29.4	22.5	18.8	20.5	22.5	22.6	21.5	19.5	20.2	20.2	20.2	18.5	20.1	18.8	20.5	23.9
		BDU-48 (shoulder or centerline)	29.4	17.3	18.7	20.3	20.3	22.3	18.7	20.3	18.7	20.0	20.0	29.3	22.3	18.7	20.3	22.3	22.5	21.4	19.3	20.1	20.1	20.1	18.3	20.0	18.7	20.3	23.8

Figure 2-3. Interference Code Numbers (Sheet 2)



			Fuselage Station				Midboard Station																	
							CVER										ITER/IMER							
			AIM-120	NAVFLIR	Target FLIR	ATFLIR	Mk-82/BSU-86	Mk-83LD	Mk-83/BSU-85	BLU-110	BLU-111	CBU-99 Rockeye	CBU-100 Rockeye	BDU-45	LAU-10 Rockets	LAU-68 Rockets	TALD (centerline only)	BDU-57 LGTR II (centerline only)	BDU-59 LGTR (centerline only)	BDU-60 LGTR II (centerline only)	LUU-2B Flare (shoulder or centerline)	Mk-76 (shoulder or centerline)	BDU-48 (shoulder or centerline)	Mk-58 MLT (shoulder or centerline)
Inboard Station	Pylon	AIM-120 (dual)	30.2	37.1	35.7	35.7	36.8	38.5	38.5	38.5	36.8	38.1	38.1	36.8	38.6	36.4	24.8	21.8	21.8	21.8	30.3	29.5	29.4	30.2
		AWW-13 Advanced Data Link Pod	21.7	28.6	27.2	27.2	28.3	29.9	29.9	29.9	28.3	29.5	29.5	28.3	30.1	27.9	16.3	13.2	13.2	13.2	21.8	21.0	20.8	21.7
		Mk-82/BSU-86	19.5	26.4	25.0	25.0	26.2	27.8	27.8	27.8	26.2	27.4	27.4	26.2	27.9	25.7	14.1	11.1	11.1	11.1	19.7	18.8	18.7	19.6
		Mk-83LD	21.2	28.1	26.7	26.7	27.8	29.4	29.4	29.4	27.8	29.0	29.0	27.8	29.6	27.4	15.8	12.7	12.7	12.7	21.3	20.5	20.3	21.2
		Mk-83/BSU-85	21.2	28.1	26.7	26.7	27.8	29.4	29.4	29.4	27.8	29.0	29.0	27.8	29.6	27.4	15.8	12.7	12.7	12.7	21.3	20.5	20.3	21.2
		Mk-84LD	23.2	30.1	28.7	28.7	29.8	31.4	31.4	31.4	29.8	31.0	31.0	29.8	31.6	29.4	17.8	14.7	14.7	14.7	23.3	22.5	22.3	23.2
		BDU-45	19.5	26.4	25.0	25.0	26.2	27.8	27.8	27.8	26.2	27.4	27.4	26.2	27.9	25.7	14.1	11.1	11.1	11.1	19.7	18.8	18.7	19.6
		BLU-110	21.2	28.1	26.7	26.7	27.8	29.4	29.4	29.4	27.8	29.0	29.0	27.8	29.6	27.4	15.8	12.7	12.7	12.7	21.3	20.5	20.3	21.2
		BLU-111	19.5	26.4	25.0	25.0	26.2	27.8	27.8	27.8	26.2	27.4	27.4	26.2	27.9	25.7	14.1	11.1	11.1	11.1	19.7	18.8	18.7	19.6
		CBU-99 Rockeye	20.8	27.7	26.3	26.3	27.4	29.0	29.0	29.0	27.4	28.7	28.7	27.4	29.2	27.0	15.4	12.3	12.3	12.3	20.9	20.1	20.0	20.8
		CBU-100 Rockeye	20.8	27.7	26.3	26.3	27.4	29.0	29.0	29.0	27.4	28.7	28.7	27.4	29.2	27.0	15.4	12.3	12.3	12.3	20.9	20.1	20.0	20.8
		480 Gallon External Fuel Tank	30.1	37.0	35.6	35.6	36.7	38.4	38.4	38.4	36.7	38.0	38.0	36.7	38.5	36.3	24.7	21.7	21.7	21.7	30.3	29.4	29.3	30.2
		GBU-10 Paveway	23.2	30.1	28.7	28.7	29.8	31.4	31.4	31.4	29.8	31.0	31.0	29.8	31.6	29.4	17.8	14.7	14.7	14.7	23.3	22.5	22.3	23.2
		GBU-12 Paveway	19.5	26.4	25.0	25.0	26.2	27.8	27.8	27.8	26.2	27.4	27.4	26.2	27.9	25.7	14.1	11.1	11.1	11.1	19.7	18.8	18.7	19.6
		GBU-16 Paveway	21.2	28.1	26.7	26.7	27.8	29.4	29.4	29.4	27.8	29.0	29.0	27.8	29.6	27.4	15.8	12.7	12.7	12.7	21.3	20.5	20.3	21.2
		GBU-24	23.2	30.1	28.7	28.7	29.8	31.4	31.4	31.4	29.8	31.0	31.0	29.8	31.6	29.4	17.8	14.7	14.7	14.7	23.3	22.5	22.3	23.2
		GBU-31(v)2/B JDAM (Mk-84)	23.4	30.3	28.9	28.9	30.0	31.6	31.6	31.6	30.0	31.2	31.2	30.0	31.7	29.5	17.9	14.9	14.9	14.9	23.5	22.6	22.5	23.4
		GBU-31(v)4/B JDAM (BLU-109)	22.2	29.1	27.7	27.7	28.8	30.4	30.4	30.4	28.8	30.1	30.1	28.8	30.6	28.4	16.8	13.7	13.7	13.7	22.3	21.5	21.4	22.2
		AGM-65 Maverick	20.2	27.1	25.7	25.7	26.8	28.4	28.4	28.4	26.8	28.0	28.0	26.8	28.6	26.4	14.8	11.7	11.7	11.7	20.3	19.5	19.3	20.2
		AGM-84E SLAM	20.9	27.8	26.4	26.4	27.5	29.2	29.2	29.2	27.5	28.8	28.8	27.5	29.3	27.1	15.5	12.5	12.5	12.5	21.1	20.2	20.1	21.0
		AGM-84H/K SLAM/ER	20.9	27.8	26.4	26.4	27.5	29.2	29.2	29.2	27.5	28.8	28.8	27.5	29.3	27.1	15.5	12.5	12.5	12.5	21.1	20.2	20.1	21.0
		AGM-88 HARM	19.2	26.1	24.7	24.7	25.8	27.4	27.4	27.4	25.8	27.0	27.0	25.8	27.6	25.4	13.8	10.7	10.7	10.7	19.3	18.5	18.3	19.2
		AGM-154/A JSOW	20.8	27.7	26.3	26.3	27.4	29.1	29.1	29.1	27.4	28.7	28.7	27.4	29.2	27.0	15.4	12.4	12.4	12.4	20.9	20.1	20.0	20.8
		Mk-62 Quickstrike Mine	19.5	26.4	25.0	25.0	26.2	27.8	27.8	27.8	26.2	27.4	27.4	26.2	27.9	25.7	14.1	11.1	11.1	11.1	19.7	18.8	18.7	19.6
		Mk-63 Quickstrike Mine	21.2	28.1	26.7	26.7	27.8	29.4	29.4	29.4	27.8	29.0	29.0	27.8	29.6	27.4	15.8	12.7	12.7	12.7	21.3	20.5	20.3	21.2
		Mk-65 Quickstrike Mine	24.6	31.5	30.1	30.1	31.2	32.9	32.9	32.9	31.2	32.5	32.5	31.2	33.0	30.8	19.2	16.2	16.2	16.2	24.7	23.9	23.8	24.7

Figure 2-3. Interference Code Numbers (Sheet 3)

Inboard Station Pylon	Midboard Station Pylon	AIM-120 (dual)	AIM-7	Mk-82/BSU-86	Mk-83LD	Mk-83/BSU-85	Mk-84LD	BDU-45	BLU-110	BLU-111	CBU-99 Rockeye	CBU-100 Rockeye	480 Gallon External Fuel Tank	GBU-10 Paveway	GBU-12 Paveway	GBU-16 Paveway	GBU-24	GBU-31(v)4/B JDAM (BLU-109)	GBU-31(v)2/B JDAM (Mk-84)	AGM-65 Maverick	AGM-84D Harpoon	AGM-84E SLAM	AGM-84H/K SLAM-ER	AGM-88 HARM	AGM-154/A JSOW	Mk-62 Quickstrike Mine	Mk-63 Quickstrike Mine	Mk-65 Quickstrike Mine
AIM-120 (dual)		35.8	23.8	25.1	26.8	26.8	28.8	25.1	26.8	25.1	26.4	26.4	35.7	28.8	25.1	26.8	28.8	28.8	28.9	25.8	26.5	26.5	26.5	24.8	26.4	25.1	26.8	30.2
AWW-13 Advanced Data Link Pod		27.3	15.2	16.6	18.2	18.2	20.2	16.6	18.2	16.6	17.8	17.8	27.2	20.2	16.6	18.2	20.2	20.2	20.4	17.2	18.0	18.0	18.0	16.2	17.9	16.6	18.2	21.7
Mk-82/BSU-86		25.1	13.1	14.5	16.1	16.1	18.1	14.5	16.1	14.5	15.7	15.7	25.0	18.1	14.5	16.1	18.1	18.1	18.3	15.1	15.8	15.8	15.8	14.1	15.7	14.5	16.1	19.5
Mk-83LD		26.8	14.7	16.1	17.7	17.7	19.7	16.1	17.7	16.1	17.3	17.3	26.7	19.7	16.1	17.7	19.7	19.7	19.9	16.7	17.5	17.5	17.5	15.7	17.4	16.1	17.7	21.2
Mk-83/BSU-85		26.8	14.7	16.1	17.7	17.7	19.7	16.1	17.7	16.1	17.3	17.3	26.7	19.7	16.1	17.7	19.7	19.7	19.9	16.7	17.5	17.5	17.5	15.7	17.4	16.1	17.7	21.2
Mk-84LD		28.8	16.7	18.1	19.7	19.7	21.7	18.1	19.7	18.1	19.3	19.3	28.7	21.7	18.1	19.7	21.7	21.7	21.9	20.7	18.7	19.5	19.5	17.7	19.4	18.1	19.7	23.2
BDU-45		25.1	13.1	14.5	16.1	16.1	18.1	14.5	16.1	14.5	15.7	15.7	25.0	18.1	14.5	16.1	18.1	18.1	18.3	17.1	15.1	15.8	15.8	14.1	15.3	14.5	16.1	19.5
BLU-110		26.8	14.7	16.1	17.7	17.7	19.7	16.1	17.7	16.1	17.3	17.3	26.7	19.7	16.1	17.7	19.7	19.7	19.9	18.7	16.7	17.5	17.5	15.8	17.4	16.1	17.7	21.2
BLU-111		25.1	13.1	14.5	16.1	16.1	18.1	14.5	16.1	14.5	15.7	15.7	25.0	18.1	14.5	16.1	18.1	18.1	18.3	17.1	15.1	15.8	15.8	14.1	15.3	14.5	16.1	19.5
CBU-99 Rockeye		26.4	14.3	15.7	17.3	17.3	19.3	15.7	17.3	15.7	17.0	17.0	26.3	19.3	15.7	17.3	19.3	19.3	19.5	18.4	16.3	17.1	17.1	15.3	17.0	15.7	17.3	20.8
CBU-100 Rockeye		26.4	14.3	15.7	17.3	17.3	19.3	15.7	17.3	15.7	17.0	17.0	26.3	19.3	15.7	17.3	19.3	19.3	19.5	18.4	16.3	17.1	17.1	15.3	17.0	15.7	17.3	20.8
480 Gallon External Fuel Tank		35.7	23.7	25.0	26.7	26.7	28.7	25.0	26.7	25.0	26.3	26.3	35.6	28.7	25.0	26.7	28.7	28.7	28.8	27.7	25.7	26.4	26.4	24.7	26.3	25.0	26.7	30.1
GBU-10 Paveway		28.8	16.7	18.1	19.7	19.7	21.7	18.1	19.7	18.1	19.3	19.3	28.7	21.7	18.1	19.7	21.7	21.7	21.9	20.7	18.7	19.5	19.5	17.7	19.4	18.1	19.7	23.2
GBU-12 Paveway		25.1	13.1	14.5	16.1	16.1	18.1	14.5	16.1	14.5	15.7	15.7	25.0	18.1	14.5	16.1	18.1	18.1	18.3	17.1	15.1	15.8	15.8	14.1	15.7	14.5	16.1	19.5
GBU-16 Paveway		26.8	14.7	16.1	17.7	17.7	19.7	16.1	17.7	16.1	17.3	17.3	26.7	19.7	16.1	17.7	19.7	19.7	19.9	18.7	16.7	17.5	17.5	15.7	17.4	16.1	17.7	21.2
GBU-24		28.8	16.7	18.1	19.7	19.7	21.7	18.1	19.7	18.1	19.3	19.3	28.7	21.7	18.1	19.7	21.7	21.7	21.9	20.7	18.7	19.5	19.5	17.7	19.4	18.1	19.7	23.2
GBU-31(v)2/B JDAM (Mk-84)		28.9	16.9	18.3	19.9	19.9	21.9	18.3	19.9	18.3	19.5	19.5	28.8	21.9	18.3	19.9	21.9	21.9	22.0	20.9	18.9	19.6	19.6	17.9	19.5	18.3	19.9	23.3
GBU-31(v)4/B JDAM (BLU-109)		27.8	15.7	17.1	18.7	18.7	20.7	17.1	18.7	17.1	18.4	18.4	27.7	20.7	17.1	18.7	20.7	20.7	20.9	19.7	17.7	18.5	18.5	16.7	18.4	17.1	18.7	22.2
AGM-65 Maverick		25.8	13.7	15.1	16.7	16.7	18.7	15.1	16.7	15.1	16.3	16.3	25.7	18.7	15.1	16.7	18.7	18.7	18.9	17.7	15.7	16.5	16.5	14.7	16.4	15.1	16.7	20.2
AGM-84E SLAM		26.5	14.5	15.8	17.5	17.5	19.5	15.8	17.5	15.8	17.1	17.7	26.4	19.5	15.8	17.5	19.5	19.5	19.6	18.5	16.5	17.2	17.2	15.5	17.1	15.8	17.5	20.9
AGM-84H/K SLAM-ER		26.5	14.5	15.8	17.5	17.5	19.5	15.8	17.5	15.8	17.1	17.7	26.4	19.5	15.8	17.5	19.5	19.5	19.6	18.5	16.5	17.2	17.2	15.5	17.1	15.8	17.5	20.9
AGM-88 HARM		24.8	12.7	14.1	15.7	15.7	17.7	14.1	15.7	14.1	15.3	15.3	24.7	17.7	14.1	15.7	17.7	17.7	17.9	16.7	14.7	15.5	15.5	13.7	15.4	14.1	15.7	19.2
AGM-154/A JSOW		26.4	14.4	15.7	17.4	17.4	19.4	15.7	17.4	15.7	17.0	17.0	26.3	19.4	15.7	17.4	19.4	19.4	19.5	18.4	16.4	17.1	17.1	15.4	17.0	15.7	17.4	20.8
Mk-62 Quickstrike Mine		25.1	13.1	14.5	16.1	16.1	18.1	14.5	16.1	14.5	15.7	15.7	25.0	18.1	14.5	16.1	18.1	18.1	18.3	17.1	15.1	15.8	15.8	14.1	15.7	14.5	16.1	19.5
Mk-63 Quickstrike Mine		26.8	14.7	16.1	17.7	17.7	19.7	16.1	17.7	16.1	17.3	17.3	26.7	19.7	16.1	17.7	19.7	19.7	19.9	18.7	16.7	17.5	17.5	15.7	17.4	16.1	17.7	21.2
Mk-65 Quickstrike Mine		30.2	18.2	19.5	21.2	21.2	23.2	19.5	21.2	19.5	20.8	20.8	30.1	23.2	19.5	21.2	23.2	23.2	23.3	22.2	20.2	20.9	20.9	19.2	20.8	19.5	21.2	24.6

Figure 2-3. Interference Code Numbers (Sheet 4)

Outboard Station		Fuselage Station				Midboard Station																
						CVER											ITER/IMER					
		AIM-120	NAVFLIR	Target FLIR	ATFLIR	Mk-82/BSU-86	Mk-83LD	Mk-83/BSU-85	BLU-110	BLU-111	CBU-99 Rockeye	CBU-100 Rockeye	BDU-45	LAU-10 Rockets	LAU-68 Rockets	TALD (centerline only)	BDU-57 LGTR II (centerline only)	BDU-59 LGTR (centerline only)	BDU-60 LGTR II (centerline only)	LUU-2B Flare (shoulder or centerline)	Mk-76 (shoulder or centerline)	BDU-48 (shoulder or centerline)	Mk-58 MLT (shoulder or centerline)
Pylon	AIM-120 (single)	–	–	–	–	34.7	36.3	36.3	36.3	34.7	35.9	35.9	34.7	36.4	34.2	22.7	19.6	19.6	19.6	28.2	27.3	27.2	28.1
	AIM-7	–	–	–	–	35.2	36.8	36.8	36.8	35.2	36.4	36.4	35.2	36.9	34.7	23.2	20.1	20.1	20.1	28.7	27.8	27.7	28.6
	AIM-9L/M (single)	–	–	–	–	33.8	35.4	35.4	35.4	33.8	35.0	35.0	33.8	35.5	33.3	21.7	18.7	18.7	18.7	27.3	26.4	26.3	27.2
	TACTS Pod	–	–	–	–	33.8	35.4	35.4	35.4	33.8	35.0	35.0	33.8	35.5	33.3	21.7	18.7	18.7	18.7	27.3	26.4	26.3	27.2
	AGM-65 Maverick	–	–	–	–	37.2	38.8	38.8	38.8	37.2	38.4	38.4	37.2	38.9	36.7	25.2	22.1	22.1	22.1	30.7	29.8	29.7	30.6
	AGM-88 HARM	–	–	–	–	36.2	37.8	37.8	37.8	36.2	37.4	37.4	36.2	37.9	35.7	24.2	21.1	21.1	21.1	29.7	28.8	28.7	29.6
	Mk-82/BSU-86	–	–	–	–	36.5	38.2	38.2	38.2	36.5	37.8	37.8	36.5	38.3	36.1	24.5	21.5	21.5	21.5	30.1	29.2	29.1	30.0
	Mk-83LD	–	–	–	–	38.2	39.8	39.8	39.8	38.2	39.4	39.4	38.2	39.9	37.7	26.2	23.1	23.1	23.1	31.7	30.8	30.7	31.6
	Mk-83/BSU-85	–	–	–	–	38.2	39.8	39.8	39.8	38.2	39.4	39.4	38.2	39.9	37.7	26.2	23.1	23.1	23.1	31.7	30.8	30.7	31.6
	BLU-110	–	–	–	–	38.2	39.8	39.8	39.8	38.2	39.4	39.4	38.2	39.9	37.7	26.2	23.1	23.1	23.1	31.7	30.8	30.7	31.6
	BLU-111	–	–	–	–	36.5	38.2	38.2	38.2	36.5	37.8	37.8	36.5	38.3	36.1	24.5	21.5	21.5	21.5	30.1	29.2	29.1	30.0
	CBU-99 Rockeye	–	–	–	–	37.8	39.4	39.4	39.4	37.8	39.0	39.0	37.8	39.6	37.3	25.8	22.7	22.7	22.7	31.3	30.5	30.3	31.2
	CBU-100 Rockeye	–	–	–	–	37.8	39.4	39.4	39.4	37.8	39.0	39.0	37.8	39.6	37.3	25.8	22.7	22.7	22.7	31.3	30.5	30.3	31.2
	GBU-12 Paveway	–	–	–	–	36.5	38.2	38.2	38.2	36.5	37.8	37.8	36.5	38.3	36.1	24.5	21.5	21.5	21.5	30.1	29.2	29.1	30.0
	GBU-16 Paveway	–	–	–	–	38.2	39.8	39.8	39.8	38.2	39.4	39.4	38.2	39.9	37.7	26.2	23.1	23.1	23.1	31.7	30.8	30.7	31.6
	Mk-62 Quickstrike Mine	–	–	–	–	36.5	38.2	38.2	38.2	36.5	37.8	37.8	36.5	38.3	36.1	24.5	21.5	21.5	21.5	30.1	29.2	29.1	30.0
	BDU-45	–	–	–	–	36.5	38.2	38.2	38.2	36.5	37.8	37.8	36.5	38.3	36.1	24.5	21.5	21.5	21.5	30.1	29.2	29.1	30.0
ITER	BDU-57 LGTR II (centerline only)	–	–	–	–	32.1	33.7	33.7	33.7	32.1	33.4	33.4	32.1	33.9	31.7	20.1	17.0	17.0	17.0	25.6	24.8	24.7	25.5
	BDU-59 LGTR (centerline only)	–	–	–	–	32.1	33.7	33.7	33.7	32.1	33.4	33.4	32.1	33.9	31.7	20.1	17.0	17.0	17.0	25.6	24.8	24.7	25.5
	BDU-60 LGTR II (centerline only)	–	–	–	–	32.1	33.7	33.7	33.7	32.1	33.4	33.4	32.1	33.9	31.7	20.1	17.0	17.0	17.0	25.6	24.8	24.7	25.5

Figure 2-3. Interference Code Numbers (Sheet 5)

Outboard Station		Midboard Station																												
		Pylon																												
		AIM-120 (dual)	AIM-7	Mk-82/BSU-86	Mk-83LD	Mk-83/BSU-85	Mk-84LD	BDU-45	BLU-110	BLU-111	CBU-99 Rockeye	CBU-100 Rockeye	480 Gallon External Fuel Tank	GBU-10 Paveway	GBU-12 Paveway	GBU-16 Paveway	GBU-24	GBU-31(v)2/B JDAM (Mk-84)	GBU-31(v)4/B JDAM (BLU-109)	AGM-65 Maverick	AGM-84D Harpoon	AGM-84E SLAM	AGM-84H/K SLAM-ER	AGM-88 HARM	AGM-154/A JSOW	Mk-62 Quickstrike Mine	Mk-63 Quickstrike Mine	Mk-65 Quickstrike Mine
Pylon	AIM-120 (single)	33.6	21.6	23.0	24.6	26.6	23.0	24.6	24.6	23.0	24.2	24.2	33.6	26.6	23.0	24.6	26.6	26.8	25.6	23.6	24.4	24.4	24.4	22.6	24.2	23.0	24.6	28.0
	AIM-7	34.1	22.1	23.5	25.1	25.1	27.1	23.5	25.1	23.5	24.7	24.7	34.1	27.1	23.5	25.1	27.1	27.3	26.1	24.1	24.9	24.9	24.9	23.1	24.7	23.5	25.1	28.5
	AIM-9L/M (single)	32.7	20.7	22.1	23.7	23.7	25.7	22.1	23.7	22.1	23.3	23.3	32.6	25.7	22.1	23.7	25.7	25.8	24.7	22.7	23.4	23.4	23.4	21.7	23.3	22.1	23.7	27.1
	TACTS Pod	32.7	20.7	22.1	23.7	23.7	25.7	22.1	23.7	22.1	23.3	23.3	32.6	25.7	22.1	23.7	25.7	25.8	24.7	22.7	23.4	23.4	23.4	21.7	23.3	22.1	23.7	27.1
	AGM-65 Maverick	36.1	24.1	25.5	27.1	27.1	29.1	25.5	27.1	25.5	26.7	26.7	36.1	29.1	25.5	27.1	29.1	29.3	28.1	26.1	26.9	26.9	26.9	25.1	26.7	25.5	27.1	30.5
	AGM-88 HARM	35.1	23.1	24.5	26.1	26.1	28.1	24.5	26.1	24.5	25.7	25.7	35.1	28.1	24.5	26.1	28.1	28.3	27.1	25.1	25.9	25.9	25.9	24.1	25.7	24.5	26.1	29.5
	Mk-82/BSU-86	35.5	23.5	24.9	26.5	26.5	28.5	24.9	26.5	24.9	26.1	26.1	35.4	28.5	24.9	26.5	28.5	28.6	27.5	25.5	26.2	26.2	26.2	24.5	26.1	24.9	26.5	29.9
	Mk-83LD	37.1	25.1	26.5	28.1	28.1	30.1	26.5	28.1	26.5	27.7	27.7	37.1	30.1	26.5	28.1	30.1	30.3	29.1	27.1	27.9	27.9	27.9	26.1	27.7	26.5	28.1	31.5
	Mk-83/BSU-85	37.1	25.1	26.5	28.1	28.1	30.1	26.5	28.1	26.5	27.7	27.7	37.1	30.1	26.5	28.1	30.1	30.3	29.1	27.1	27.9	27.9	27.9	26.1	27.7	26.5	28.1	31.5
	BLU-110	37.1	25.1	26.5	28.1	28.1	30.1	26.5	28.1	26.5	27.7	27.7	37.1	30.1	26.5	28.1	30.1	30.3	29.1	27.1	27.9	27.9	27.9	26.1	27.7	26.5	28.1	31.5
	BLU-111	35.5	23.5	24.9	26.5	26.5	28.5	24.9	26.5	24.9	26.1	26.1	35.4	28.5	24.9	26.5	28.5	28.6	27.5	25.5	26.2	26.2	26.2	24.5	26.1	24.9	26.5	29.9
	CBU-99 Rockeye	36.8	24.7	26.1	27.7	27.7	29.7	26.1	27.7	26.1	27.3	27.3	36.7	29.7	26.1	27.7	29.7	29.9	28.7	26.7	27.5	27.5	27.5	25.7	27.4	26.1	27.7	31.2
	CBU-100 Rockeye	36.8	24.7	26.1	27.7	27.7	29.7	26.1	27.7	26.1	27.3	27.3	36.7	29.7	26.1	27.7	29.7	29.9	28.7	26.7	27.5	27.5	27.5	25.7	27.4	26.1	27.7	31.2
	GBU-12 Paveway	35.5	23.5	24.9	26.5	26.5	28.5	24.9	26.5	24.9	26.1	26.1	35.4	28.5	24.9	26.5	28.5	28.6	27.5	25.5	26.2	26.2	26.2	24.5	26.1	24.9	26.5	29.9
	GBU-16 Paveway	37.1	25.1	26.5	28.1	28.1	30.1	26.5	28.1	26.5	27.7	27.7	37.1	30.1	26.5	28.1	30.1	30.3	29.1	27.1	27.9	27.9	27.9	26.1	27.7	26.5	28.1	31.5
	Mk-62 Quickstrike Mine	35.5	23.5	24.9	26.5	26.5	28.5	24.9	26.5	24.9	26.1	26.1	35.4	28.5	24.9	26.5	28.5	28.6	27.5	25.5	26.2	26.2	26.2	24.5	26.1	24.9	26.5	29.9
	BDU-45	35.5	23.5	24.9	26.5	26.5	28.5	24.9	26.5	24.9	26.1	26.1	35.4	28.5	24.9	26.5	28.5	28.6	27.5	25.5	26.2	26.2	26.2	24.5	26.1	24.9	26.5	29.9
ITER	BDU-57 LGTR II (centerline only)	31.1	19.0	20.4	22.0	22.0	24.0	20.4	22.0	20.4	21.7	21.7	31.0	24.0	20.4	22.0	24.0	24.2	23.1	21.0	21.8	21.8	21.8	20.0	21.7	20.4	22.0	25.5
	BDU-59 LGTR (centerline only)	31.1	19.0	20.4	22.0	22.0	24.0	20.4	22.0	20.4	21.7	21.7	31.0	24.0	20.4	22.0	24.0	24.2	23.1	21.0	21.8	21.8	21.8	20.0	21.7	20.4	22.0	25.5
	BDU-60 LGTR II (centerline only)	31.1	19.0	20.4	22.0	22.0	24.0	20.4	22.0	20.4	21.7	21.7	31.0	24.0	20.4	22.0	24.0	24.2	23.1	21.0	21.8	21.8	21.8	20.0	21.7	20.4	22.0	25.5

Figure 2-3. Interference Code Numbers (Sheet 6)

INTERFERENCE CODE NUMBER TO INTERFERENCE DRAG INDEX NUMBER CONVERSION

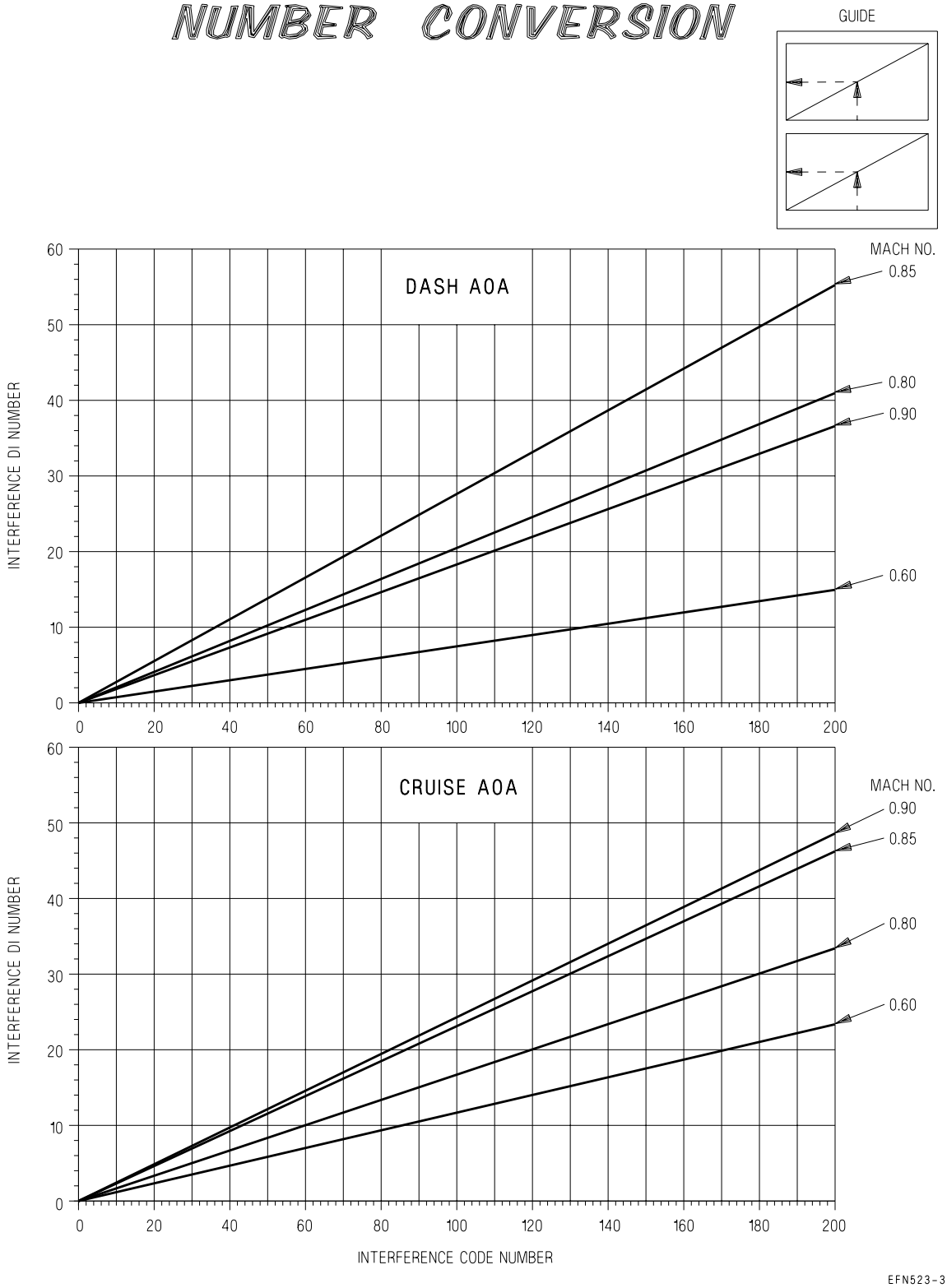


Figure 2-4. Interference Code Number to Interference Drag Index Number Conversion

STANDARD ATMOSPHERE

STANDARD SEA LEVEL AIR:
T=59°F (15°C)
P= 29.921 IN. OF HG

W=0.076475 LB/SQ FT=0.0023769 SLUGS/CU FT.
1 IN. OF HG = 70.732 LB/SQ FT=0.4912 LB/SQ IN.
a_o =1116.5 FT/SEC=661.5 KNOTS

ALTITUDE (FEET)	DENSITY RATIO $\rho/\rho_o=\sigma$	$1/\sqrt{\delta}$	AIR TEMPERATURE F°	AIR TEMPERATURE C°	SPEED OF SOUND a/a_o	PRESSURE IN OF HG	PRESSURE RATIO $p/p_o=\delta$
-2,000	1.0598	0.9714	66.132	18.962	1.0068	32.15	1.0745
-1,000	1.0298	0.9855	62.566	16.981	1.0034	31.02	1.0368
0	1.0000	1.0000	59.000	15.000	1.0000	29.92	1.0000
1,000	0.9711	1.0148	55.434	13.019	0.9966	28.86	0.9644
2,000	0.9428	1.0299	51.868	11.038	0.9931	27.82	0.9298
3,000	0.9151	1.0454	48.302	9.057	0.9896	26.82	0.8962
4,000	0.8881	1.0611	44.735	7.075	0.9862	25.84	0.8637
5,000	0.8617	1.0773	41.169	5.094	0.9827	24.90	0.8320
6,000	0.8359	1.0938	37.603	3.113	0.9792	23.98	0.8014
7,000	0.8106	1.1107	34.037	1.132	0.9756	23.09	0.7716
8,000	0.7860	1.1279	30.471	-0.849	0.9721	22.22	0.7428
9,000	0.7620	1.1456	26.905	-2.831	0.9686	21.39	0.7148
10,000	0.7385	1.1637	23.338	-4.812	0.9650	20.58	0.6877
11,000	0.7156	1.1822	19.772	-6.793	0.9614	19.79	0.6614
12,000	0.6932	1.2011	16.206	-8.774	0.9579	19.03	0.6360
13,000	0.6713	1.2205	12.604	-10.756	0.9543	18.29	0.6113
14,000	0.6500	1.2403	9.074	-12.737	0.9507	17.58	0.5875
15,000	0.6292	1.2606	5.508	-14.718	0.9470	16.87	0.5643
16,000	0.6090	1.2815	1.941	-16.699	0.9434	16.22	0.5420
17,000	0.5892	1.3028	-1.625	-18.681	0.9397	15.57	0.5203
18,000	0.5699	1.3246	-5.191	-20.662	0.9361	14.94	0.4994
19,000	0.5511	1.2470	-8.757	-22.643	0.9324	14.34	0.4791
20,000	0.5328	1.3700	-12.323	-24.624	0.9287	13.75	0.4593
21,000	0.5150	1.3935	-15.889	-26.605	0.9250	13.18	0.4406
22,000	0.4976	1.4176	-19.456	-28.587	0.9213	12.64	0.4223
23,000	0.4807	1.4424	-23.022	-30.568	0.9175	12.11	0.4046
24,000	0.4642	1.4678	-26.588	-32.549	0.9138	11.60	0.3876
25,000	0.4481	1.4938	-30.154	-34.530	0.9100	11.10	0.3711
26,000	0.4325	1.5206	-33.720	-36.511	0.9062	10.63	0.3552
27,000	0.4173	1.5480	-37.286	-38.492	0.9024	10.17	0.3398
28,000	0.4025	1.5762	-40.852	-40.473	0.8986	9.725	0.3250
29,000	0.3881	1.6052	-44.419	-42.455	0.8948	9.297	0.3107
30,000	0.3741	1.6349	-47.985	-44.436	0.8909	8.885	0.2970
31,000	0.3605	1.6645	-51.551	-46.417	0.8871	8.488	0.2837
32,000	0.3473	1.6968	-55.117	-48.398	0.8832	8.106	0.2709
33,000	0.3345	1.7291	-58.683	-50.379	0.8793	7.737	0.2586
34,000	0.3220	1.7623	-62.249	-52.361	0.8754	7.382	0.2467
35,000	0.3099	1.7964	-65.816	-54.342	0.8714	7.041	0.2353
36,000	0.2981	1.8315	-69.382	-56.323	0.8675	6.712	0.2243
37,000	0.2844	1.8753	-69.700	-56.500	0.8671	6.397	0.2138
38,000	0.2710	1.9209	-69.700	-56.500	0.8671	6.097	0.2038
39,000	0.2583	1.9677	-69.700	-56.500	0.8671	5.811	0.1942
40,000	0.2462	2.0155	-69.700	-56.500	0.8671	5.538	0.1851
41,000	0.2346	2.0645	-69.700	-56.500	0.8671	5.278	0.1764
42,000	0.2236	2.1148	-69.700	-56.500	0.8671	5.030	0.1681
43,000	0.2131	2.1662	-69.700	-56.500	0.8671	4.794	0.1602
44,000	0.2031	2.2189	-69.700	-56.500	0.8671	4.569	0.1527
45,000	0.1936	2.2728	-69.700	-56.500	0.8671	4.355	0.1455
46,000	0.1845	2.3281	-69.700	-56.500	0.8671	4.151	0.1387
47,000	0.1758	2.3848	-69.700	-56.500	0.8671	3.956	0.1322
48,000	0.1676	2.4428	-69.700	-56.500	0.8671	3.770	0.1260
49,000	0.1597	2.5022	-69.700	-56.500	0.8671	3.593	0.1201
50,000	0.1522	2.5630	-69.700	-56.500	0.8671	3.425	0.1145
51,000	0.1451	2.6254	-69.700	-56.500	0.8671	3.264	0.1091
52,000	0.1383	2.6892	-69.700	-56.500	0.8671	3.111	0.1040
53,000	0.1318	2.7546	-69.700	-56.500	0.8671	2.965	0.09909
54,000	0.1256	2.8216	-69.700	-56.500	0.8671	2.826	0.09444
55,000	0.1197	2.8903	-69.700	-56.500	0.8671	2.693	0.09001
56,000	0.1141	2.9606	-69.700	-56.500	0.8671	2.567	0.08578
57,000	0.1087	3.0326	-69.700	-56.500	0.8671	2.446	0.08176
58,000	0.1036	3.1063	-69.700	-56.500	0.8671	2.331	0.07792
59,000	0.09877	3.1819	-69.700	-56.500	0.8671	2.222	0.07426
60,000	0.09414	3.2593	-69.700	-56.500	0.8671	2.118	0.07078
61,000	0.08972	3.3386	-69.700	-56.500	0.8671	2.018	0.06746
62,000	0.08551	3.4198	-69.700	-56.500	0.8671	1.924	0.06429
63,000	0.08150	3.5029	-69.700	-56.500	0.8671	1.833	0.06127
64,000	0.07767	3.5881	-69.700	-56.500	0.8671	1.747	0.05840
65,000	0.07403	3.6754	-69.700	-56.500	0.8671	1.665	0.05566

Figure 2-5. Standard Atmosphere

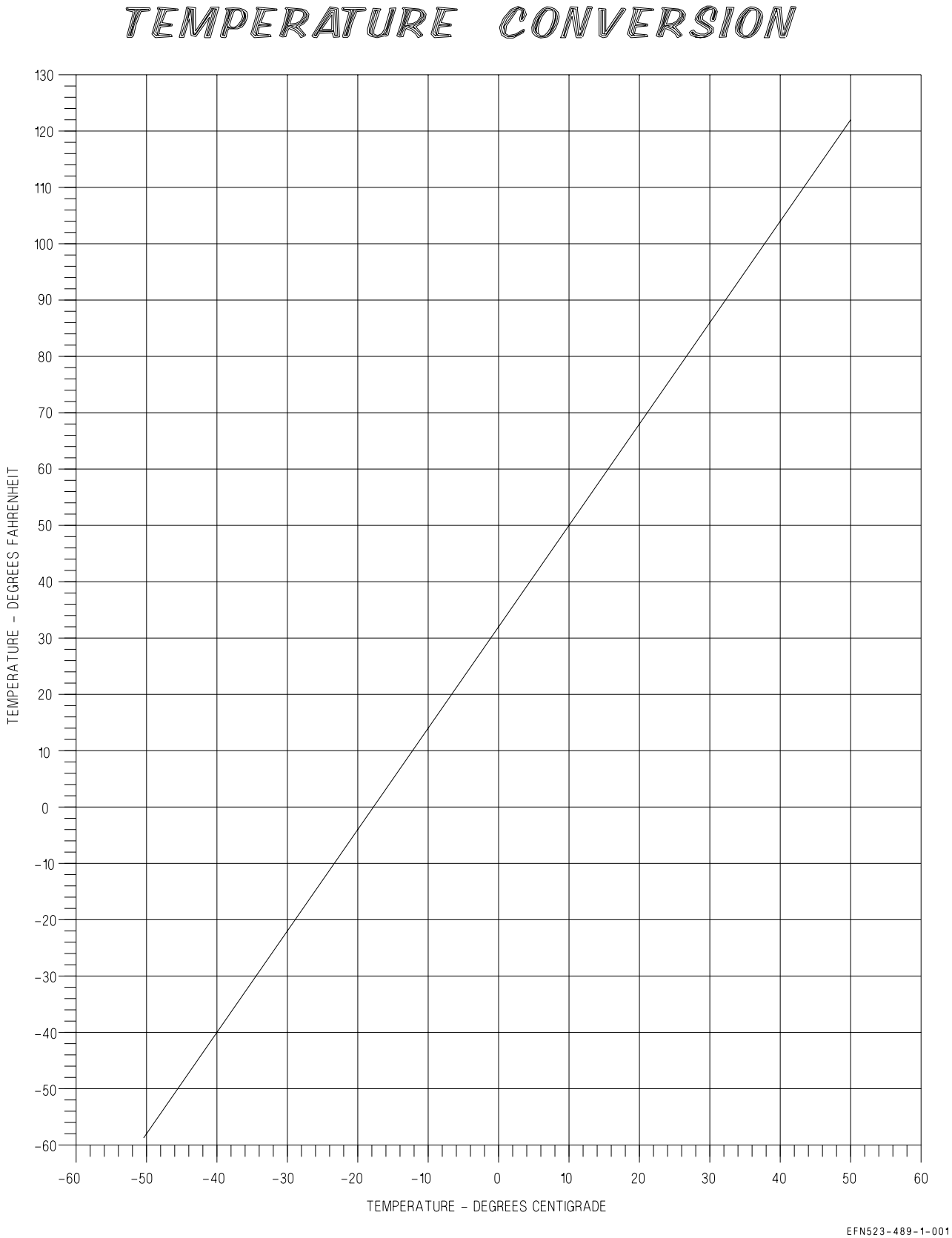


Figure 2-6. Temperature Conversion

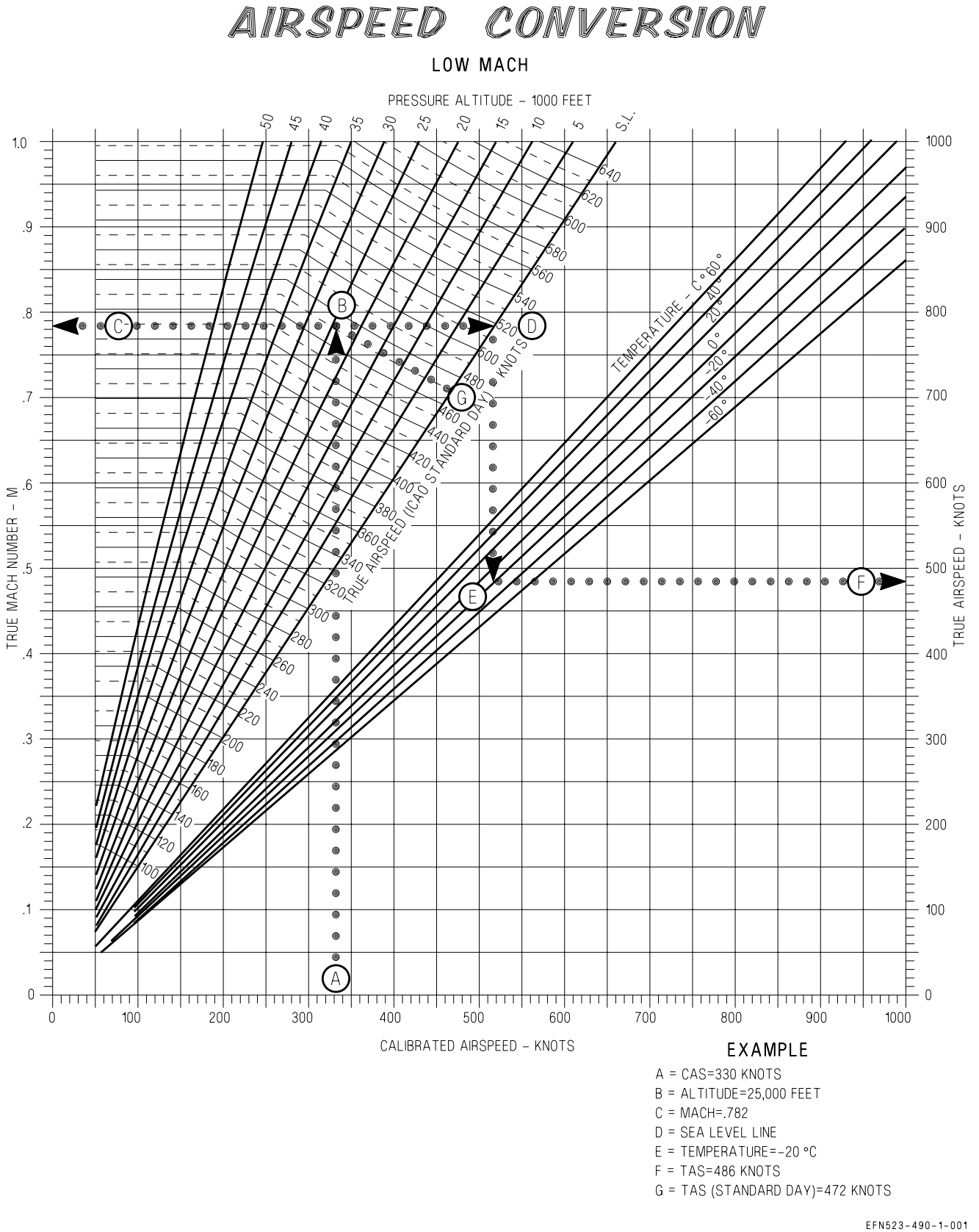
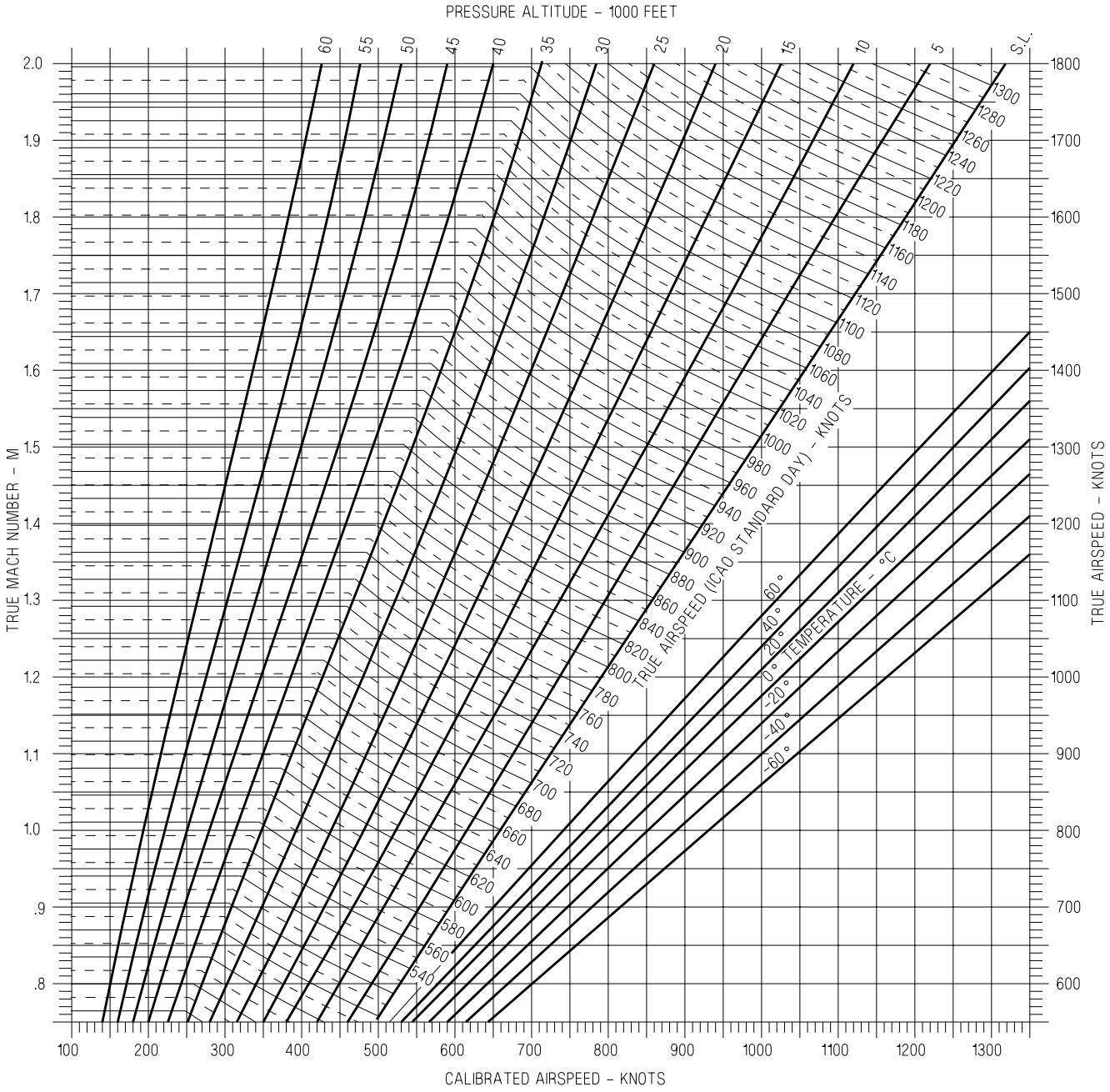


Figure 2-7. Airspeed Conversion (Sheet 1 of 2)

AIRSPEED CONVERSION

HIGH MACH



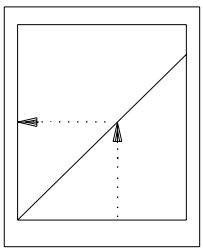
EFN523-490-2-001

Figure 2-7. Airspeed Conversion (Sheet 2 of 2)

AIRSPEED POSITION ERROR CORRECTION

INDICATED AIRSPEED – STANDBY INDICATOR
ALL CONFIGURATIONS

GUIDE



REMARKS
U.S. STANDARD DAY, 1962

DATE: 28 JAN 1999
DATA BASIS: FLIGHT TEST

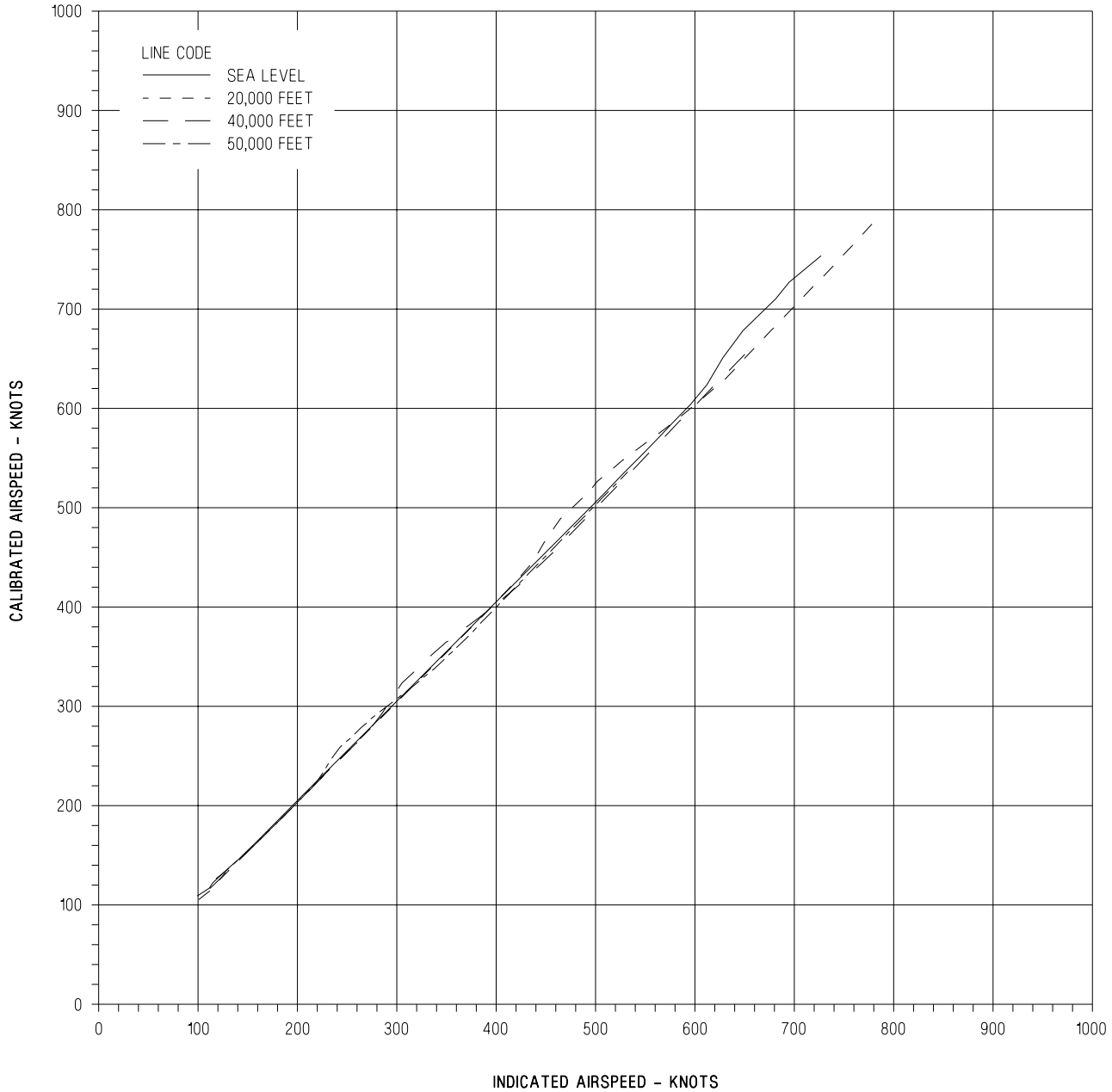


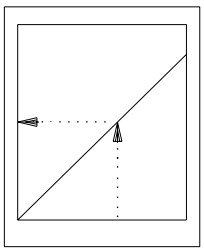
Figure 2-8. Airspeed Position Error Correction

EFN523-495-1-001

MACH NUMBER POSITION ERROR CORRECTION

MACH NUMBER – STANDBY INDICATOR
ALL CONFIGURATIONS

GUIDE



REMARKS
U.S. STANDARD DAY, 1962

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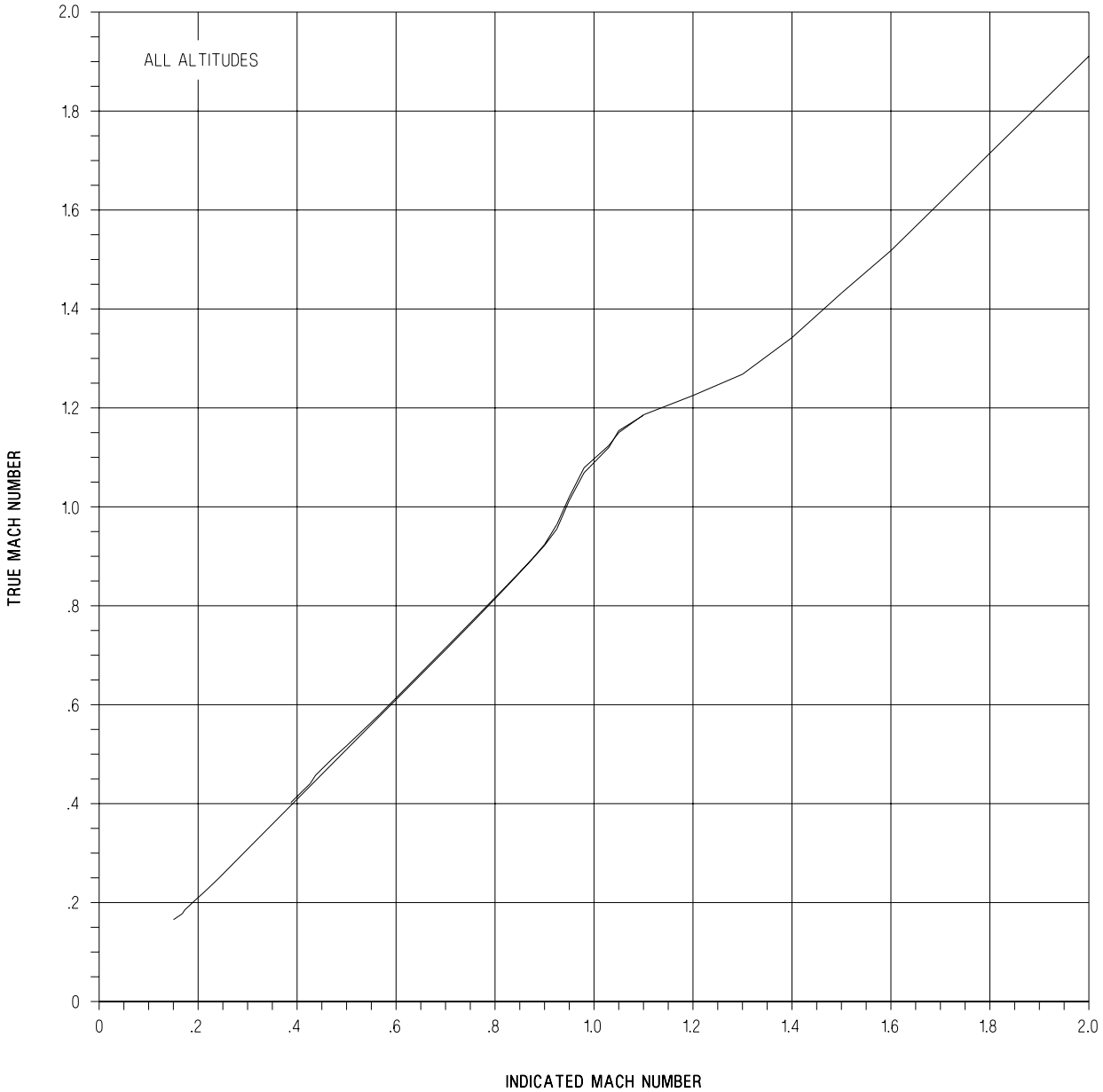


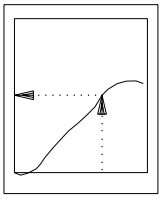
Figure 2-9. Mach Number Position Error Correction

EFN523-495-2-001

ALTIMETER POSITION ERROR CORRECTION

INDICATED AIRSPEED – STANDBY INDICATOR
GEAR DOWN OR FLAPS FULL/HALF

GUIDE



DATE: 28 JAN 1999
DATA BASIS: FLIGHT TEST

REMARKS
U. S. STANDARD DAY, 1962

NOTE
FLY ASSIGNED ALTITUDE + ΔH

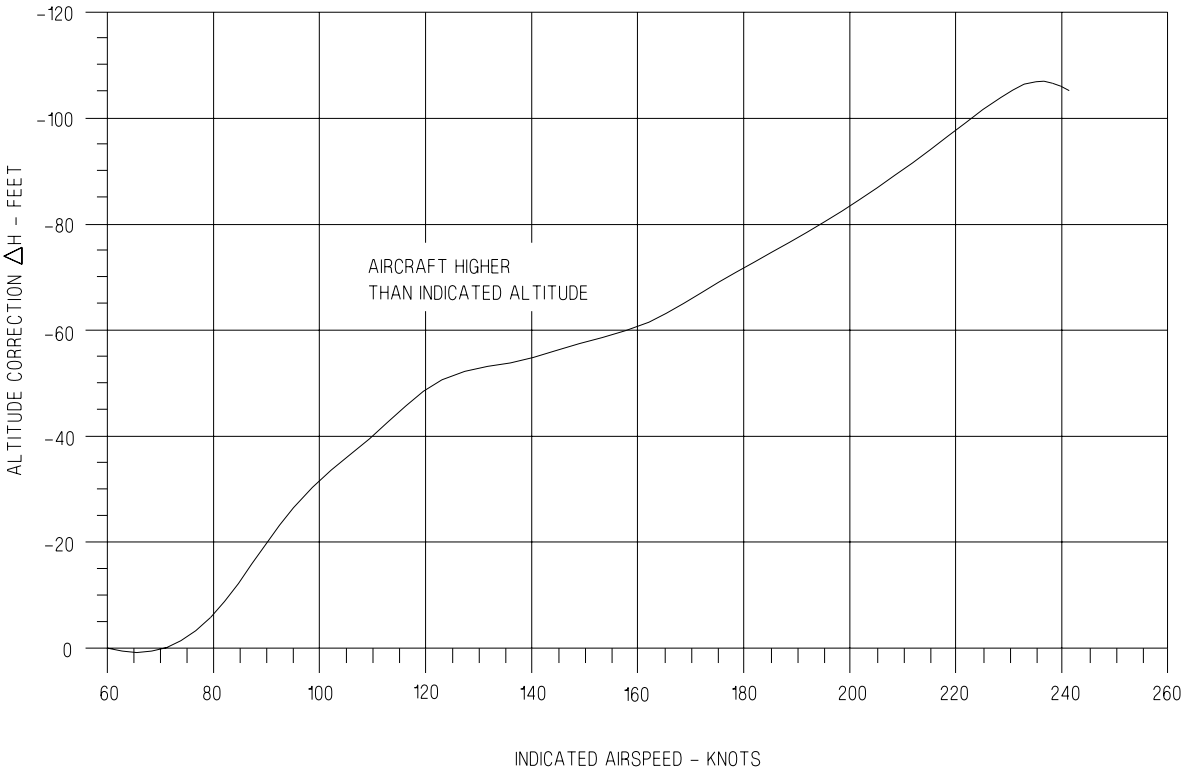


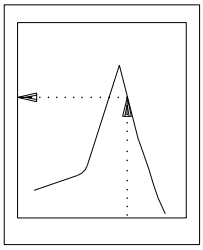
Figure 2-10. Altimeter Position Error Correction (Sheet 1 of 2)

EFN523-494-1-001

ALTIMETER POSITION ERROR CORRECTION

MACH NUMBER – STANDBY INDICATOR
ALL CONFIGURATIONS

GUIDE



REMARKS
U. S. STANDARD DAY, 1962

DATE: 28 JAN 1999
DATA BASIS: FLIGHT TEST

NOTE
FLY ASSIGNED ALTITUDE + ΔH

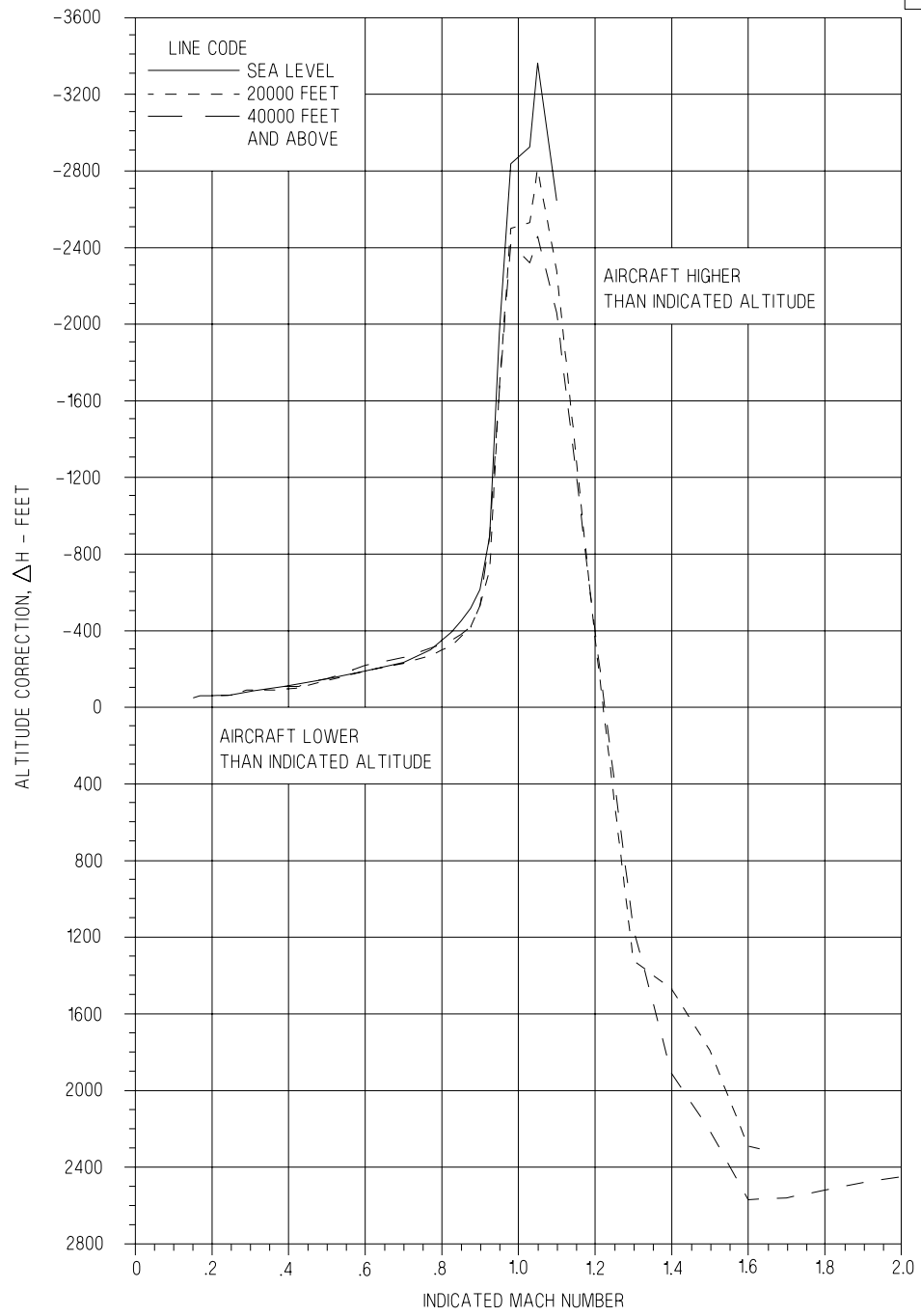
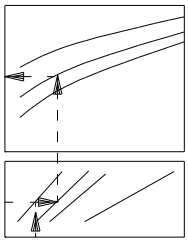


Figure 2-10. Altimeter Position Error Correction (Sheet 2 of 2)

EFN523-494-2-001

STALL SPEEDS

GUIDE



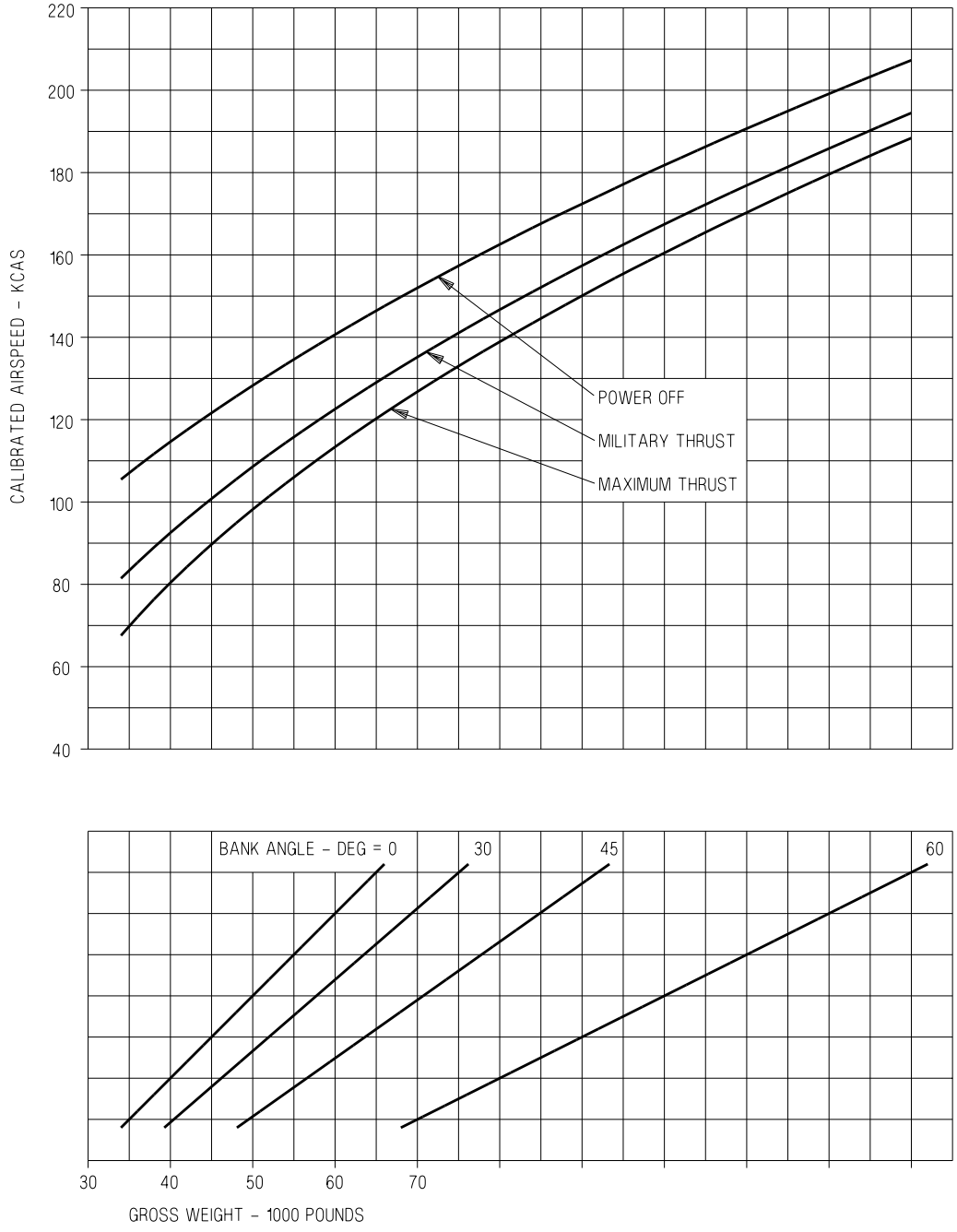
REMARKS
ENGINE(S):(2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

IF SINGLE ENGINE, DIRECTIONAL CONTROL WILL BE LOST ABOVE STALL SPEED AT HIGHER POWER SETTINGS.

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-341-1-004

Figure 2-11. Stall Speeds

ANGLE OF ATTACK CONVERSION

F414-GE-400

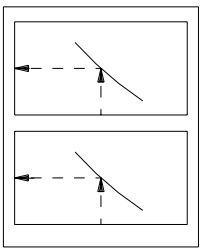
STABILIZED 1G LEVEL FLIGHT

AIRCRAFT CONFIGURATION
GEAR AND FLAPS AS NOTED

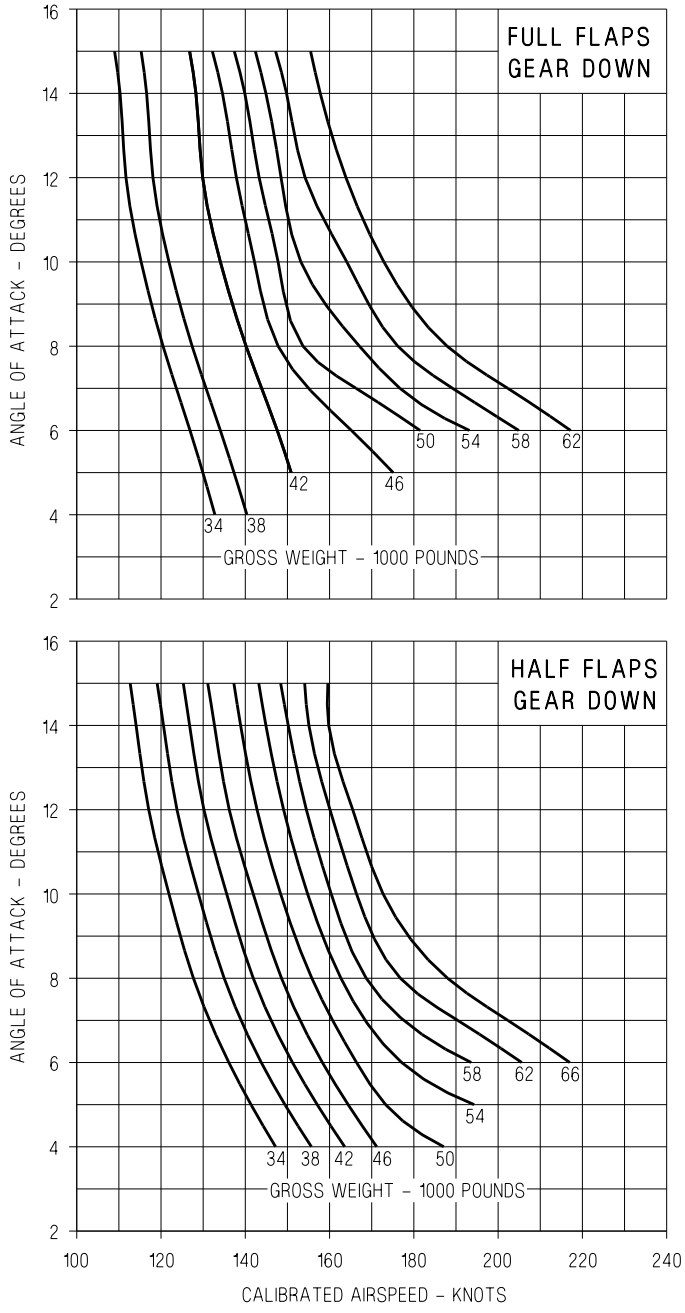
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962
SEA LEVEL - CG 25% MAC

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-375-1-004

Figure 2-12. Angle of Attack Conversion

CHAPTER 3

Takeoff
F414-GE-400

3.1 WIND COMPONENTS CHART

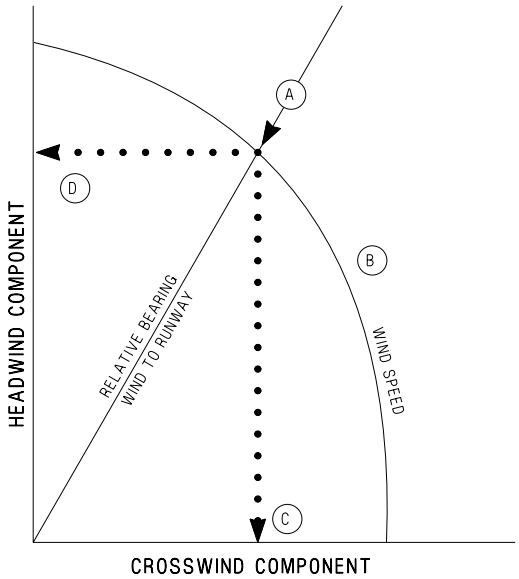
This chart (figure 3-1) is used primarily for breaking a forecast wind down into crosswind and headwind components for takeoff computations. It is not to be used as a ground controllability chart.

3.1.1 Use. Determine the effective wind velocity. For crosswind component add the full value of any reported gust velocity (incremental wind factor) to the steady state velocity; e.g., reported wind 050/30 G40, effective wind is 050/40. For headwind component add one-half the gust velocity (incremental wind factor) to the steady state velocity; e.g., reported wind 050/30 G40, effective wind is 050/35. Reduce the reported wind direction to a relative bearing by determining the wind direction and runway heading. Enter the chart with the relative bearing. Move along the relative bearing to intercept the crosswind effective wind speed arc. From this point, descend vertically to read the crosswind component. From the intersection of bearing and effective headwind speed, project horizontally to the left to read headwind component.

3.1.2 Sample Problem. Conditions - Reported wind 050/35 G40, runway heading 030

A. Relative bearing	20°	C. Crosswind component	14 knots
B. Intersect:Crosswind windspeed arc	40 knots	D. Headwind component	33 knots
Headwind windspeed arc	35 knots		

SAMPLE WIND COMPONENTS



EFN523-18-1-003

3.2 DENSITY RATIO CHART

This chart (figure 3-2) provides a means of obtaining a single factor (density ratio) that may be used to represent a combination of temperature and pressure altitude. Density ratio must be determined before the takeoff data charts can be utilized.

3.2.1 Use. Enter the chart with existing temperature and project vertically to intersect the applicable pressure altitude curve. From this point, project horizontally to the left scale to read density ratio.

3.2.2 Sample Problem.

A. Temperature	60°F	C. Density ratio	0.93
B. Pressure altitude	2000 feet		

3.3 MINIMUM GO SPEED CHARTS

These charts (figures 3-3 and 3-4) provide the means of determining the minimum speed at which the aircraft can experience an engine failure and still take off. Variations in ambient temperature, pressure altitude, gross weight, and the runway length are taken into consideration. Separate plots are provided for maximum afterburner and military thrust conditions. The data presented reflect an engine failure occurring at the minimum go speed and allowing a 3-second decision period from the time of the failure. In the case of a military thrust takeoff, an additional 2-second period is allotted for advancing the throttles and transitioning to maximum afterburner thrust on the operating engine.

WARNING

If an engine is lost above the maximum abort speed but below the minimum go speed or at a condition where insufficient rate of climb capability exists, the pilot can neither abort nor take off safely with the runway length remaining without considering such factors as reducing gross weight or engaging the overrun end arrestment cable.

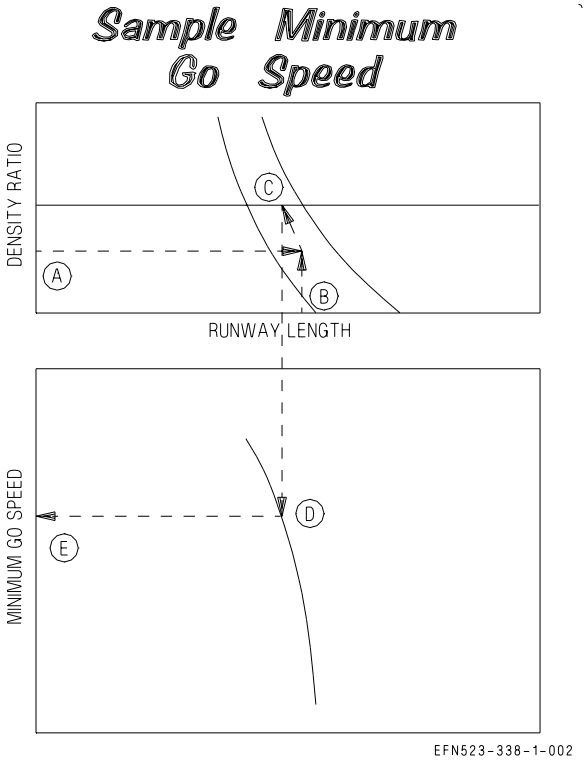
3.3.1 Use. To determine minimum go speed, enter the applicable plot with the prevailing density ratio, and project horizontally to the available runway length grid line. Parallel the nearest guideline up or down until intersecting the density ratio baseline. From this point descend vertically until intersecting the applicable gross weight curve. If this projected line does not intersect the applicable takeoff gross weight curve, there is no corresponding minimum go speed (single engine takeoff is possible for the available runway length regardless of engine failure speed). If the gross weight curve lies to the right of the projected line, a single-engine takeoff cannot be made under the prevailing conditions. Finally, project horizontally to read the minimum go speed.

NOTE

This problem assumes maximum thrust on operating engine within 5 seconds after engine failure. The minimum go speed for a maximum thrust takeoff will be lower than that for a military thrust takeoff due to the greater acceleration with maximum thrust up to and including the 3-second decision time.

3.3.2 Sample Problem. Military Thrust Takeoff.

A. Density ratio	0.90	D. Takeoff gross weight	62,000 Lb.
B. Runway length	6000 Ft.	E. Minimum go speed	145 KCAS
C. Density baseline			



3.4 MAXIMUM GROSS WEIGHT WITH SINGLE ENGINE CHARTS

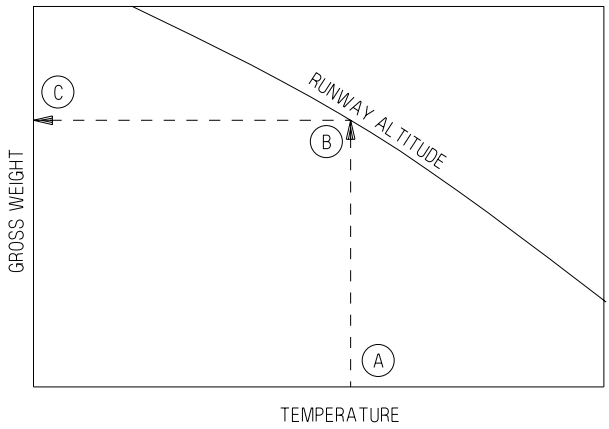
These charts (included with figures 3-3 and 3-4) provide a the means for determining the maximum takeoff gross weight for which the aircraft is capable of establishing at least 100 fpm single engine rate of climb. Variations in field ambient temperature and runway altitude are taken into consideration.

3.4.1 Use. To determine the maximum gross weight for 100 fpm single engine rate of climb, enter the applicable chart with the field temperature and ascend vertically to the field altitude. From this point project horizontally to read the maximum takeoff gross weight for which at least 100 fpm single engine rate of climb is possible. If the takeoff gross weight is higher than this value and gross weight cannot be safely reduced, the takeoff should be aborted.

3.4.2 Sample Problem.

A. Temperature	60°F (15.6°C)	C. Maximum Gross Weight	61,000 lbs.
B. Altitude	8000 feet		

SAMPLE MAXIMUM SINGLE ENGINE TAKEOFF GROSS WEIGHT



EFN523-348-1-003

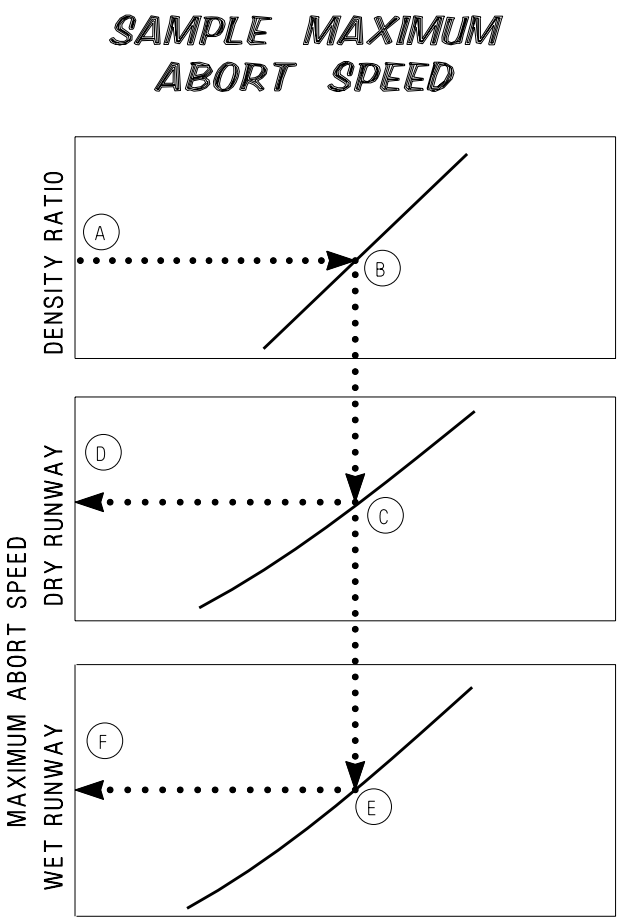
3.5 MAXIMUM ABORT SPEED CHARTS

These charts (figures 3-5 and 3-6) provide the means for determining the maximum speed at which a field takeoff may be aborted and the aircraft stopped within the remaining runway length. Variations in ambient temperature, pressure altitude, aircraft gross weight, and runway length are taken into consideration. Separate plots are provided for maximum afterburner and military thrust takeoffs under both dry and wet runway conditions. The data presented reflect an engine failure occurring at the maximum abort speed allowing a 3-second decision period from the time of failure followed by a 2-second transition to idle thrust on the operating engine and full braking (brake application speed limits applied).

3.5.1 Use. Enter the chart with the prevailing density ratio and project horizontally right to intersect the available runway length curve. From this point, project vertically down to the applicable gross weight curve for either dry or wet runway conditions, then horizontally left to read maximum abort speed.

3.5.2 Sample Problem. Maximum Thrust Takeoff (figure 3-5).

A. Density ratio	0.90	D. Maximum abort speed (Dry runway)	150 KCAS
B. Runway length	8000 feet		
C. Gross weight	62,000 lbs.	E. Maximum abort speed (Wet runway)	122 KCAS



EFN523-98-1-003

3.6 TAKEOFF DISTANCE CHARTS

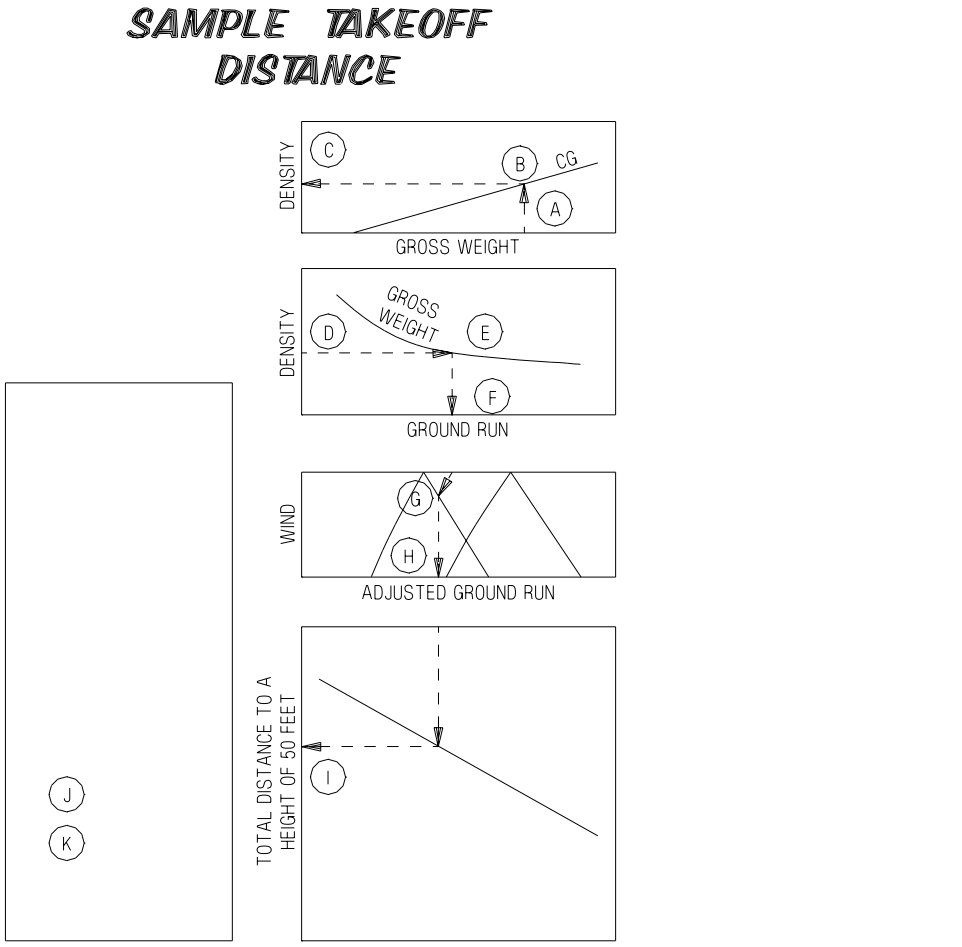
These charts (figures 3-7 and 3-8) are used to determine the no wind ground run distance, wind adjusted ground run and the total distance to climb to a height of 50 feet. Separate charts are provided for maximum and military thrust. A table has been provided on each chart to show nosewheel liftoff speed with the corresponding aircraft takeoff speed for various gross weight and CG combinations.

3.6.1 Use. Enter the density ratio plot with the gross weight and project vertically up to intersect the appropriate CG curve. From this intersection, project horizontally to the left to read the minimum allowable density ratio for takeoff at this weight/CG combination.

Enter the chart with the applicable density ratio and project horizontally to the right to intersect the appropriate takeoff gross weight curve. From this intersection, project vertically down to read no wind ground run distance. Parallel the appropriate wind guideline (headwind or tailwind) to intersect the takeoff wind velocity. From this point project vertically down to read ground run adjusted for wind effects. To find the total distance required to climb to a height of 50 feet, continue down to the reflector line and project horizontally to the left scale.

3.6.2 Sample Problem. Maximum Thrust Takeoff CG - 22 % MAC.

A. Gross weight	58,000 lbs.
B. CG	18 % MAC
C. Minimum density ratio (Applicable density ratio > Minimum density ratio)	0.66
D. Density ratio	0.90
E. Gross weight	58,000 lbs.
F. No wind ground run distance	2800 feet
G. Effective headwind	10 knots
H. Ground run (wind corrected)	2500 feet
I. Total distance required to climb to a height of 50 feet	3800 feet
J. Nosewheel liftoff speed for a CG of 22 % MAC (from table)	153 KCAS
K. Takeoff speed (from table)	167 KCAS



EFN523-343-1-003

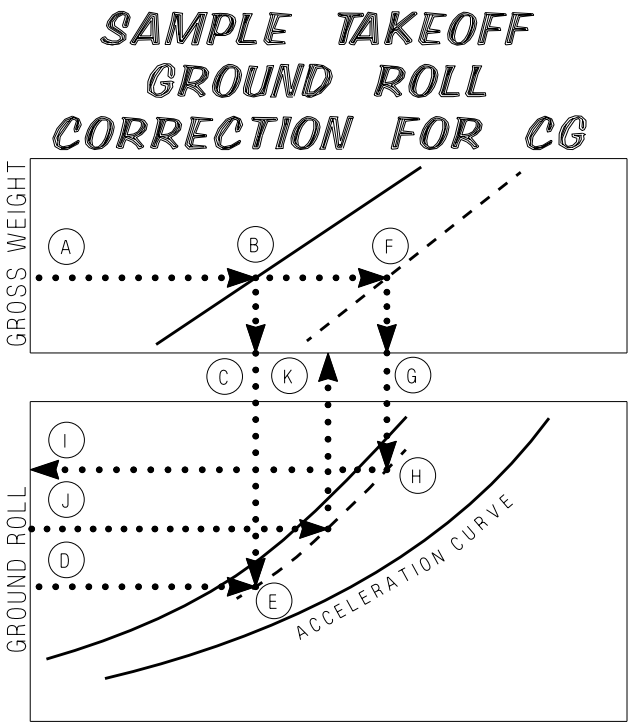
3.7 TAKEOFF GROUND ROLL CORRECTION FOR CG CHARTS

These charts (figures 3-9 and 3-10) are used primarily to determine takeoff distances resulting from adverse conditions of gross weight and CG. The charts can also be used to obtain any distance and speed relationship during the takeoff ground run.

3.7.1 Use. Enter the chart with the applicable takeoff gross weight and project horizontally right to intersect the normal CG curve, then project vertically down. The vertical projection passes through the normal CG takeoff speed. Reenter the chart with the normal no wind ground run (from Takeoff Distance chart) and project horizontally right to intersect the vertical projection from the normal CG curve. From this intersection, parallel the nearest acceleration guideline. Return to the gross weight-normal CG intersection and project further right to the actual takeoff CG curve, then vertically down to intersect the new acceleration curve. The vertical projection passes through the actual CG takeoff speed. From this intersection, project horizontally left to ground run corrected for CG. To determine wind effect on ground run and total distance to height of 50 feet, reenter appropriate takeoff distance chart with corrected ground roll. The nosewheel liftoff speed can be determined in the takeoff distance chart by interpolation in the speed table using gross weight and CG. To determine speed at a given distance on the takeoff run, enter the chart at the ground run distance and project horizontally to the reference acceleration curve. Then project vertically up to the corresponding speed.

3.7.2 Sample Problem. Maximum Thrust Takeoff CG - 22 % MAC.

A. Gross weight	58,000 lbs.
B. Normal CG	22 % MAC
C. Normal CG takeoff speed	167 KCAS
D. Normal no wind ground run (from Takeoff Distance chart)	2800 Ft.
E. Parallel acceleration guideline	
F. Takeoff CG	18 % MAC
G. 20 % MAC takeoff speed	178 KCAS
H. Intersection of new acceleration curve	
I. Ground run corrected for CG	3400 Ft.
J. Given distance on ground run	2000 Ft.
K. Corresponding ground run speed	142 KCAS



EFN523-353-1-003

WIND COMPONENTS

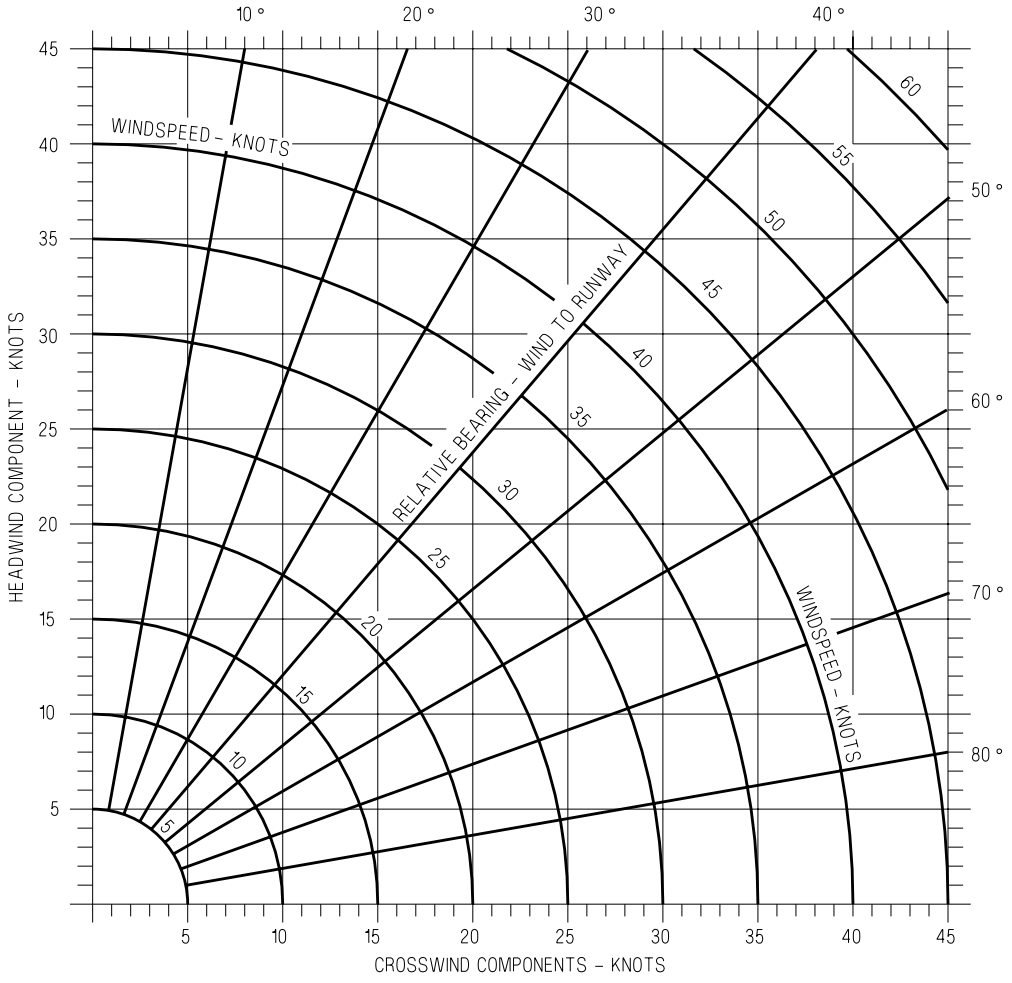


Figure 3-1. Wind Components

DENSITY RATIO

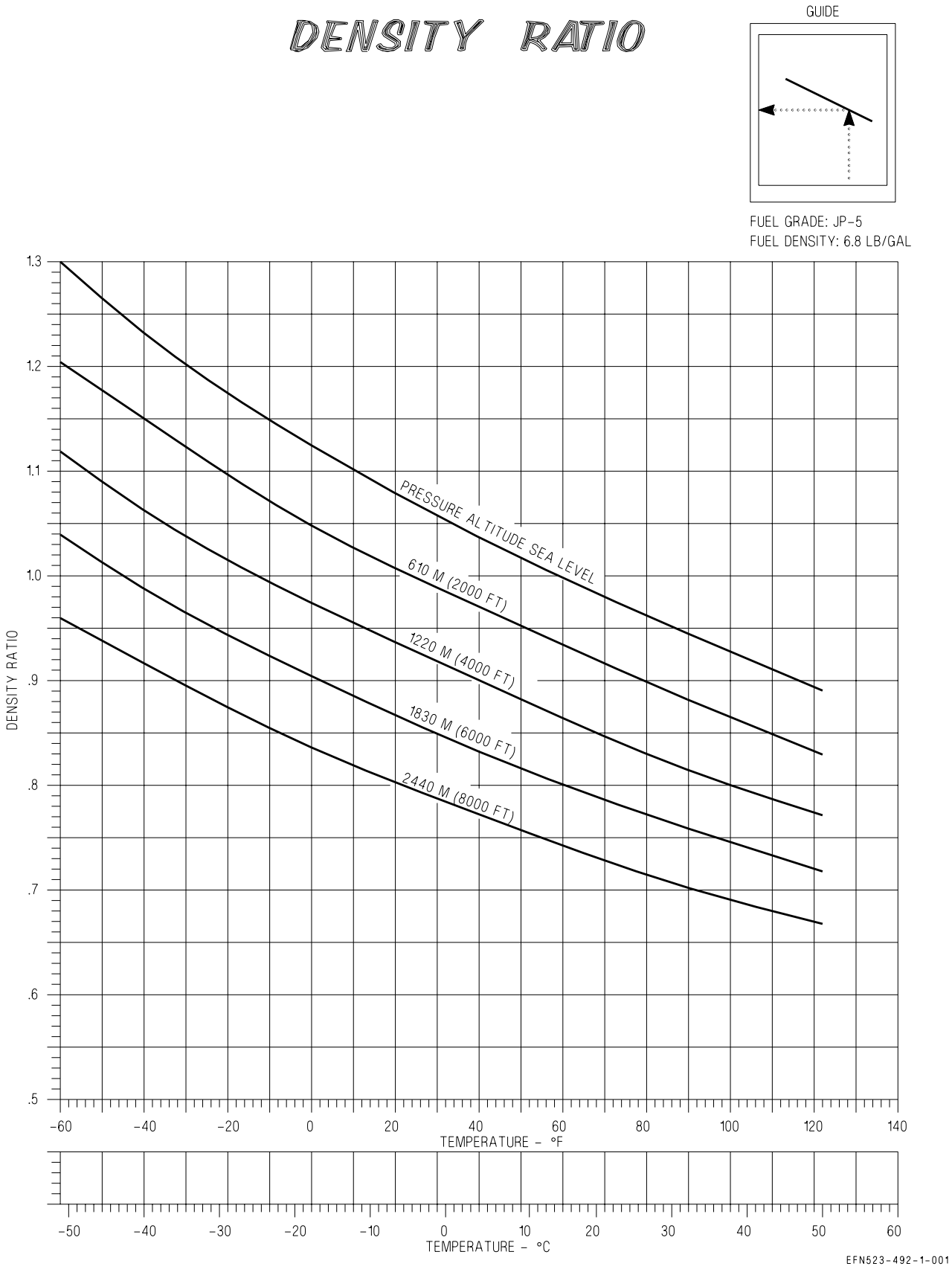


Figure 3-2. Density Ratio

MINIMUM GO SPEED

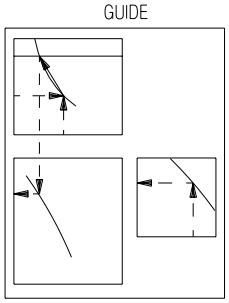
F414-GE-400

MAXIMUM THRUST

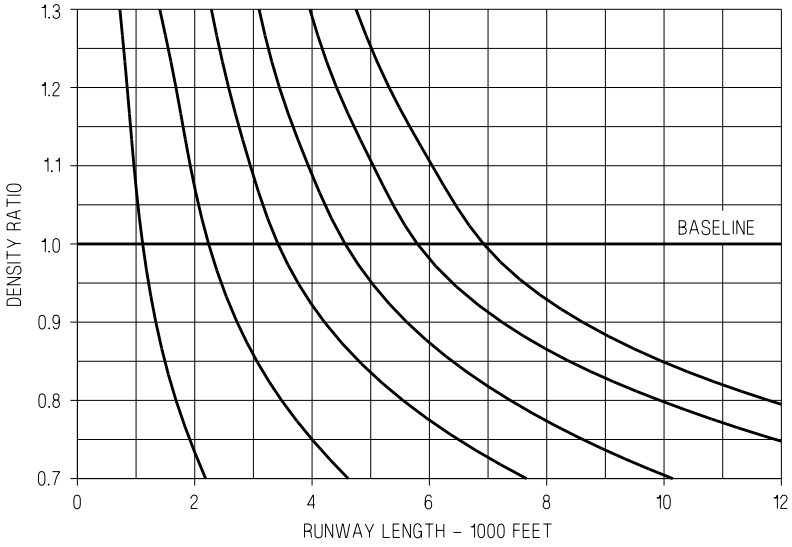
AIRCRAFT CONFIGURATION
HALF FLAPS
GEAR DOWN

DATE: FEBRUARY 2002
DATA BASIS: FLIGHT DERIVED

REMARKS
ENGINE(S): (2) F414-GE-400

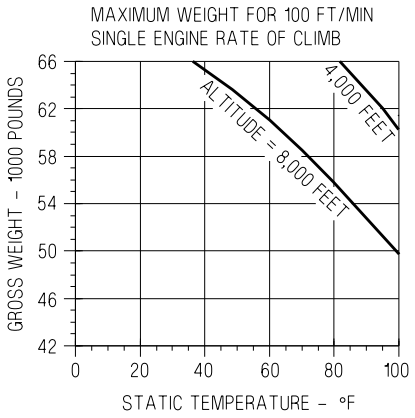


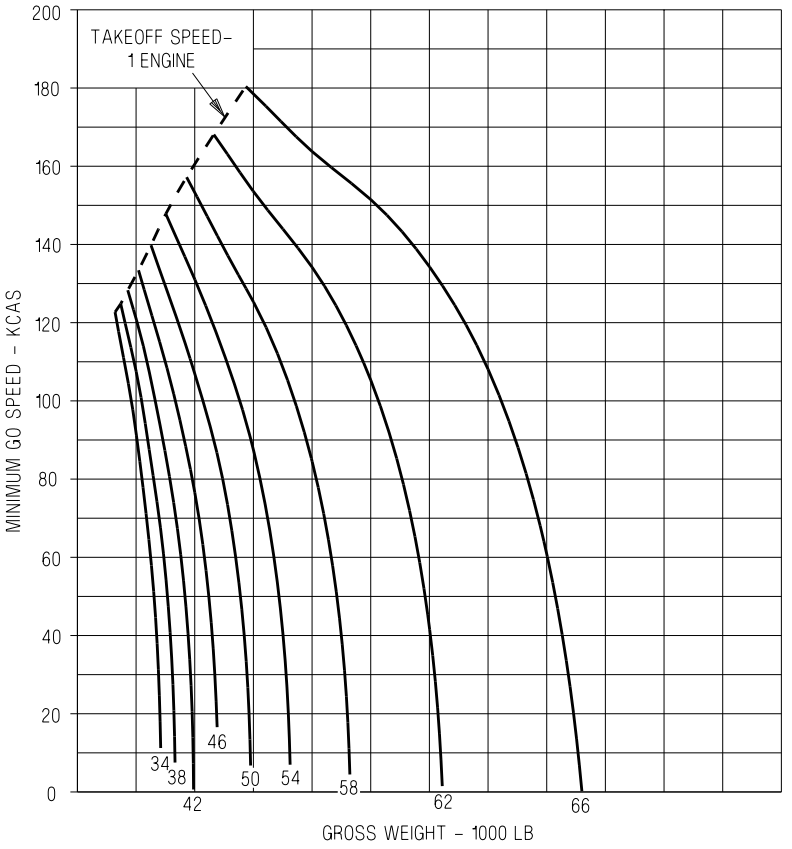
FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



WARNING

WITH ONE ENGINE FAILED, AT HEAVY WEIGHT, HOT DAY CONDITIONS, EVEN THE USE OF MAXIMUM A/B THRUST ON THE OPERATING ENGINE MAY NOT PROVIDE SUFFICIENT RATE OF CLIMB CAPABILITY TO SAFELY CONTINUE THE TAKEOFF. UNLESS EXTERNAL STORES CAN BE SAFELY JETTISONED, TAKEOFFS AT THESE CONDITIONS, AS DETERMINED FROM THE CHART PRESENTED BELOW, SHOULD BE ABORTED.





EFN523-360-1-004

Figure 3-3. Minimum Go Speed - Maximum Thrust

MINIMUM GO SPEED

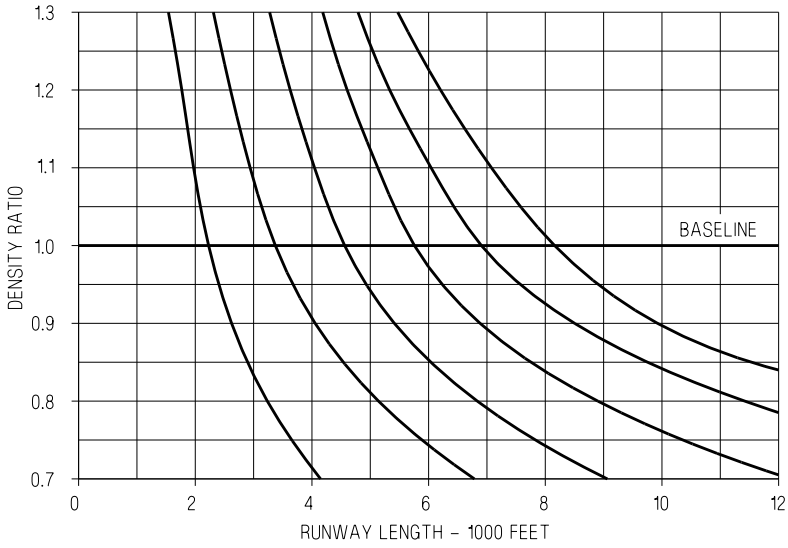
F414-GE-400

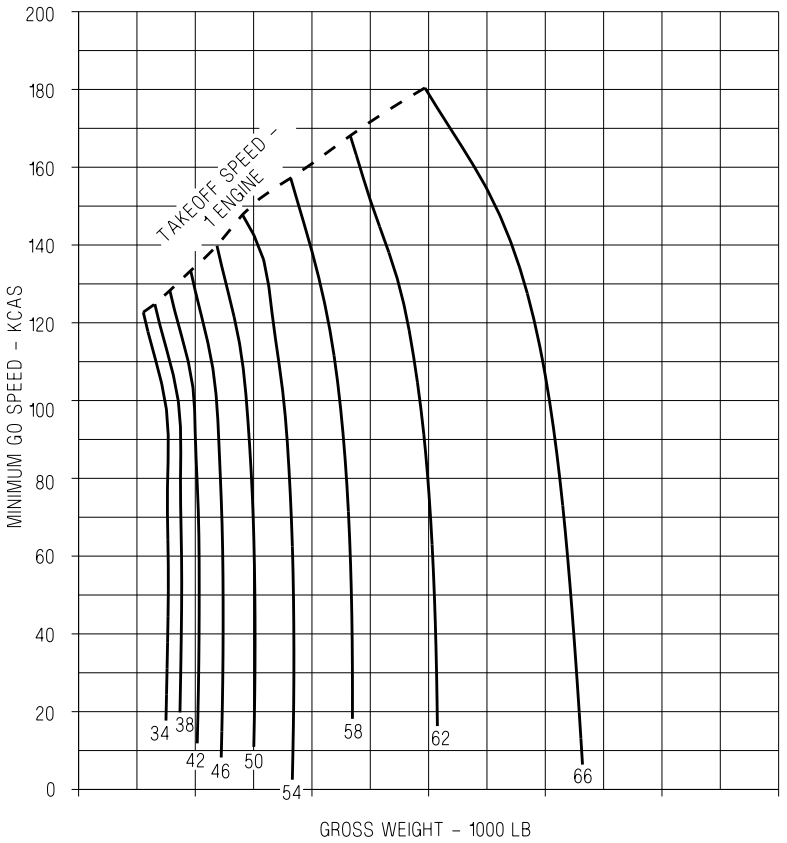
MILITARY THRUST
HARD DRY RUNWAY

AIRCRAFT CONFIGURATION
HALF FLAPS
GEAR DOWN

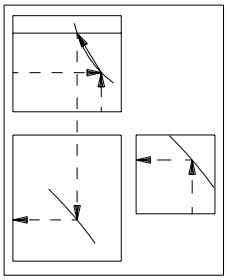
DATE: FEBRUARY 2002
DATA BASIS: FLIGHT DERIVED

REMARKS
ENGINE(S): (2) F414-GE-400





GUIDE



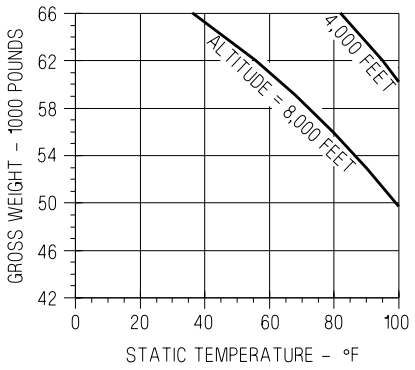
NOTE
REMAINING ENGINE AT MAXIMUM THRUST AFTER FAILURE RECOGNIZED.

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

WARNING

WITH ONE ENGINE FAILED, AT HEAVY WEIGHT, HOT DAY CONDITIONS, EVEN THE USE OF MAXIMUM A/B THRUST ON THE OPERATING ENGINE MAY NOT PROVIDE SUFFICIENT RATE OF CLIMB CAPABILITY TO SAFELY CONTINUE THE TAKEOFF. UNLESS EXTERNAL STORES CAN BE SAFELY JETTISONED, TAKEOFFS AT THESE CONDITIONS, AS DETERMINED FROM THE CHART PRESENTED BELOW, SHOULD BE ABORTED.

MAXIMUM WEIGHT FOR 100 FT/MIN
SINGLE ENGINE RATE OF CLIMB



EFN523-347-1-004

Figure 3-4. Minimum Go Speed - Military Thrust

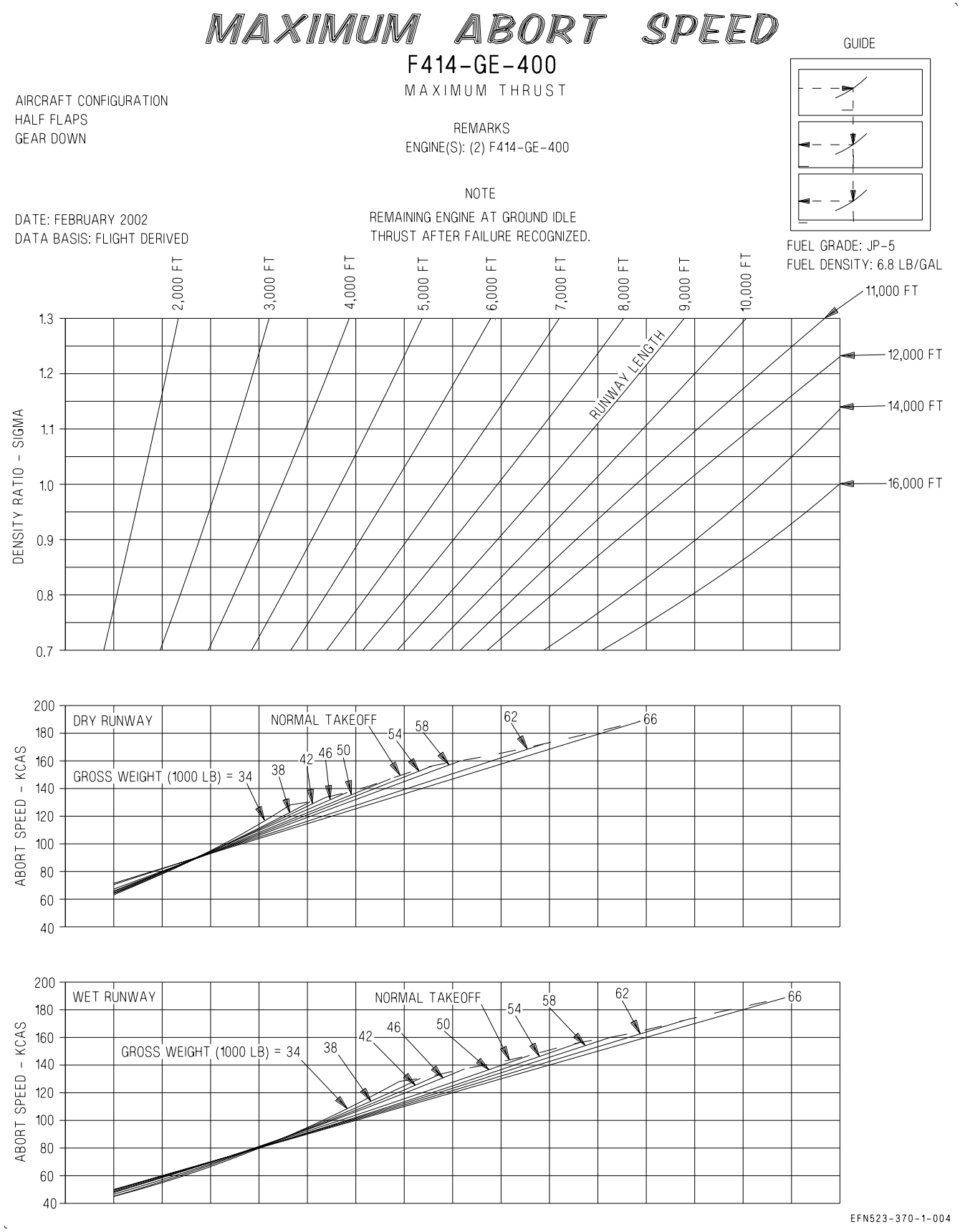


Figure 3-5. Maximum Abort Speed - Maximum Thrust

MAXIMUM ABORT SPEED

F414-GE-400

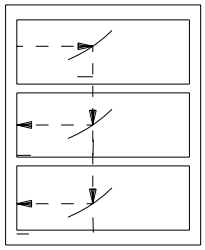
MILITARY THRUST

AIRCRAFT CONFIGURATION
HALF FLAPS
GEAR DOWN

REMARKS
ENGINE(S): (2) F414-GE-400

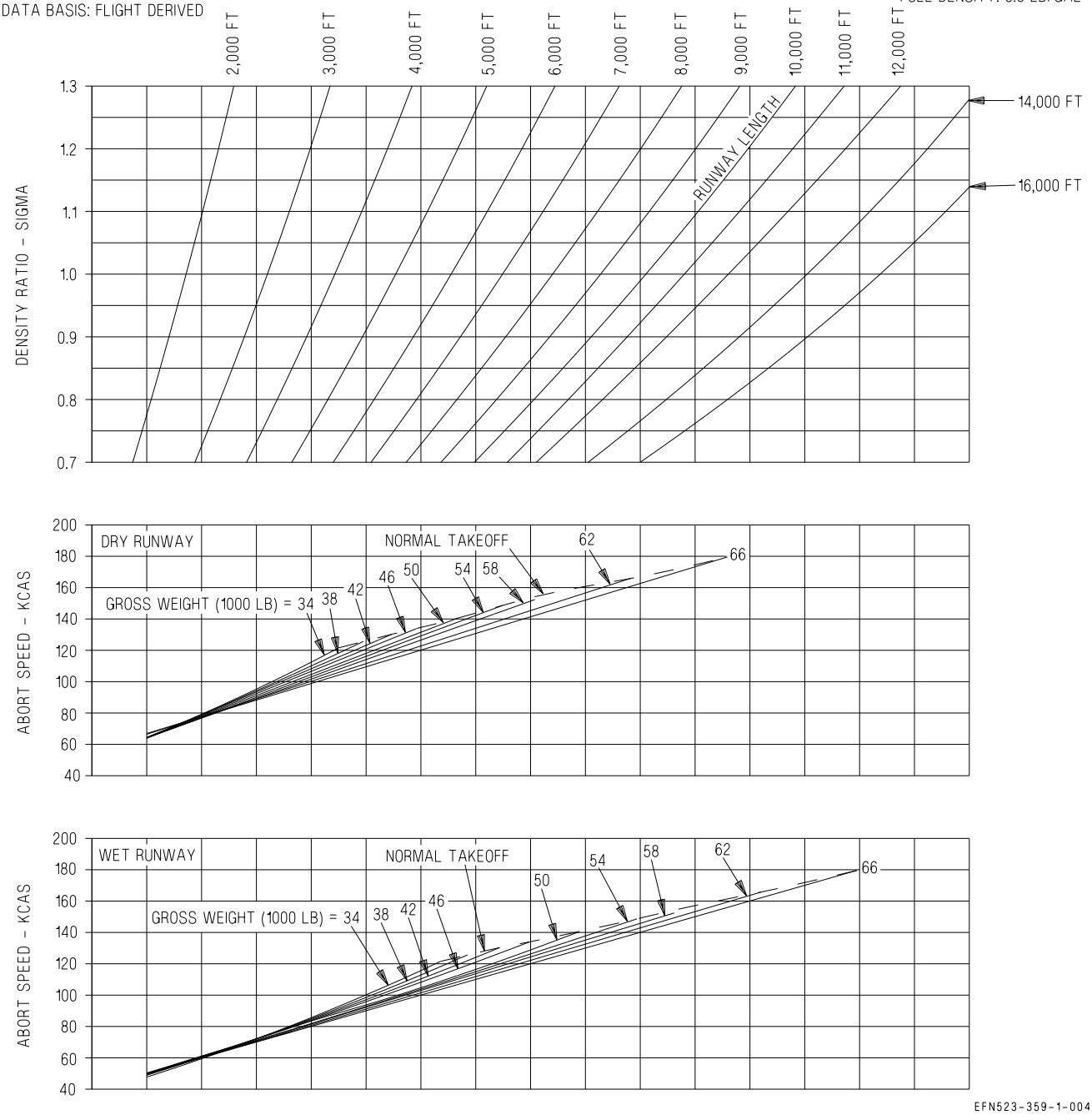
NOTE
REMAINING ENGINE AT GROUND IDLE
THRUST AFTER FAILURE RECOGNIZED.

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: FEBRUARY 2002
DATA BASIS: FLIGHT DERIVED



EFN523-359-1-004

Figure 3-6. Maximum Abort Speed - Military Thrust

TAKEOFF DISTANCE

F414-GE-400

MAXIMUM THRUST
HARD DRY RUNWAY

AIRCRAFT CONFIGURATION
HALF FLAPS
GEAR DOWN

DATE: FEBRUARY 2002
DATA BASIS: FLIGHT DERIVED

REMARKS
ENGINE(S): (2) F414-GE-400

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

NOTES

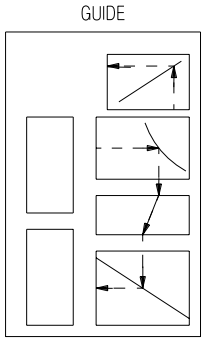
ALL TAKEOFF DISTANCES ARE FOR 4 ° NOSE UP INITIAL STABILATOR TRIM.

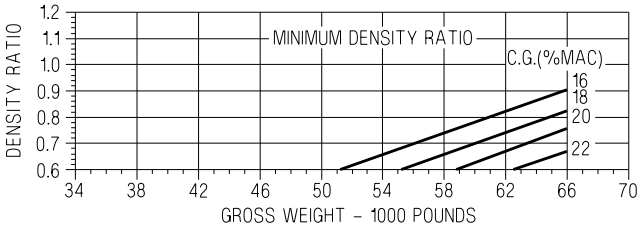
GROUND ROLL DISTANCES ARE FOR A TAKEOFF CG OF 22% MAC. FOR GROUND ROLL CORRECTION FOR OTHER CG LOCATIONS, REFER TO TAKEOFF GROUND ROLL CORRECTION FOR CG - MAXIMUM THRUST.

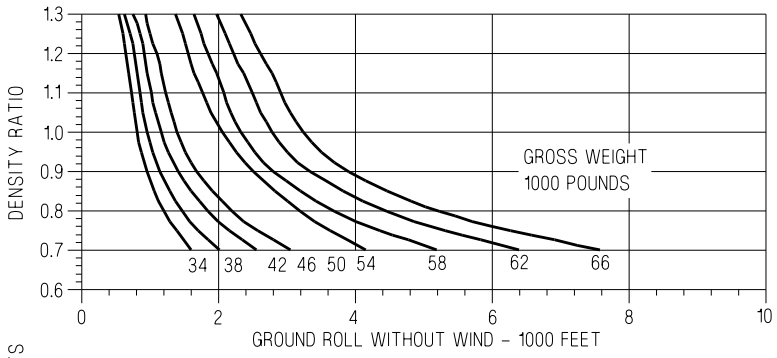
CG (%MAC)	GROSS WEIGHT - 1000 POUNDS		
	34	38	42
	NOSEWHEEL LIFTOFF/ TAKEOFF SPEEDS (KCAS)		
16	124/ 143	132/ 149	139/ 155
18	120/ 138	126/ 144	133/ 150
20	117/ 134	121/ 139	127/ 145
22	116/ 131	116/ 135	120/ 140
24	116/ 129	113/ 131	115/ 135
26	114/ 127	112/ 127	112/ 130
28	113/ 125	110/ 124	110/ 126

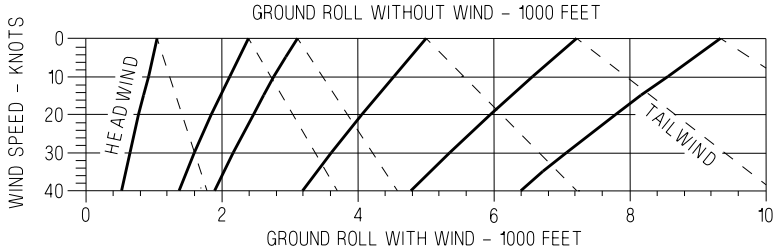
CG (%MAC)	GROSS WEIGHT - 1000 POUNDS		
	46	50	54
	NOSEWHEEL LIFTOFF/ TAKEOFF SPEEDS (KCAS)		
16	147/ 162	155/ 168	163/ 176
18	141/ 157	149/ 164	157/ 171
20	134/ 152	142/ 158	151/ 165
22	127/ 146	135/ 153	144/ 160
24	121/ 140	128/ 147	137/ 155
26	116/ 135	122/ 142	130/ 149
28	113/ 131	117/ 137	122/ 144

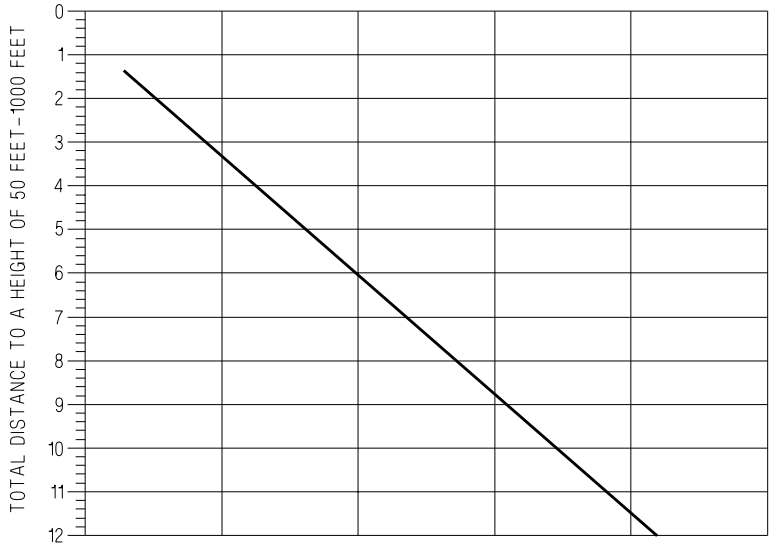
CG (%MAC)	GROSS WEIGHT - 1000 POUNDS		
	58	62	66
	NOSEWHEEL LIFTOFF/ TAKEOFF SPEEDS (KCAS)		
16	172/ 183	180/ 191	189/ 198
18	165/ 178	174/ 185	182/ 192
20	160/ 172	167/ 179	174/ 185
22	153/ 167	161/ 174	166/ 179
24	146/ 162	153/ 168	159/ 173
26	138/ 156	145/ 163	152/ 168
28	129/ 151	137/ 158	145/ 163











EFN523-366-1-004

Figure 3-7. Takeoff Distance - Maximum Thrust

TAKEOFF DISTANCE

F414-GE-400

MILITARY THRUST
HARD DRY RUNWAY

AIRCRAFT CONFIGURATION
HALF FLAPS
GEAR DOWN

DATE: FEBRUARY 2002
DATA BASIS: FLIGHT DERIVED

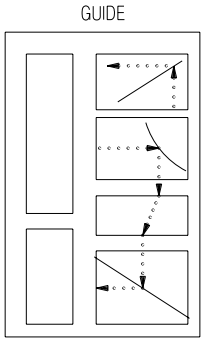
REMARKS
ENGINE(S): (2) F414-GE-400

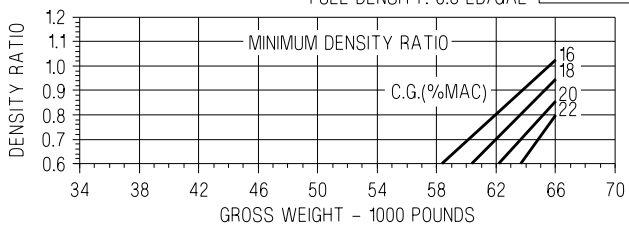
FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

NOTES

ALL TAKEOFF DISTANCES ARE FOR 4 ° NOSE UP INITIAL STABILATOR TRIM.

GROUND ROLL DISTANCES ARE FOR A TAKEOFF CG OF 22% MAC. FOR GROUND ROLL CORRECTION FOR OTHER CG LOCATIONS, REFER TO TAKEOFF GROUND ROLL CORRECTION FOR CG - MILITARY THRUST.

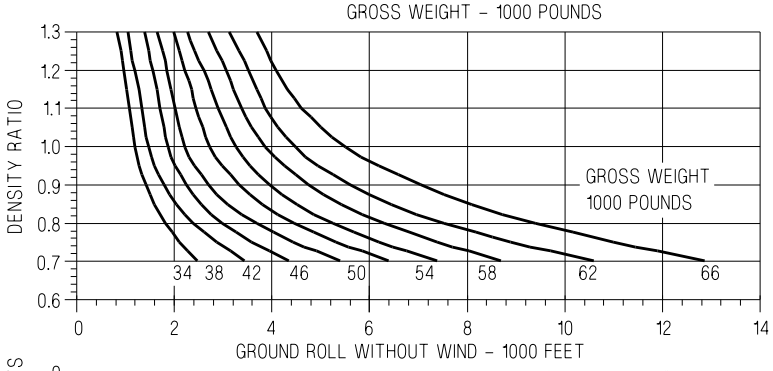


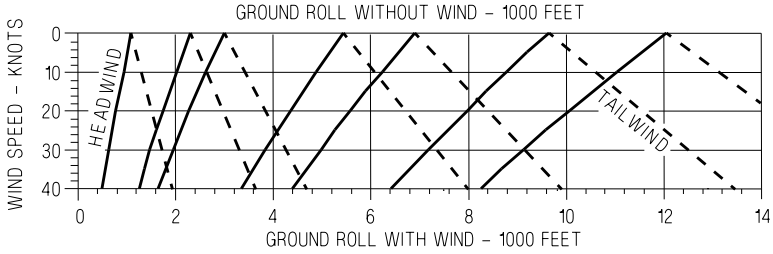


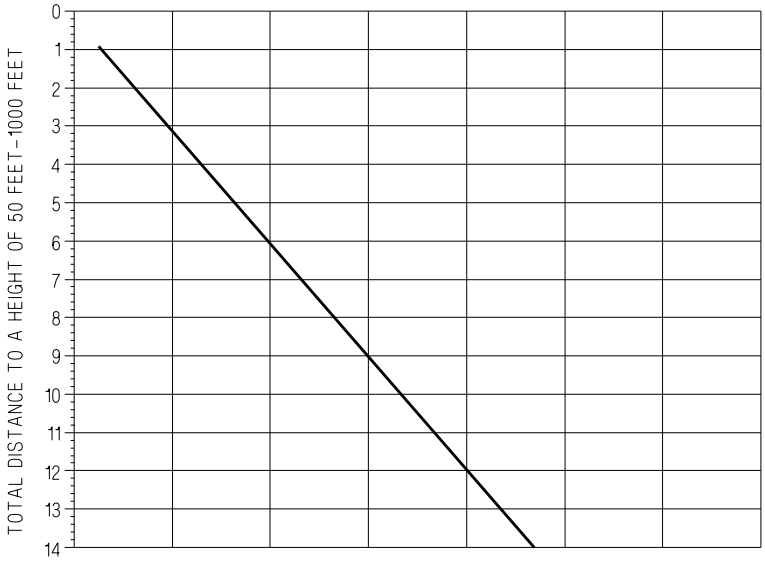
CG (%MAC)	GROSS WEIGHT - 1000 POUNDS		
	34	38	42
	NOSEWHEEL LIFTOFF/ TAKEOFF SPEEDS (KCAS)		
16	122/ 139	130/ 145	138/ 150
18	116/ 134	125/ 140	132/ 146
20	111/ 129	119/ 135	126/ 141
22	110/ 124	113/ 130	119/ 136
24	109/ 121	110/ 126	113/ 131
26	110/ 118	108/ 122	109/ 126
28	109/ 115	107/ 118	107/ 122

CG (%MAC)	GROSS WEIGHT - 1000 POUNDS		
	46	50	54
	NOSEWHEEL LIFTOFF/ TAKEOFF SPEEDS (KCAS)		
16	145/ 156	152/ 162	159/ 169
18	140/ 152	146/ 157	153/ 163
20	133/ 147	140/ 153	146/ 158
22	125/ 142	133/ 148	140/ 153
24	118/ 137	125/ 143	133/ 149
26	113/ 132	118/ 138	125/ 145
28	109/ 128	112/ 135	118/ 142

CG (%MAC)	GROSSWEIGHT - TAKEOFF SPEEDS (KCAS)		
	58	62	66
	NOSEWHEEL LIFTOFF/ TAKEOFF SPEEDS (KCAS)		
16	166/ 175	174/ 182	184/ 189
18	160/ 170	168/ 176	177/ 184
20	154/ 164	161/ 170	168/ 177
22	147/ 159	154/ 165	160/ 171
24	140/ 155	147/ 160	152/ 165
26	132/ 152	139/ 157	145/ 162
28	124/ 149	131/ 154	138/ 159







EFN523-355-1-004

Figure 3-8. Takeoff Distance - Military Thrust

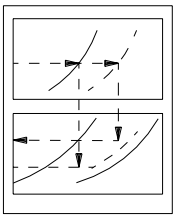
TAKEOFF GROUND ROLL CORRECTION FOR CG

AIRCRAFT CONFIGURATION
HALF FLAPS
GEAR DOWN

F414-GE-400
MAXIMUM THRUST

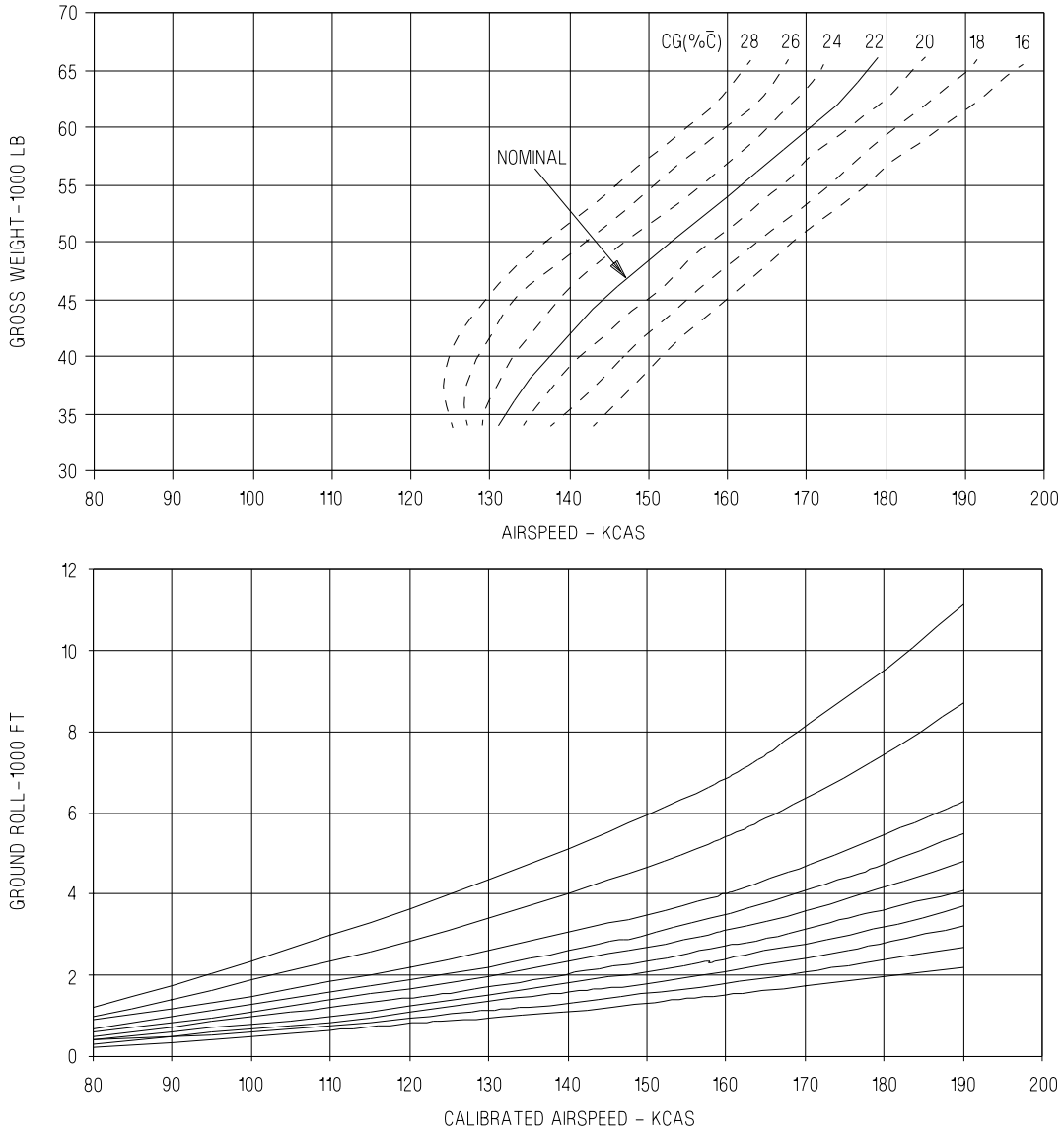
REMARKS
ENGINE(S): (2) F414-GE-400

GUIDE



DATE: FEBRUARY 2002
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-342-1-004

Figure 3-9. Takeoff Ground Roll Correction for CG - Maximum Thrust

TAKEOFF GROUND ROLL CORRECTION FOR CG

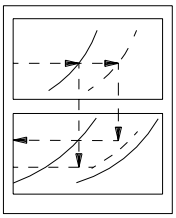
F414-GE-400

MILITARY THRUST

AIRCRAFT CONFIGURATION
HALF FLAPS
GEAR DOWN

REMARKS
ENGINE(S): (2) F414-GE-400

GUIDE



DATE: FEBRUARY 2002
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

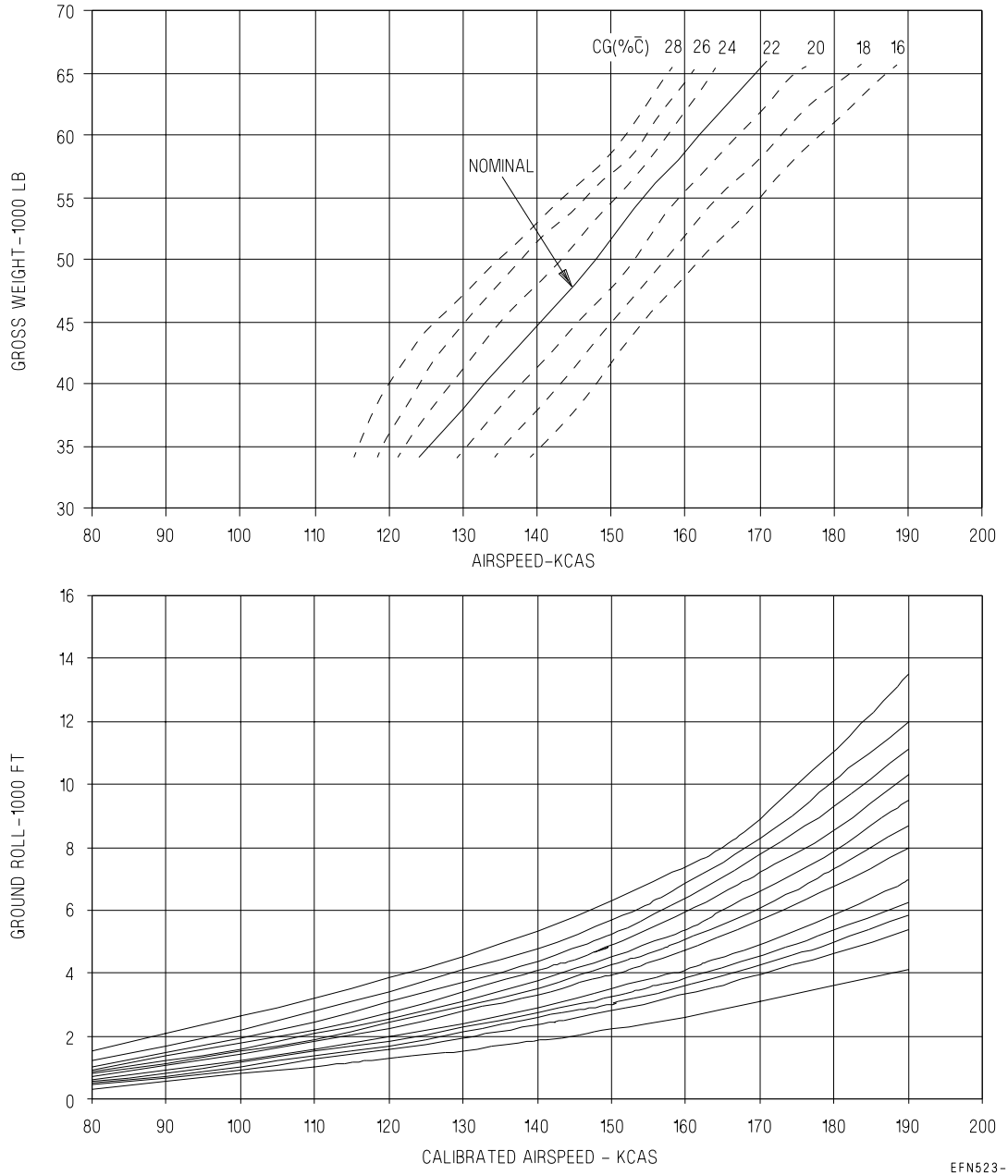


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Figure 3-10. Takeoff Ground Roll Correction for CG - Military Thrust

CHAPTER 4

Climb
F414-GE-400

4.1 TAKEOFF ALLOWANCES CHART

The takeoff allowances and acceleration to climb speed chart (figure 4-1) presents fuel usage during start, taxi, engine run-up. This chart is used to determine fuel, time and distance data from brake release to 350 KIAS or climb speed.

4.2 CLIMB PERFORMANCE CHARTS

Climb charts present the military thrust climb performance for two-engine operation. Climb charts are also included to present the maximum thrust climb performance for two-engine operation. These charts are used to obtain climb data after takeoff to selected altitude in a gear-up and flaps-up configuration.

4.2.1 Military Thrust Climb. Military thrust climb charts (figures 4-2 thru 4-6) are provided for two engine operation, single engine operation, and various drag indexes and gross weights. The data includes climb speed schedule; combat ceiling and service ceiling; optimum cruise altitude; and separate charts for time, fuel, and distance required to climb from sea level to selected altitude at climb speed schedule. Also provided are data for peak rate of climb (figure 4-7).

4.2.2 Maximum Thrust Climb. Maximum thrust climb charts for two-engine operation (figure 4-8) are provided for various drag indexes and gross weights. The data include peak rate of climb Mach number; combat ceiling; and separate charts for time, fuel, and distance required to climb from sea level to selected altitude at peak rate of climb.

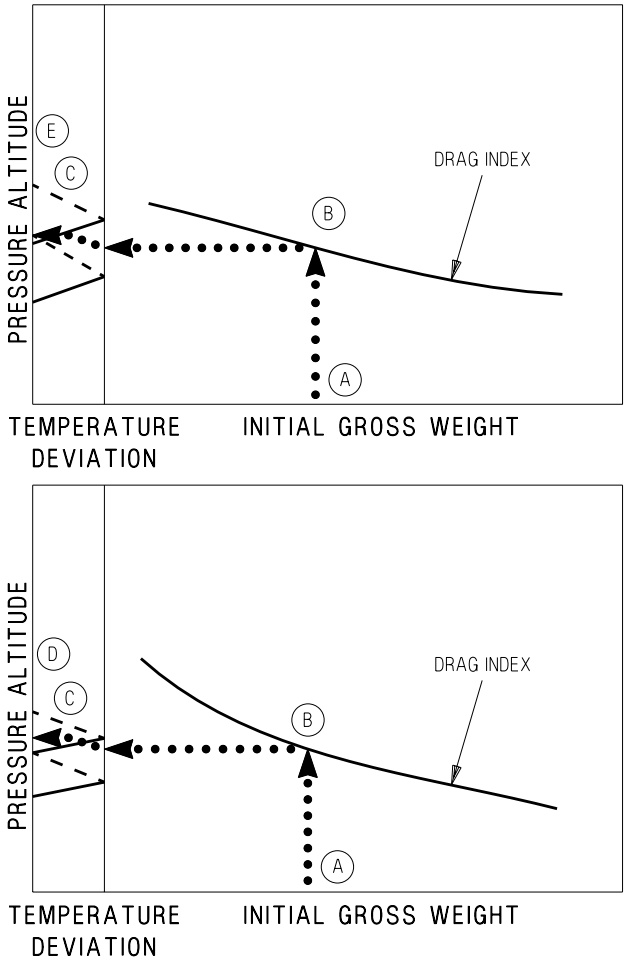
4.2.3 Use. CLIMB SPEED SCHEDULE - From the appropriate drag index column determine the optimum climb speed (calibrated airspeed to constant Mach number) for the selected climb altitude. The preclimb fuel requirements should be noted if the takeoff acceleration phase is to be considered in the climb planning.

COMBAT CEILING AND SERVICE CEILING - Enter the chart with the initial climb gross weight and project vertically up to the appropriate drag index curve, then horizontally left to the temperature baseline and parallel the appropriate temperature deviation guideline to the correct temperature deviation. Project horizontally left to find the service ceiling and the combat ceiling for initial climb gross weight.

4.2.4 Sample Problem. Combat Ceiling and Service Ceiling (figure 4-2, sheet 2).

A. Initial gross weight	44,000 Lb.
B. Drag Index	100
C. Temperature deviation from standard day	-10°C
D. Service ceiling	45,400 Ft.
E. Combat ceiling	44,050 Ft.

SAMPLE COMBAT CEILING AND SERVICE CEILING



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OPTIMUM CRUISE ALTITUDE - Enter the chart with the initial gross weight and project vertically up to the appropriate drag index curve, then horizontally left to the temperature baseline and parallel the appropriate temperature deviation guideline to the correct temperature deviation. Project horizontally left to find the optimum cruise altitude for initial climb gross weight.

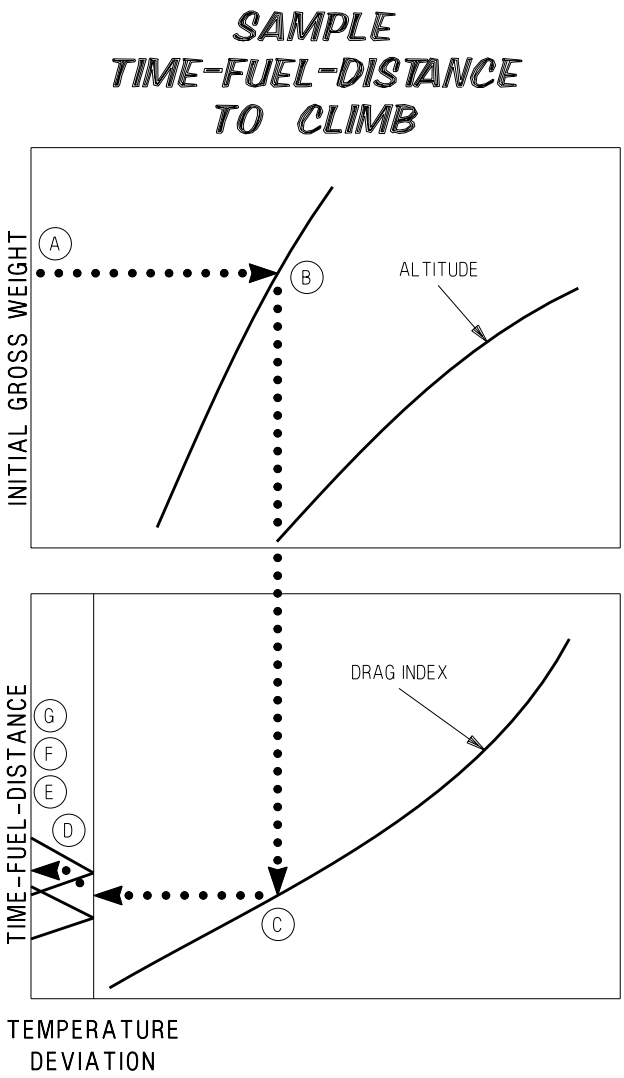
Optimum Cruise Altitude (figure 4-2, sheet 3)

A. Initial gross weight	44,000 Lb.
B. Drag Index	100
C. Temperature deviation from standard day	-10°C
D. Optimum cruise altitude	40,950 Ft.

TIME, FUEL, AND DISTANCE - Presentations of these charts are identical: therefore, they are used in the same manner. Enter the appropriate chart with the initial gross weight and project horizontally right to intersect the desired altitude then vertically down to the appropriate drag index curve. From this point project horizontally left to the temperature baseline and parallel the appropriate temperature deviation guideline to the correct temperature deviation, project horizontally left to find time, fuel, or distance required.

Time, Fuel, and Distance to Climb (figure 4-2, sheets 4, 5, & 6)

A. Initial gross weight	44,000 Lb.
B. Selected altitude	35,000 Ft.
C. Drag Index	100
D. Temperature deviation from standard day	+10°C
E. Time to climb	4.6 Min.
F. Fuel required	1260 Lb.
G. Distance	38NM



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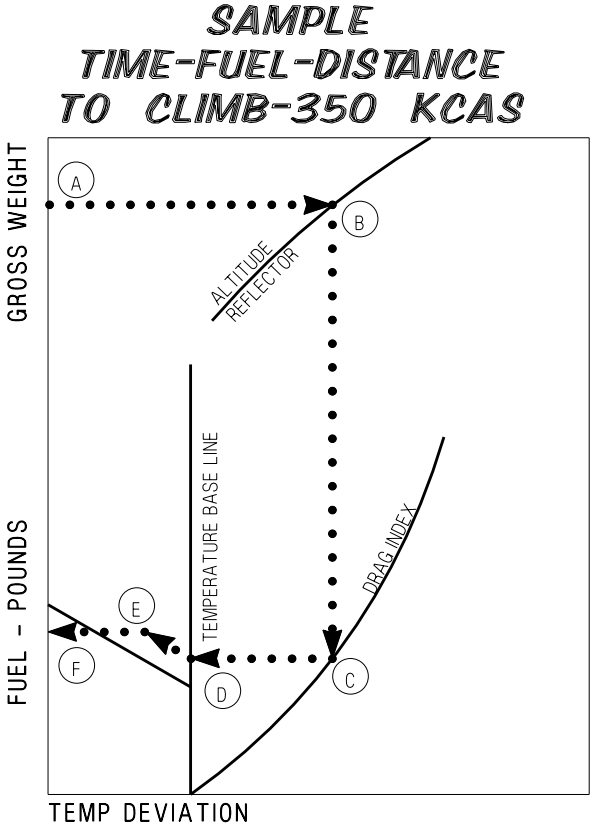
4.3 CLIMB CHARTS - 350 KCAS

These charts (figures 4-4 thru figure 4-6) show time, fuel, and distance for a simplified military thrust climb. These data charts are based on climbing at 350 knots until interception of the constant Mach portion of the military thrust climb speed schedule, then maintaining constant Mach to cruise altitude.

4.3.1 Use. Enter the charts with the initial climb gross weight. Project horizontally to the right and intersect the assigned cruise altitude, or the optimum cruise altitude for the computed drag index. Project vertically downward to intersect the applicable drag index line, then project horizontally to the left to the temperature deviation baseline (corresponds to a U.S. standard day (°C)). Parallel the applicable guideline (hotter or colder) to intersect a vertical grid line corresponding to the degree of deviation between forecast flight temperature and standard day temperature. From this point continue horizontally to the left to read the planning data (fuel, time, or distance).

4.3.2 Sample Problem.

A. Gross Weight	52,000 Lb.
B. Cruise Altitude	30,000 Ft.
C. Drag index	150
D. Temperature baseline	
E. Temperature deviation	+5°C
F. Fuel required	1450 Lb.
Time to Climb	4.8 Min.
Distance nautical miles	35 NM



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4.4 PEAK RATE OF CLIMB CHARTS

These charts provide peak rate of climb data for two-engine operation. The data are based on either military thrust (figure 4-7) or maximum thrust (figure 4-8) at selected altitudes, gross weights, and drag indexes. The charts include a climb schedule (Mach number) and the normal time, fuel, and distance required charts which are used in an identical manner as the military thrust climb charts based on the climb speed schedule. A combat ceiling chart is included for maximum thrust.

4.4.1 Use. MACH NUMBER - Enter the chart at the selected pressure altitude and project horizontally right to the appropriate drag index curve, then vertically down to find the Mach number for peak rate of climb.

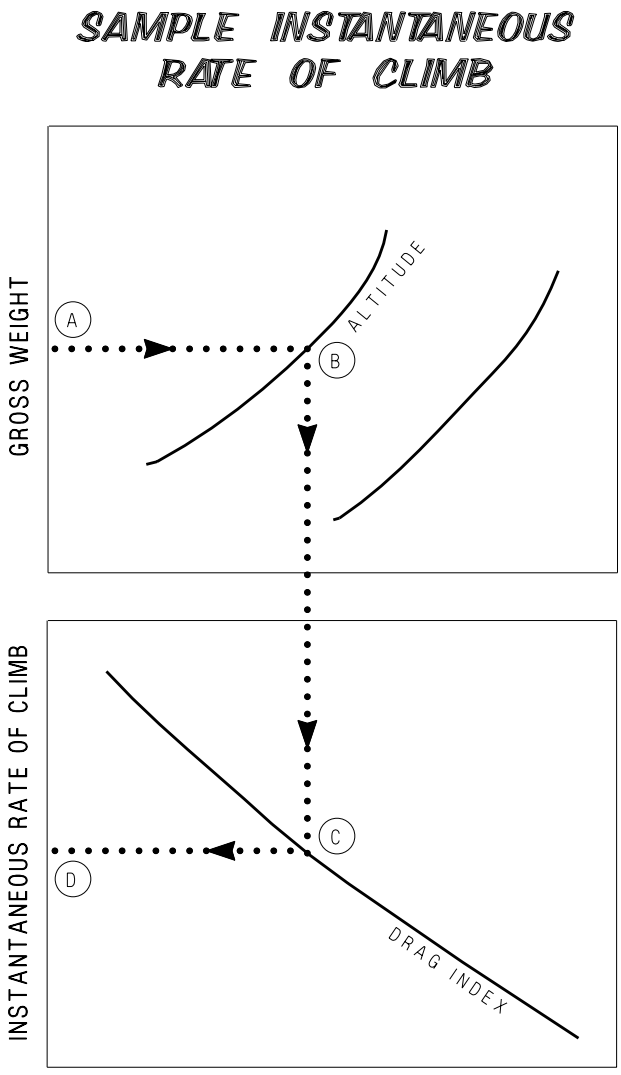
4.5 INSTANTANEOUS RATE OF CLIMB CHARTS

These charts are based on two-engine operation at military thrust (figure 4-9) or maximum thrust (figure 4-10) and provide instantaneous rate of climb for any given altitude gross weight combination with various drag indexes.

4.5.1 Use. Enter the chart with the appropriate gross weight and project horizontally right to the selected altitude curve. From this point, project vertically down to the computed drag index curve, then horizontally left to read the instantaneous rate of climb in feet per minute.

4.5.2 Sample Problem.

A. Gross weight	40,000 Lb.
B. Selected altitude	30,000 Ft.
C. Drag index	100
D. Instantaneous rate of climb	6400 FPM



4.6 SUPERSONIC MAXIMUM THRUST CLIMB CHARTS

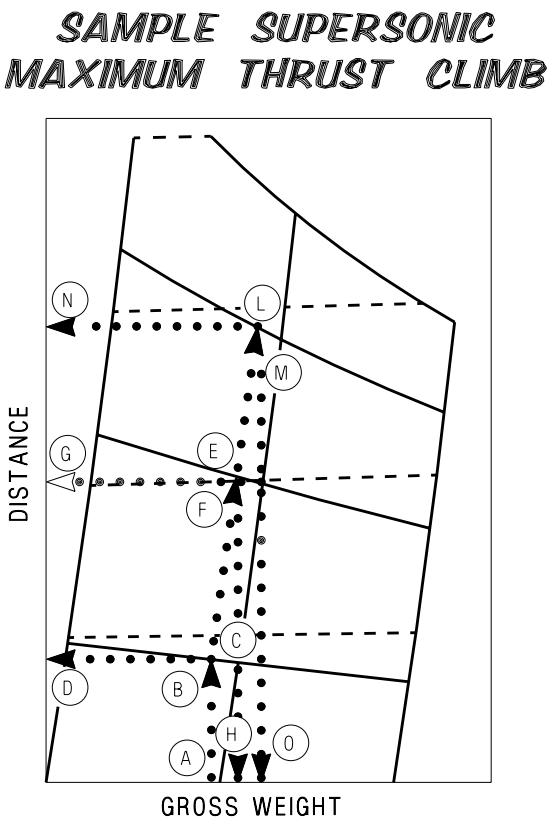
These charts (figure 4-11) are plotted for supersonic maximum thrust climb from 35,000 feet to the supersonic combat ceiling. Distance traveled in the climb is plotted against gross weight, with guidelines provided to show the weight reduction as the climb progresses. The time to distance/altitude relationship is superimposed on the plot. Level flight acceleration data are provided which includes time, fuel used (gross weight change), and distance required to accelerate from the subsonic to the supersonic climb Mach number at 35,000 feet. If supersonic climb is contemplated, acceleration at 35,000 feet followed by the climb is recommended, since acceleration to supersonic Mach numbers at this altitude provides for the optimum performance capability.

4.6.1 Use. Enter the chart with the gross weight and proceed vertically to the initial Mach number and note the corresponding distance and time. Proceed parallel to the guidelines to the desired supersonic climb Mach number (end of acceleration). Project both vertically downward and horizontally to the left from this point to read gross weight and distance traveled, also note the time. From these values, subtract the distance, weight, and time corresponding to the initial Mach number to determine the distance, fuel, and time required to accelerate. From the climb Mach number gross weight intersection (start of climb), proceed parallel along the guidelines to the desired altitude. Obtain the distance, gross weight, and time for this starting point. Subtract from this data the corresponding values at the start of climb to obtain the distance traveled, the weight change (fuel used), and the time required to complete the climb. If total distance, fuel and time are desired, add the climb and acceleration values together.

4.6.2 Sample Problem. Configuration - (2)AIM-9 +(2)AIM-120.

A. Initial gross weight	42,000 Lb.
B. Initial Mach number	1.1
C. Time corresponding to initial Mach number	0.6 Min.
D. Distance corresponding to initial Mach number	6.1 NM
E. Climb Mach number	1.2
F. Time at end of acceleration	1.0 Min.
G. Distance at end of acceleration	10.1 NM
H. Gross weight at end of acceleration	41,740 Lb.
I. Time required for acceleration (F-C)	0.4 Min.
J. Fuel required for acceleration (A-H)	260 Lb.
K. Distance required for acceleration (G-D)	4.0 NM
L. Altitude at end of climb	46,000 Ft.
M. Time at end of climb	3.0 Min.
N. Distance at end of climb	32.7 NM
O. Gross weight at end of climb	40,670 Lb.
P. Time required for climb (M-F)	2.0 Min.
Q. Distance required for climb (N-G)	22.6 NM
R. Fuel required for climb (H-O)	1070 Lb.
S. Total time required to accelerate and climb (I+P)	2.4 Min.

T. Total distance required to accelerate and climb (K+Q) 26.6 NM
U. Total fuel required to accelerate and climb (J+R) 1330 Lb.



4.7 SINGLE ENGINE RATE OF CLIMB TAKEOFF CONFIGURATION CHARTS

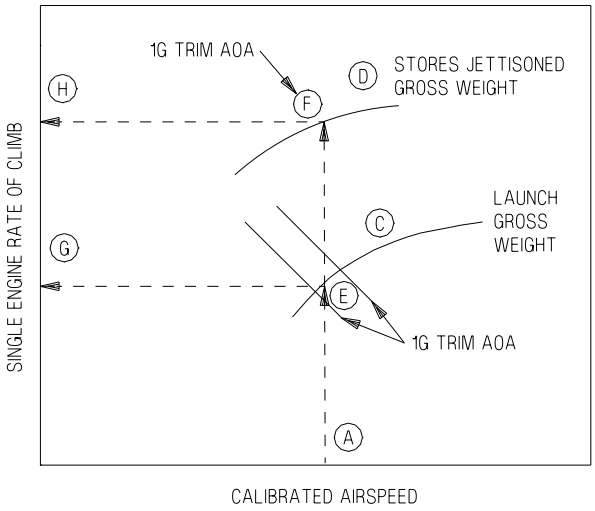
These charts (figures 4-12 and 4-13) provide the single engine rate of climb capability in the field takeoff (half flaps, gear down) and catapult launch (full flaps, gear down) configurations with maximum afterburner thrust on the operating engine. Charts are provided for six different external store loadings: three loadings with full external stores and three loadings with stores jettisoned. Single engine rate of climb is presented as a function of temperature, gross weight, angle of attack, and airspeed. Dual engine operational launch endspeeds and dual engine nose and main gear liftoff speeds are provided for reference on the catapult launch and field takeoff charts, respectively.

4.7.1 Use. Enter the chart representing the applicable air temperature at the desired airspeed and project vertically upward until intersecting the appropriate gross weight curve. From this intersection, read the angle of attack required to maintain 1g, unaccelerated flight at this condition and then project horizontally left to obtain the corresponding single engine rate of climb. For air temperatures between the values listed at the top of each chart, linear interpolation between the two applicable charts must be used.

4.7.2 Sample Problem. Launch SEROC (figure 4-12, sheet 2).

A. Air temperature	59°F
B. $V_{operational\ end}$ -5 kt (from operational endspeed table at top of chart)	149 kt
C. Launch weight	58,000 lb
D. Stores jettisoned weight	49,000 lb
E. Stores retained 1g trim AOA	13°
F. Stores jett 1g trim AOA	6.5°
G. Stores retained SEROC	400 FPM
H. Stores jett SEROC	2000 FPM

SAMPLE SINGLE ENGINE RATE OF CLIMB



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4.8 ADJUSTMENT TO SEROC FOR RETRACTING LANDING GEAR CHART

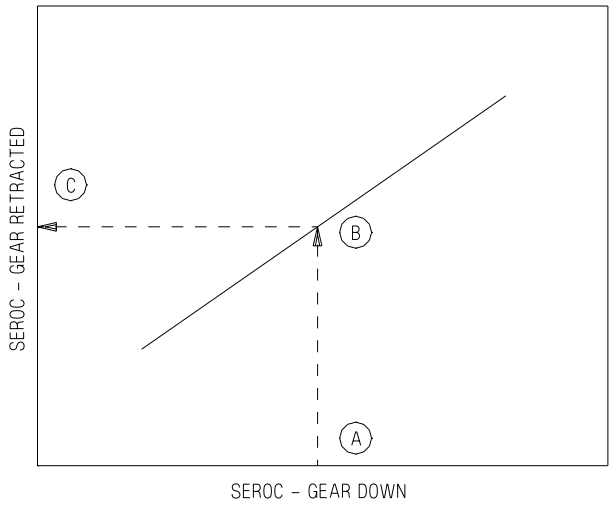
This chart (figure 4-14) provides the effect of raising the landing gear on single engine rate of climb capability in the catapult launch (full flaps, gear down) and field takeoff (half flaps, gear down) configurations with maximum afterburner thrust on the operating engine. Gear up single engine rate of climb is presented as a function of gear down single engine rate of climb and the angle of attack required to maintain 1g, unaccelerated flight as determined from figure 4-12 and 4-13.

4.8.1 Use. Enter the chart with the gear down single engine rate of climb established using figure 4-14 and project vertically upward to the appropriate angle of attack. From this intersection, project horizontally left to obtain the corresponding gear up single engine rate of climb.

4.8.2 Sample Problem.

A. Gear down SEROC	2000 FPM
B. 1g trim AOA	6.5°
C. Gear up SEROC	2400 FPM

SAMPLE ADJUSTMENT TO SEROC FOR RETRACTING LANDING GEAR



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TAKEOFF ALLOWANCES AND ACCELERATION TO CLIMB SPEED

F414-GE-400

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

START = 10 LB /ENG

TAXI AT IDLE = 15 LB /MIN /ENG

ENGINE RUNUP, 30 SEC AT MIL = 90 LB /ENG OR 30 SEC AT MAX = 290 LB/ENG

BRAKE RELEASE TO CLIMB SPEED (NOMINAL VALUES)

		MIL TAKEOFF MIL ACCEL TO 350 KNOTS	MIL TAKEOFF MIL ACCEL TO MIL CLIMB SPEED	MAX TAKEOFF MIL ACCEL TO MIL CLIMB SPEED	MAX TAKEOFF MAX ACCEL TO MAX CLIMB SPEED
DI = 0 TO 100 TOGW = 48,500 LB	TIME (MIN) FUEL (LB) DIST (NM)	0.9 350 2.3	1.1 460 4.3	1.1 870 4.1	1.0 1300 3.3
DI > 200 TOGW = 61,000 LB	TIME (MIN) FUEL (LB) DIST (NM)	1.2 440 3.5	1.2 480 4.1	1.1 870 3.8	1.0 1350 3.4

Figure 4-1. Takeoff Allowances and Acceleration to Climb Speed

CLIMB SPEED SCHEDULE

F414-GE-400
MILITARY THRUST

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES
ALL GROSS WEIGHTS

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

PRESSURE ALTITUDE (feet)	AIRCRAFT DRAG INDEX													
	0		25		50		75		100		125		150	
	KCAS	MACH	KCAS	MACH	KCAS	MACH	KCAS	MACH	KCAS	MACH	KCAS	MACH	KCAS	MACH
Sea Level	515	0.78	500	0.76	490	0.74	475	0.72	475	0.72	460	0.70	420	0.63
5000	515	0.84	500	0.82	490	0.80	475	0.78	475	0.78	460	0.75	420	0.69
10,000	478	0.85	478	0.85	466	0.83	460	0.82	460	0.82	449	0.80	420	0.75
15,000	437	0.85	437	0.85	426	0.83	421	0.82	421	0.82	410	0.80	405	0.79
20,000	398	0.85	398	0.85	388	0.83	383	0.82	383	0.82	373	0.80	368	0.79
25,000	361	0.85	361	0.85	351	0.83	347	0.82	347	0.82	338	0.80	333	0.79
30,000	325	0.85	325	0.85	316	0.83	312	0.82	312	0.82	304	0.80	300	0.79
35,000	291	0.85	291	0.85	283	0.83	279	0.82	279	0.82	272	0.80	268	0.79
40,000	259	0.85	259	0.85	252	0.83	249	0.82	249	0.82	242	0.80	239	0.79

PRESSURE ALTITUDE (feet)	AIRCRAFT DRAG INDEX											
	175		200		225		250		275		300	
	KCAS	MACH	KCAS	MACH	KCAS	MACH	KCAS	MACH	KCAS	MACH	KCAS	MACH
Sea Level	400	0.60	380	0.57	360	0.54	330	0.50	300	0.45	300	0.45
5000	400	0.66	380	0.62	360	0.59	330	0.54	300	0.49	300	0.49
10,000	400	0.72	380	0.68	360	0.65	330	0.59	300	0.54	300	0.54
15,000	389	0.76	380	0.74	360	0.71	330	0.65	300	0.59	300	0.59
20,000	353	0.76	353	0.76	353	0.76	330	0.71	300	0.65	300	0.65
25,000	319	0.76	319	0.76	319	0.76	319	0.76	300	0.72	297	0.71
30,000	287	0.76	287	0.76	287	0.76	287	0.76	279	0.74	267	0.71
35,000	257	0.76	257	0.76	257	0.76	257	0.76	250	0.74	239	0.71
40,000	229	0.76	229	0.76	229	0.76	229	0.76	222	0.74	212	0.71

NOTE

FUEL ALLOWANCE FOR TAKEOFF AND ACCELERATION TO CLIMB SPEED IS 1200 POUNDS, AND IS BASED ON START, 20 MINUTES AT IDLE, 30 SECONDS RUNUP AT MIL, AND A MIL POWER TAKEOFF.

Figure 4-2. Military Thrust Climb (Sheet 1 of 6)

COMBAT CEILING AND SERVICE CEILING

F414-GE-400

MILITARY THRUST

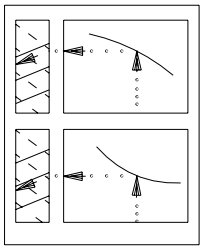
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

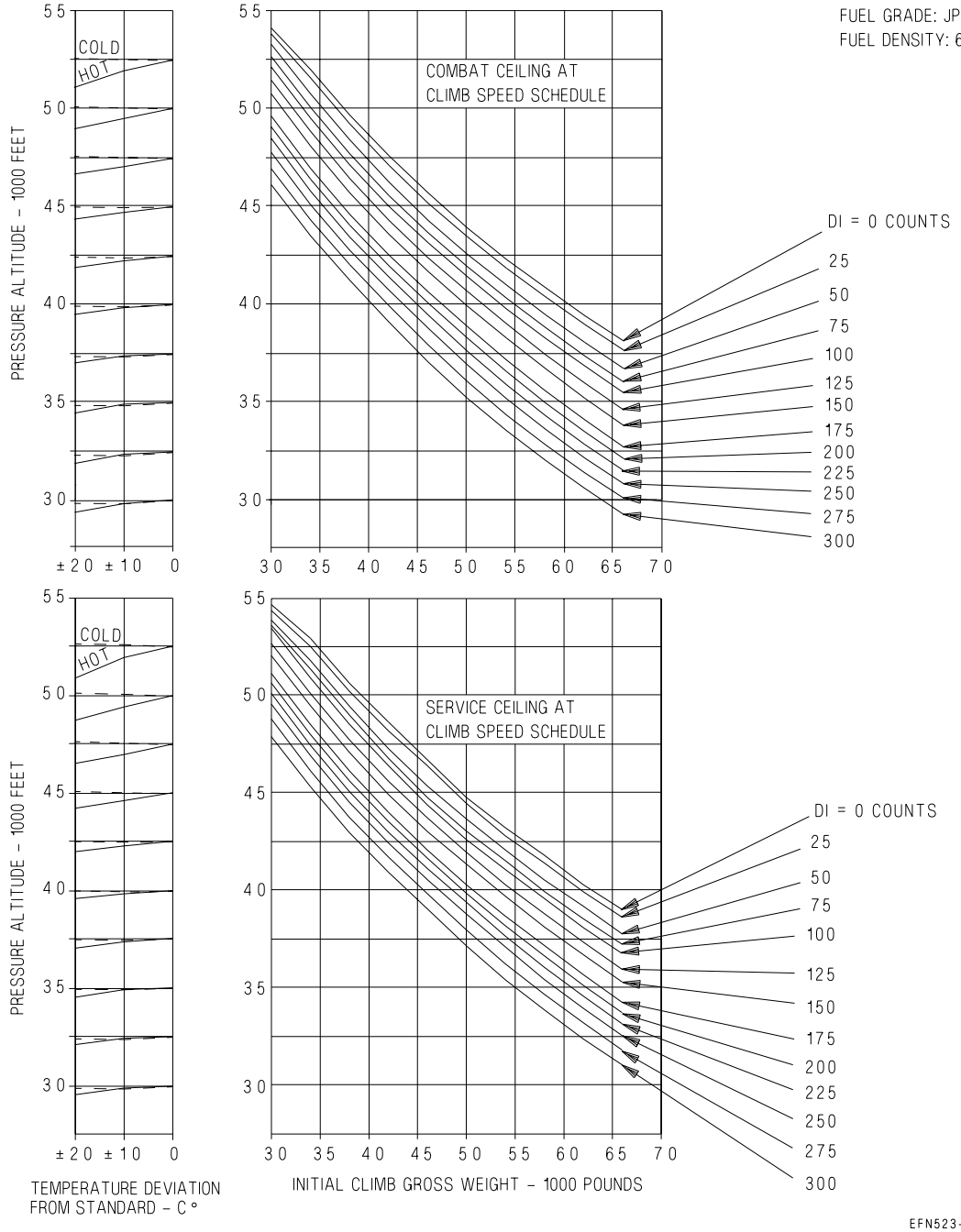
REMARKS
ENGINE(S): (2) F414-GE-400
COMBAT CEILING
= 500 FPM
SERVICE CEILING
= 100 FPM

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-309-1-004

Figure 4-2. Military Thrust Climb (Sheet 2 of 6)

OPTIMUM CRUISE ALTITUDE

F414-GE-400

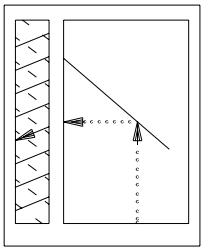
MILITARY THRUST

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400

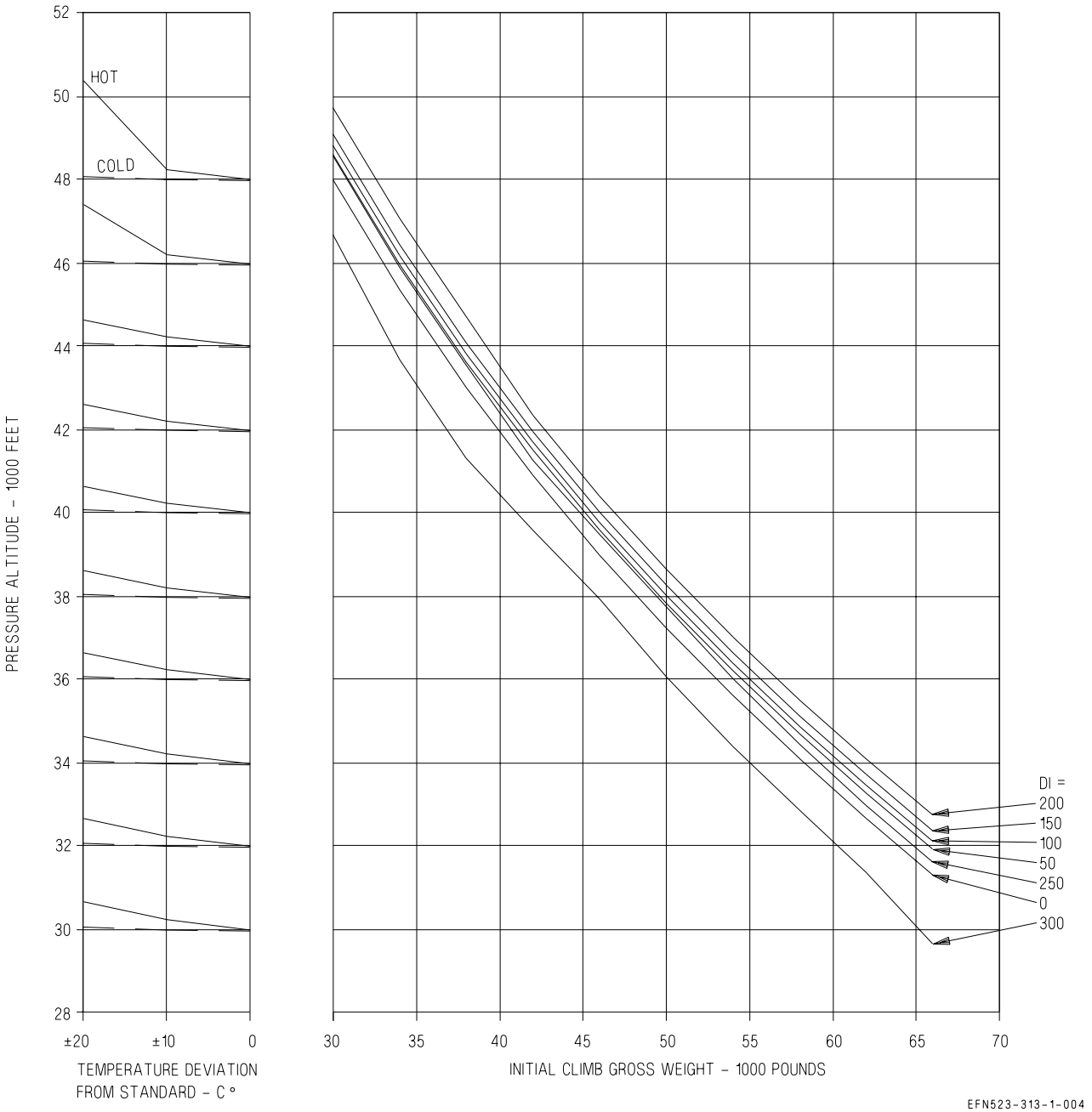
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-313-1-004

Figure 4-2. Military Thrust Climb (Sheet 3 of 6)

TIME REQUIRED TO CLIMB

F414-GE-400

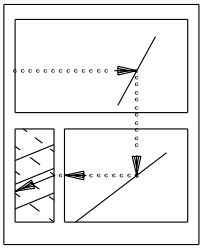
MILITARY THRUST
CLIMB SPEED SCHEDULE

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

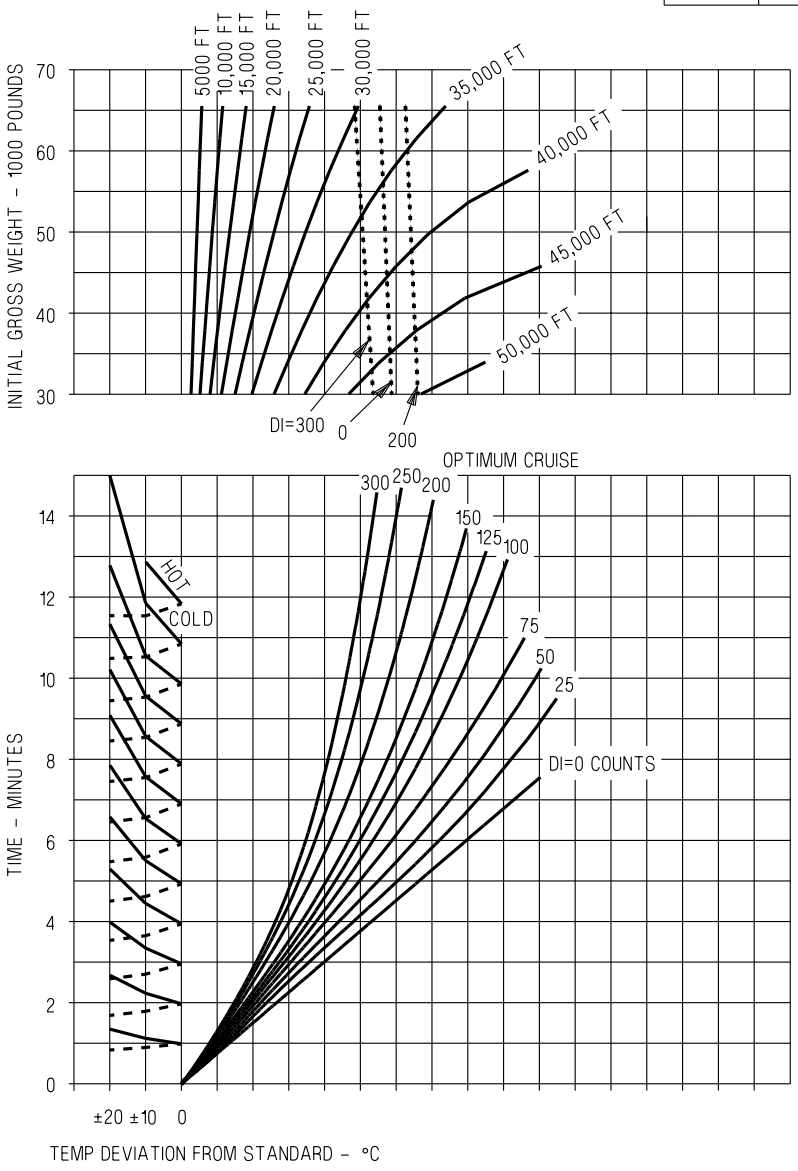
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-328-1-006

Figure 4-2. Military Thrust Climb (Sheet 4 of 6)

FUEL REQUIRED TO CLIMB

F414-GE-400

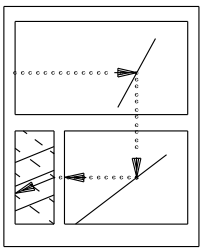
MILITARY THRUST
CLIMB SPEED SCHEDULE

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

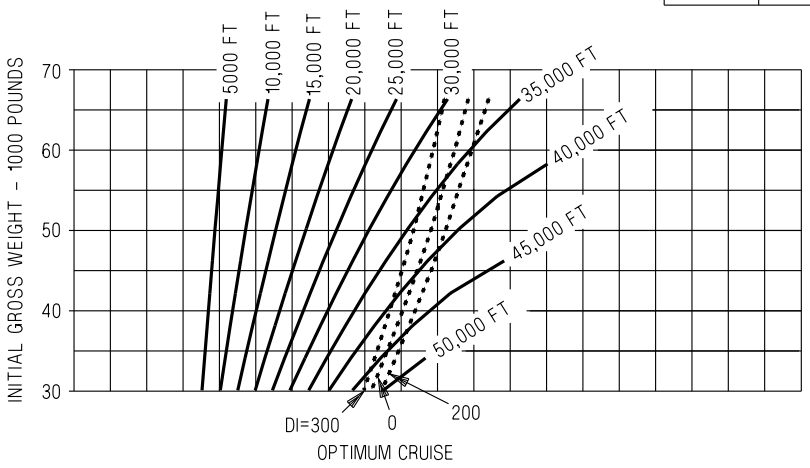
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

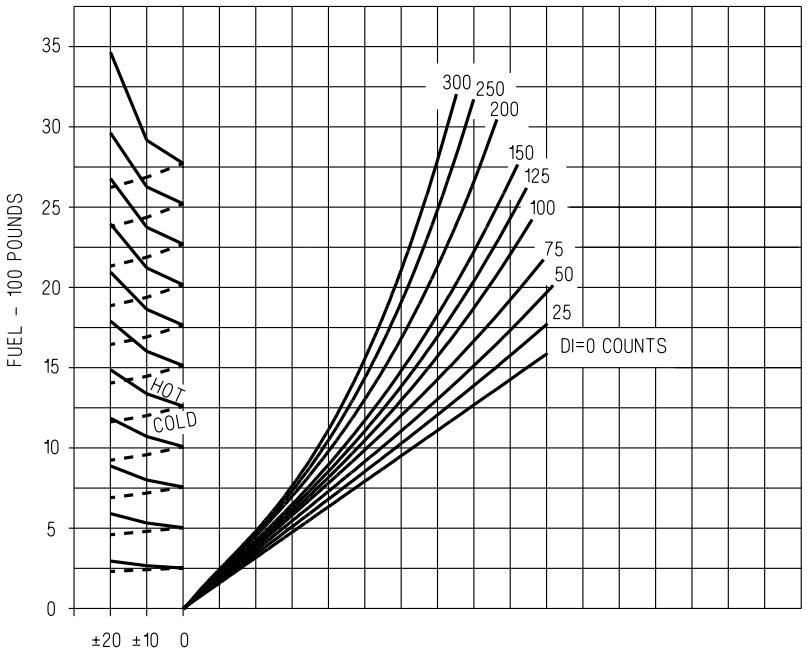
GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED





EFN523-329-1-006

Figure 4-2. Military Thrust Climb (Sheet 5 of 6)

DISTANCE REQUIRED TO CLIMB

F414-GE-400

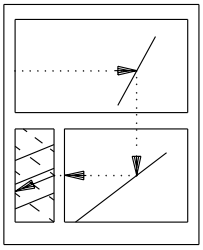
MILITARY THRUST
CLIMB SPEED SCHEDULE

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S):(2)F414-GE-400
U.S. STANDARD DAY, 1962

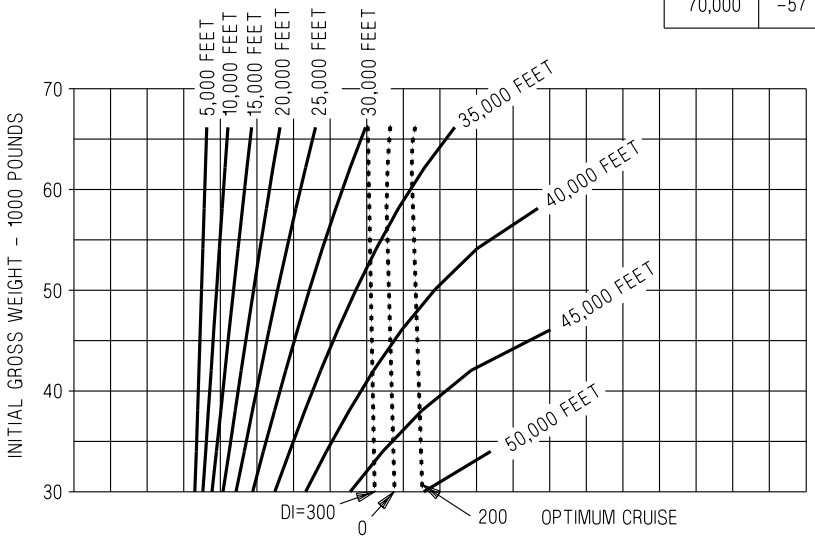
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

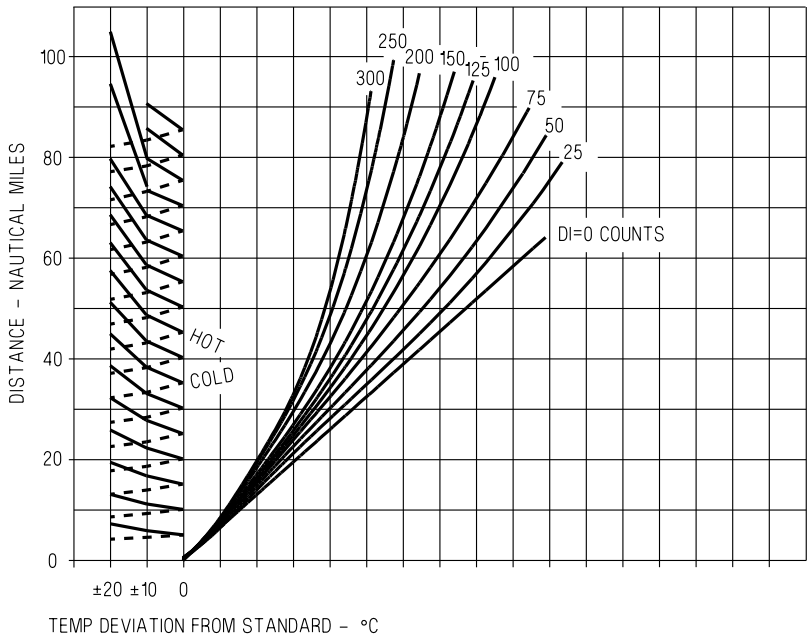
GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED





EFN523-330-1-006

Figure 4-2. Military Thrust Climb (Sheet 6 of 6)

CLIMB SPEED SCHEDULE

F414-GE-400
MILITARY THRUST

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES
ALL GROSS WEIGHTS

REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

PRESSURE ALTITUDE (feet)	AIRCRAFT DRAG INDEX							
	0		25		50		100	
	KCAS	MACH	KCAS	MACH	KCAS	MACH	KCAS	MACH
Sea Level	320	0.48	315	0.48	310	0.47	280	0.42
5000	320	0.53	315	0.52	310	0.51	280	0.46
10,000	320	0.58	315	0.57	310	0.56	280	0.51
15,000	320	0.63	315	0.62	310	0.61	280	0.55
20,000	320	0.69	315	0.68	310	0.67	280	0.61
25,000	320	0.76	310	0.74	292	0.70	280	0.67
30,000	304	0.80	279	0.74	263	0.70	263	0.70
35,000	272	0.80	250	0.74	235	0.70	235	0.70
40,000	242	0.80	222	0.74	209	0.70	209	0.70

PRESSURE ALTITUDE (feet)	AIRCRAFT DRAG INDEX							
	150		200		250		300	
	KCAS	MACH	KCAS	MACH	KCAS	MACH	KCAS	MACH
Sea Level	270	0.41	260	0.39	250	0.38	250	0.38
5000	270	0.45	260	0.43	250	0.41	250	0.41
10,000	270	0.49	260	0.47	250	0.45	250	0.45
15,000	270	0.54	260	0.52	250	0.50	250	0.50
20,000	270	0.59	260	0.57	250	0.55	250	0.55
25,000	270	0.65	260	0.63	250	0.60	250	0.60
30,000	263	0.70	260	0.69	250	0.67	250	0.67
35,000	235	0.70	235	0.70	235	0.70	235	0.70
40,000	209	0.70	209	0.70	209	0.70	209	0.70

NOTE

FUEL ALLOWANCE FOR TAKEOFF AND ACCELERATION TO CLIMB SPEED IS 1200 POUNDS, AND IS BASED ON START, 20 MINUTES AT IDLE, 30 SECONDS RUNUP AT MIL, AND A MIL POWER TAKEOFF.

Figure 4-3. Single Engine Military Thrust Climb (Sheet 1 of 6)

COMBAT CEILING AND SERVICE CEILING

F414-GE-400

MILITARY THRUST

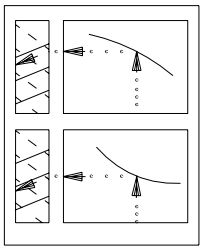
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

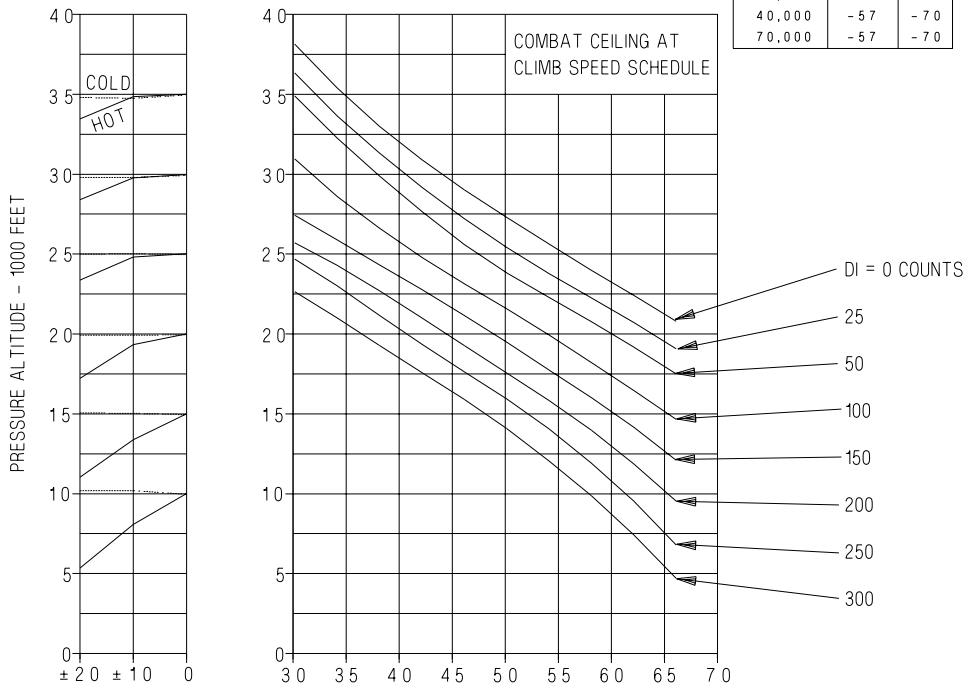
REMARKS
ENGINE: (1) F414-GE-400
ONE ENGINE OPERATING,
INOPERATIVE ENGINE WINDMILLING
COMBAT CEILING = 500 FPM
SERVICE CEILING = 100 FPM

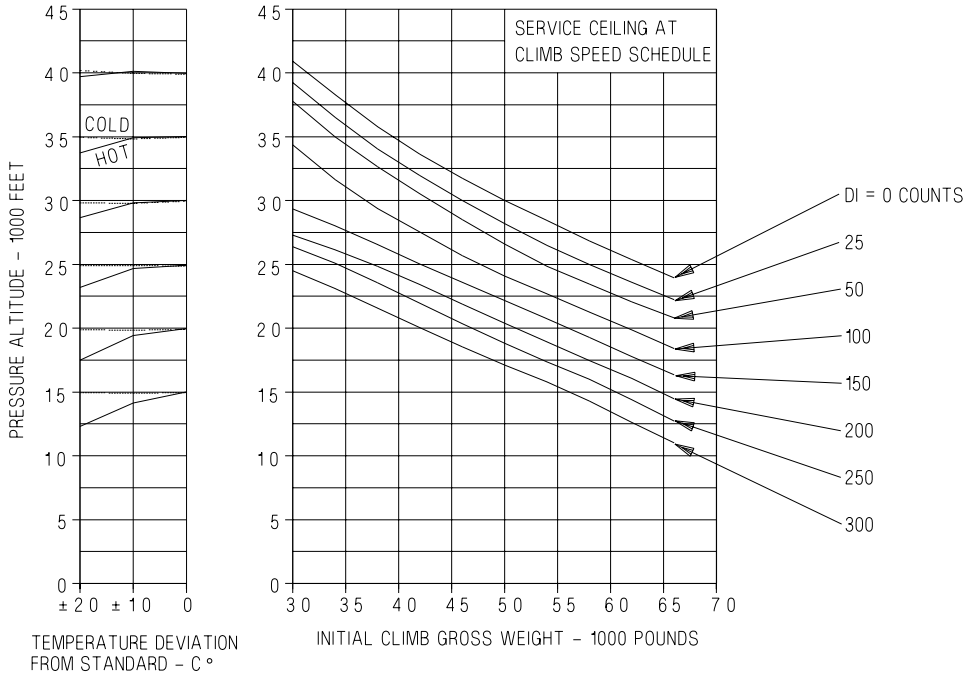
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-563-1-004

Figure 4-3. Single Engine Military Thrust Climb (Sheet 2 of 6)

OPTIMUM CRUISE ALTITUDE

F414-GE-400

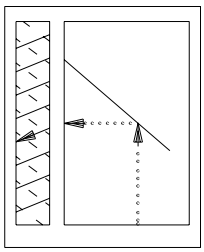
MILITARY THRUST

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE: (1) F414-GE-400
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

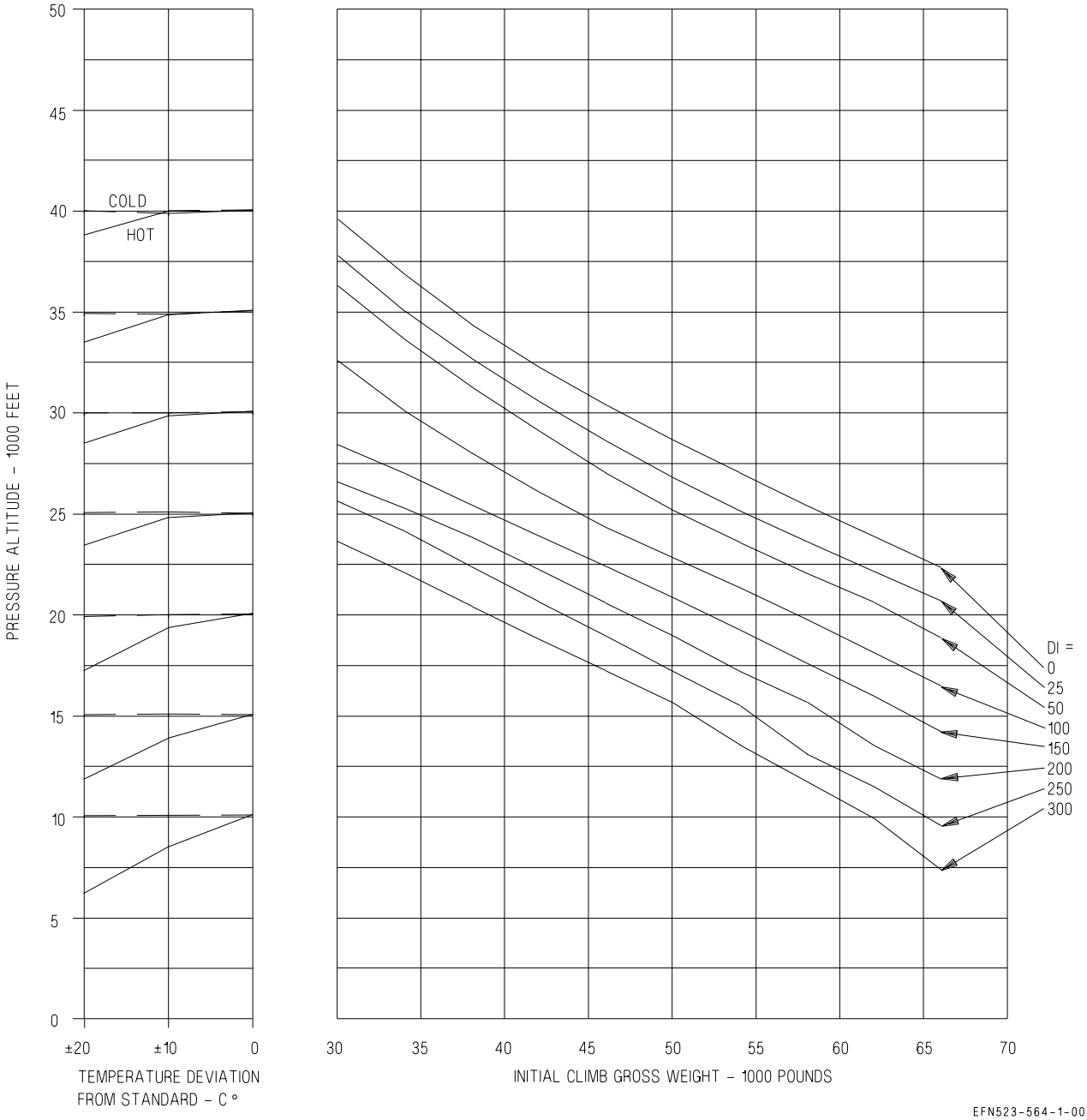
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-564-1-004

Figure 4-3. Single Engine Military Thrust Climb (Sheet 3 of 6)

TIME REQUIRED TO CLIMB

F414-GE-400

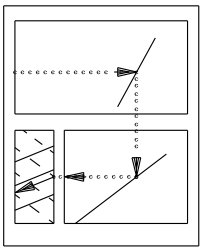
MILITARY THRUST
CLIMB SPEED SCHEDULE

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

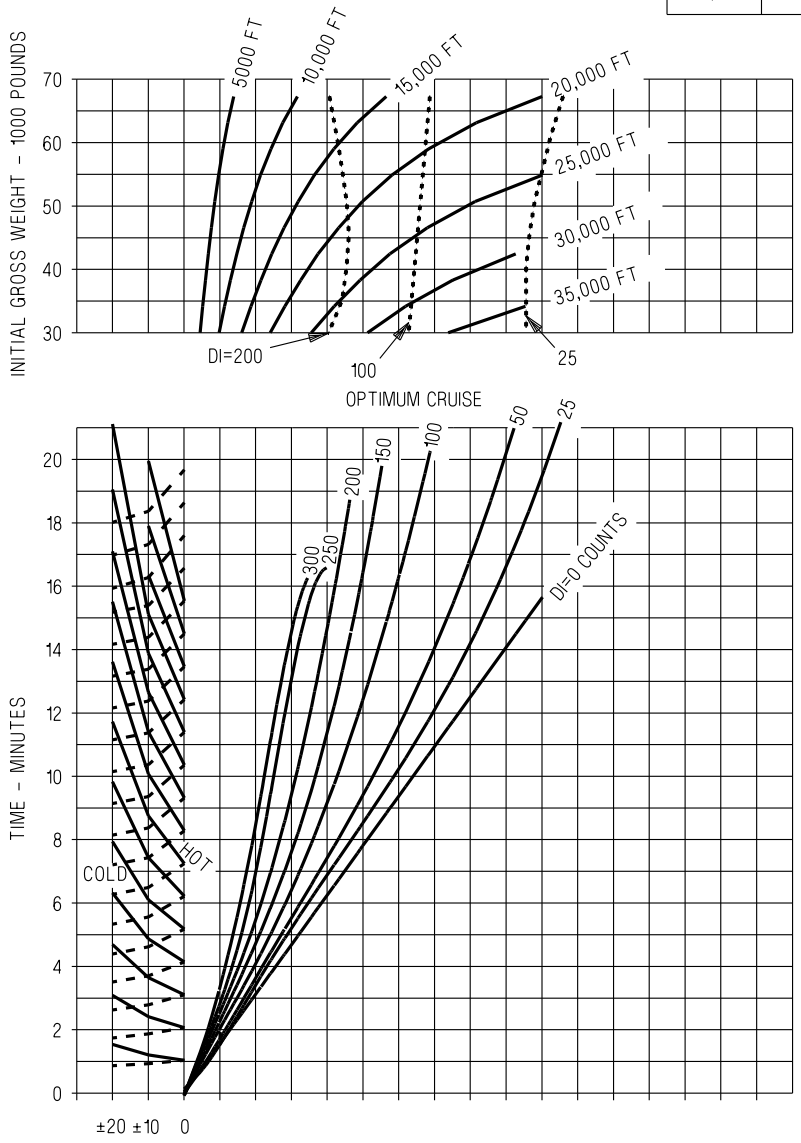
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-568-1-006

Figure 4-3. Single Engine Military Thrust Climb (Sheet 4 of 6)

FUEL REQUIRED TO CLIMB

F414-GE-400

MILITARY THRUST
CLIMB SPEED SCHEDULE

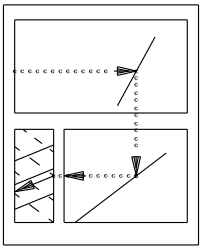
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

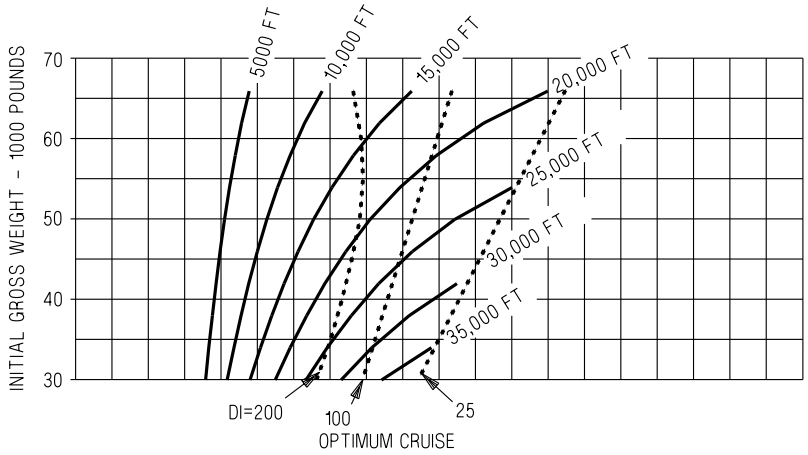
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

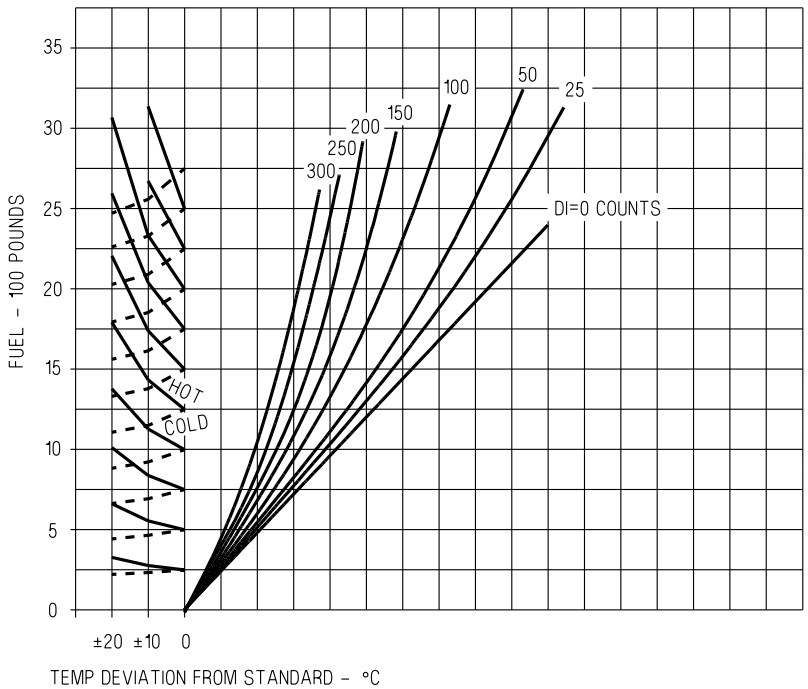
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	−5	12
15,000	−15	6
20,000	−25	−12
25,000	−35	−30
30,000	−44	−48
35,000	−54	−66
40,000	−57	−70
70,000	−57	−70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-569-1-006

Figure 4-3. Single Engine Military Thrust Climb (Sheet 5 of 6)

DISTANCE REQUIRED TO CLIMB

F414-GE-400

MILITARY THRUST
CLIMB SPEED SCHEDULE

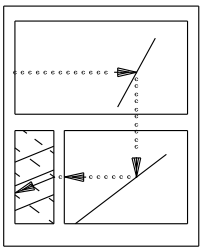
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

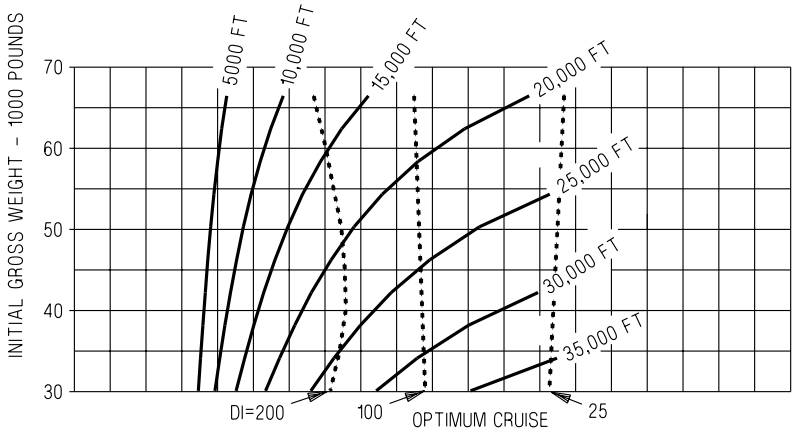
REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

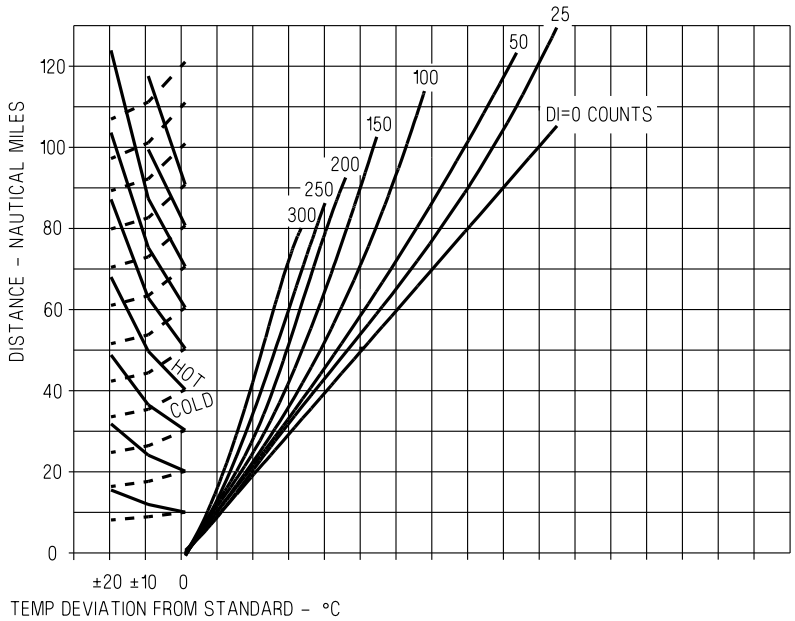
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-570-1-006

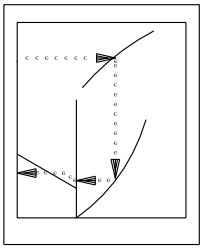
Figure 4-3. Single Engine Military Thrust Climb (Sheet 6 of 6)

TIME REQUIRED TO CLIMB

F414-GE-400

MILITARY THRUST
350 KCAS

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

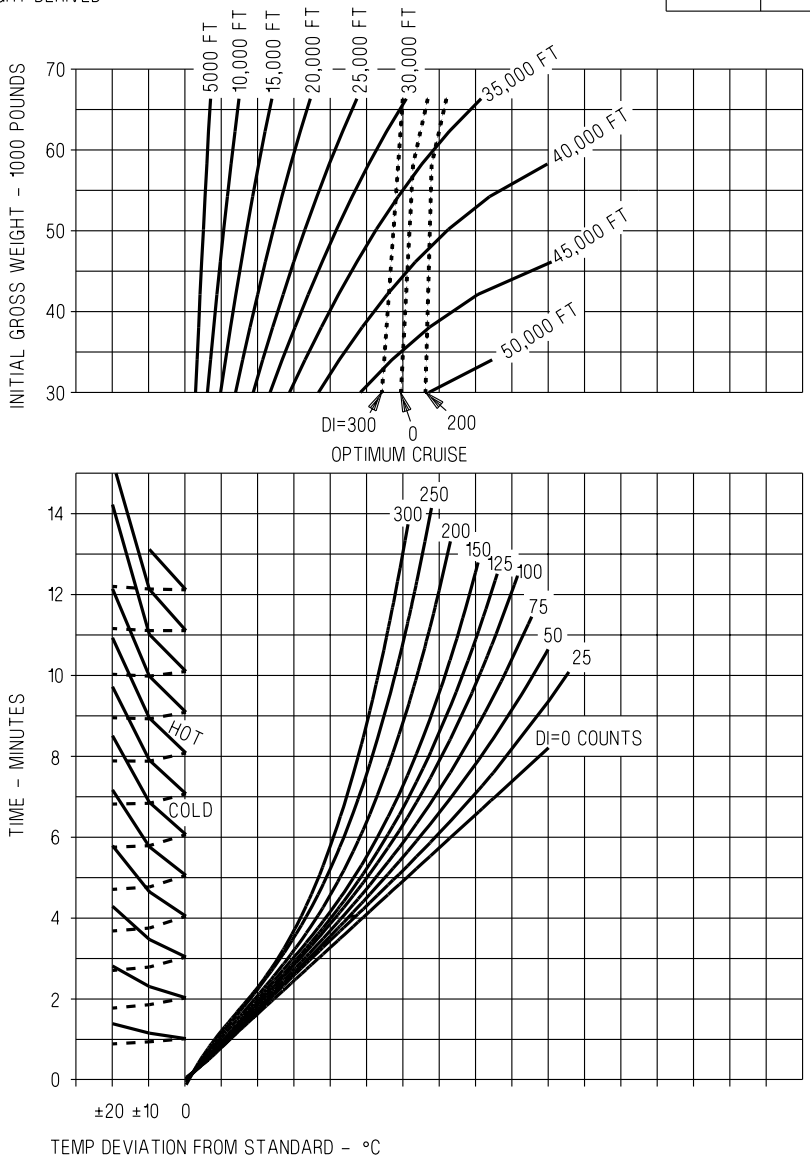
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

NOTES

DATA BASED ON 350 KNOT CLIMB UNTIL INTERCEPTION OF CONSTANT MACH PORTION OF MILITARY THRUST CLIMB SPEED SCHEDULE, THEN MAINTAIN CONSTANT MACH TO CRUISE ATITUDE.

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-331-1-006

Figure 4-4. Time Required to Climb - 350 KCAS

FUEL REQUIRED TO CLIMB

F414-GE-400

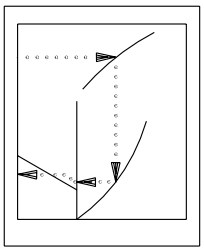
MILITARY THRUST
350 KCAS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE

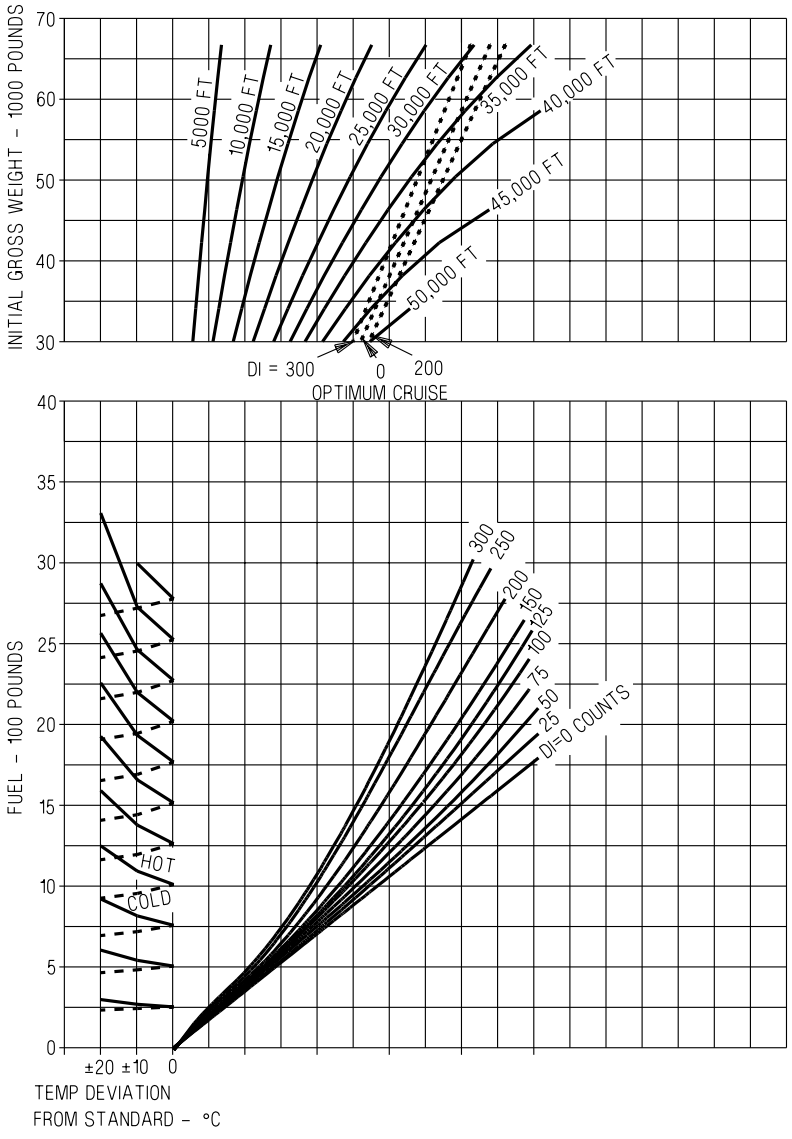


FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

NOTES

DATA BASED ON 350 KNOT CLIMB UNTIL INTERCEPTION OF CONSTANT MACH PORTION OF MILITARY THRUST CLIMB SPEED SCHEDULE, THEN MAINTAIN CONSTANT MACH TO CRUISE ALTITUDE.



EFN523-332-1-006

Figure 4-5. Fuel Required to Climb - 350 KCAS

DISTANCE REQUIRED TO CLIMB

F414-GE-400

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

NOTES

DATA BASED ON 350 KNOT CLIMB UNTIL INTERCEPTION OF CONSTANT MACH PORTION OF MILITARY THRUST CLIMB SPEED SCHEDULE, THEN MAINTAIN CONSTANT MACH TO CRUISE ALTITUDE.

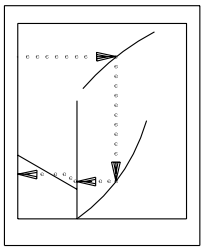
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

MILITARY THRUST
350 KCAS

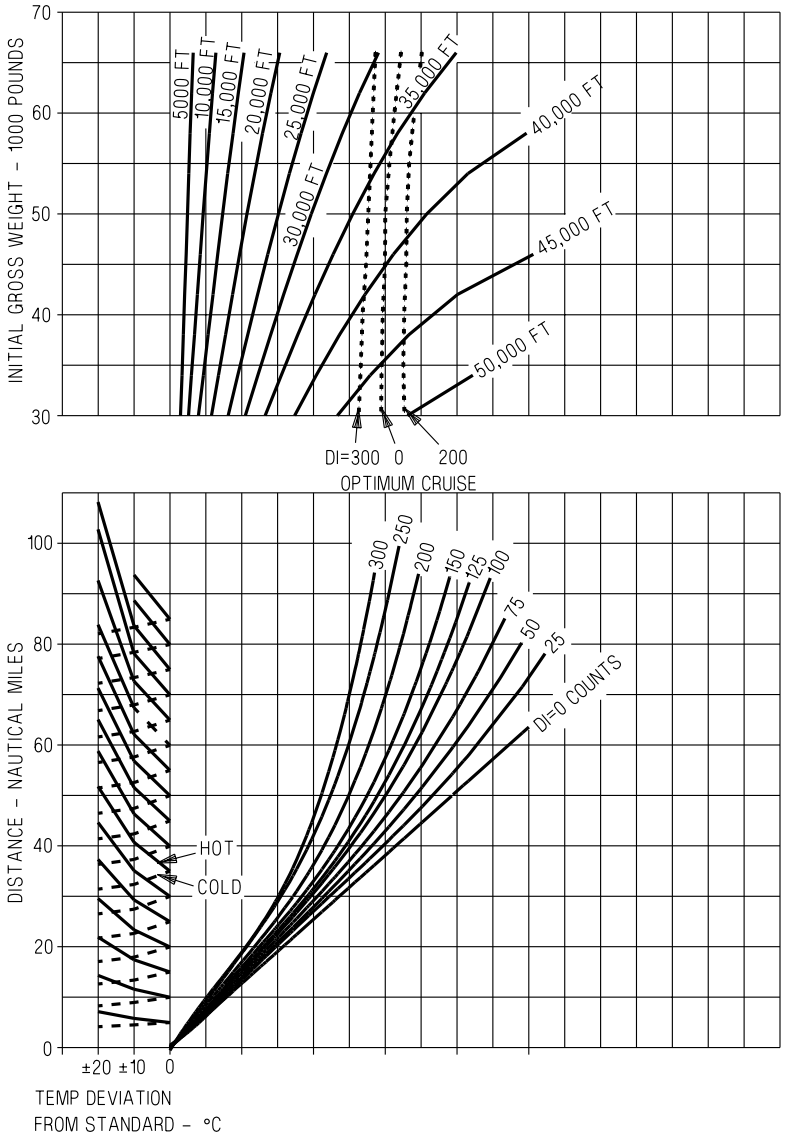
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-333-1-006

Figure 4-6. Distance Required to Climb - 350 KCAS

PEAK RATE OF CLIMB

F414-GE-400

MILITARY THRUST
MACH NUMBER

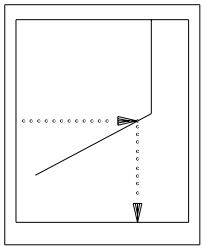
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

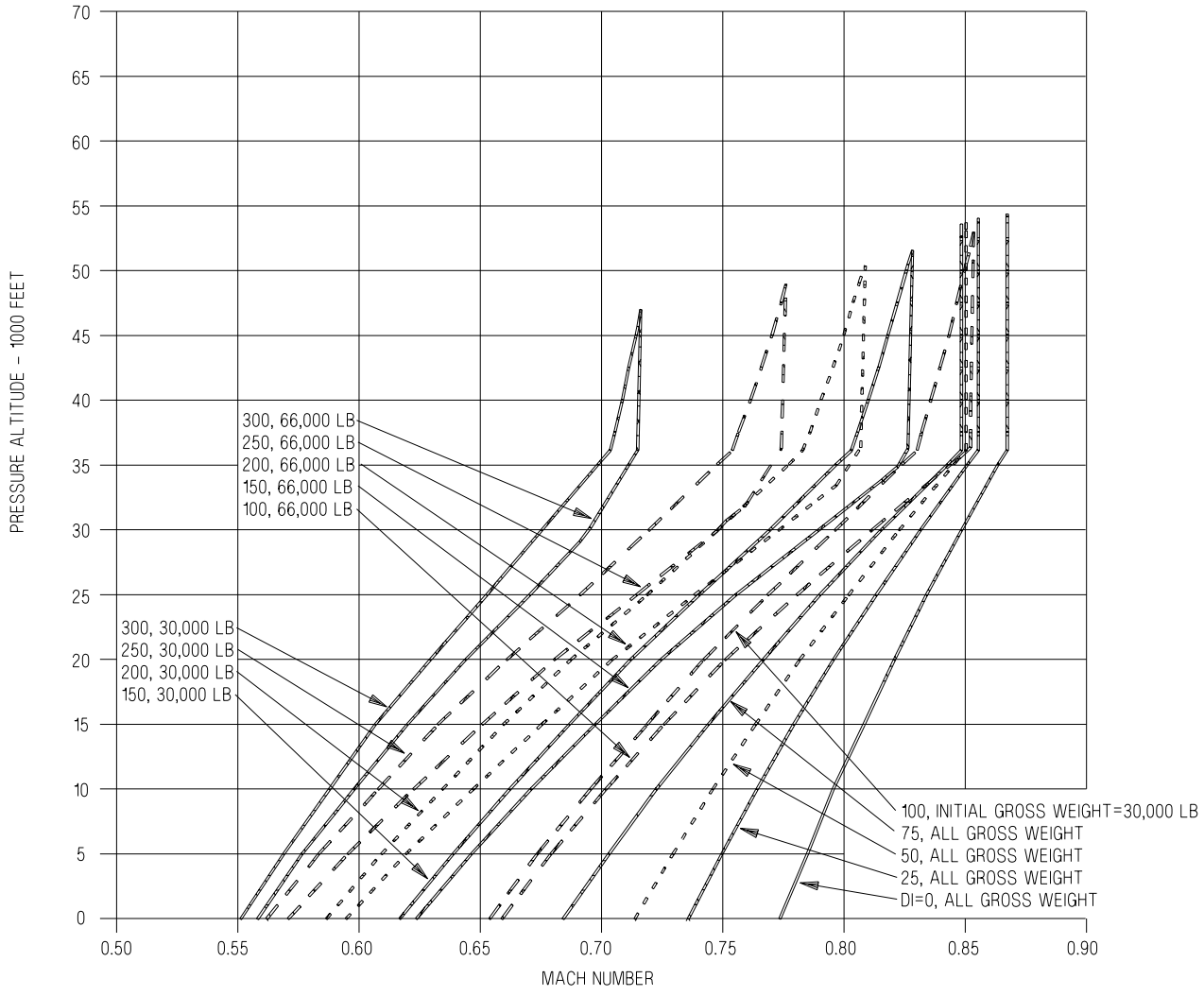
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15.0	59
5,000	5.0	41
10,000	-5.0	12
15,000	-15.0	6
20,000	-25.0	-12
25,000	-35.0	-30
30,000	-44.0	-48
35,000	-54.0	-56
40,000	-57.0	-70
70,000	-57.0	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/G



EFN523-361-1-004

Figure 4-7. Peak Rate of Climb - Military Thrust (Sheet 1 of 4)

TIME REQUIRED TO CLIMB

F414-GE-400

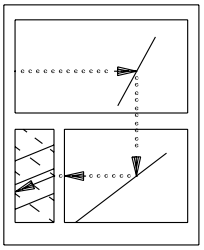
MILITARY THRUST
PEAK RATE OF CLIMB

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S):(2) F414-GE-400
U.S. STANDARD DAY, 1962

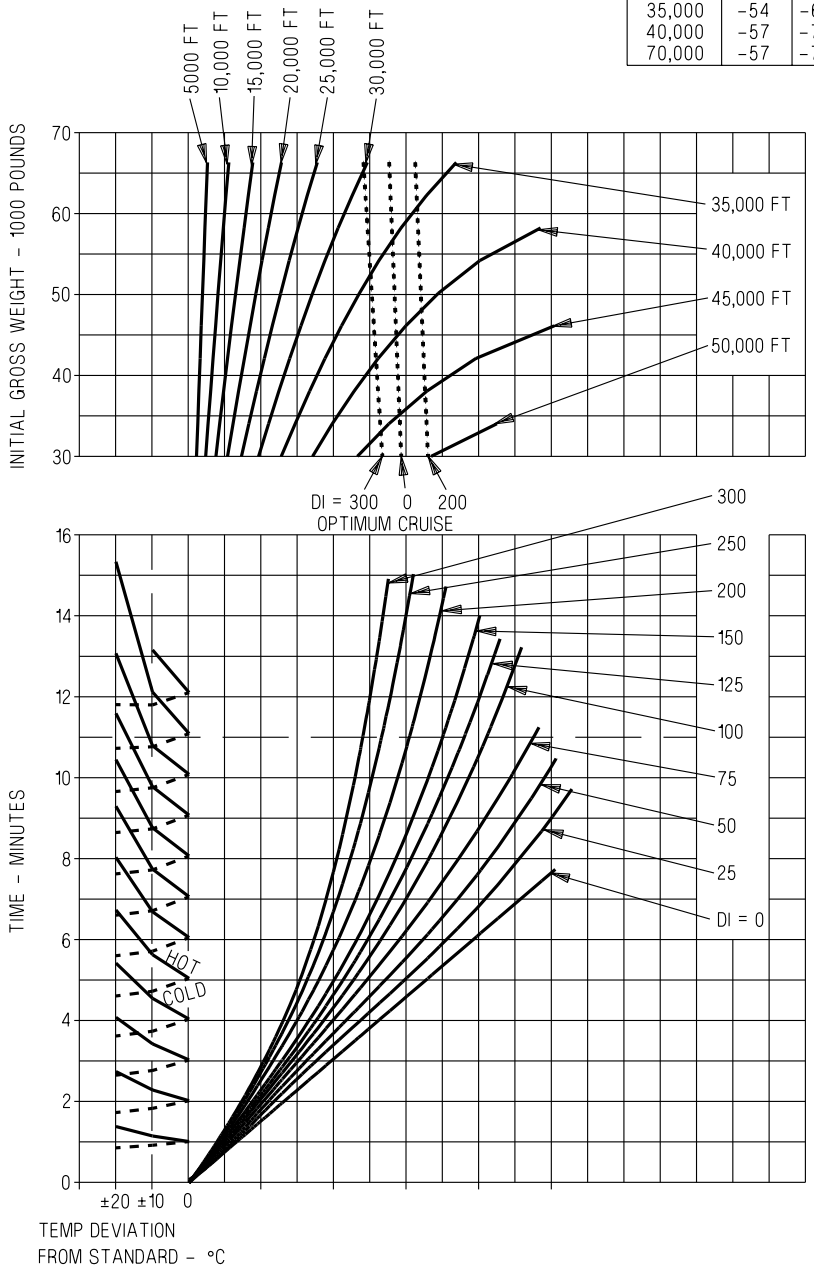
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-334-1-006

Figure 4-7. Peak Rate of Climb - Military Thrust (Sheet 2 of 4)

FUEL REQUIRED TO CLIMB

F414-GE-400

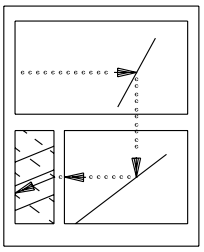
MILITARY THRUST
PEAK RATE OF CLIMB

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

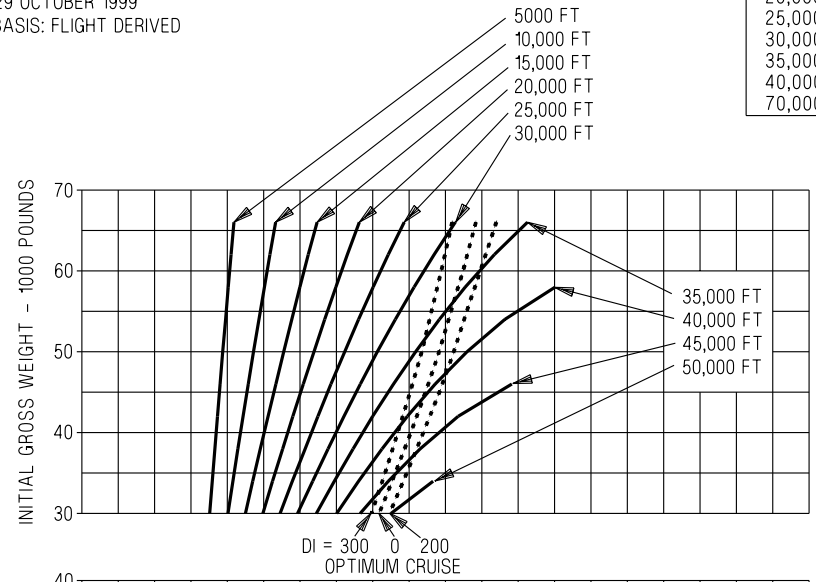
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

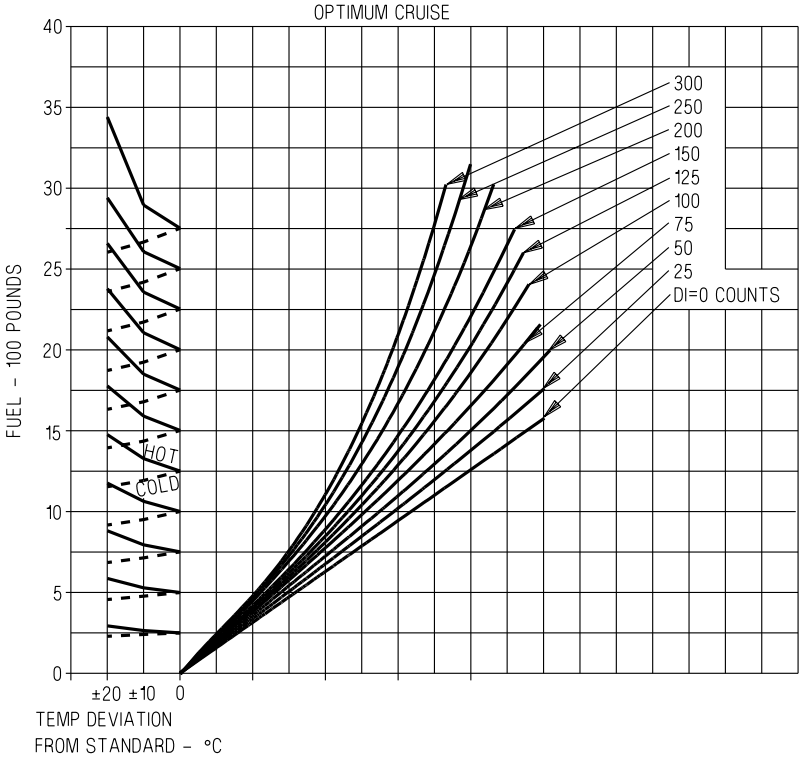
GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED





EFN523-335-1-006

Figure 4-7. Peak Rate of Climb - Military Thrust (Sheet 3 of 4)

DISTANCE REQUIRED TO CLIMB

F414-GE-400

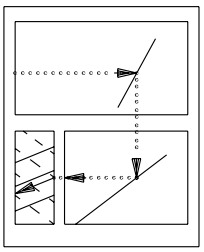
MILITARY THRUST
PEAK RATE OF CLIMB

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

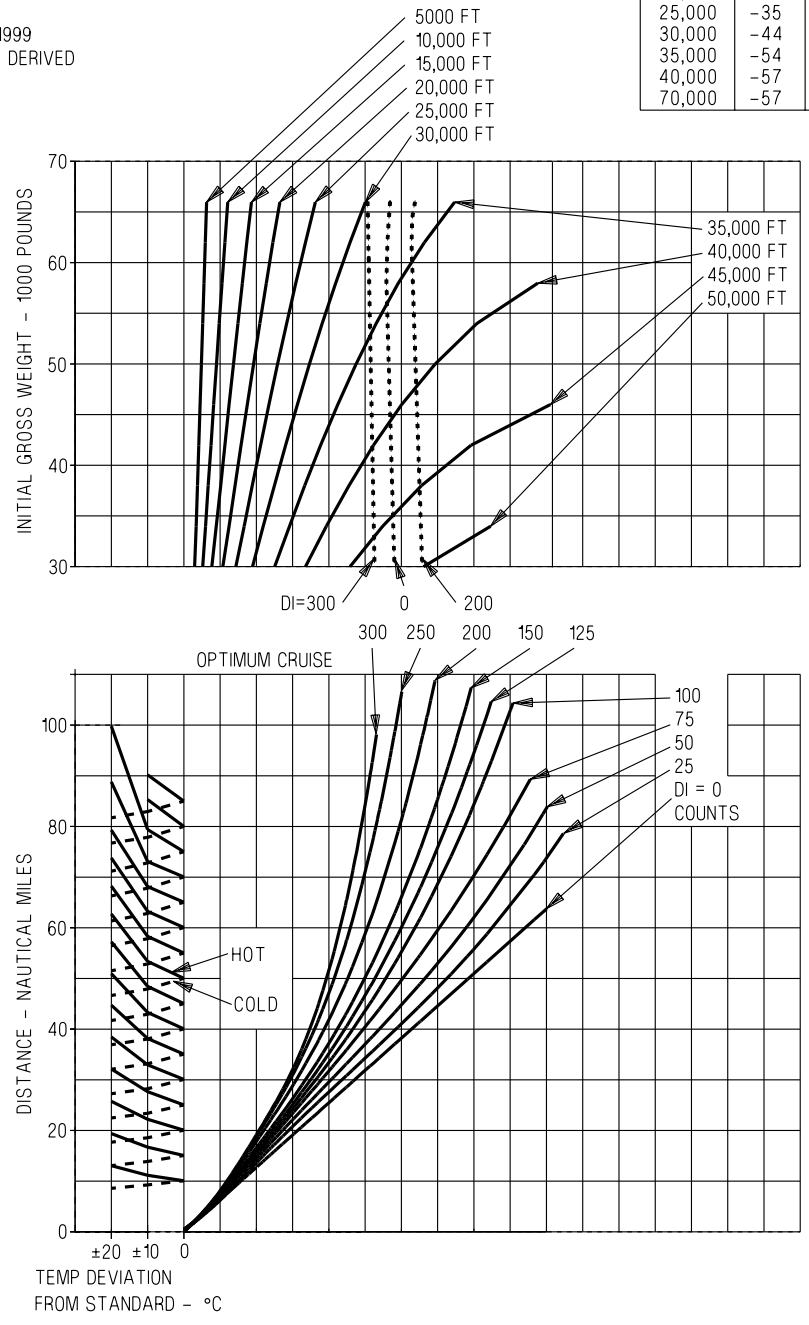
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-336-1-006

Figure 4-7. Peak Rate of Climb - Military Thrust (Sheet 4 of 4)

PEAK RATE OF CLIMB

F414-GE-400

MAXIMUM THRUST
MACH NUMBER

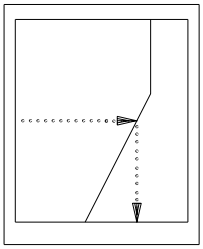
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

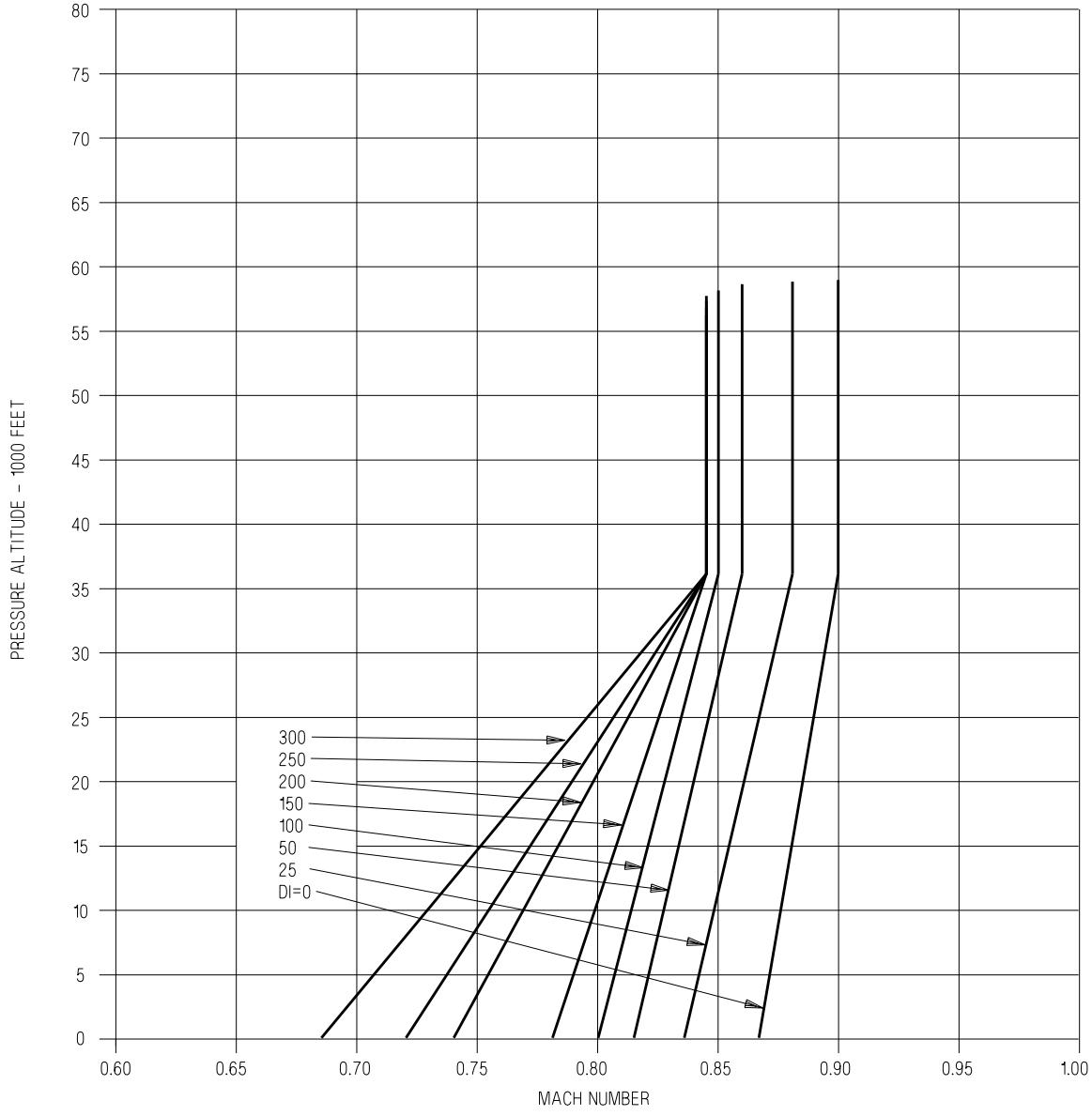
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15.0	50
5,000	5.0	41
10,000	-5.0	12
15,000	-15.0	6
20,000	-25.0	-12
25,000	-35.0	-30
30,000	-44.0	-48
35,000	-54.0	-66
40,000	-57.0	-70
70,000	-57.0	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-349-1-004

Figure 4-8. Peak Rate of Climb - Maximum Thrust (Sheet 1 of 5)

COMBAT CEILING

F414-GE-400

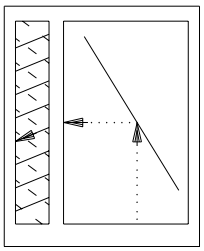
MAXIMUM THRUST

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962
COMBAT CEILING=500 fpm

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

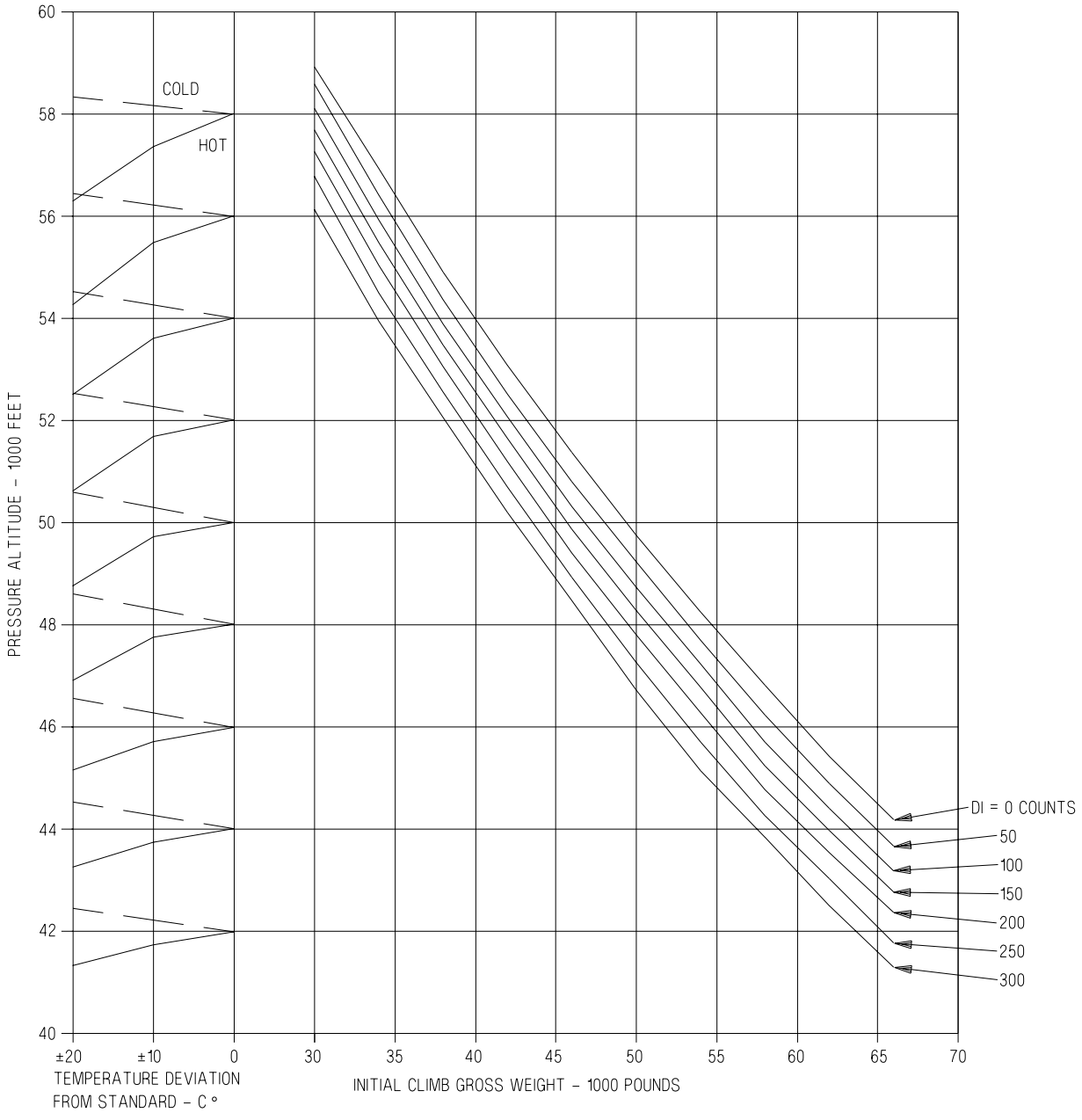
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-310-1-004

Figure 4-8. Peak Rate of Climb - Maximum Thrust (Sheet 2 of 5)

TIME REQUIRED TO CLIMB

F414-GE-400

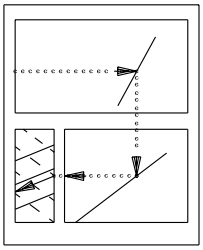
MAXIMUM THRUST
PEAK RATE OF CLIMB

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S):(2) F414-GE-400
U.S. STANDARD DAY, 1962

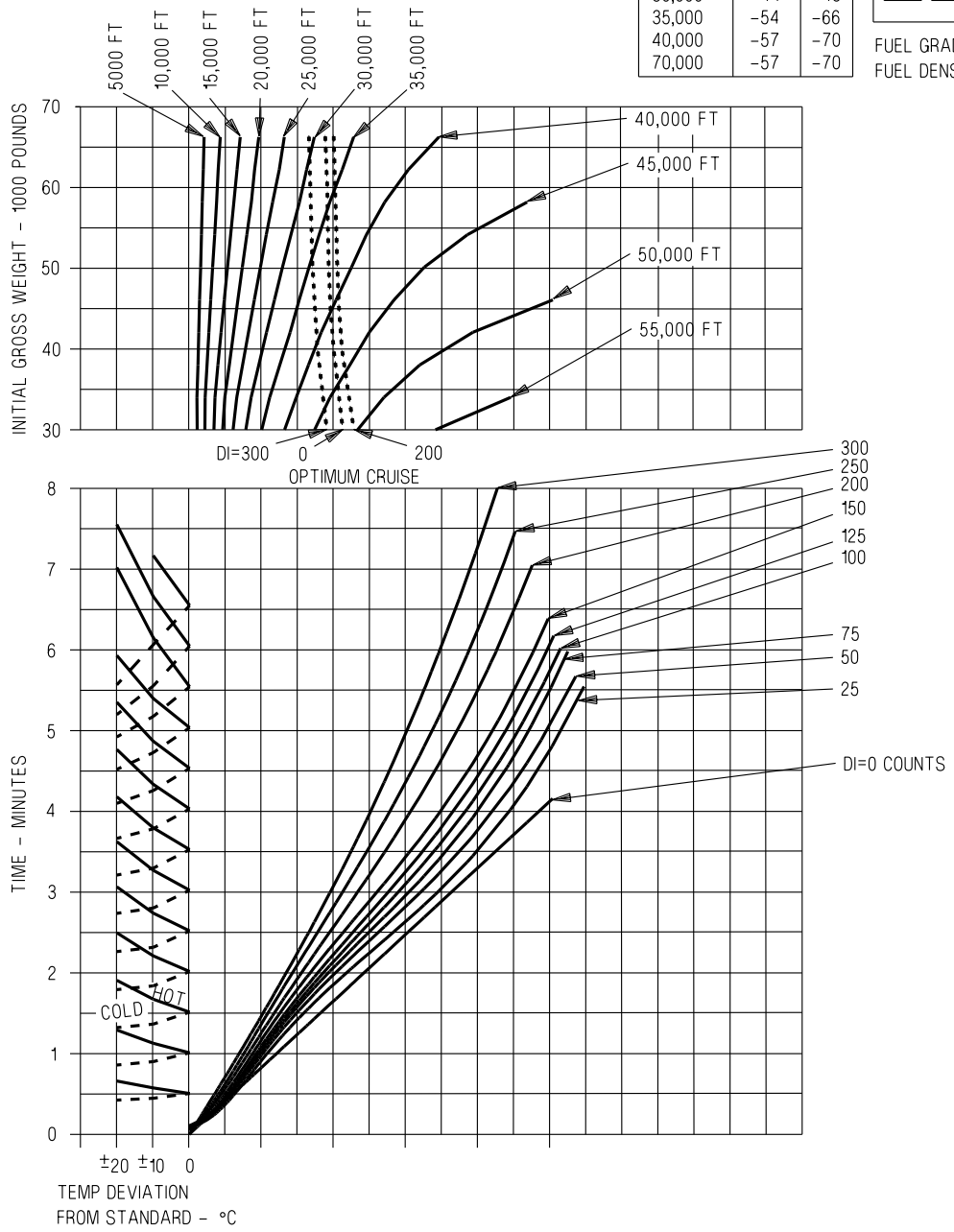
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-323-1-006

Figure 4-8. Peak Rate of Climb - Maximum Thrust (Sheet 3 of 5)

FUEL REQUIRED TO CLIMB

F414-GE-400

MAXIMUM THRUST
PEAK RATE OF CLIMB

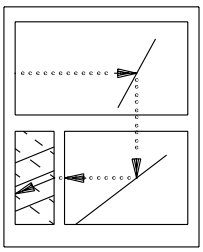
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

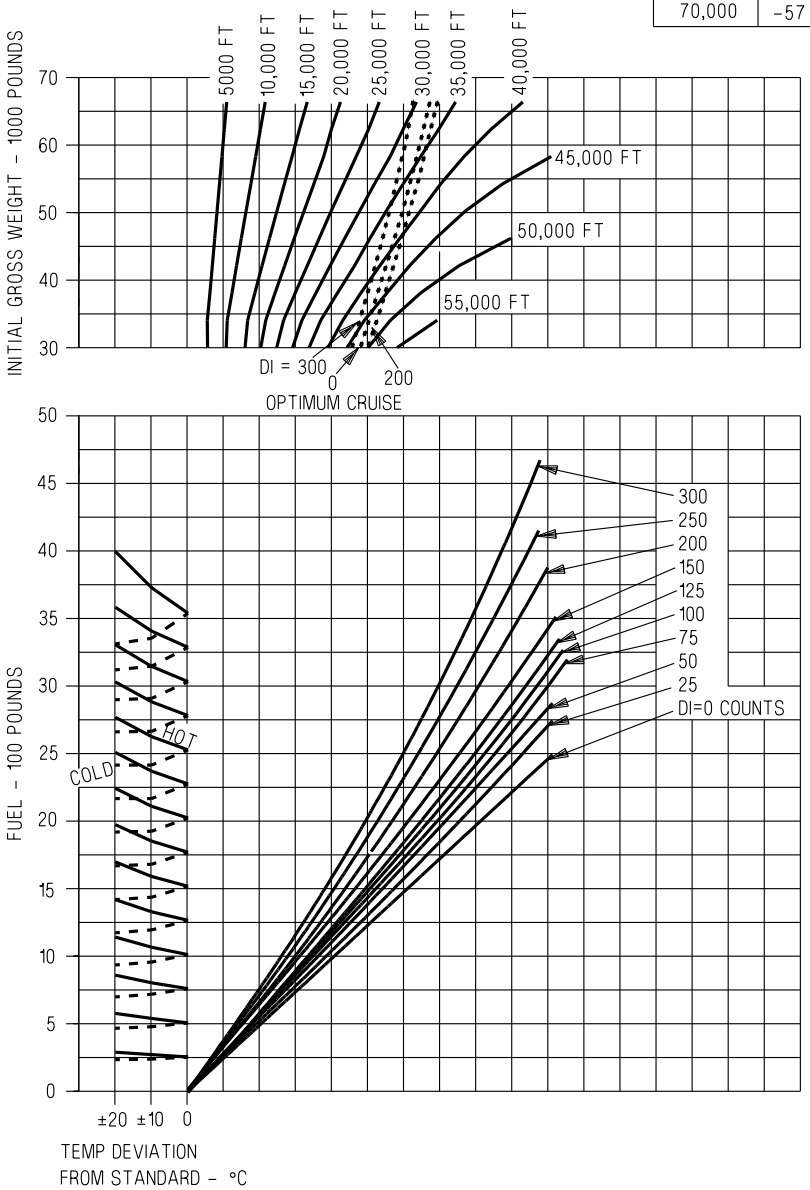
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-322-1-006

Figure 4-8. Peak Rate of Climb - Maximum Thrust (Sheet 4 of 5)

DISTANCE REQUIRED TO CLIMB

F414-GE-400

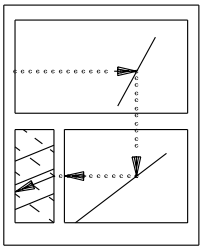
MAXIMUM THRUST
PEAK RATE OF CLIMB

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

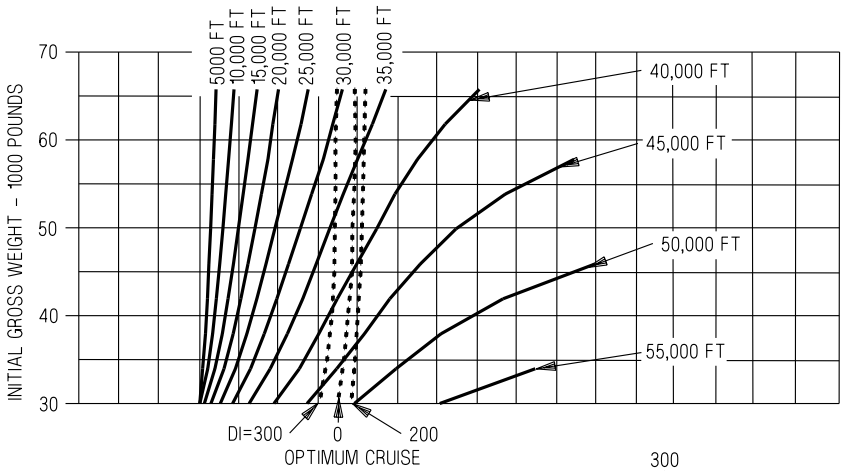
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

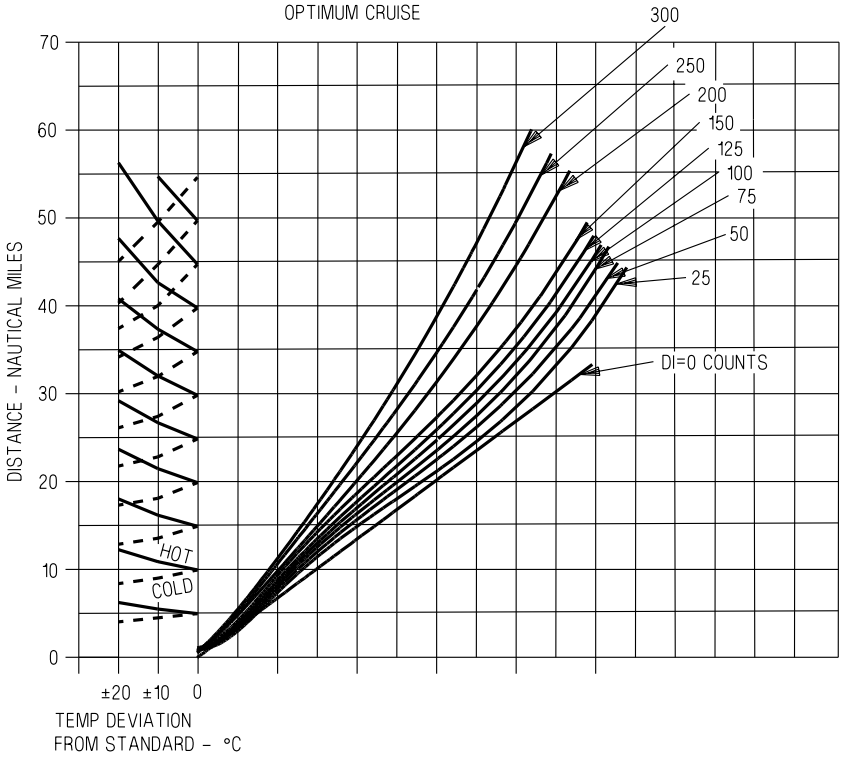
GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED





EFN523-324-1-006

Figure 4-8. Peak Rate of Climb - Maximum Thrust (Sheet 5 of 5)

INSTANTANEOUS RATE OF CLIMB

F414-GE-400

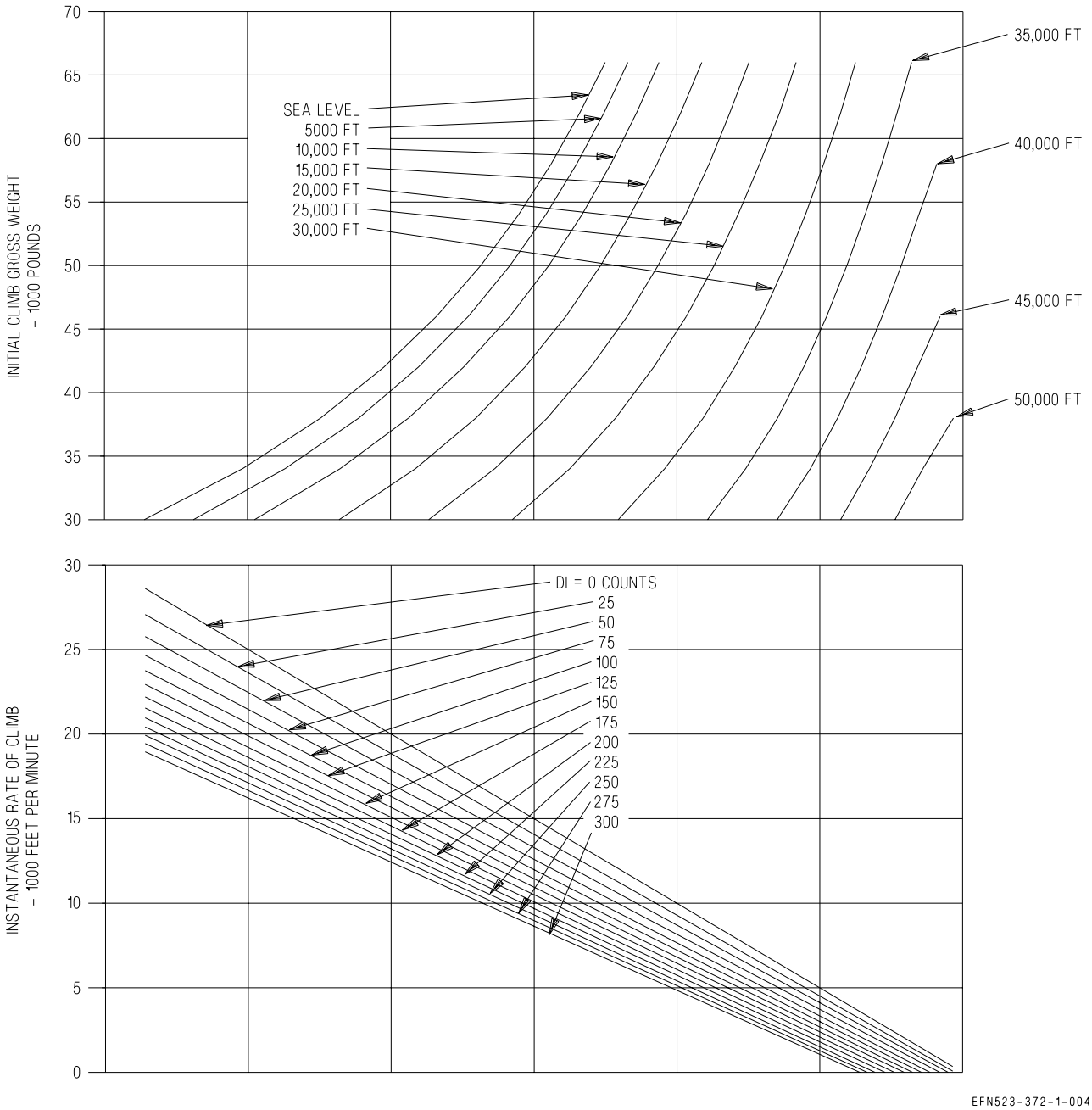
MILITARY THRUST
PEAK RATE OF CLIMB

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-372-1-004

Figure 4-9. Instantaneous Rate of Climb - Military Thrust

INSTANTANEOUS RATE OF CLIMB

F414-GE-400

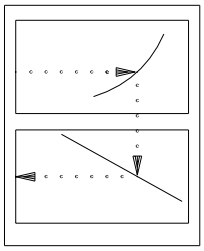
MAXIMUM THRUST
PEAK RATE OF CLIMB

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

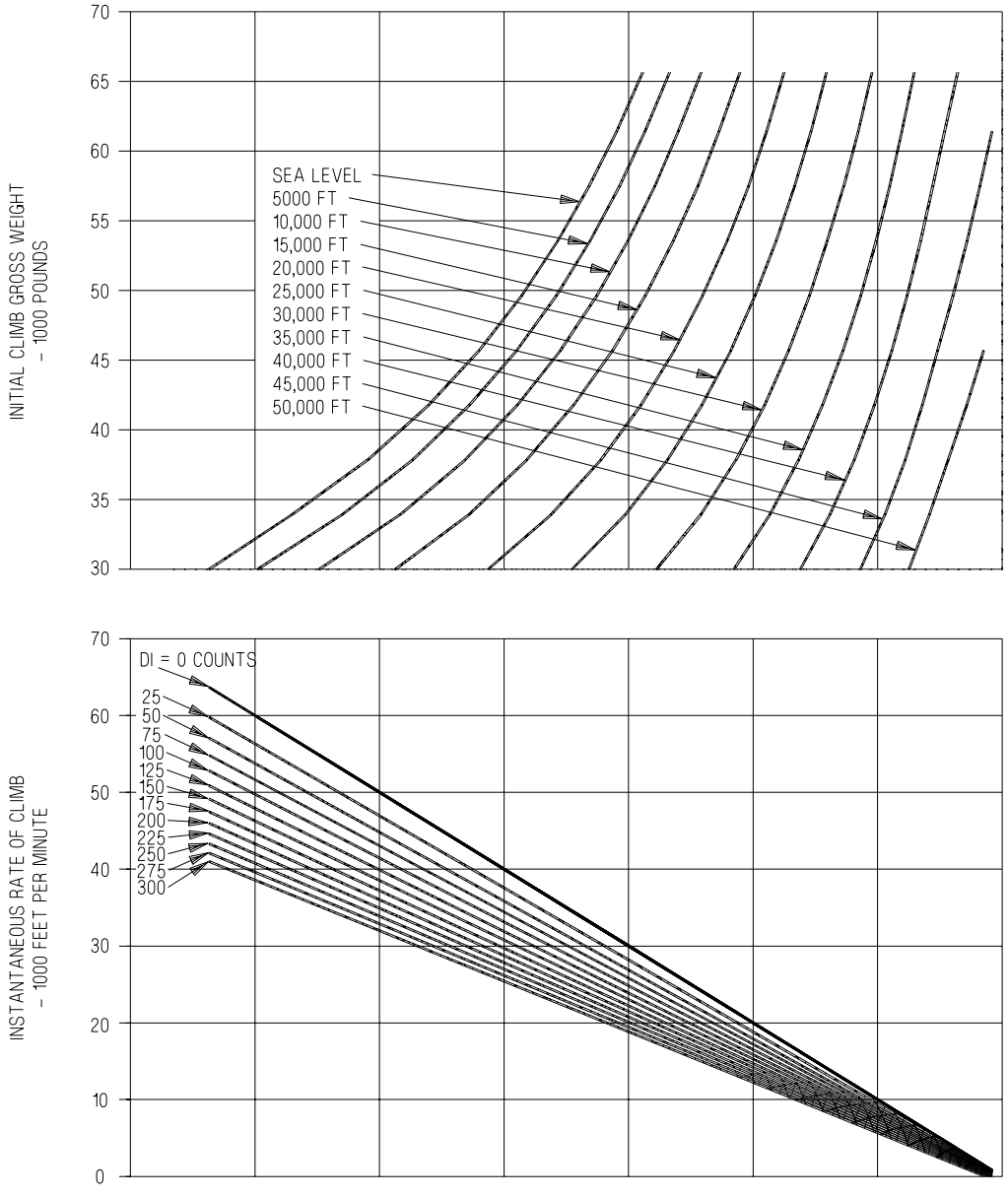
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15.0	59
5,000	5.0	41
10,000	-5.0	12
15,000	-15.0	6
20,000	-25.0	-12
25,000	-35.0	-30
30,000	-44.0	-48
35,000	-54.0	-66
40,000	-57.0	-70
70,000	-57.0	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-362-1-004

Figure 4-10. Instantaneous Rate of Climb - Maximum Thrust

SUPERSONIC MAXIMUM THRUST CLIMB

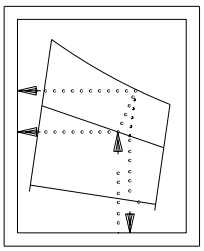
F414-GE-400

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

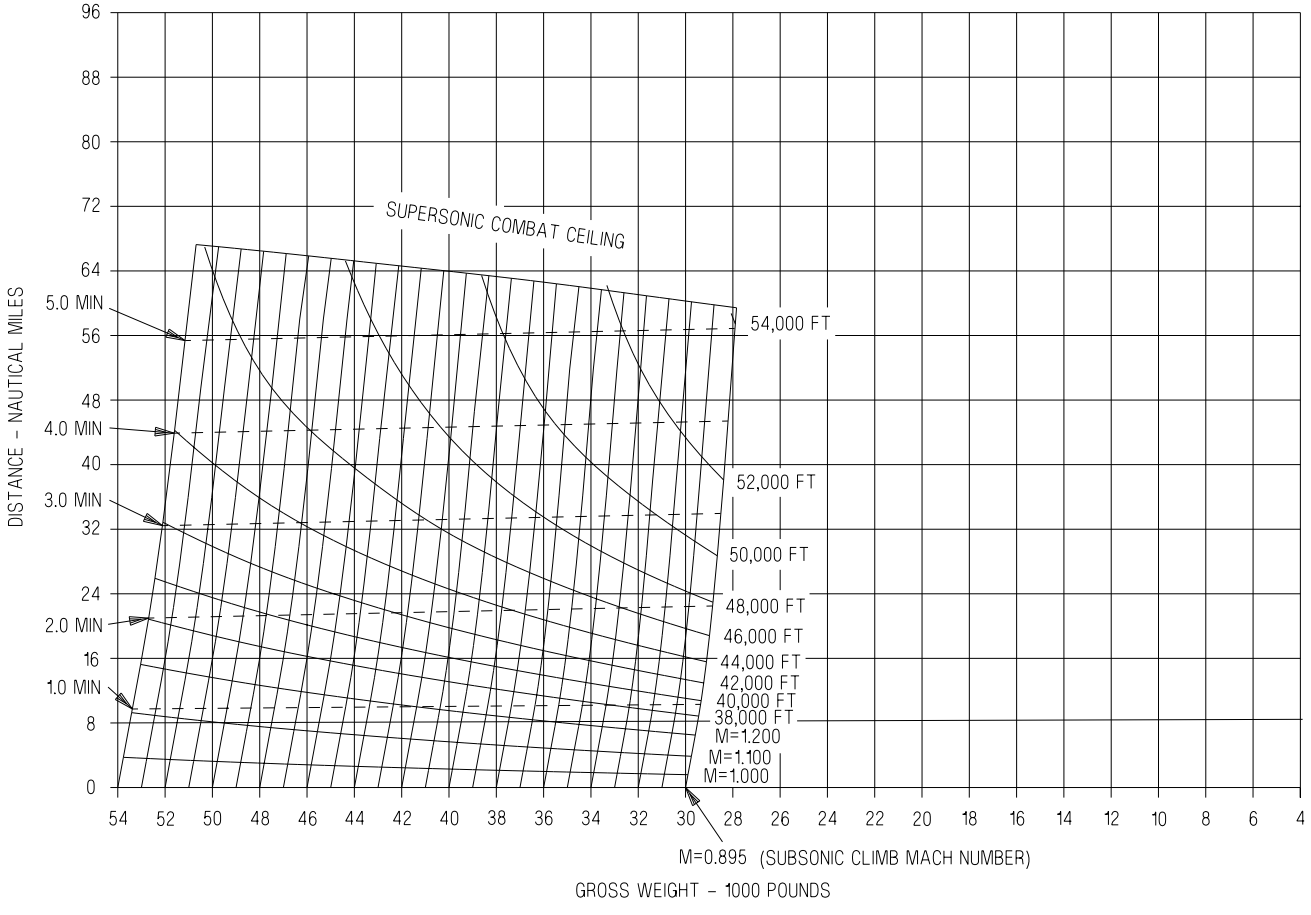
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-302-1-004

Figure 4-11. Supersonic Maximum Thrust Climb (Sheet 1 of 4)

SUPERSONIC MAXIMUM THRUST CLIMB

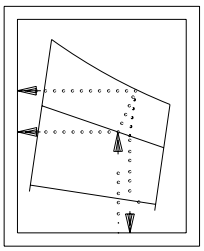
F414-GE-400

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120
+ C_L 480 TANK

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

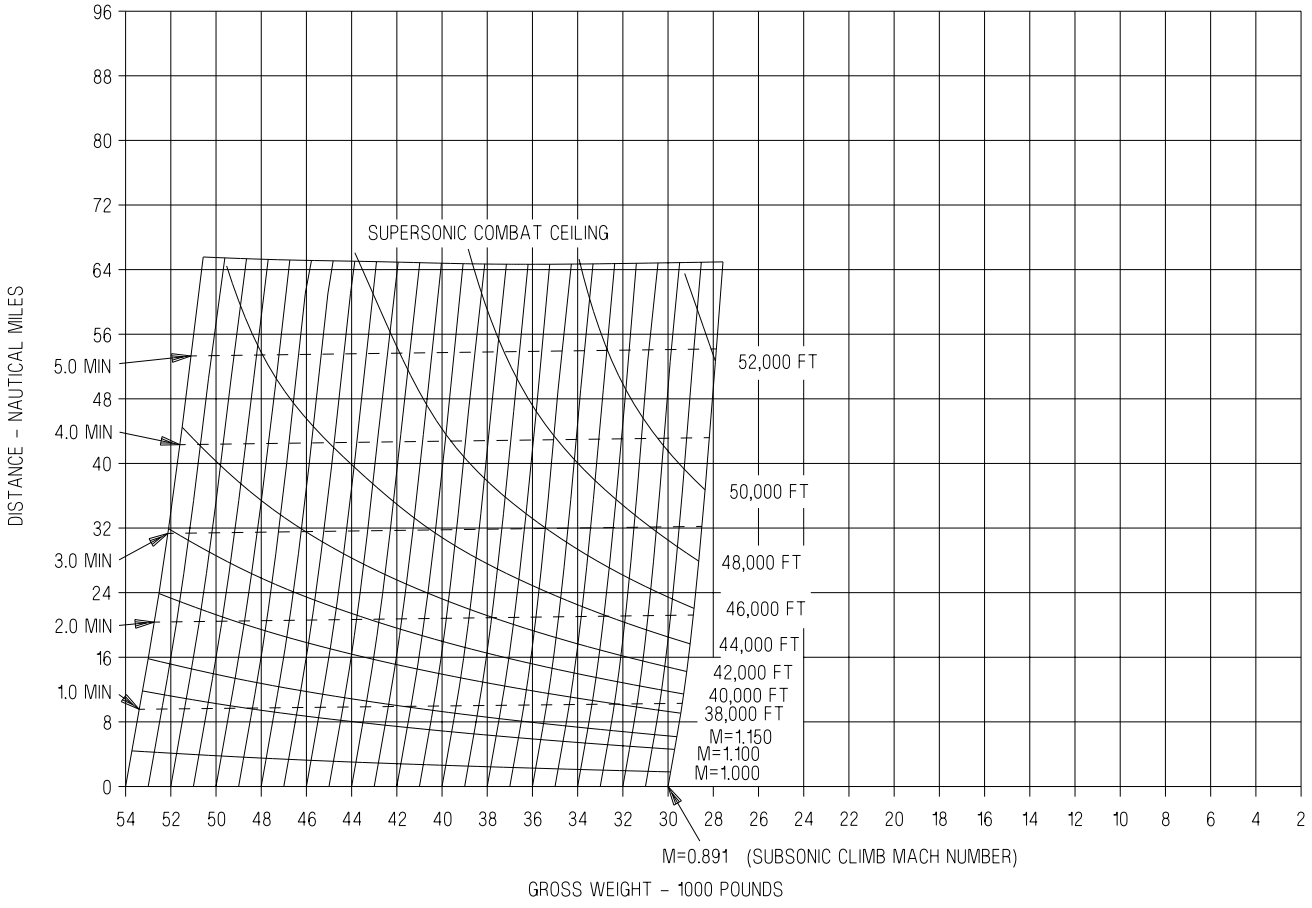
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-302-2-004

Figure 4-11. Supersonic Maximum Thrust Climb (Sheet 2 of 4)

SUPERSONIC MAXIMUM THRUST CLIMB

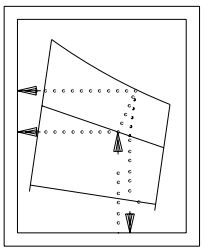
F414-GE-400

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
(2) AIM-9 + (5) AIM-120
+ TFLIR

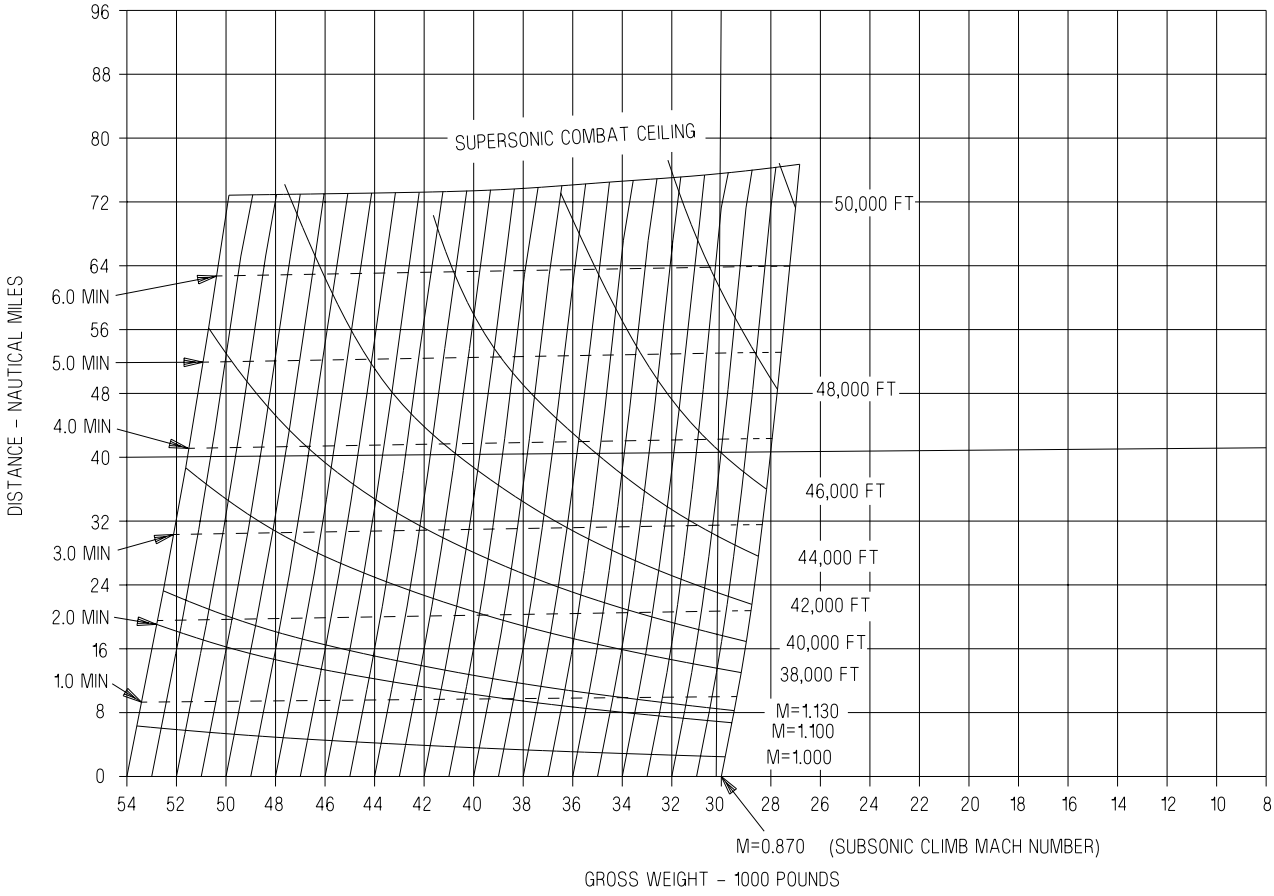
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-302-3-004

Figure 4-11. Supersonic Maximum Thrust Climb (Sheet 3 of 4)

SUPERSONIC MAXIMUM THRUST CLIMB

F414-GE-400

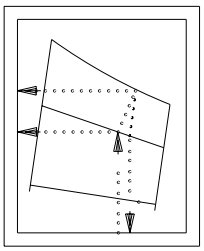
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
(2) AIM-9 + (5) AIM-120
+ TFLIR + C_L 480 TANK

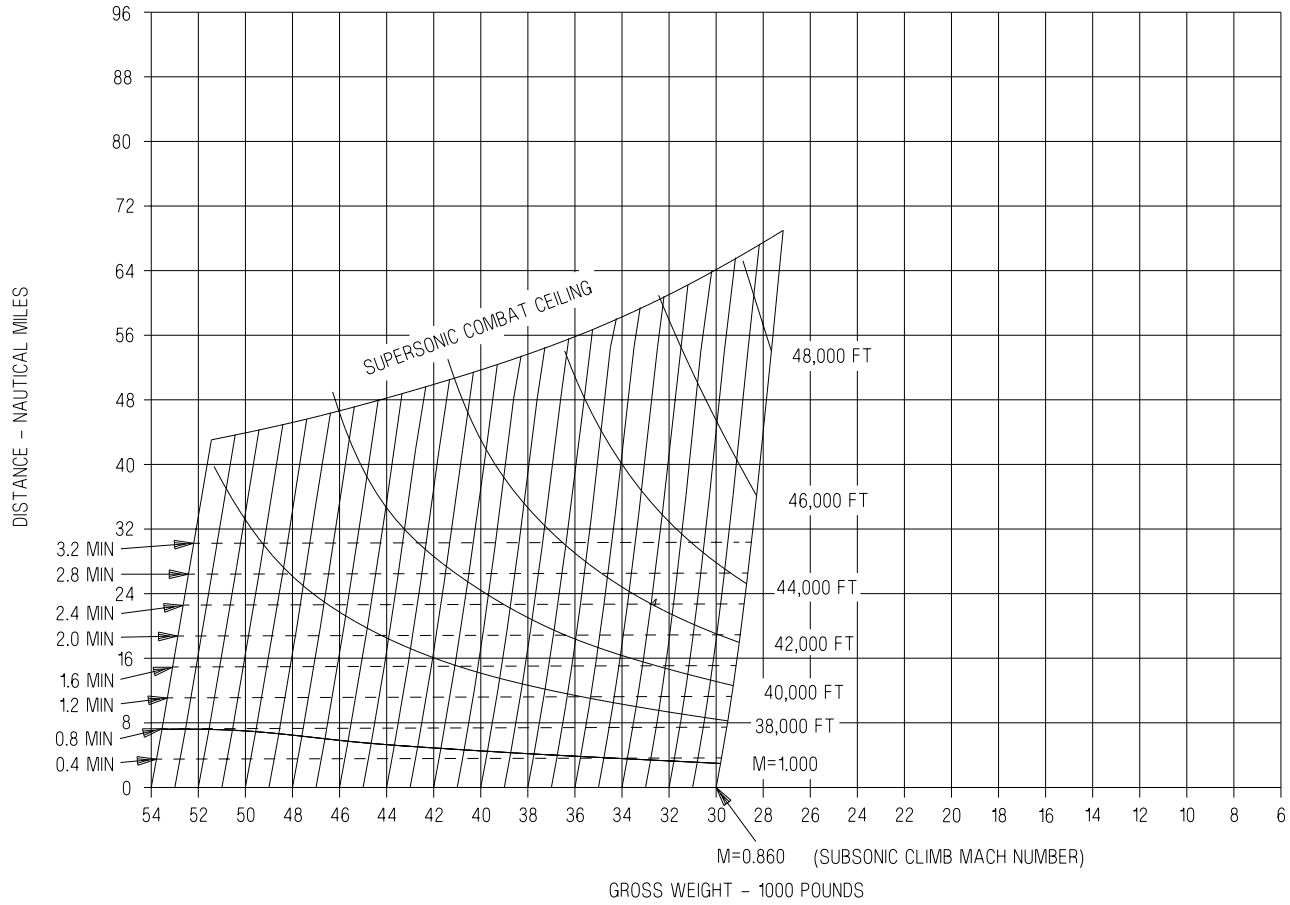
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-302-4-004

Figure 4-11. Supersonic Maximum Thrust Climb (Sheet 4 of 4)

F/A-18E/F SINGLE ENGINE RATE OF CLIMB FIELD TAKEOFF CONFIGURATION

F414-GE-400

ONE ENGINE OPERATING, INOPERATIVE ENGINE WINDMILLING
MAXIMUM THRUST
HALF FLAPS, GEAR DOWN

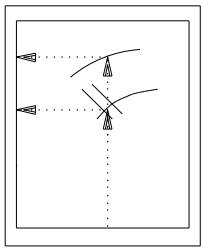
AIRCRAFT CONFIGURATION
(2)AIM-9 + (2)AIM-120 +
480 GAL. FUEL TANK
DI = 30

STORES JETTISONED:
(2)AIM-9 + (2)AIM-120 +
CENTERLINE PYLON
DI = 9

DATE: 30 SEPTEMBER 1998
DATA BASIS: FLIGHT DERIVED

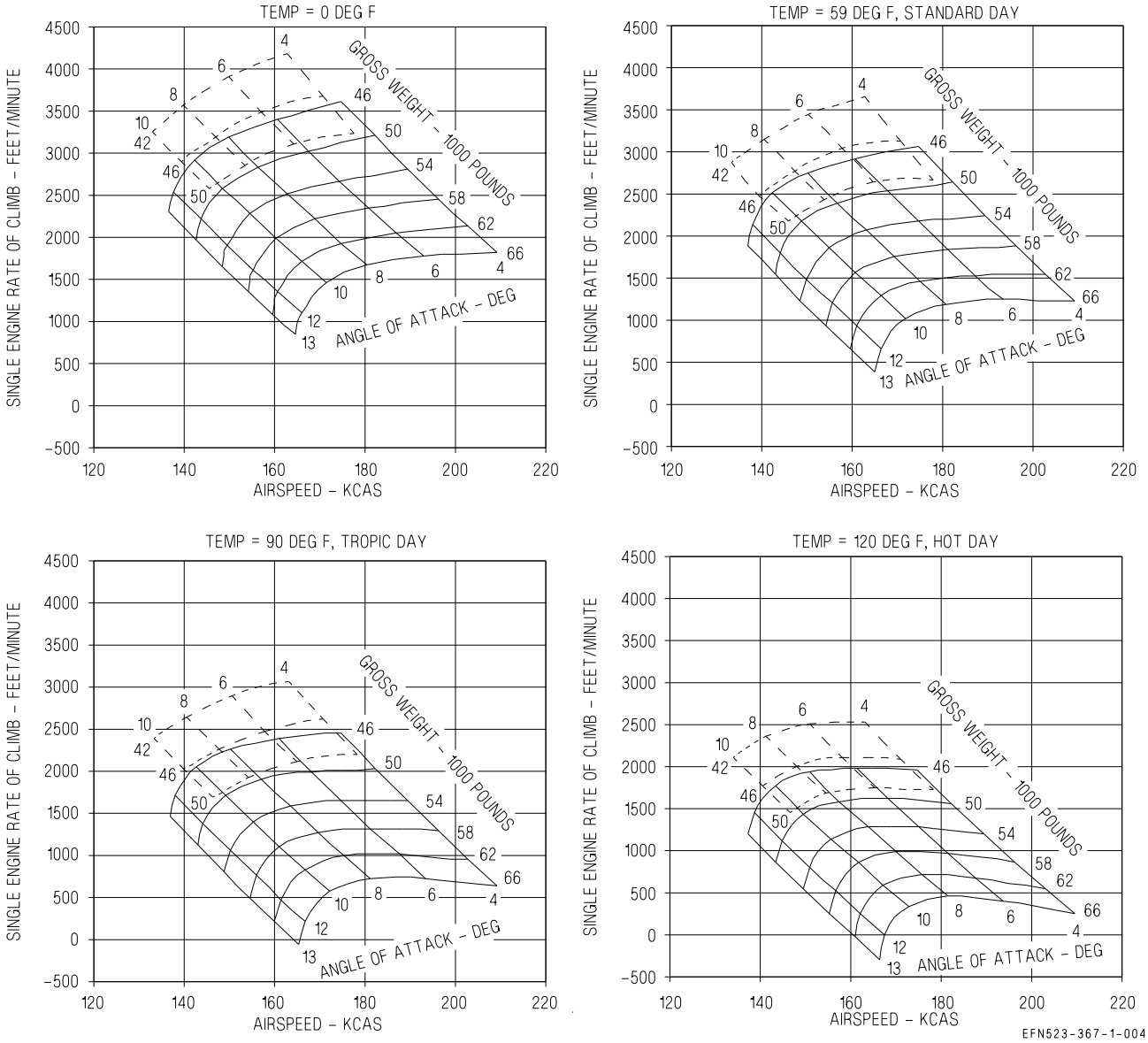
GW (1000 LB)	DUAL ENGINE LIFTOFF SPEEDS (KCAS)					
	CG = 16% MAC		CG = 22% MAC		CG = 28% MAC	
	MIL	MAX	MIL	MAX	MIL	MAX
42	148	153	134	138	124	126
46	155	160	141	145	129	131
50	162	168	147	153	135	138
54	170	176	154	160	140	145
58	177	184	160	168	145	151
62	183	191	166	174	150	157
66	189	196	170	177	153	161

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

——— STORES RETAINED
- - - - STORES JETTISONED



EFN523-367-1-004

Figure 4-12. Single Engine Rate of Climb - Field Takeoff Configuration (Sheet 1 of 3)

F/A-18E/F SINGLE ENGINE RATE OF CLIMB FIELD TAKEOFF CONFIGURATION

F414-GE-400

ONE ENGINE OPERATING, INOPERATIVE ENGINE WINDMILLING
MAXIMUM THRUST
HALF FLAPS, GEAR DOWN

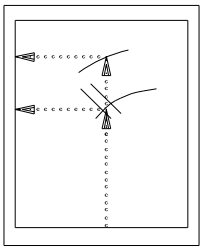
AIRCRAFT CONFIGURATION
(2)AIM-9 + FLIR/NAVFLIR +
(2)480 GAL. FUEL TANKS + (4)MK-83
DI = 165

STORES JETTISONED:
(2)AIM-9 + FLIR/NAVFLIR +
(4)LOW DRAG PYLONS + (2)STANDARD PYLONS
DI = 76

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

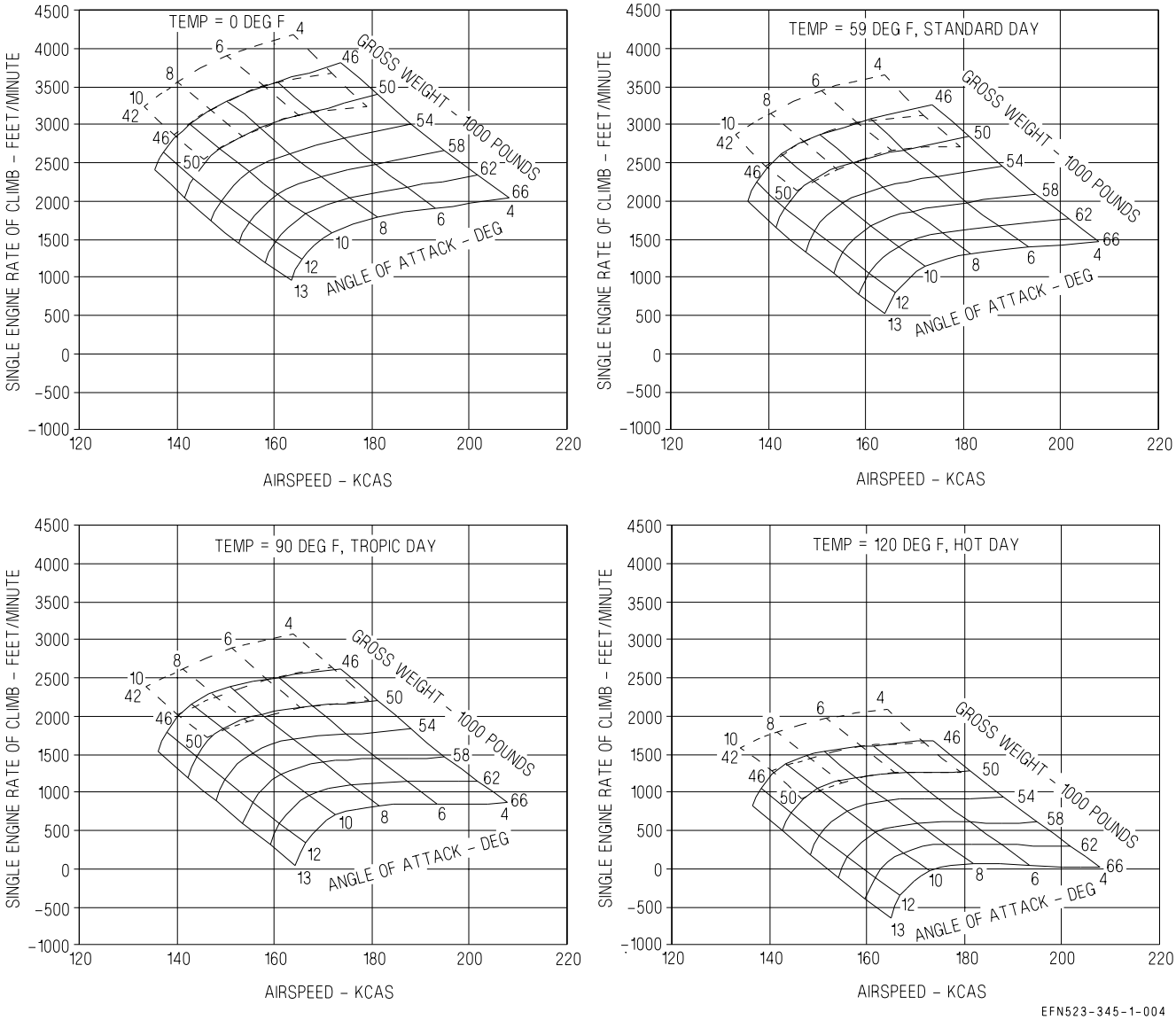
GW (1000 LB)	DUAL ENGINE LIFTOFF SPEEDS - KCAS					
	CG = 16% MAC		CG = 22% MAC		CG = 28% MAC	
	MIL	MAX	MIL	MAX	MIL	MAX
42	148	153	134	138	124	126
46	155	160	141	145	129	131
50	162	168	147	153	135	138
54	170	176	154	160	140	145
58	177	184	160	168	145	151
62	183	191	166	174	150	157
66	189	196	170	177	153	161

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

——— STORES RETAINED
- - - - STORES JETTISONED



EFN523-345-1-004

Figure 4-12. Single Engine Rate of Climb - Field Takeoff Configuration (Sheet 2 of 3)

F/A-18E/F SINGLE ENGINE RATE OF CLIMB FIELD TAKEOFF CONFIGURATION

F414-GE-400

ONE ENGINE OPERATING, INOPERATIVE ENGINE WINDMILLING
MAXIMUM THRUST
HALF FLAPS, GEAR DOWN

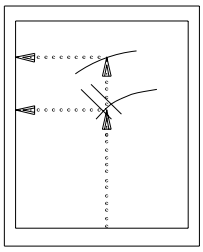
AIRCRAFT CONFIGURATION
(2)AIM-9 + FLIR/NAVFLIR +
(3)480 GAL. FUEL TANKS + (4)MK-83
DI = 209

STORES JETTISONED:
(2)AIM-9 + FLIR/NAVFLIR +
CENTERLINE PYLON + (4)STANDARD
PYLONS + (2)CVER
DI = 90

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

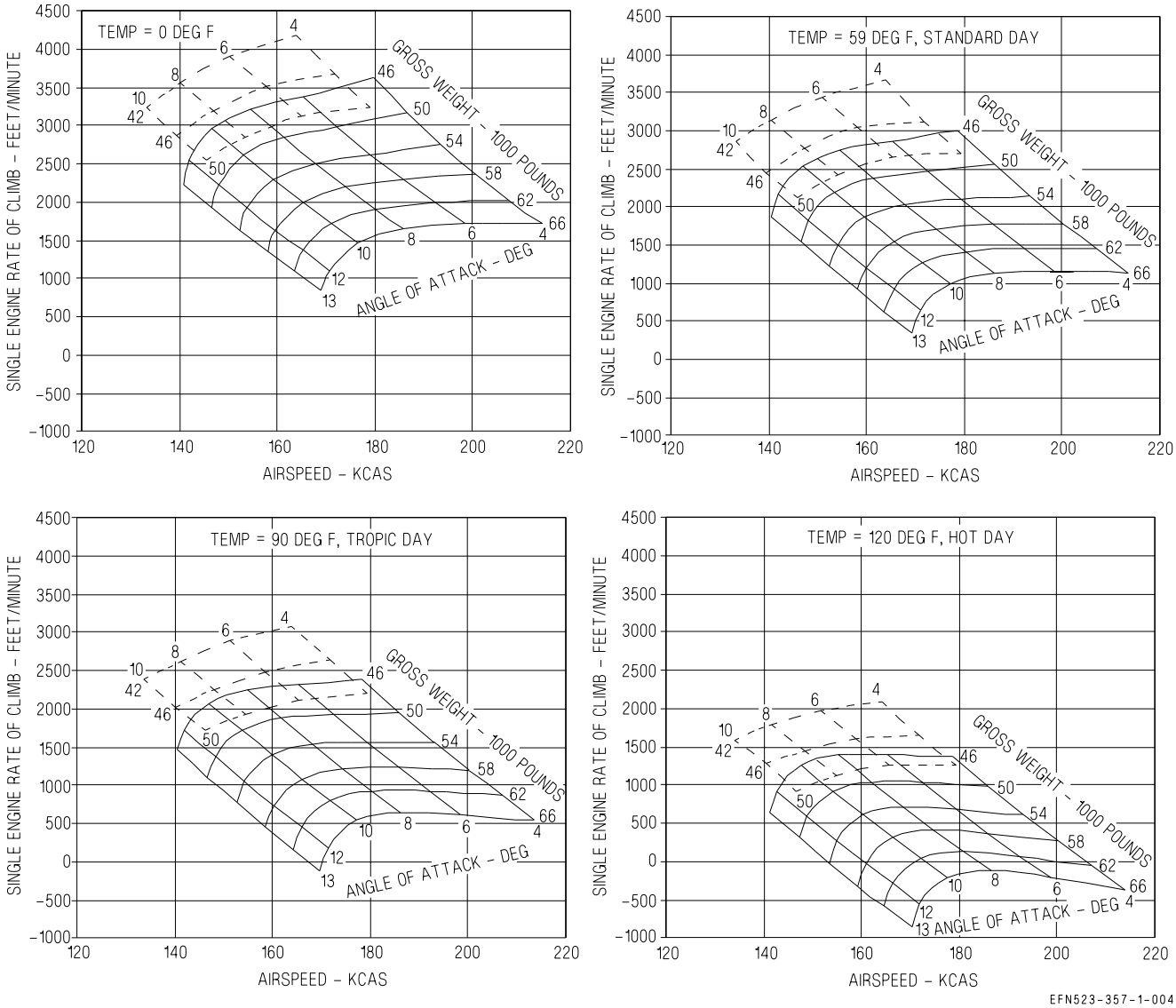
GW (1000 LB)	DUAL ENGINE LIFTOFF SPEEDS - KCAS					
	CG = 16% MAC		CG = 22% MAC		CG = 28% MAC	
	MIL	MAX	MIL	MAX	MIL	MAX
42	148	153	134	138	124	126
46	155	160	141	145	129	131
50	162	168	147	153	135	138
54	170	176	154	160	140	145
58	177	184	160	168	145	151
62	183	191	166	174	150	157
66	189	196	170	177	153	161

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

——— STORES RETAINED
- - - - STORES JETTISONED



EFN523-357-1-004

Figure 4-12. Single Engine Rate of Climb - Field Takeoff Configuration (Sheet 3 of 3)

F/A-18E/F SINGLE ENGINE RATE OF CLIMB LAUNCH CONFIGURATION

F414-GE-400

ONE ENGINE OPERATING, INOPERATIVE ENGINE WINDMILLING
MAXIMUM THRUST
FULL FLAPS, GEAR DOWN

AIRCRAFT CONFIGURATION
(2)AIM-9 + (2)AIM-120 +
480 GAL. FUEL TANK
DI = 30

STORES JETTISONED:
(2)AIM-9 + (2)AIM-120 +
CENTERLINE PYLON
DI = 9

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

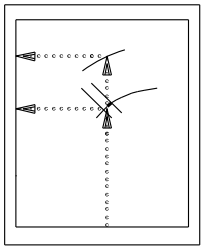
CATAPULT LAUNCH ENDSPEED (SYMMETRICAL LOADING 0-2,500 FT-LB)		
GW (1000 LB)	ENDSPEED (MIN +15) (KCAS)	
	MIL	MAX
66.8 <1>	–	164 <1>
66	–	161
65	–	
64	–	
63	165	
62	163	160
61	161	
51-60	160	
≤50	153	153

CATAPULT LAUNCH ENDSPEED (SYMMETRICAL LOADING)	
ASYMMETRY LEVEL(FT-LB)	ENDSPEED (MIN +15) (KCAS)
0 (0-2,500)	SYMMETRICAL LOADING SPEED
1 (2,501-9,000)	165
2 (9,001-17,000)	170
3 (17,001-29,000)	174

NOTE: <1> WET TANKER ONLY.

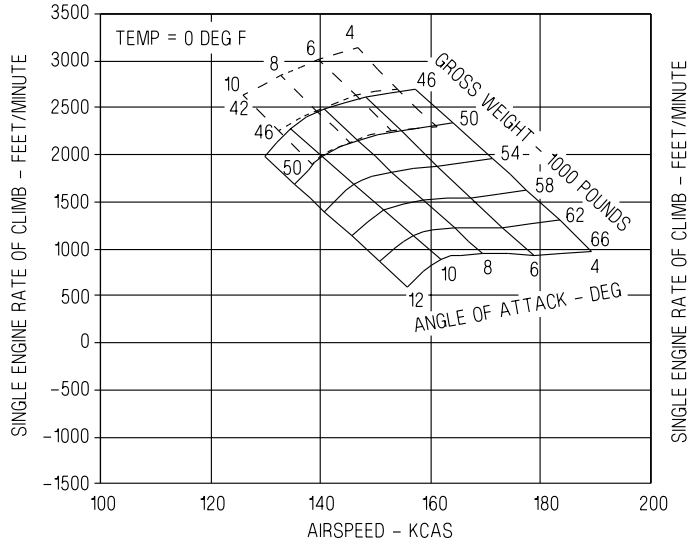
2. FOR ASYMMETRIC LOADINGS, LOOK UP BOTH THE SYMMETRIC AND ASYMMETRIC OPERATIONAL ENDSPEED AND USE THE HIGHER OF THE TWO.

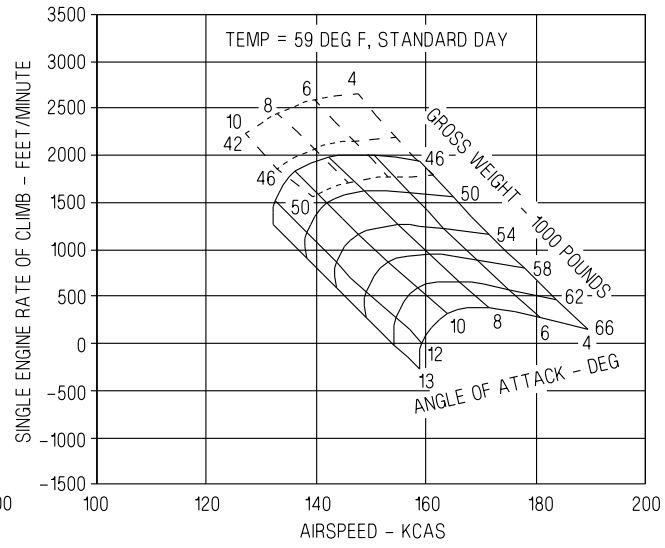
GUIDE

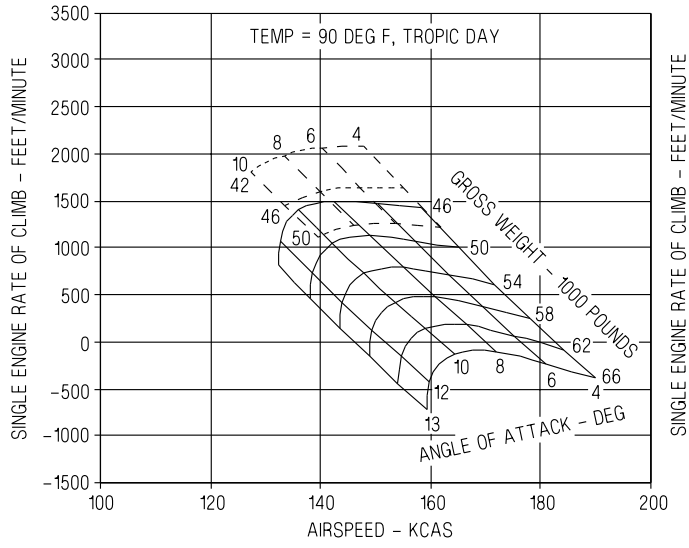


FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

——— STORES RETAINED
- - - - STORES JETTISONED







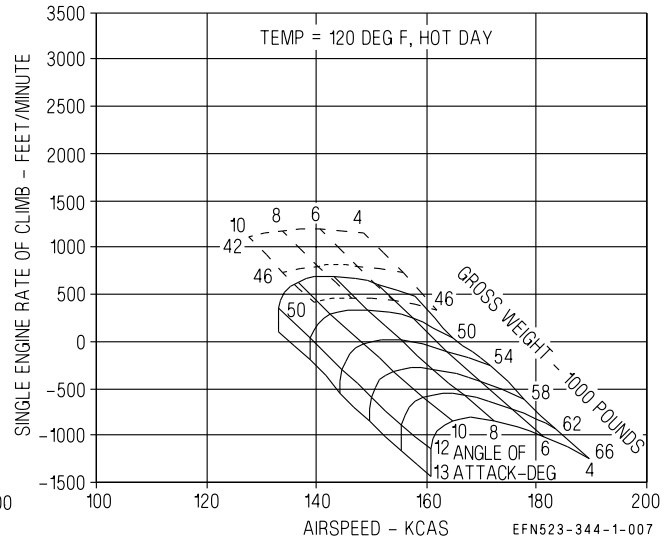


Figure 4-13. Single Engine Rate of Climb - Launch Configuration (Sheet 1 of 3)

F/A-18E/F SINGLE ENGINE RATE OF CLIMB LAUNCH CONFIGURATION

F414-GE-400

ONE ENGINE OPERATING, INOPERATIVE ENGINE WINDMILLING
MAXIMUM THRUST
FULL FLAPS, GEAR DOWN

AIRCRAFT CONFIGURATION
(2)AIM-9 + FLIR/NAVFLIR +
(2)480 GAL. FUEL TANKS +
(4)MK-83
DI = 165

STORES JETTISONED:
(2)AIM-9 + FLIR/NAVFLIR +
(4)LOW DRAG PYLONS +
(2)STANDARD PYLONS
DI = 76

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

——— STORES RETAINED
- - - - STORES JETTISONED

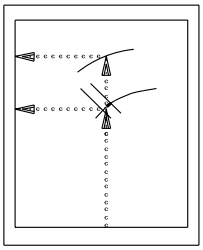
CATAPULT LAUNCH ENDSPEED (SYMMETRICAL LOADING 0-2,500 FT-LB)		
GW (1000 LB)	ENDSPEED (MIN +15) (KCAS)	
	MIL	MAX
66.8 <1>	–	164 <1>
66	–	161
65	–	
64	–	
63	165	
62	163	160
61	161	
51-60	160	
≤50	153	153

CATAPULT LAUNCH ENDSPEED (SYMMETRICAL LOADING)	
ASYMMETRY LEVEL(FT-LB)	ENDSPEED (MIN +15) (KCAS)
0 (0-2,500)	SYMMETRICAL LOADING SPEED
1 (2,501-9,000)	165
2 (9,001-17,000)	170
3 (17,001-29,000)	174

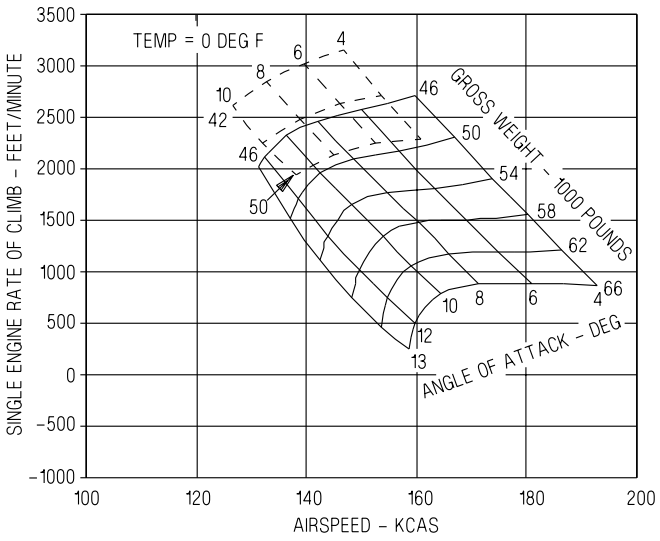
NOTE: <1> WET TANKER ONLY.

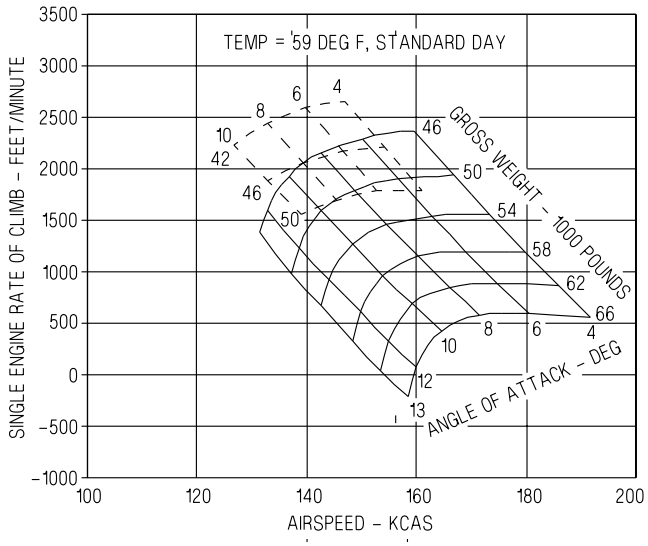
2. FOR ASYMMETRIC LOADINGS, LOOK UP BOTH THE SYMMETRIC AND ASYMMETRIC OPERATIONAL ENDSPEED AND USE THE HIGHER OF THE TWO.

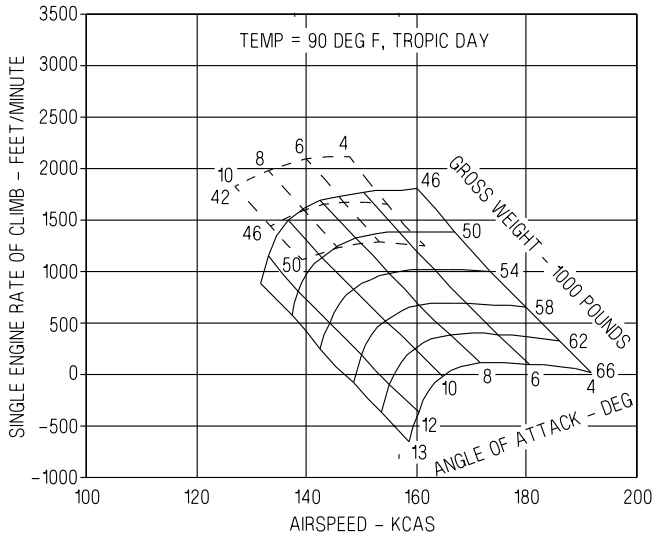
GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL







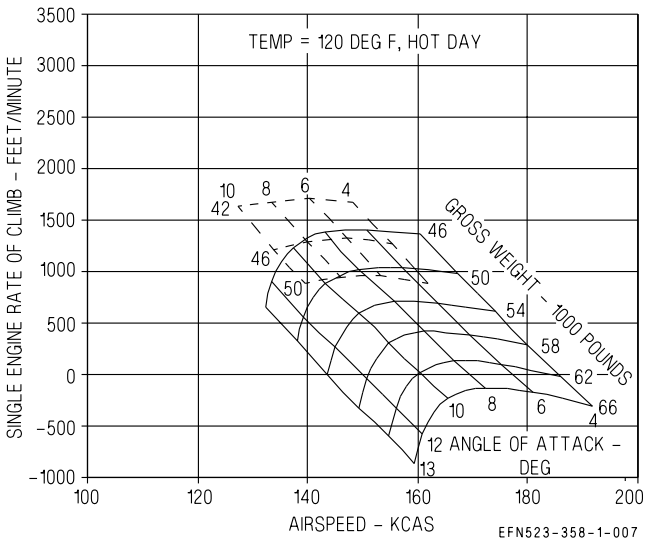


Figure 4-13. Single Engine Rate of Climb - Launch Configuration (Sheet 2 of 3)

F/A-18E/F SINGLE ENGINE RATE OF CLIMB LAUNCH CONFIGURATION

F414-GE-400

ONE ENGINE OPERATING, INOPERATIVE ENGINE WINDMILLING
MAXIMUM THRUST
FULL FLAPS, GEAR DOWN

AIRCRAFT CONFIGURATION
(2)AIM-9 + FLIR/NAVFLIR +
(3)480 GAL. FUEL TANKS +
(4)MK-83
DI = 209

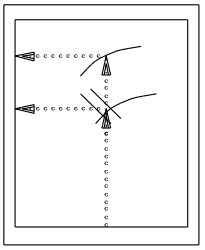
STORES JETTISONED:
(2)AIM-9 + FLIR/NAVFLIR +
CENTERLINE PYLON +
(4) STANDARD PYLONS +
(2)CVER
DI = 90

DATE: 30 SEPTEMBER 1998
DATA BASIS: FLIGHT DERIVED

GW (1000 LB)	OPERATIONAL ENDSPEED - KCAS (SYMMETRICAL LOADING)	
	MIL	MAX
66	-	161
65	-	159
64	-	158
63	165	156
62	163	154
61	161	153
60	158	
59	156	
58	154	
≤ 57	153	

ASYMMETRY LEVEL(ft-lb)	OPERATIONAL ENDSPEED - KCAS (ASYMMETRICAL LOADING)
0-2,500	SYMMETRICAL LOADING SPEED
2,501-7,000	159
7,001-13,000	164
13,001-22,000	169

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

——— STORES RETAINED
- - - - STORES JETTISONED

NOTE: FOR ASYMMETRIC LOADINGS, LOOK UP BOTH THE SYMMETRIC AND ASYMMETRIC OPERATIONAL ENDSPEED AND USE THE HIGHER OF THE TWO.

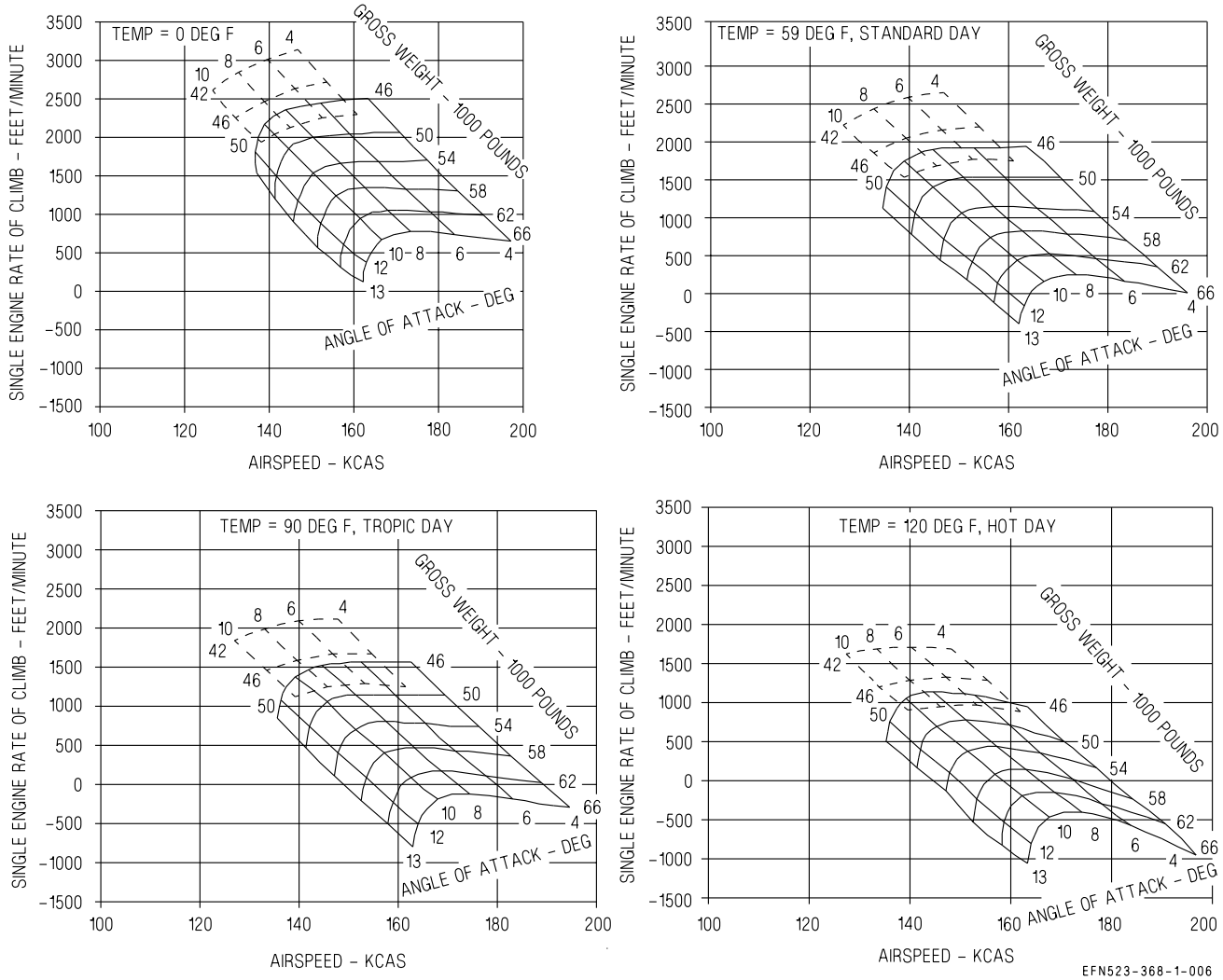
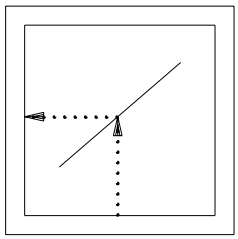


Figure 4-13. Single Engine Rate of Climb - Launch Configuration (Sheet 3 of 3)

ADJUSTMENT TO SEROC FOR RETRACTING LANDING GEAR CONFIGURATION

MAXIMUM THRUST

GUIDE



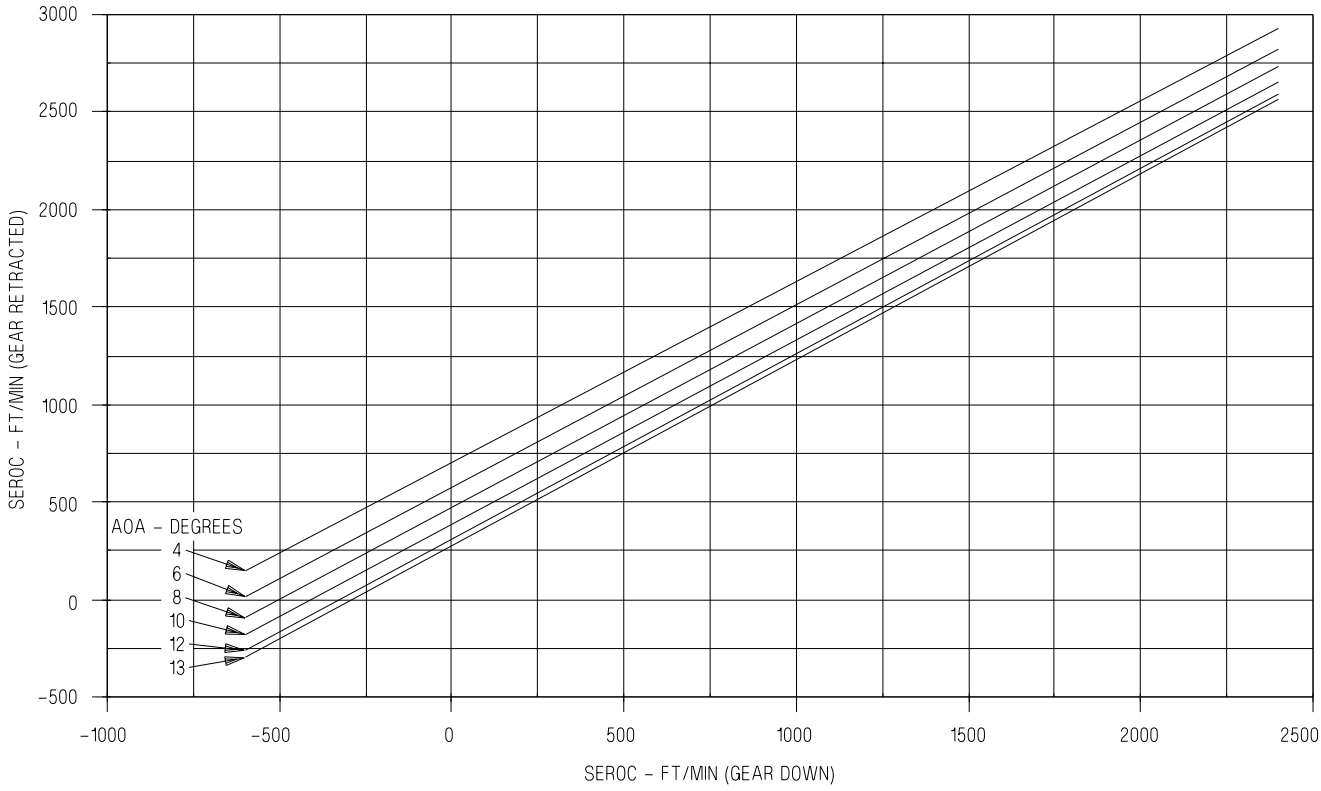
REMARKS

ENGINE: (1) F414-GE-400
ONE ENGINE OPERATING,
INOPERATIVE ENGINE WINDMILLING
FULL AND HALF FLAPS

AIRCRAFT CONFIGURATION
ALL

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: FEBRUARY 2002
DATA BASIS: FLIGHT DERIVED



EFN523-356-1-004

Figure 4-14. Adjustment to SEROC for Retracting Landing Gear Configuration

CHAPTER 5

Range
F414-GE-400

5.1 OPTIMUM CRUISE CHARTS

These charts (figure 5-1, sheets 1 and 2) present cruise data for two-engine operation. Sheet 1 depicts cruise altitude and cruise Mach number for various gross weights and drag indexes. Sheet 2 depicts specific range (nautical miles per pound of fuel (NMPP)) for various gross weights and drag indexes.

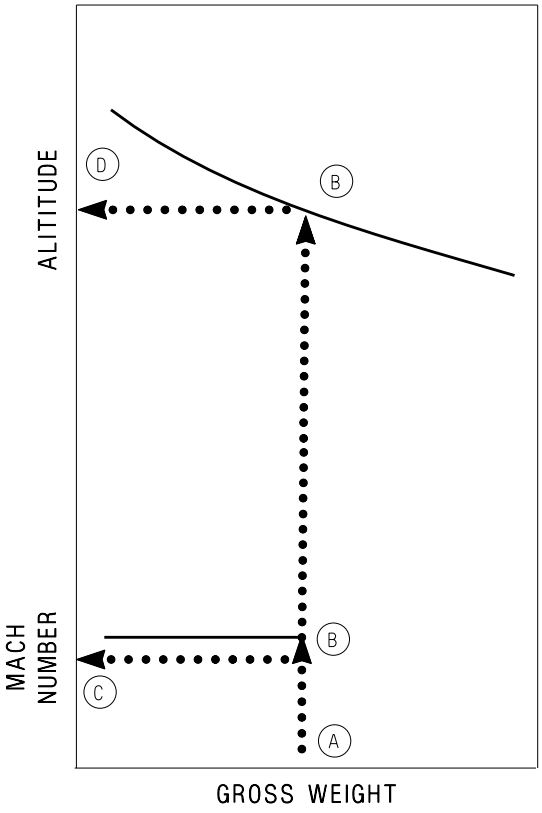
5.1.1 Use. To determine cruise altitude and Mach number, based on drag index and gross weight, enter the chart with the applicable gross weight and project vertically up to intersect the appropriate drag index curve. From the intersection of the drag index curve, project horizontally left and read Mach number and specific range in nautical miles per pound.

To determine specific range based on drag index and gross weight, enter the chart with the applicable gross weight and project vertically up to intersect the appropriate drag index curve. From the intersection of the drag index curve, project horizontally left and read the specific range.

5.1.2 Sample Problem. Two Engines Operating.

A. Gross weight	46,000 Lb.
B. Drag index	75
C. Mach number	0.847
D. Optimum cruise altitude	39,800 Ft.

SAMPLE OPTIMUM CRUISE AND ALTITUDE AND MACH NUMBER



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5.2 SPECIFIC RANGE CHARTS

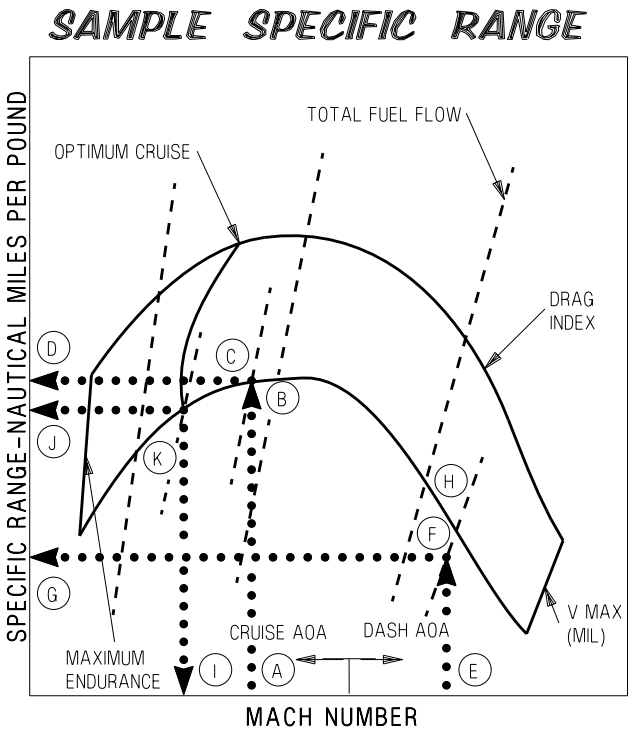
These charts (figures 5-2 thru 5-96 for two engines, figures 5-97 thru 5-160 for 1 engine) present planning data for constant altitude cruise with various drag indexes at altitudes of sea level, 5,000, 10,000, 15,000, 20,000, 25,000, 30,000, 35,000, 40,000, 45,000, and 50,000 feet and gross weights of 30,000 thru 66,000 pounds in 4,000-pound increments. The charts depict specific range (nautical miles per pound of fuel (NMPP)) and total fuel flow in pounds per hour for various Mach numbers at cruise AOA (greater than approximately 2.5°) and dash AOA (approximately 2.5° or lower). Also depicted on the charts are lines for optimum cruise and maximum endurance.

5.2.1 Use. Enter the appropriate chart for desired cruise altitude and gross weight with the desired Mach number for cruise AOA and project vertically up to the computed drag index. From this point read total fuel flow, then project horizontally left to read specific range in nautical miles per pound of fuel. Repeat this process to obtain like data for desired Mach number at dash AOA. Total fuel flow for any combination of Mach number and drag index can be obtained by interpolating between the total fuel flow lines provided on the charts. Mach number, total fuel flow and specific range for optimum cruise can be obtained by entering the chart on the optimum cruise line at the appropriate drag index

and projecting vertically down and horizontally left to read Mach number and specific range respectively. Maximum endurance data is obtained in an identical manner entering the chart on the line labeled maximum endurance. Maximum Mach number at a particular drag index and military power setting can be obtained by reading the V_{MAX} curve at that drag index.

5.2.2 Sample Problem. Chart: 5000 Feet - 42,000 Pounds (figure 5-15) Problem based on loading in figure 2-1.

A. Mach number (cruise AOA)	0.6
B. Drag index (total)	163.3
C. Total fuel flow	9000 PPH
D. Specific range	0.044 NMPP
E. Mach number (dash AOA)	0.8
F. Drag index (total)	179.3
G. Specific range	0.029 NMPP
H. Total fuel flow	18,000 PPH
I. Mach number (optimum cruise)	0.485
J. Specific range	0.046 NMPP
K. Total fuel flow	6800 PPH



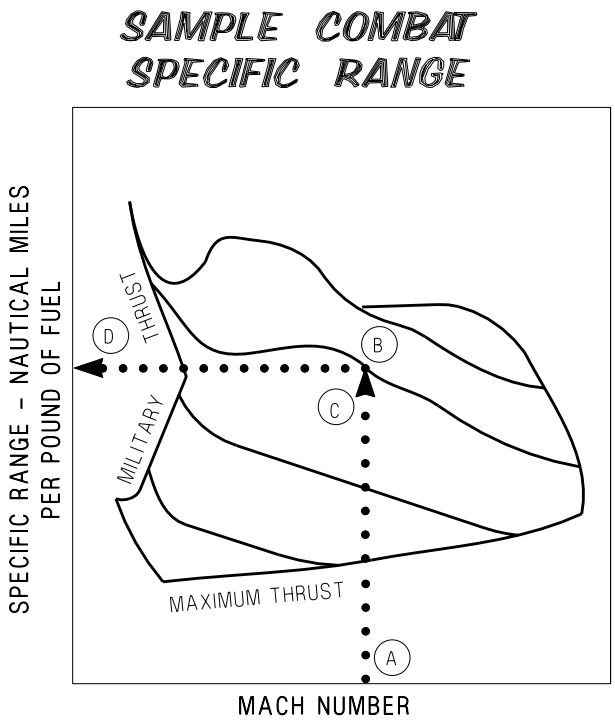
5.3 COMBAT SPECIFIC RANGE CHARTS

These charts (figure 5-161) present the specific range and the general thrust settings required to maintain a constant Mach number for a U.S. standard day and standard day +10°C at all altitudes from sea level to 45,000 feet. The specific range values are based on a stabilized level flight condition and do not represent the fuel flow required to accelerate to a given Mach number.

5.3.1 Use. Enter the chart corresponding to the aircraft configuration with the desired Mach number for stabilized level flight. Proceed vertically upward to the selected flight altitude. Note the general thrust setting required, and then project horizontally left to obtain the specific range.

5.3.2 Sample Problem. Configuration - (2)AIM-9 +(2)AIM-120.

A. Desired Mach number	1.2
B. Altitude (Standard Day)	30,000 Ft.
C. Thrust setting required	Mod. Afterburners
D. Specific range	0.022 NMPP



EFN523-315-1-003

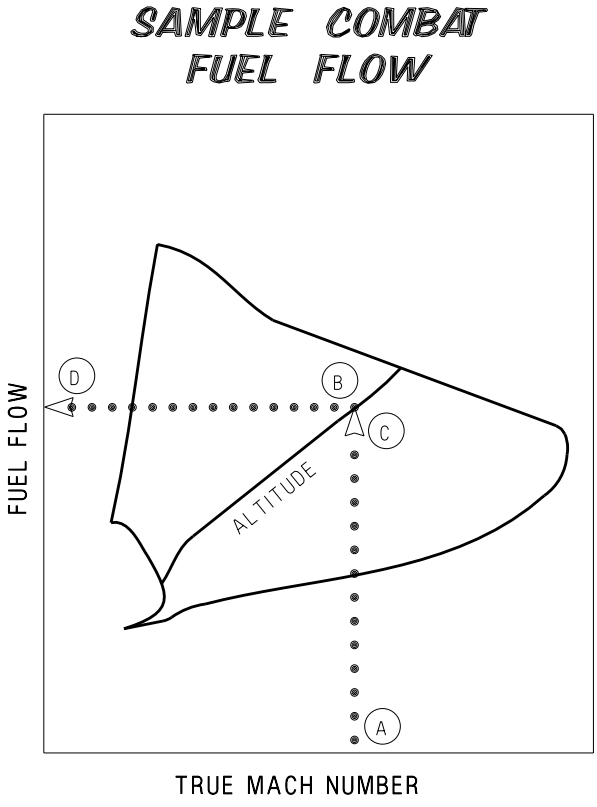
5.4 COMBAT FUEL FLOW CHARTS

These charts (figure 5-162) present the specific fuel flow and general thrust setting to maintain a constant Mach number for a U.S. standard day and standard day +10°C at all altitudes between sea level and 45,000 feet. Each chart is plotted for a specific configuration. The fuel flow values are based on a stabilized level flight condition and do not represent the fuel flow required to accelerate to a given Mach number.

5.4.1 Use. Enter the chart corresponding to the aircraft configuration with the desired Mach number for stabilized level flight. Proceed vertically upward to the selected flight altitude. Note the general thrust setting required, and then project horizontally to the left to read specific fuel flow.

5.4.2 Sample Problem. Configuration - (2) AIM-9 + (2)AIM-120.

A. Desired Mach number 1.2
B. Altitude (Standard Day) 20,000 Ft.
C. Thrust setting required Mod. Afterburners
D. Specific fuel flow 970 Lb/Min.



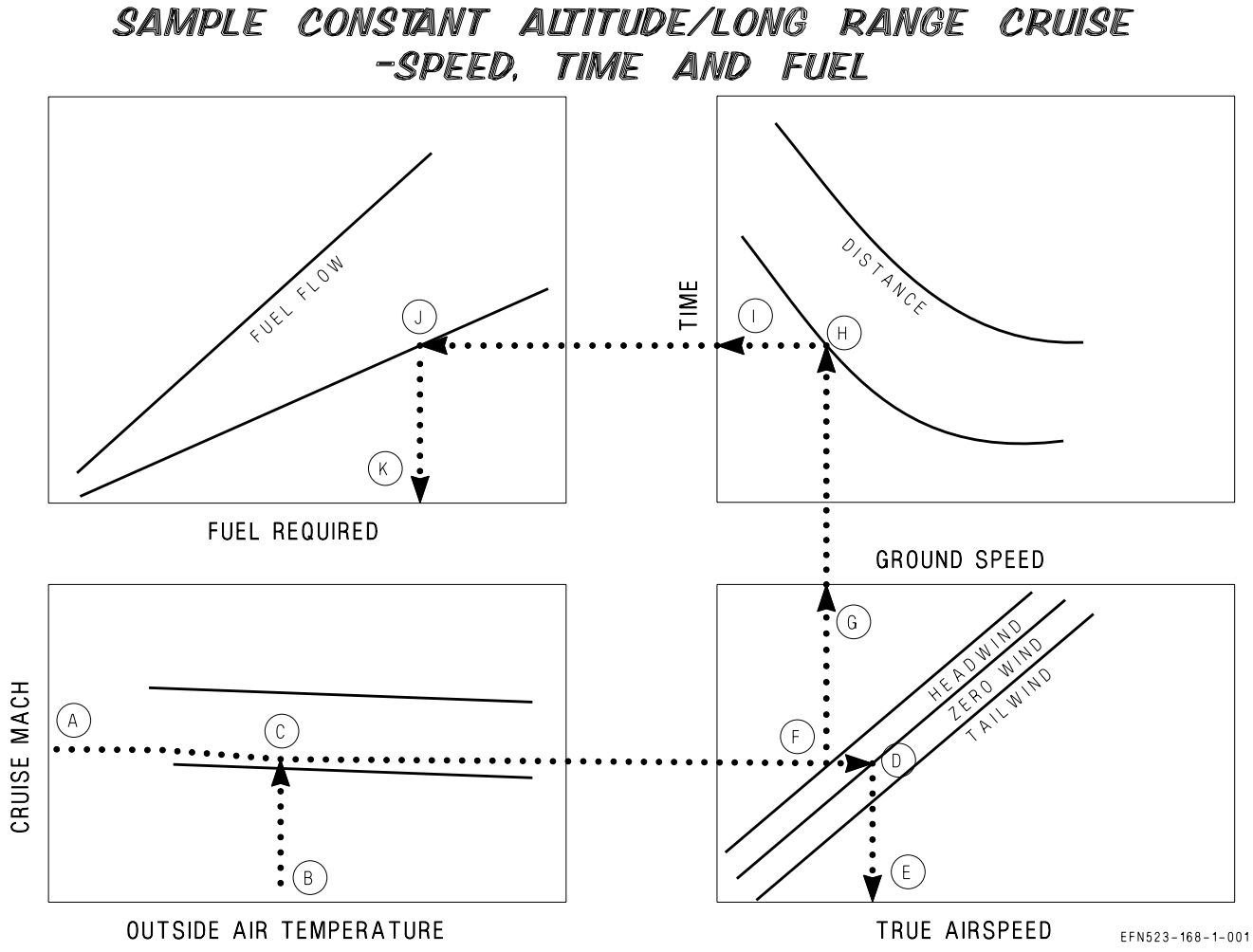
5.5 CONSTANT ALTITUDE/LONG RANGE CRUISE (SPEED-TIME-FUEL) CHART

This chart (figure 5-163, sheet 1) is used to determine the airspeed, time, and fuel required to travel a given distance when the cruise Mach number, outside air temperature (OAT), wind component at altitude, and fuel flow are known. The chart may be used for single engine or two-engine operation.

5.5.1 Use. Enter the chart with the desired cruise Mach number and parallel the guidelines to intersect a vertical line projected up from the outside air temperature scale. From this point, project horizontally to the zero wind component line, then vertically down to read true airspeed. If winds are expected at the cruise altitude, trace back to the zero wind line and project horizontally to the appropriate headwind or tailwind line, then vertically up to read groundspeed. From this point, continue to project vertically up to the selected distance curve, then horizontally left to read time required. Continue to project horizontally left to the appropriate fuel flow line, then vertically down to read fuel required.

5.5.2 Sample Problem.

A. Cruise Mach	0.65
B. OAT	20°F
C. Intersect OAT	
D. Wind component	0
E. True airspeed	410 Kt.
F. Headwind	50 Kt.
G. Groundspeed	360 Kt.
H. Selected distance	600 NM
I. Time required	100 Min.
J. Fuel flow	4000 PPH
K. Fuel required	6667 Lb.



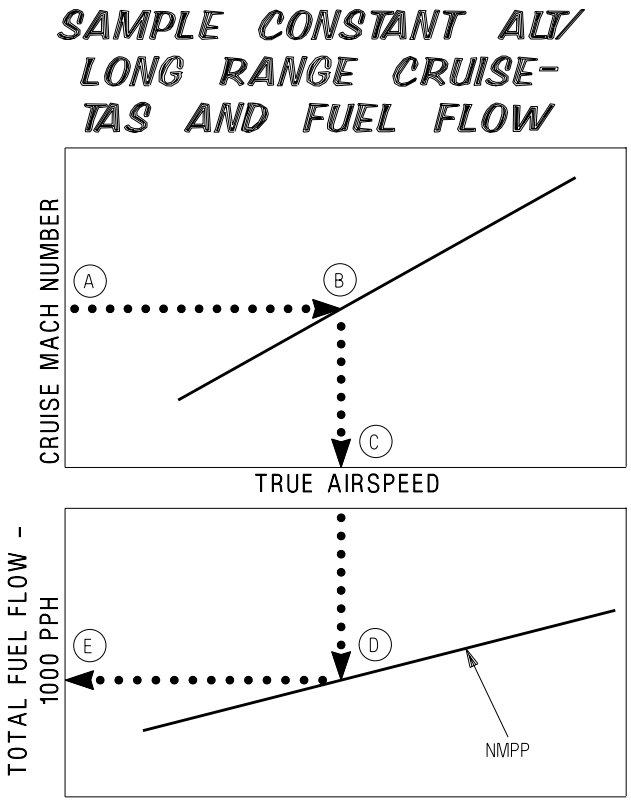
5.6 CONSTANT ALTITUDE/LONG RANGE CRUISE (TRUE AIRSPEED AND FUEL FLOW) CHART

This chart (figure 5-163, sheet 2) is used to determine the true airspeed and total fuel flow when the cruise Mach number, outside air temperature (OAT), and specific range are known at a particular cruise condition. The chart may be used for single engine or two-engine operation.

5.6.1 Use. Enter the chart with the desired cruise Mach number and project horizontally right to the outside air temperature curve. Project horizontally down to read true airspeed and continue projection down to the specific range (nautical miles per pound) curve as determined from the specific range charts at the gross weight, altitude and drag index of interest. From the intersection of the nautical miles per pound curve project horizontally left to read total fuel flow.

5.6.2 Sample Problem.

A. Cruise Mach	0.52
B. OAT	-20°C
C. True Airspeed	320 Kt.
D. Specific Range	0.0400 NMPP
E. Total Fuel Flow	8100 PPH



EFN523-305-1-003

5.7 BINGO CHARTS

These charts (figures 5-164 thru 5-171) show altitude, fuel, and airspeed required to travel a given distance based on various headwinds. Charts are provided for two-engine and single engine operation at various combinations of drag index, weight, and gear up and gear down configurations. Fuel required values include a 1,800 pound reserve. Data are provided for cruise at both optimum cruise altitude and at sea level.

5.8 MAXIMUM RANGE AOA/MAXIMUM ENDURANCE AOA CHART

The Maximum Range AOA/Maximum Endurance AOA chart (figure 5-172) shows the AOA required to achieve maximum range or maximum endurance based on the aircraft drag index configuration.

OPTIMUM CRUISE

ALTITUDE AND MACH NUMBER

REMARKS
ENGINE(S): (2) F414-GE-400

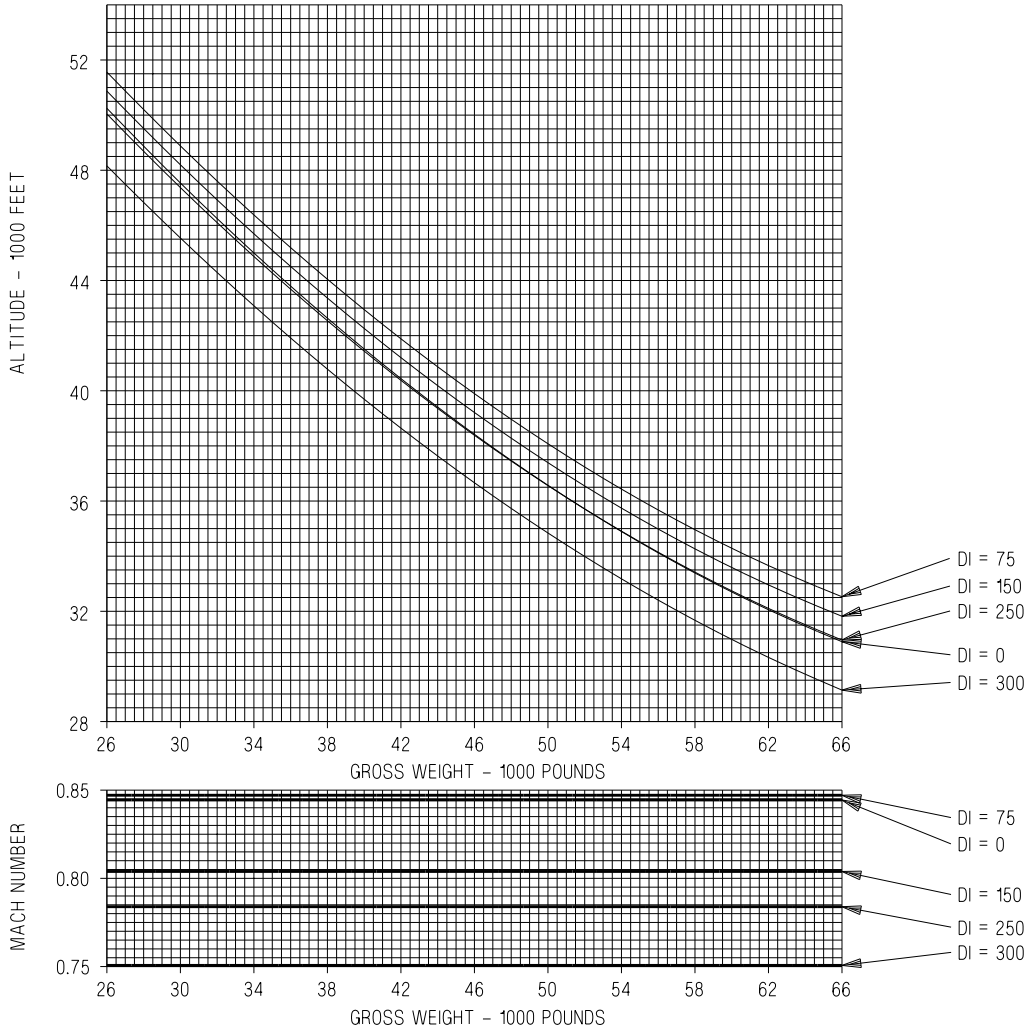
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

NOTE

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



EFN523-205-1-004

Figure 5-1. Optimum Cruise (Sheet 1 of 2)

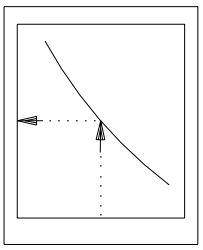
OPTIMUM CRUISE

SPECIFIC RANGE

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

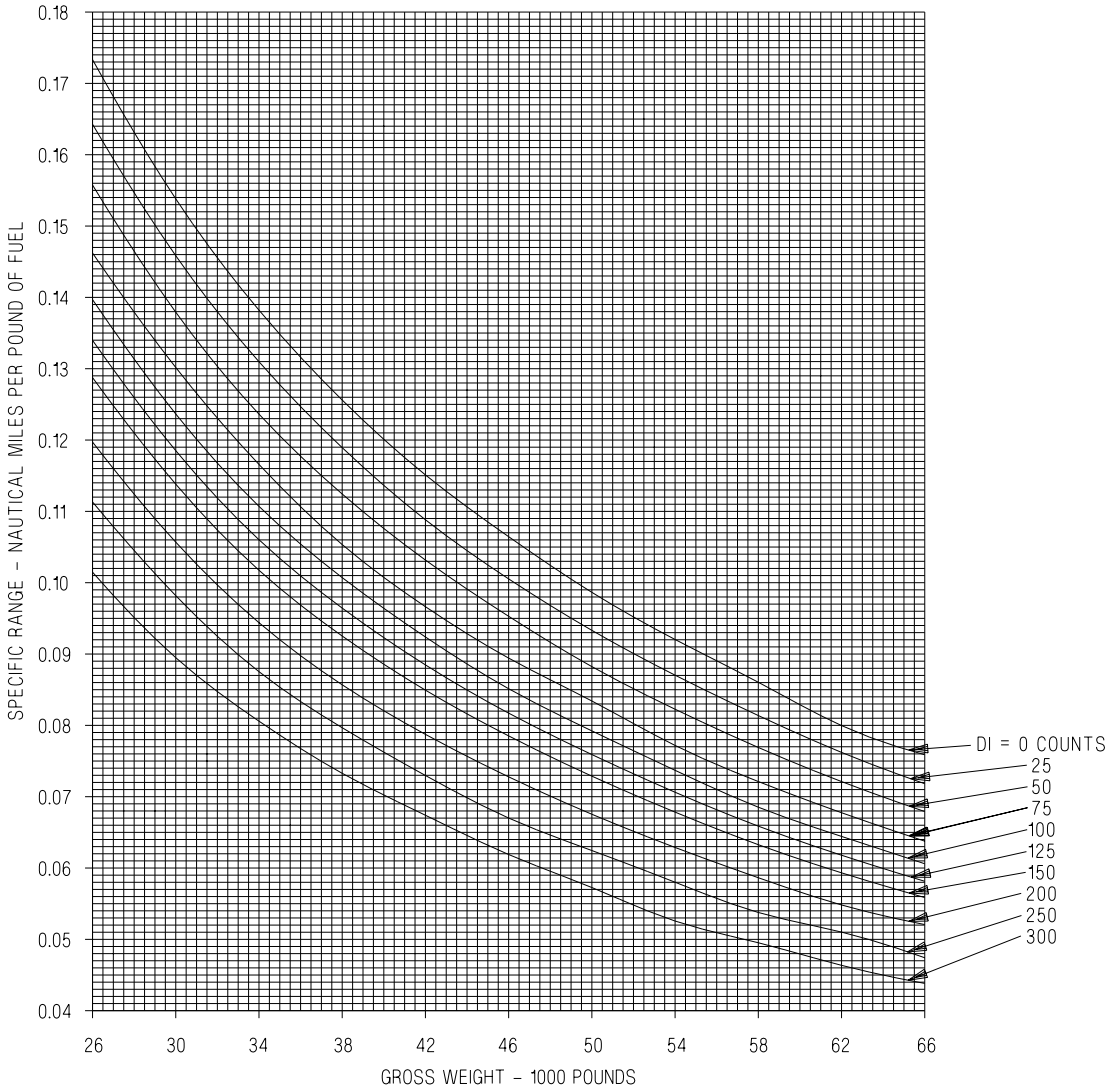
REMARKS
ENGINE(S): (2)F414-GE-400

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-203-1-004

Figure 5-1. Optimum Cruise (Sheet 2 of 2)

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 30,000 POUNDS

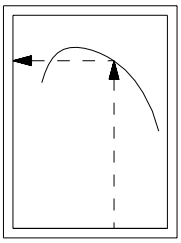
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

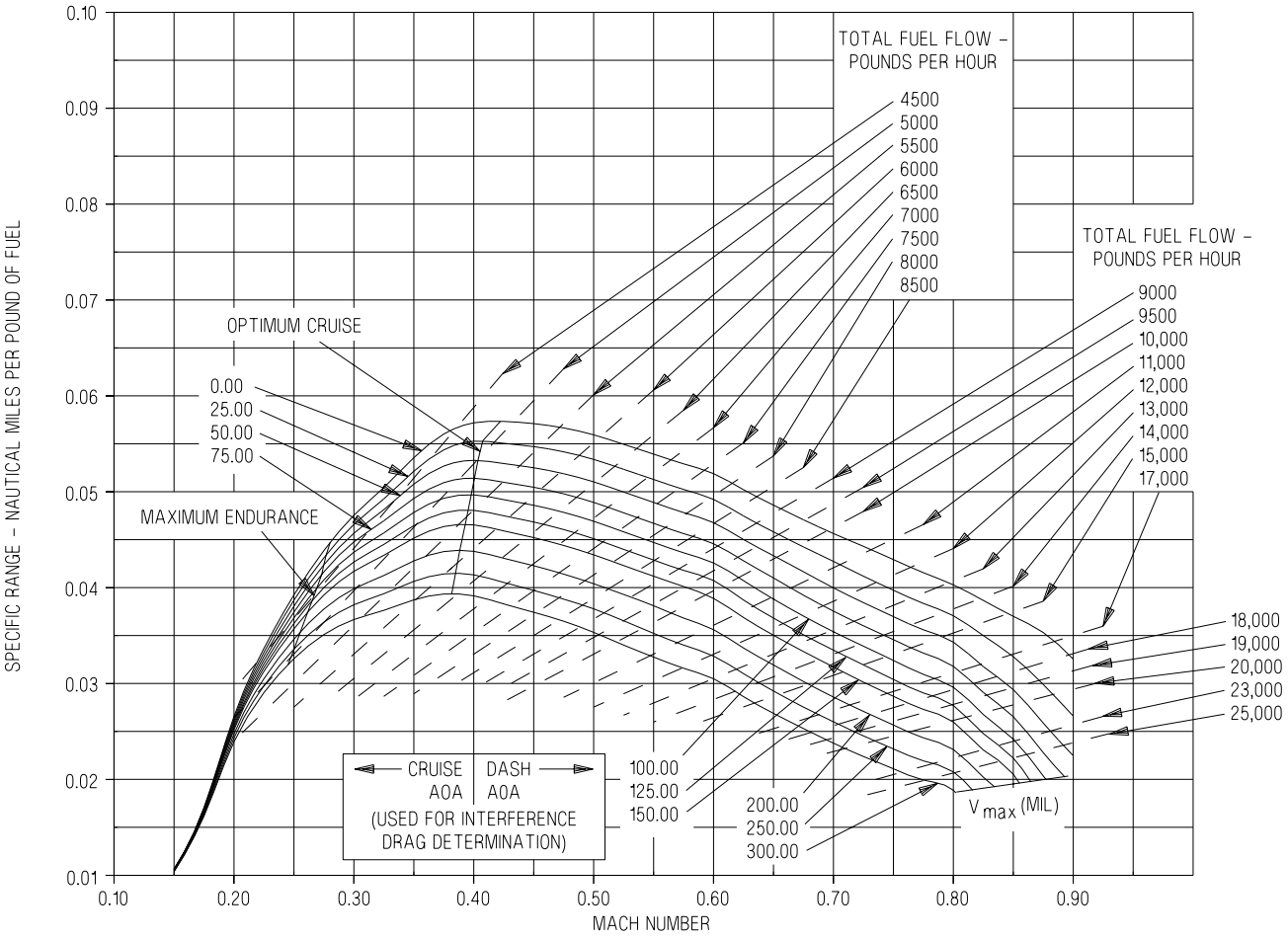
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-173-1-004

Figure 5-2. Specific Range - Sea Level - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 34,000 POUNDS

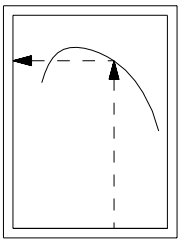
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

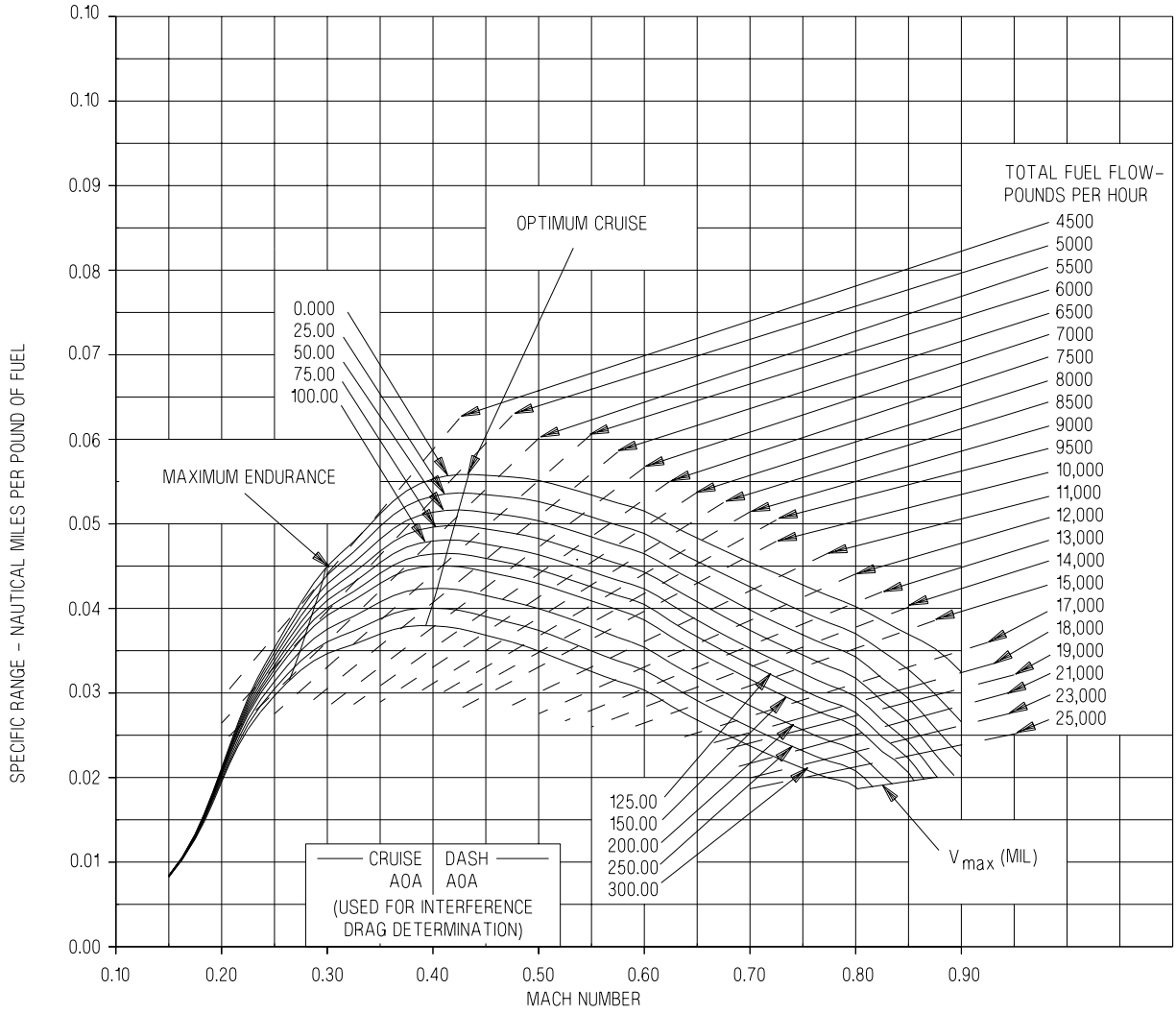
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-174-1-004

Figure 5-3. Specific Range - Sea Level - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 38,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

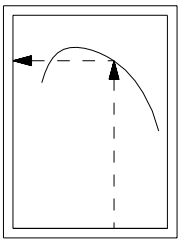
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

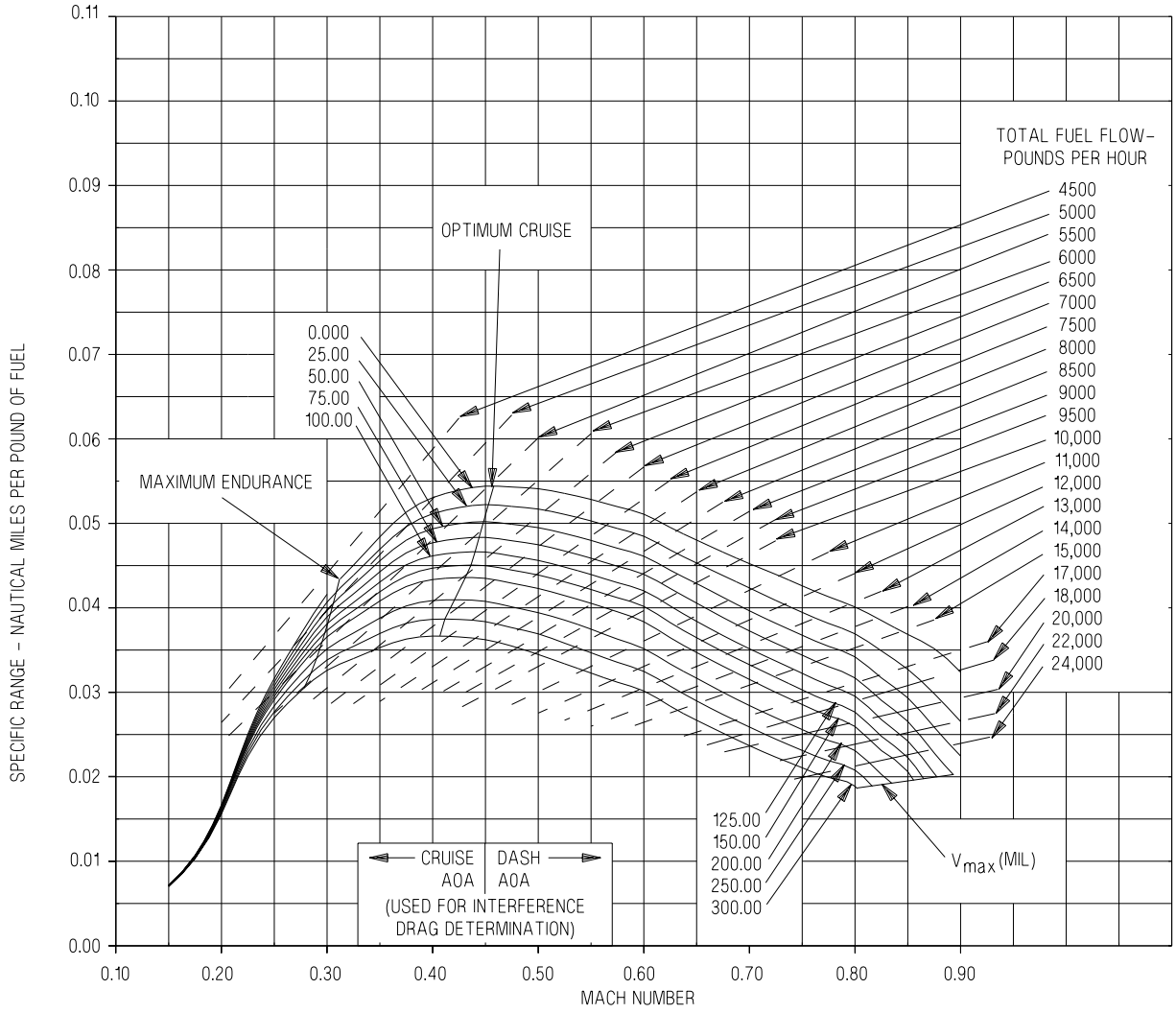
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 30 SEPTEMBER 1998
DATA BASIS: PROJECTED FLIGHT STATUS

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-175-1-004

Figure 5-4. Specific Range - Sea Level - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 42,000 POUNDS

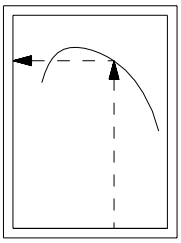
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

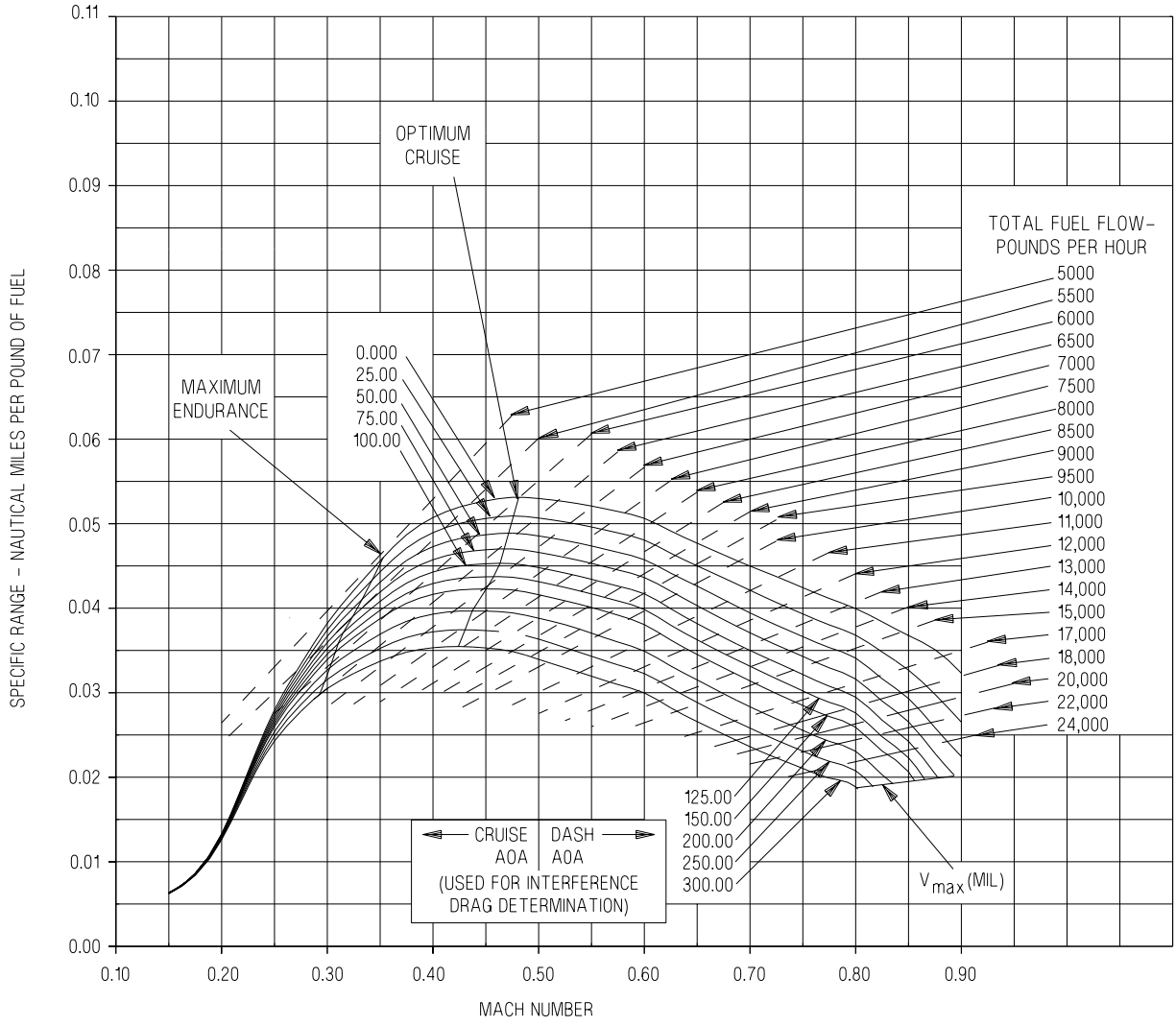
GUIDE



AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-176-1-004

Figure 5-5. Specific Range - Sea Level - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 46,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

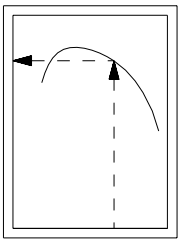
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

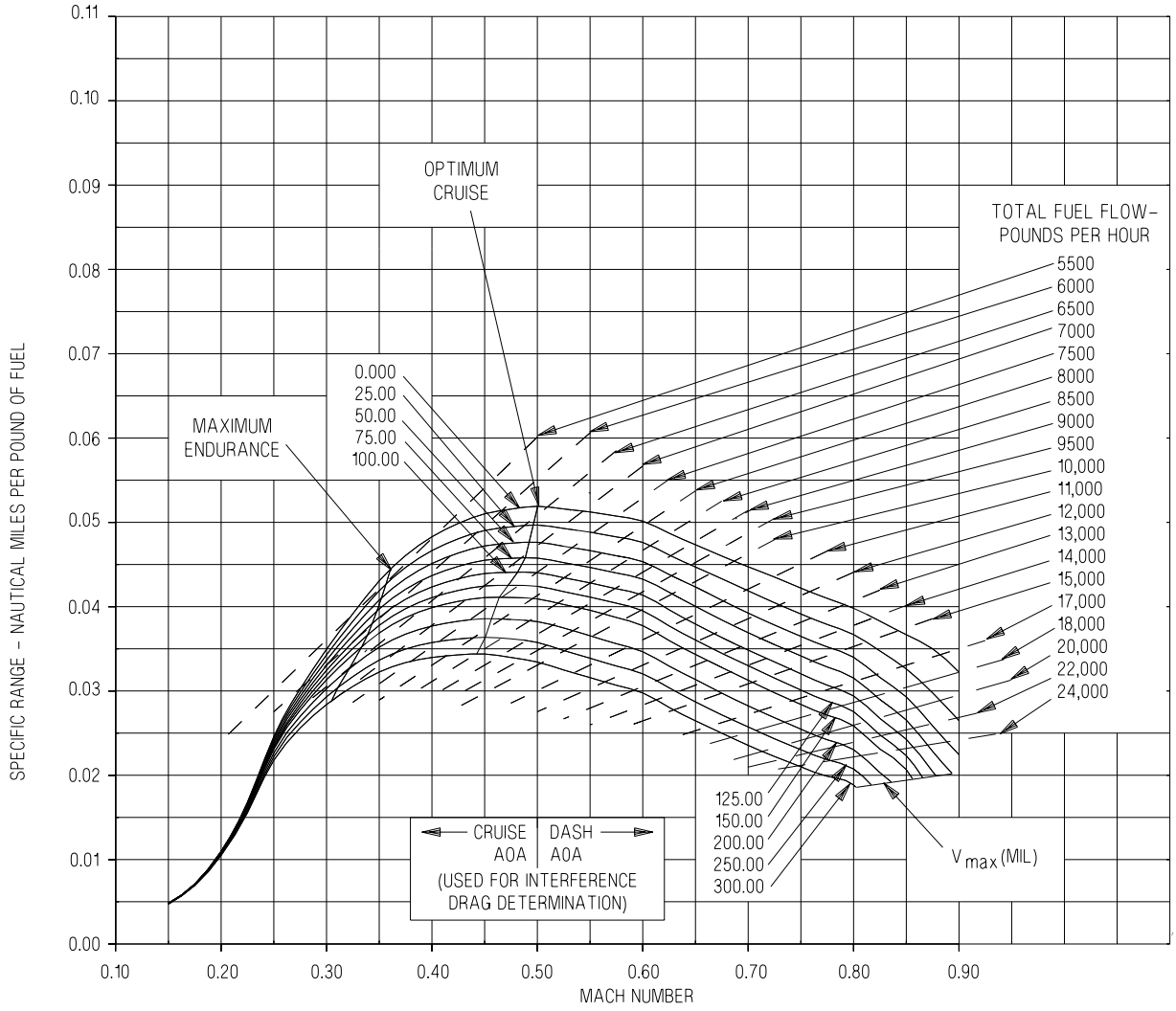
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-177-1-004

Figure 5-6. Specific Range - Sea Level - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 50,000 POUNDS

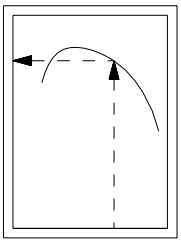
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

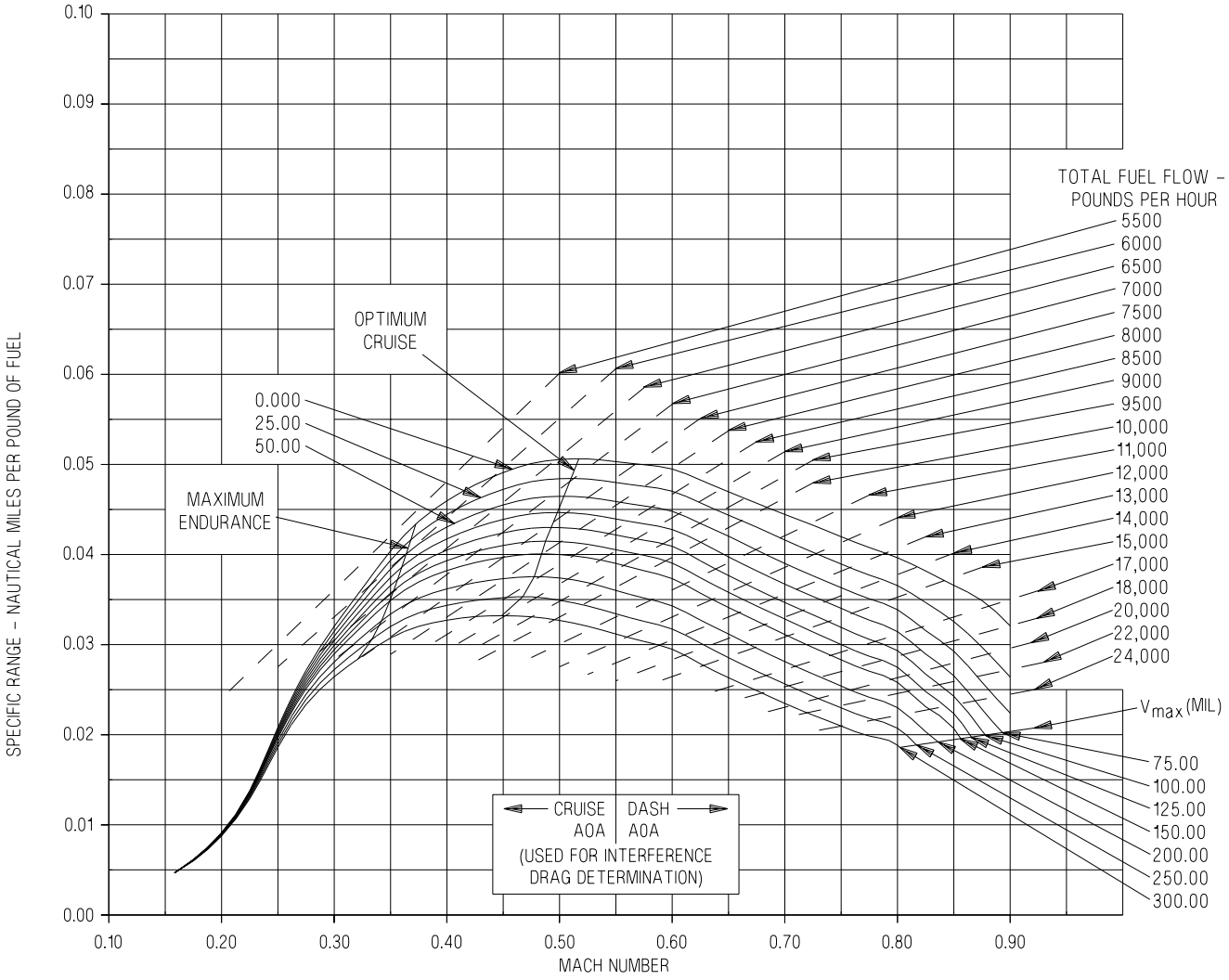
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-178-1-004

Figure 5-7. Specific Range - Sea Level - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 54,000 POUNDS

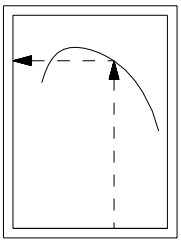
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

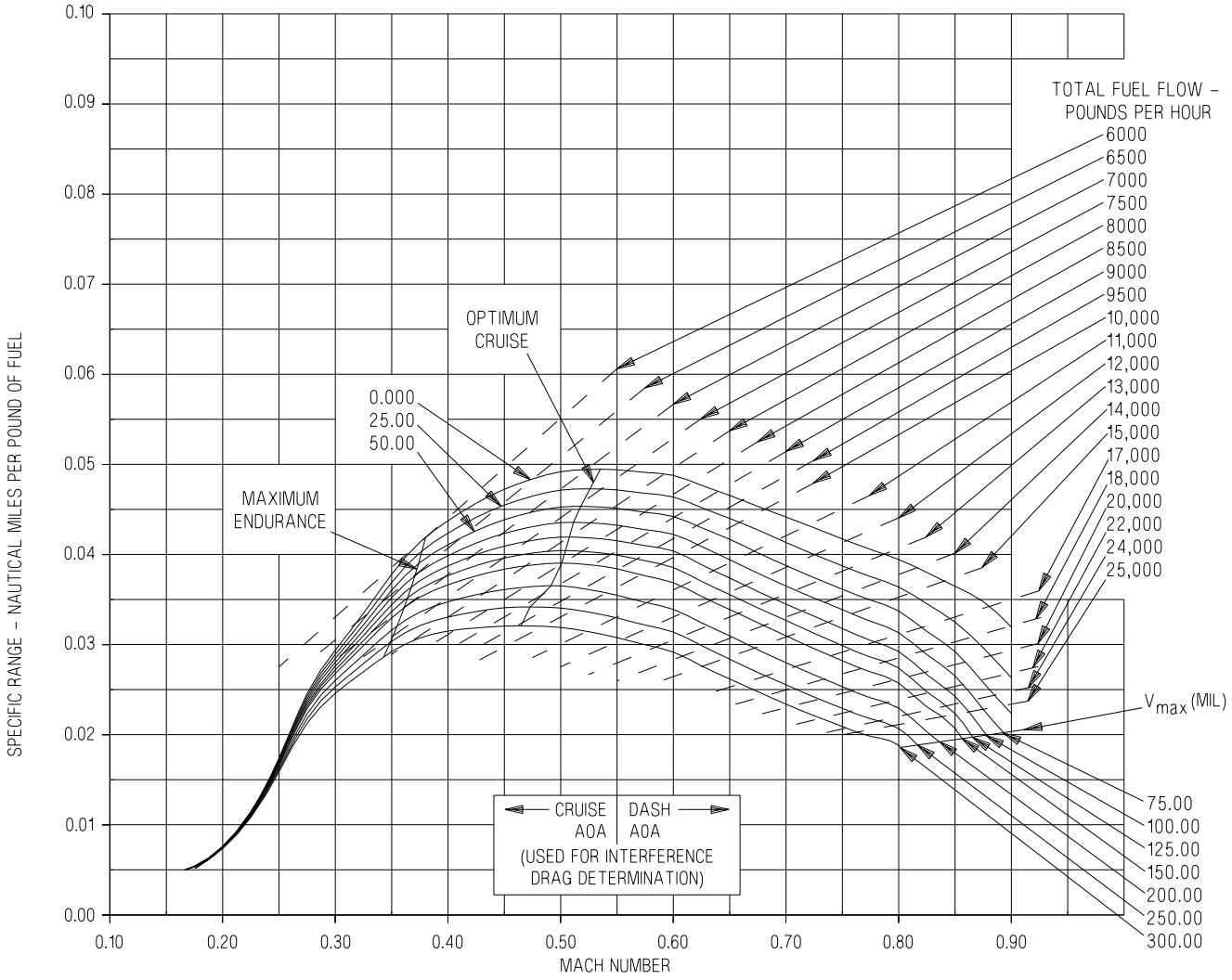
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-179-1-004

Figure 5-8. Specific Range - Sea Level - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 58,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

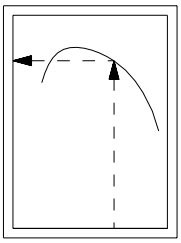
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

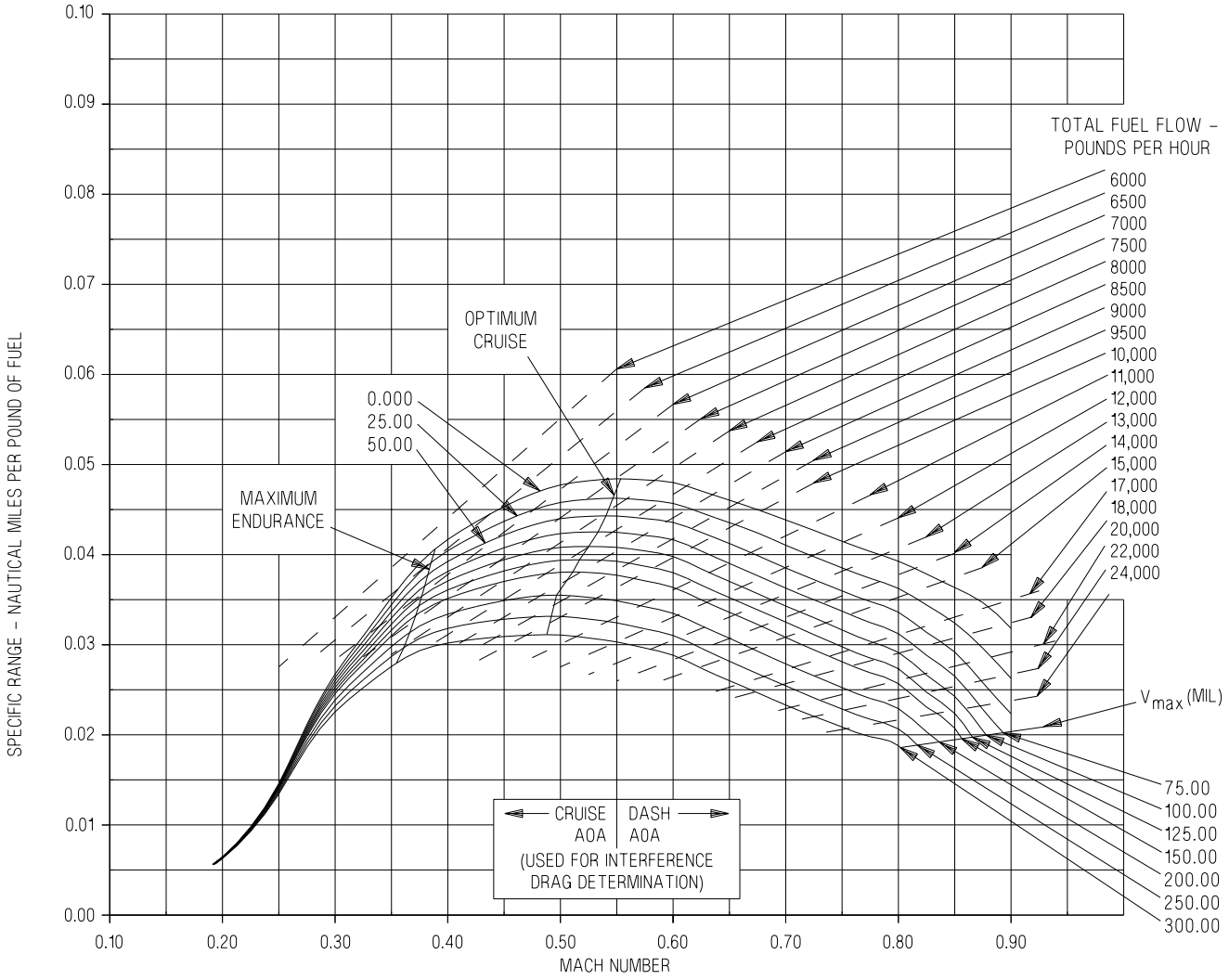
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-180-1-004

Figure 5-9. Specific Range - Sea Level - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 62,000 POUNDS

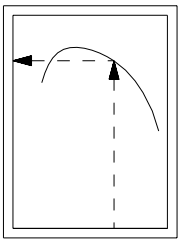
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

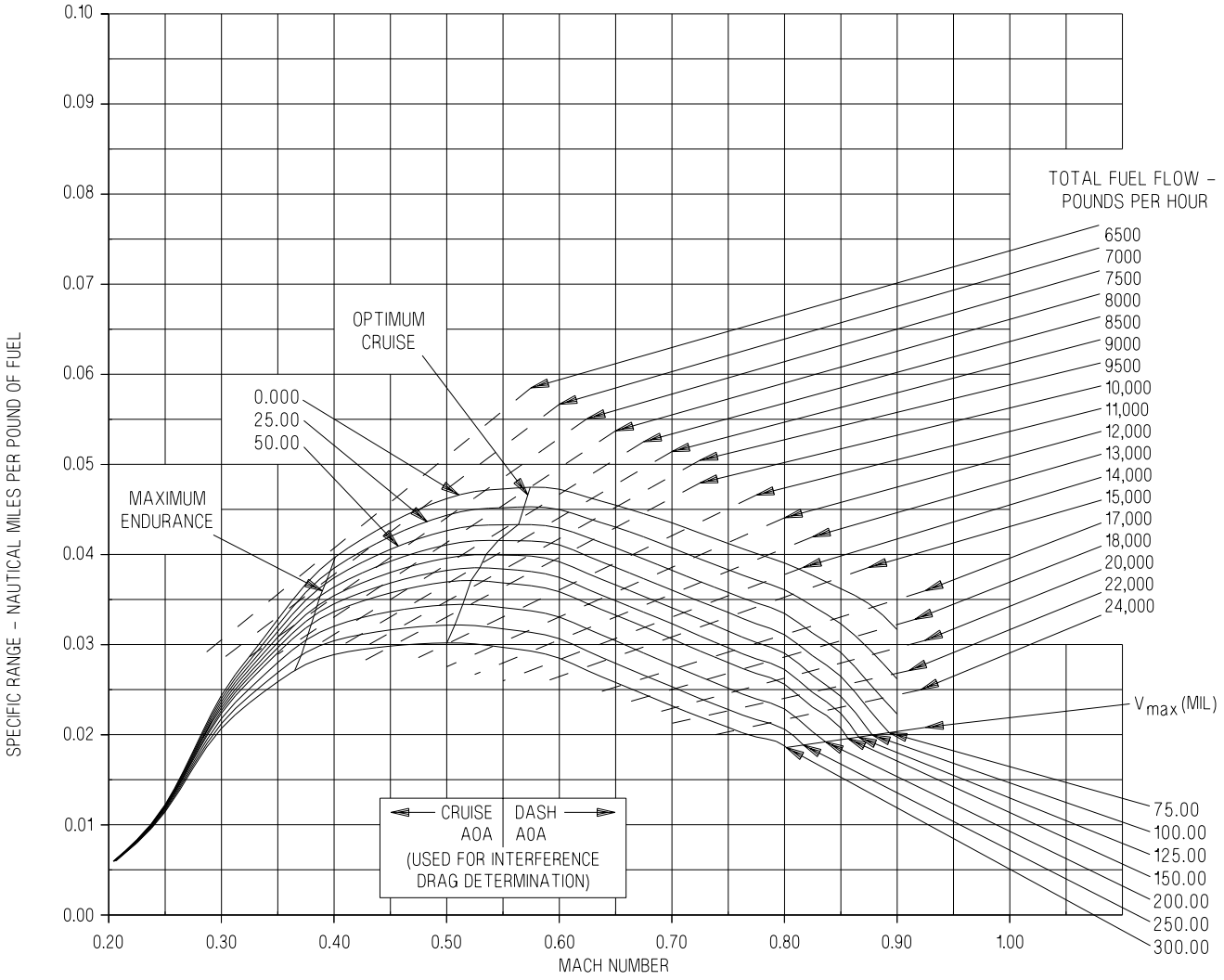
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-181-1-004

Figure 5-10. Specific Range - Sea Level - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 66,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

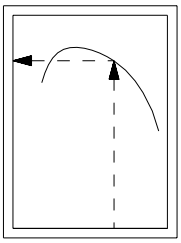
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

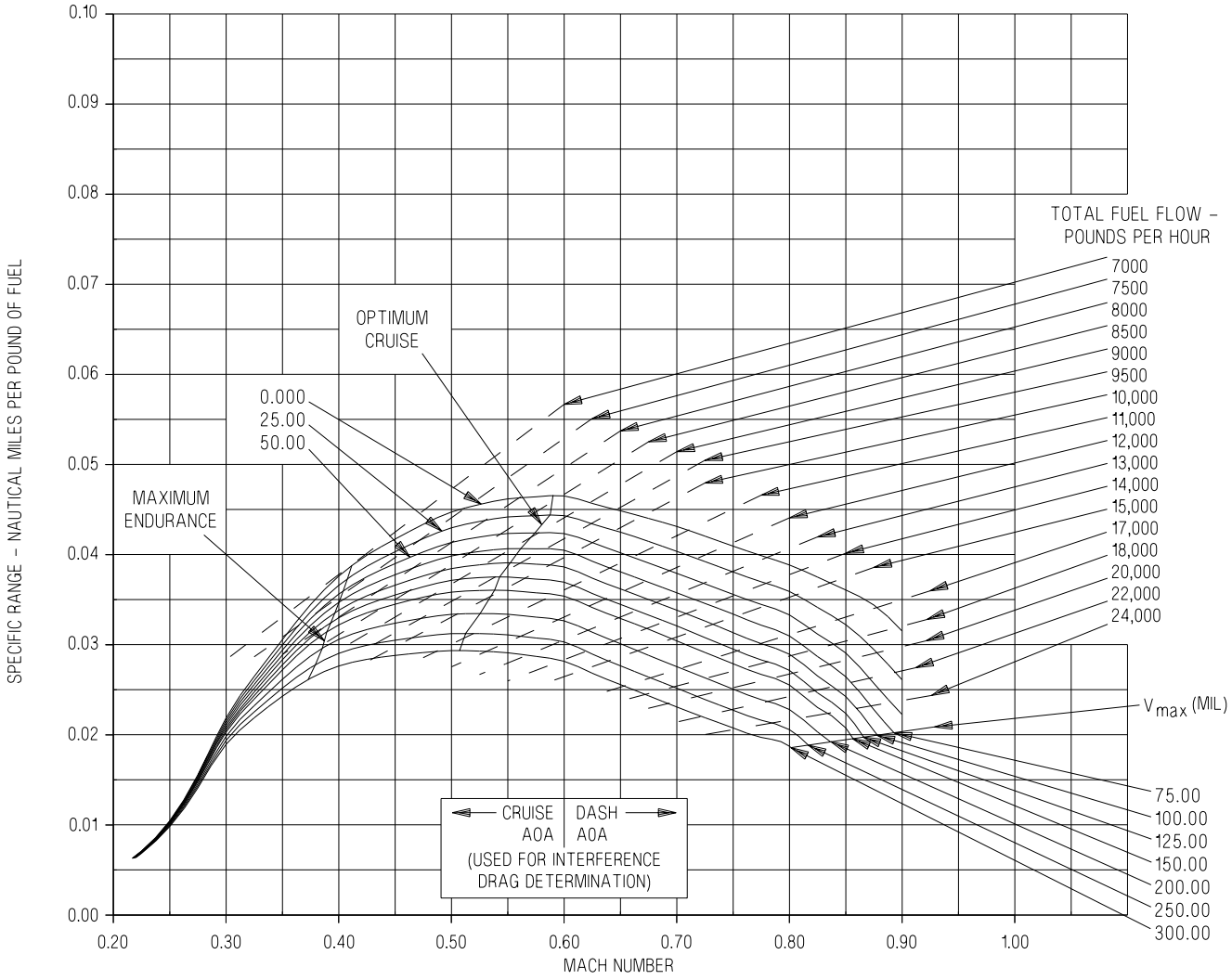
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-182-1-004

Figure 5-11. Specific Range - Sea Level - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 30,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

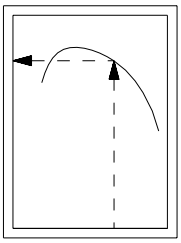
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

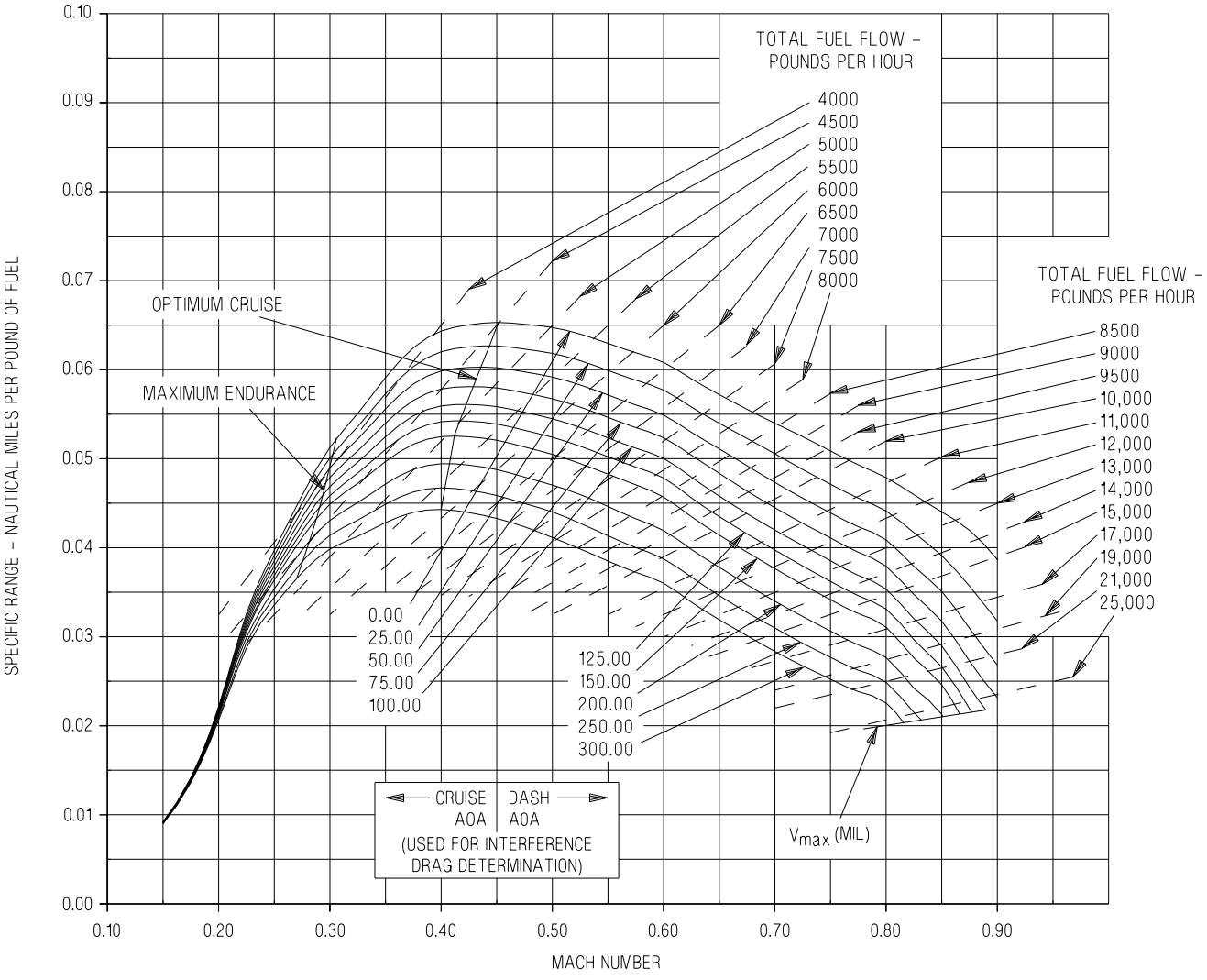
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-183-1-004

Figure 5-12. Specific Range - 5000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 34,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

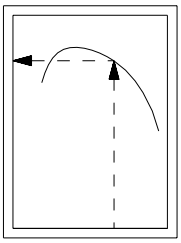
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

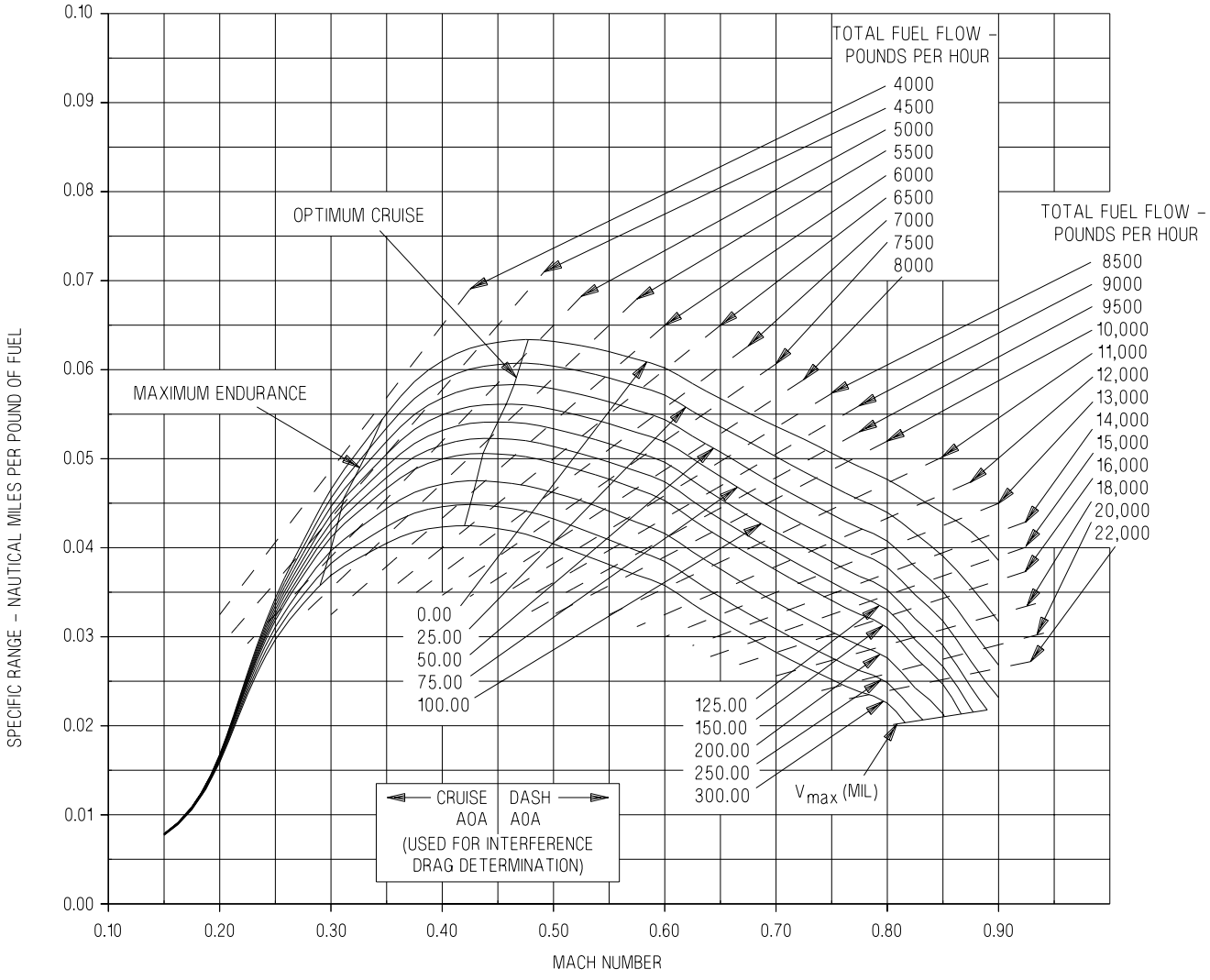
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-184-1-004

Figure 5-13. Specific Range - 5000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 38,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

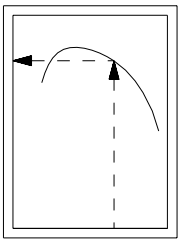
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

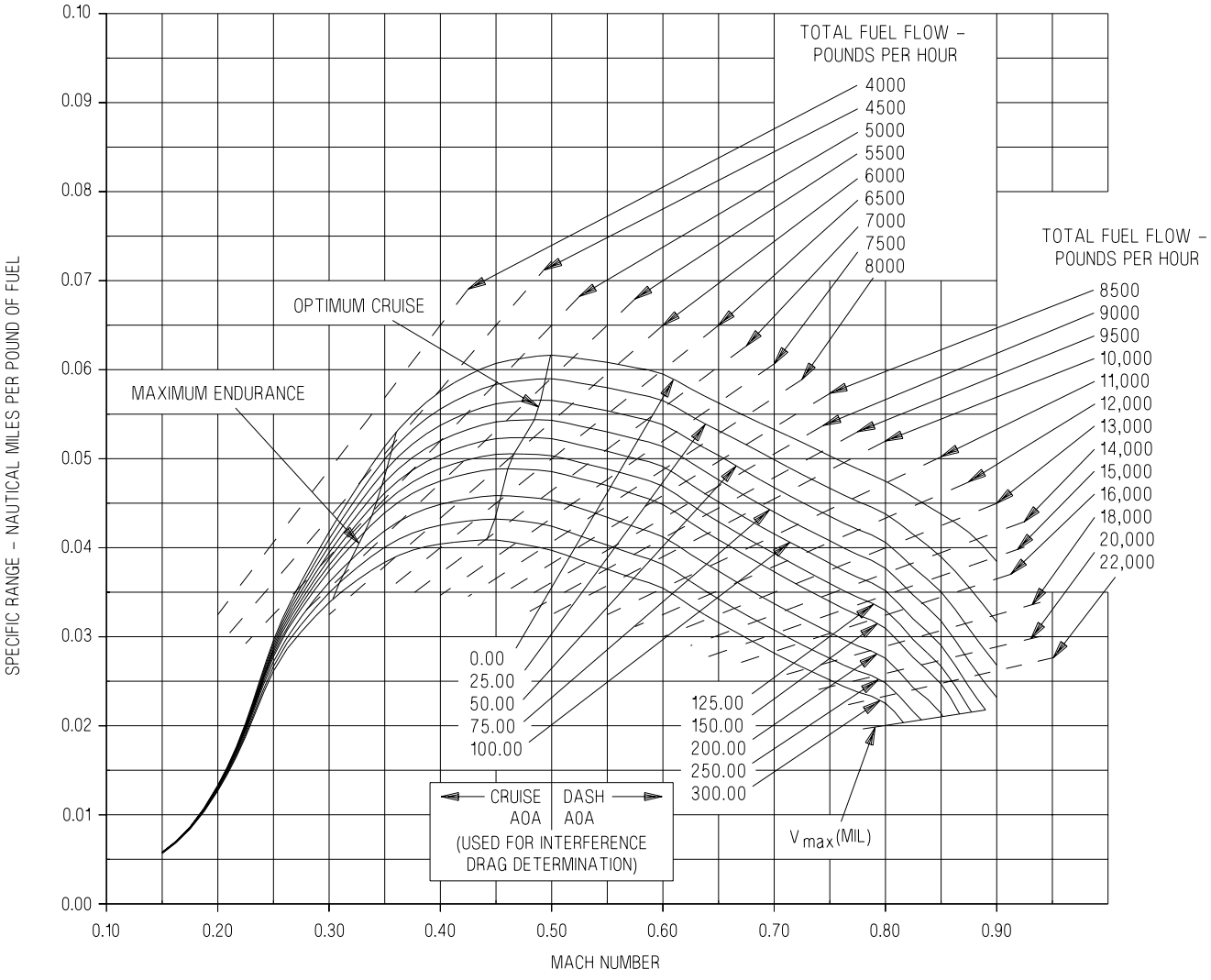
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-185-1-004

Figure 5-14. Specific Range - 5000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 42,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

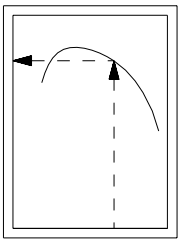
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

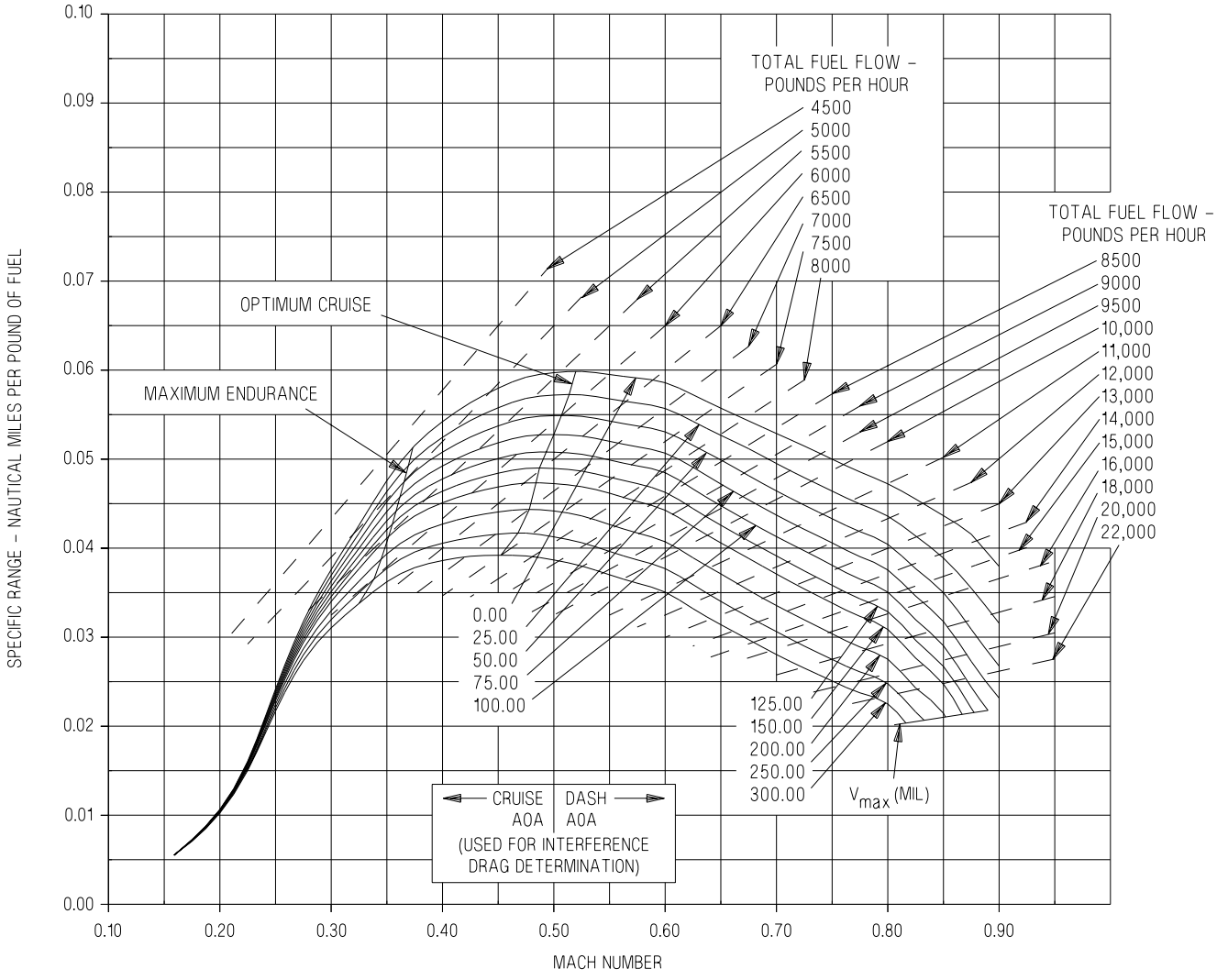
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-186-1-004

Figure 5-15. Specific Range - 5000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 46,000 POUNDS

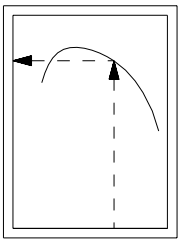
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

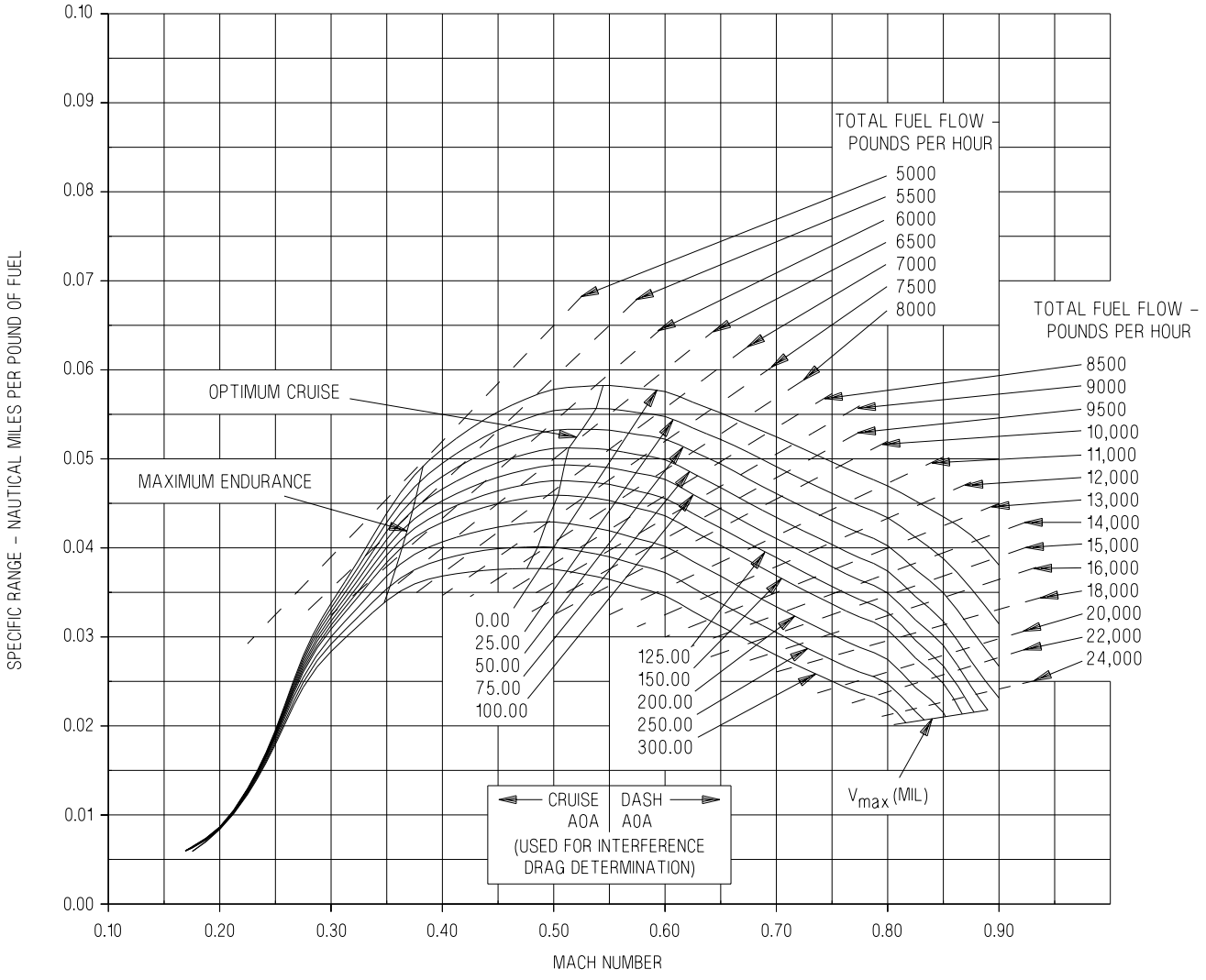
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-187-1-004

Figure 5-16. Specific Range - 5000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 50,000 POUNDS

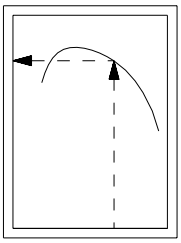
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

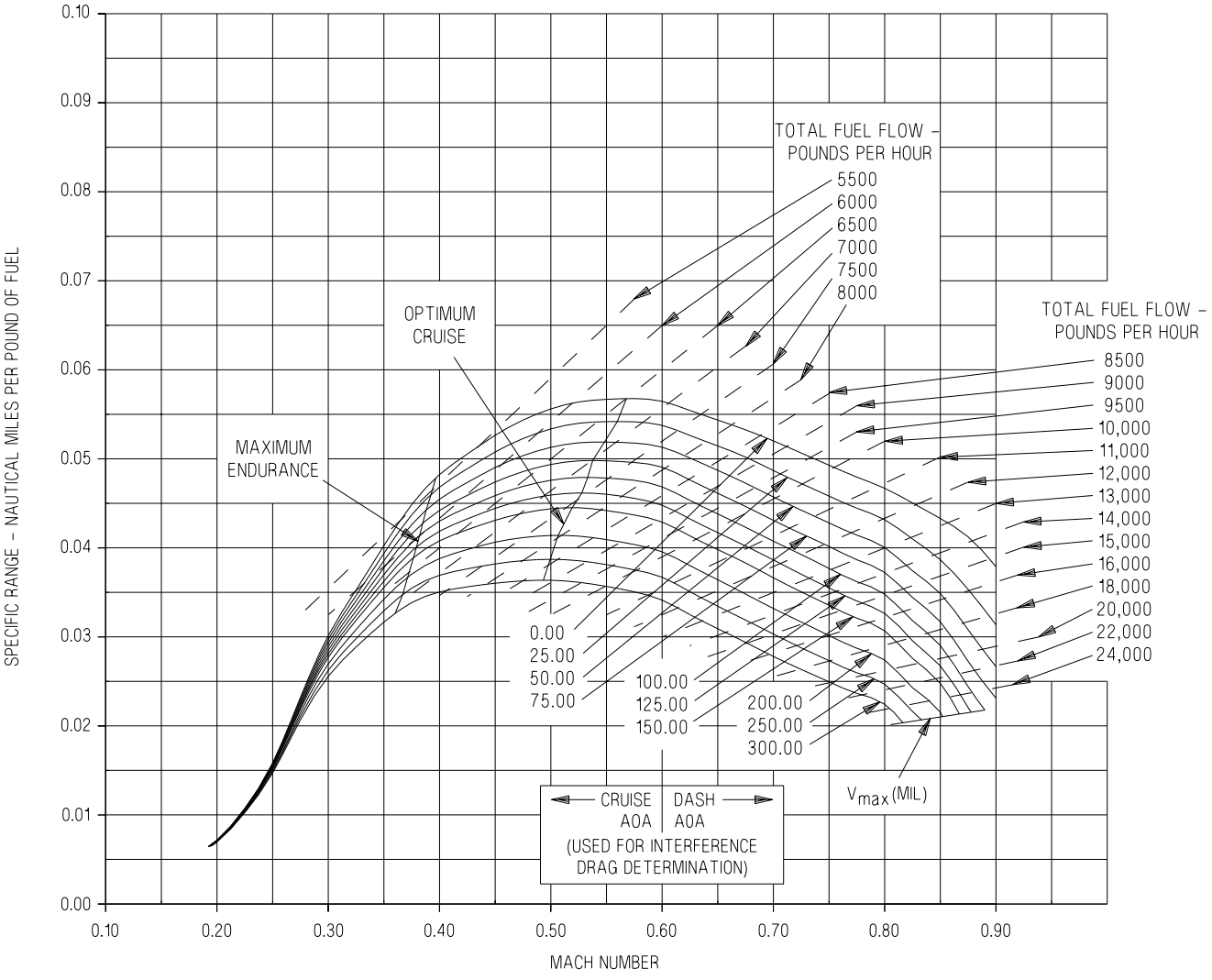
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-188-1-004

Figure 5-17. Specific Range - 5000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 54,000 POUNDS

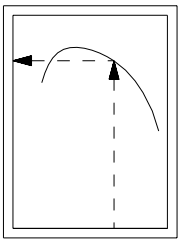
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

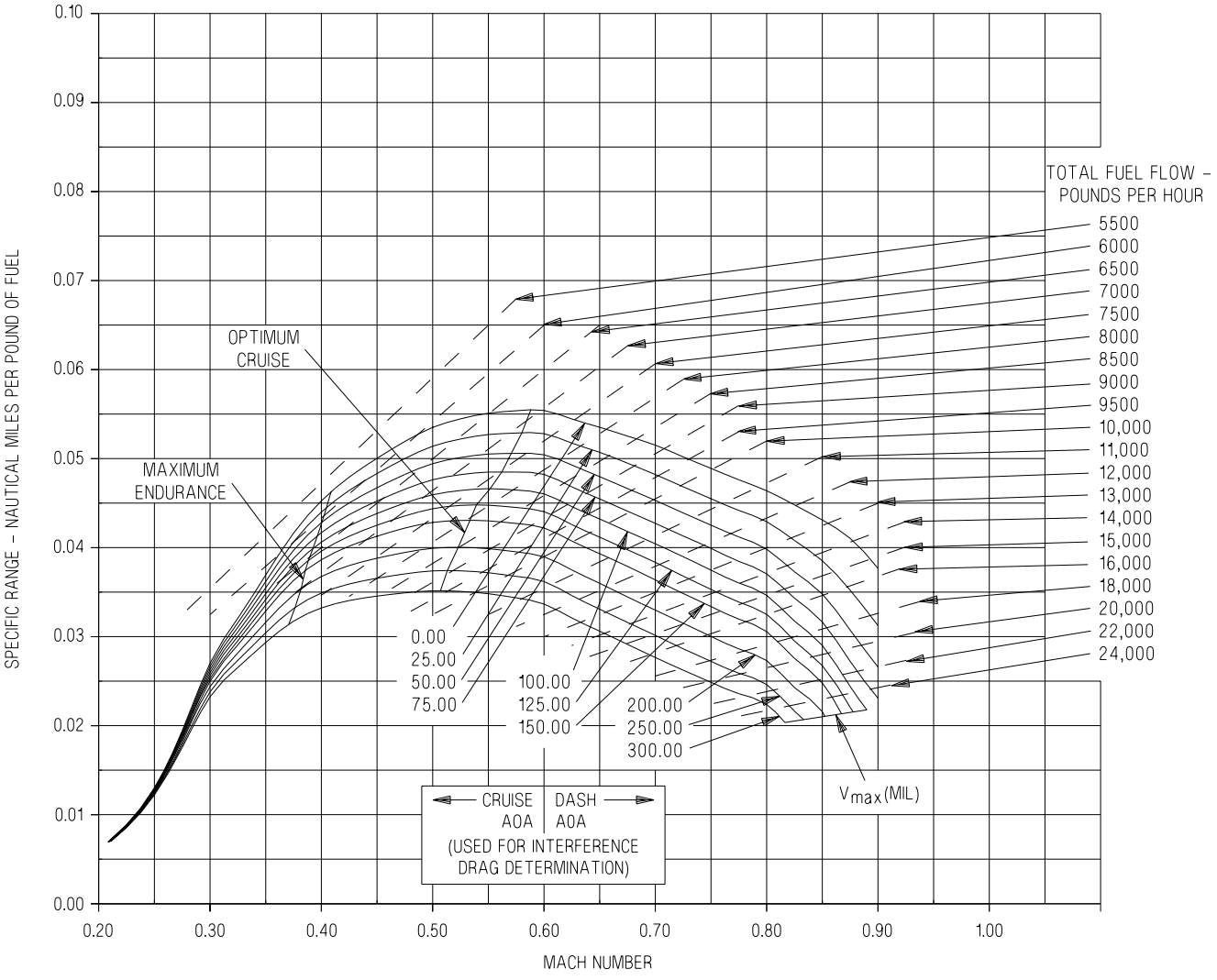
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-189-1-004

Figure 5-18. Specific Range - 5000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 58,000 POUNDS

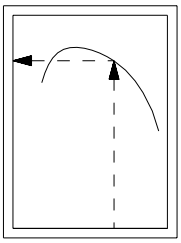
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

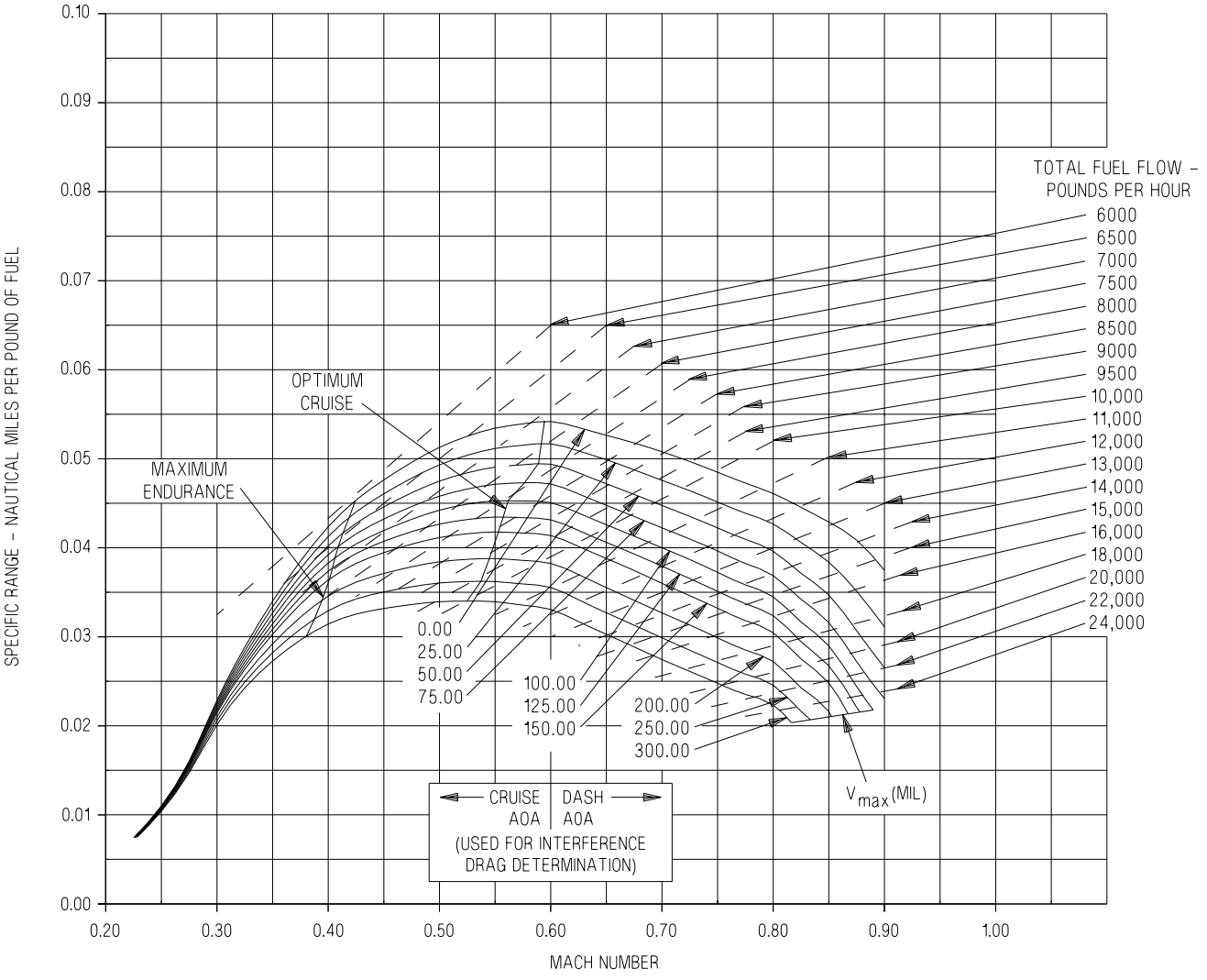
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-190-1-004

Figure 5-19. Specific Range - 5000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 62,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

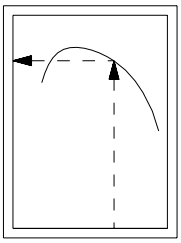
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

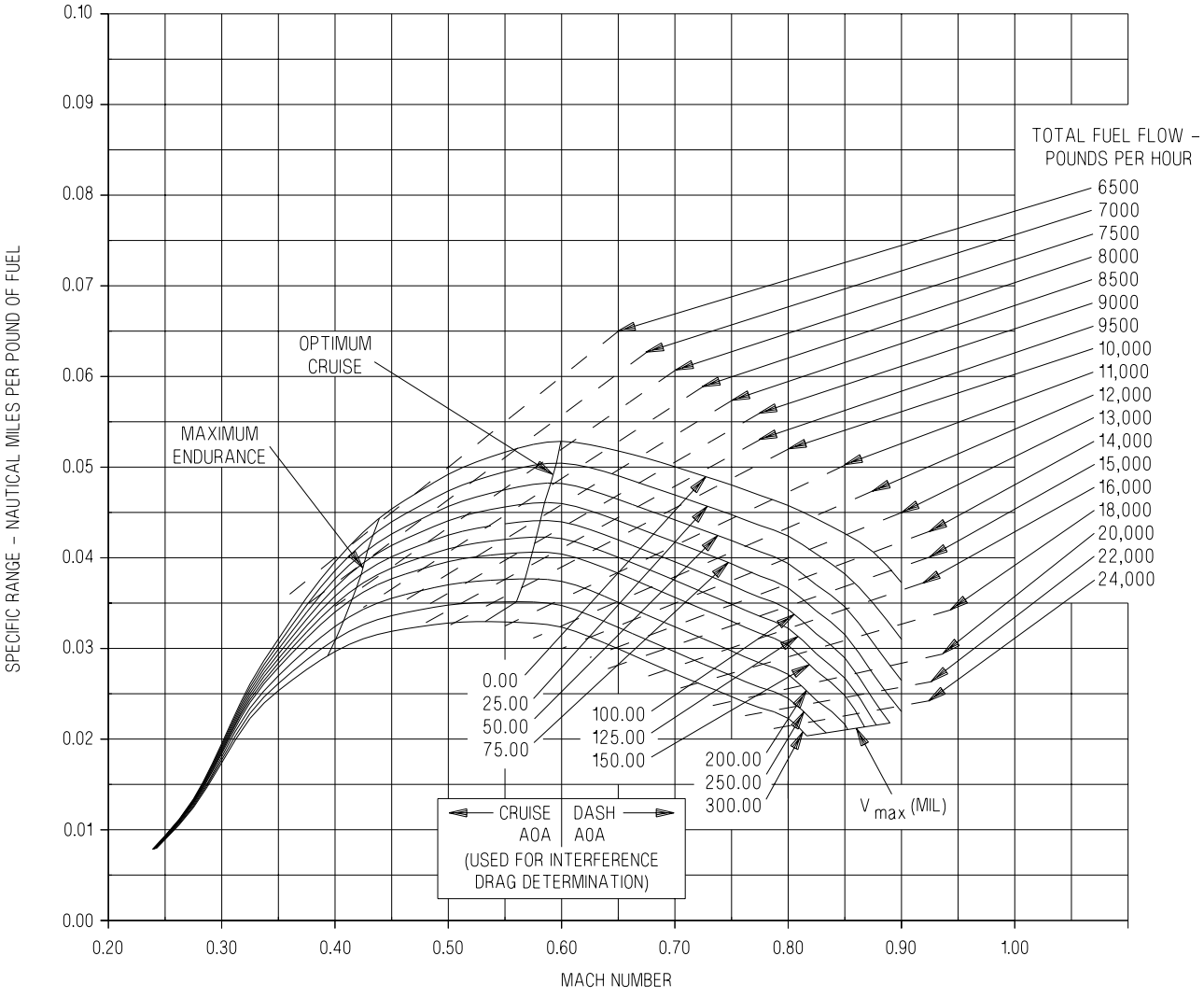
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-191-1-004

Figure 5-20. Specific Range - 5000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 66,000 POUNDS

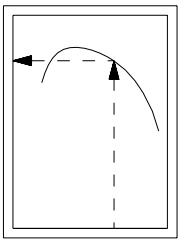
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

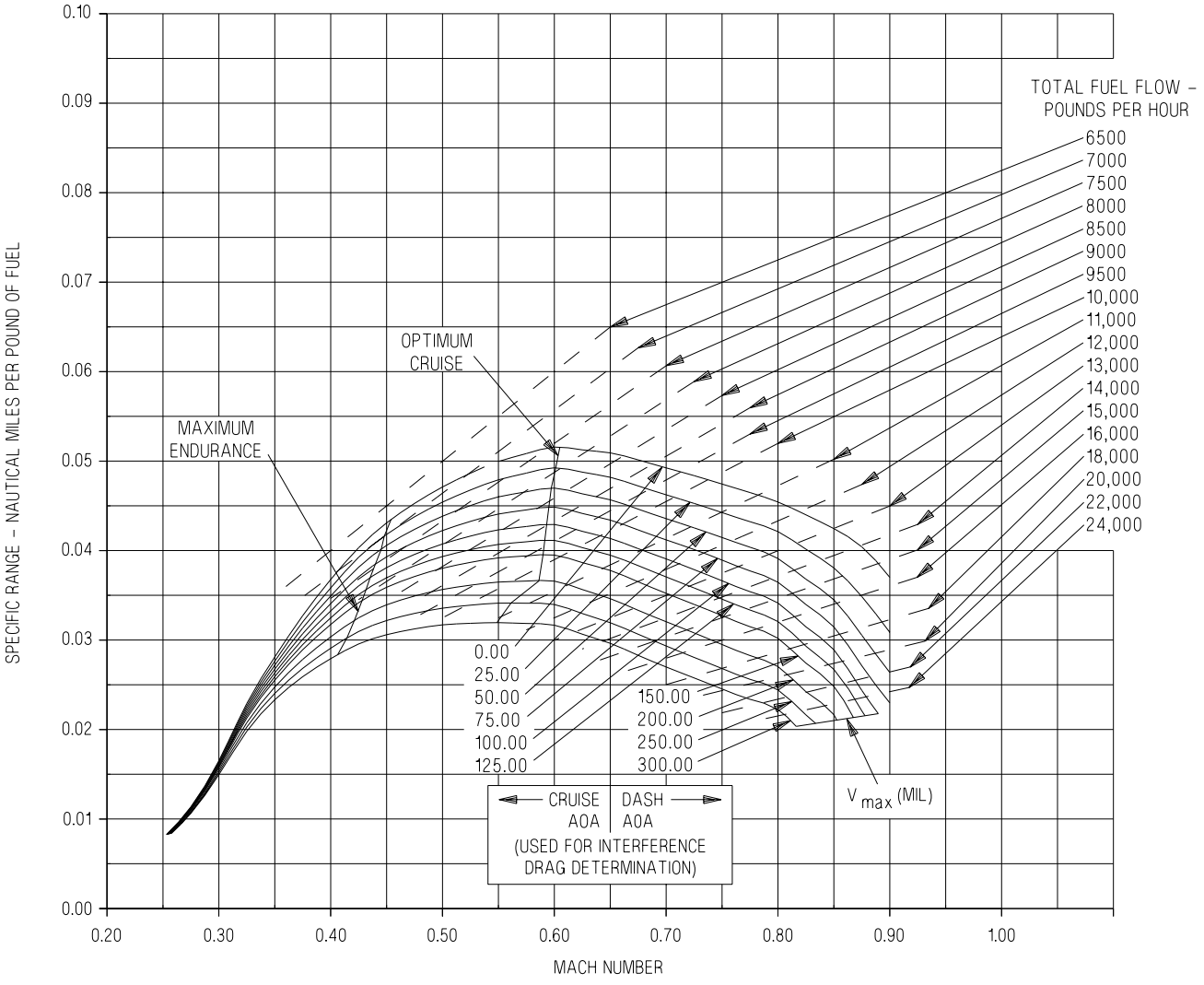
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-192-1-004

Figure 5-21. Specific Range - 5000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 30,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

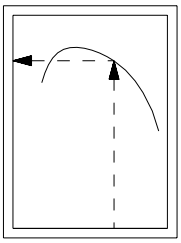
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

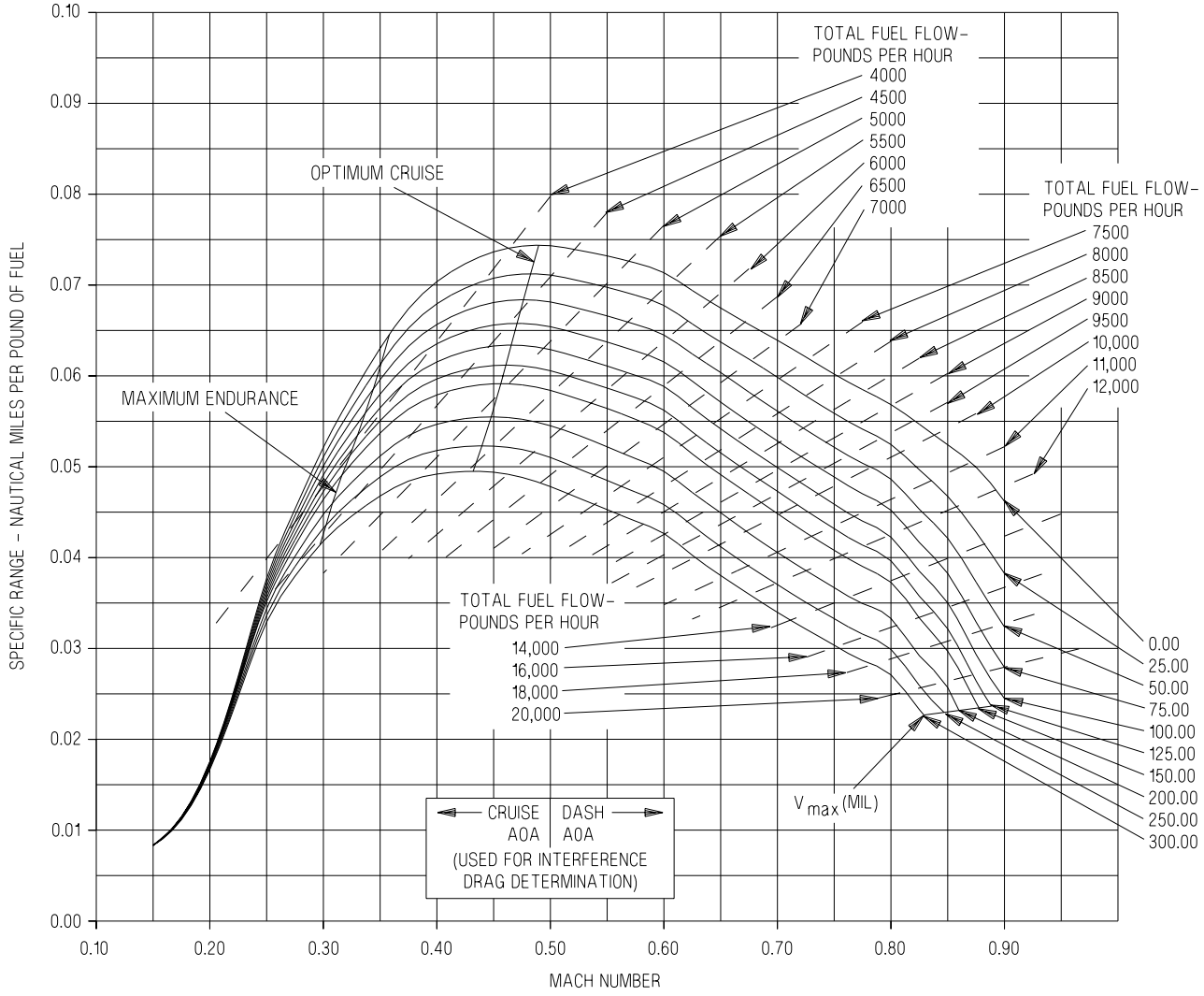
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-193-1-004

Figure 5-22. Specific Range - 10,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 34,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

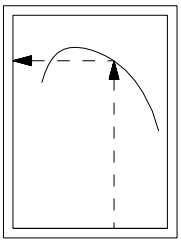
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

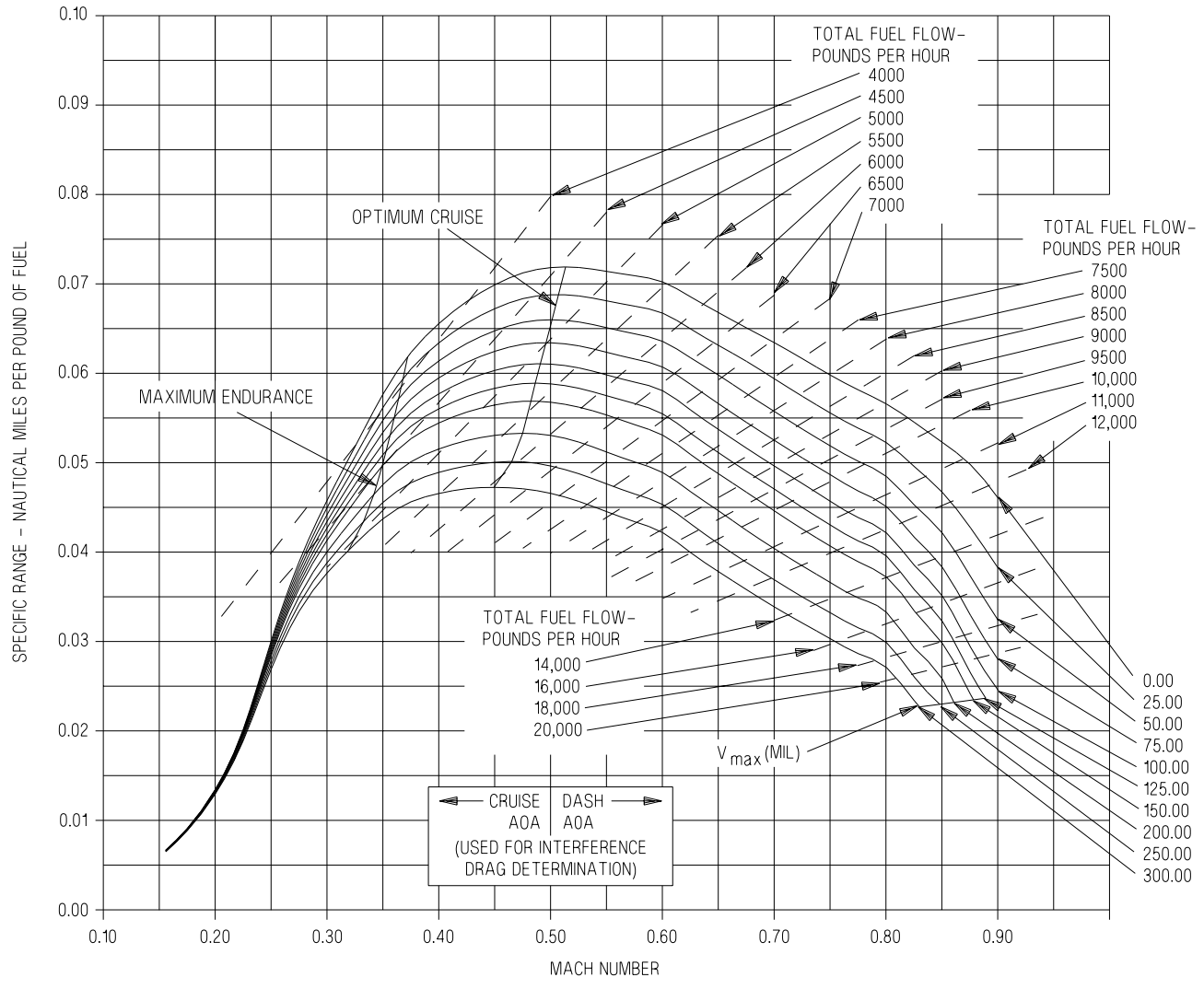
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-194-1-004

Figure 5-23. Specific Range - 10,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 38,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

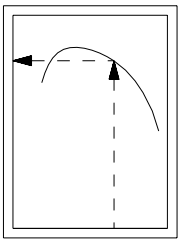
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

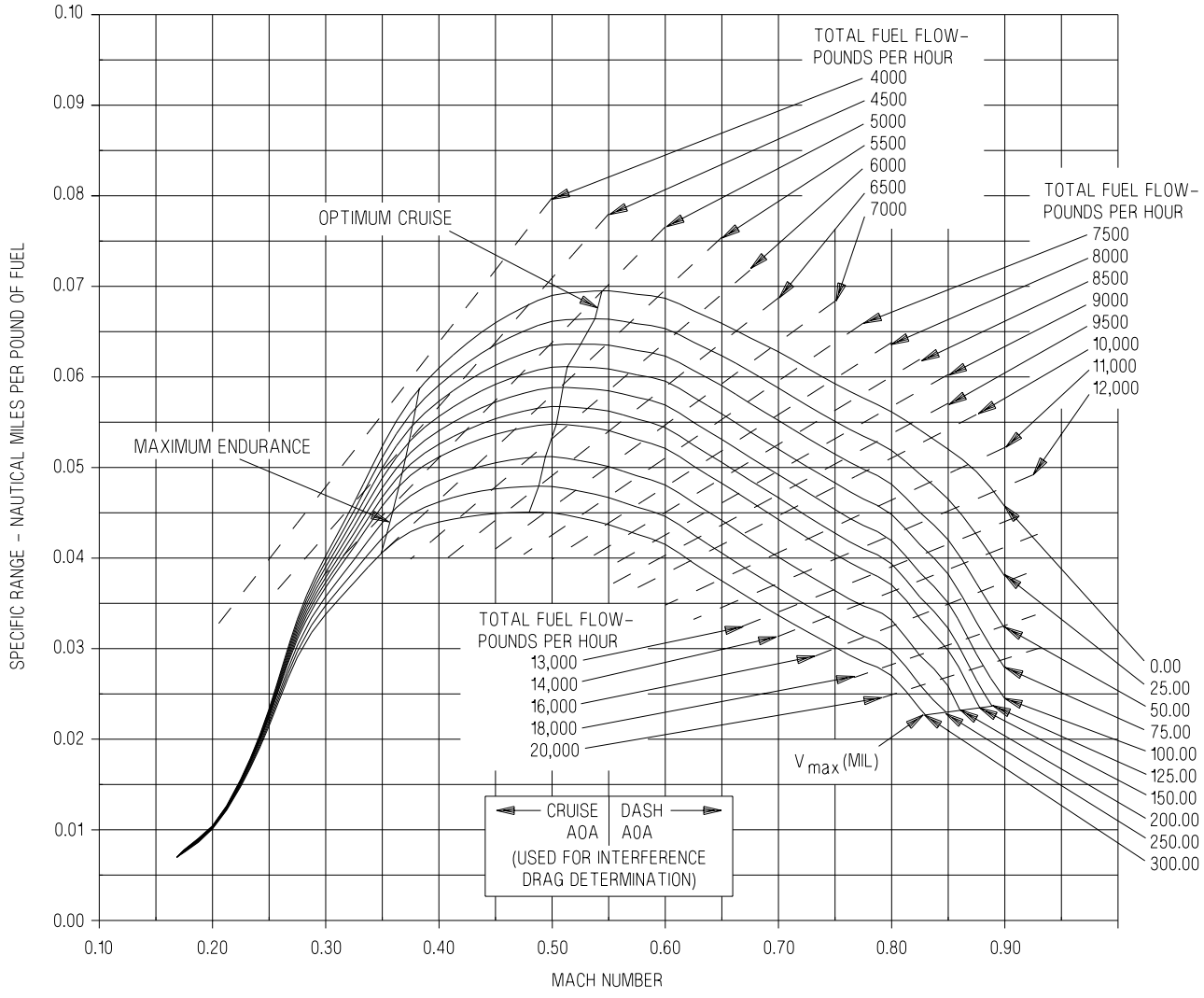
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-195-1-004

Figure 5-24. Specific Range - 10,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 42,000 POUNDS

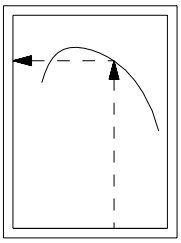
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

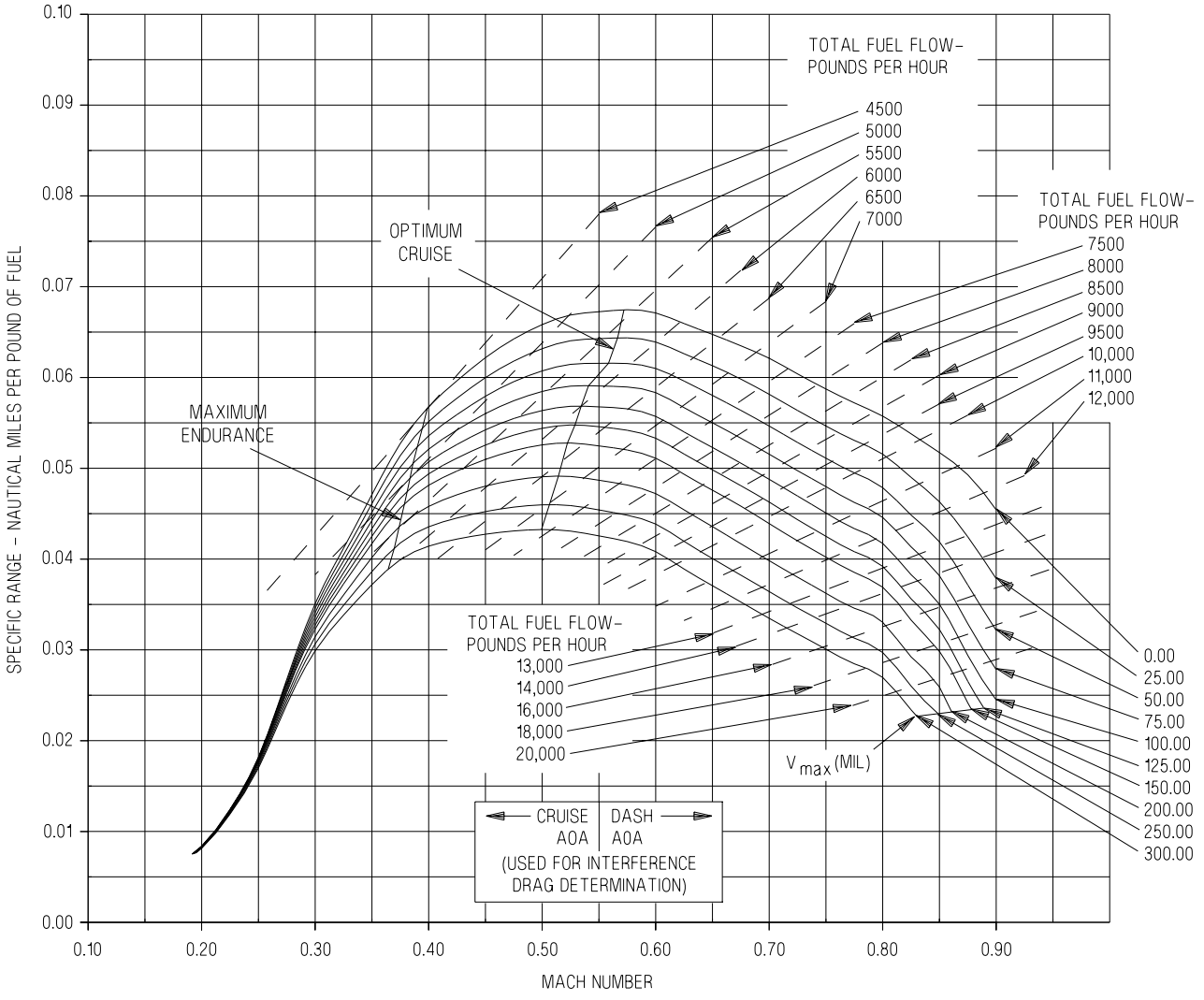
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-196-1-004

Figure 5-25. Specific Range - 10,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 46,000 POUNDS

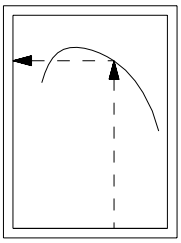
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

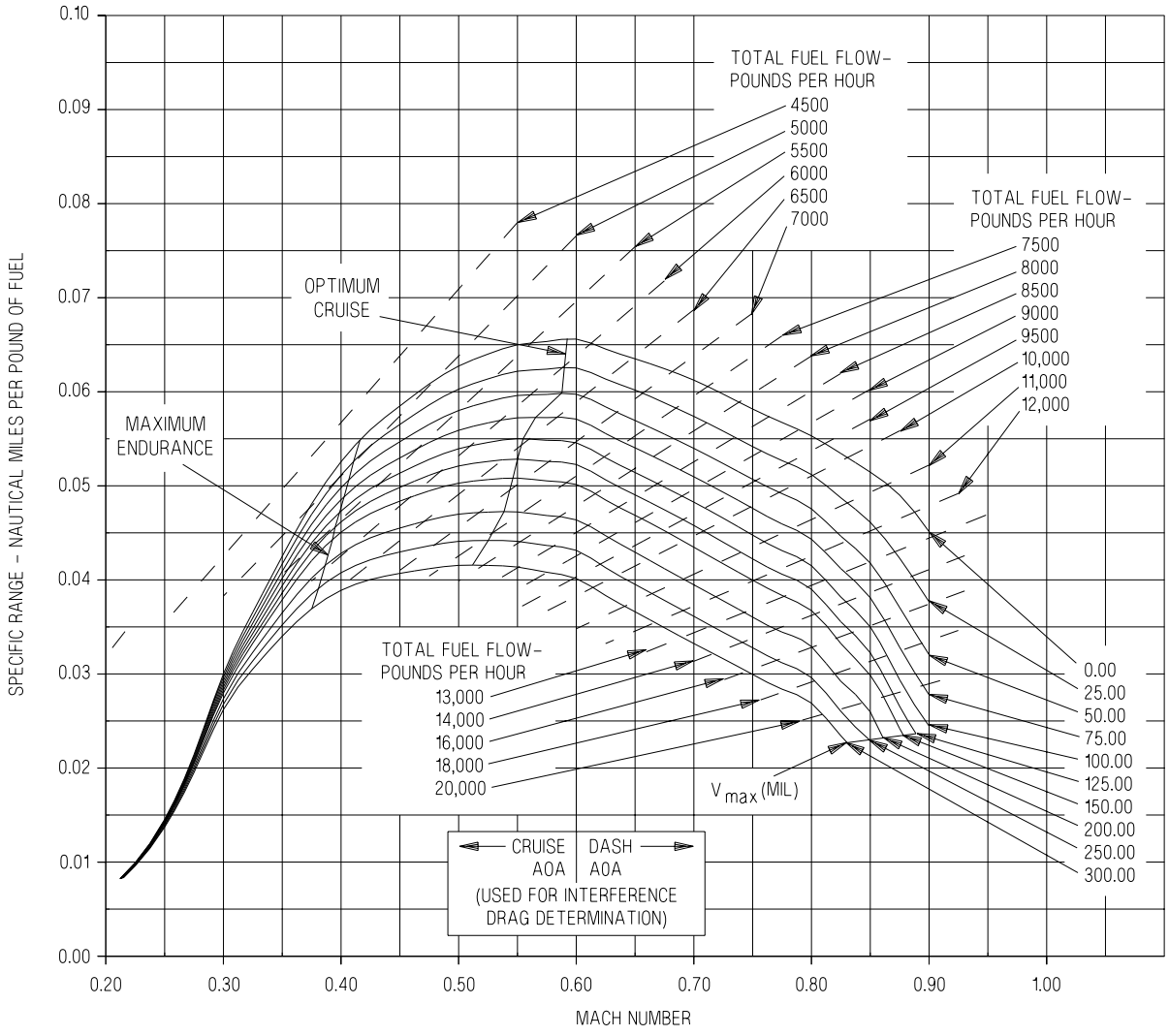
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-197-1-004

Figure 5-26. Specific Range - 10,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 50,000 POUNDS

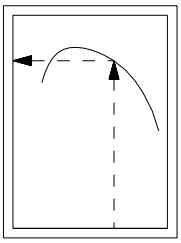
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

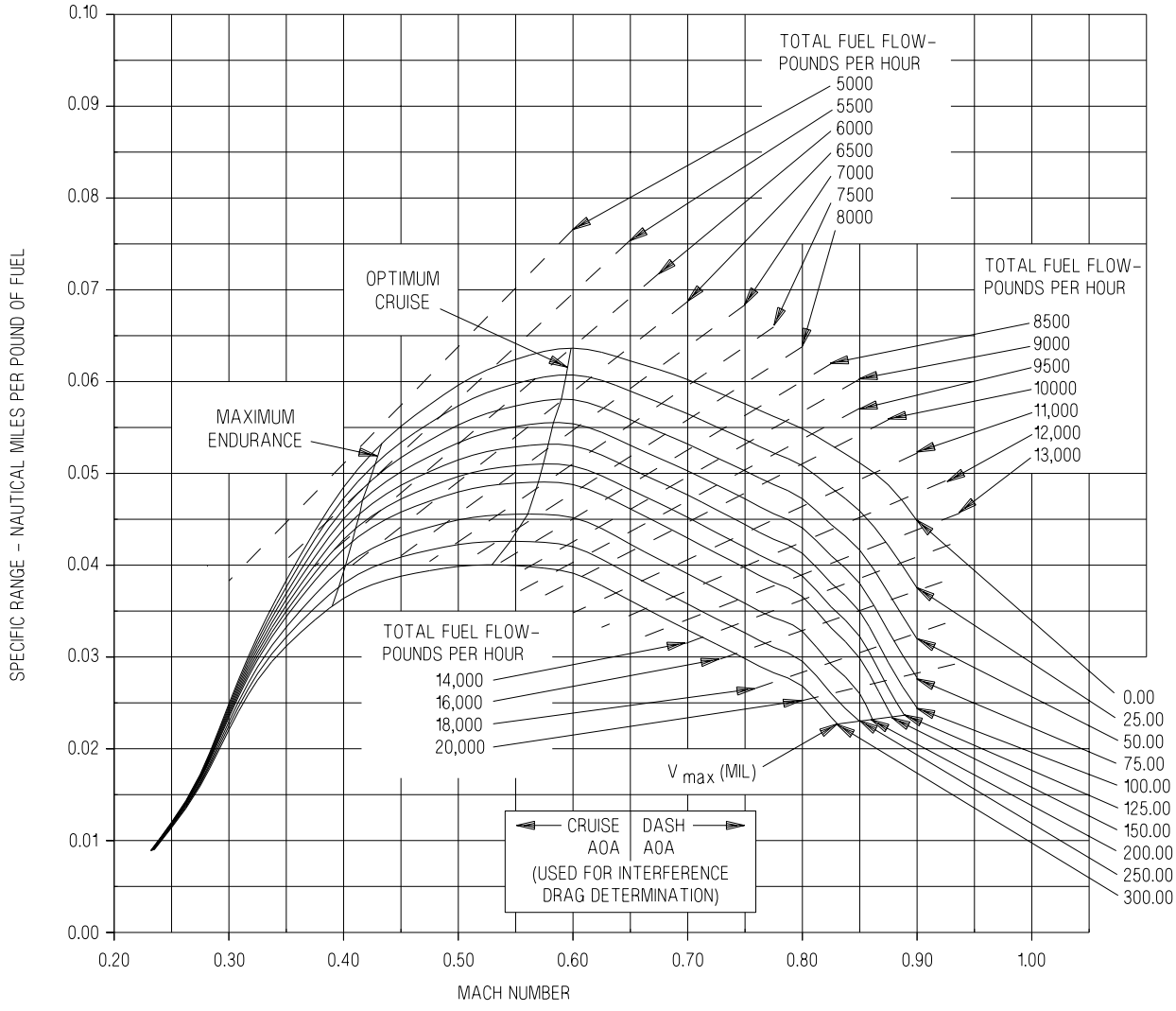
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-198-1-004

Figure 5-27. Specific Range - 10,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 54,000 POUNDS

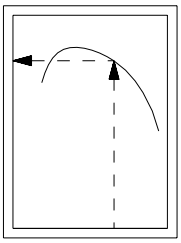
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

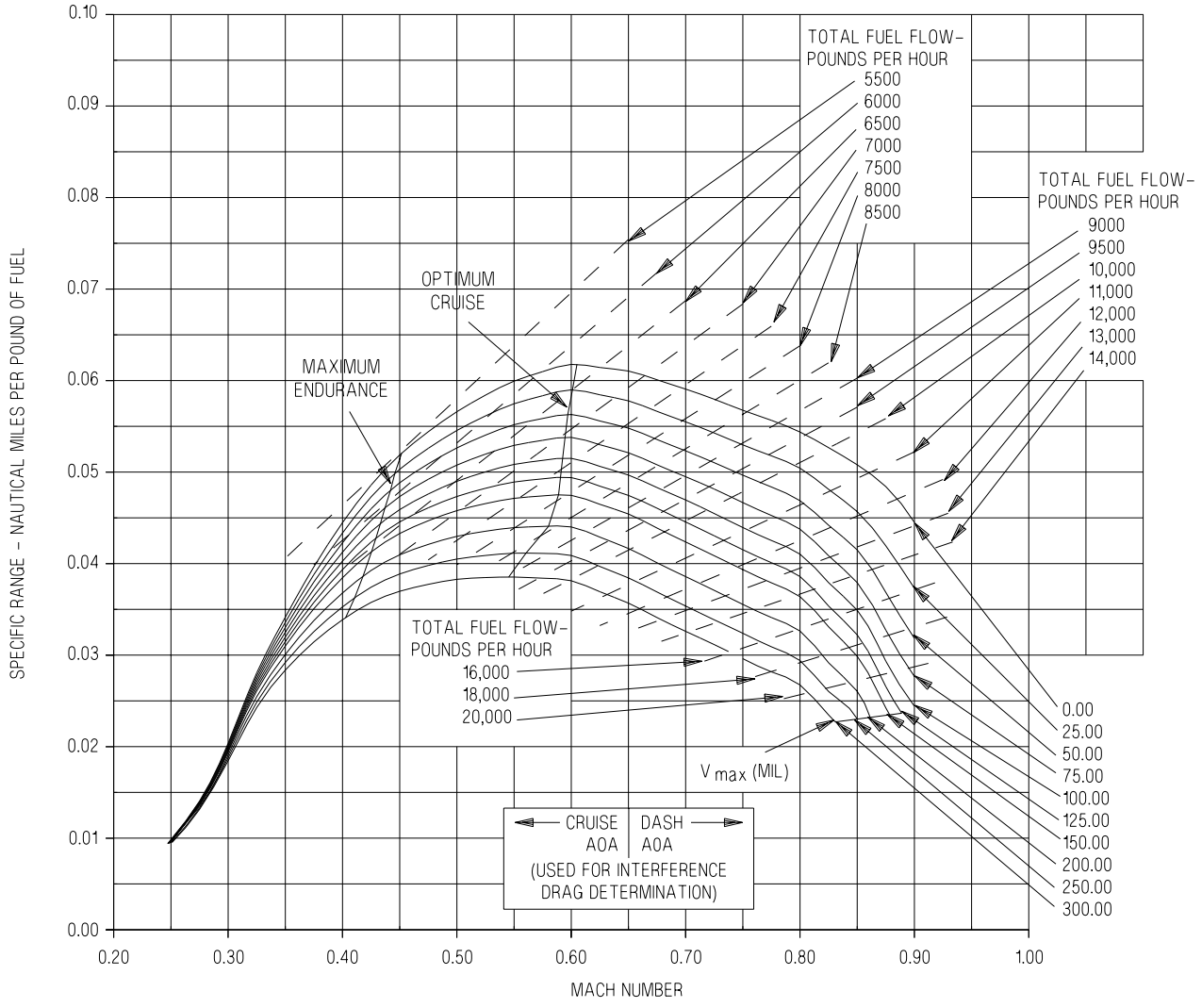
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-199-1-004

Figure 5-28. Specific Range - 10,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 58,000 POUNDS

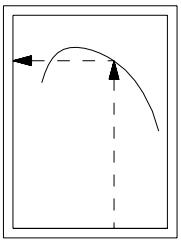
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

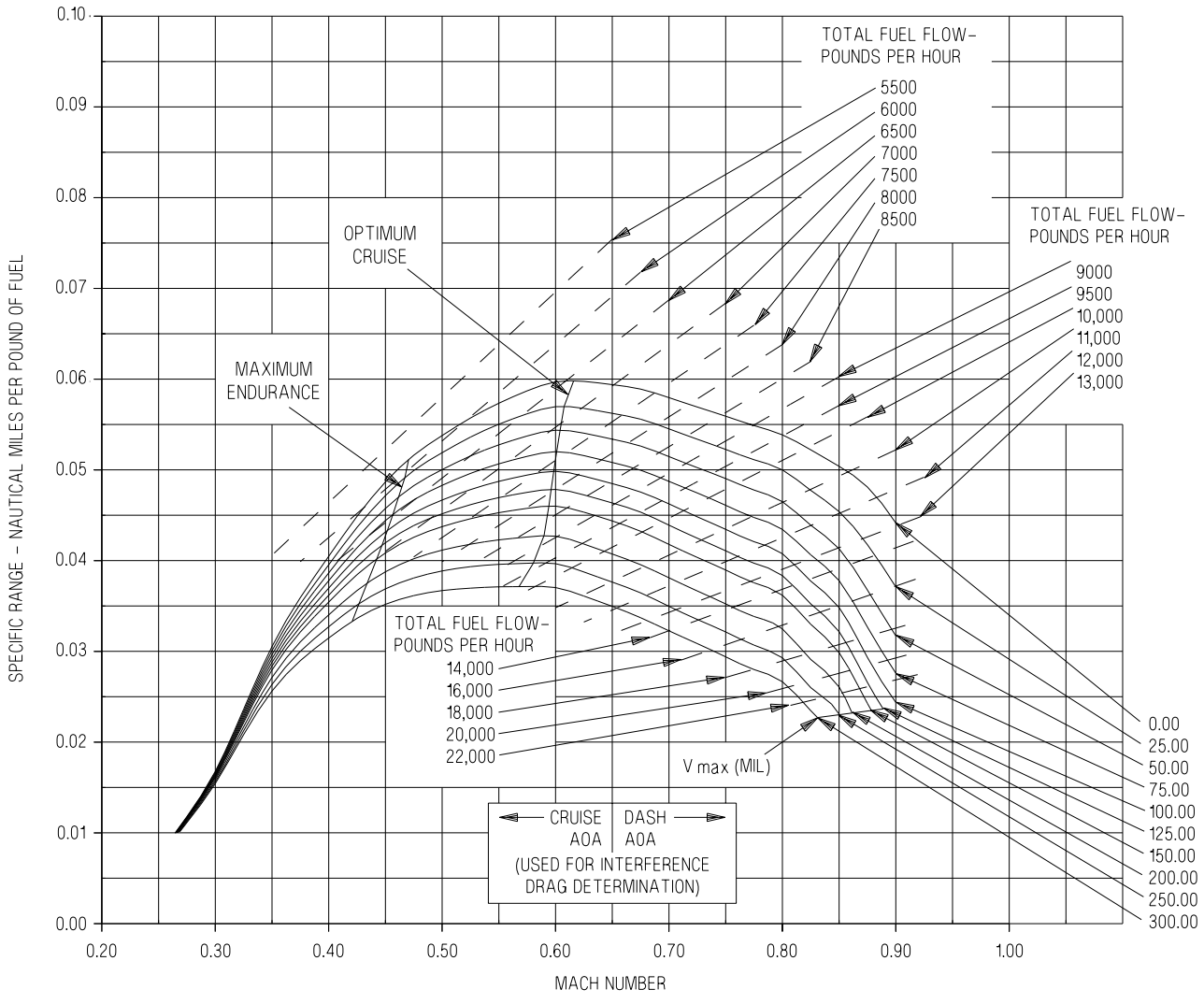
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-200-1-004

Figure 5-29. Specific Range - 10,000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 62,000 POUNDS

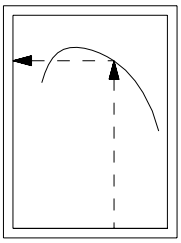
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

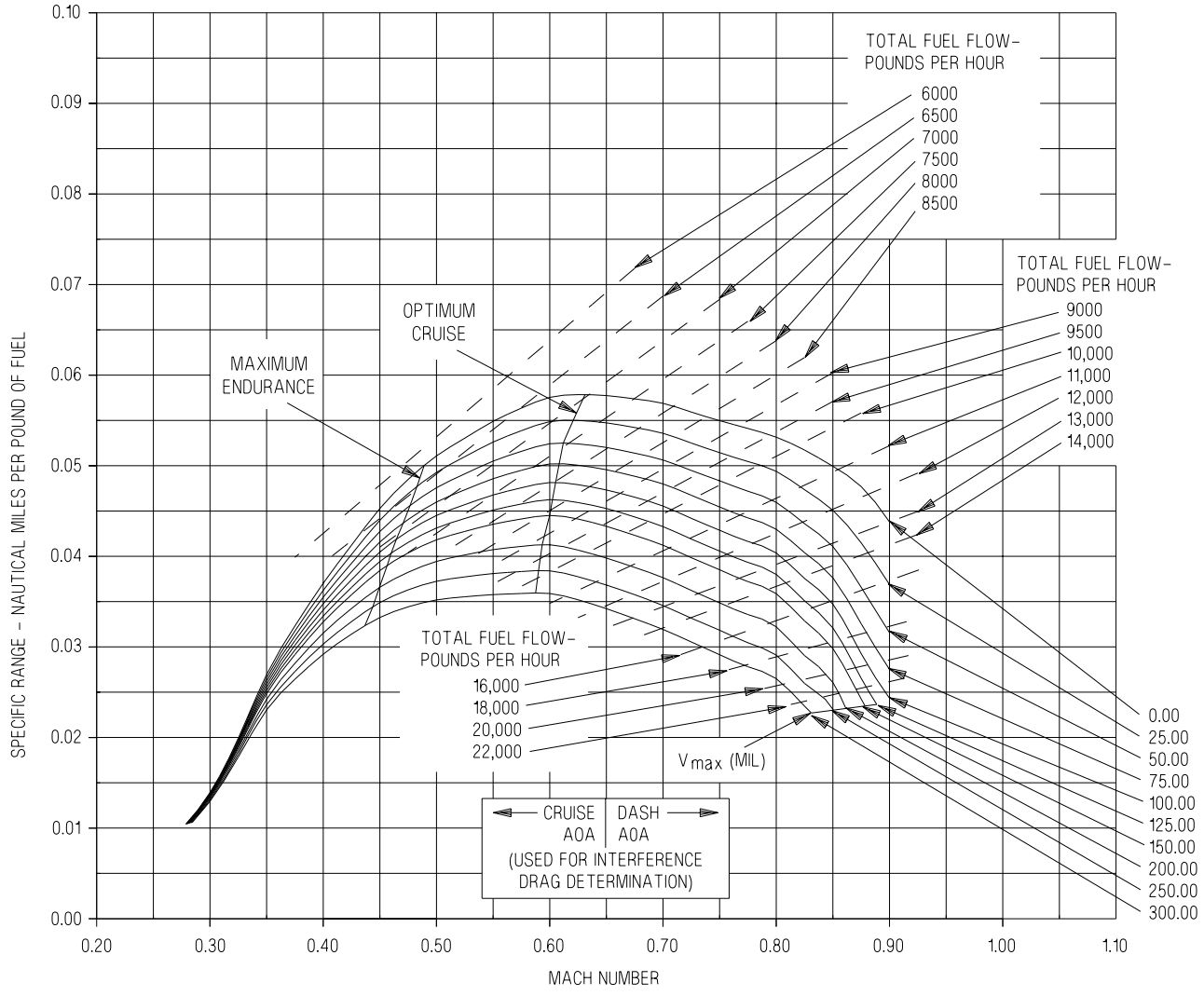
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-201-1-004

Figure 5-30. Specific Range - 10,000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 66,000 POUNDS

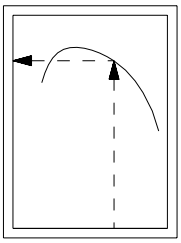
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

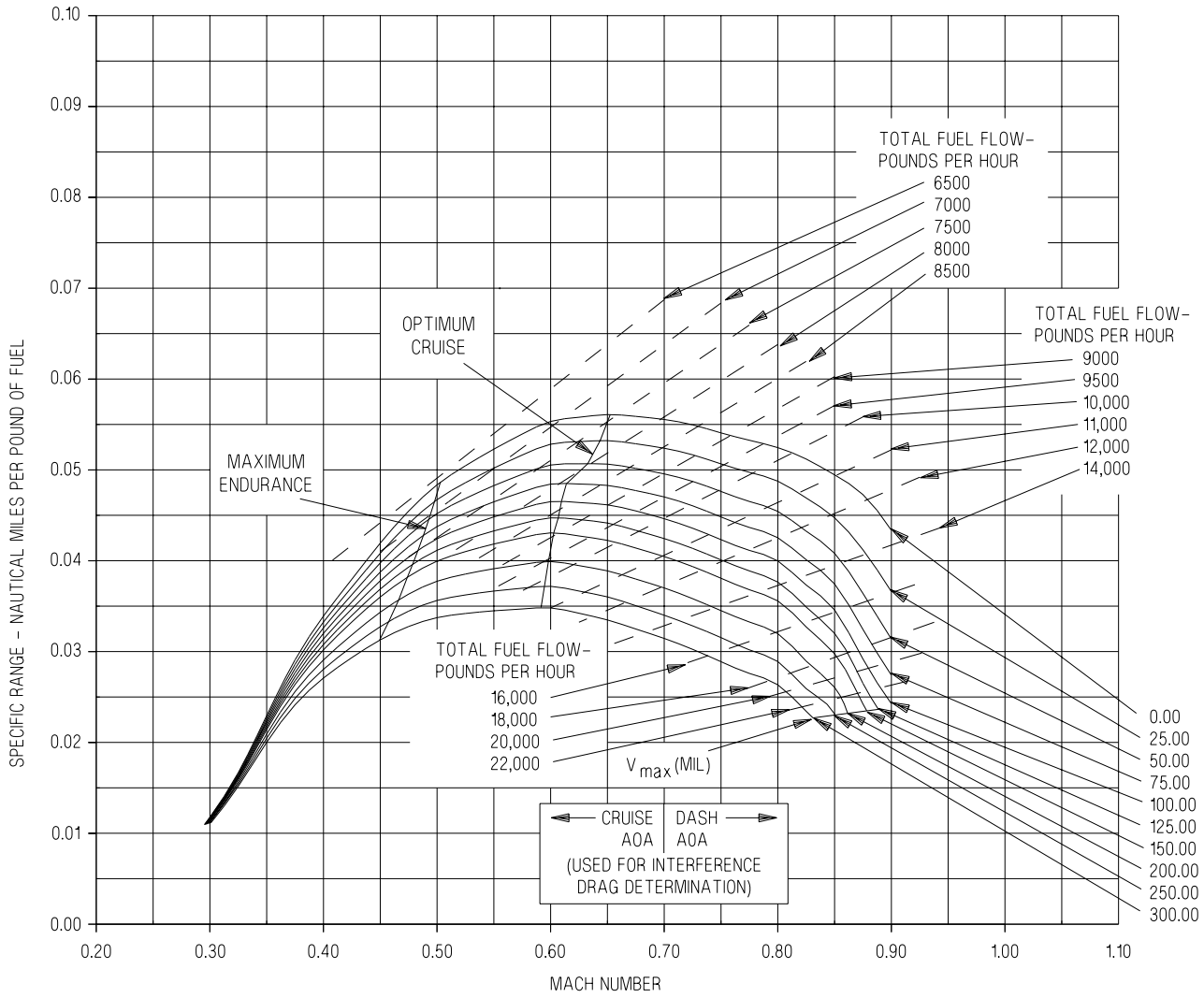
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-202-1-004

Figure 5-31. Specific Range - 10,000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 30,000 POUNDS

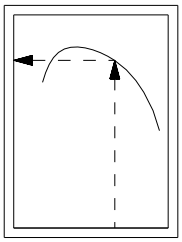
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

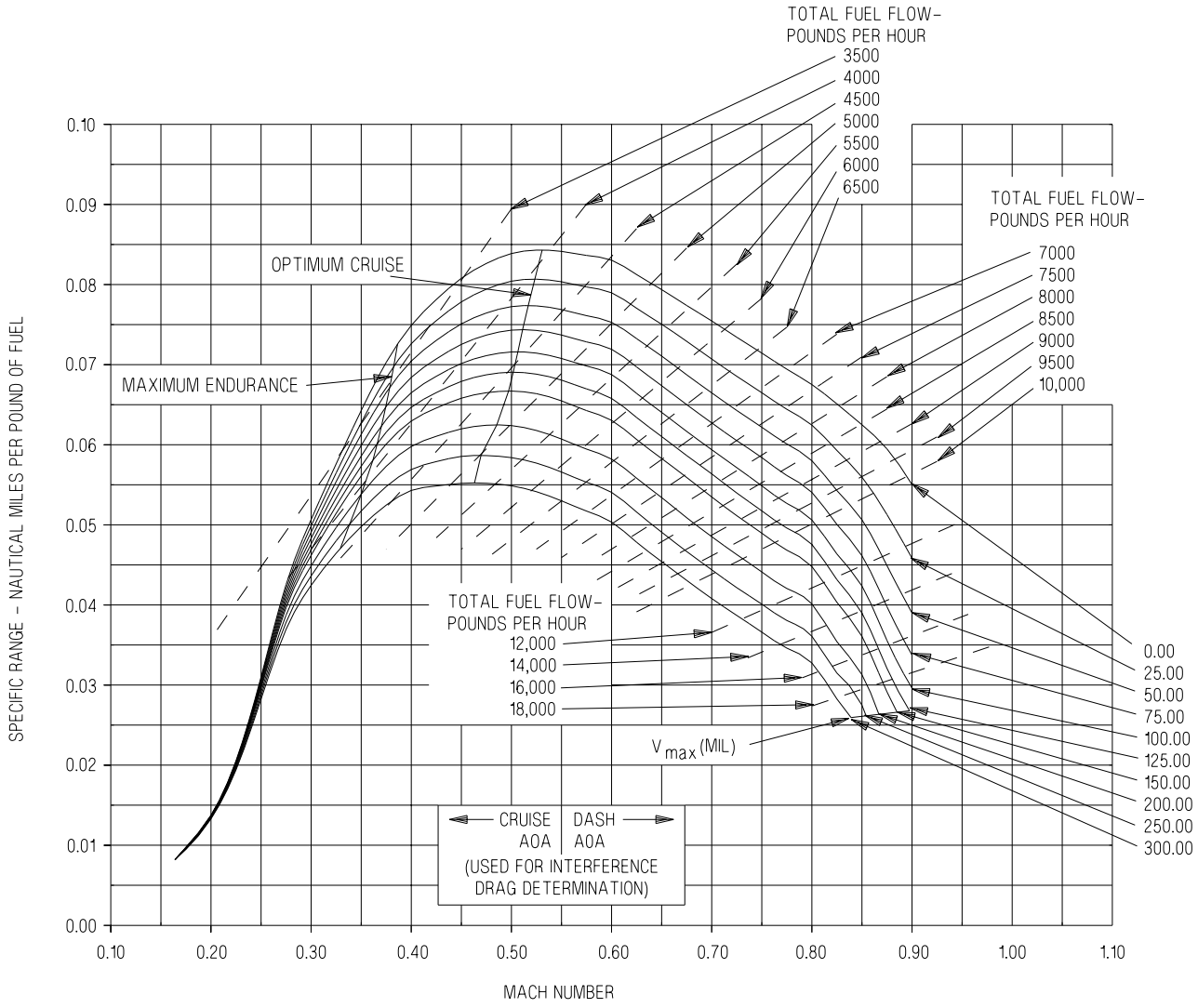
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-206-1-004

Figure 5-32. Specific Range - 15,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 34,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

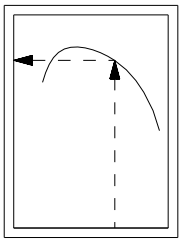
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

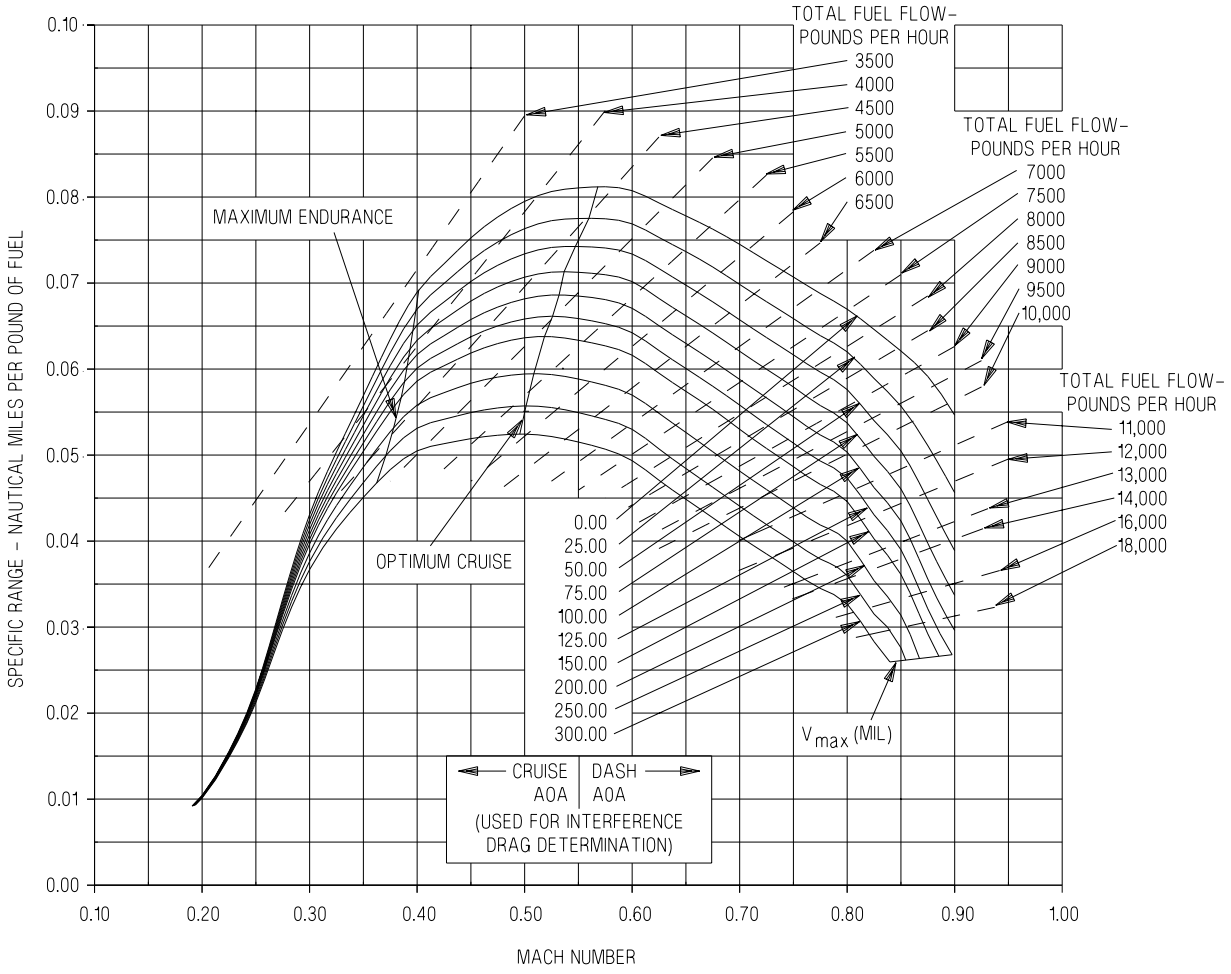
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-207-1-004

Figure 5-33. Specific Range - 15,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 38,000 POUNDS

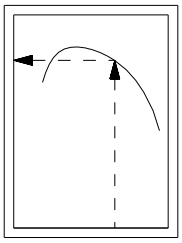
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

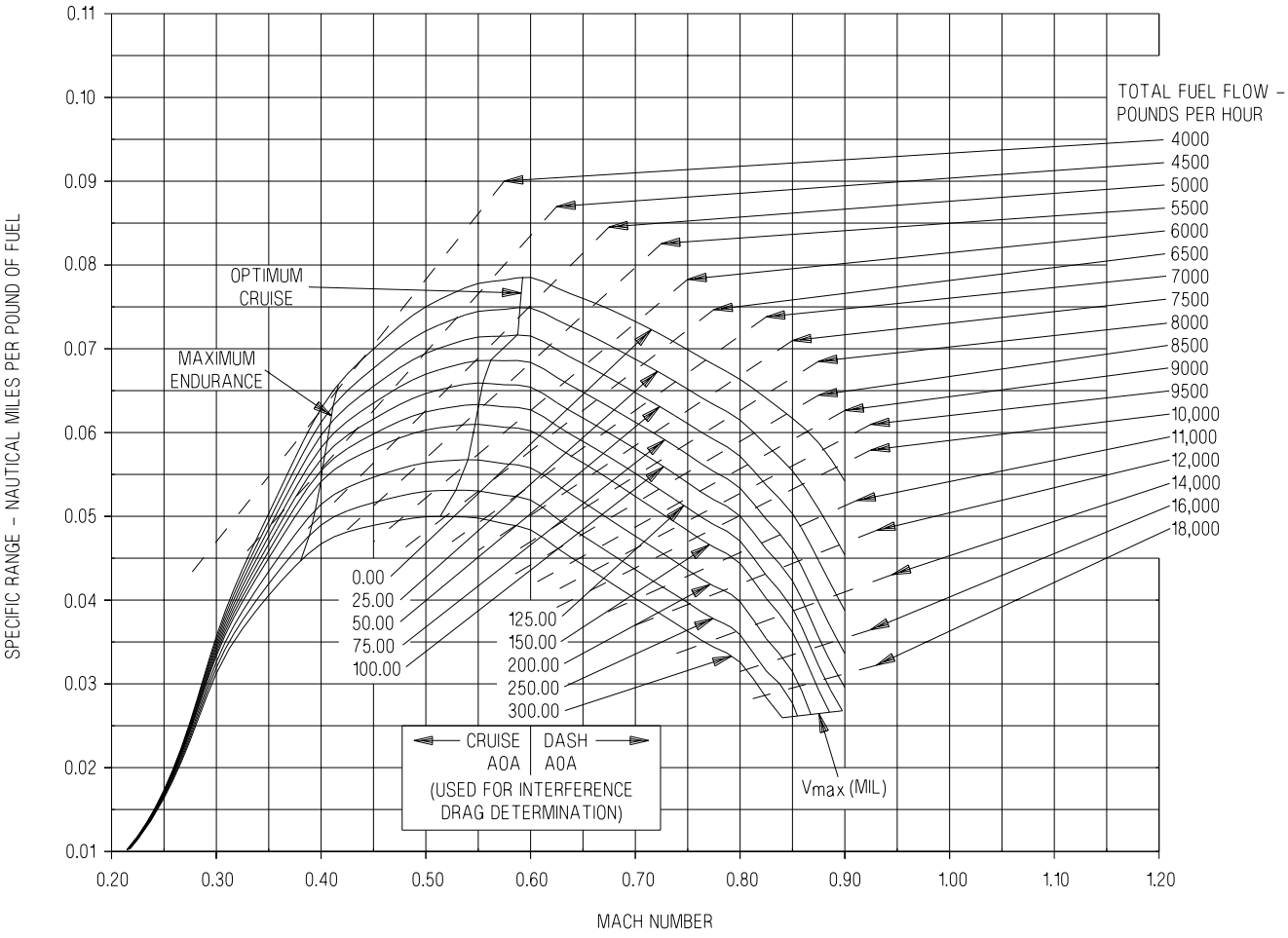
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-208-1-004

Figure 5-34. Specific Range - 15,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 42,000 POUNDS

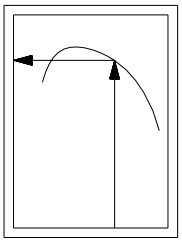
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

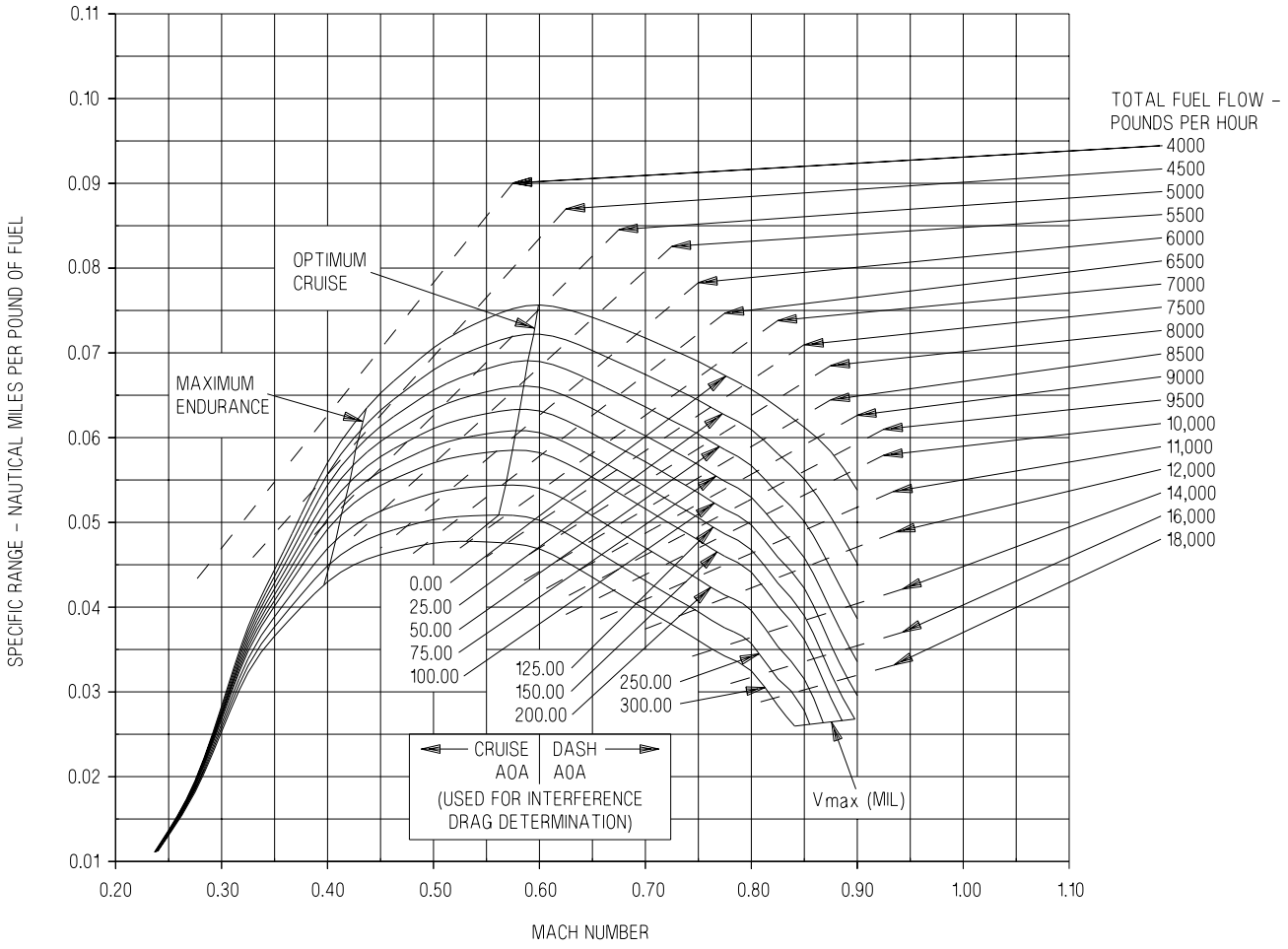
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-209-1-004

Figure 5-35. Specific Range - 15,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 46,000 POUNDS

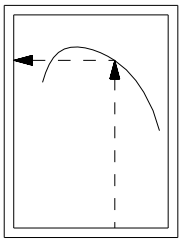
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

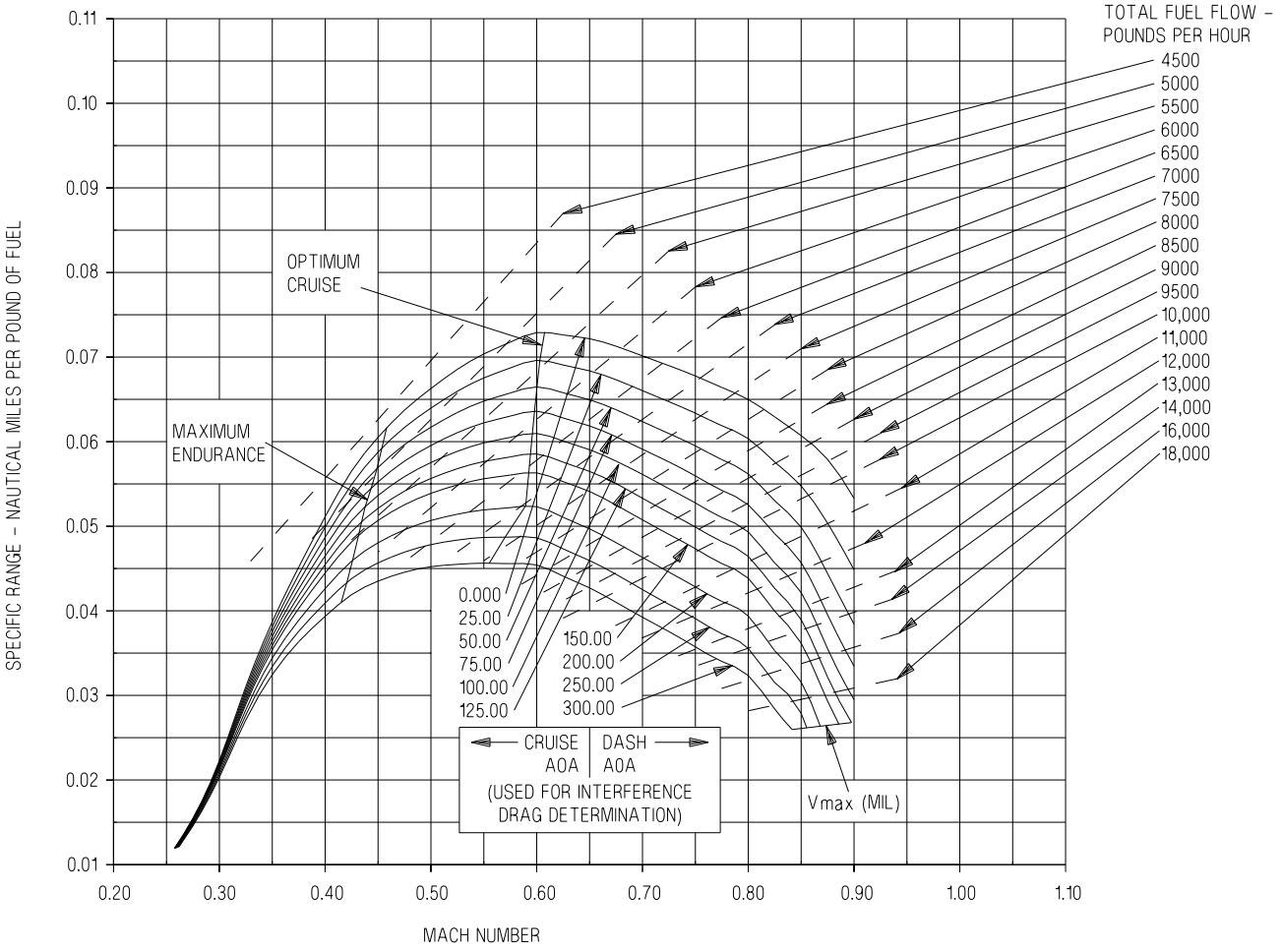
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-210-1-004

Figure 5-36. Specific Range - 15,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 50,000 POUNDS

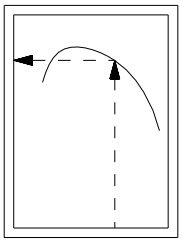
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

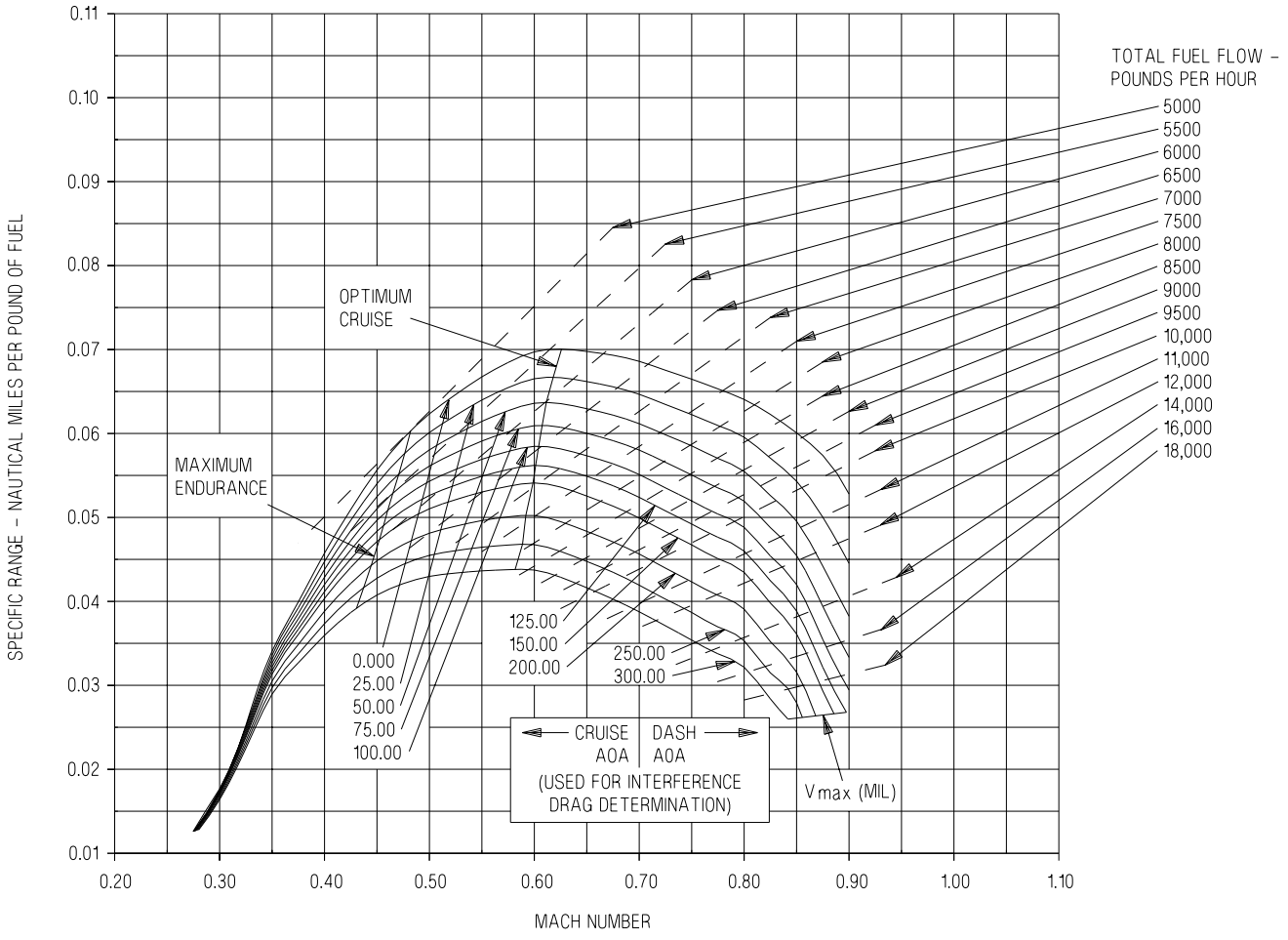
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-211-1-004

Figure 5-37. Specific Range - 15,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 54,000 POUNDS

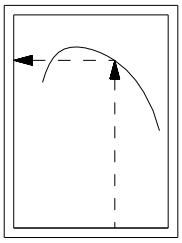
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

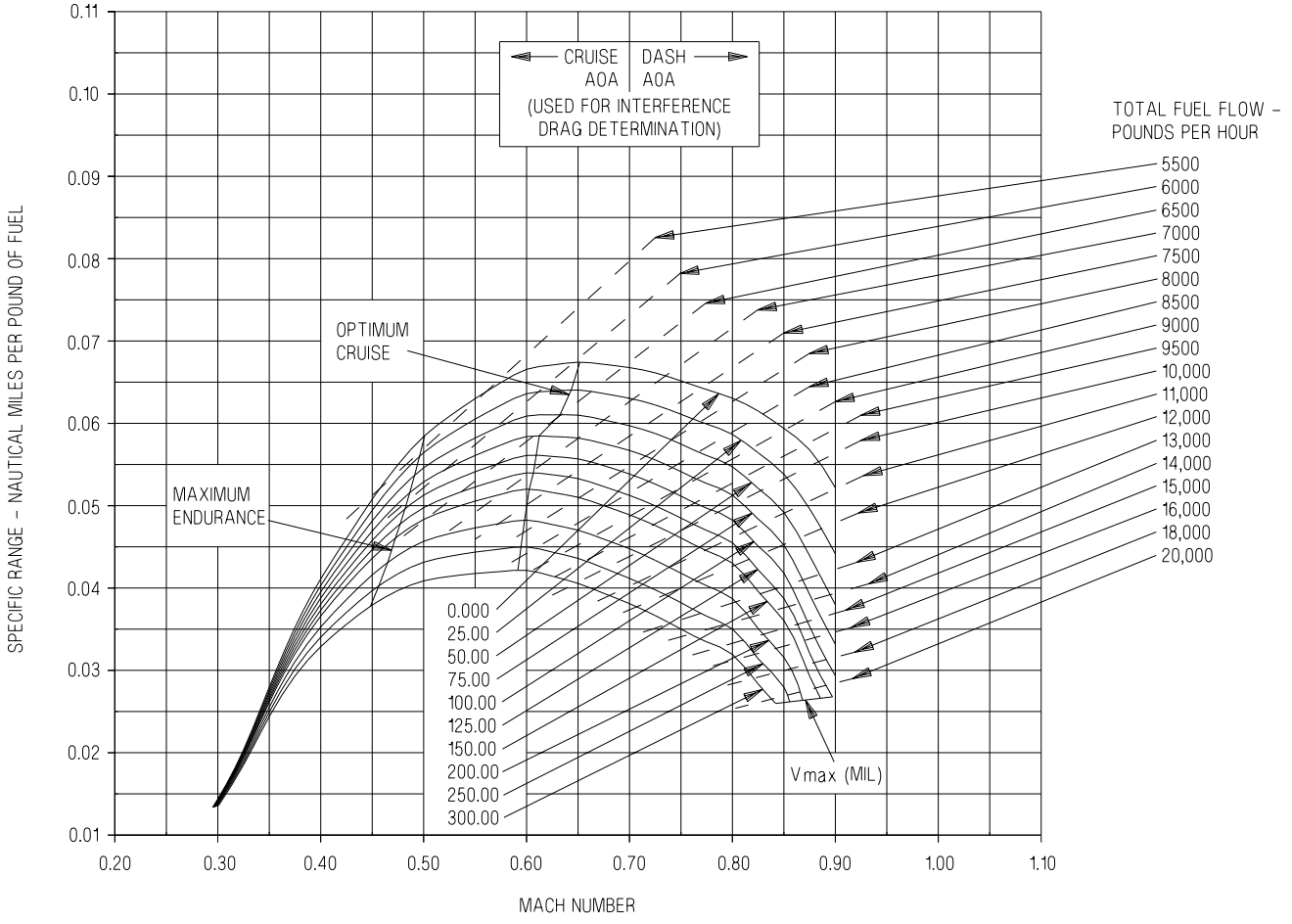
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-212-1-004

Figure 5-38. Specific Range - 15,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 58,000 POUNDS

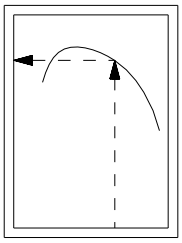
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

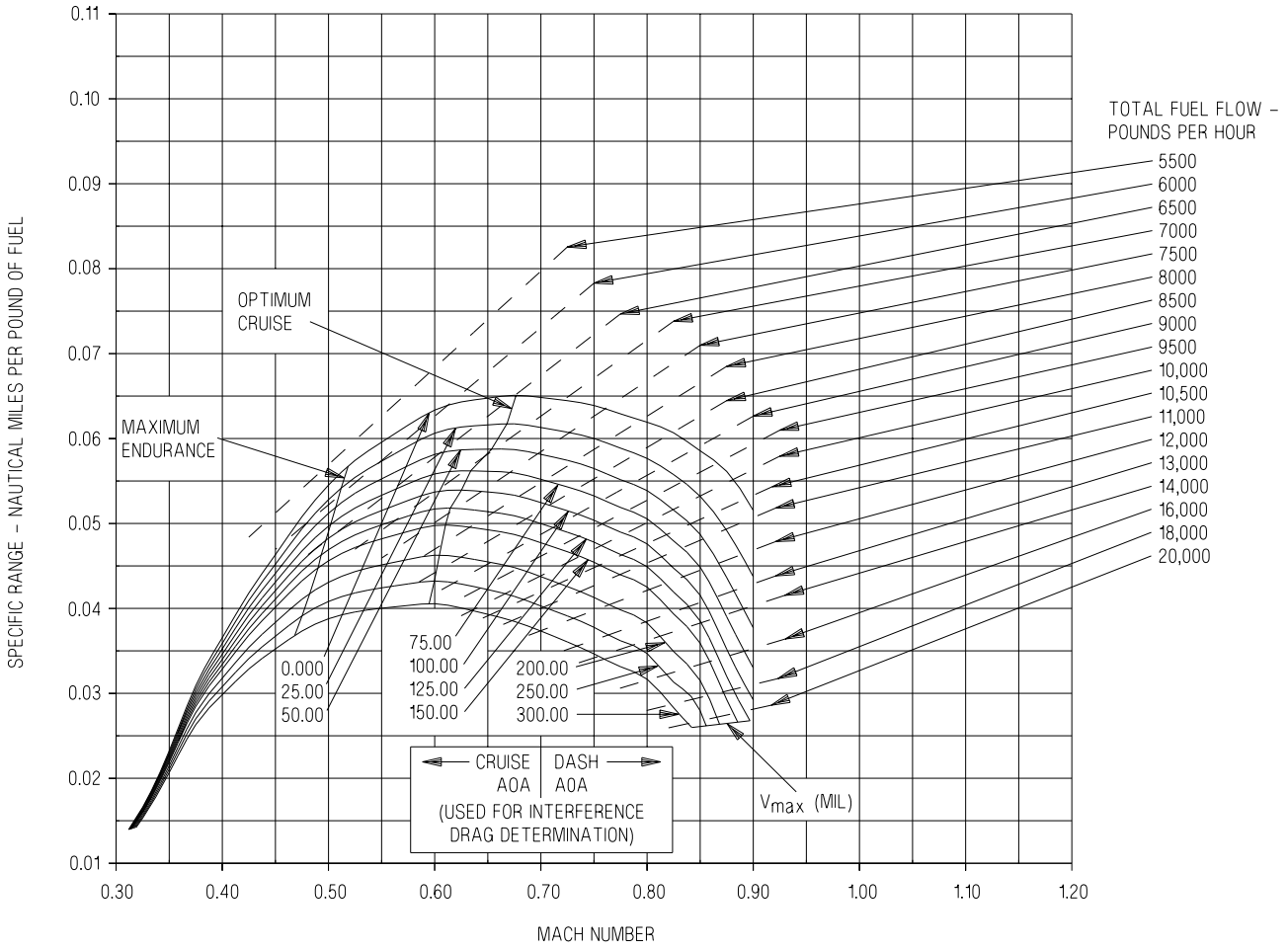
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-213-1-004

Figure 5-39. Specific Range - 15,000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 62,000 POUNDS

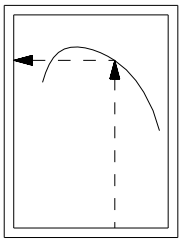
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

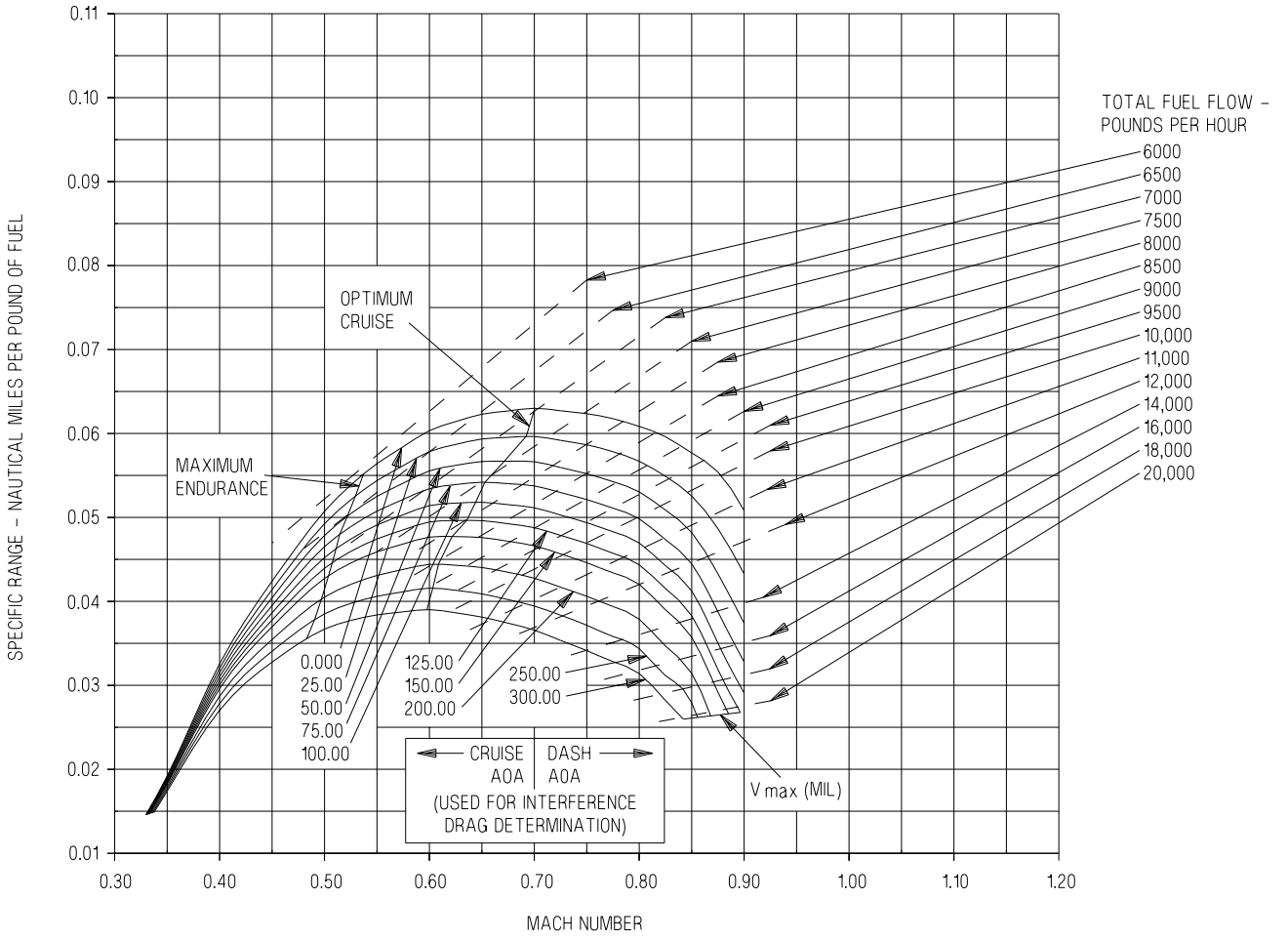
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-214-1-004

Figure 5-40. Specific Range - 15,000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 66,000 POUNDS

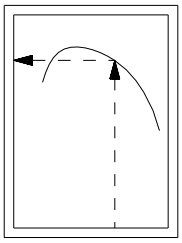
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

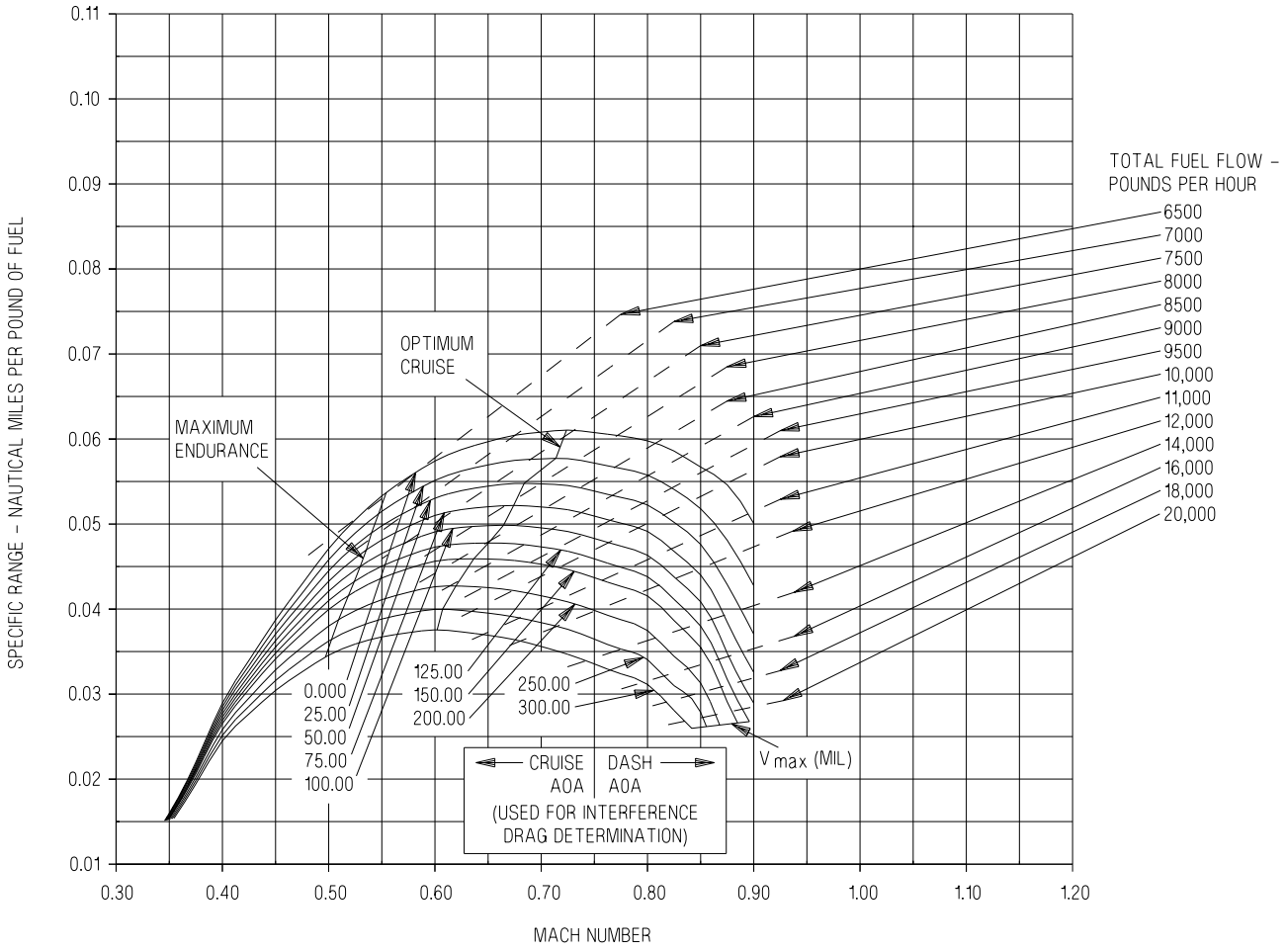
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-215-1-004

Figure 5-41. Specific Range - 15,000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 30,000 POUNDS

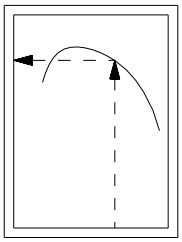
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

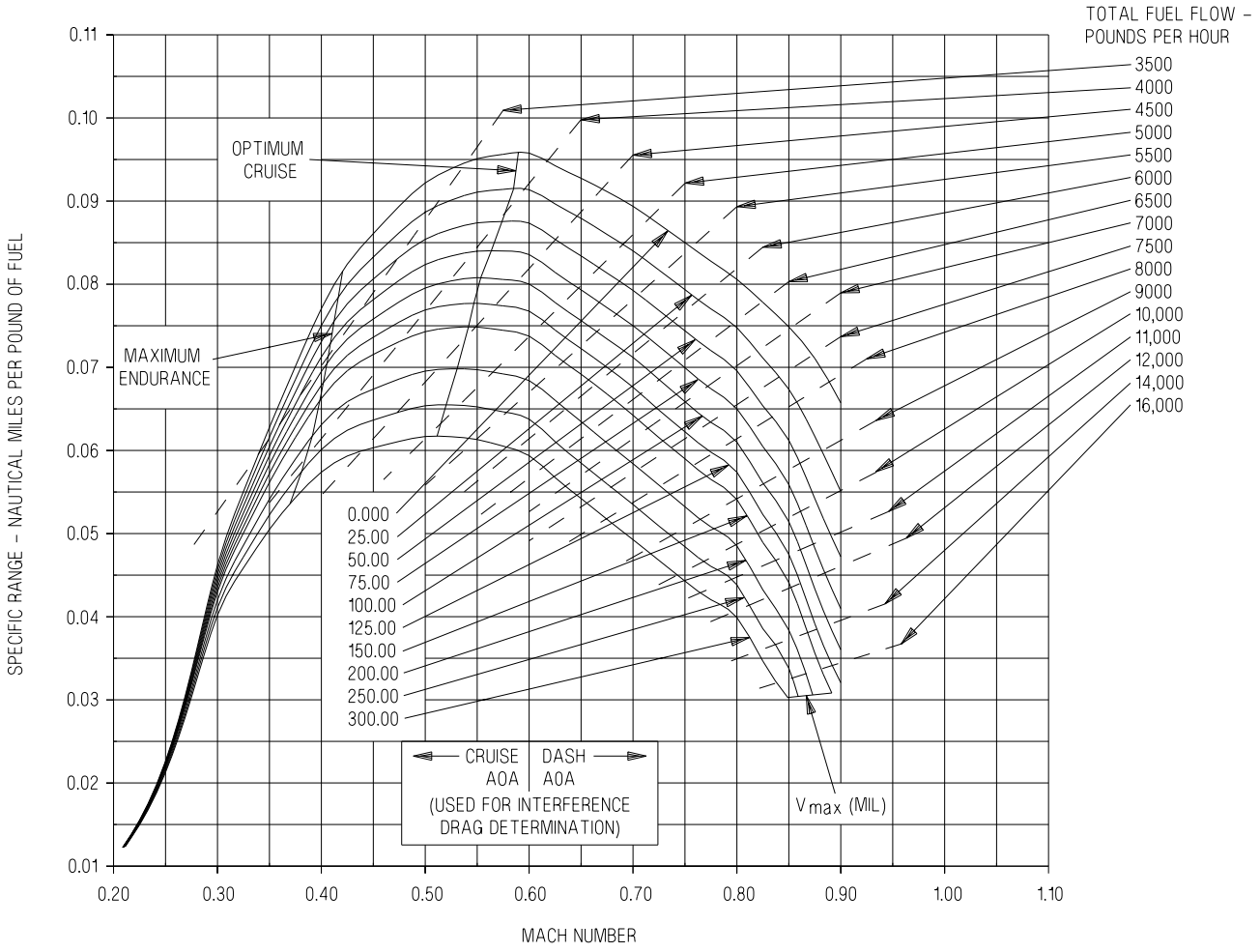
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-216-1-004

Figure 5-42. Specific Range - 20,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 34,000 POUNDS

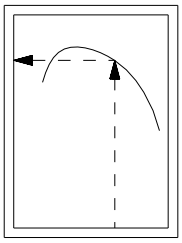
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

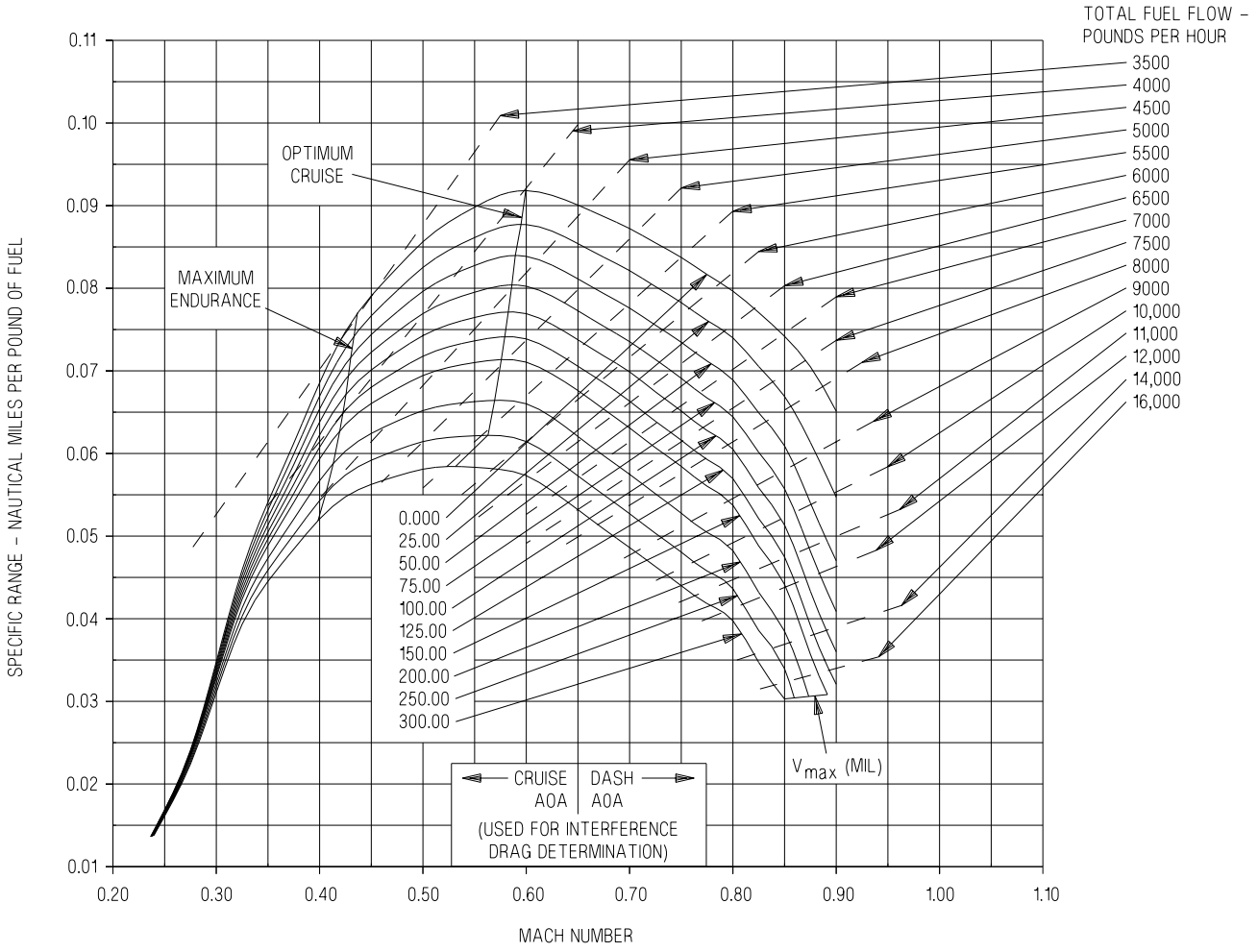
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-217-1-004

Figure 5-43. Specific Range - 20,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 38,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

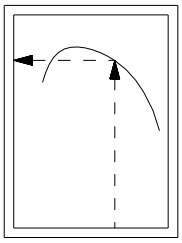
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

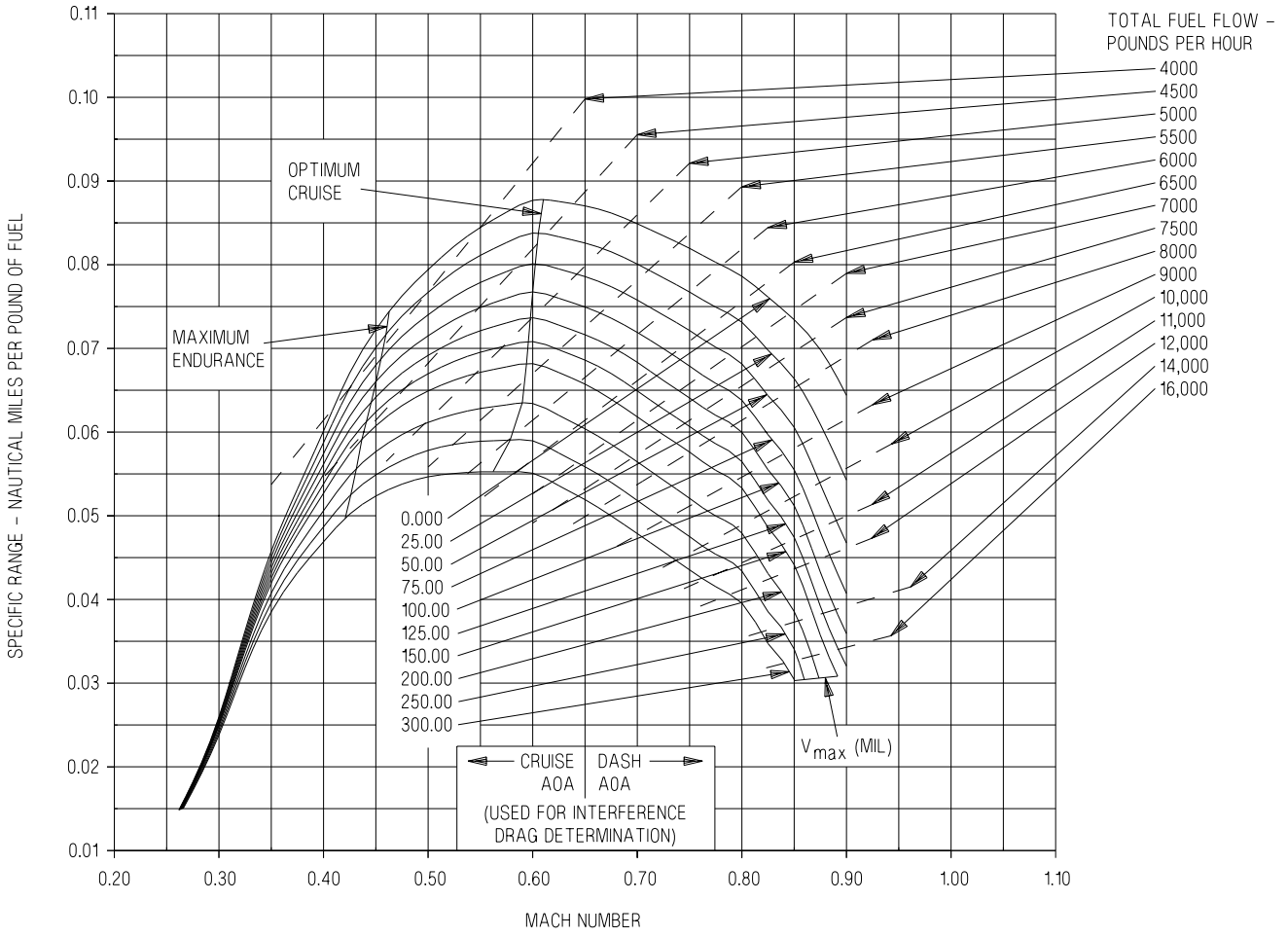
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-218-1-004

Figure 5-44. Specific Range - 20,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 42,000 POUNDS

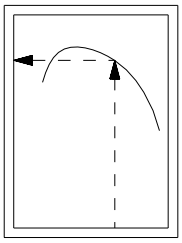
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

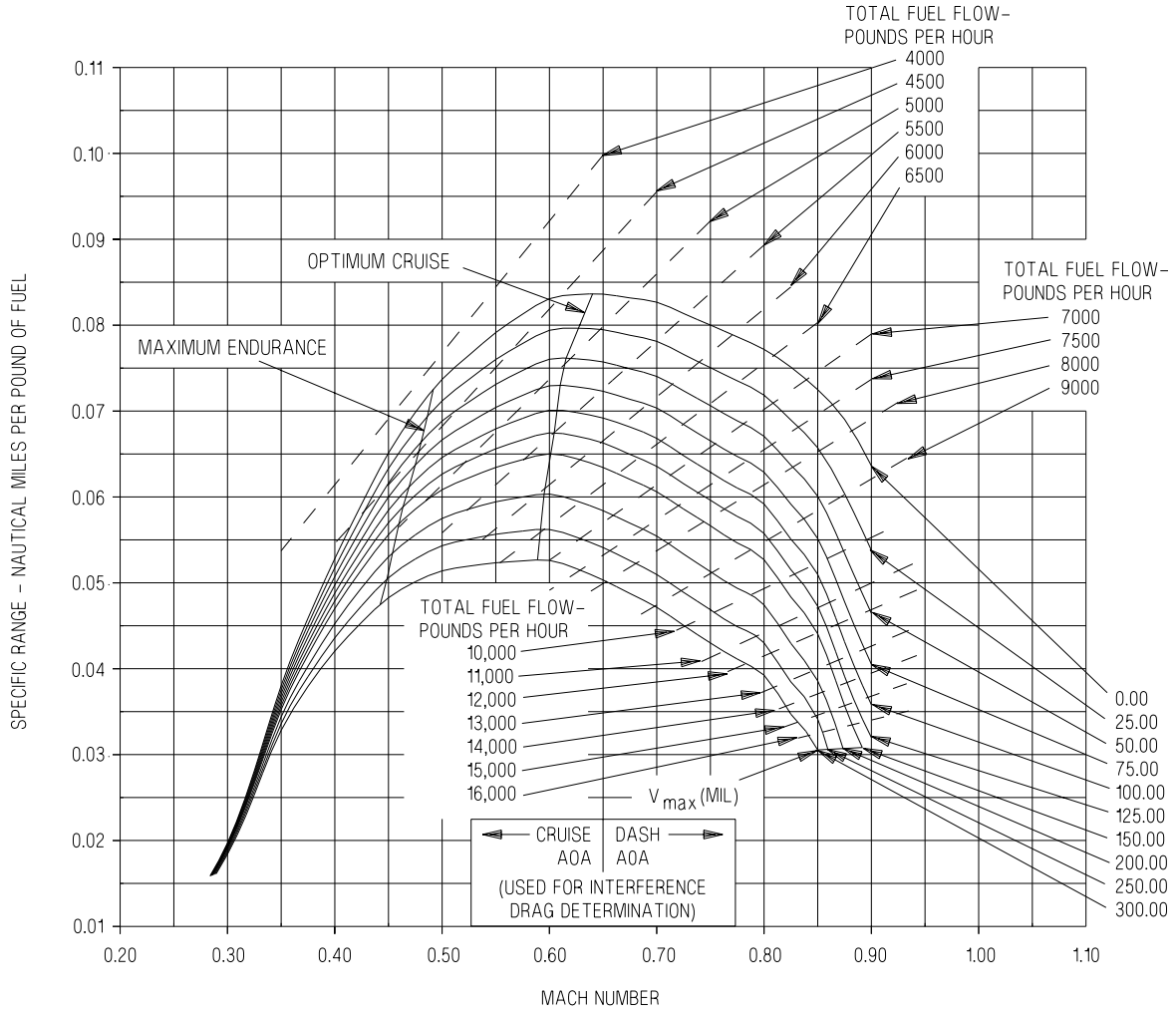
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-219-1-004

Figure 5-45. Specific Range - 20,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 46,000 POUNDS

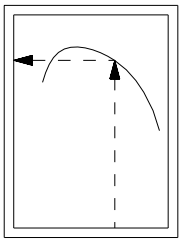
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

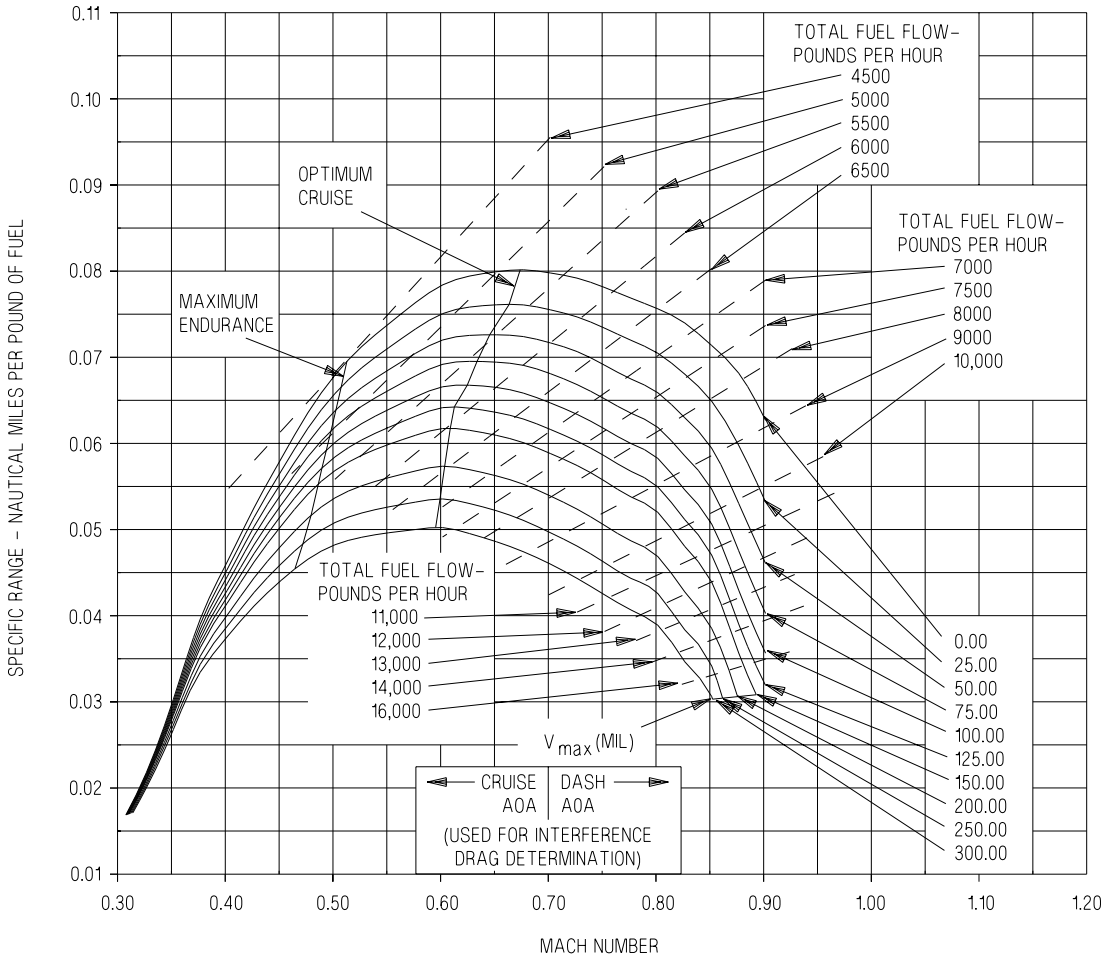
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-220-1-004

Figure 5-46. Specific Range - 20,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 50,000 POUNDS

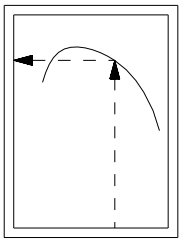
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

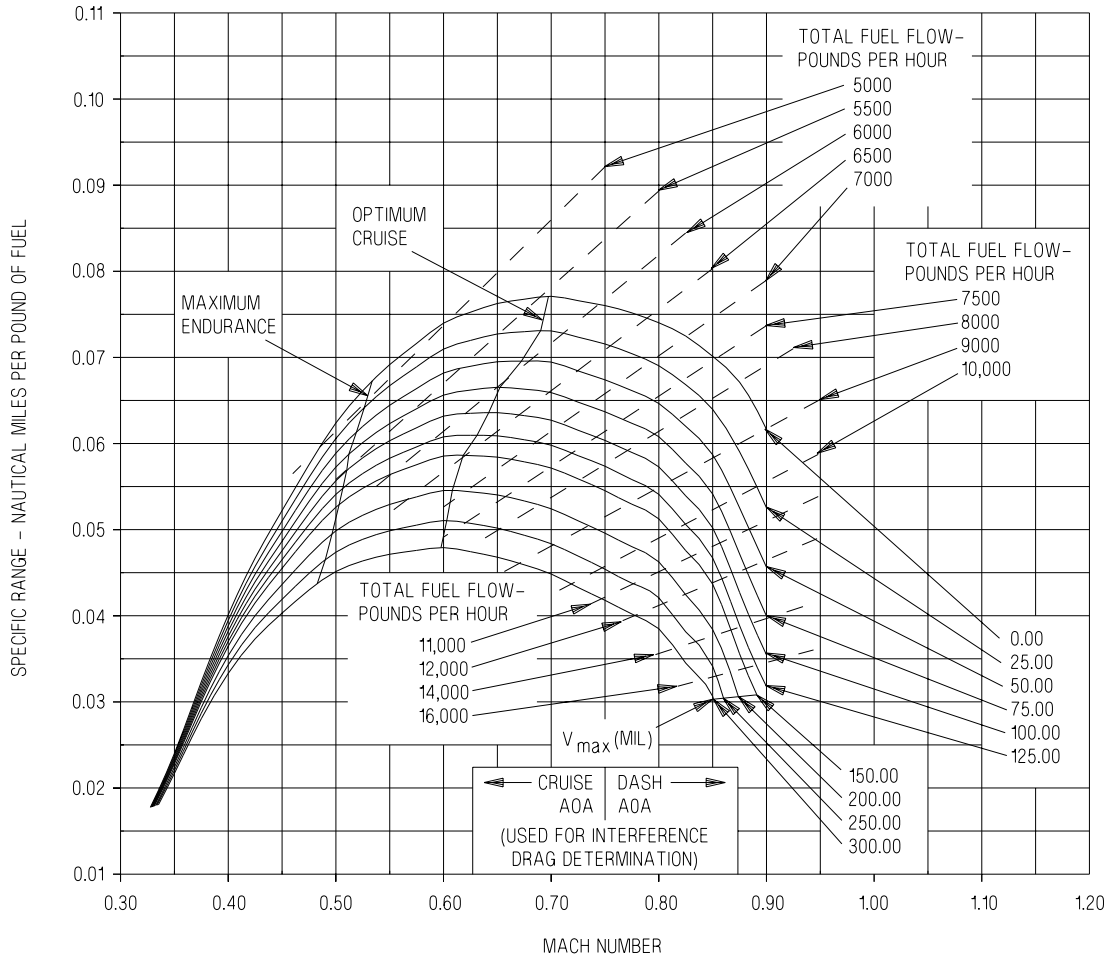
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-221-1-004

Figure 5-47. Specific Range - 20,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 54,000 POUNDS

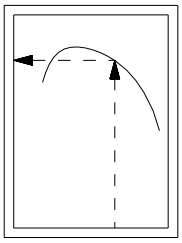
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

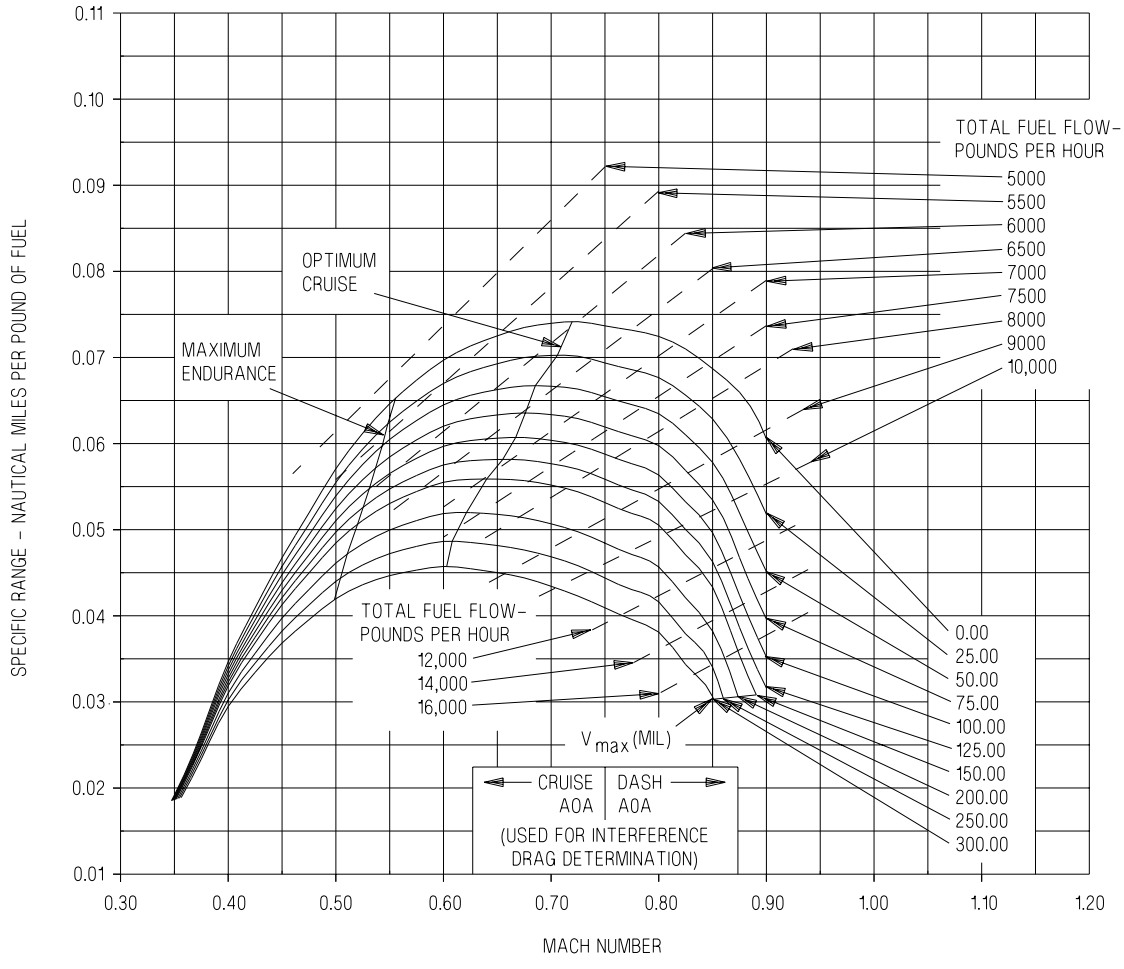
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-222-1-004

Figure 5-48. Specific Range - 20,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 58,000 POUNDS

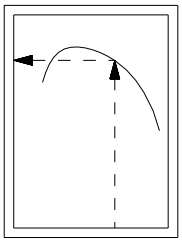
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

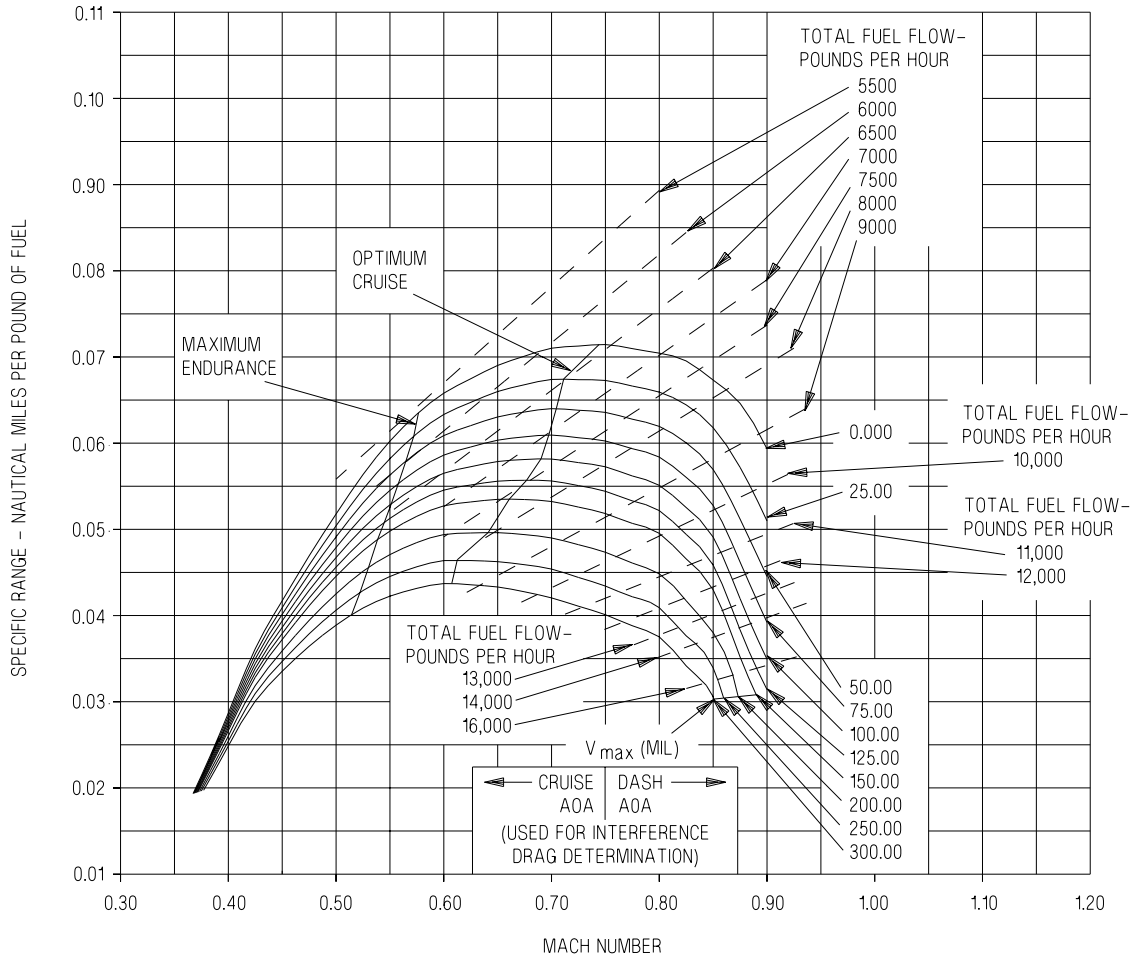
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-223-1-004

Figure 5-49. Specific Range - 20,000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 62,000 POUNDS

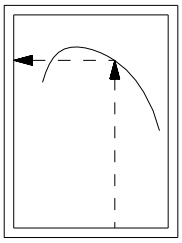
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

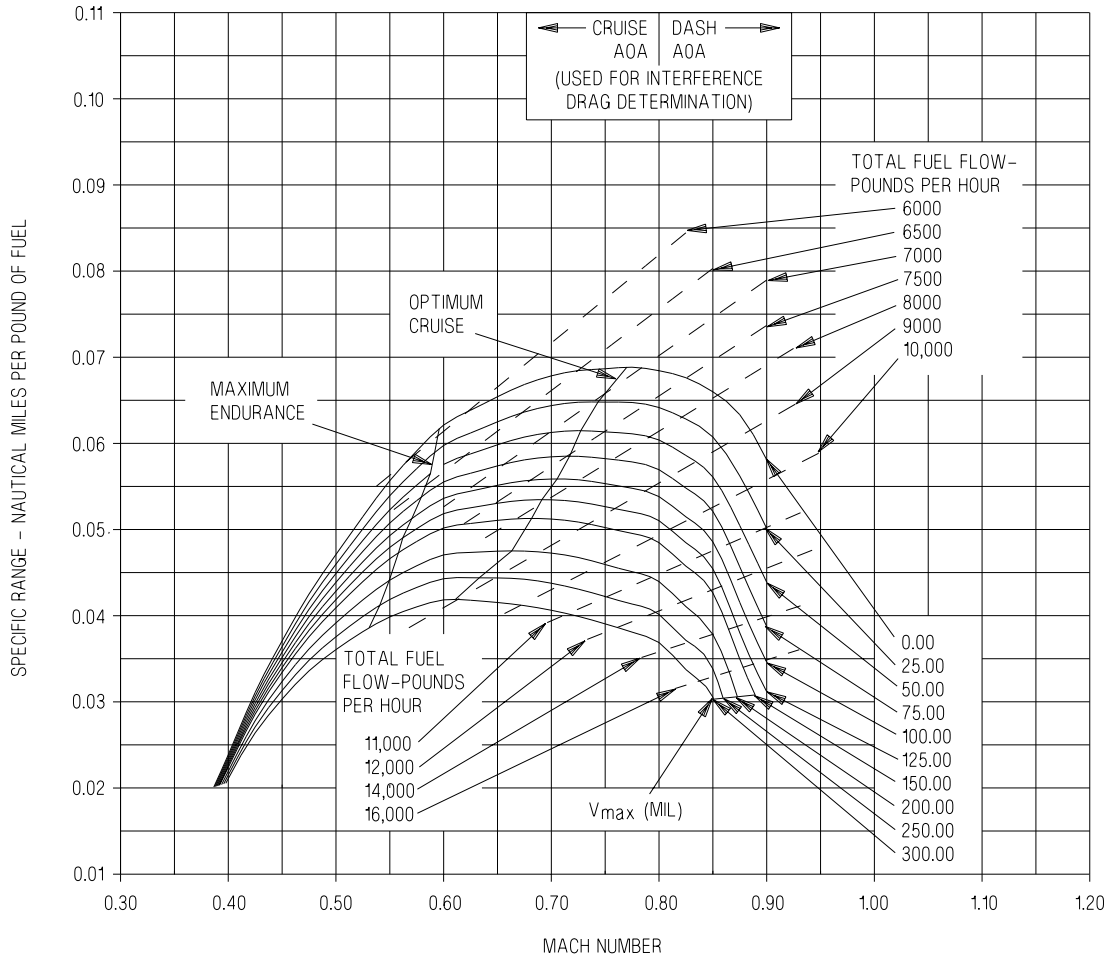
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-224-1-004

Figure 5-50. Specific Range - 20,000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 66,000 POUNDS

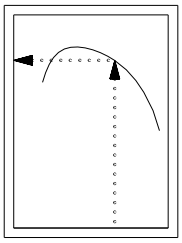
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

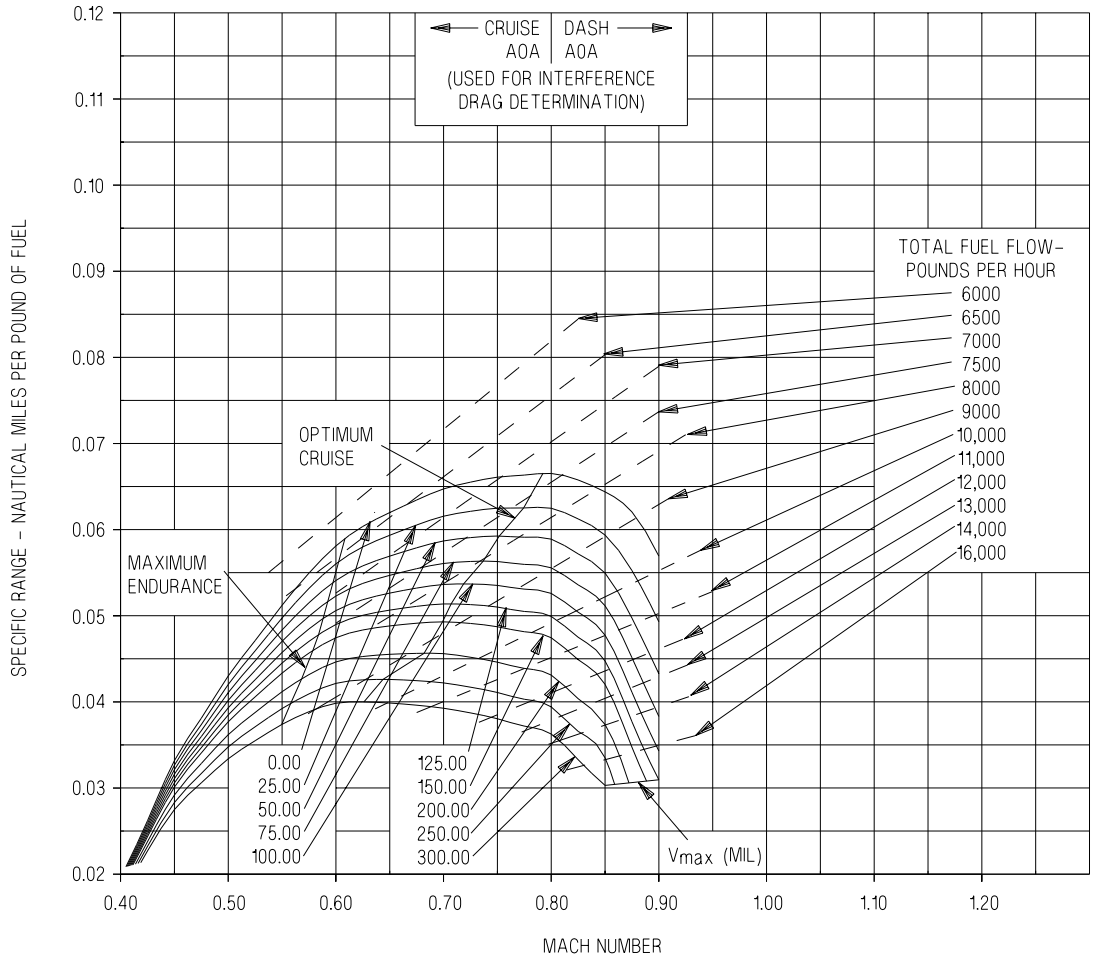
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-314-1-004

Figure 5-51. Specific Range - 20,000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 30,000 POUNDS

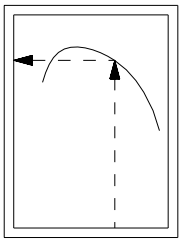
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

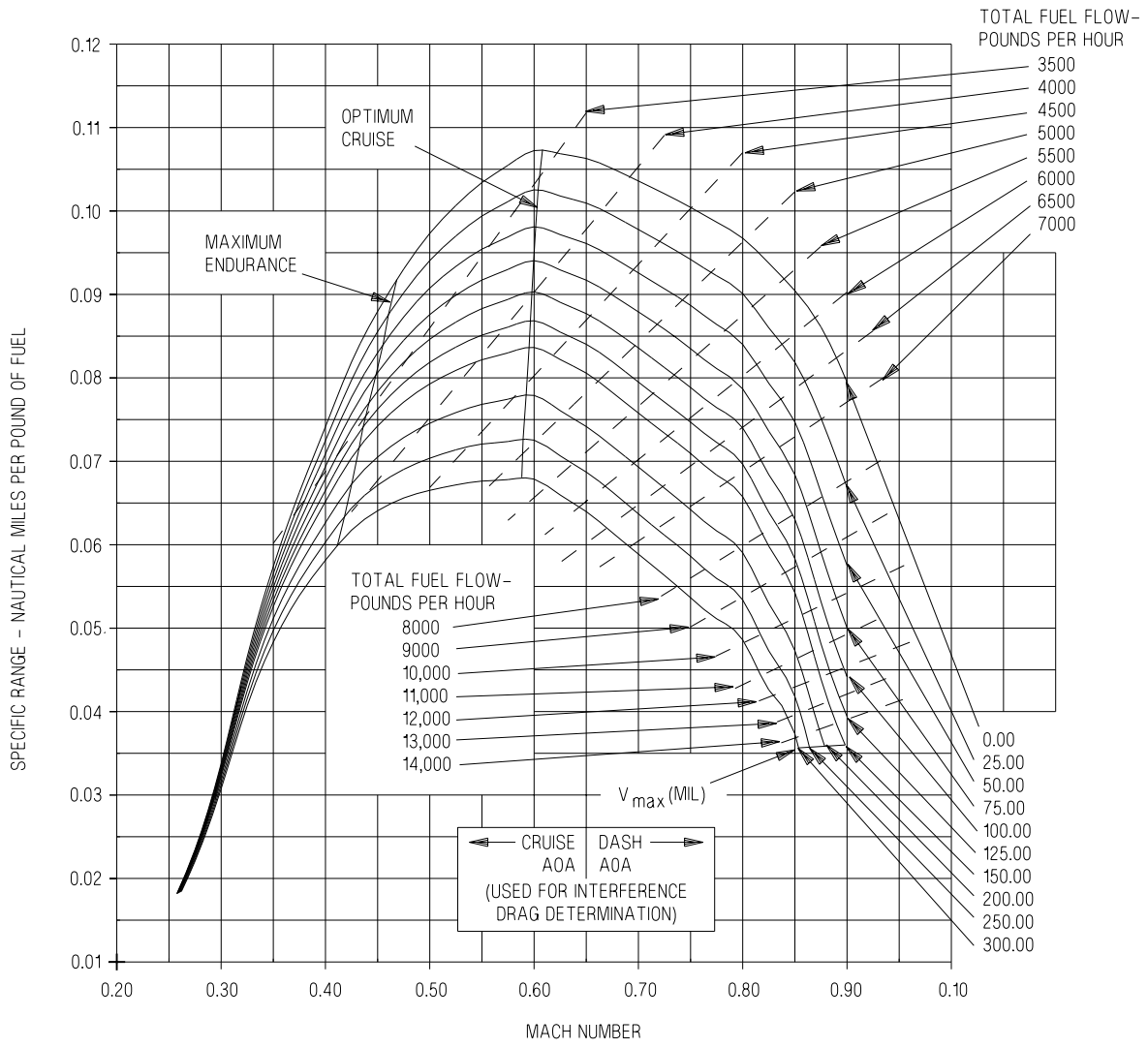
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-226-1-004

Figure 5-52. Specific Range - 25,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 34,000 POUNDS

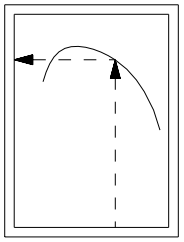
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

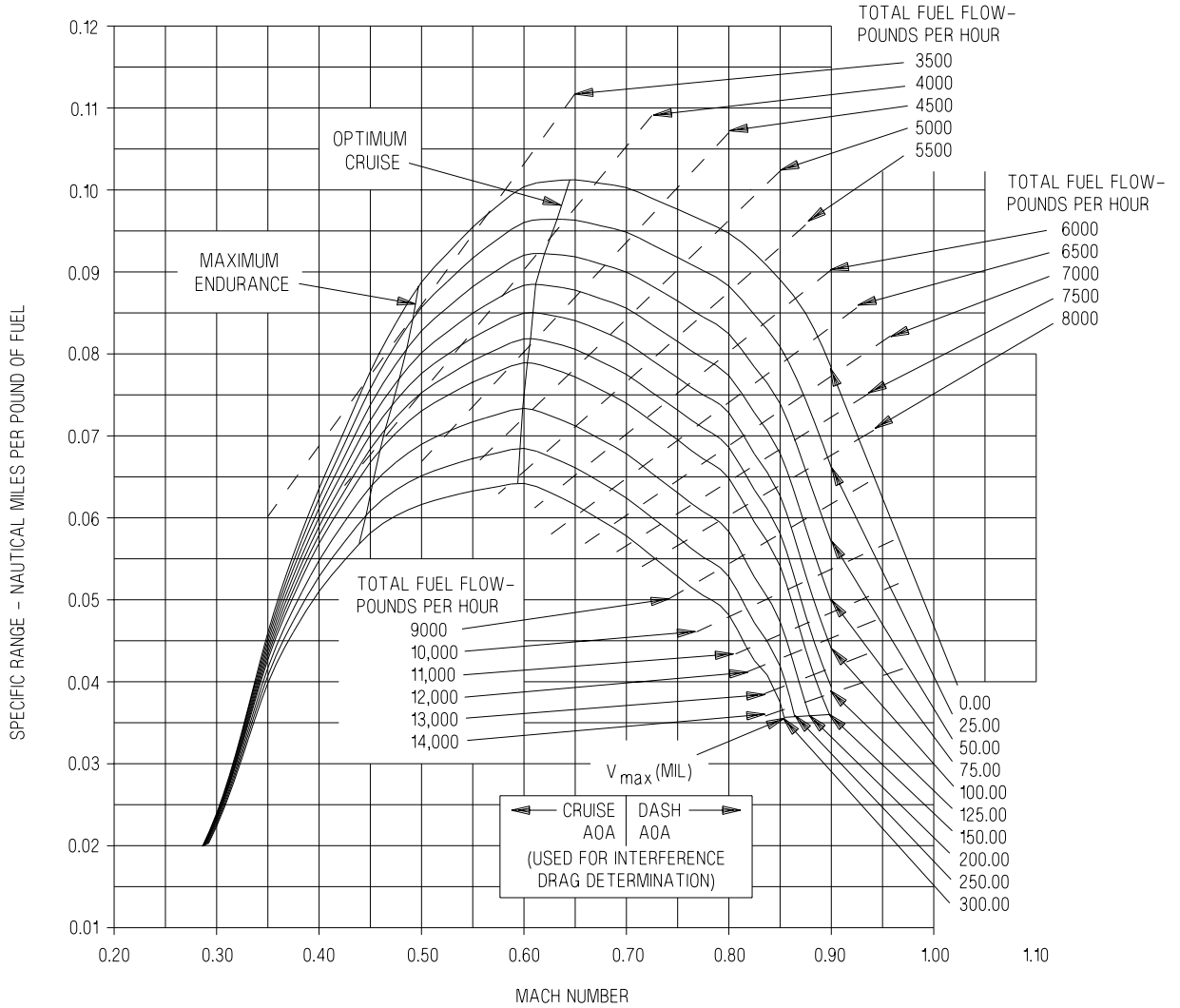
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-225-1-004

Figure 5-53. Specific Range - 25,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 38,000 POUNDS

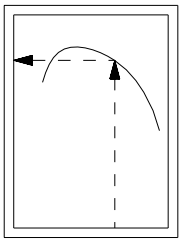
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

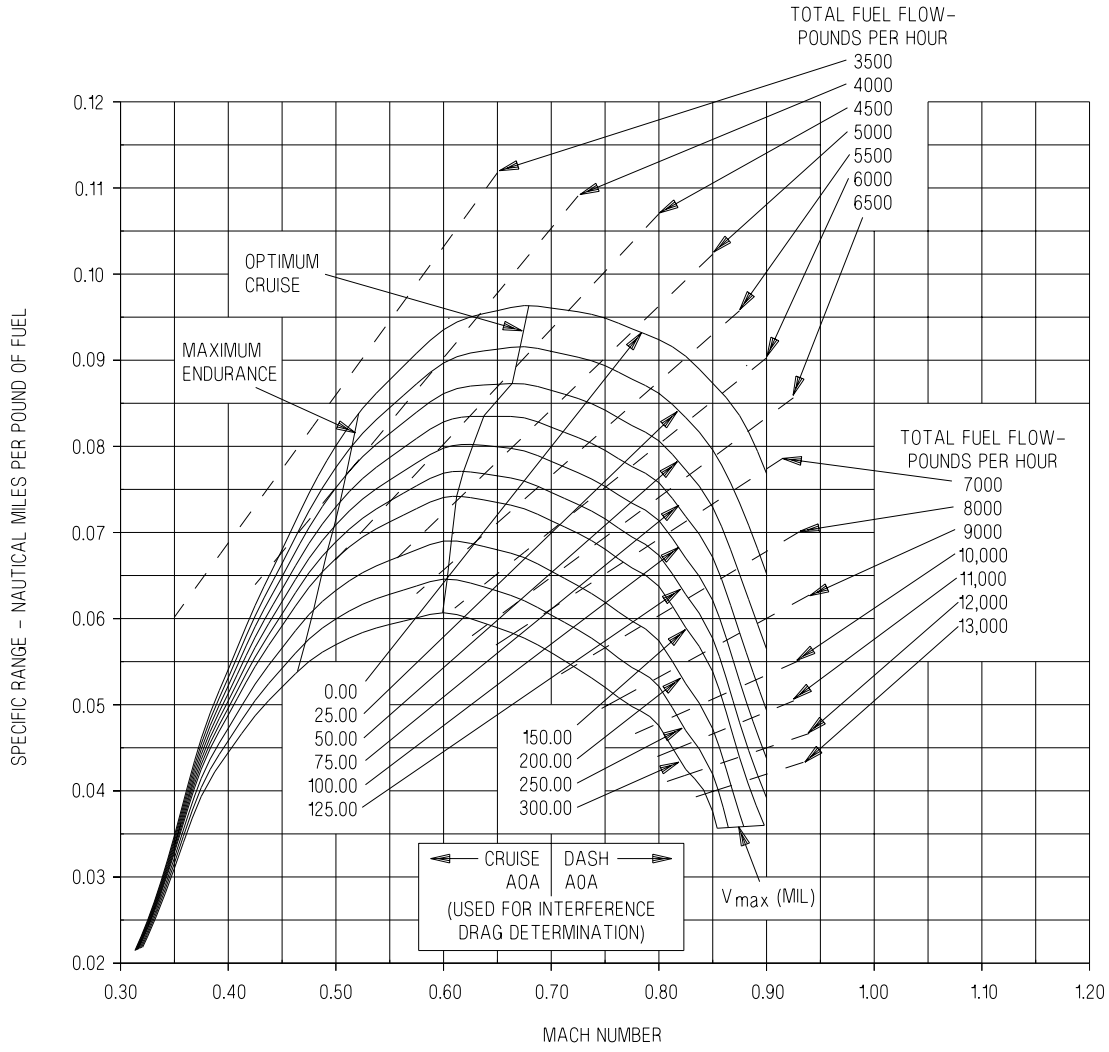
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-227-1-004

Figure 5-54. Specific Range - 25,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 42,000 POUNDS

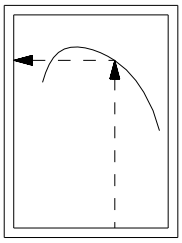
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

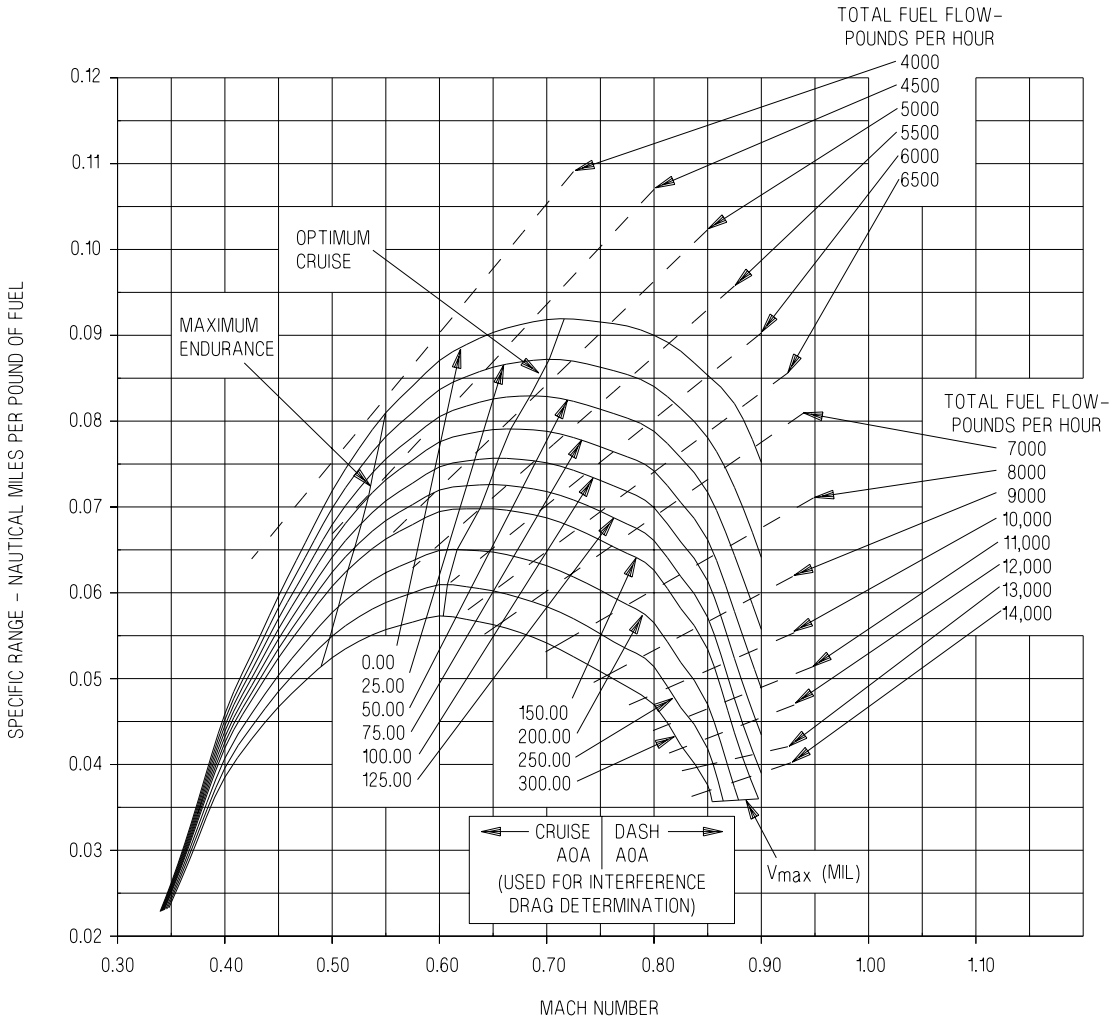
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-228-1-004

Figure 5-55. Specific Range - 25,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 46,000 POUNDS

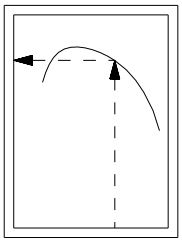
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

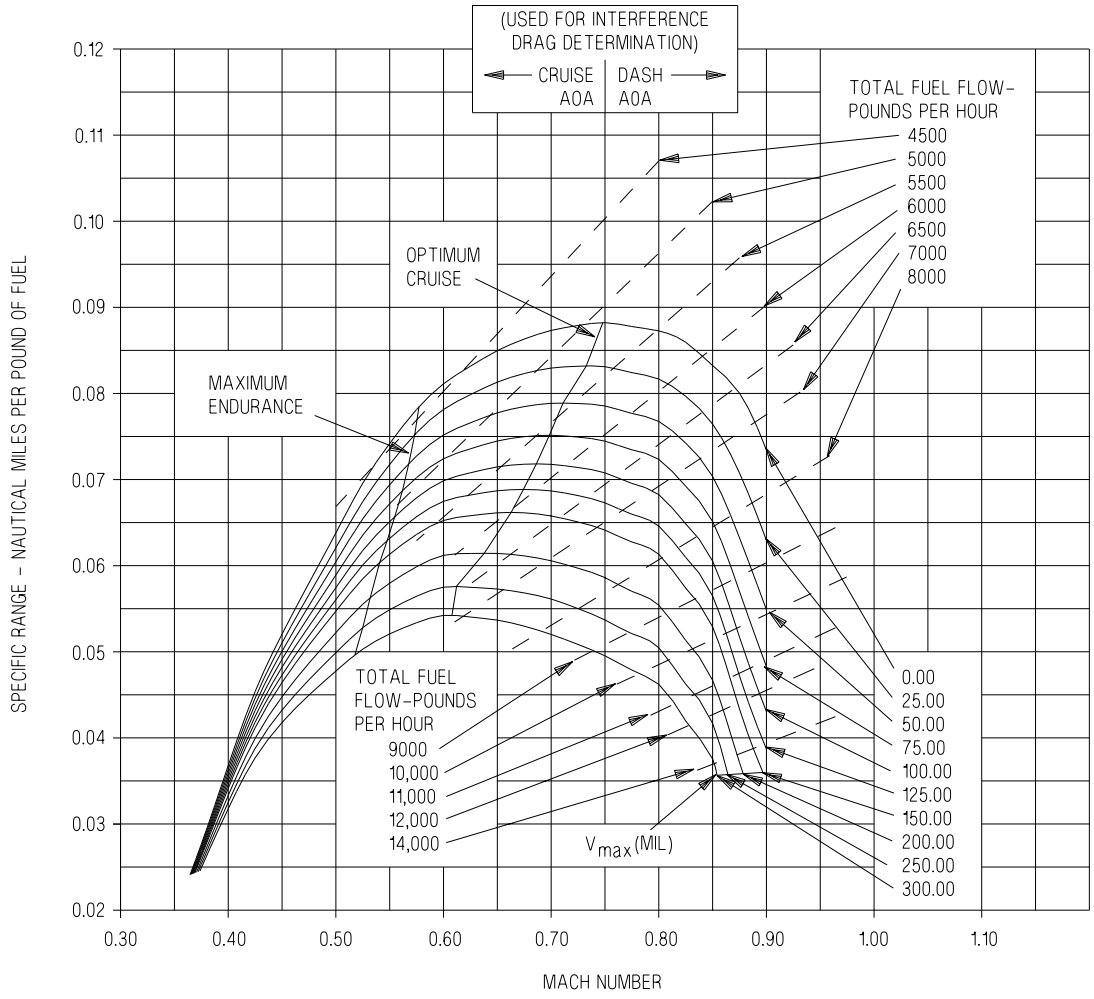
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-229-1-004

Figure 5-56. Specific Range - 25,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 50,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

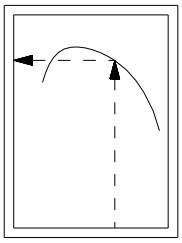
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

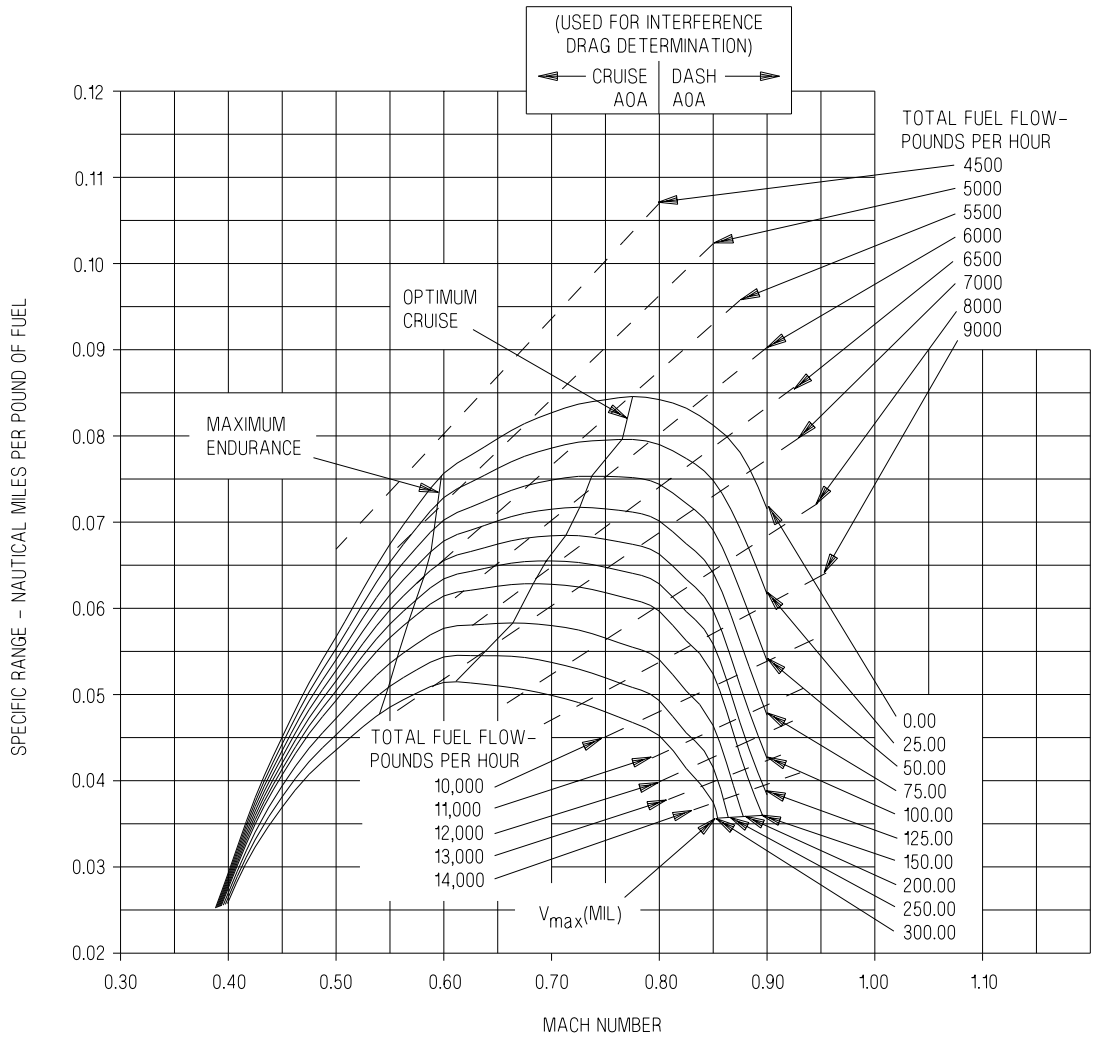
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-230-1-004

Figure 5-57. Specific Range - 25,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 54,000 POUNDS

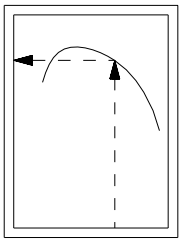
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

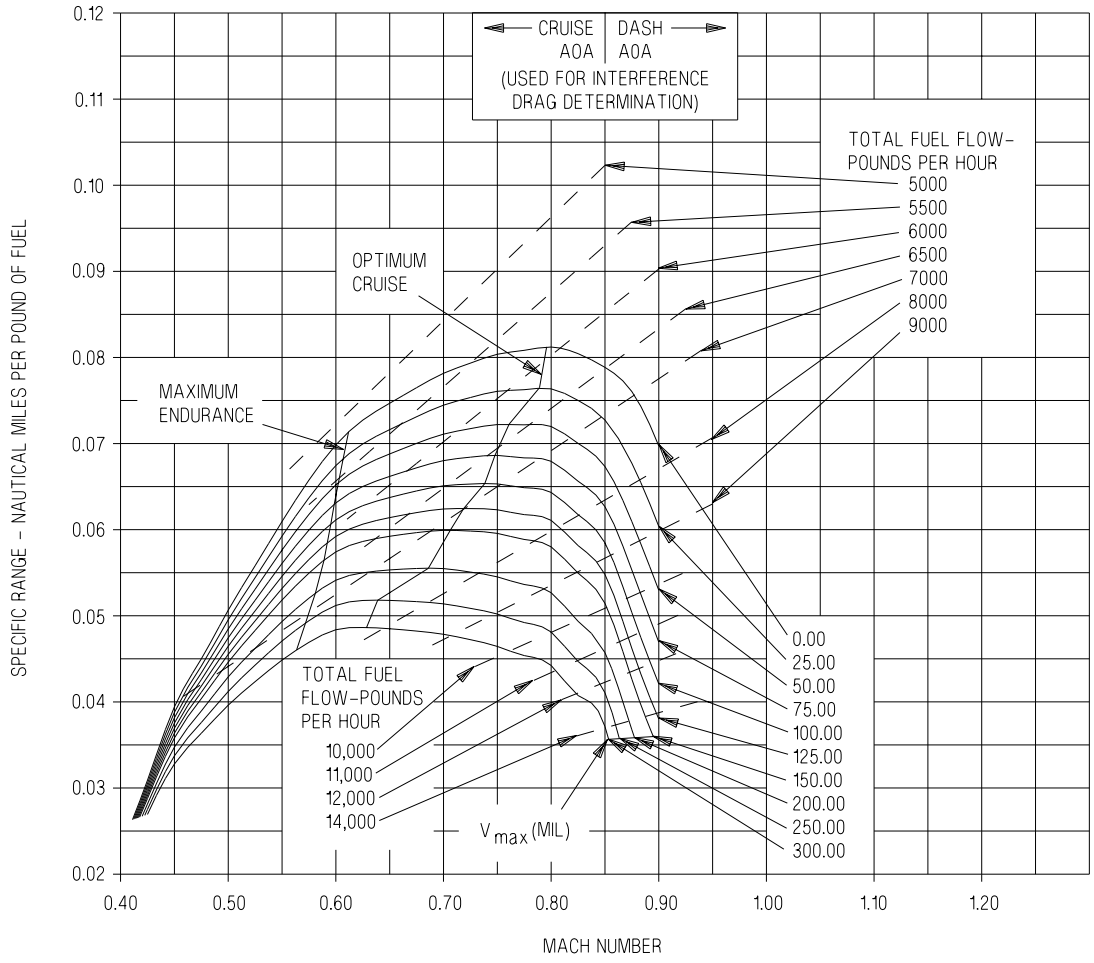
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-231-1-004

Figure 5-58. Specific Range - 25,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 58,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

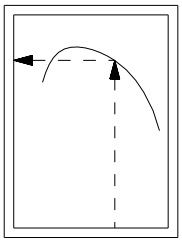
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

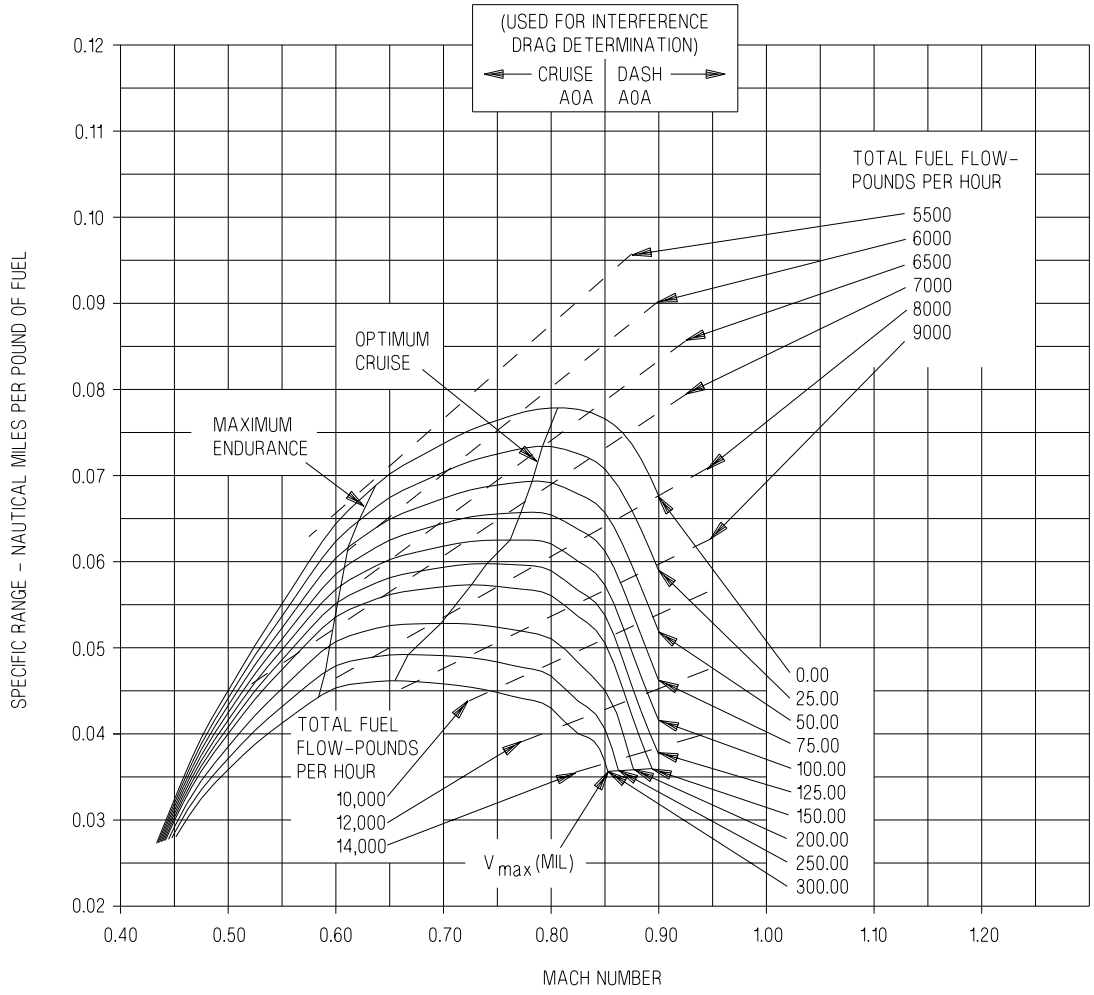
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-232-1-004

Figure 5-59. Specific Range - 25,000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 62,000 POUNDS

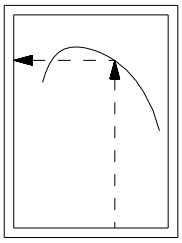
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

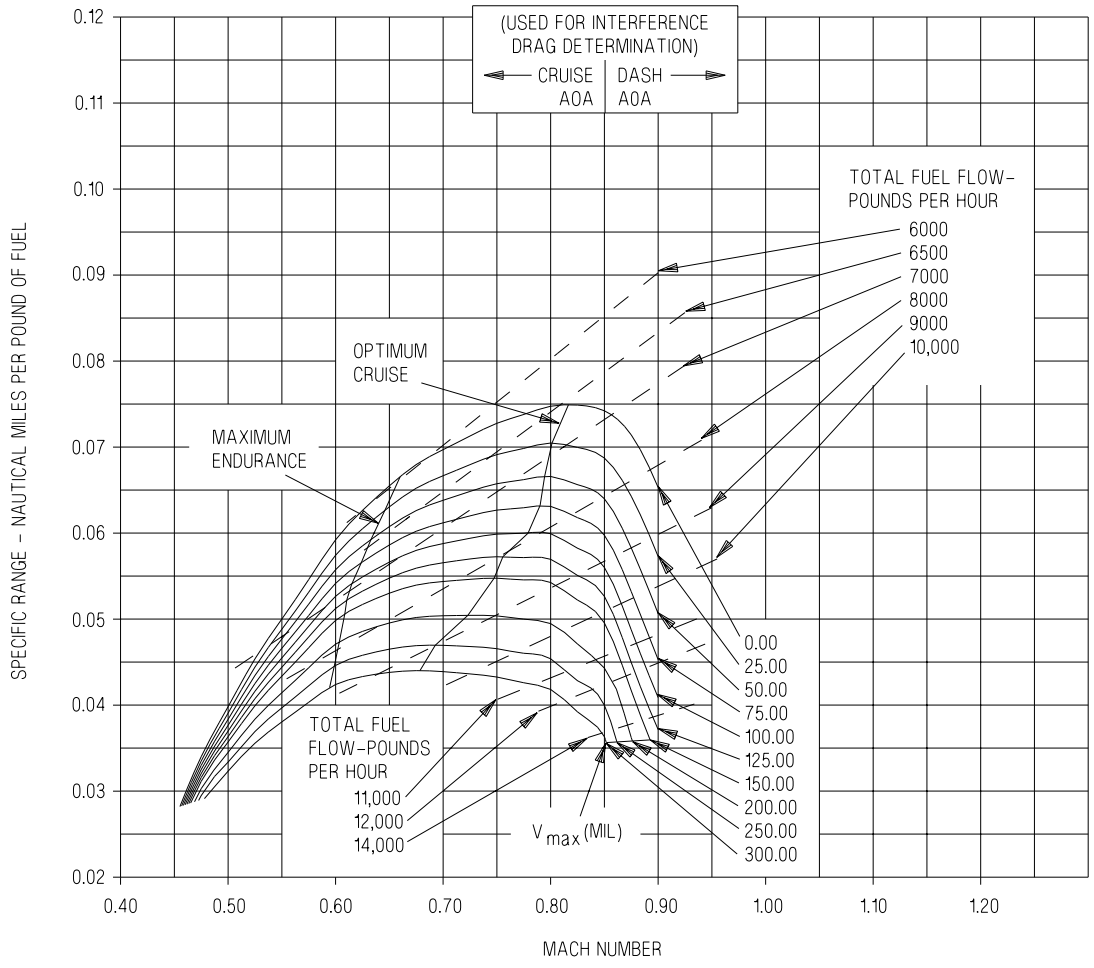
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-233-1-004

Figure 5-60. Specific Range - 25,000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 66,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

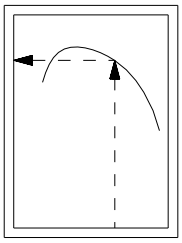
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

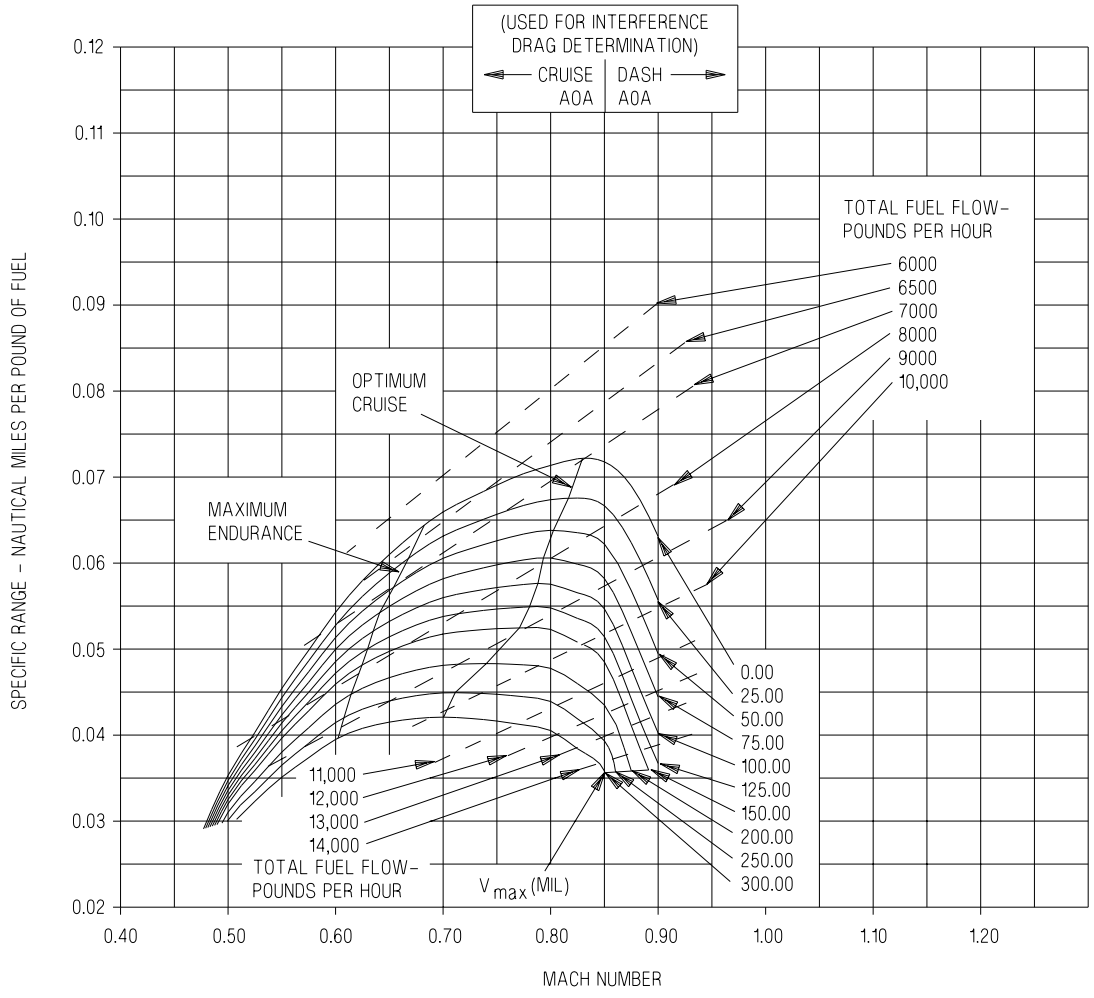
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-234-1-004

Figure 5-61. Specific Range - 25,000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 30,000 POUNDS

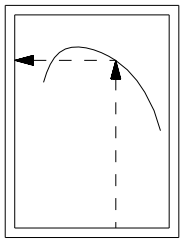
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

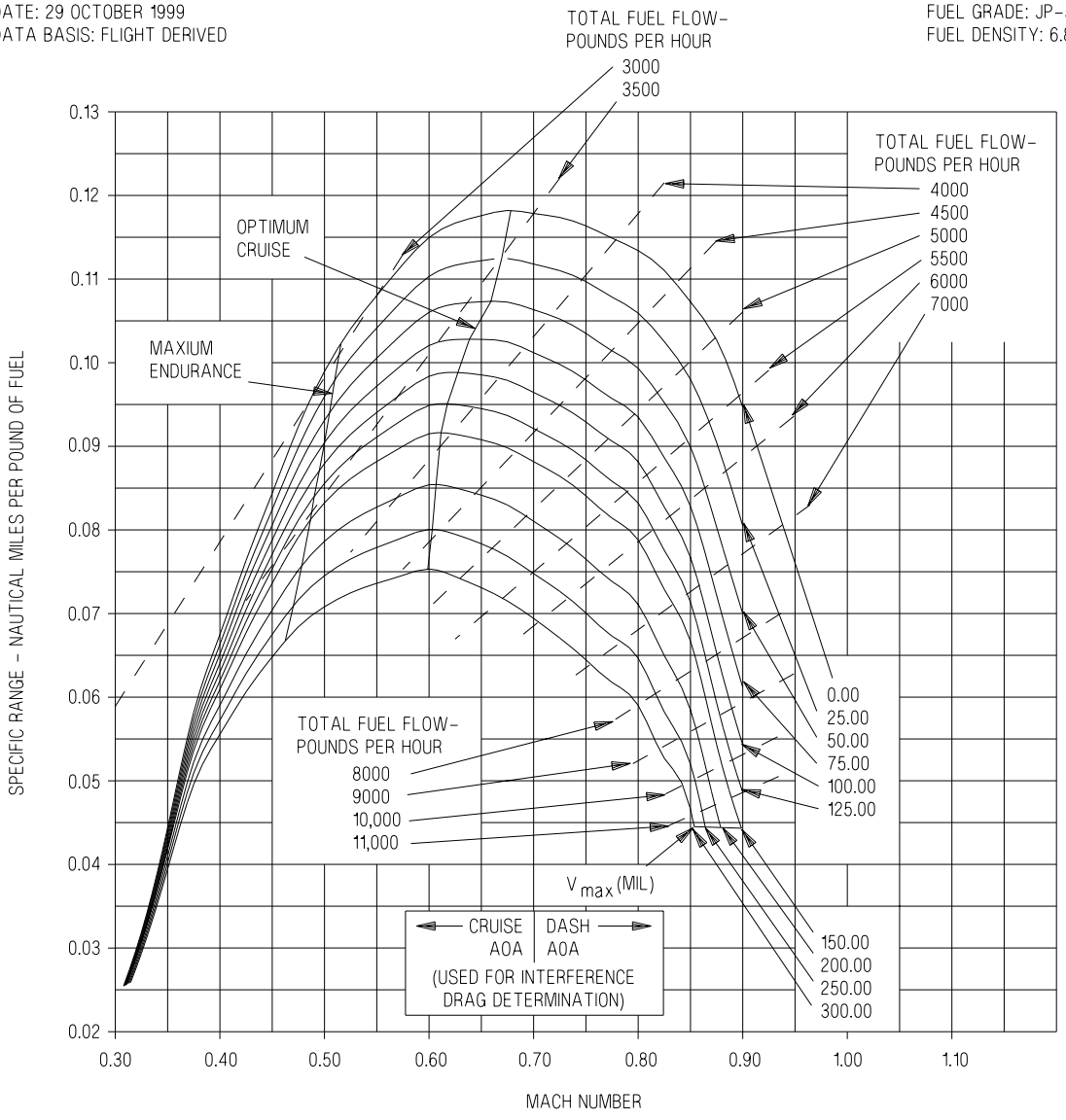
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-235-1-004

Figure 5-62. Specific Range - 30,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 34,000 POUNDS

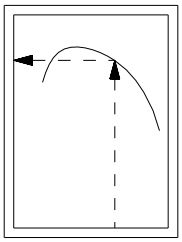
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

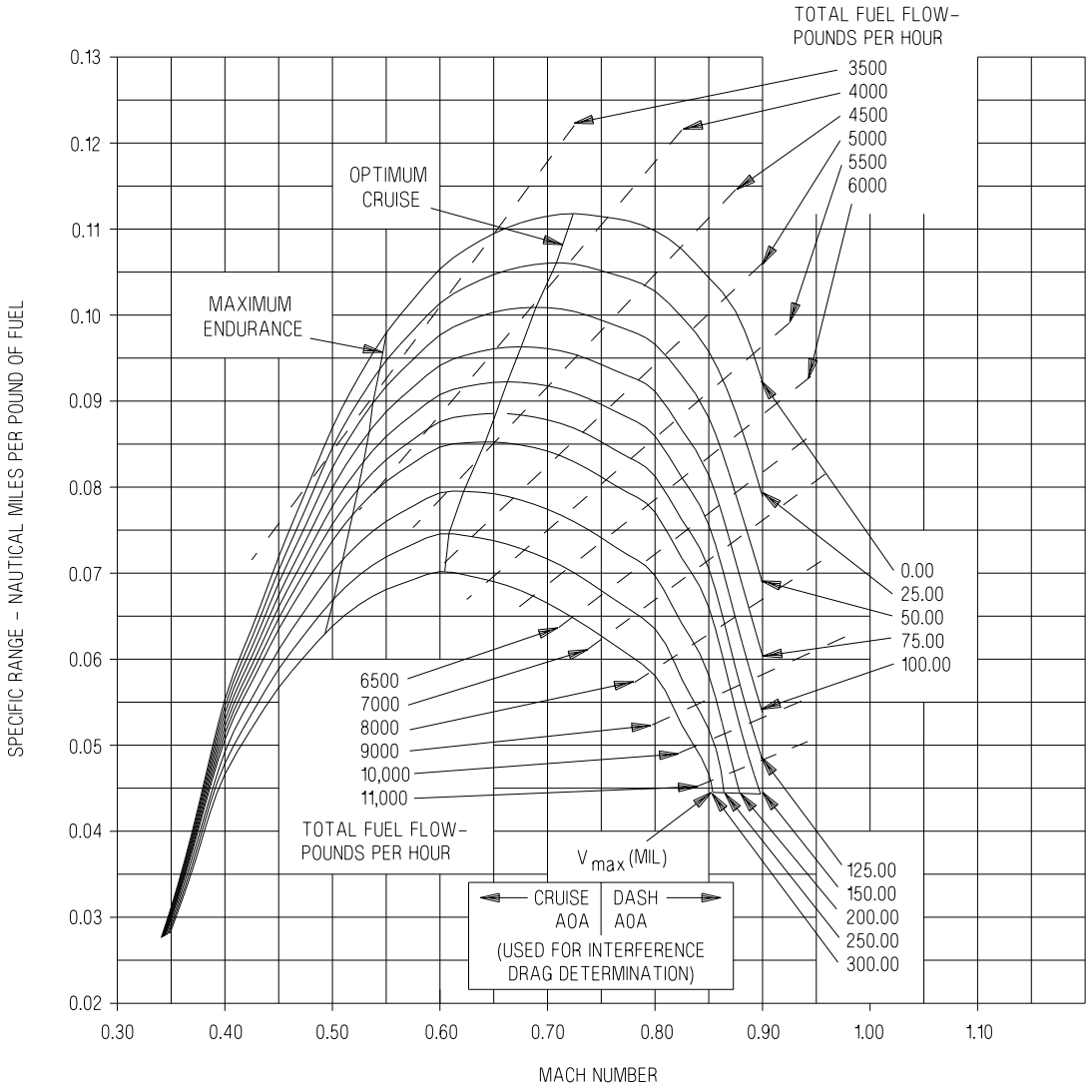
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-236-1-004

Figure 5-63. Specific Range - 30,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 38,000 POUNDS

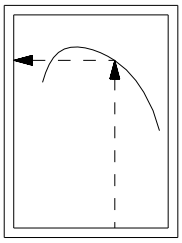
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

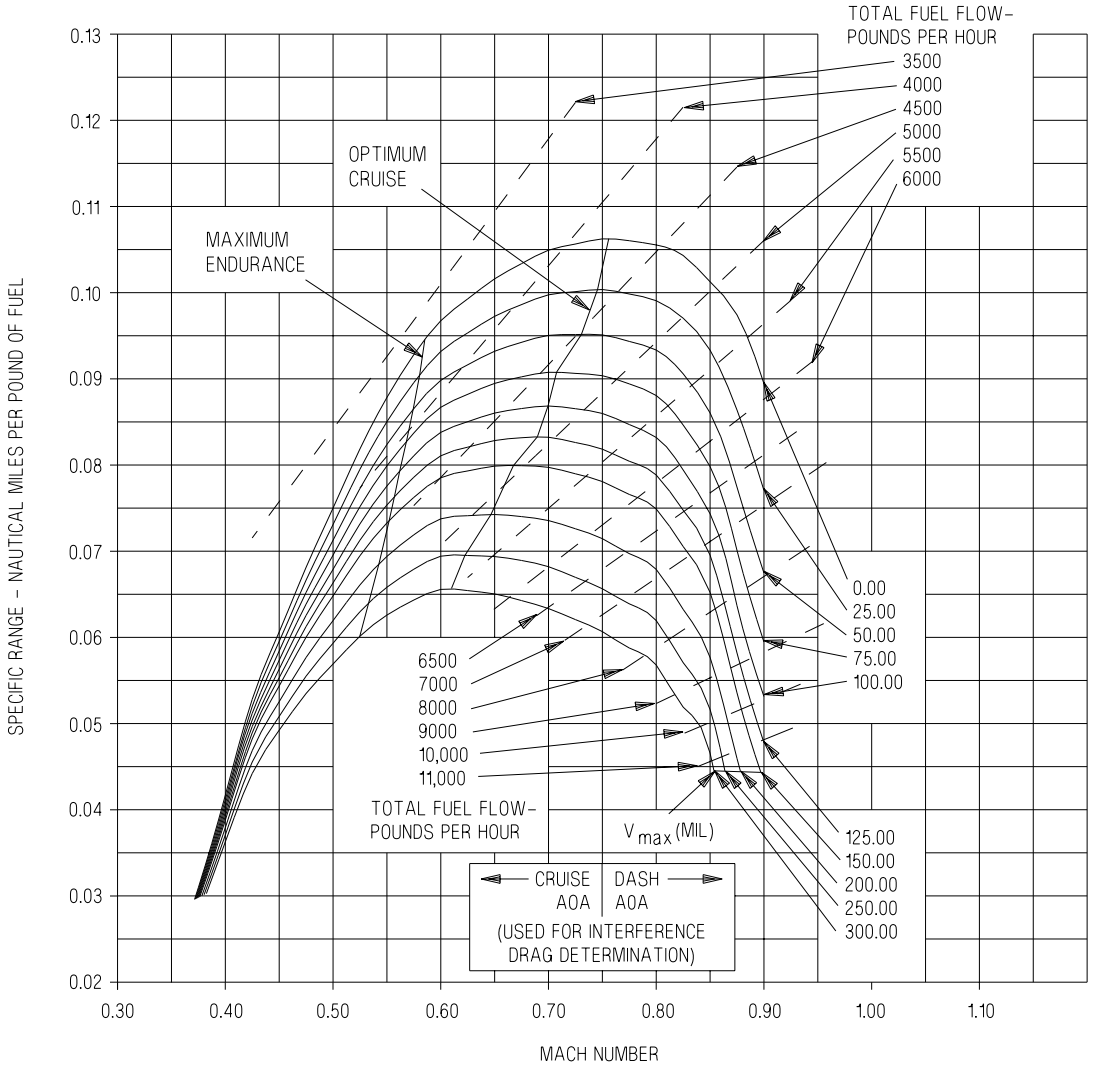
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-237-1-004

Figure 5-64. Specific Range - 30,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 42,000 POUNDS

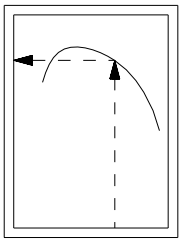
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

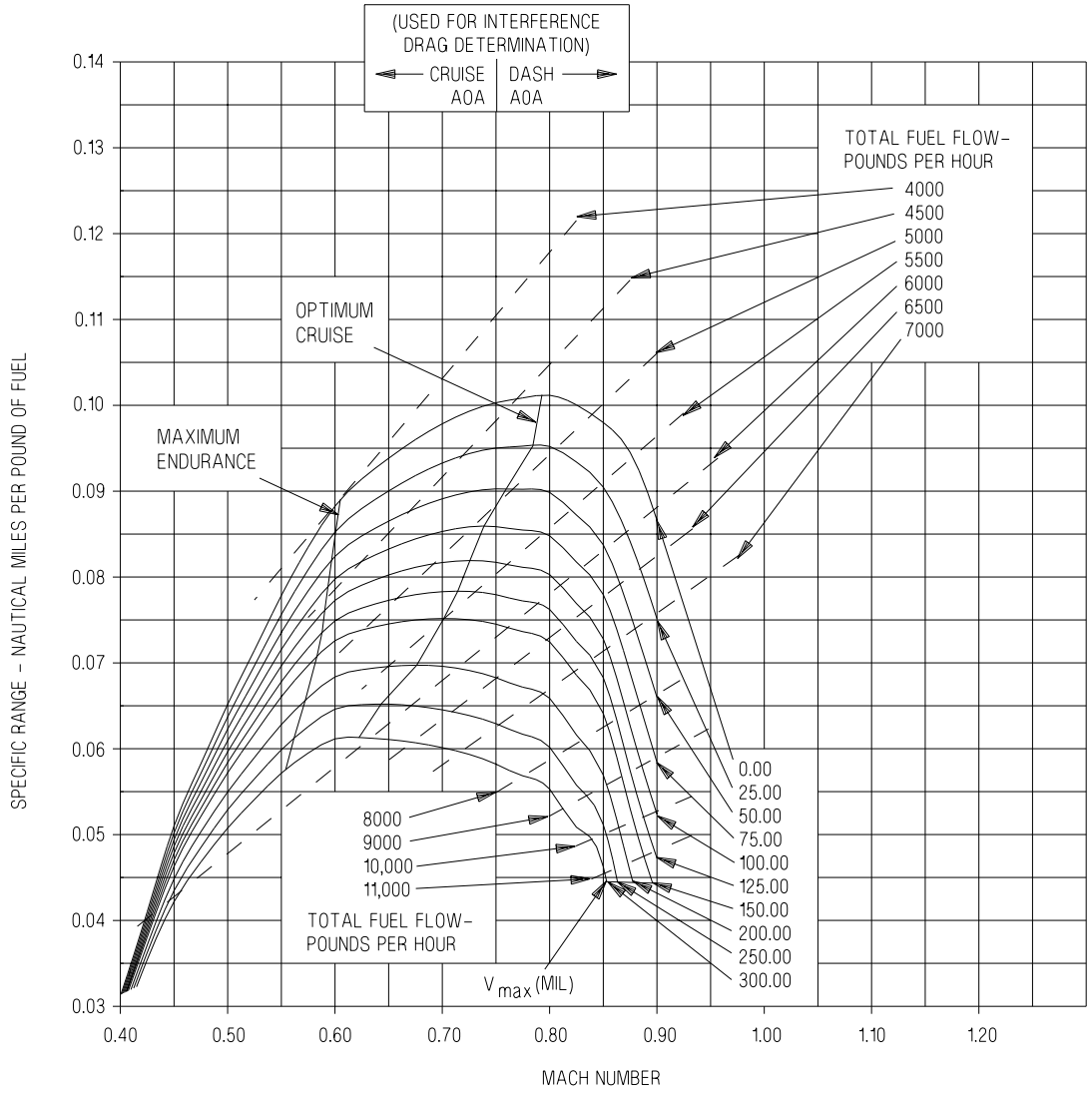
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-238-1-004

Figure 5-65. Specific Range - 30,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 46,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

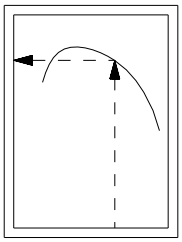
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

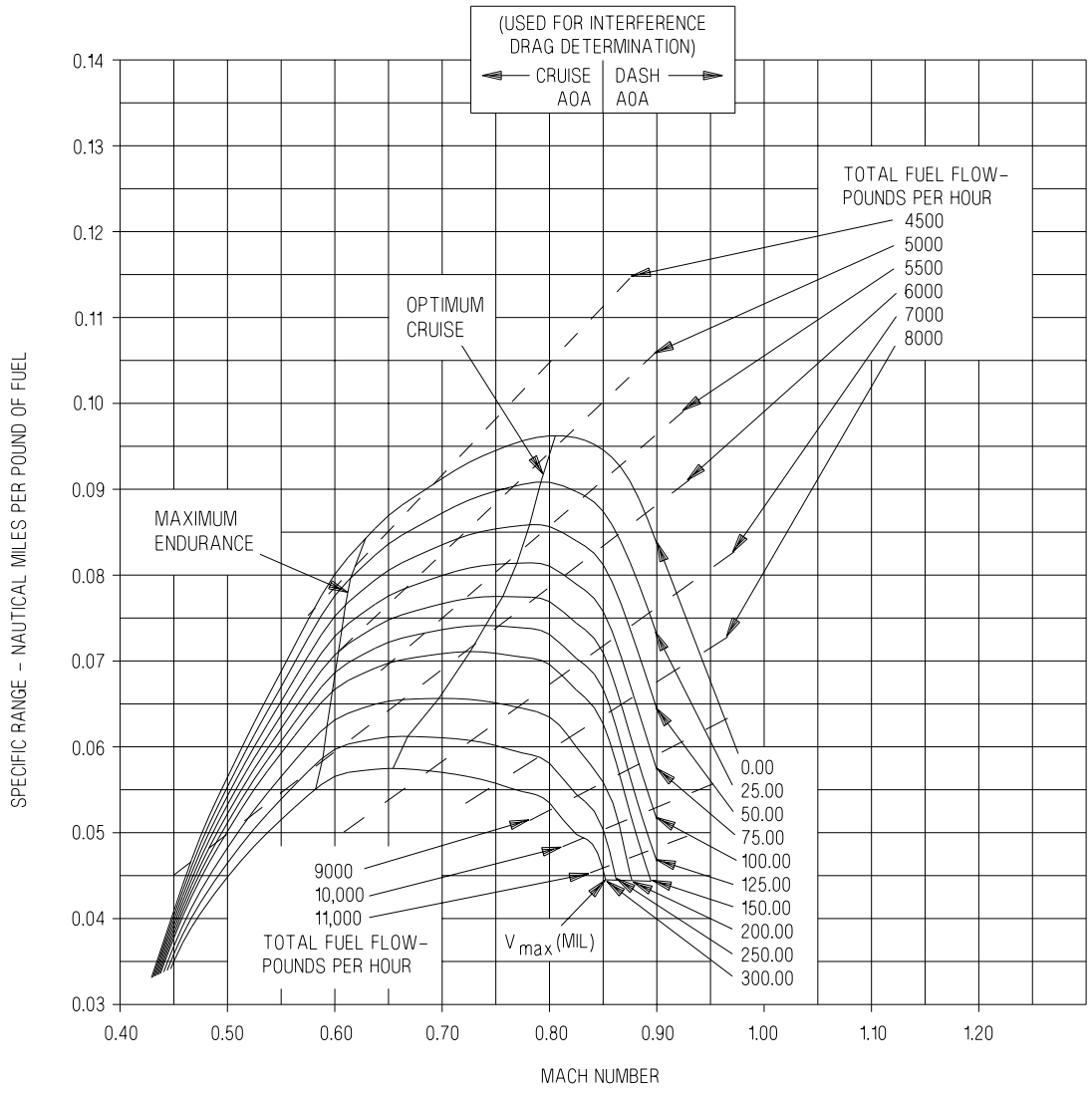
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-239-1-004

Figure 5-66. Specific Range - 30,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 50,000 POUNDS

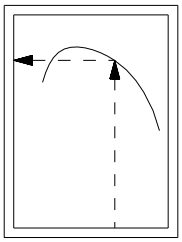
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

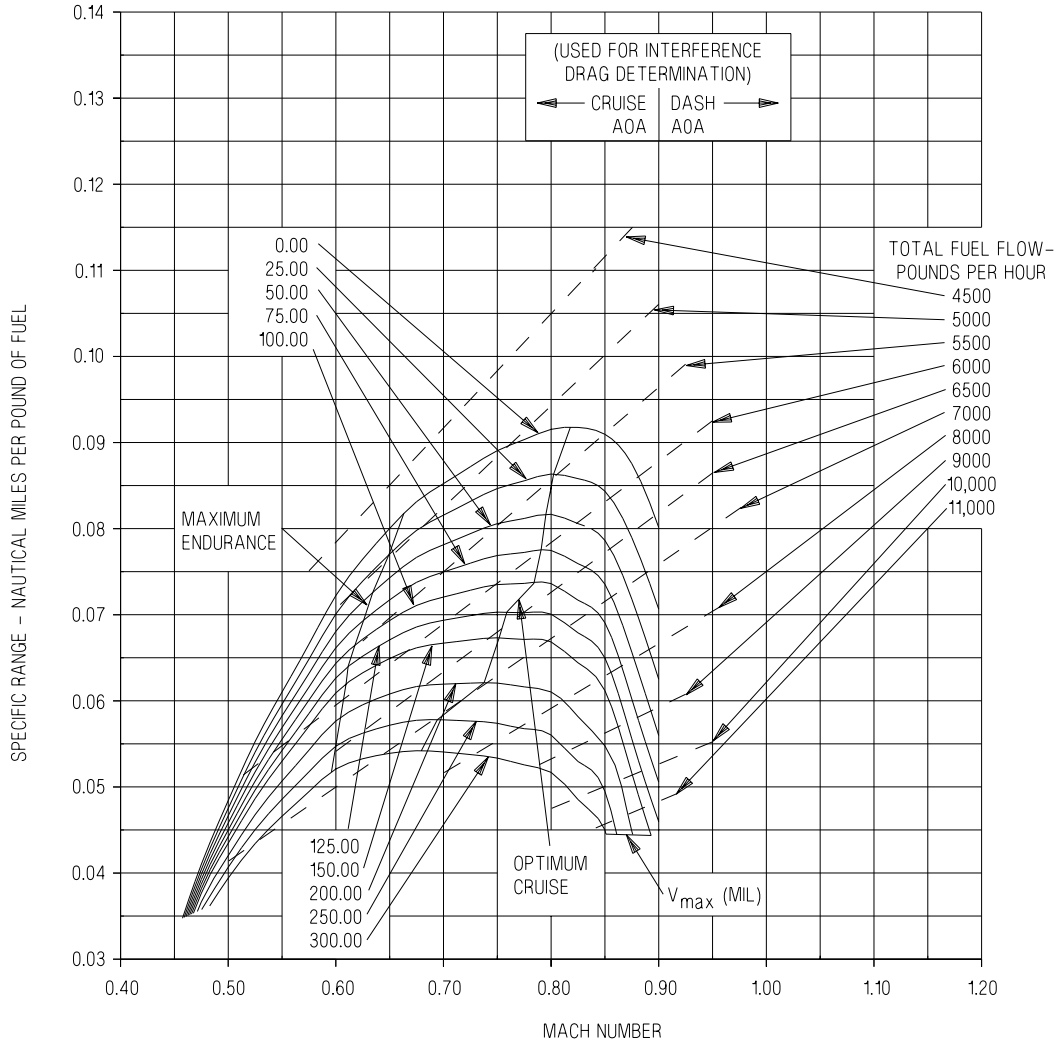
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-240-1-004

Figure 5-67. Specific Range - 30,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 54,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

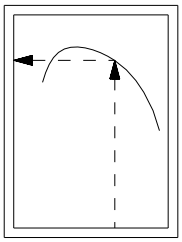
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

DI VALID TO 0.9 MACH

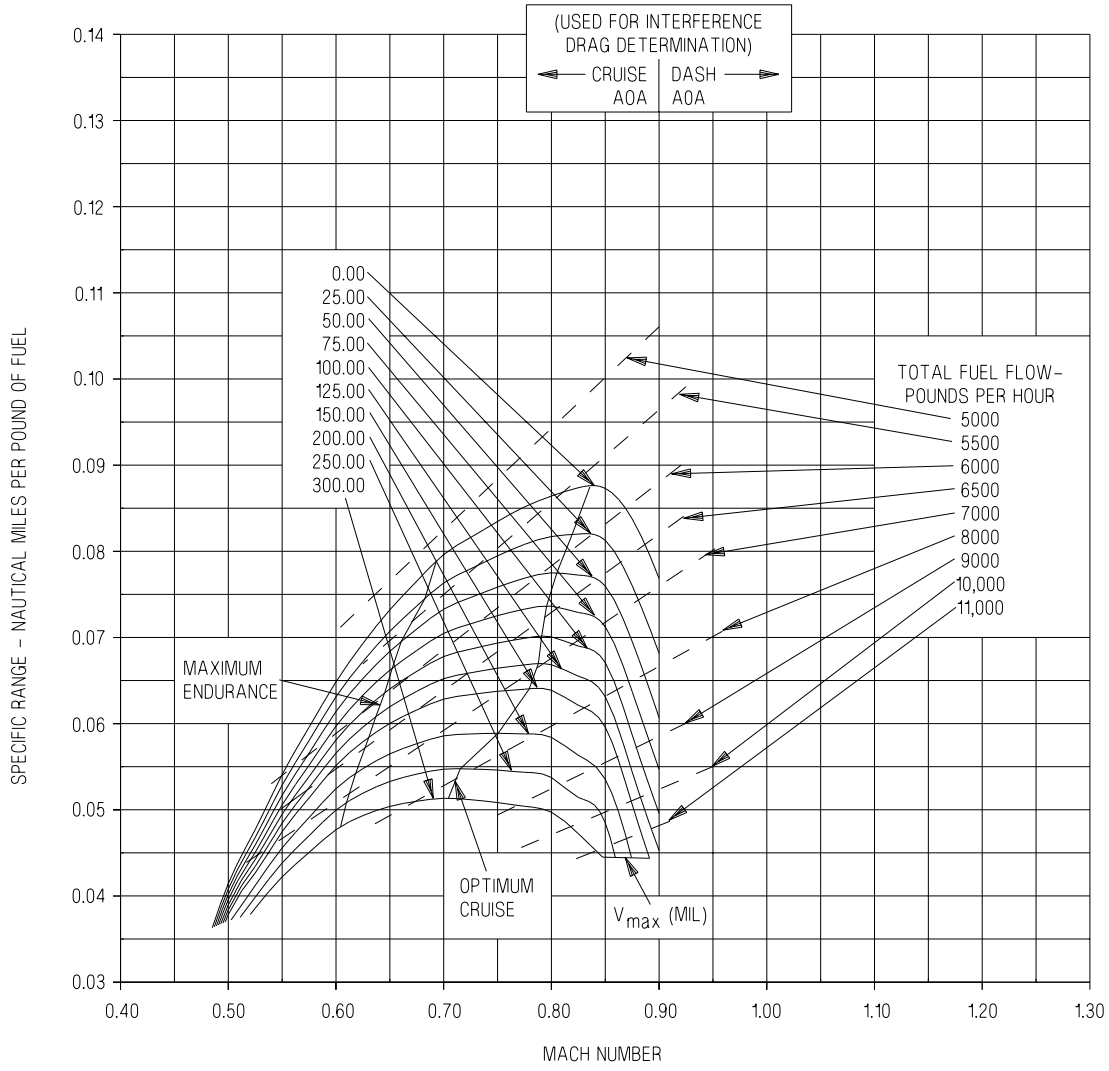
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-241-1-004

Figure 5-68. Specific Range - 30,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 58,000 POUNDS

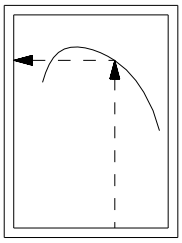
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

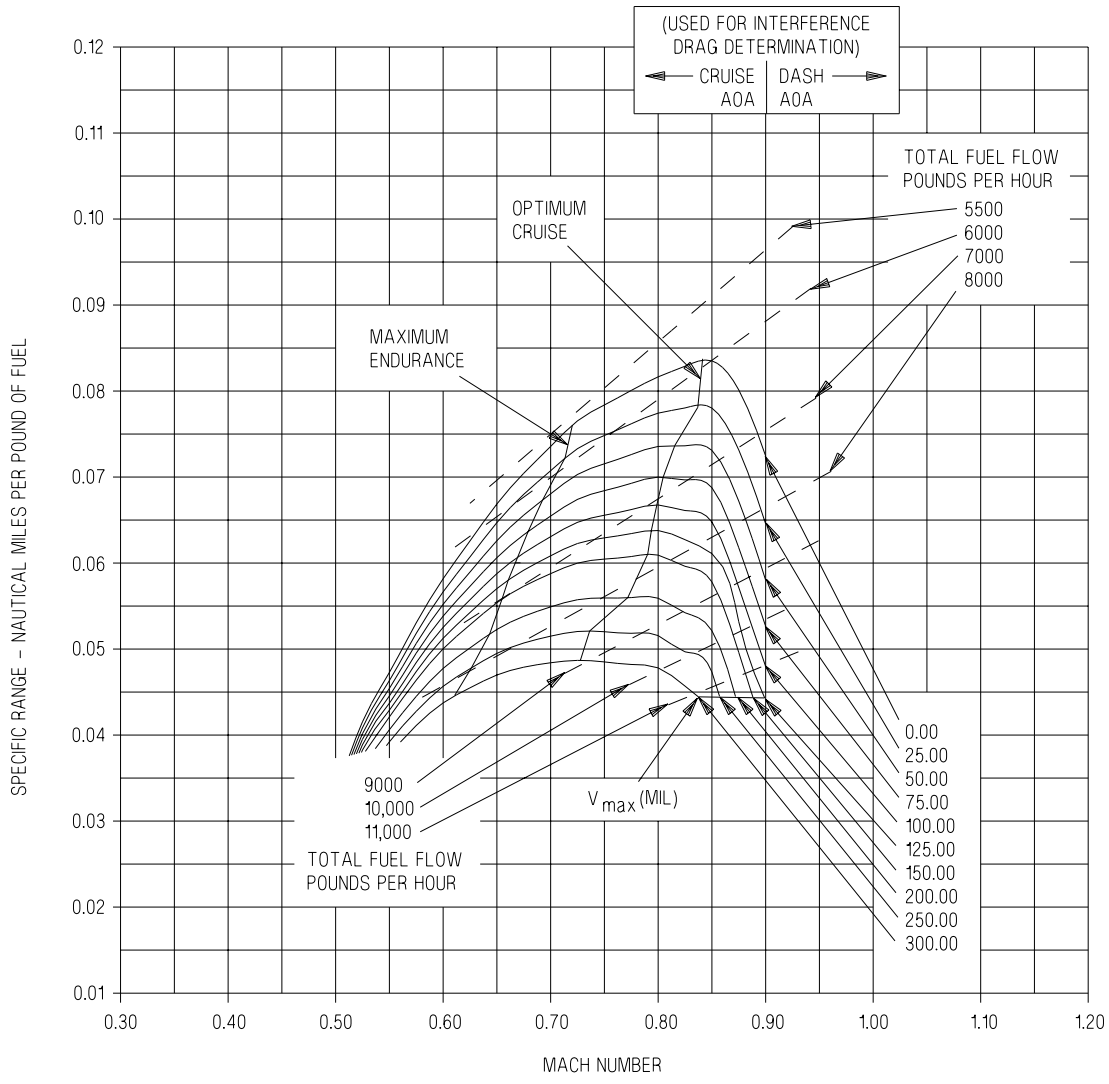
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-242-1-004

Figure 5-69. Specific Range - 30,000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 62,000 POUNDS

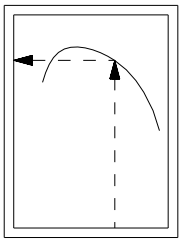
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

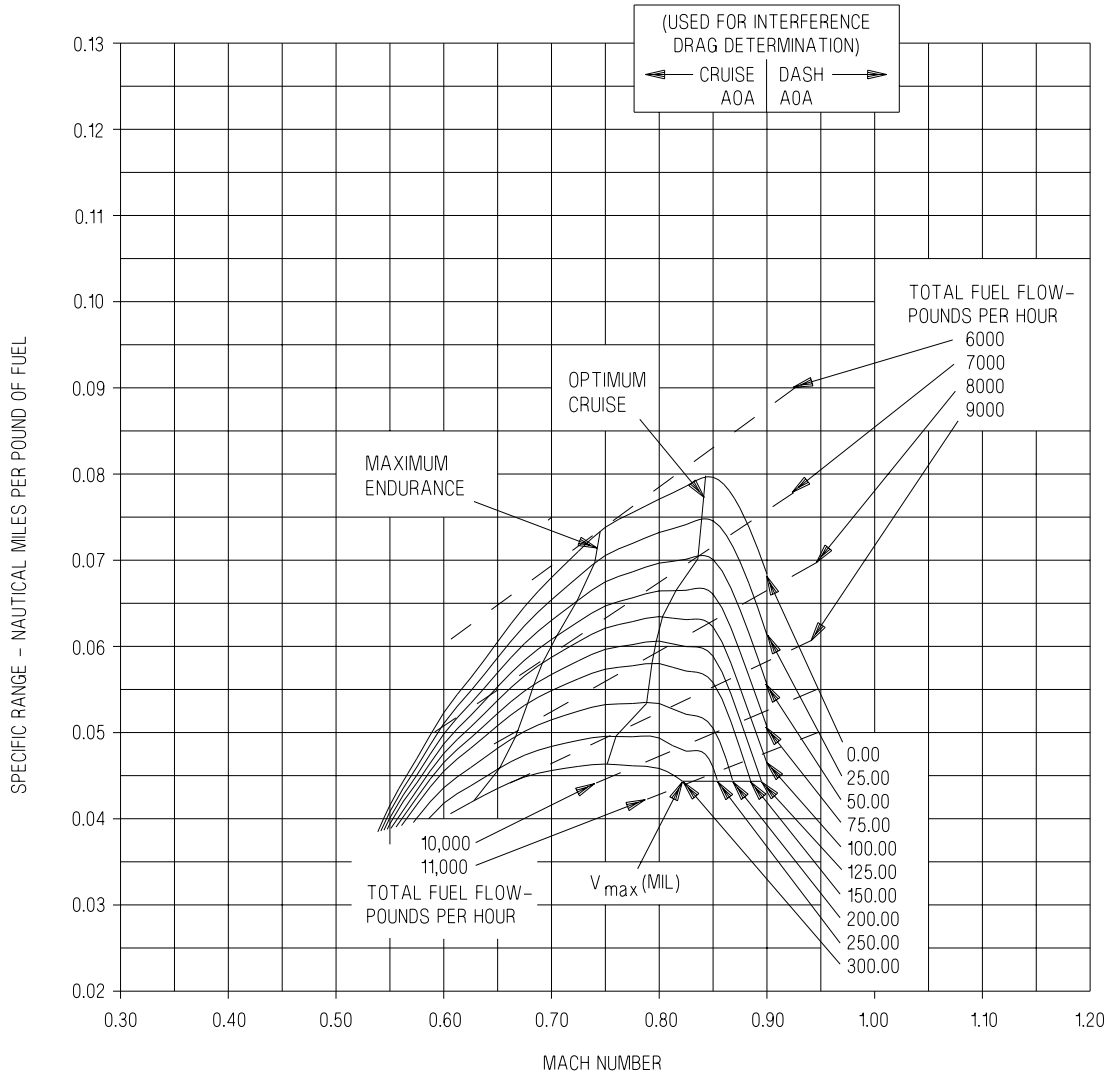
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-243-1-004

Figure 5-70. Specific Range - 30,000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 66,000 POUNDS

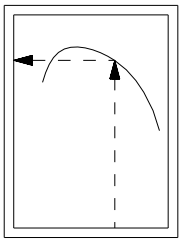
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

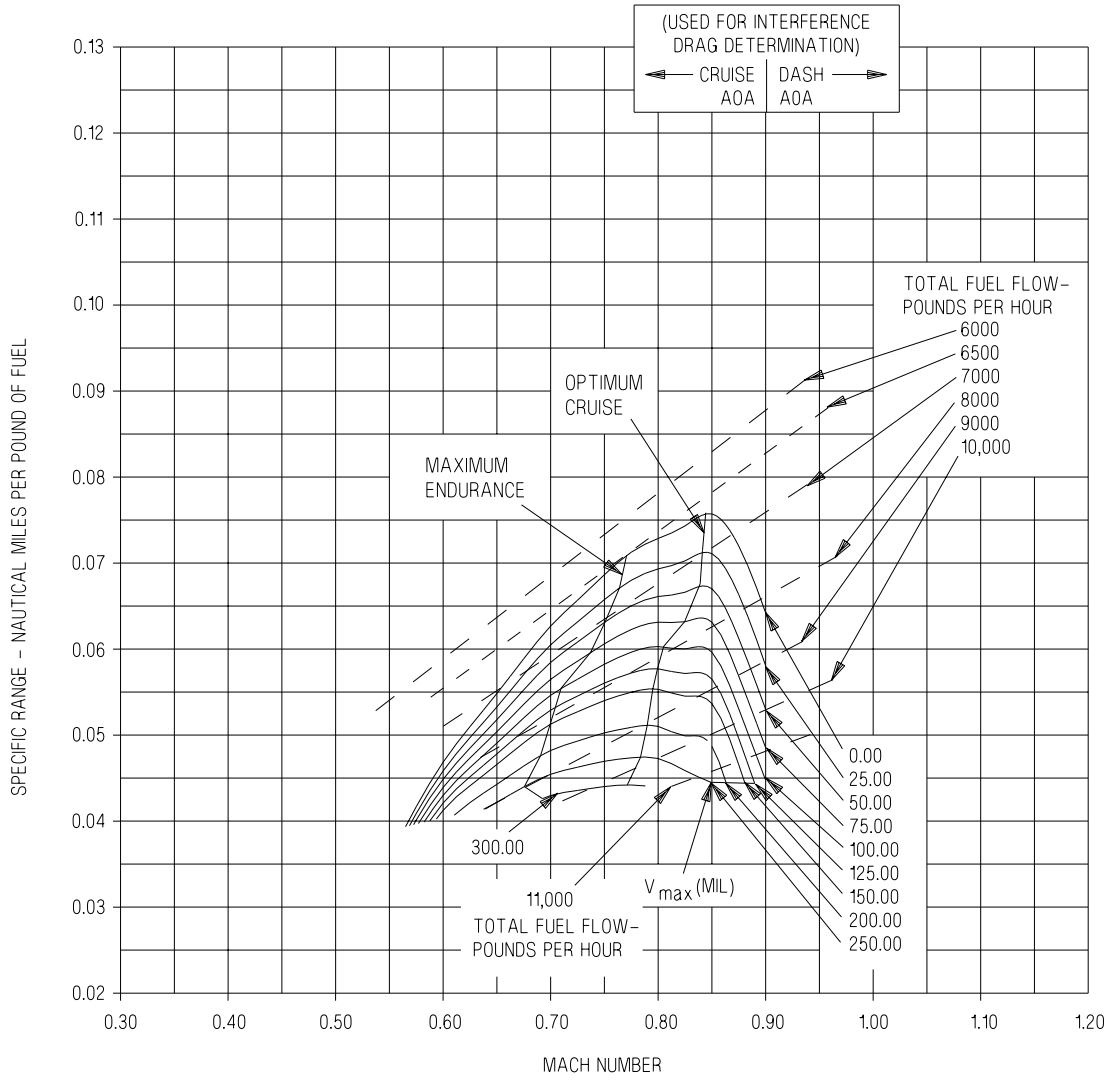
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-244-1-004

Figure 5-71. Specific Range - 30,000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 30,000 POUNDS

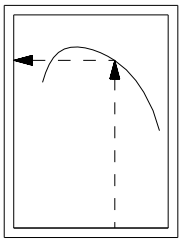
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

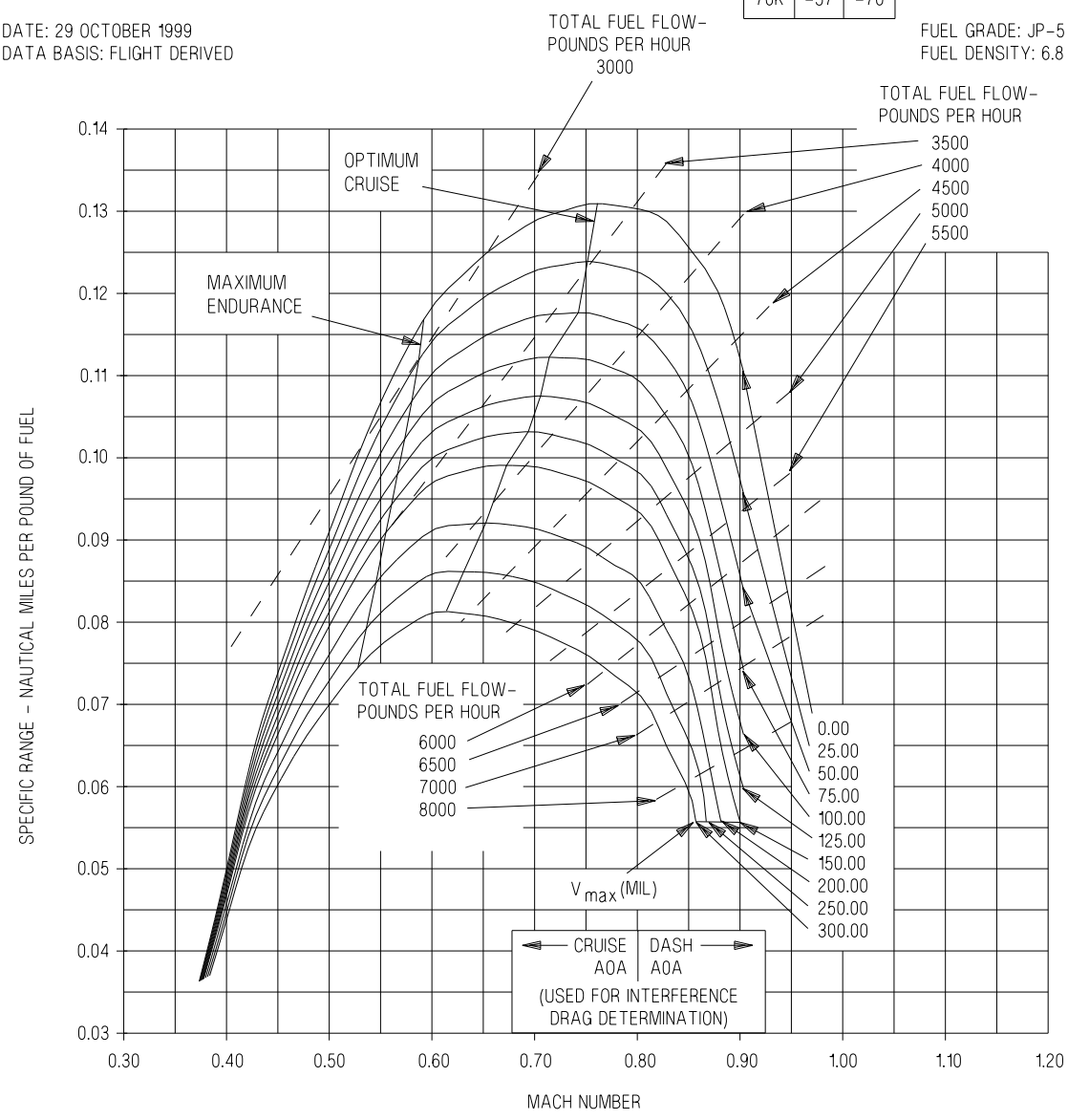
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-245-1-004

Figure 5-72. Specific Range - 35,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 34,000 POUNDS

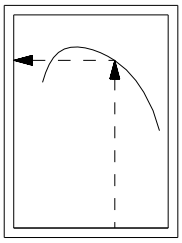
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

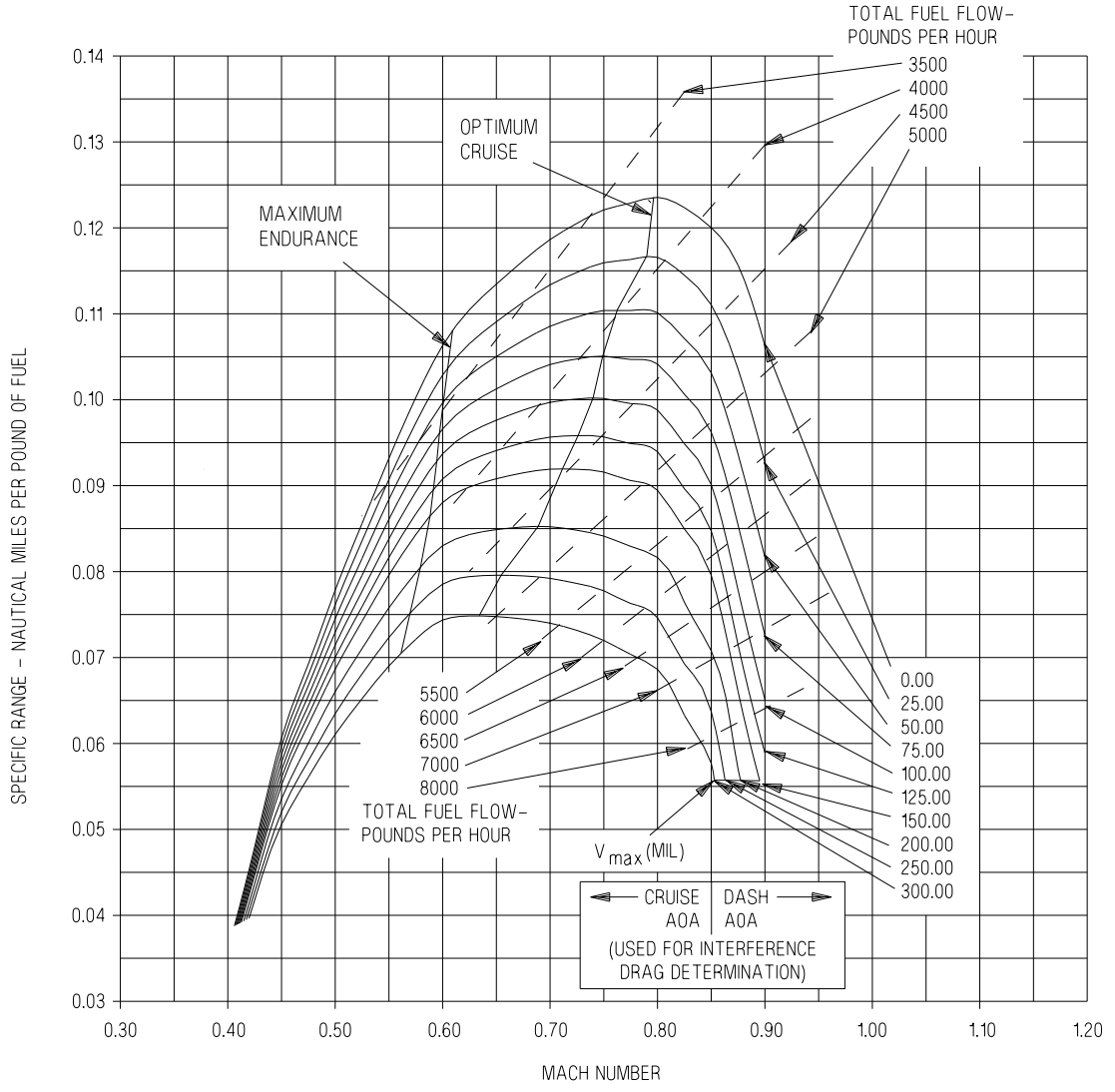
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-246-1-004

Figure 5-73. Specific Range - 35,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 38,000 POUNDS

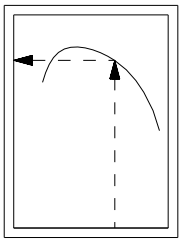
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

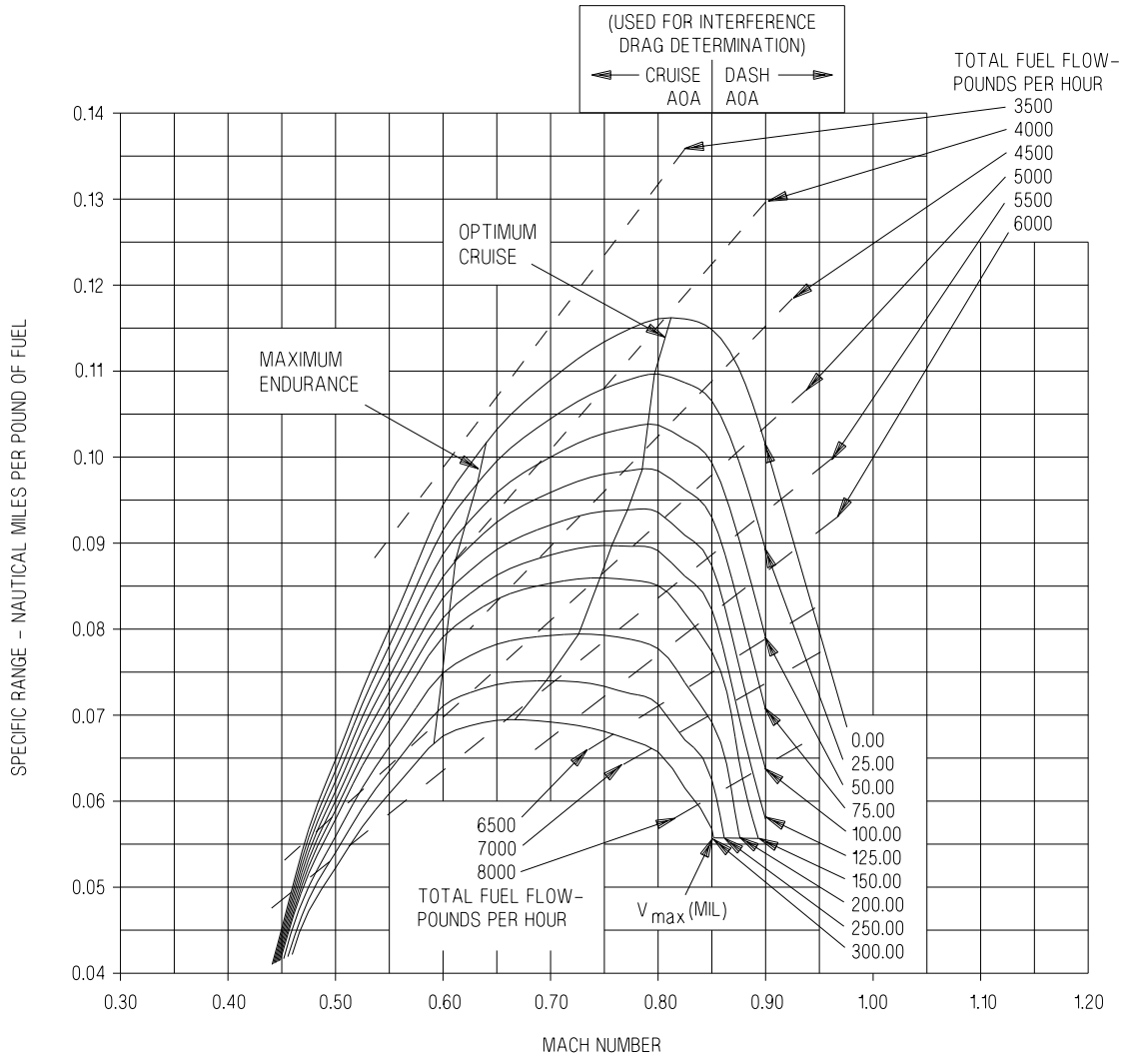
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-247-1-004

Figure 5-74. Specific Range - 35,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 42,000 POUNDS

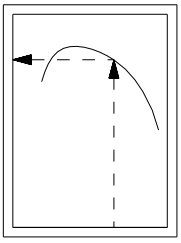
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

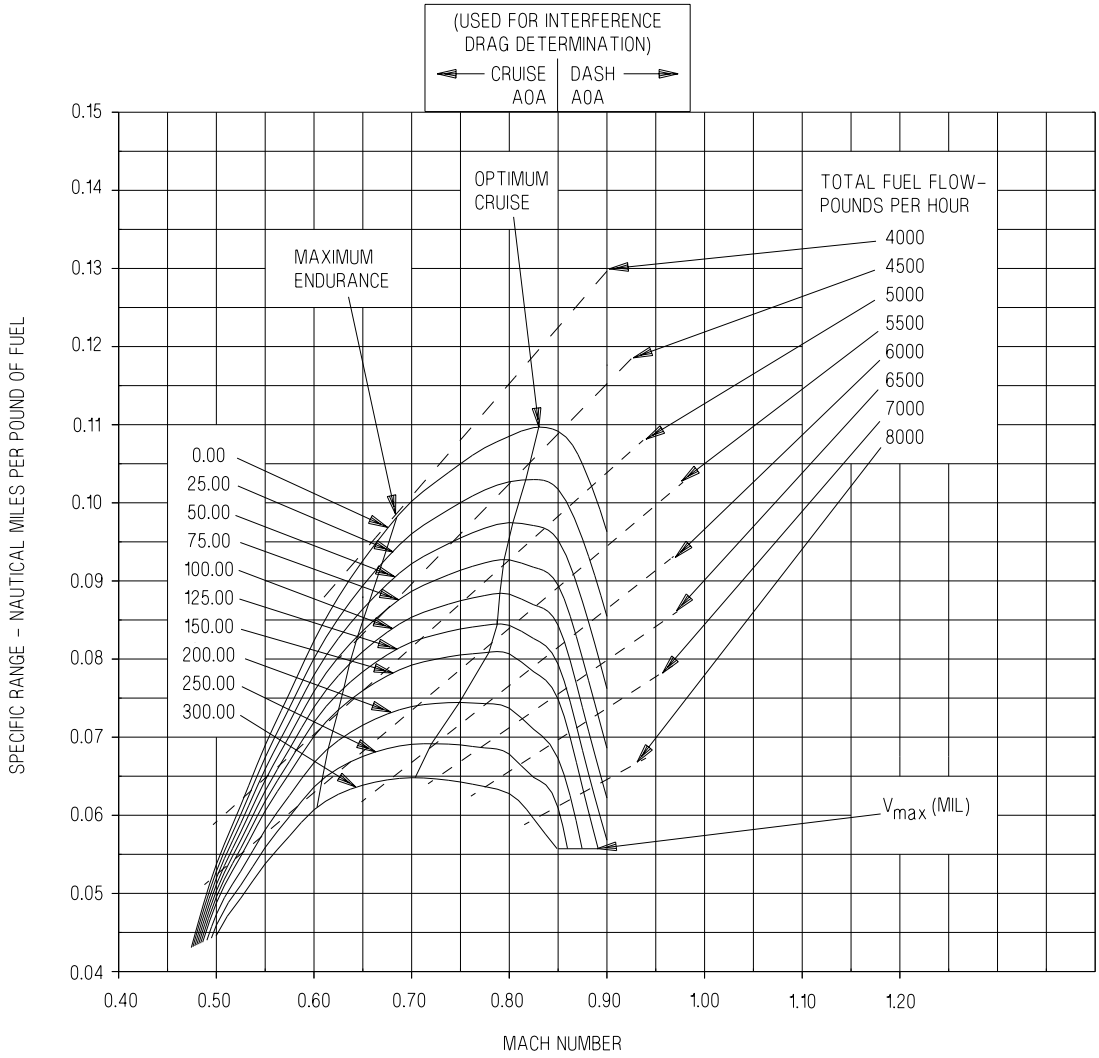
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-267-1-004

Figure 5-75. Specific Range - 35,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 46,000 POUNDS

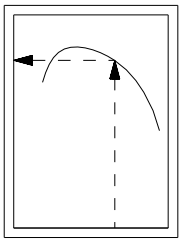
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

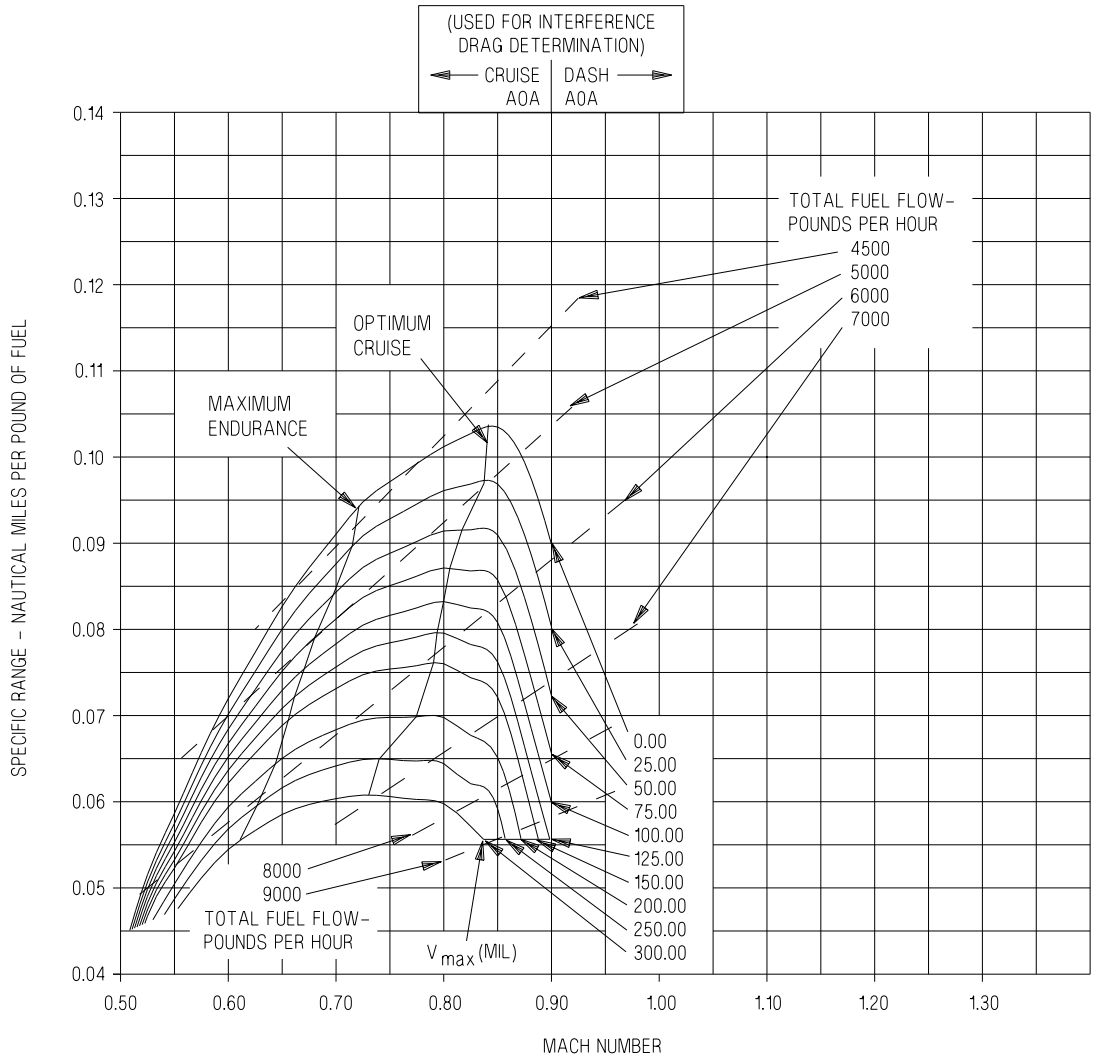
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-249-1-004

Figure 5-76. Specific Range - 35,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 50,000 POUNDS

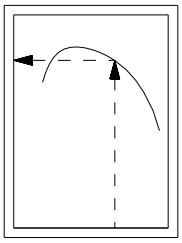
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

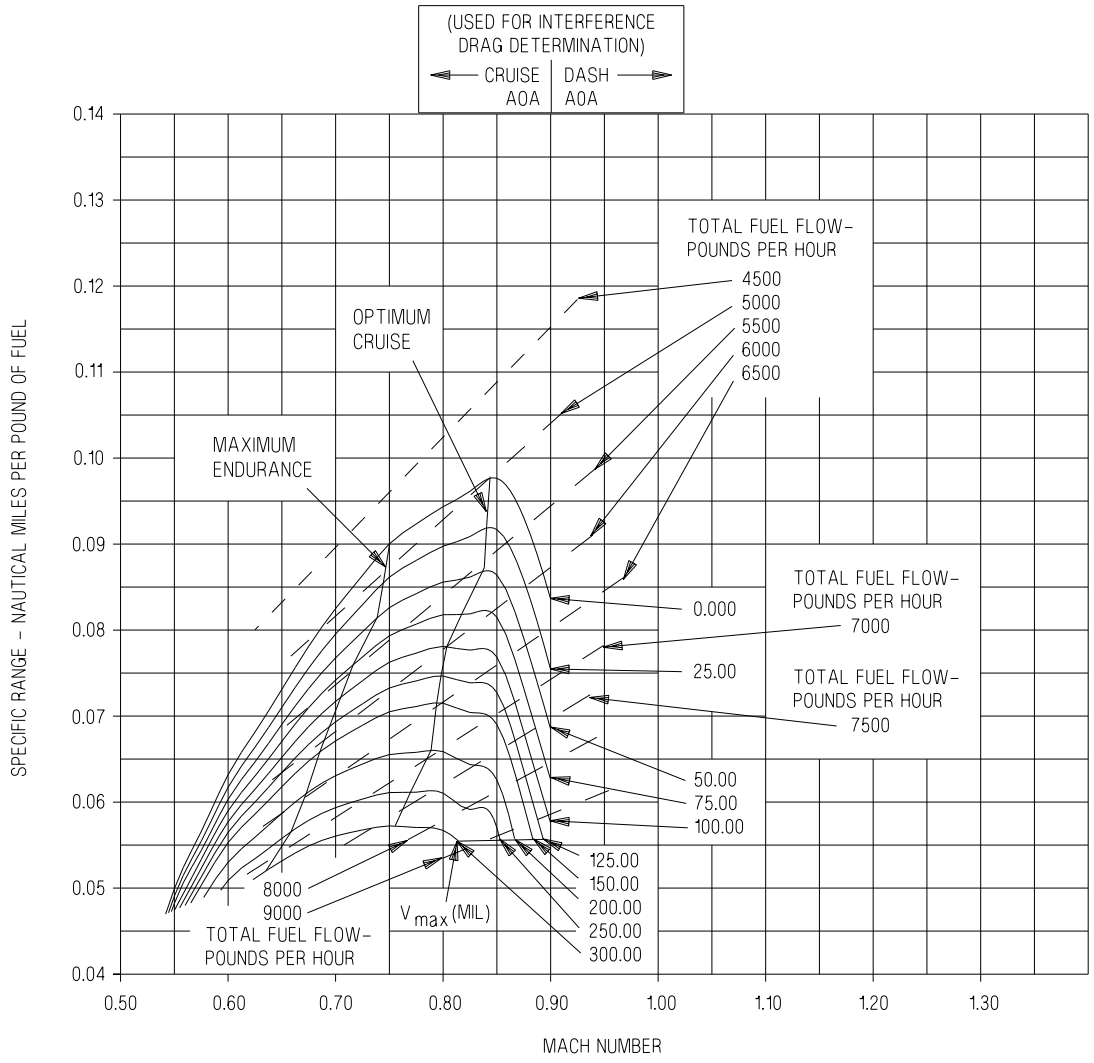
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-250-1-004

Figure 5-77. Specific Range - 35,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 54,000 POUNDS

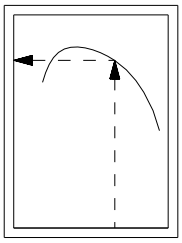
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

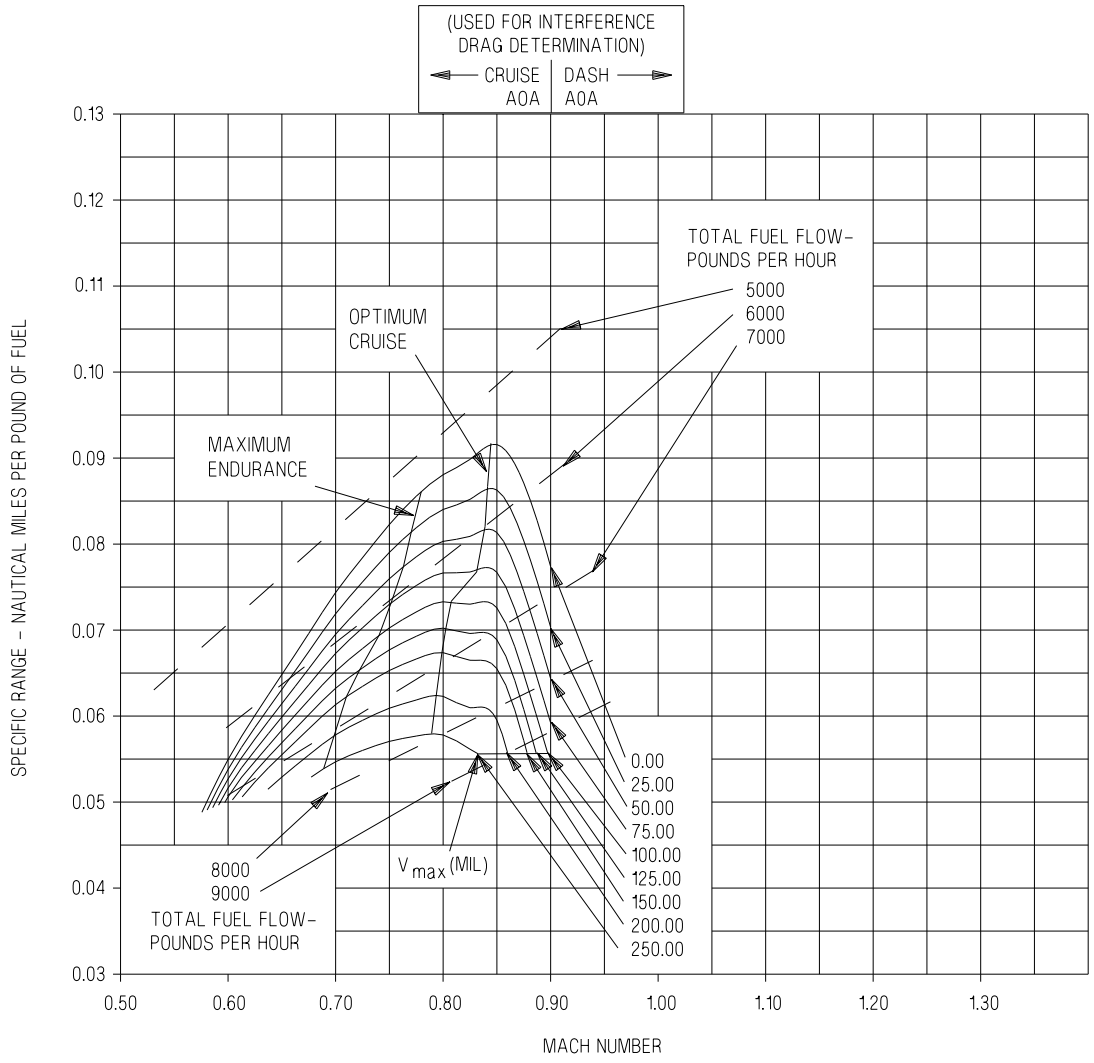
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-251-1-004

Figure 5-78. Specific Range - 35,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 58,000 POUNDS

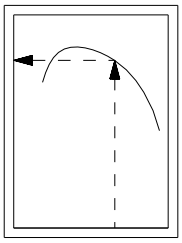
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

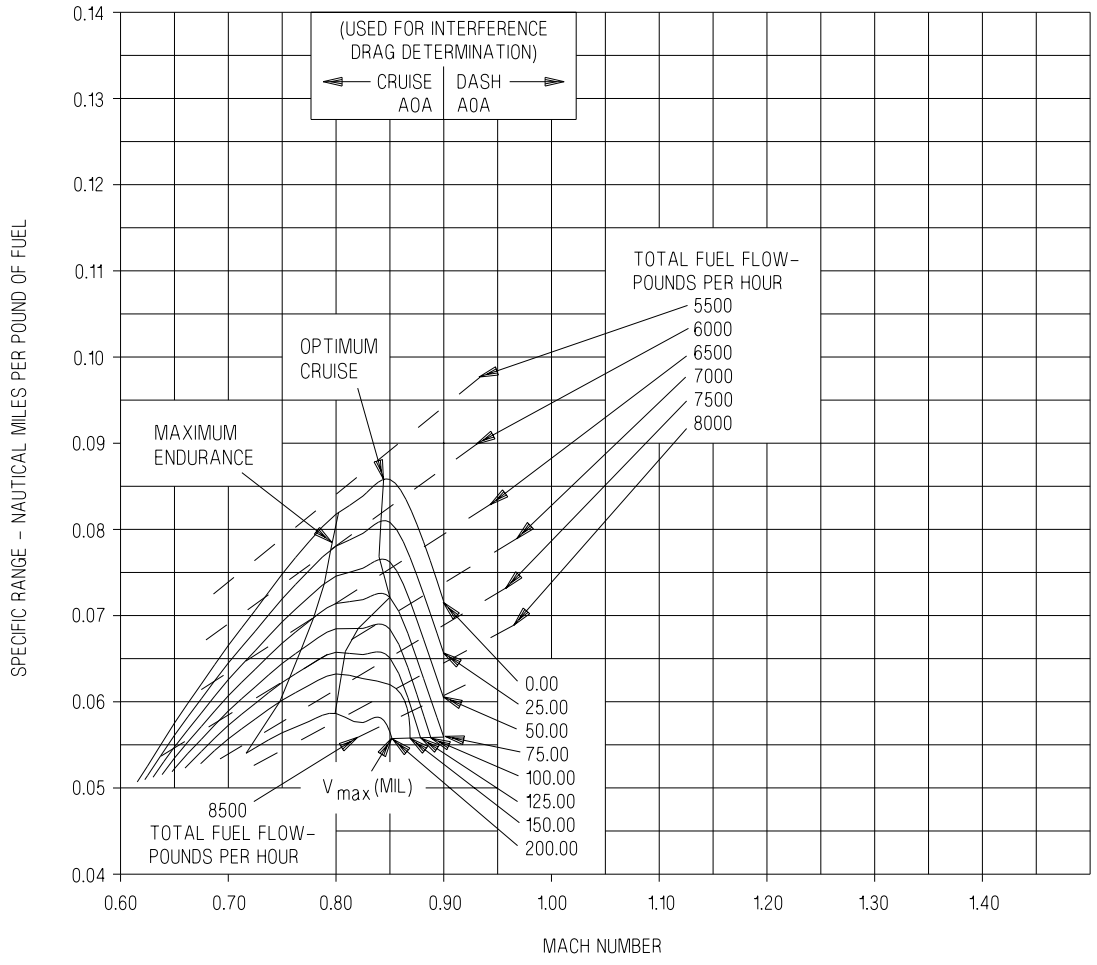
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-252-1-004

Figure 5-79. Specific Range - 35,000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 62,000 POUNDS

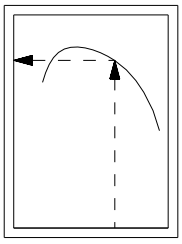
REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

NOTE
DI VALID TO 0.9 MACH

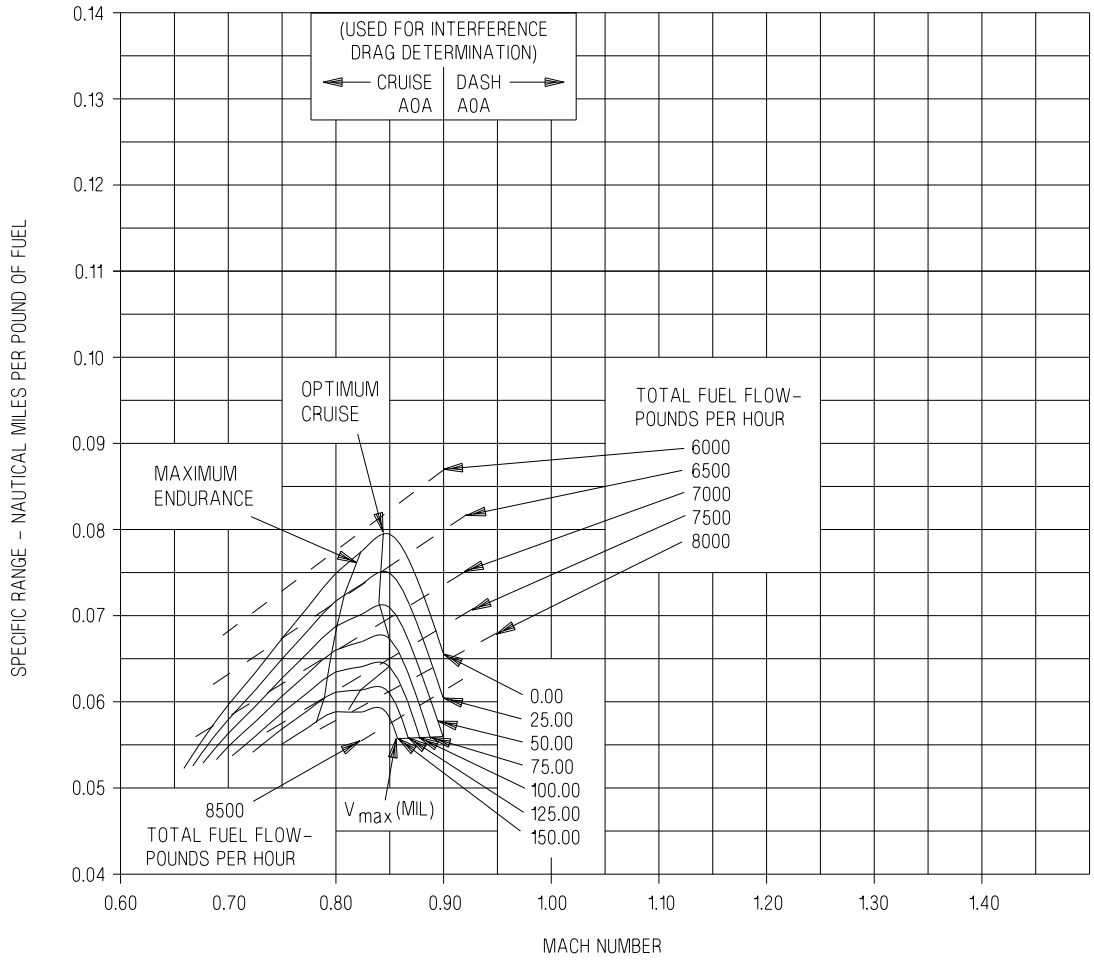
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-253-1-004

Figure 5-80. Specific Range - 35,000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 66,000 POUNDS

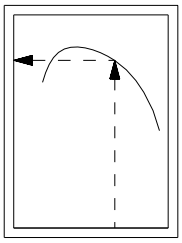
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

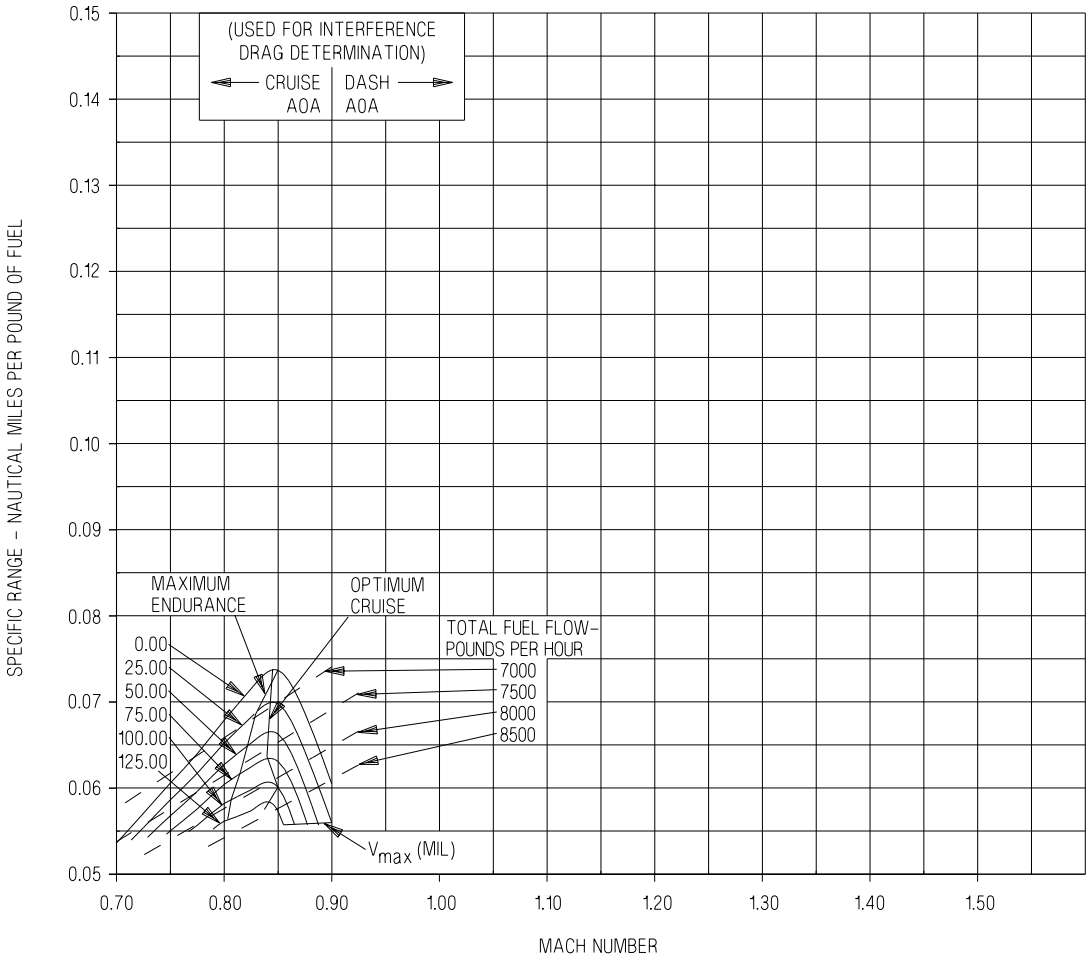
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-254-1-004

Figure 5-81. Specific Range - 35,000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

40,000 FEET - 30,000 POUNDS

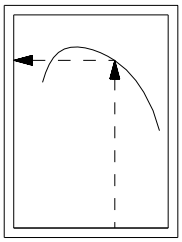
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

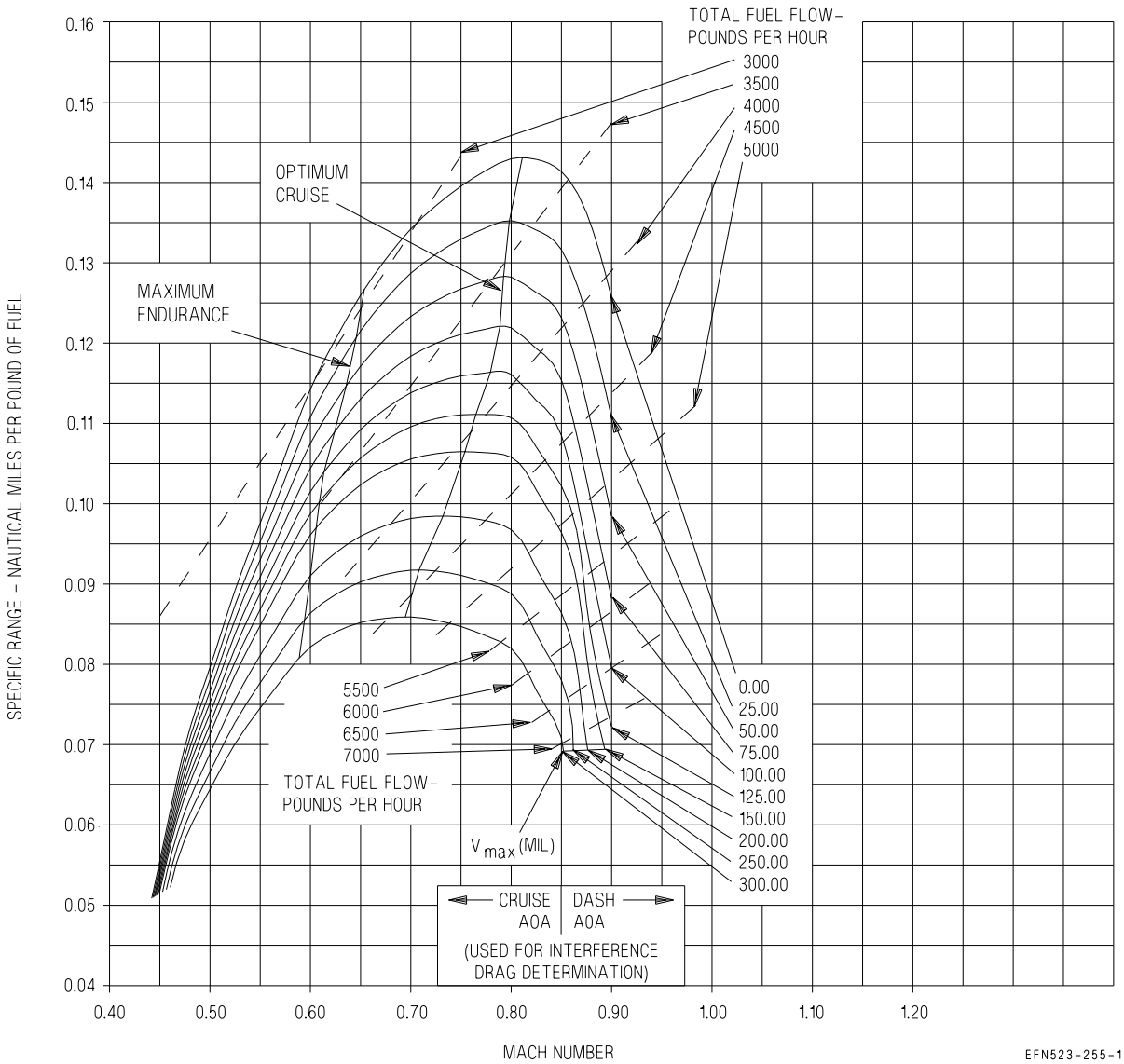
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-255-1-004

Figure 5-82. Specific Range - 40,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

40,000 FEET - 34,000 POUNDS

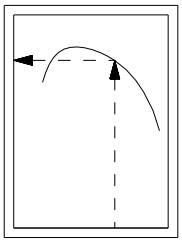
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

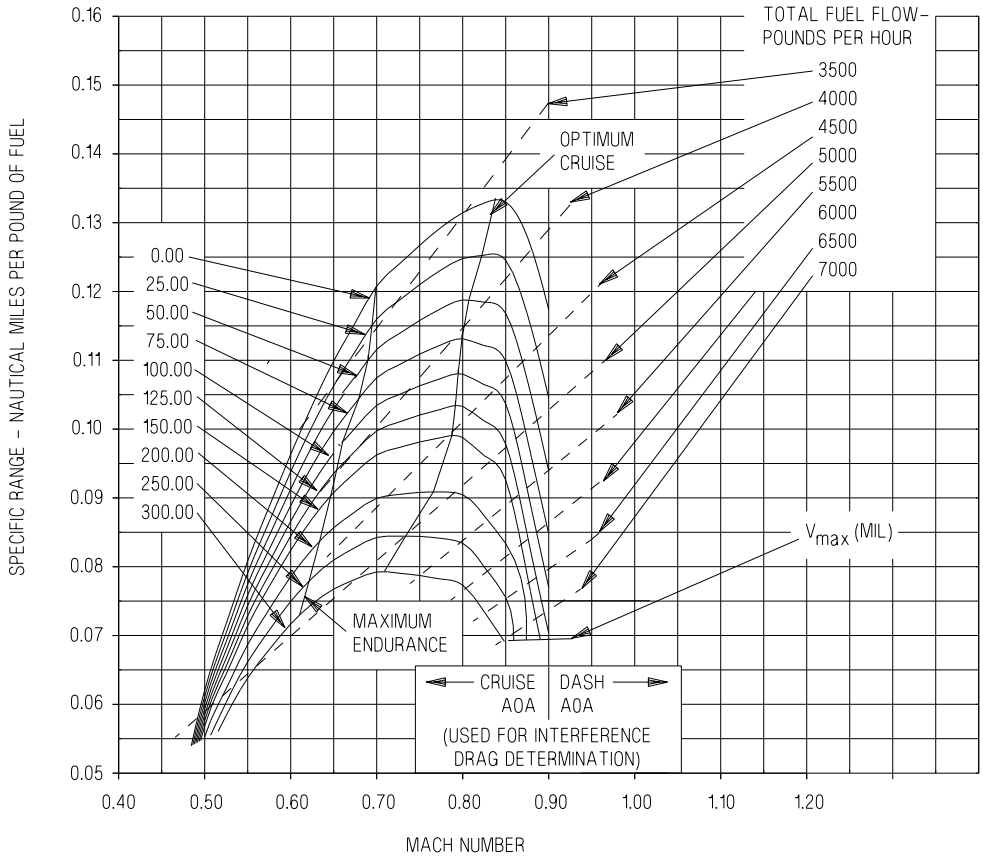
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-256-1-004

Figure 5-83. Specific Range - 40,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

40,000 FEET - 38,000 POUNDS

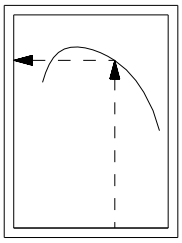
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

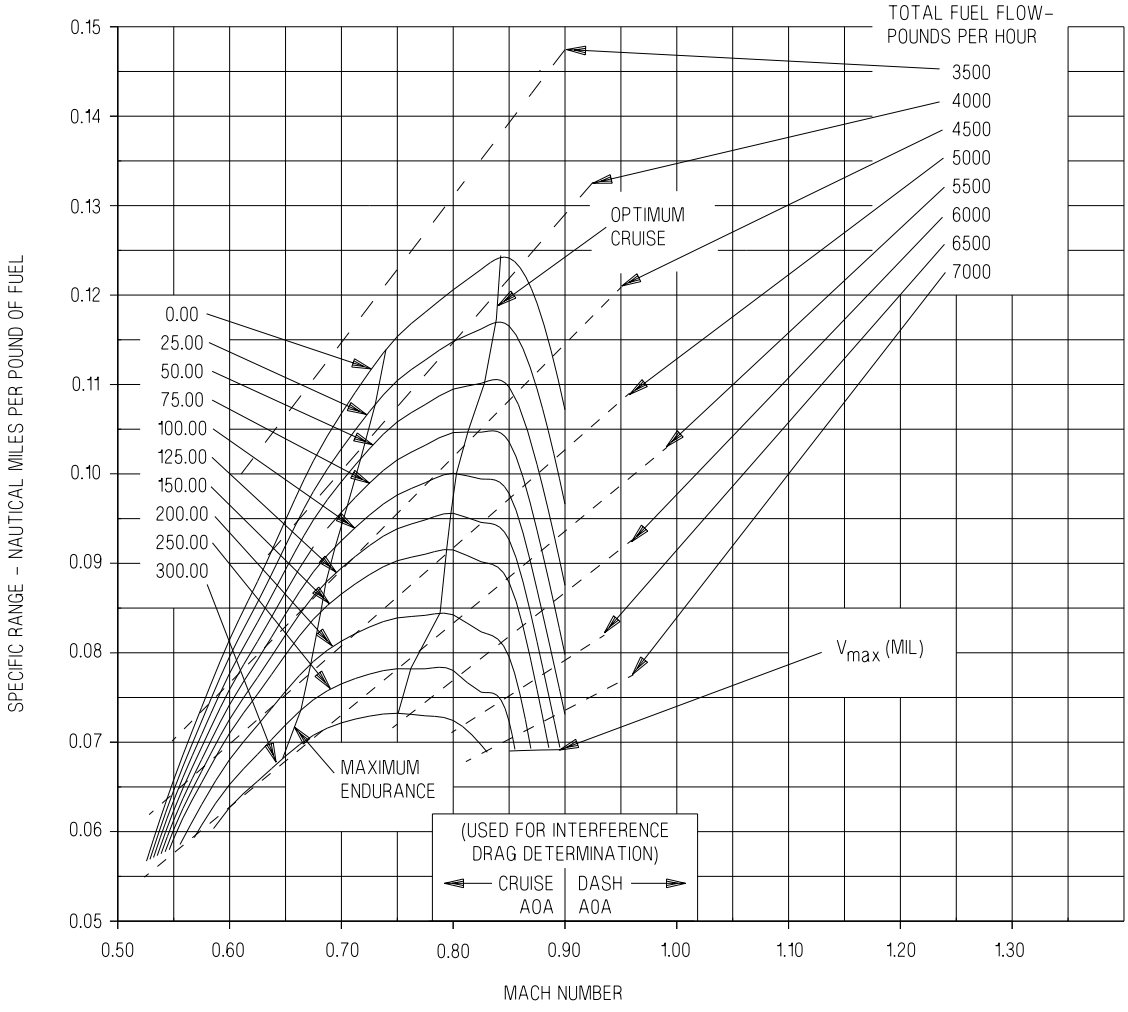
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-257-1-004

Figure 5-84. Specific Range - 40,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

40,000 FEET - 42,000 POUNDS

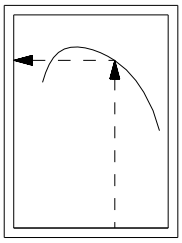
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

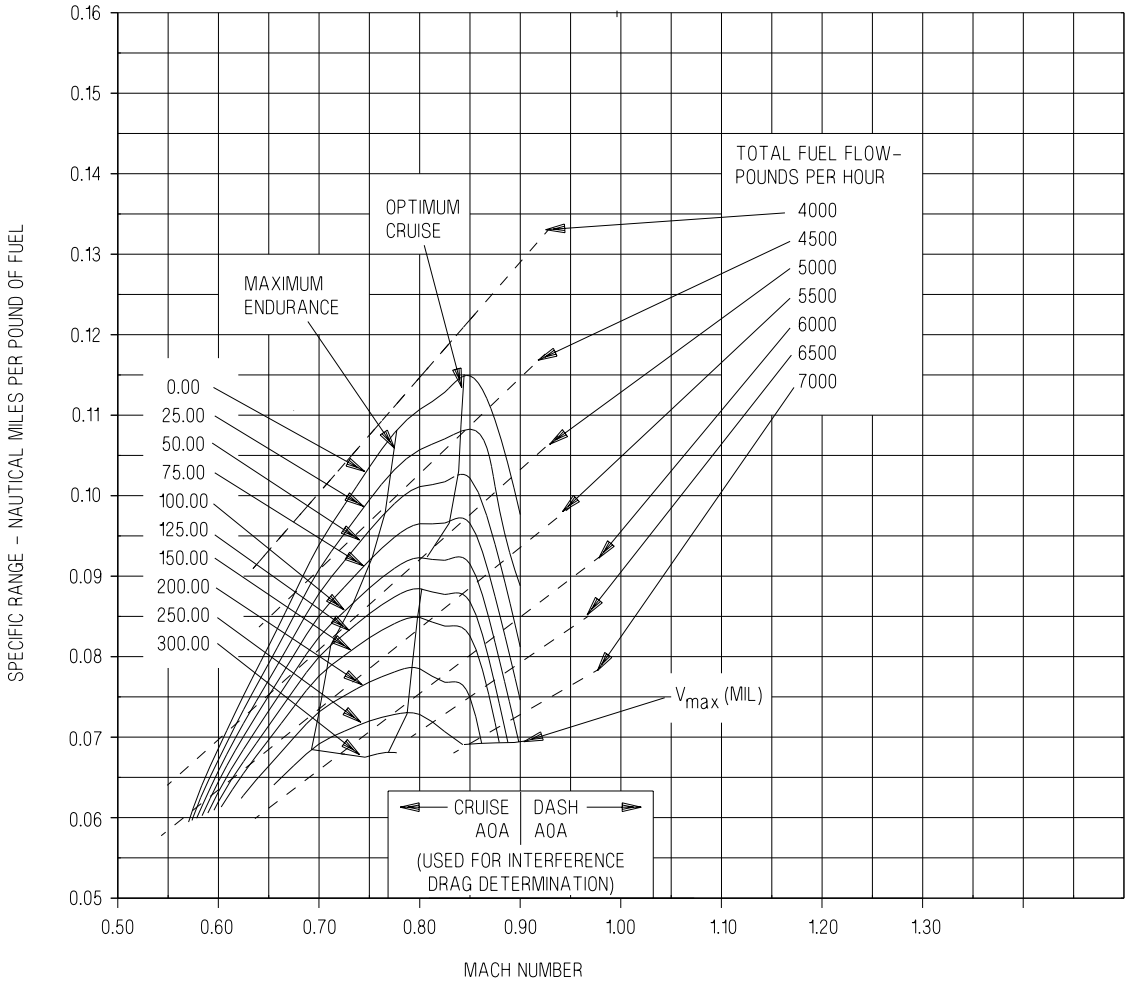
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-258-1-004

Figure 5-85. Specific Range - 40,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

40,000 FEET - 46,000 POUNDS

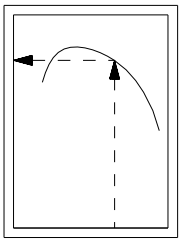
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

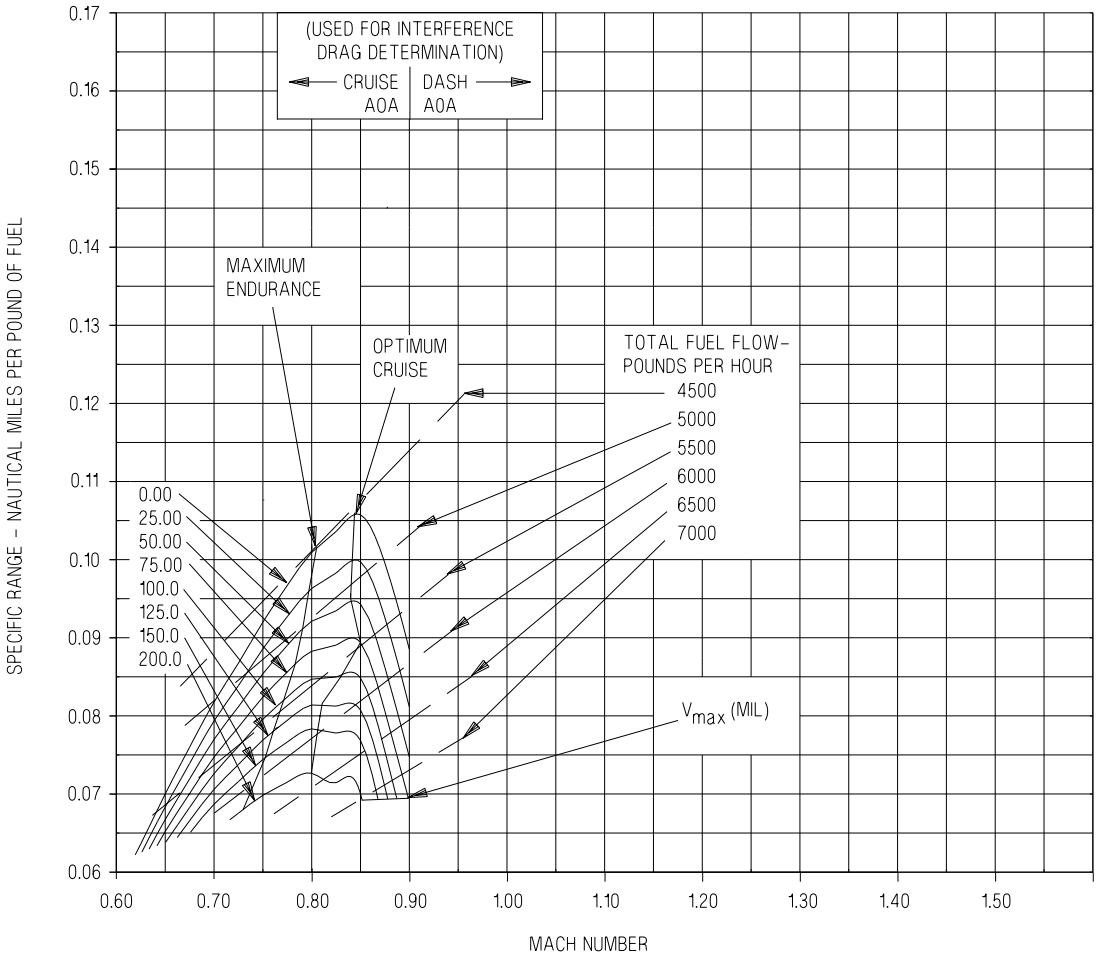
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-259-1-004

Figure 5-86. Specific Range - 40,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

40,000 FEET - 50,000 POUNDS

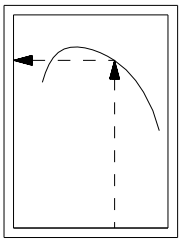
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

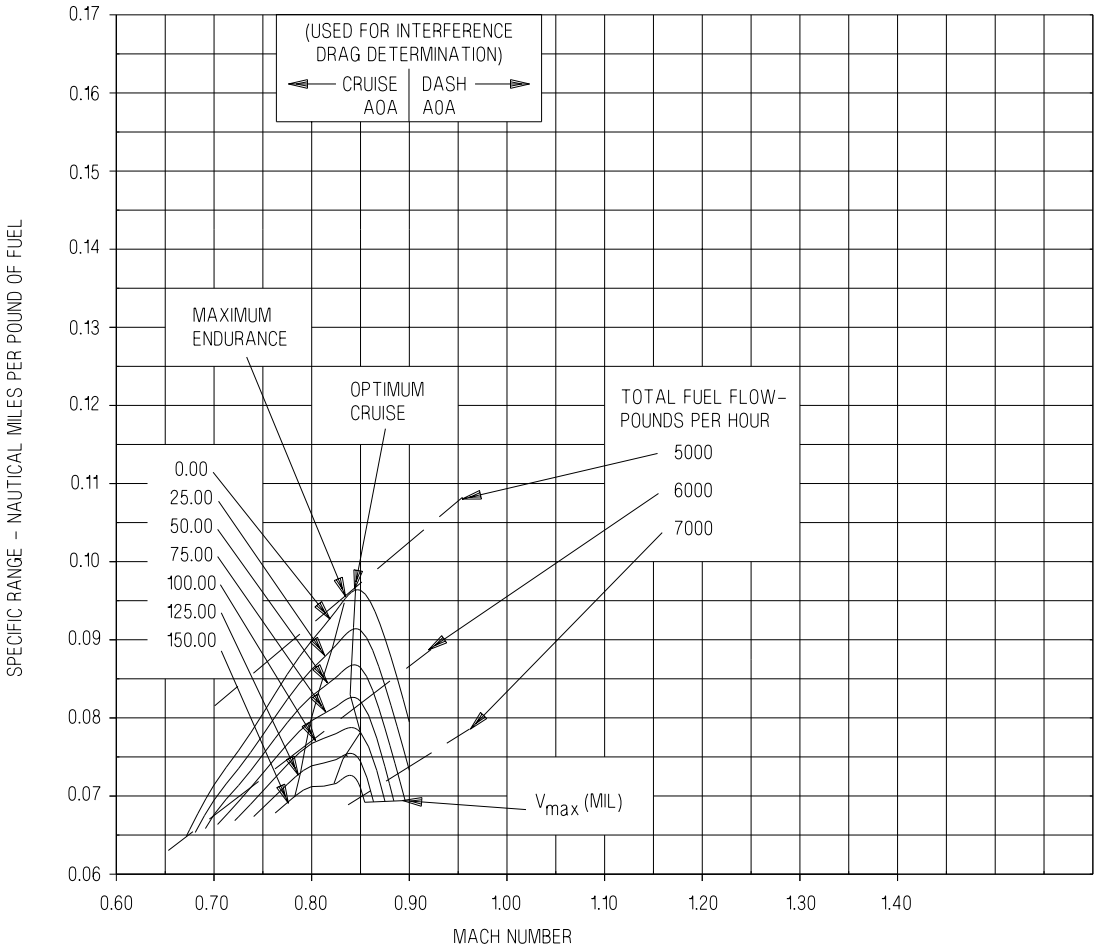
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-268-1-004

Figure 5-87. Specific Range - 40,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

40,000 FEET - 54,000 POUNDS

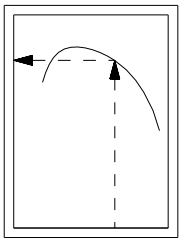
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

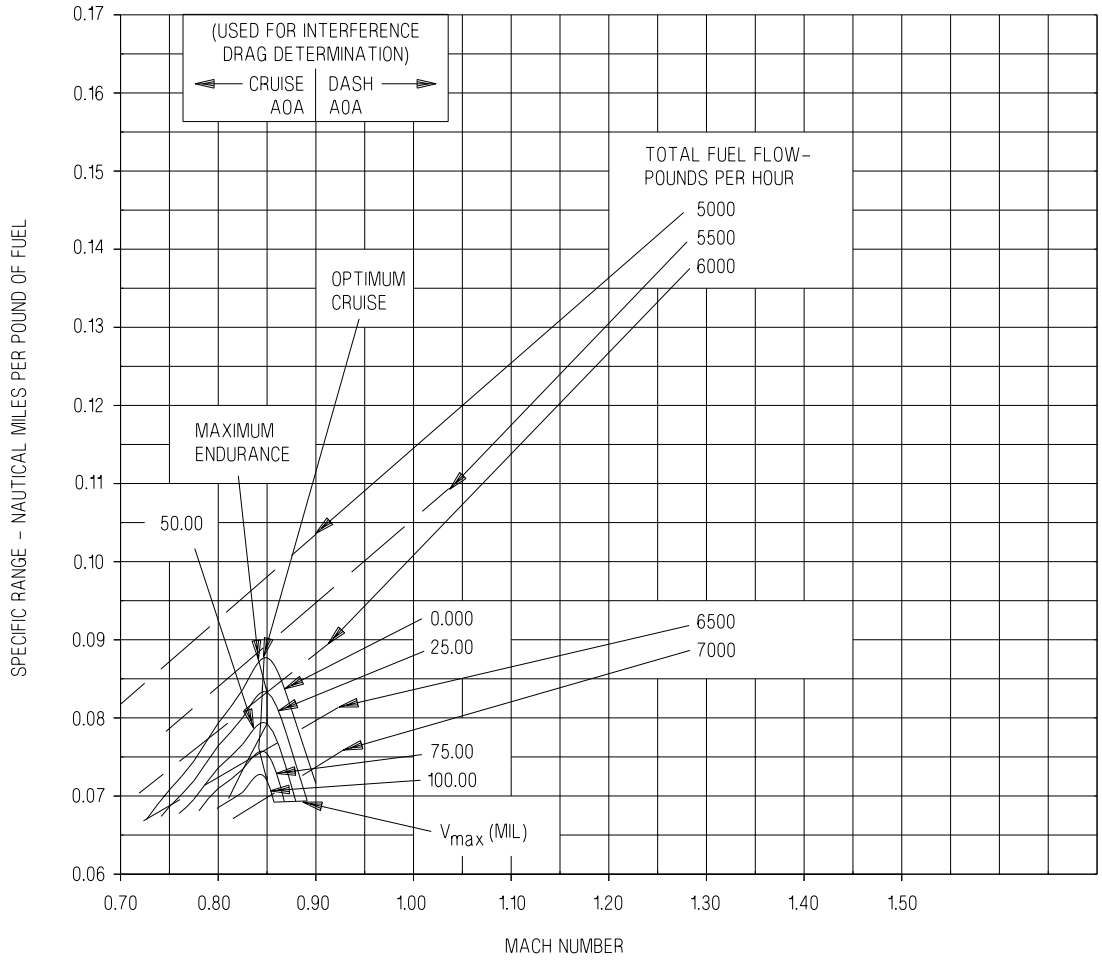
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-318-1-004

Figure 5-88. Specific Range - 40,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

40,000 FEET - 58,000 POUNDS

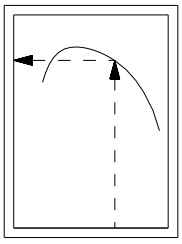
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

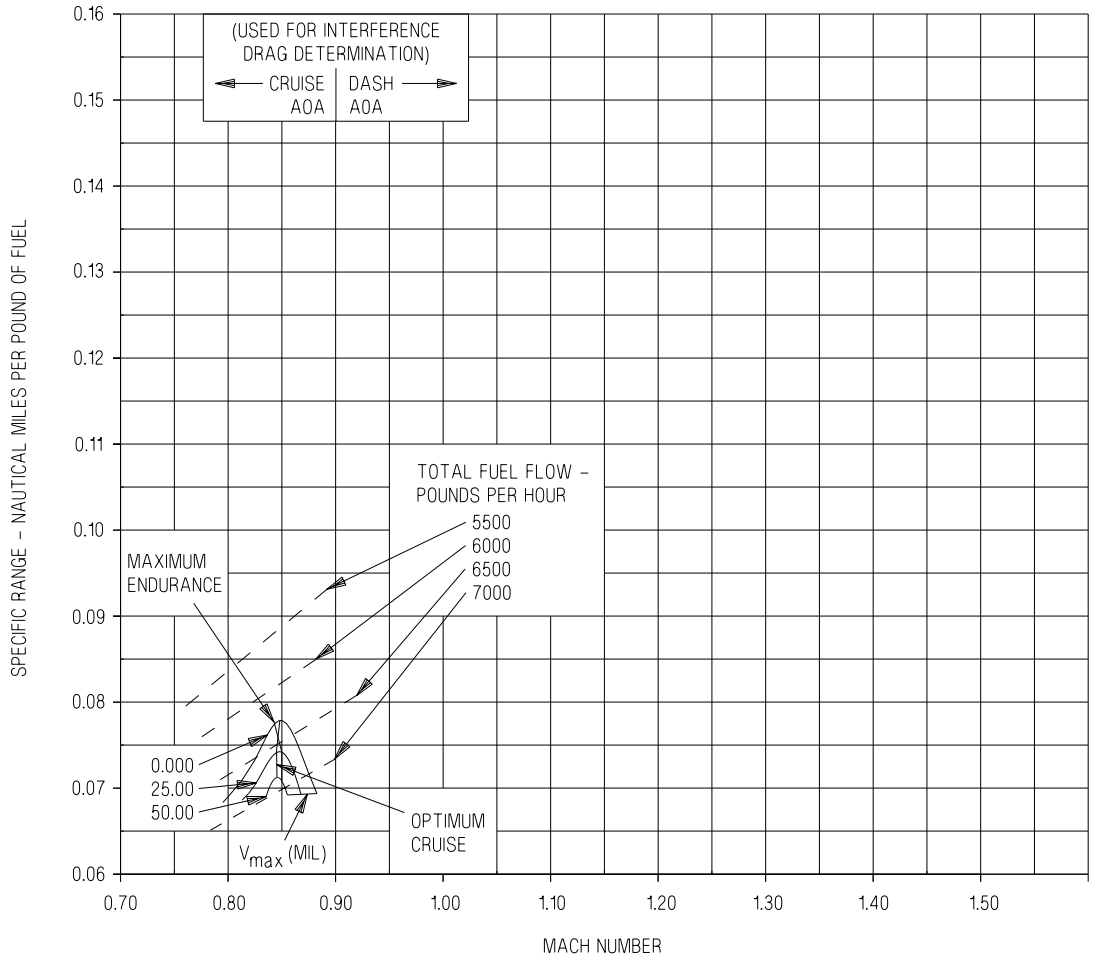
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-319-1-004

Figure 5-89. Specific Range - 40,000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

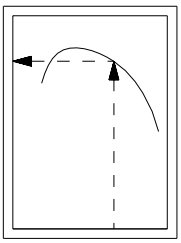
45,000 FEET - 30,000 POUNDS

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

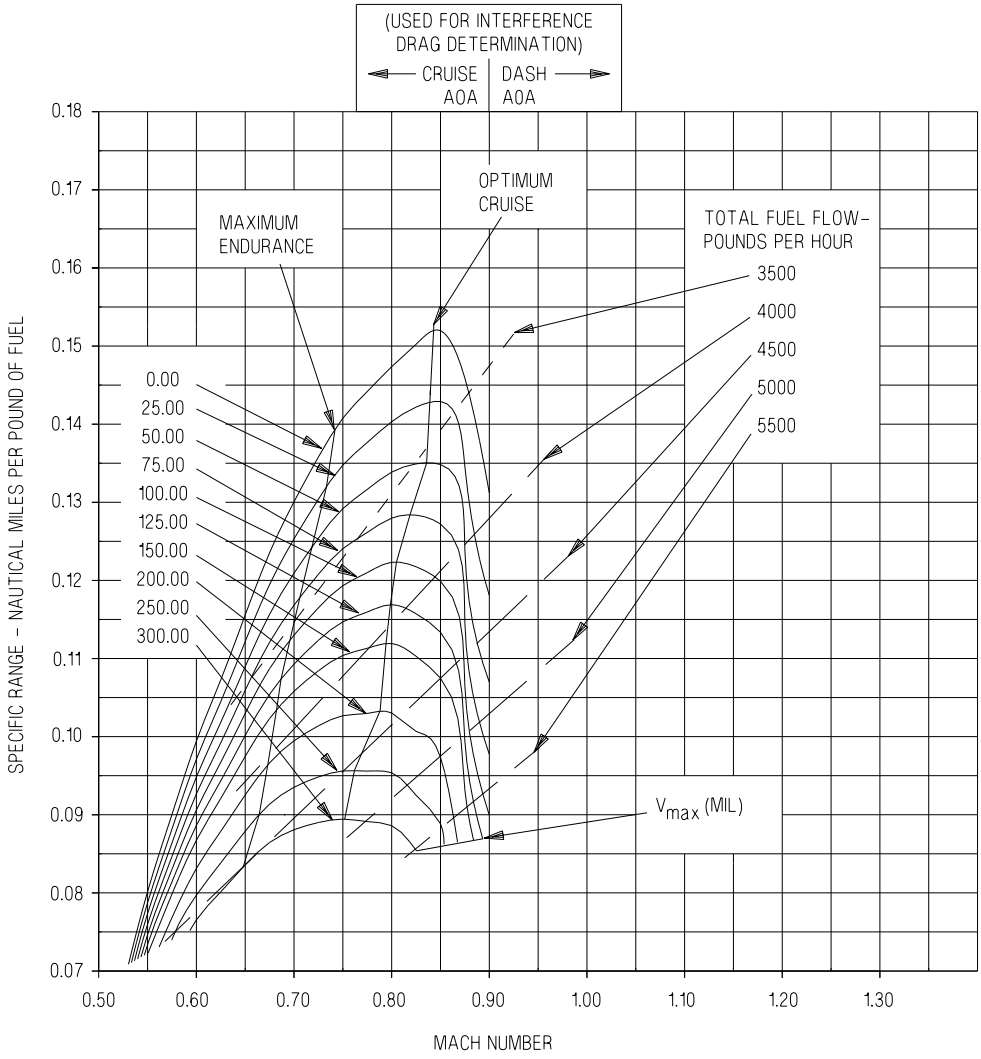
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-269-1-004

Figure 5-90. Specific Range - 45,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

45,000 FEET - 34,000 POUNDS

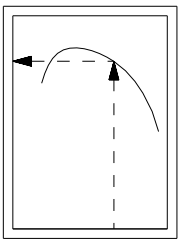
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

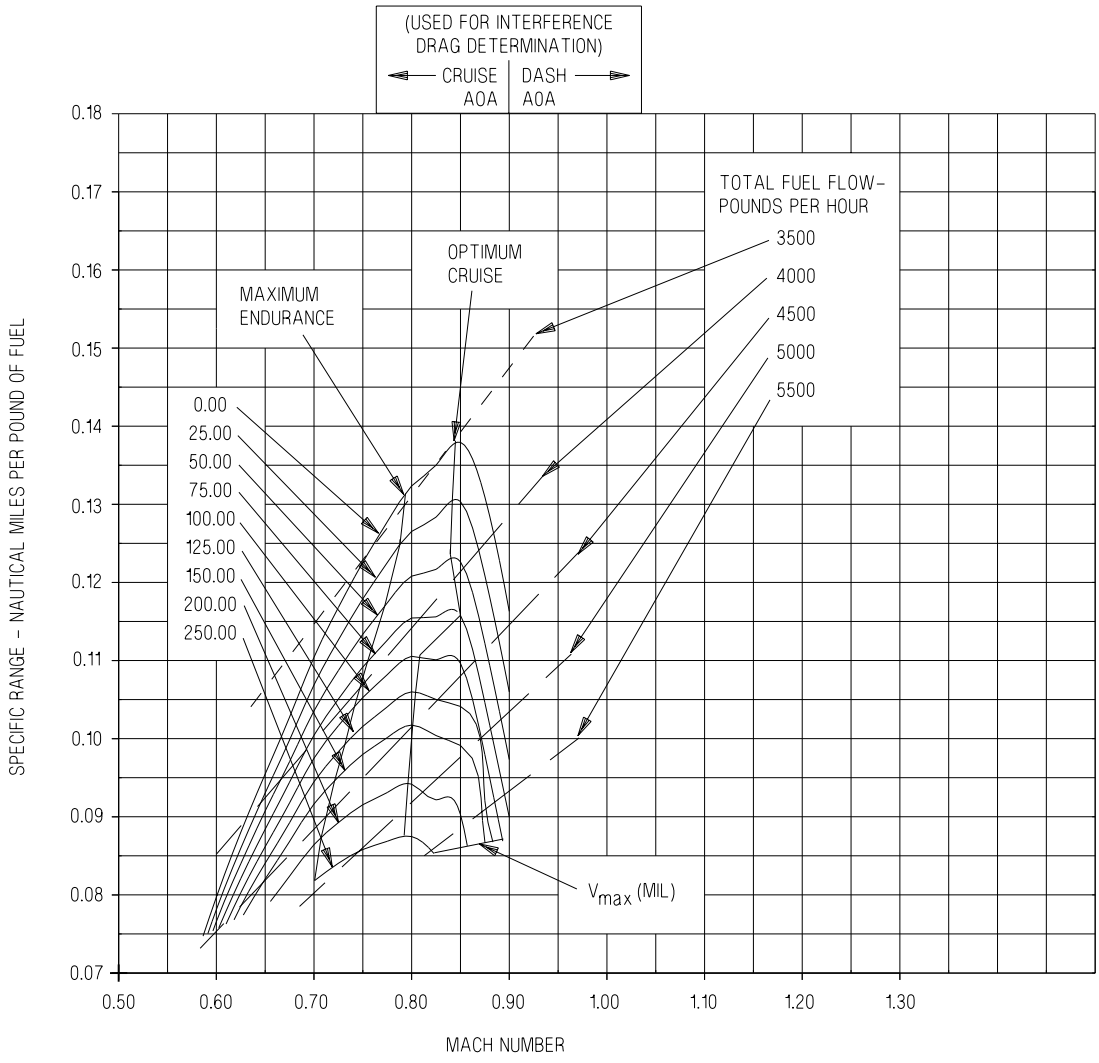
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-270-1-004

Figure 5-91. Specific Range - 45,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

45,000 FEET - 38,000 POUNDS

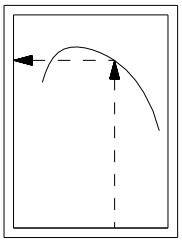
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

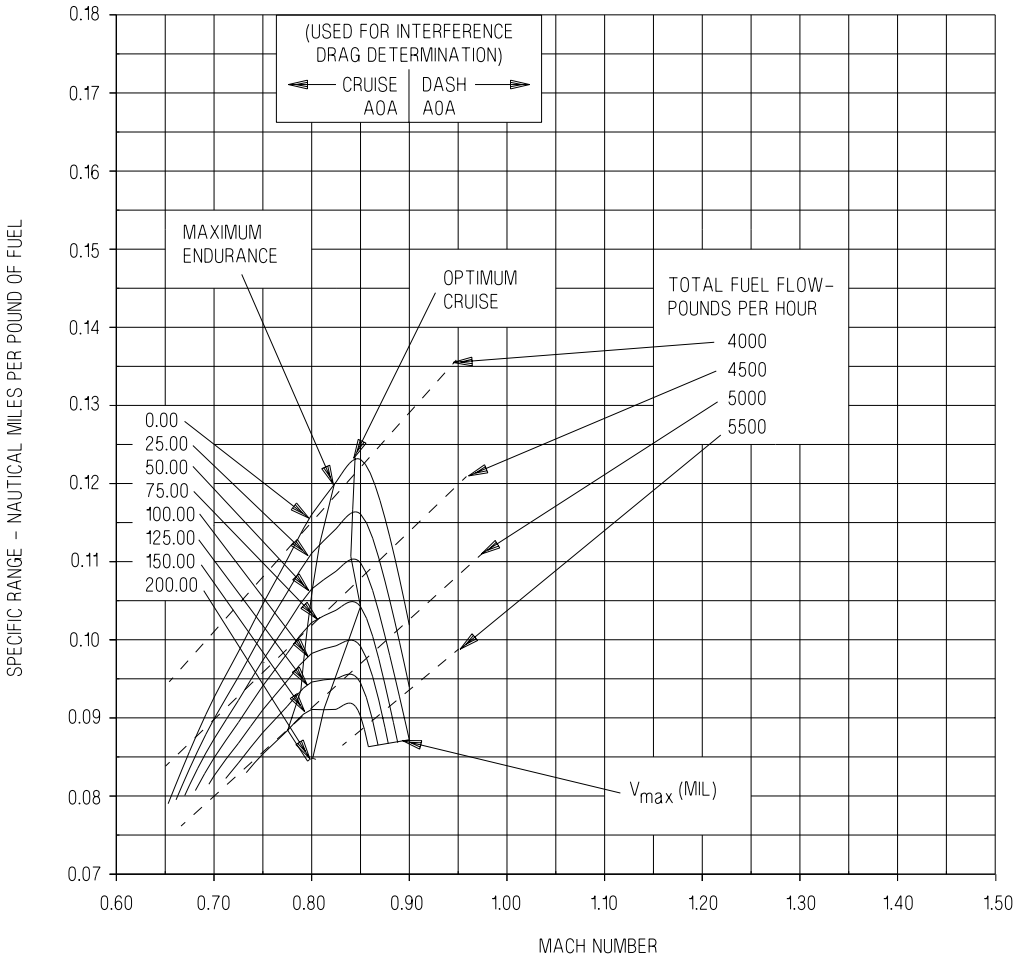
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-263-1-004

Figure 5-92. Specific Range - 45,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

45,000 FEET - 42,000 POUNDS

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

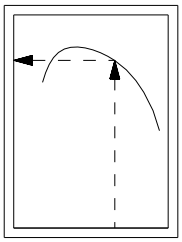
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

NOTE

DI VALID TO 0.9 MACH

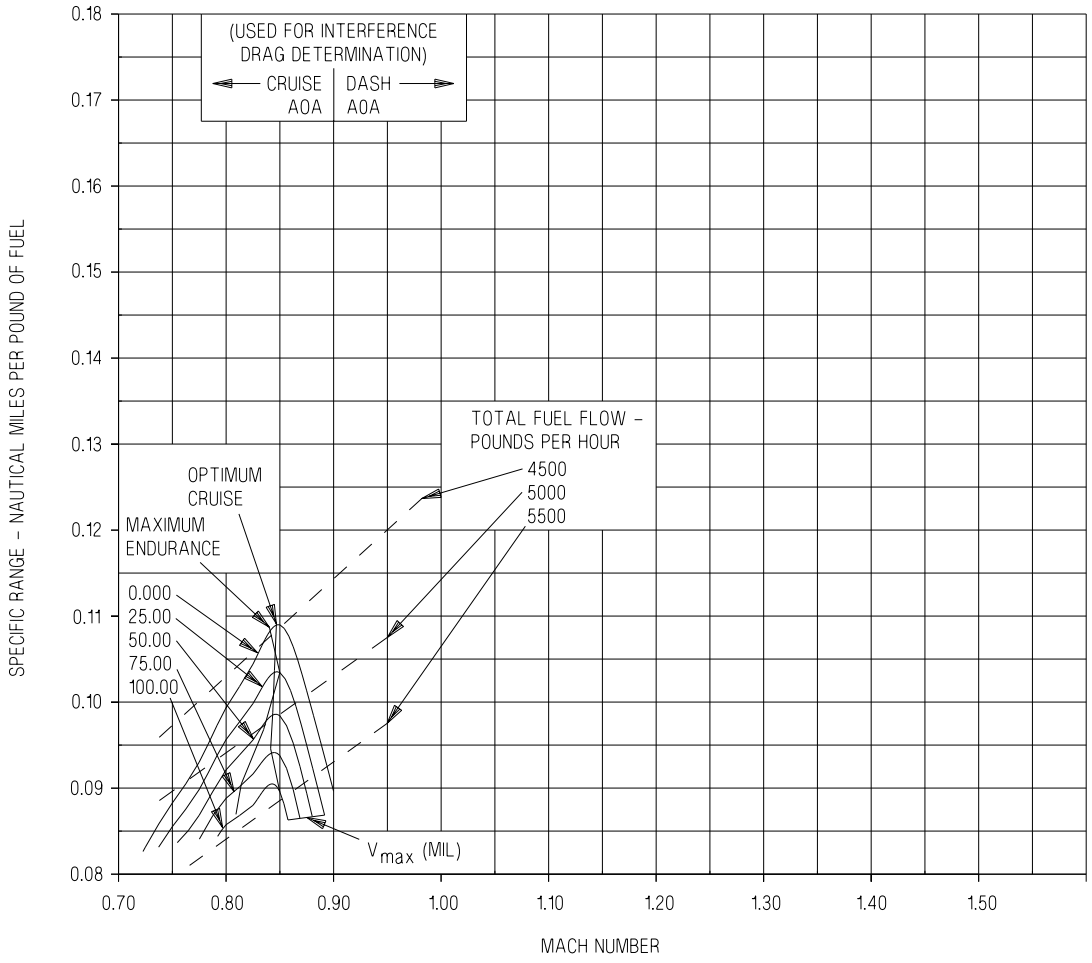
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-320-1-004

Figure 5-93. Specific Range - 45,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

45,000 FEET - 46,000 POUNDS

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

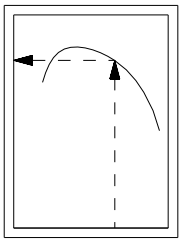
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

NOTE

DI VALID TO 0.9 MACH

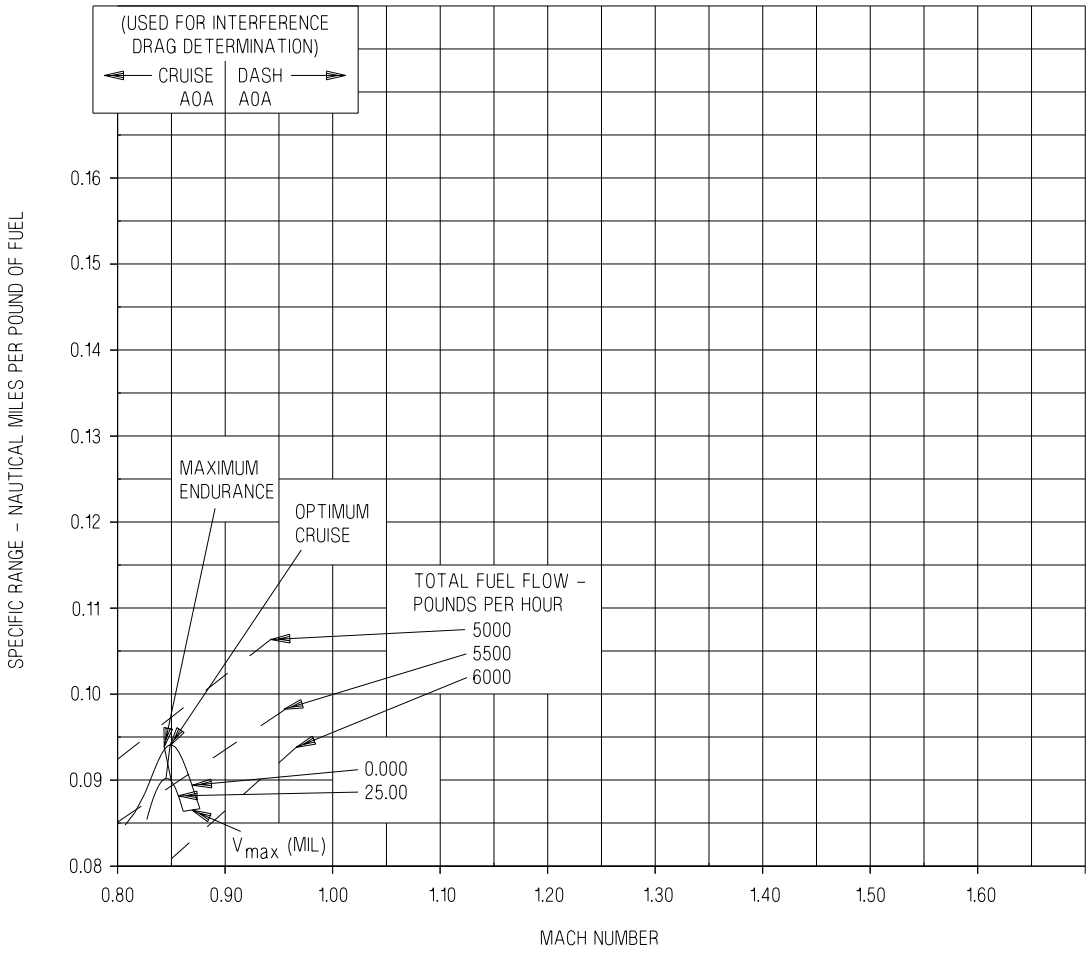
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-321-1-004

Figure 5-94. Specific Range - 45,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

50,000 FEET - 30,000 POUNDS

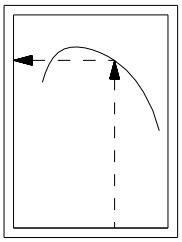
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

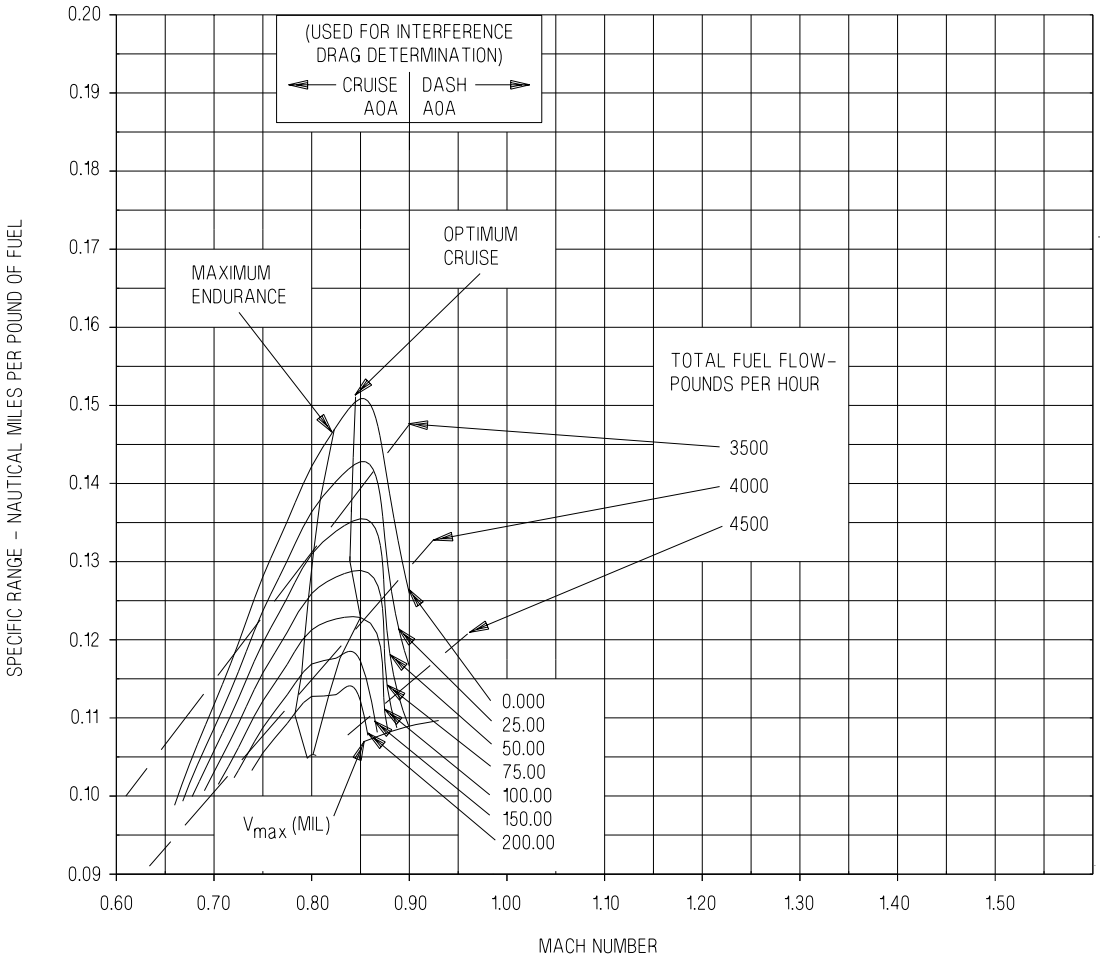
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-264-1-004

Figure 5-95. Specific Range - 50,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

50,000 FEET - 34,000 POUNDS

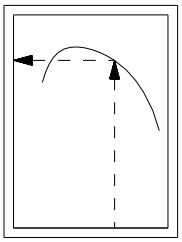
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE
DI VALID TO 0.9 MACH

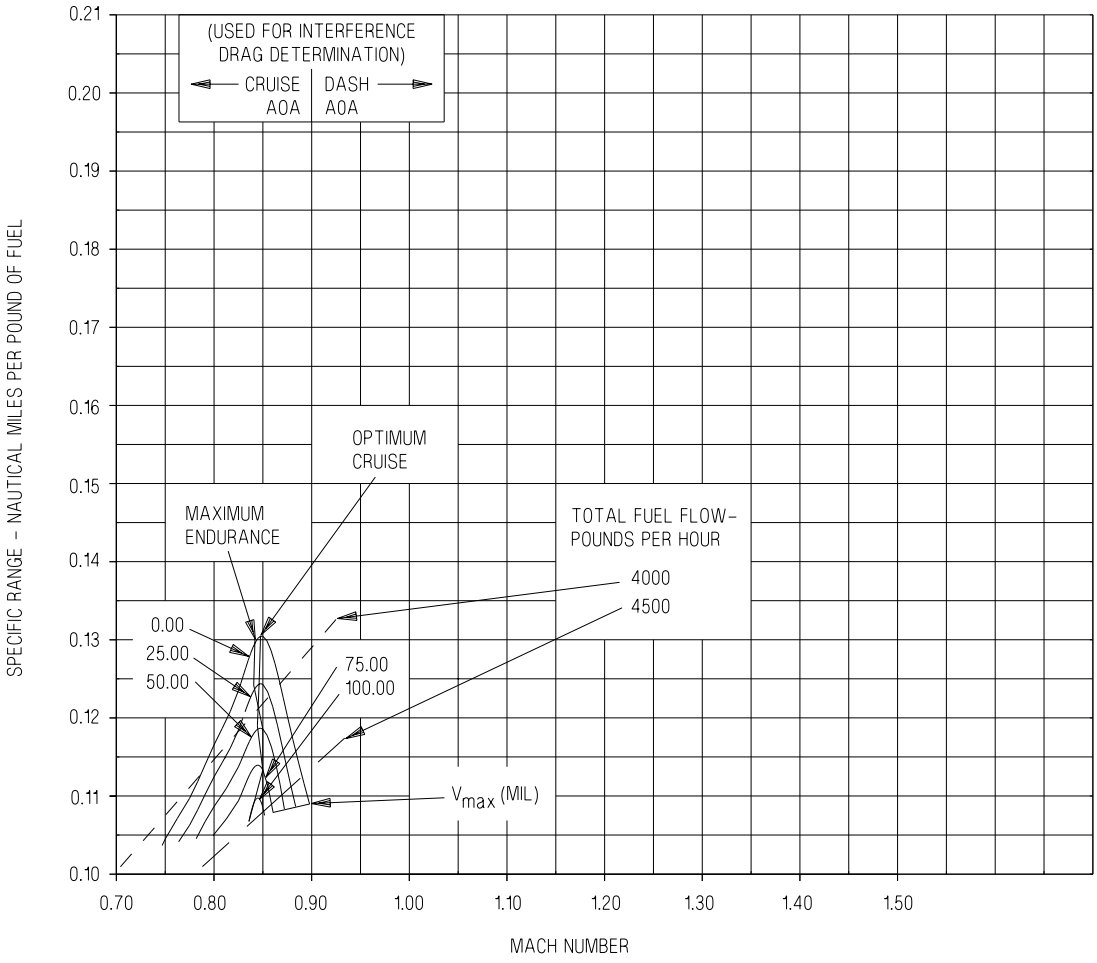
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-271-1-004

Figure 5-96. Specific Range - 50,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 30,000 POUNDS

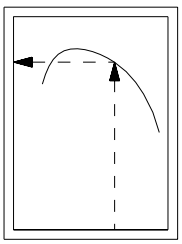
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

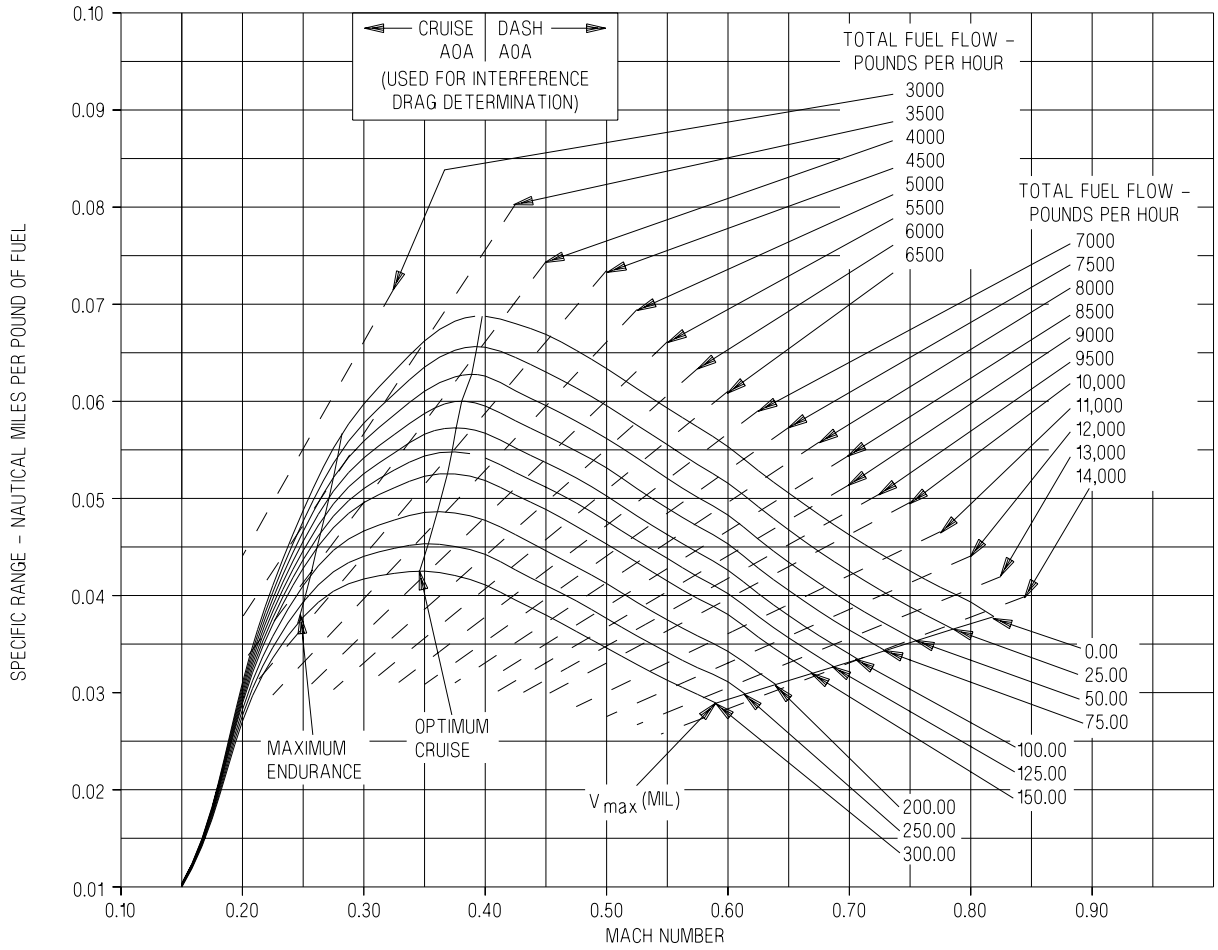
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-550-1-004

Figure 5-97. Single Engine Specific Range - Sea Level - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL – 34,000 POUNDS

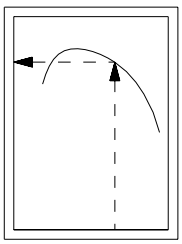
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

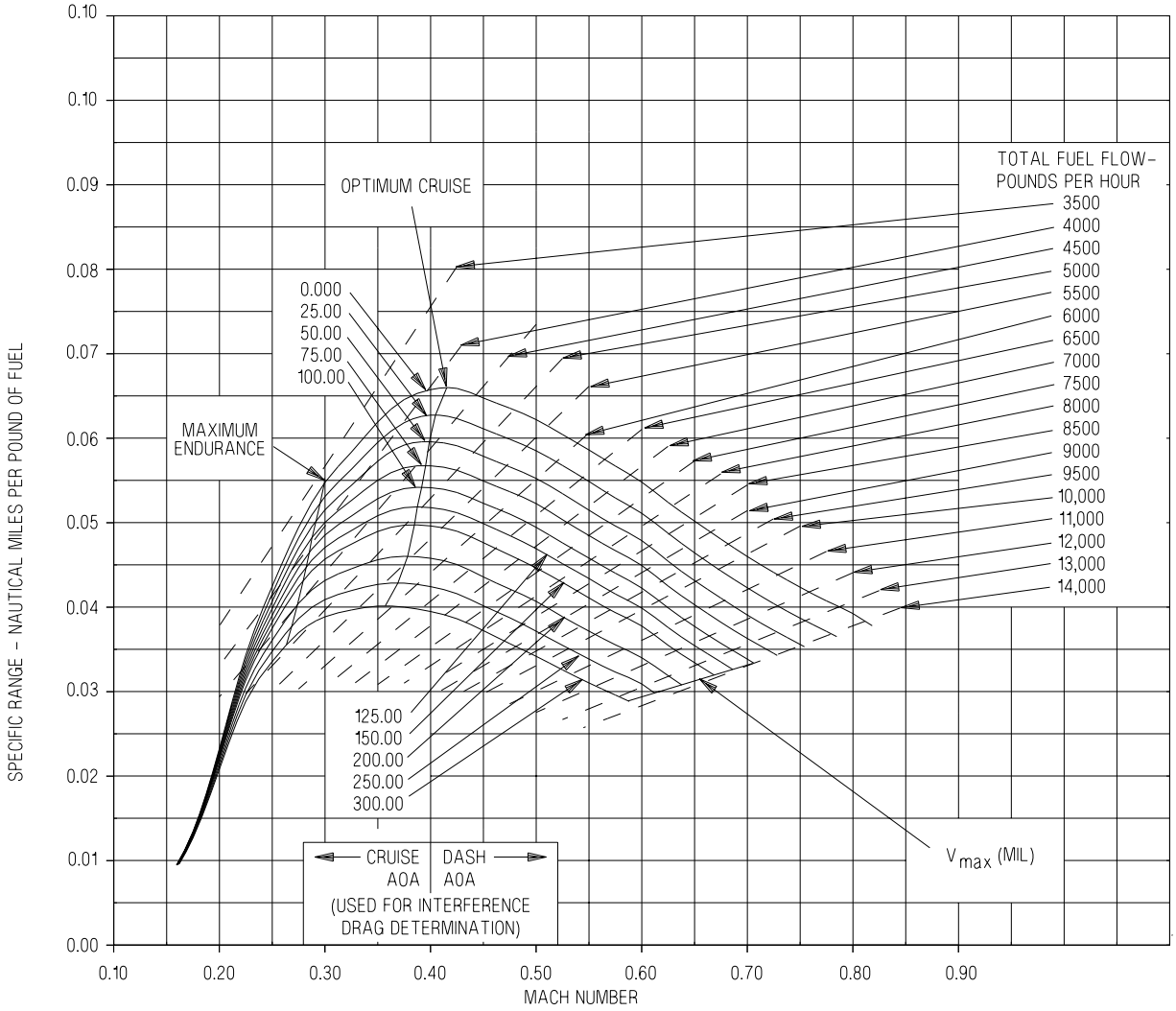
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-551-1-004

Figure 5-98. Single Engine Specific Range - Sea Level - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 38,000 POUNDS

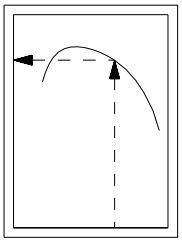
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

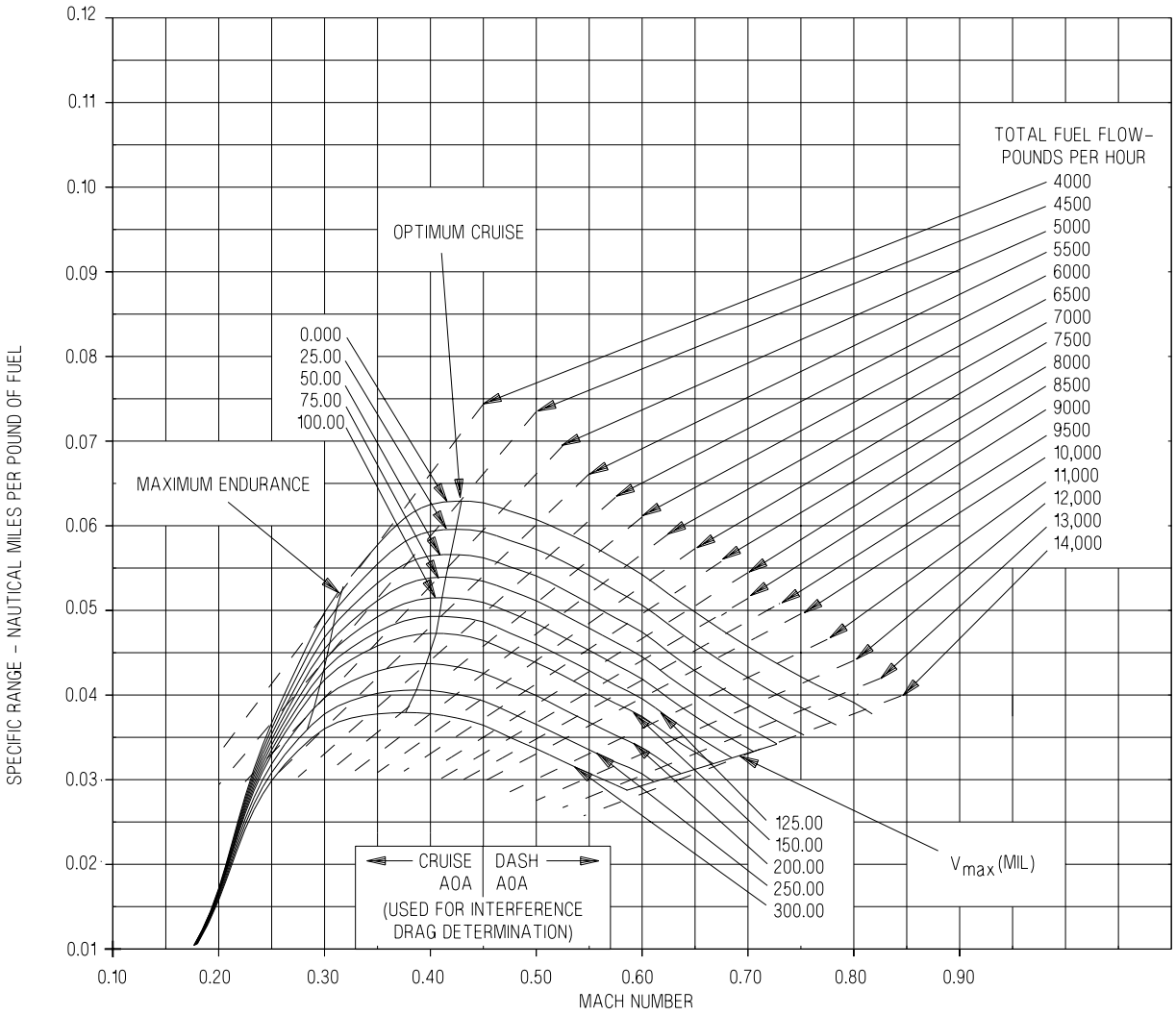
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-552-1-004

Figure 5-99. Single Engine Specific Range - Sea Level - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL – 42,000 POUNDS

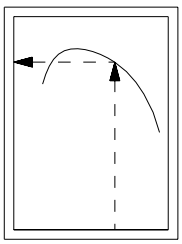
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

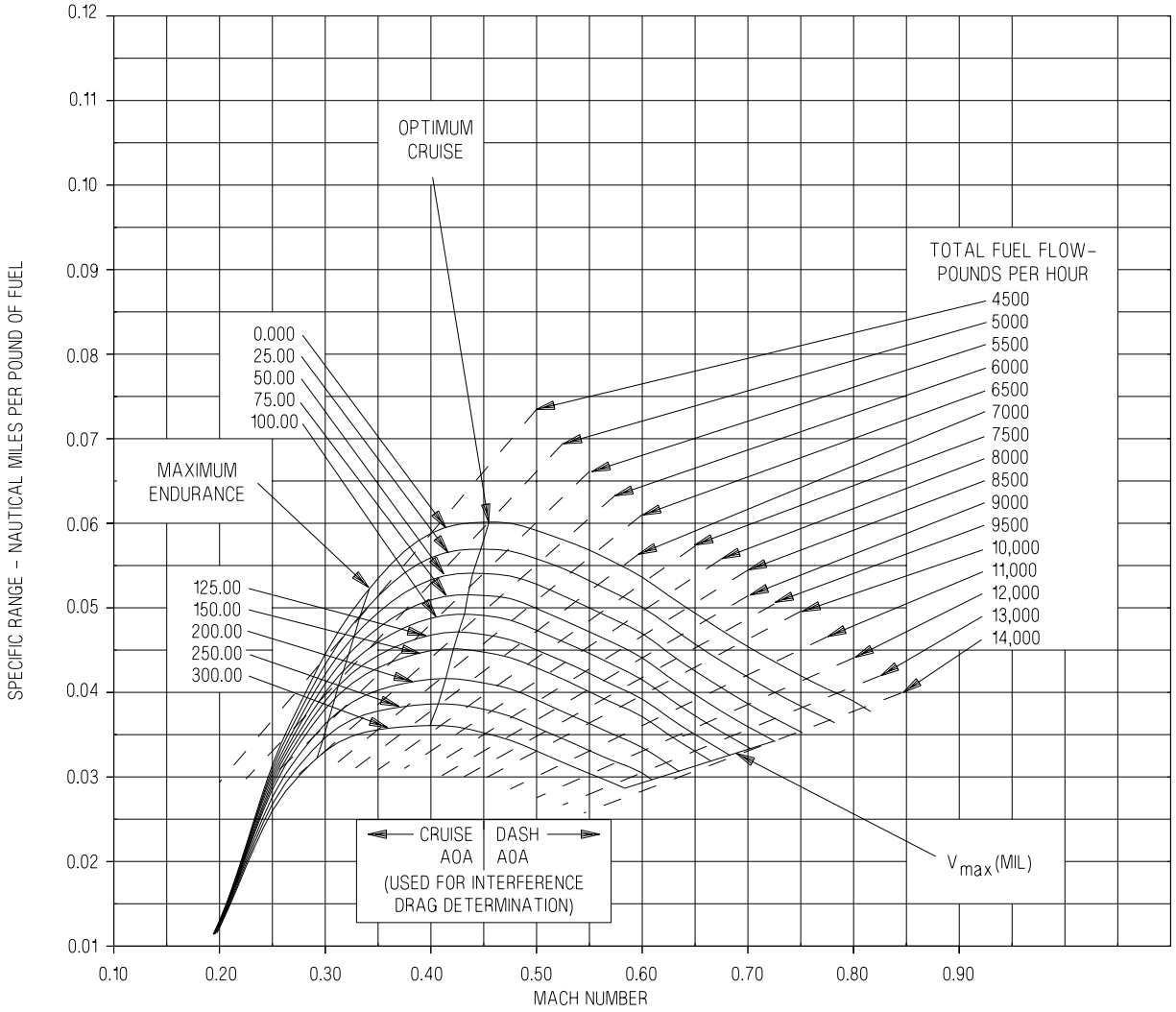
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-553-1-004

Figure 5-100. Single Engine Specific Range - Sea Level - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 46,000 POUNDS

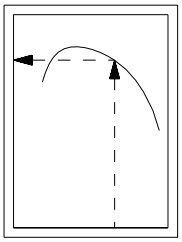
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

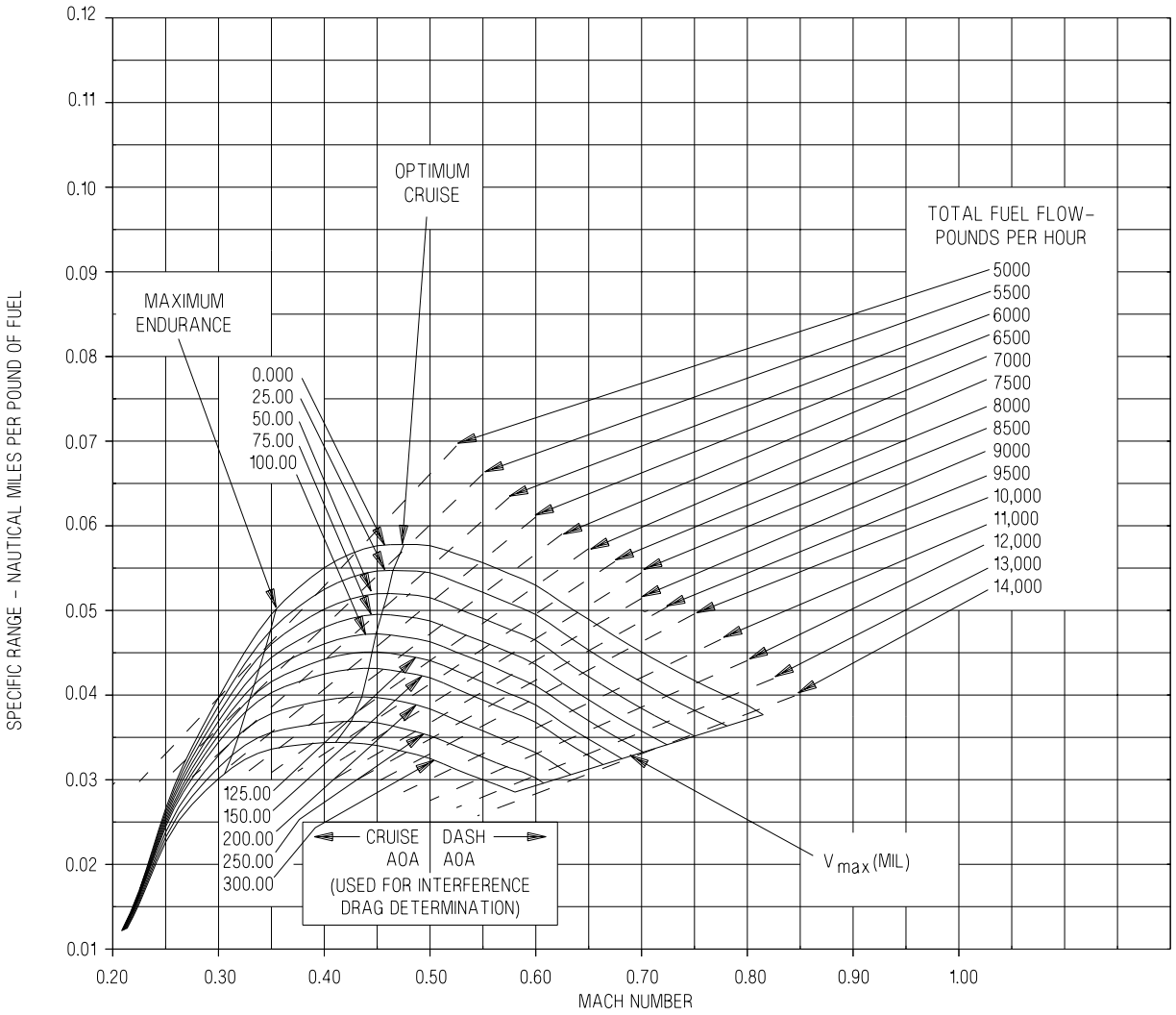
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-554-1-004

Figure 5-101. Single Engine Specific Range - Sea Level - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL – 50,000 POUNDS

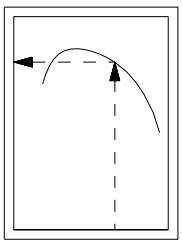
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

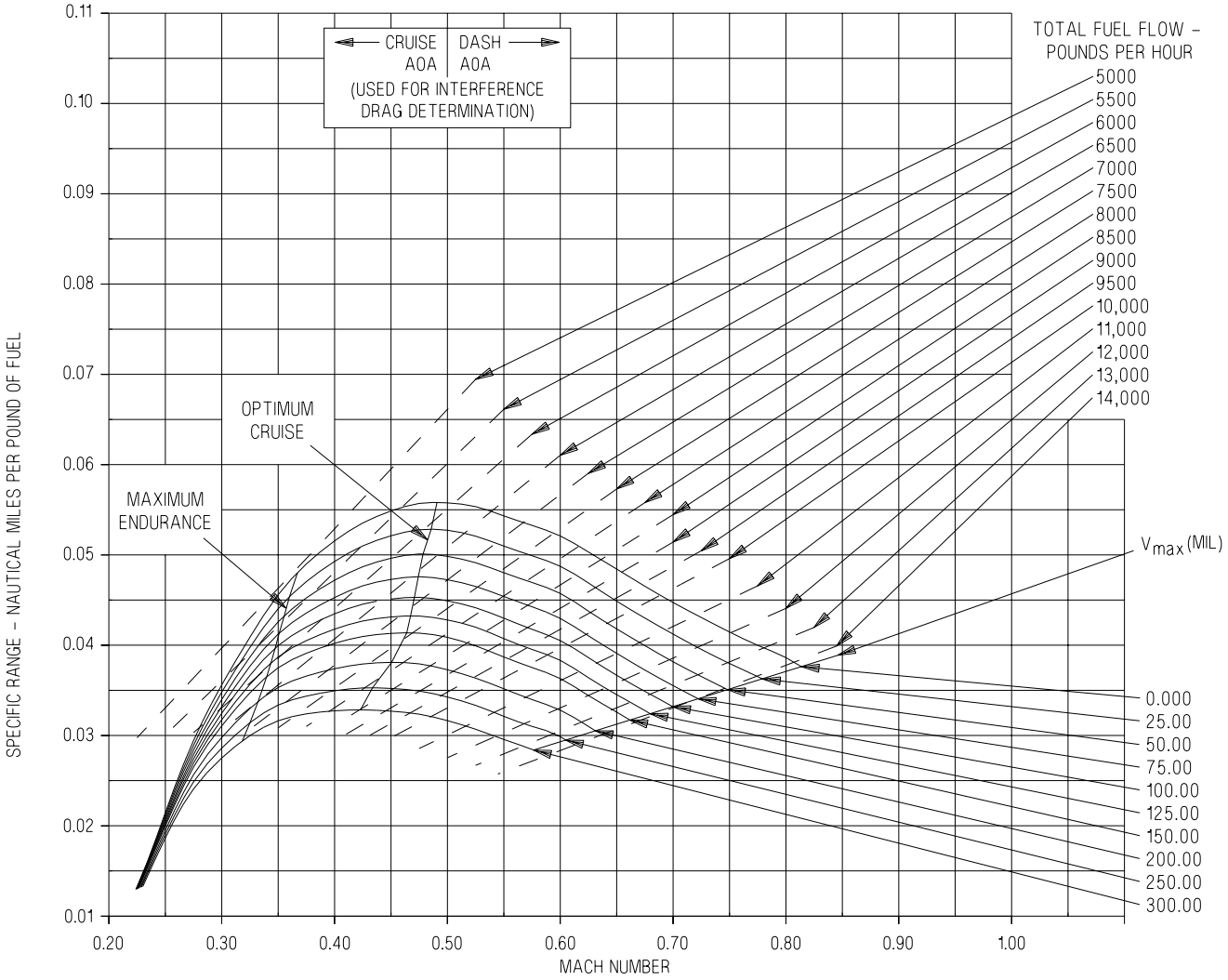


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Figure 5-102. Single Engine Specific Range - Sea Level - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 54,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

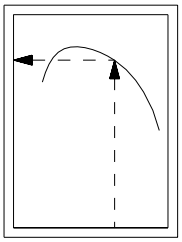
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

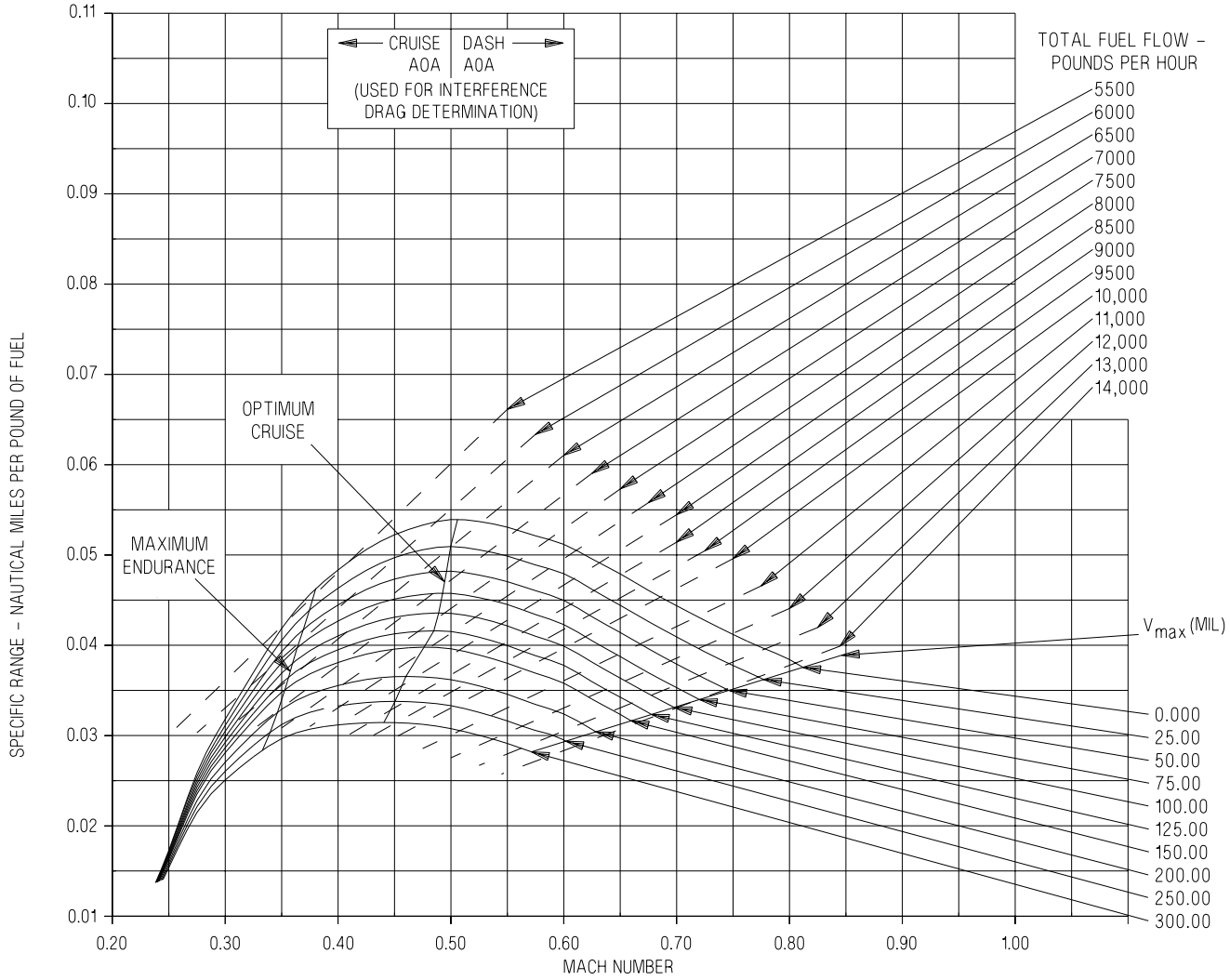


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Figure 5-103. Single Engine Specific Range - Sea Level - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL – 58,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

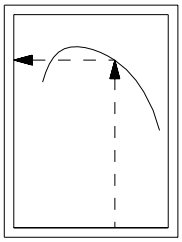
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

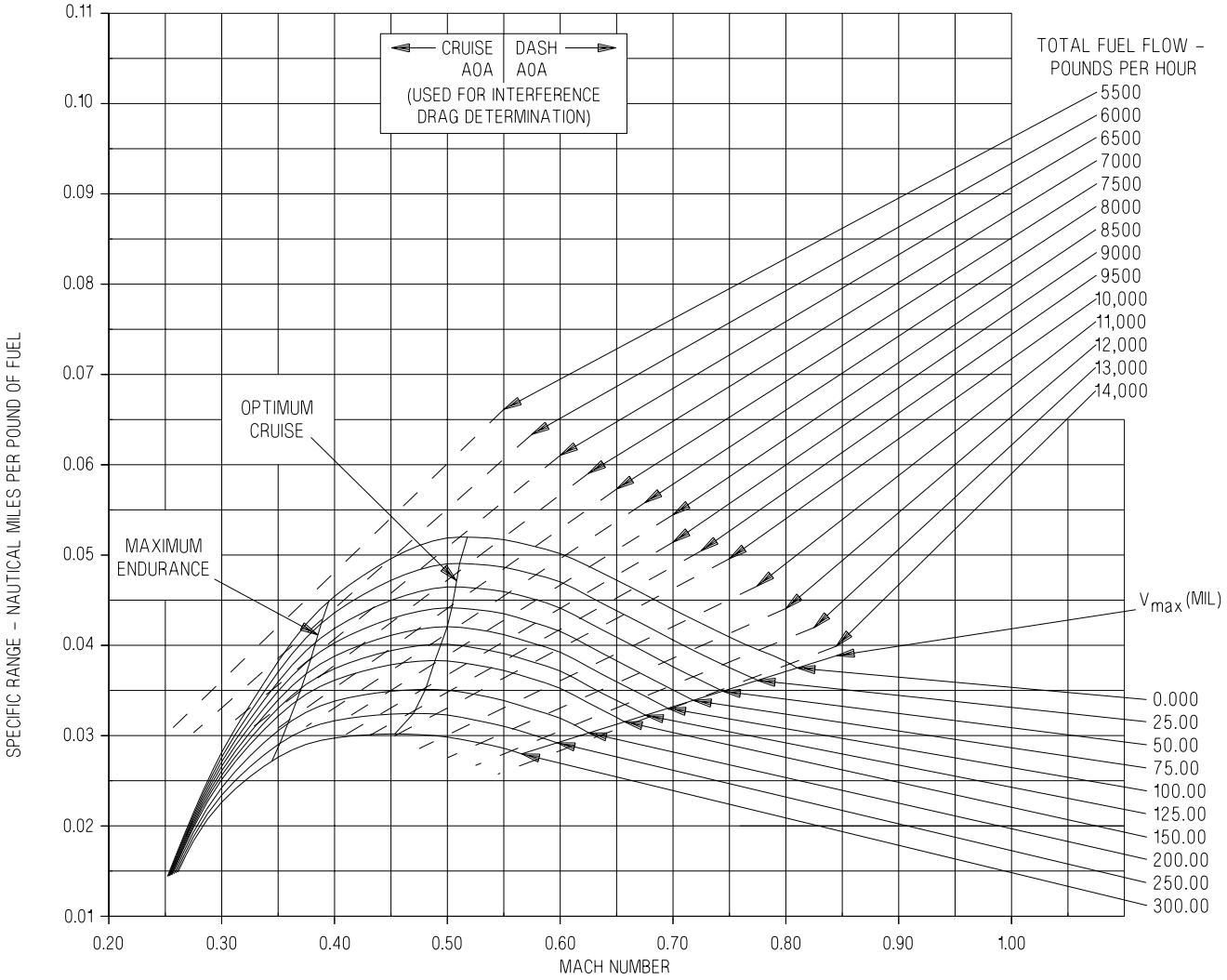


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Figure 5-104. Single Engine Specific Range - Sea Level - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL - 62,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

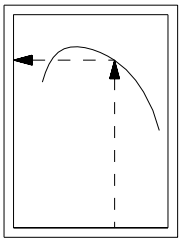
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

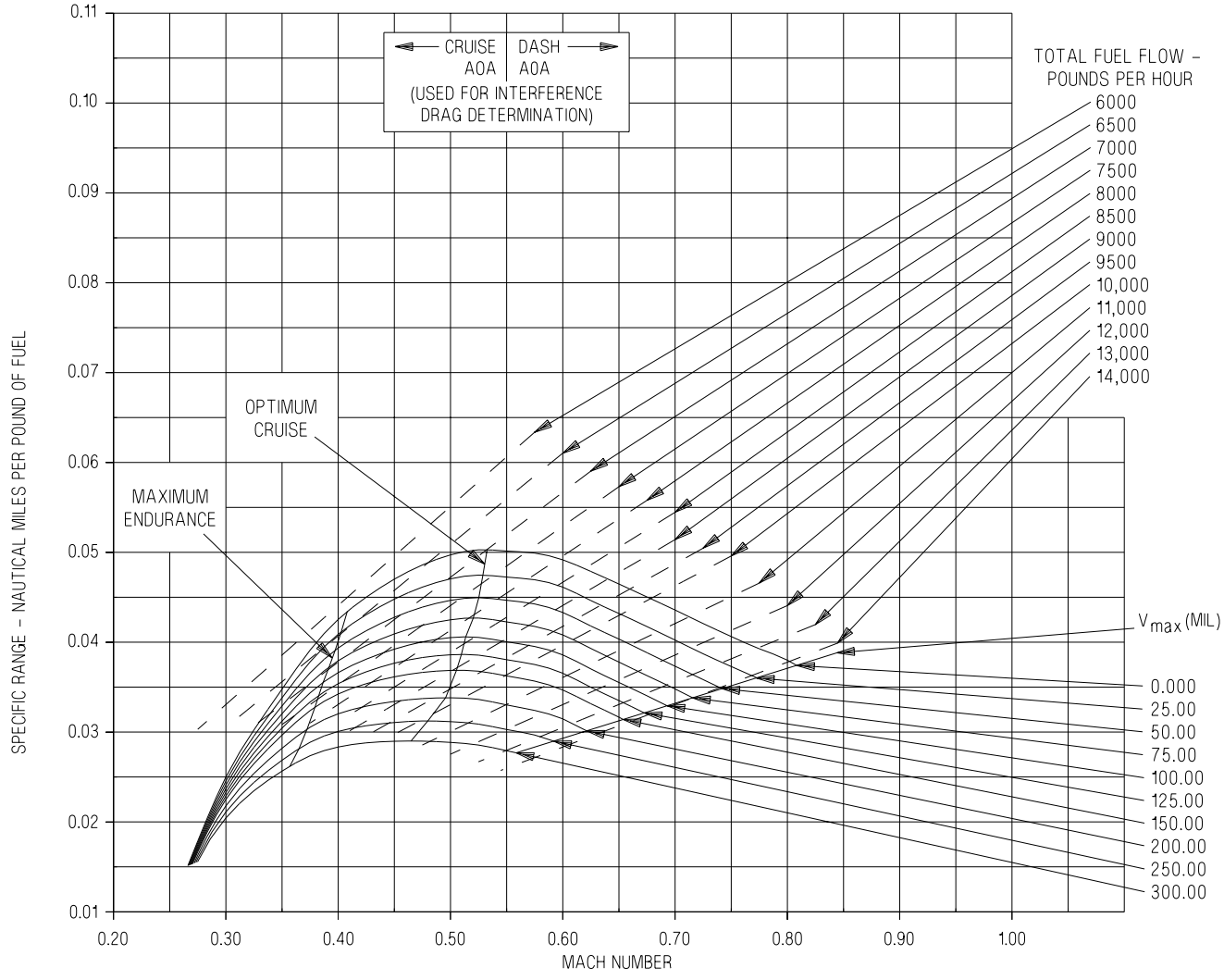


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Figure 5-105. Single Engine Specific Range - Sea Level - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

SEA LEVEL – 66,000 POUNDS

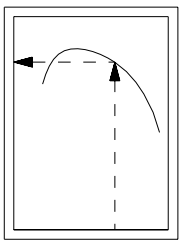
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

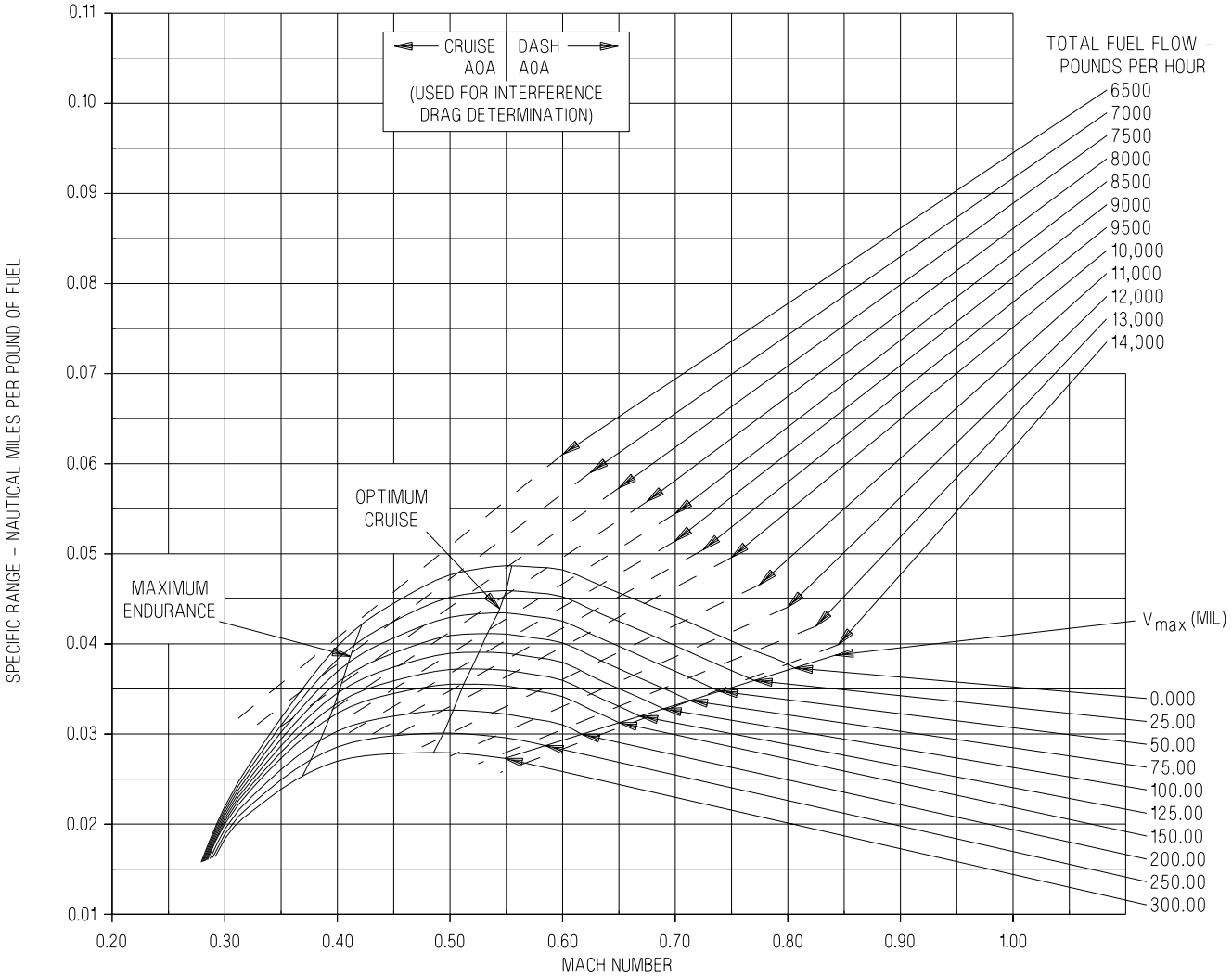


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Figure 5-106. Single Engine Specific Range - Sea Level - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 30,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

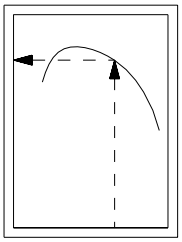
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

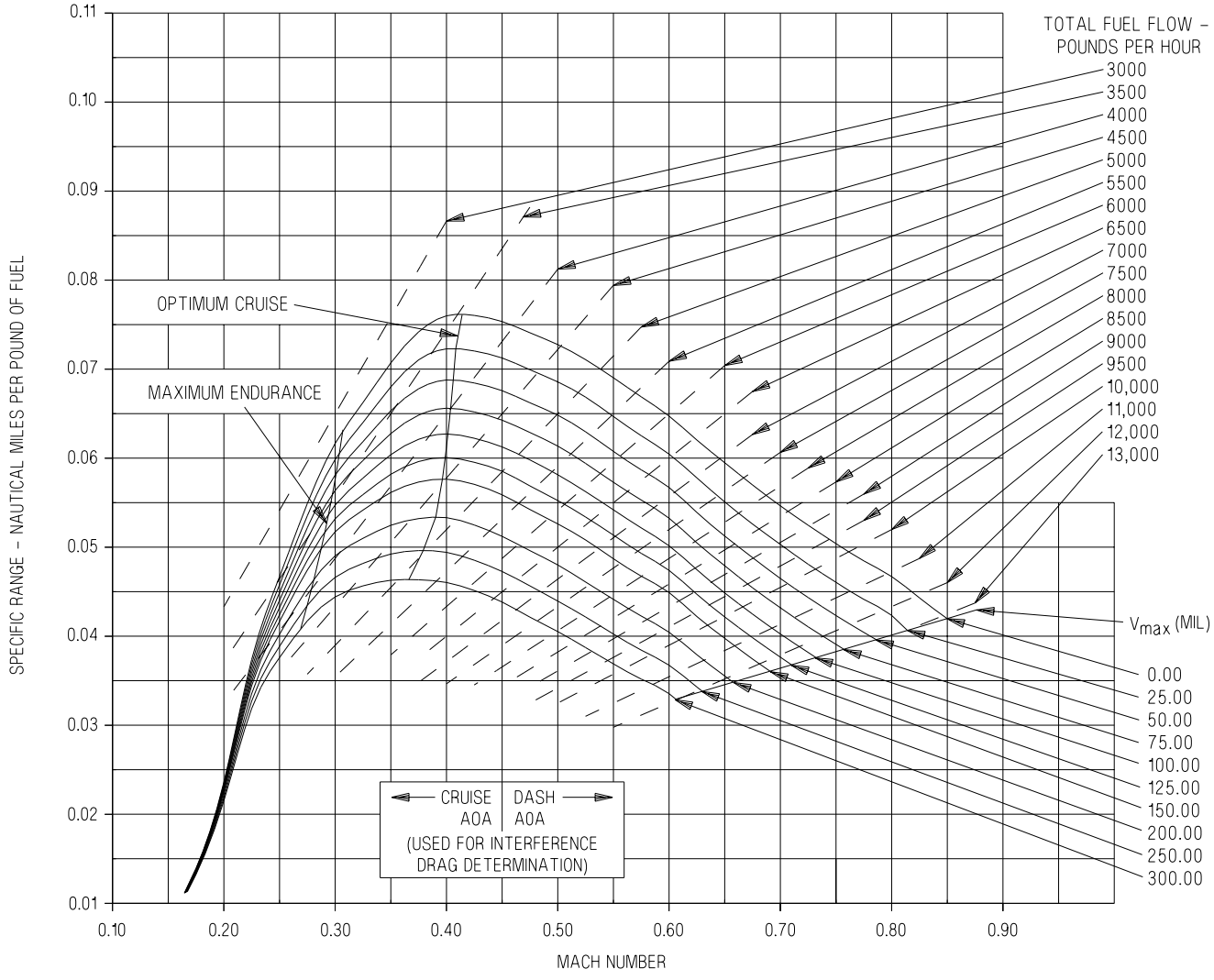


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Figure 5-107. Single Engine Specific Range - 5000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET – 34,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

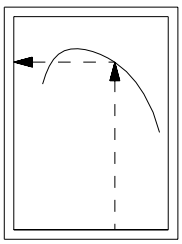
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

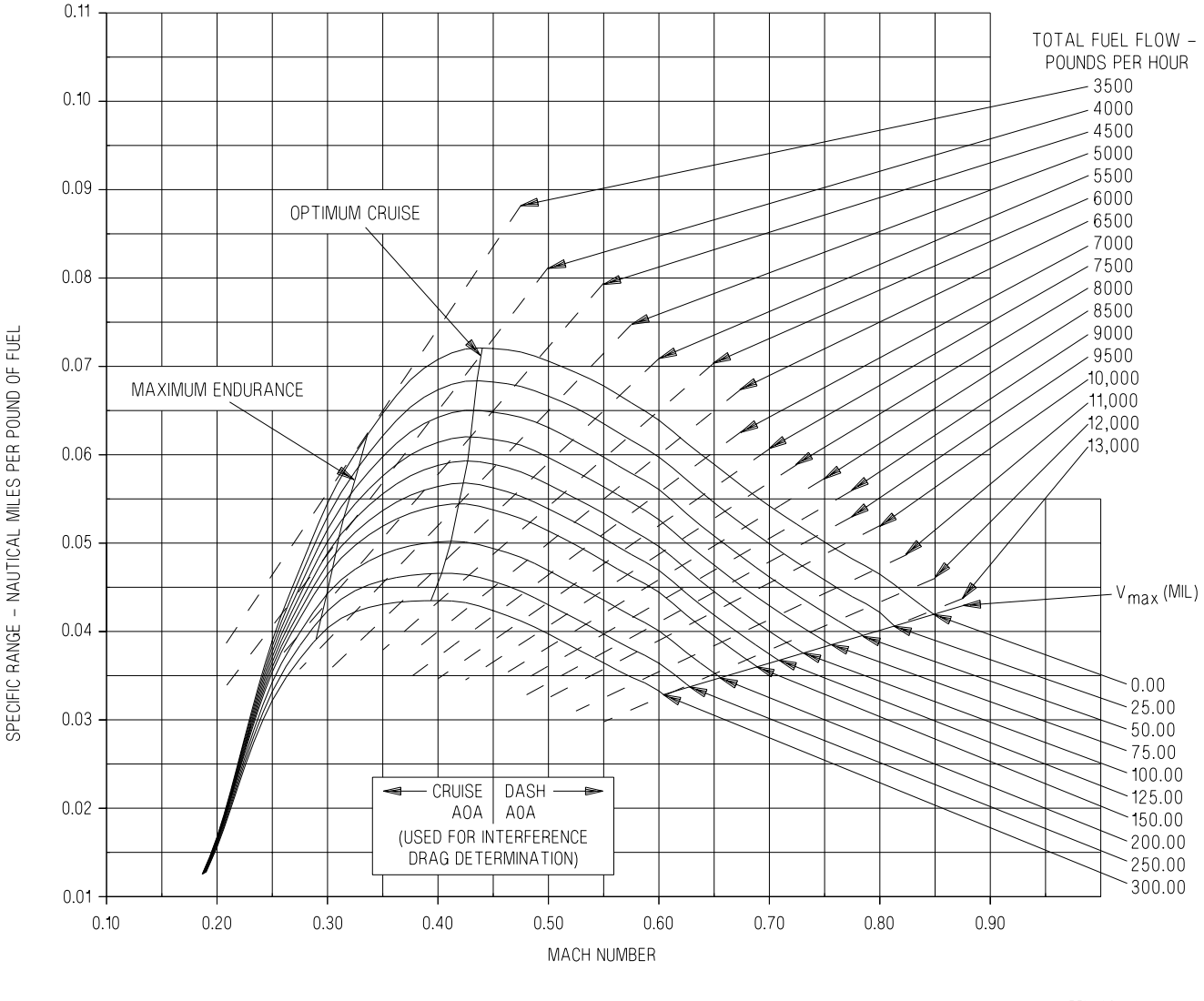


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Figure 5-108. Single Engine Specific Range - 5000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 38,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

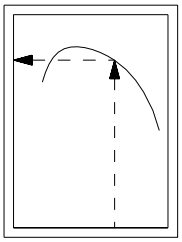
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

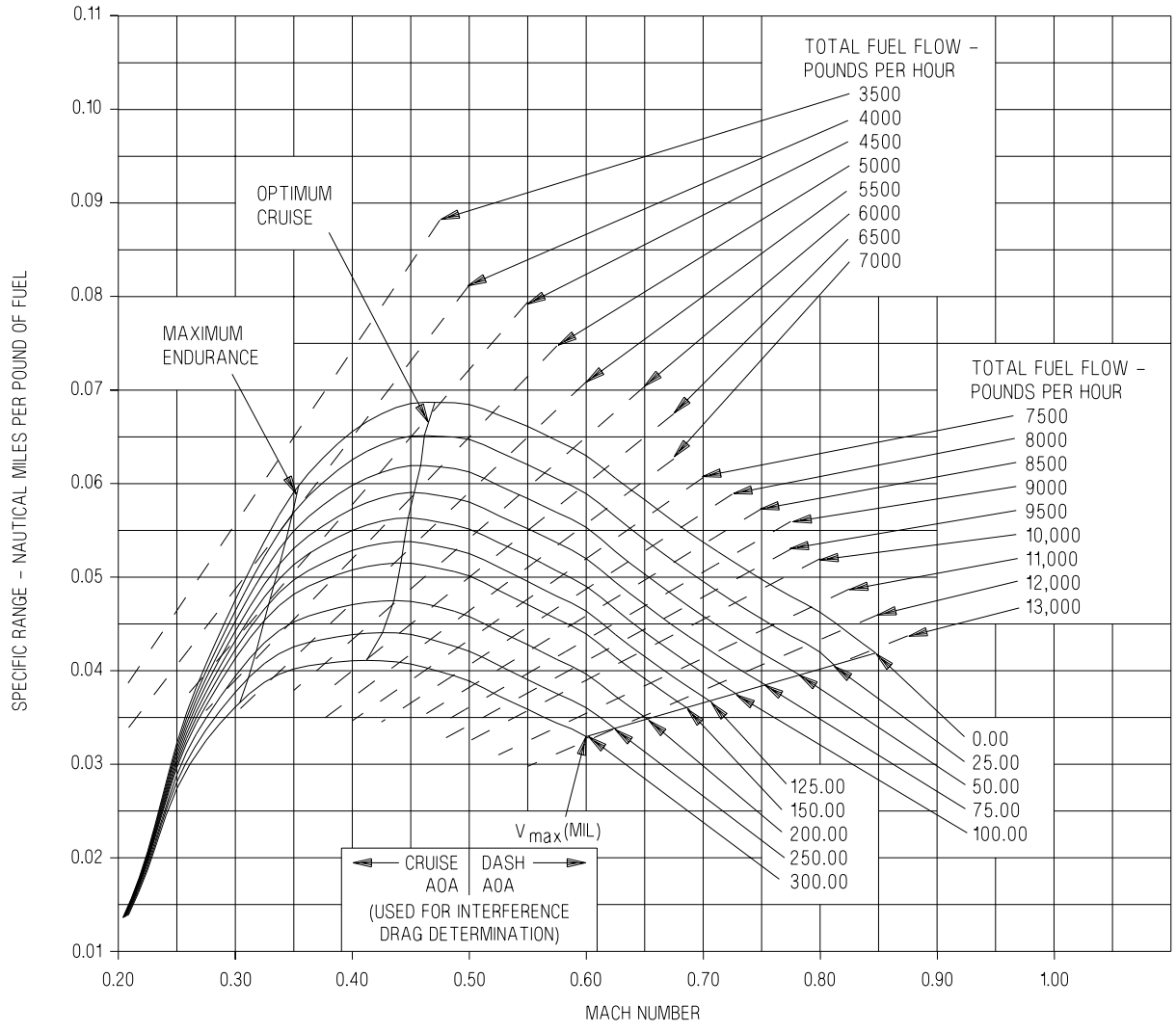


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Figure 5-109. Single Engine Specific Range - 5000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET – 42,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

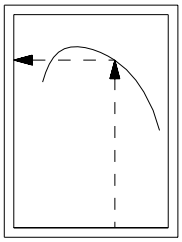
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

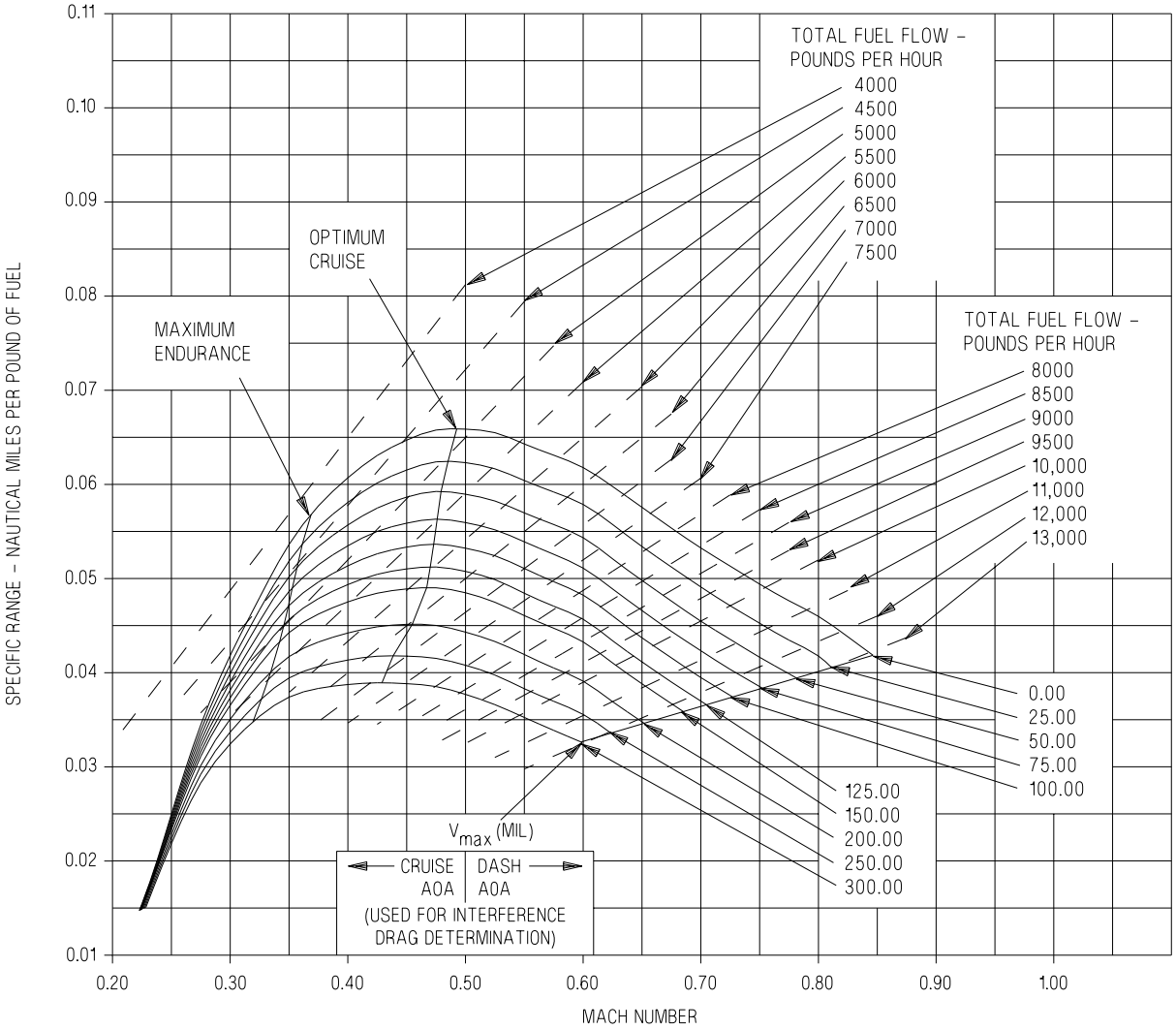


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Figure 5-110. Single Engine Specific Range - 5000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 46,000 POUNDS

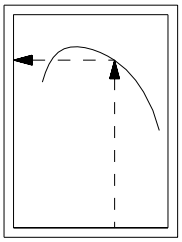
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

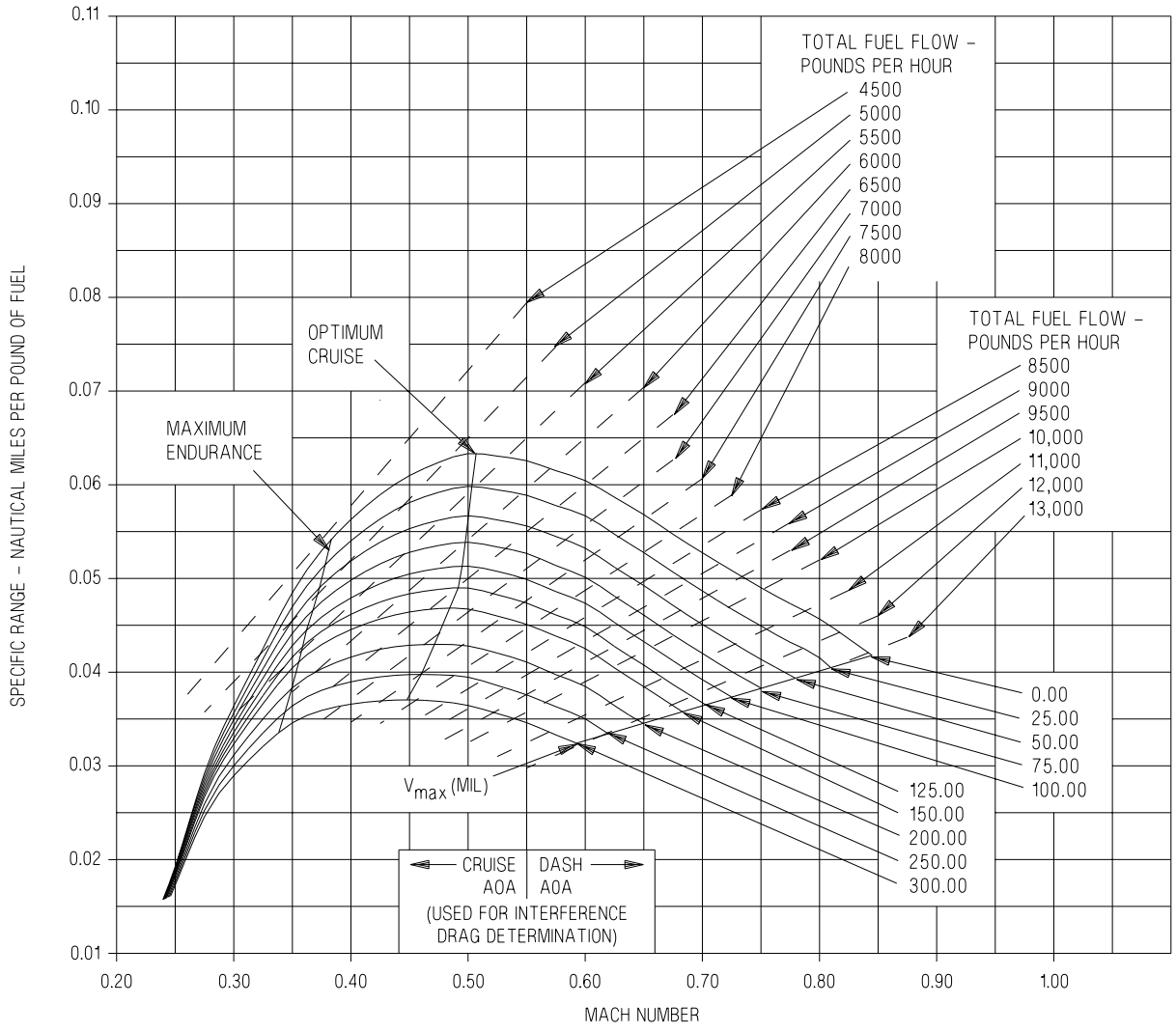


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Figure 5-111. Single Engine Specific Range - 5000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET – 50,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

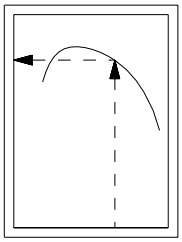
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

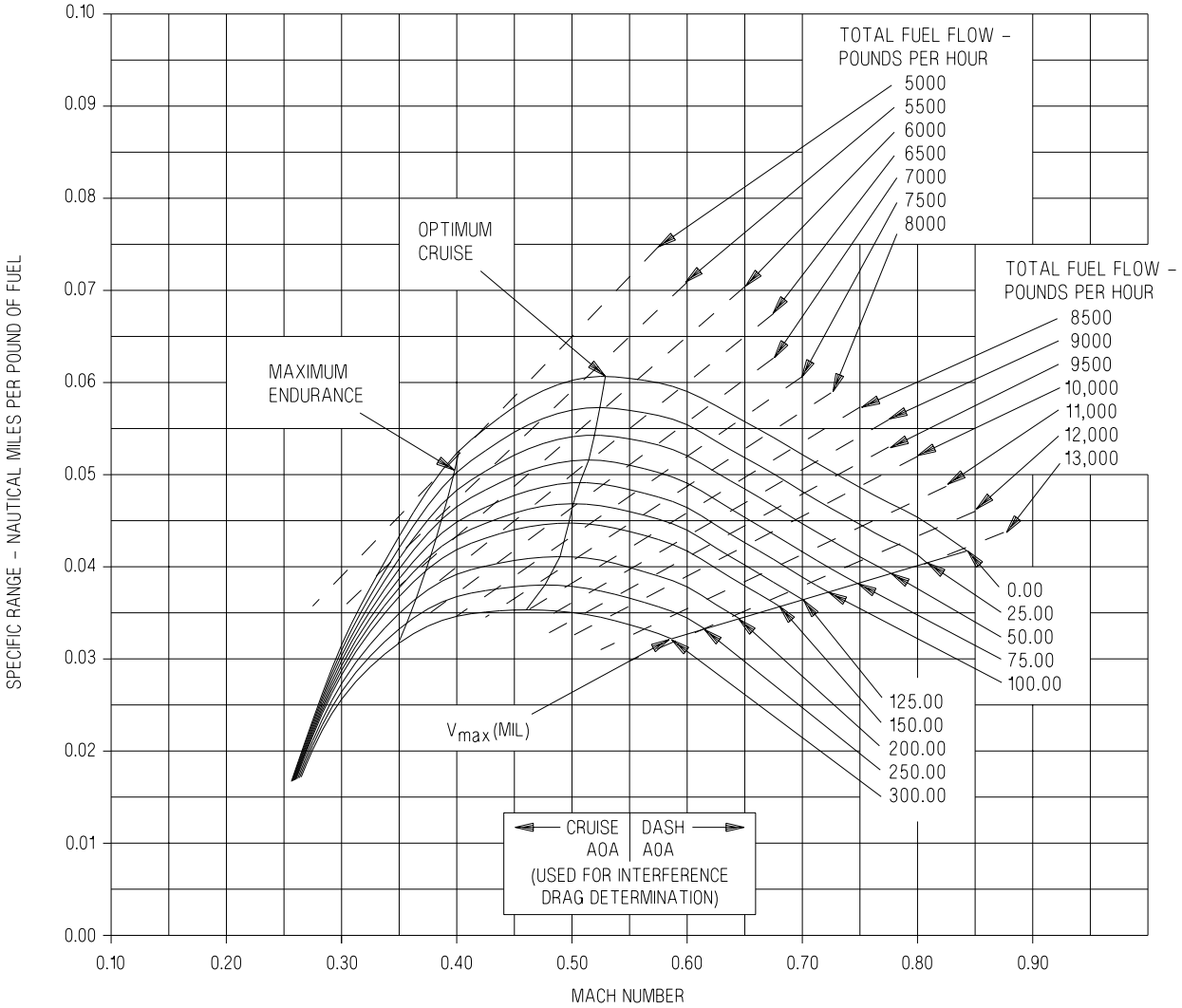


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Figure 5-112. Single Engine Specific Range - 5000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 54,000 POUNDS

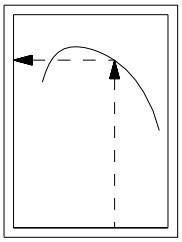
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

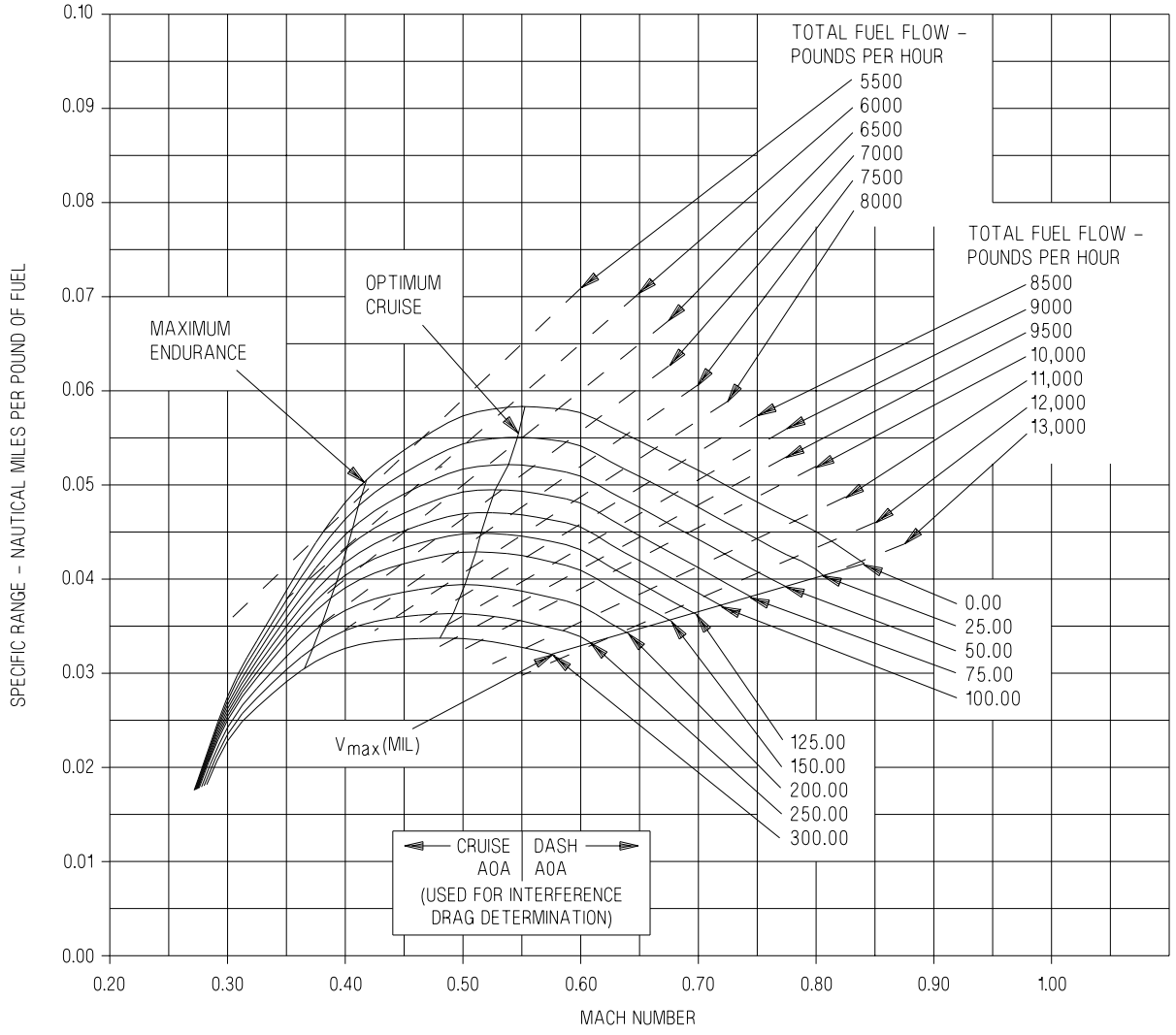


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Figure 5-113. Single Engine Specific Range - 5000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET – 58,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

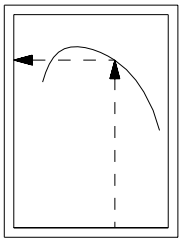
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

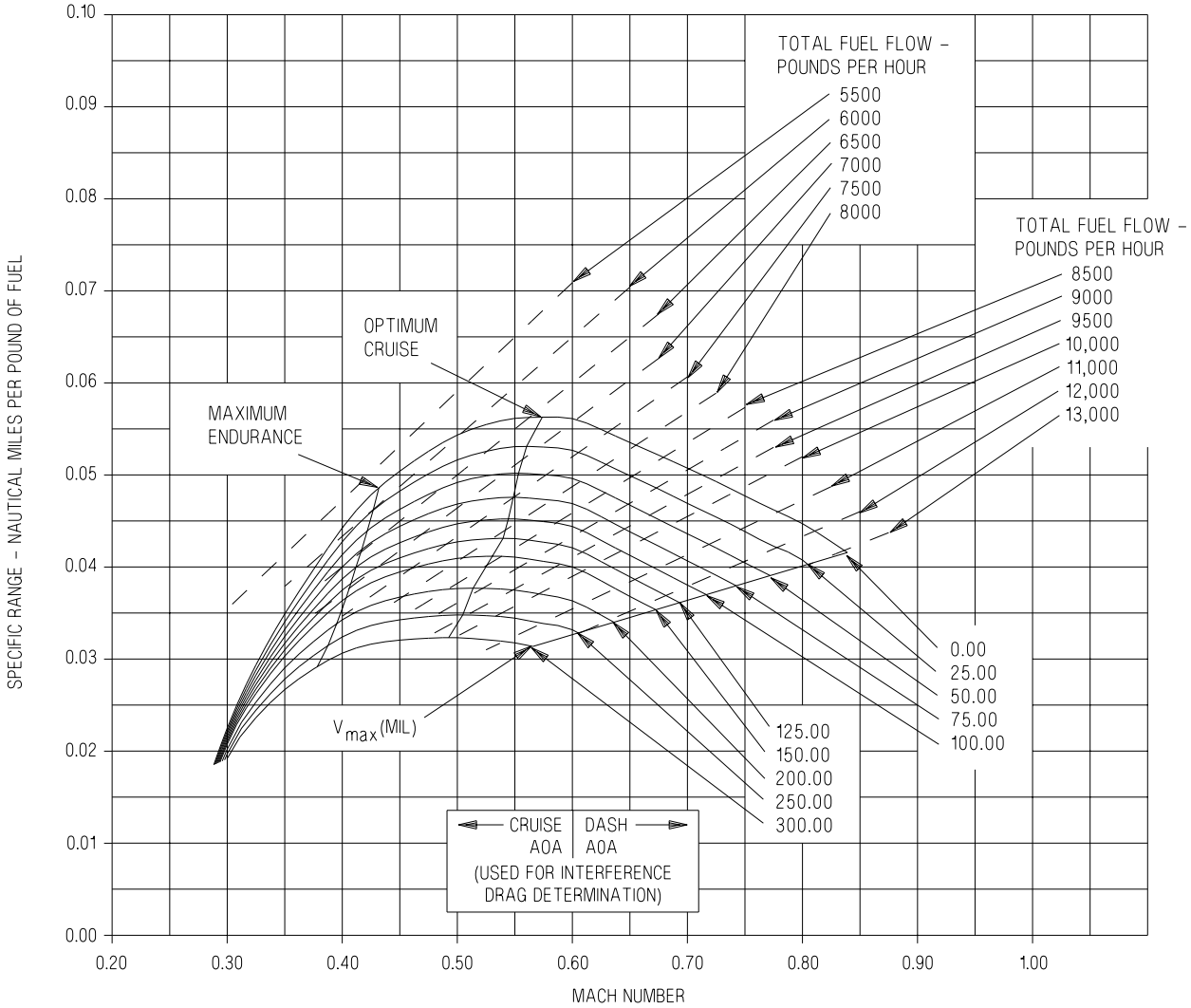


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Figure 5-114. Single Engine Specific Range - 5000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 62,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

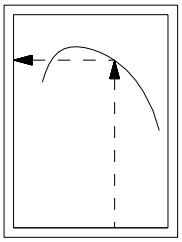
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

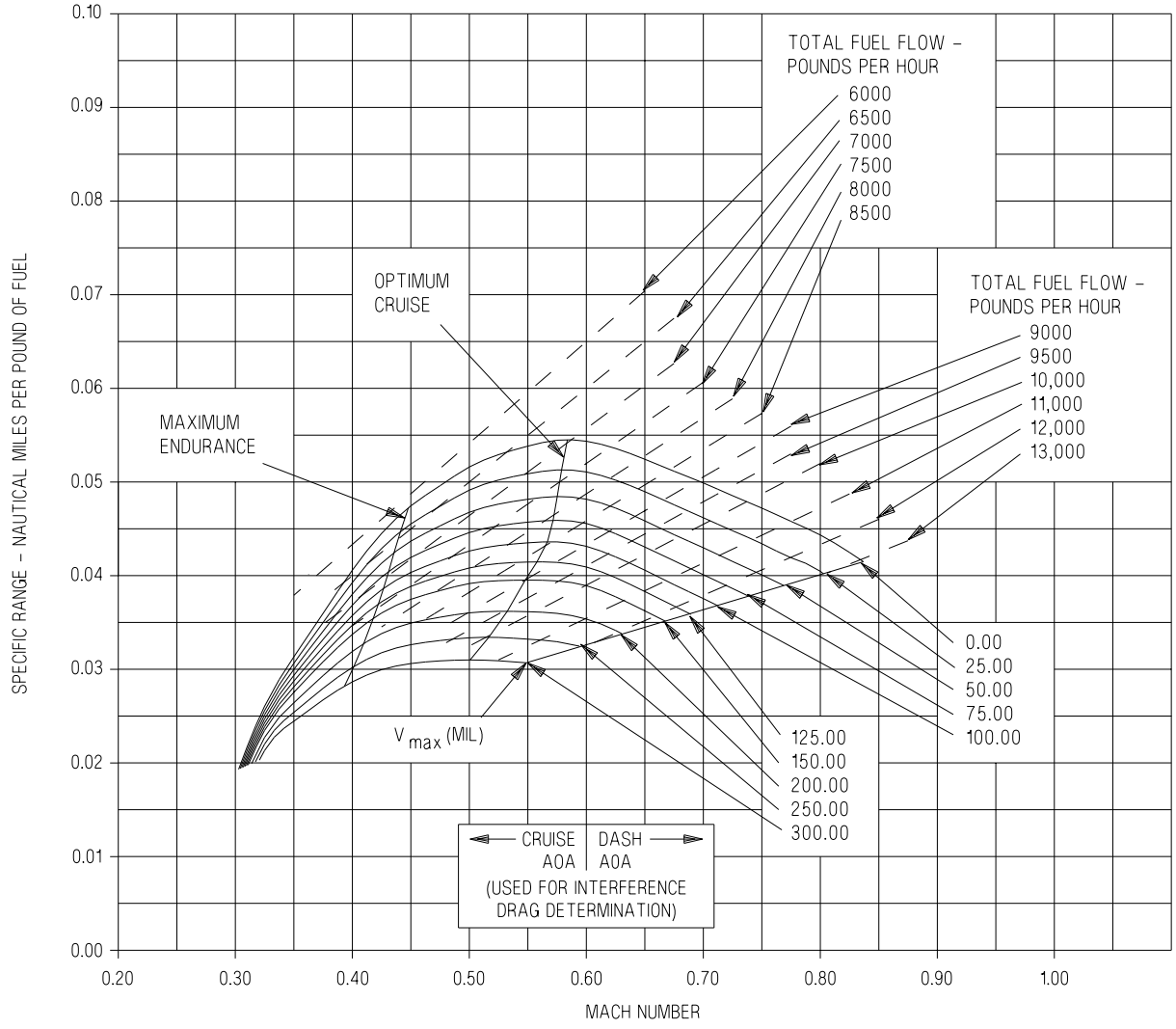


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Figure 5-115. Single Engine Specific Range - 5000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

5,000 FEET - 66,000 POUNDS

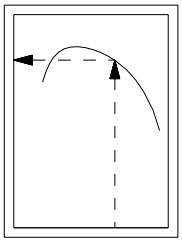
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

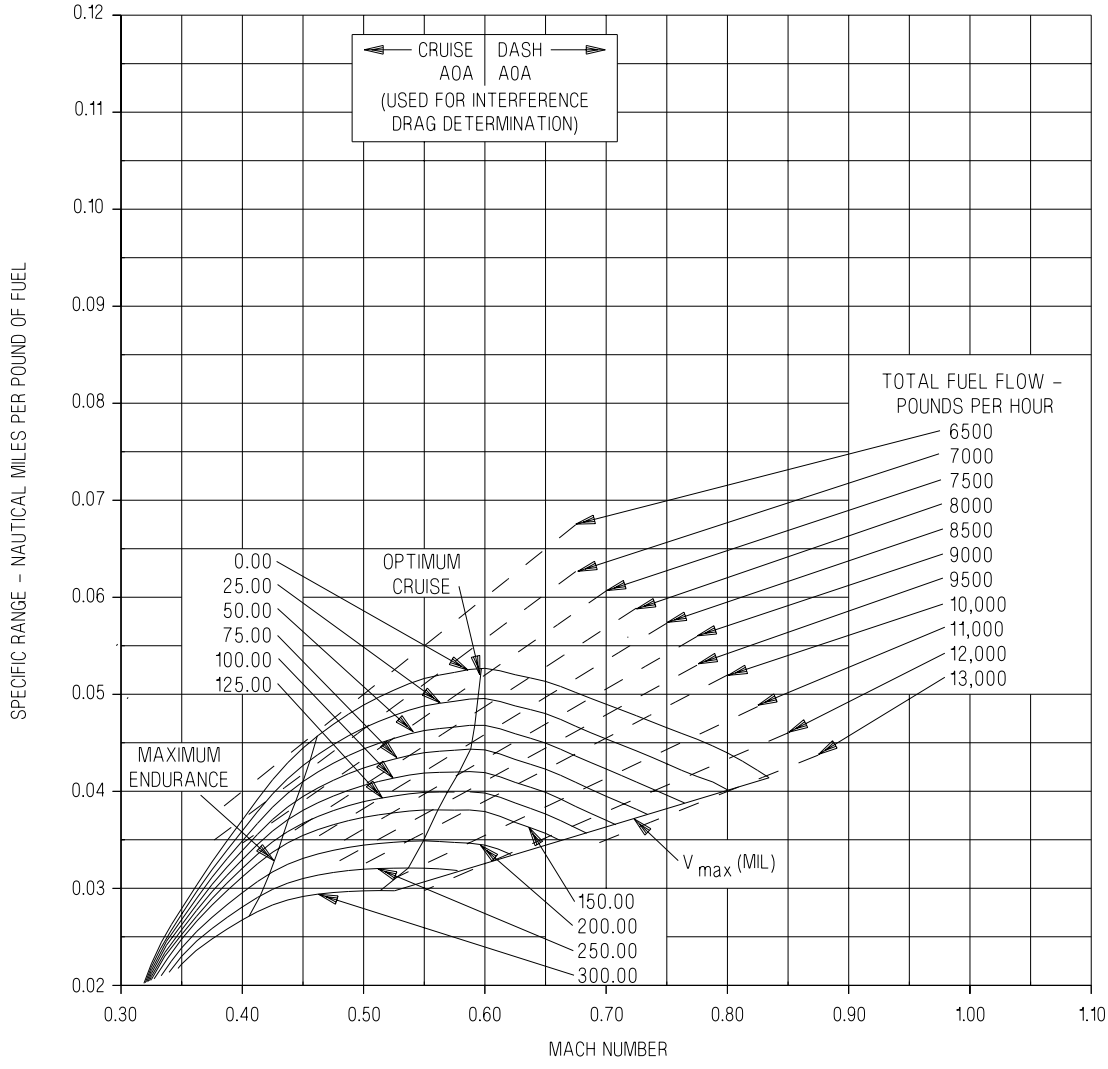
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-512-1-004

Figure 5-116. Single Engine Specific Range - 5000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 30,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

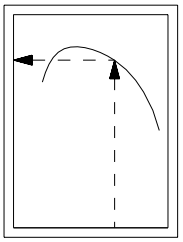
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

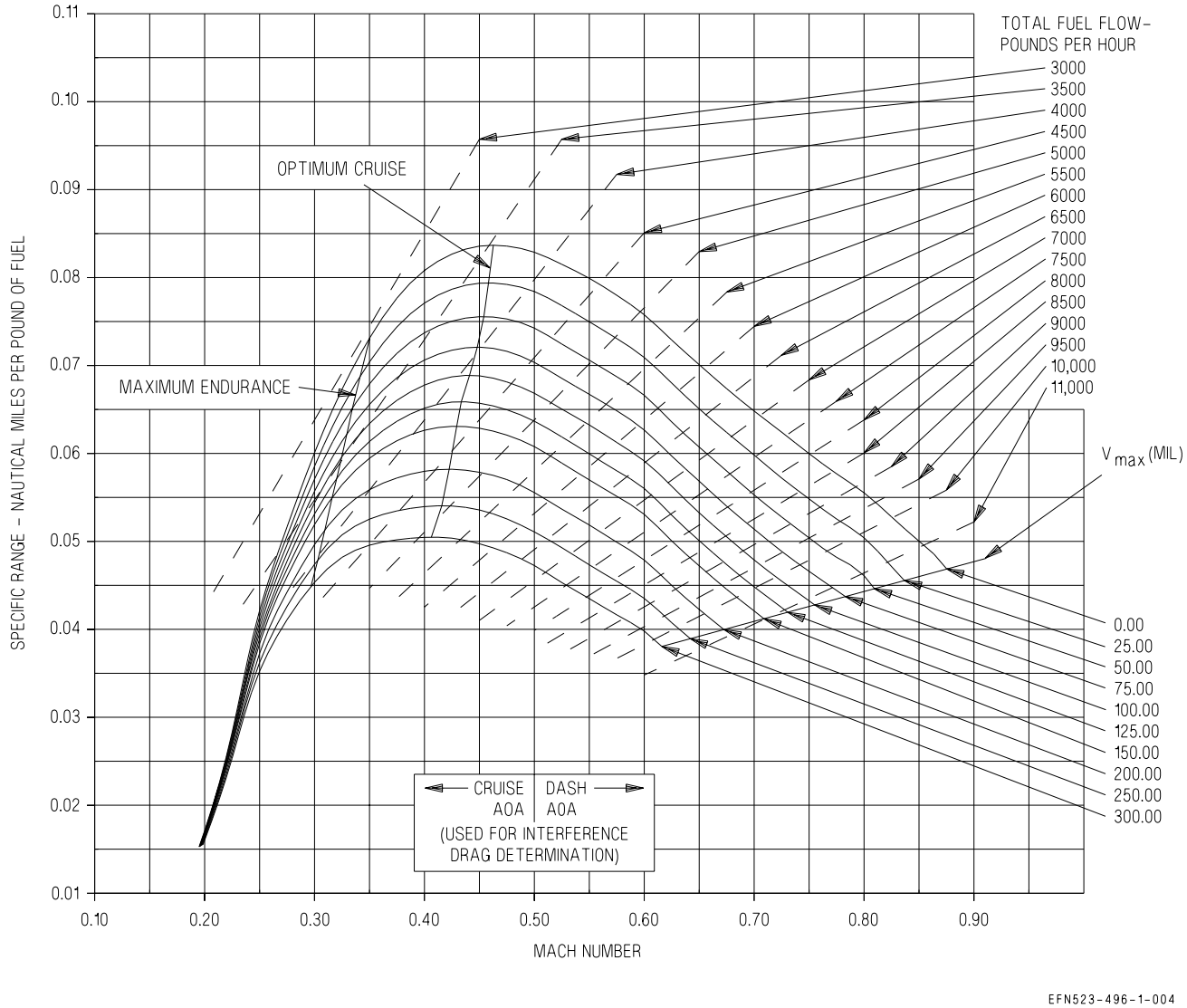
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DIRIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-496-1-004

Figure 5-117. Single Engine Specific Range - 10,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 34,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

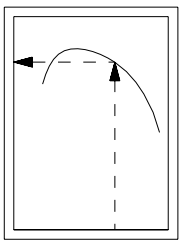
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

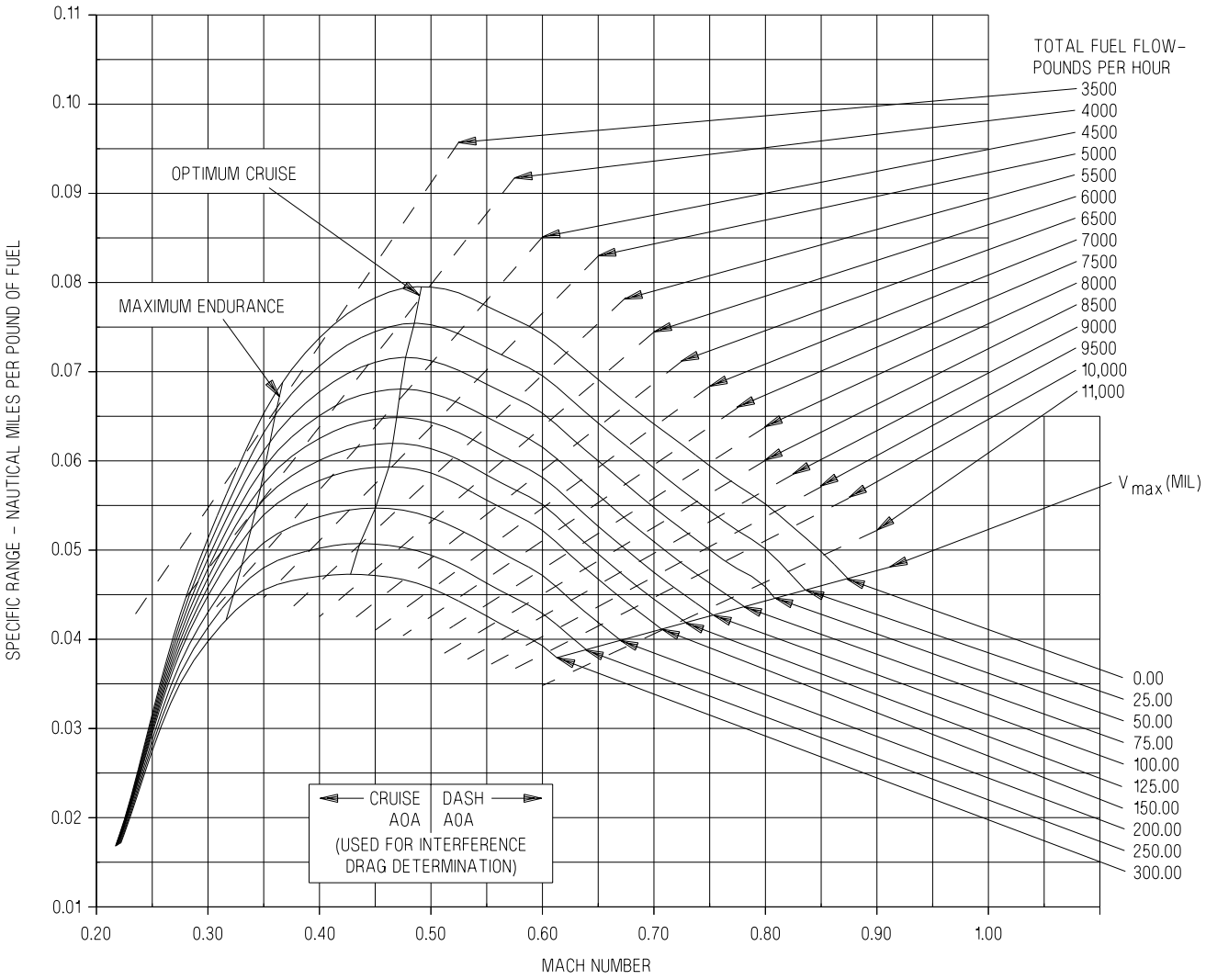
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-497-1-004

Figure 5-118. Single Engine Specific Range - 10,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 38,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

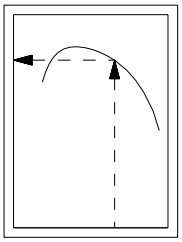
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

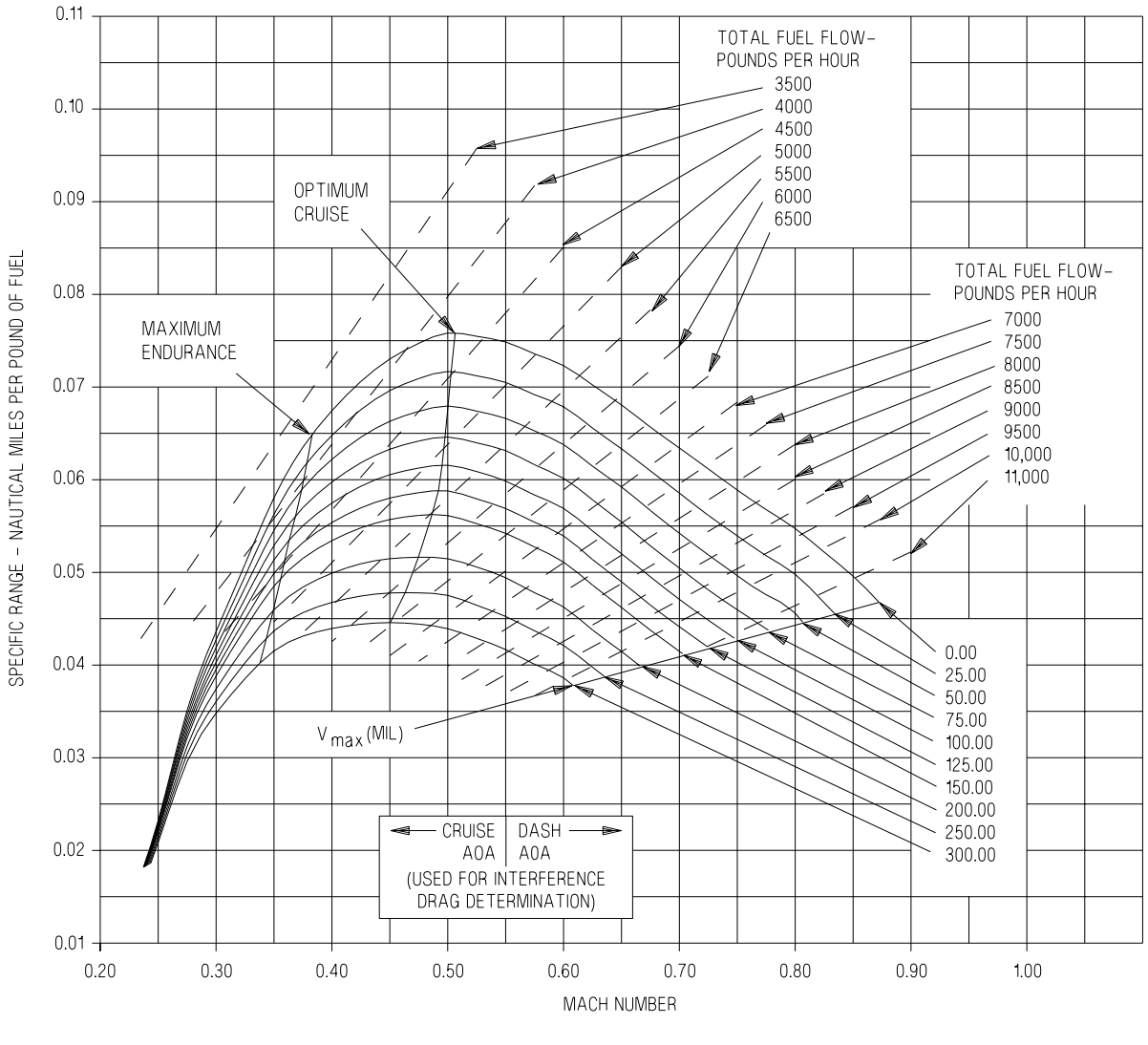
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-513-1-004

Figure 5-119. Single Engine Specific Range - 10,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 42,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

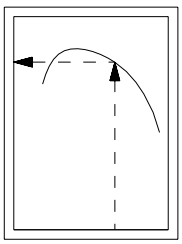
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

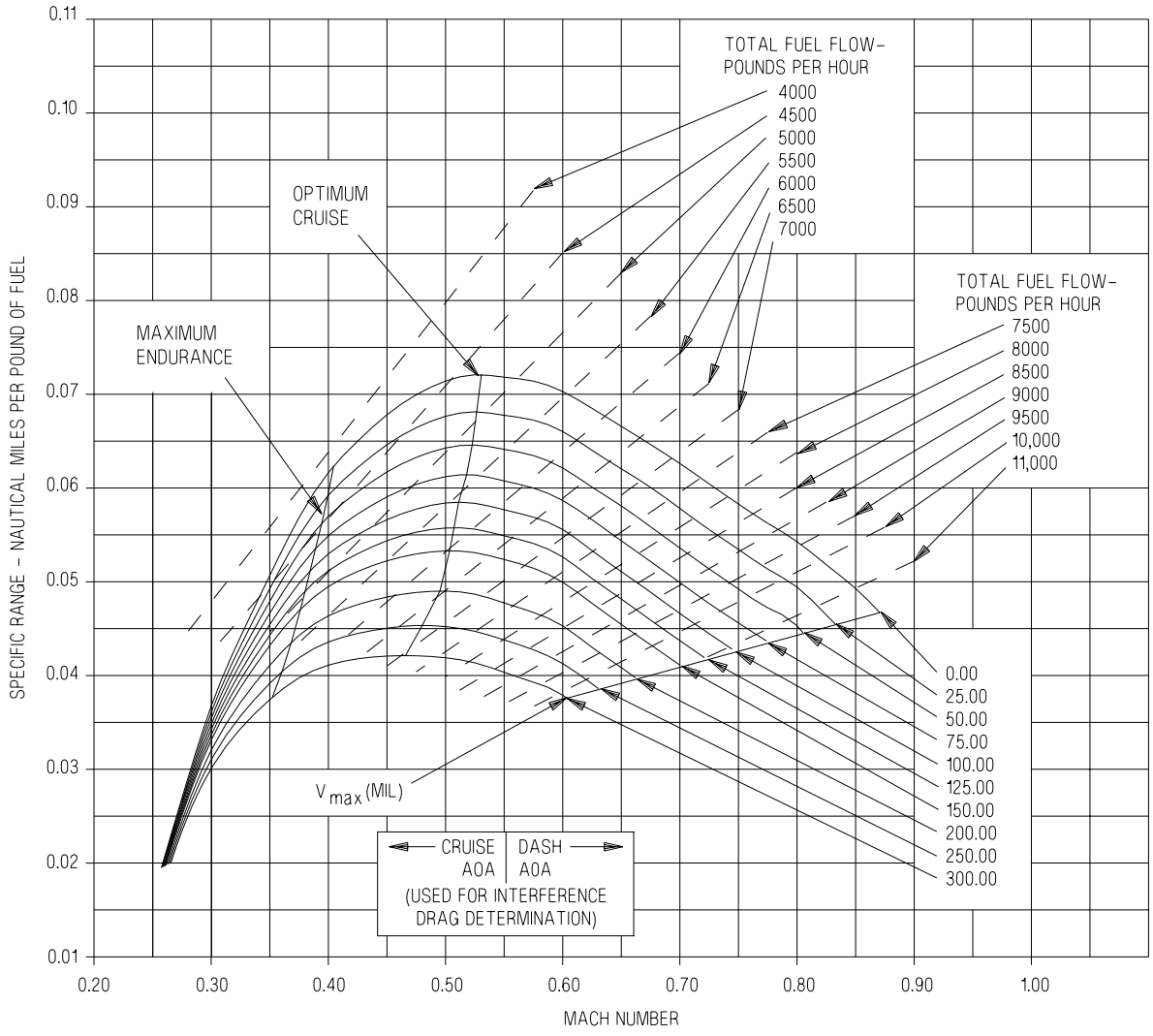
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-514-1-004

Figure 5-120. Single Engine Specific Range - 10,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 46,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

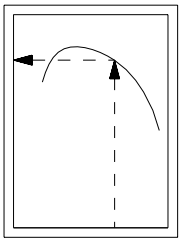
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

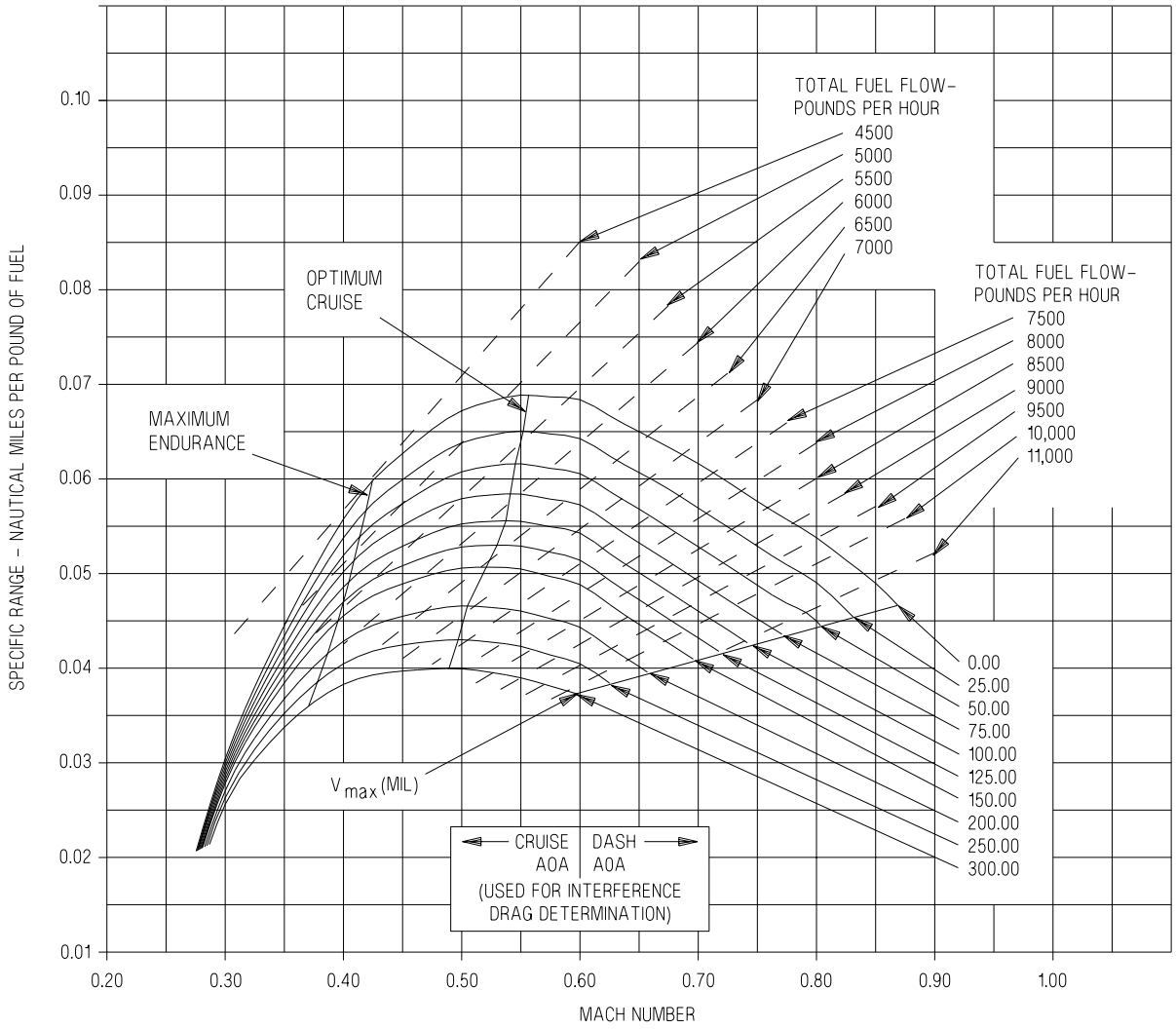
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-515-1-004

Figure 5-121. Single Engine Specific Range - 10,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 50,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

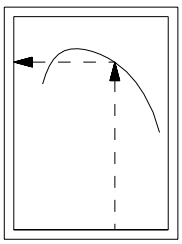
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

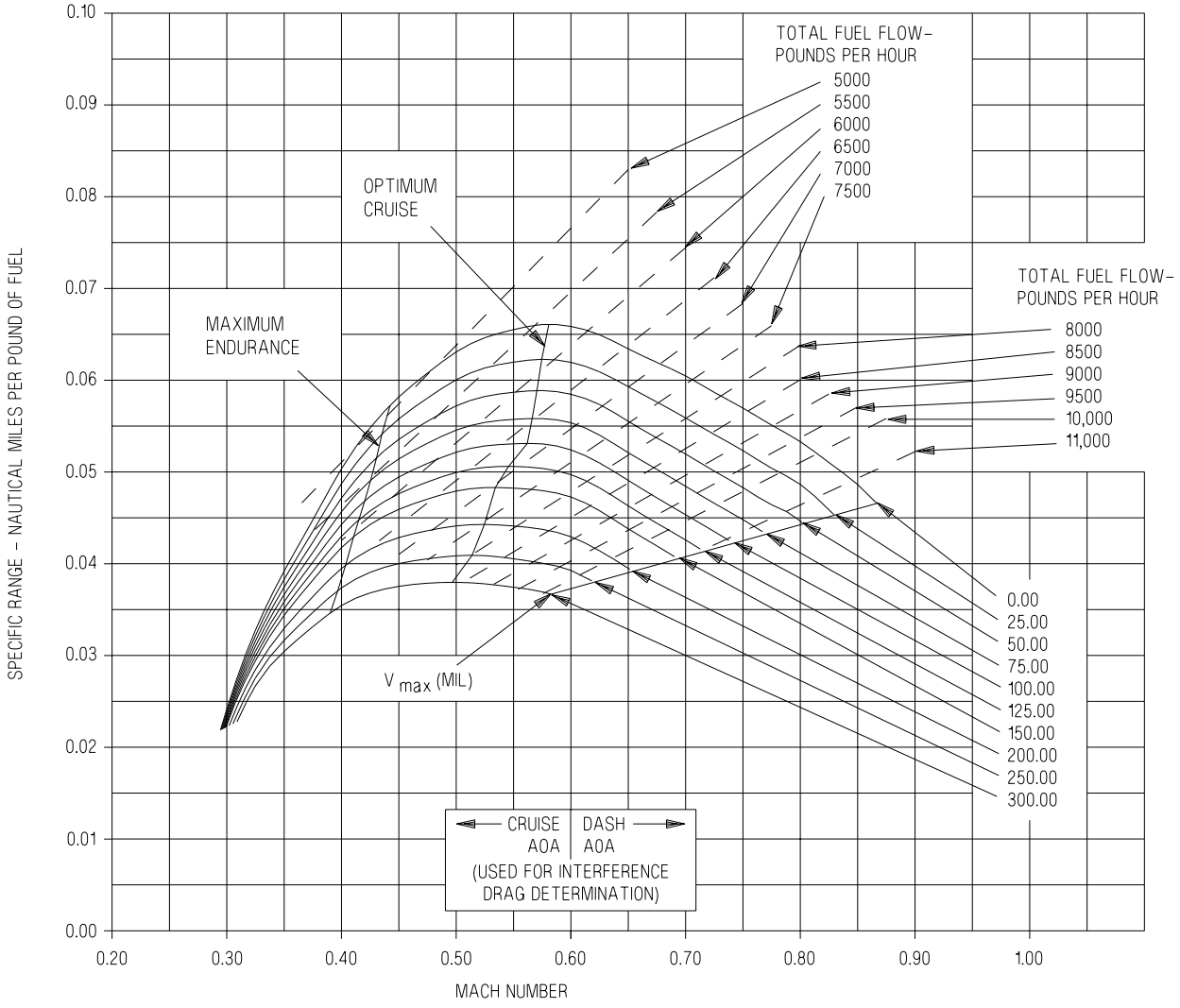
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-516-1-004

Figure 5-122. Single Engine Specific Range - 10,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 54,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

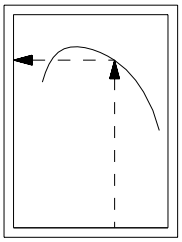
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

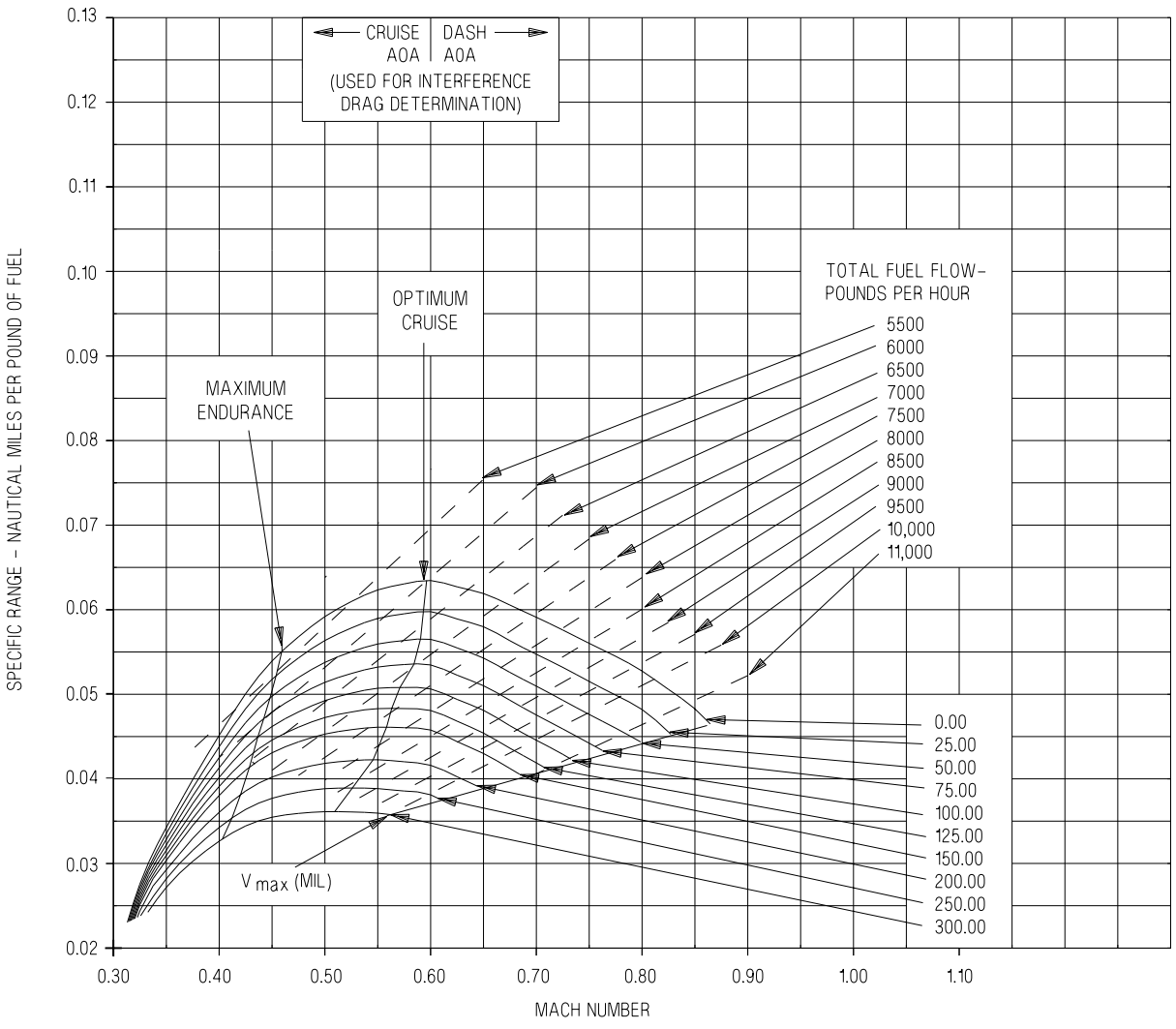
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-517-1-004

Figure 5-123. Single Engine Specific Range - 10,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 58,000 POUNDS

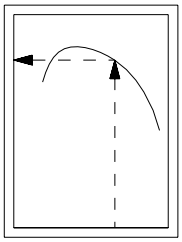
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

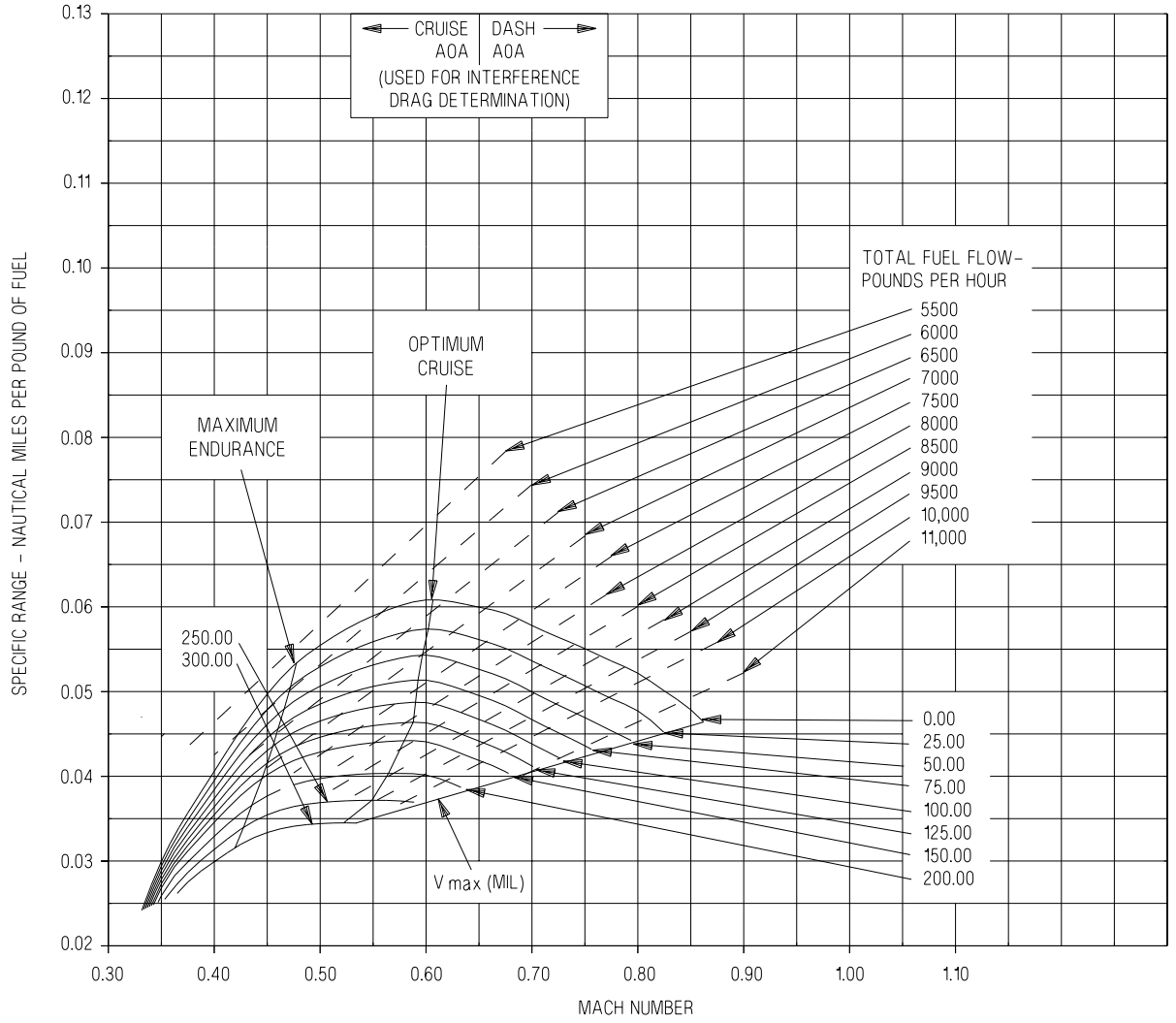
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-518-1-004

Figure 5-124. Single Engine Specific Range - 10,000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 62,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

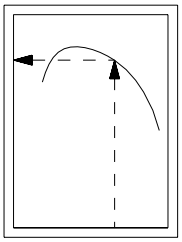
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

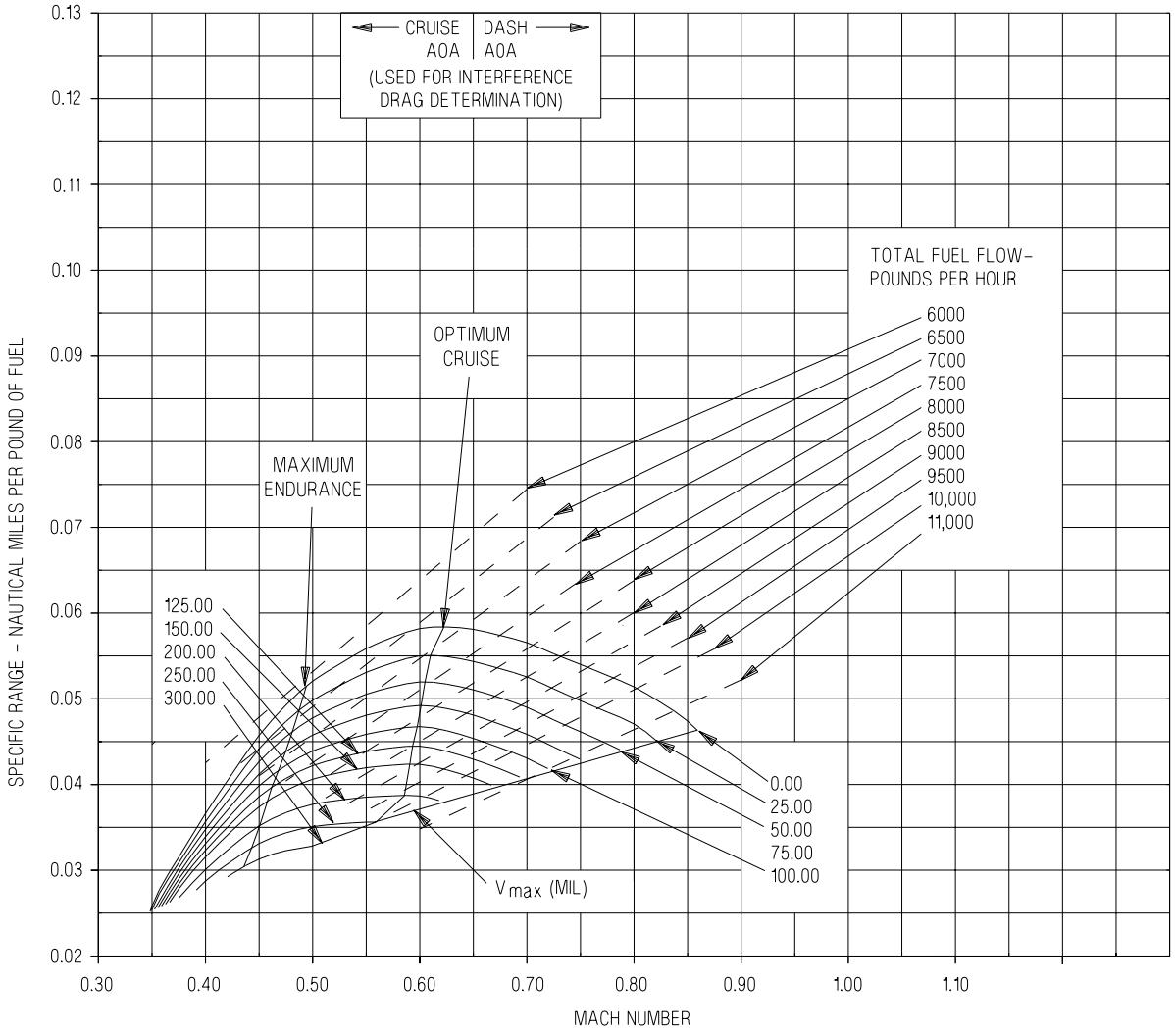
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-519-1-004

Figure 5-125. Single Engine Specific Range - 10,000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

10,000 FEET - 66,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

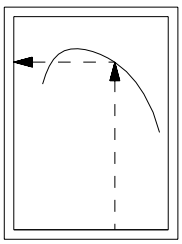
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

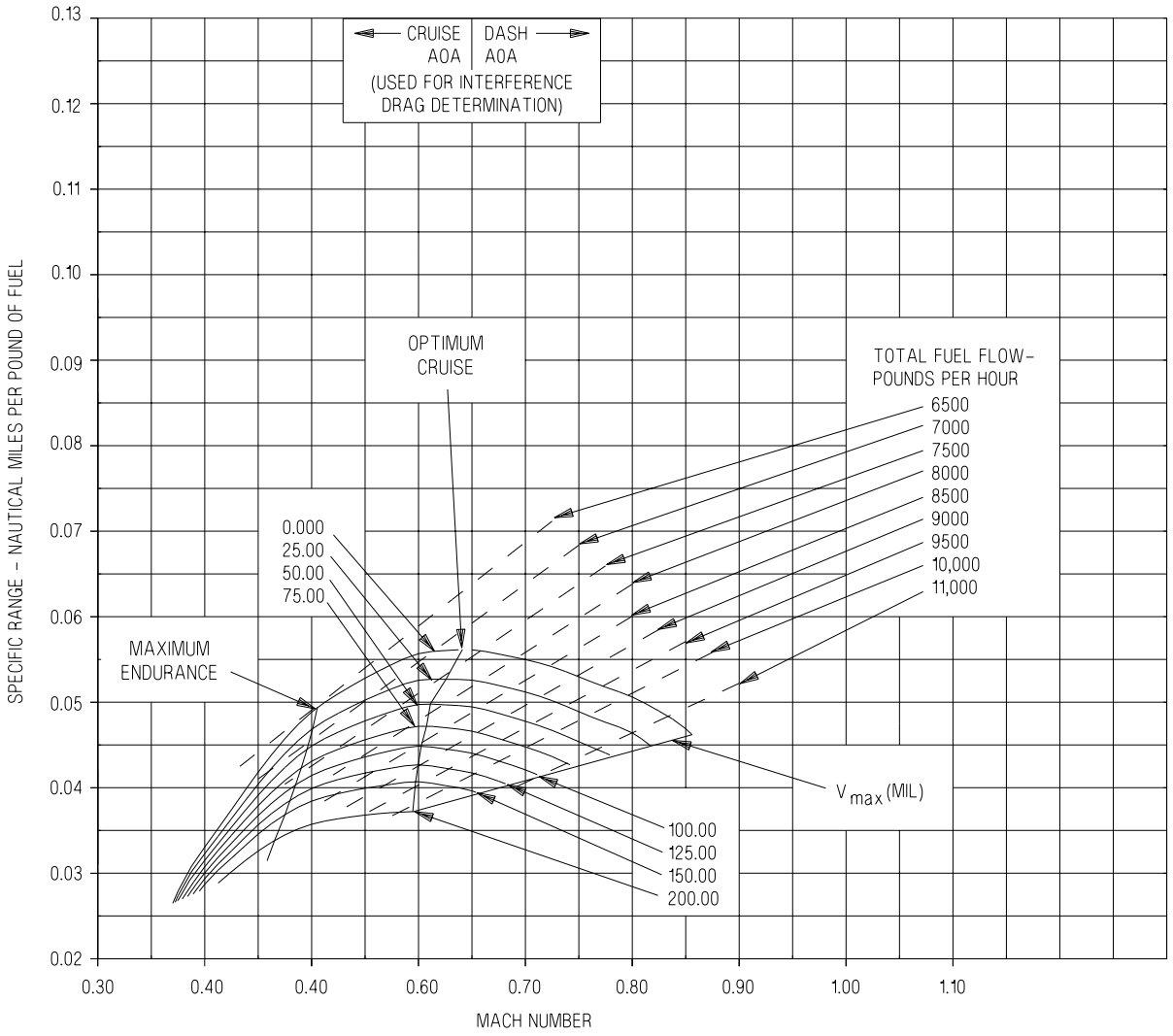
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-520-1-004

Figure 5-126. Single Engine Specific Range - 10,000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 30,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

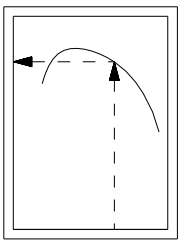
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

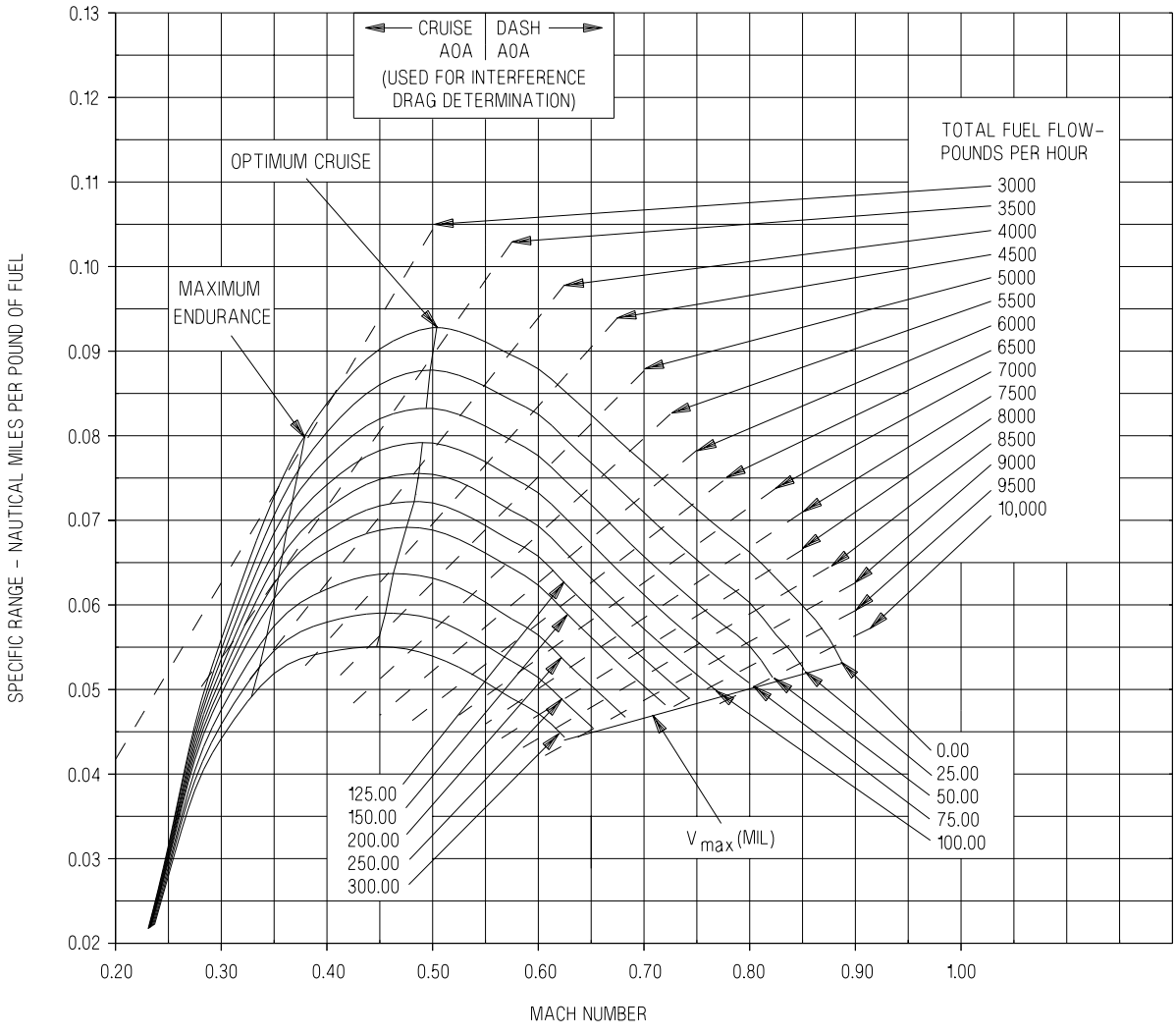
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-521-1-004

Figure 5-127. Single Engine Specific Range - 15,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 34,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

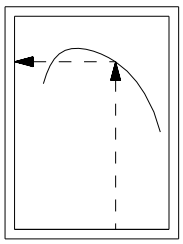
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

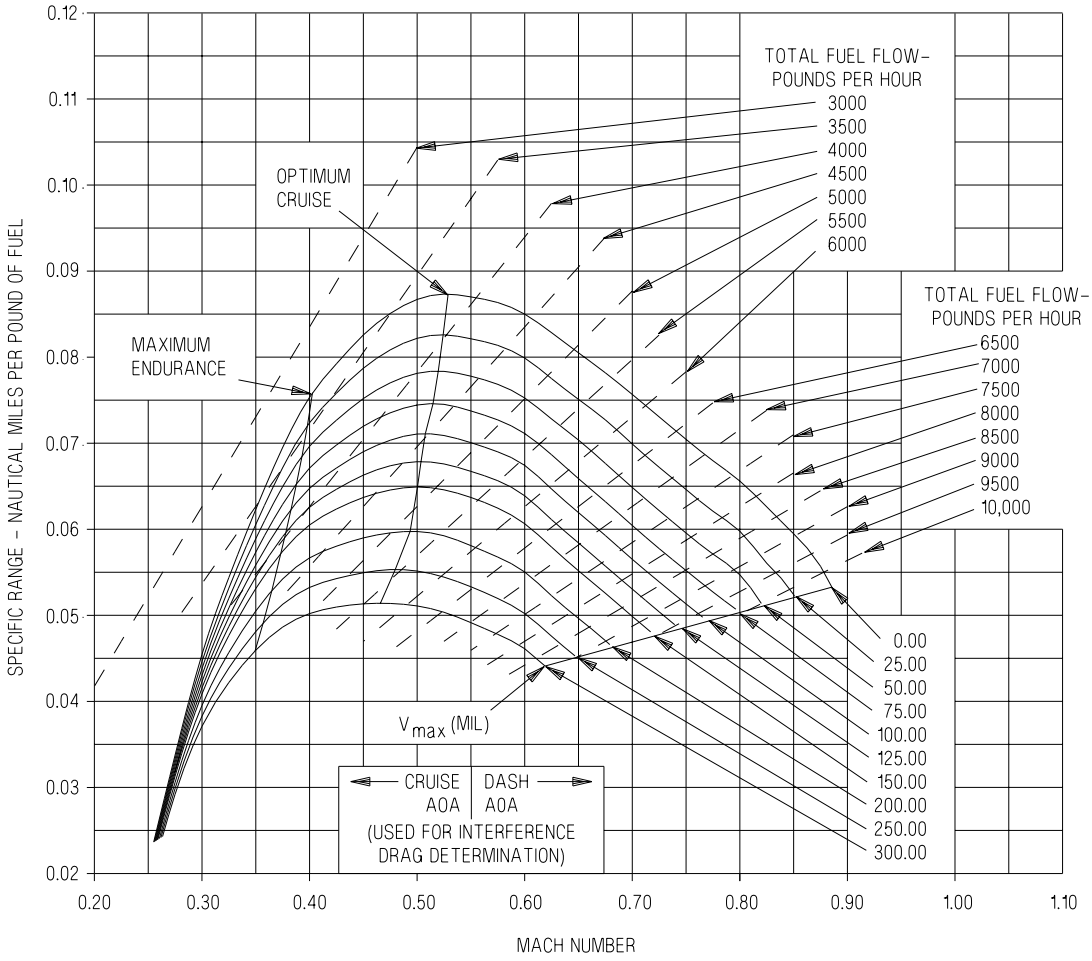
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-522-1-004

Figure 5-128. Single Engine Specific Range - 15,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 38,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

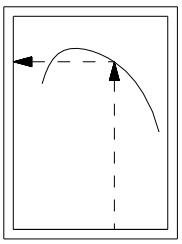
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

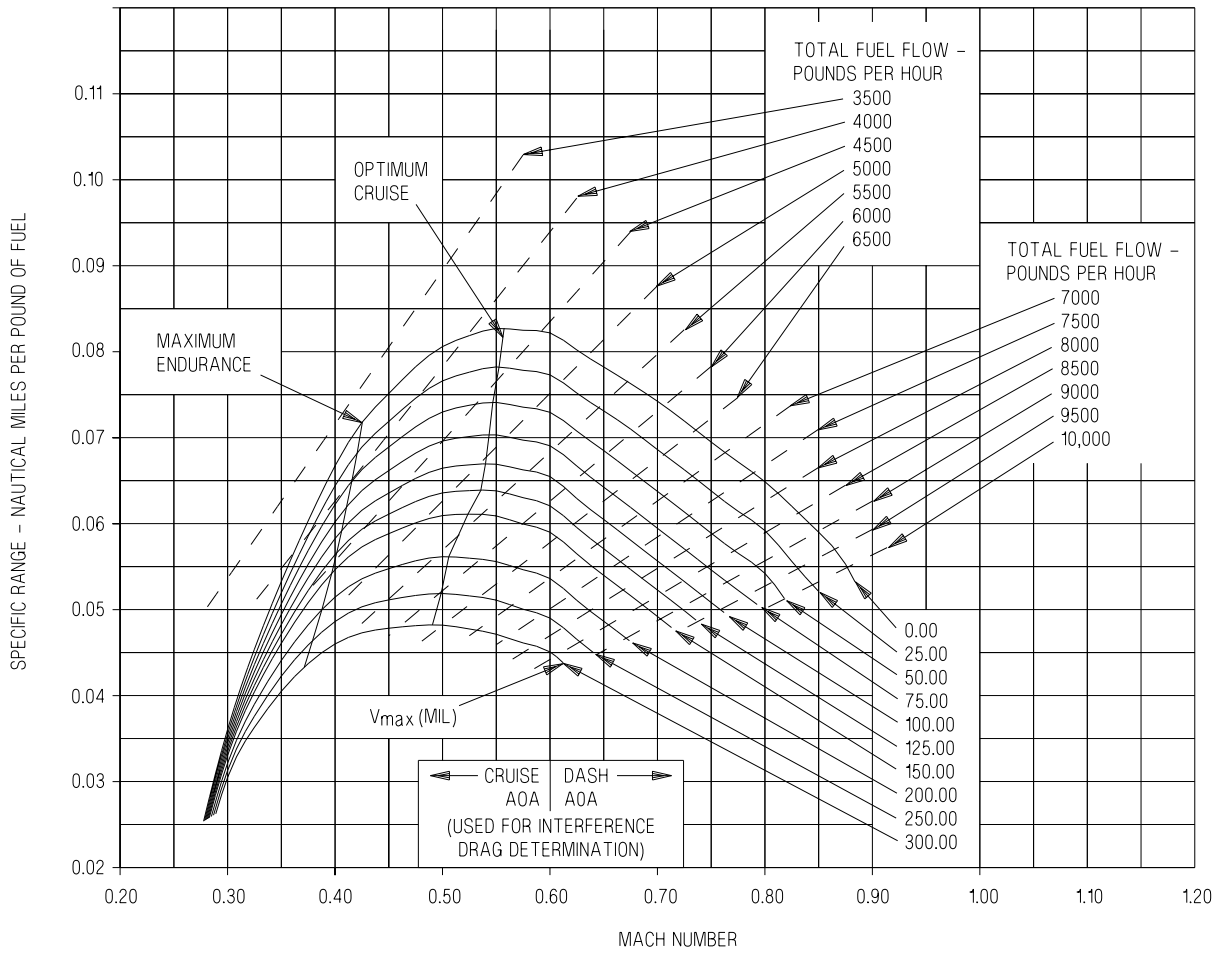
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-523-1-004

Figure 5-129. Single Engine Specific Range - 15,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 42,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

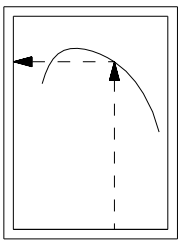
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

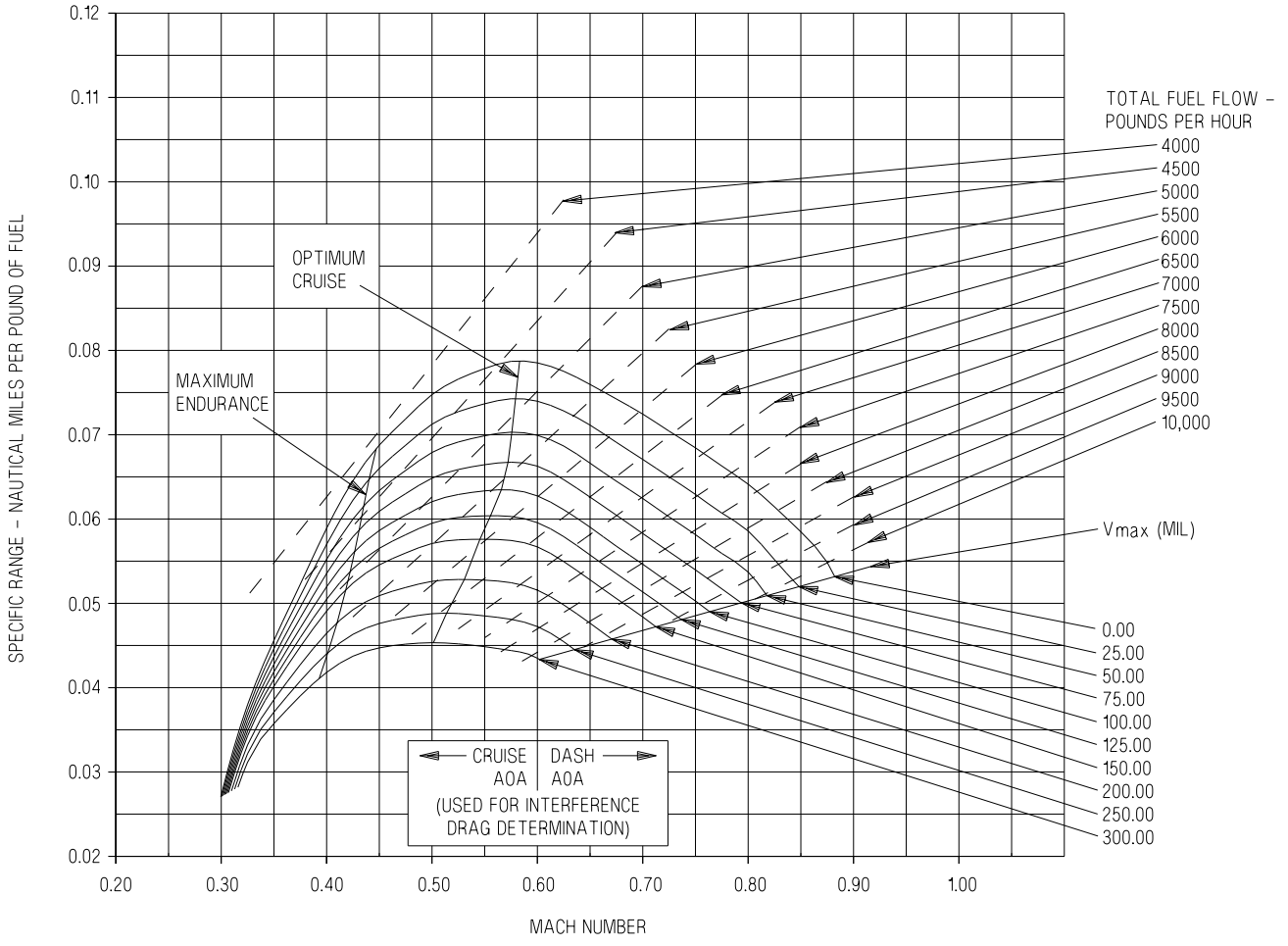
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-524-1-004

Figure 5-130. Single Engine Specific Range - 15,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 46,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

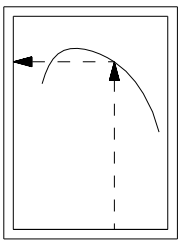
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

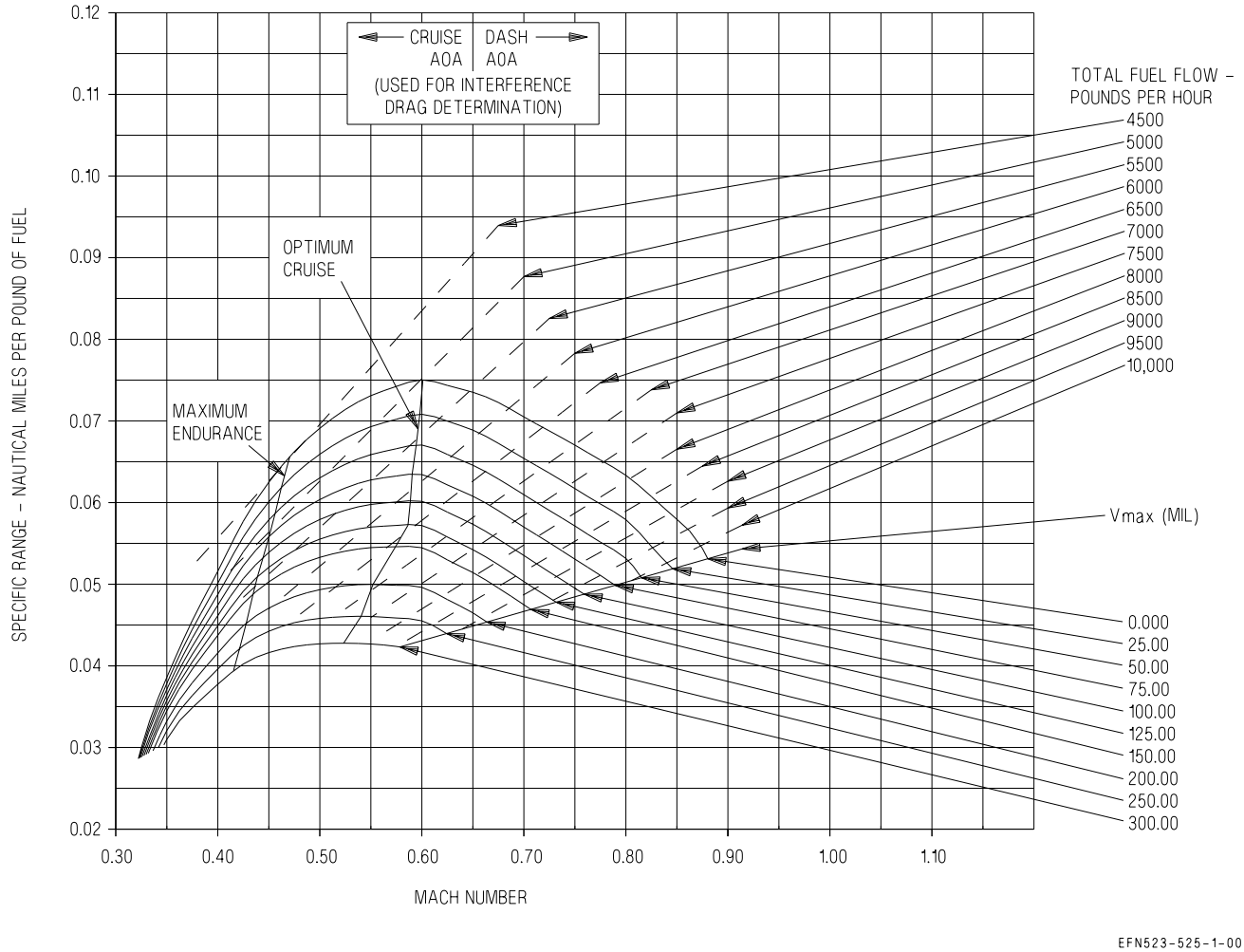


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Figure 5-131. Single Engine Specific Range - 15,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 50,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

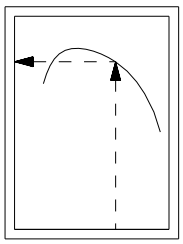
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

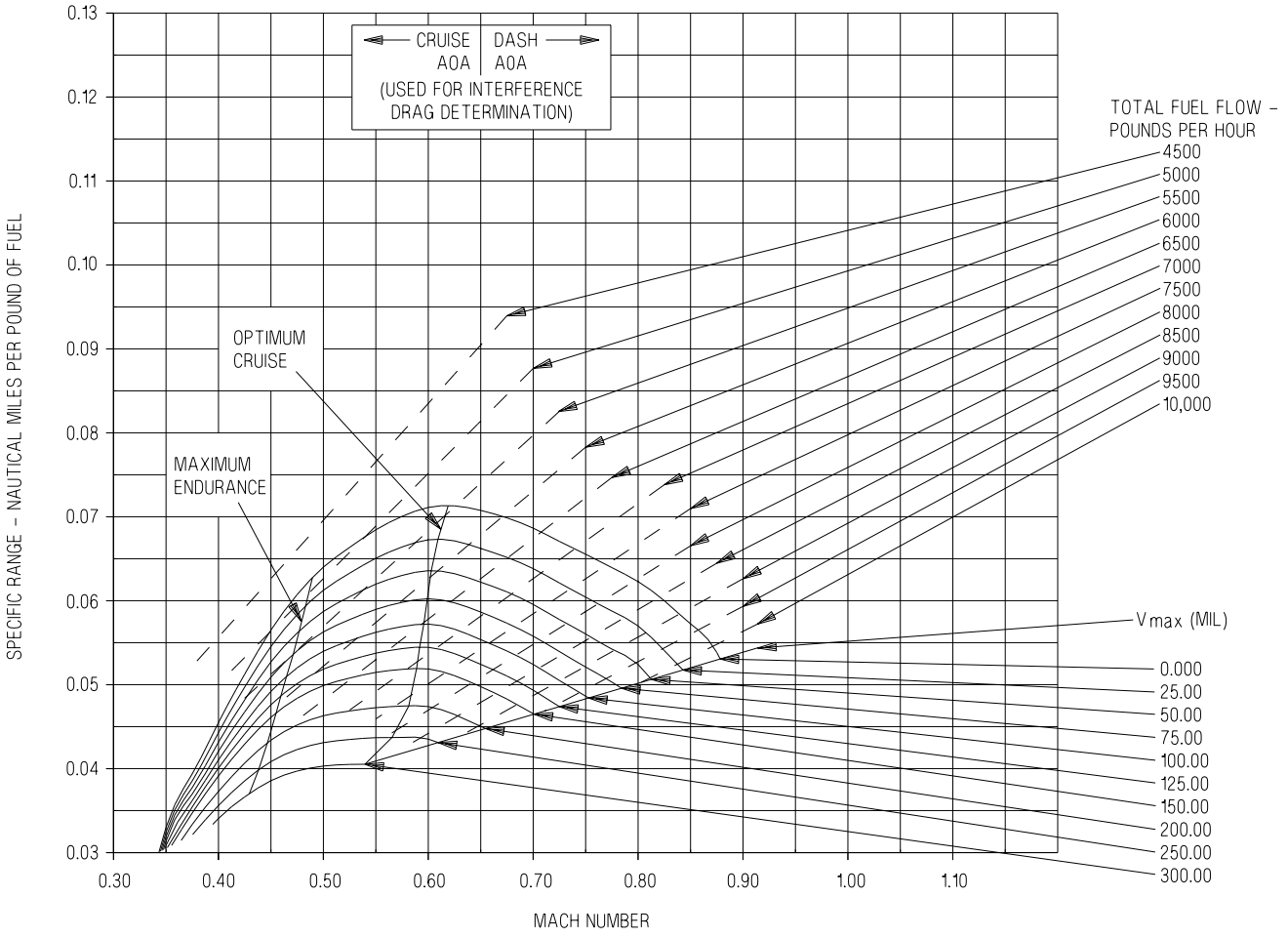


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Figure 5-132. Single Engine Specific Range - 15,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 54,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

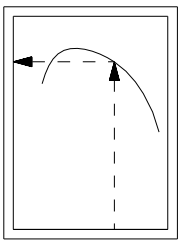
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

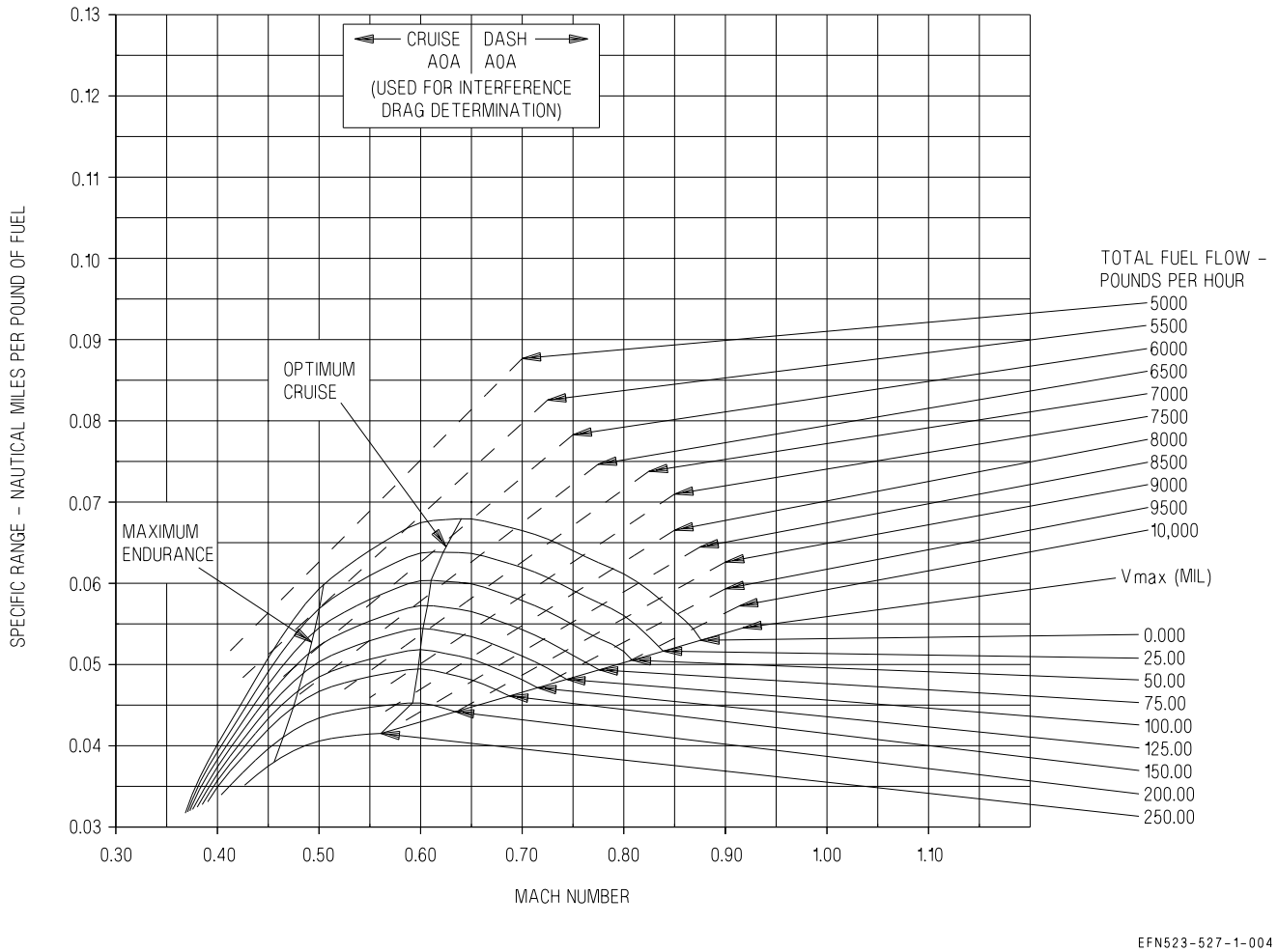
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-527-1-004

Figure 5-133. Single Engine Specific Range - 15,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 58,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

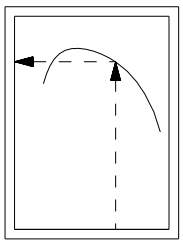
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

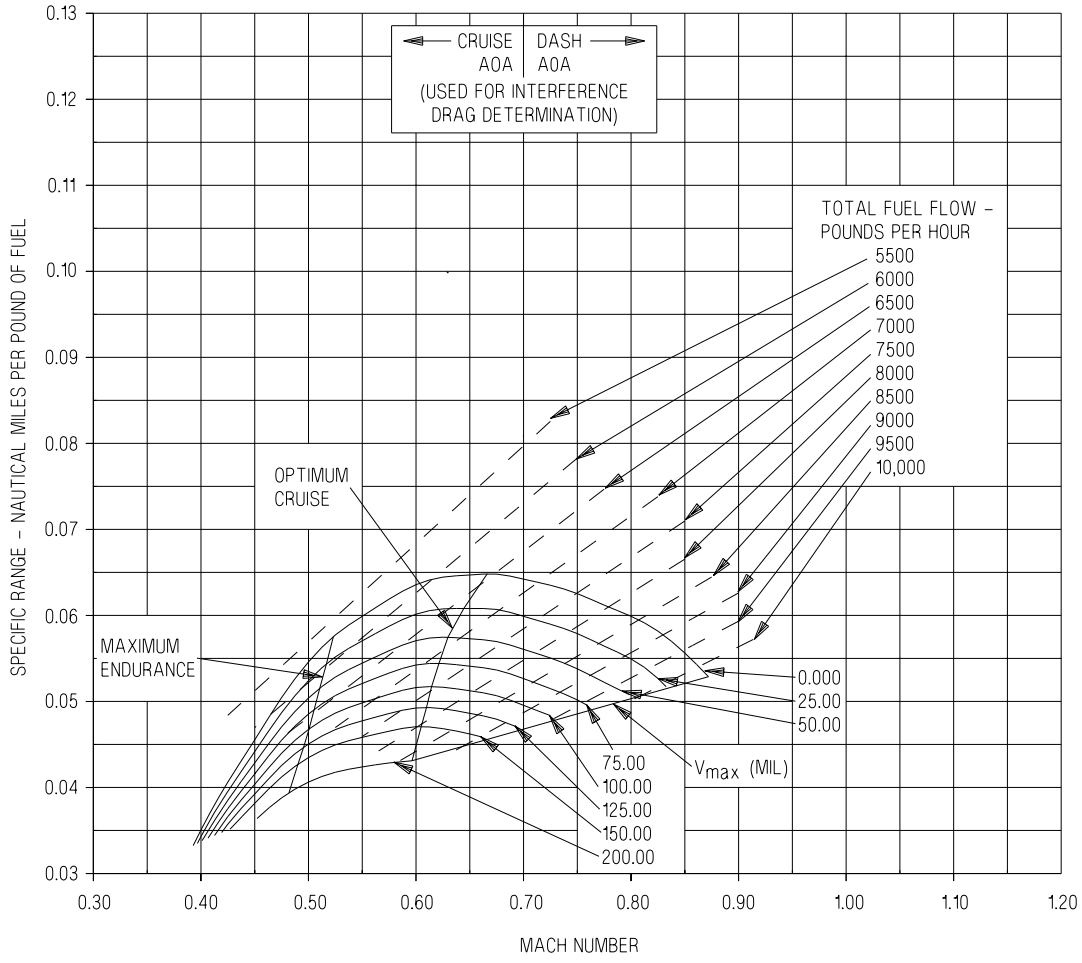
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-528-1-004

Figure 5-134. Single Engine Specific Range - 15,000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET - 62,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

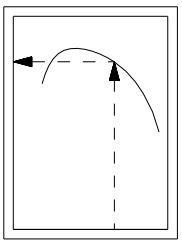
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

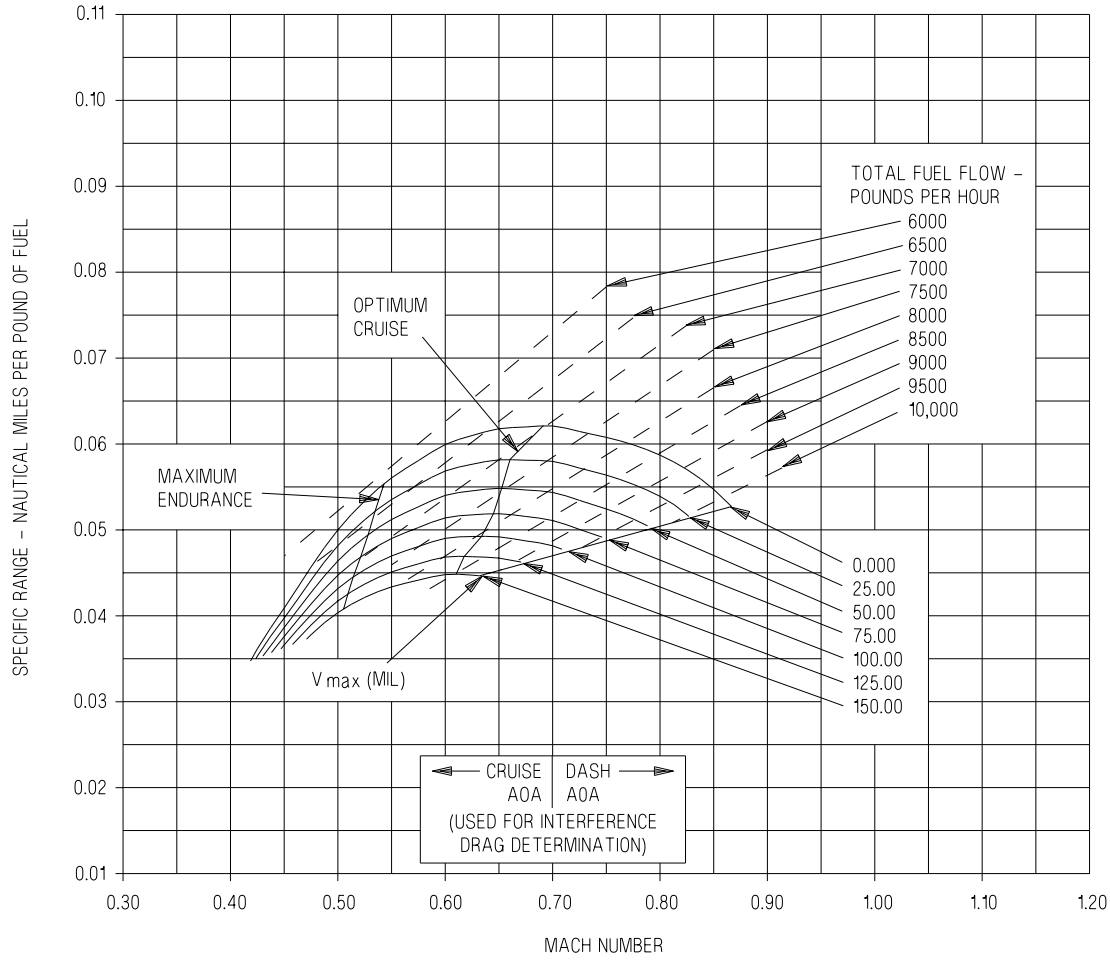
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-548-1-004

Figure 5-135. Single Engine Specific Range - 15,000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

15,000 FEET – 66,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

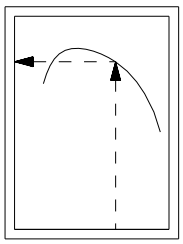
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

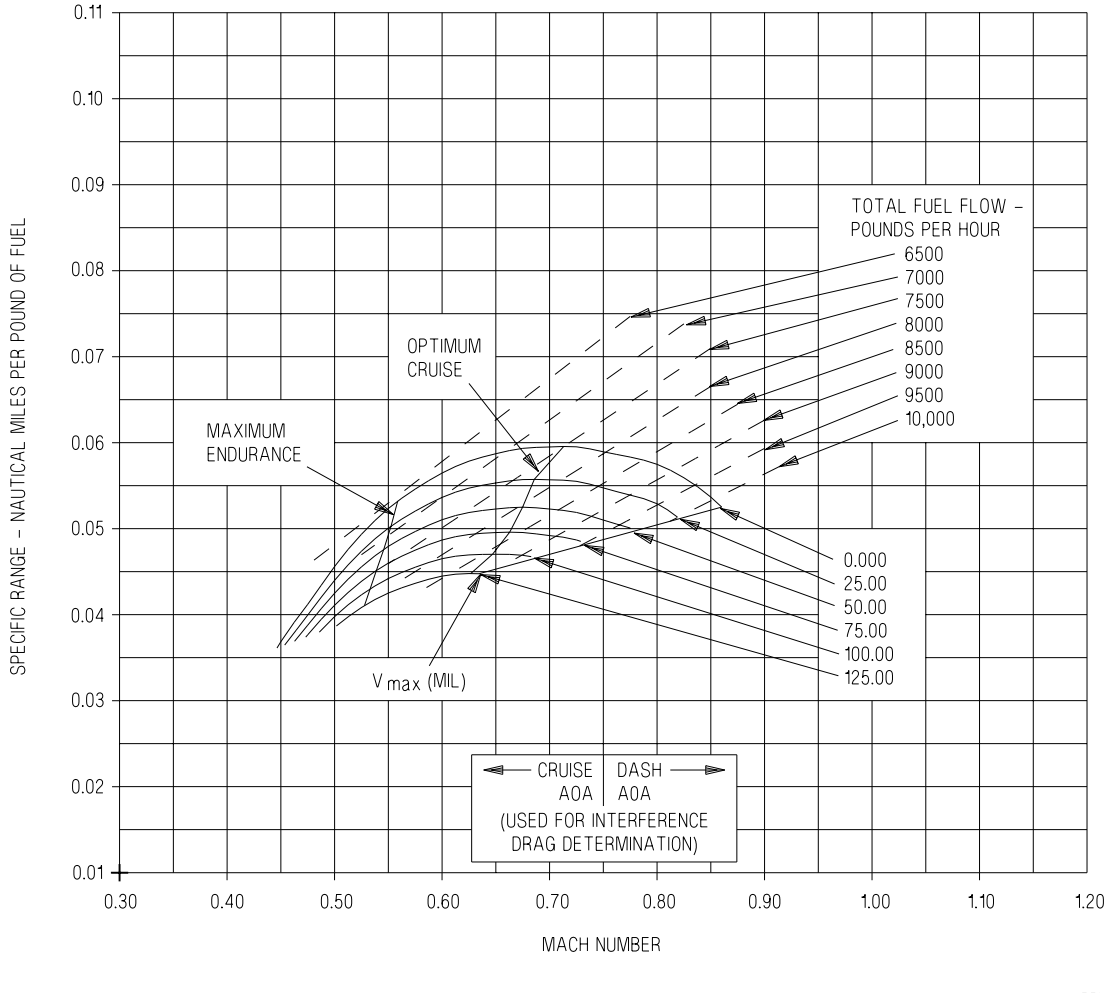
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-547-1-004

Figure 5-136. Single Engine Specific Range - 15,000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 30,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

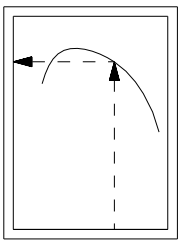
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

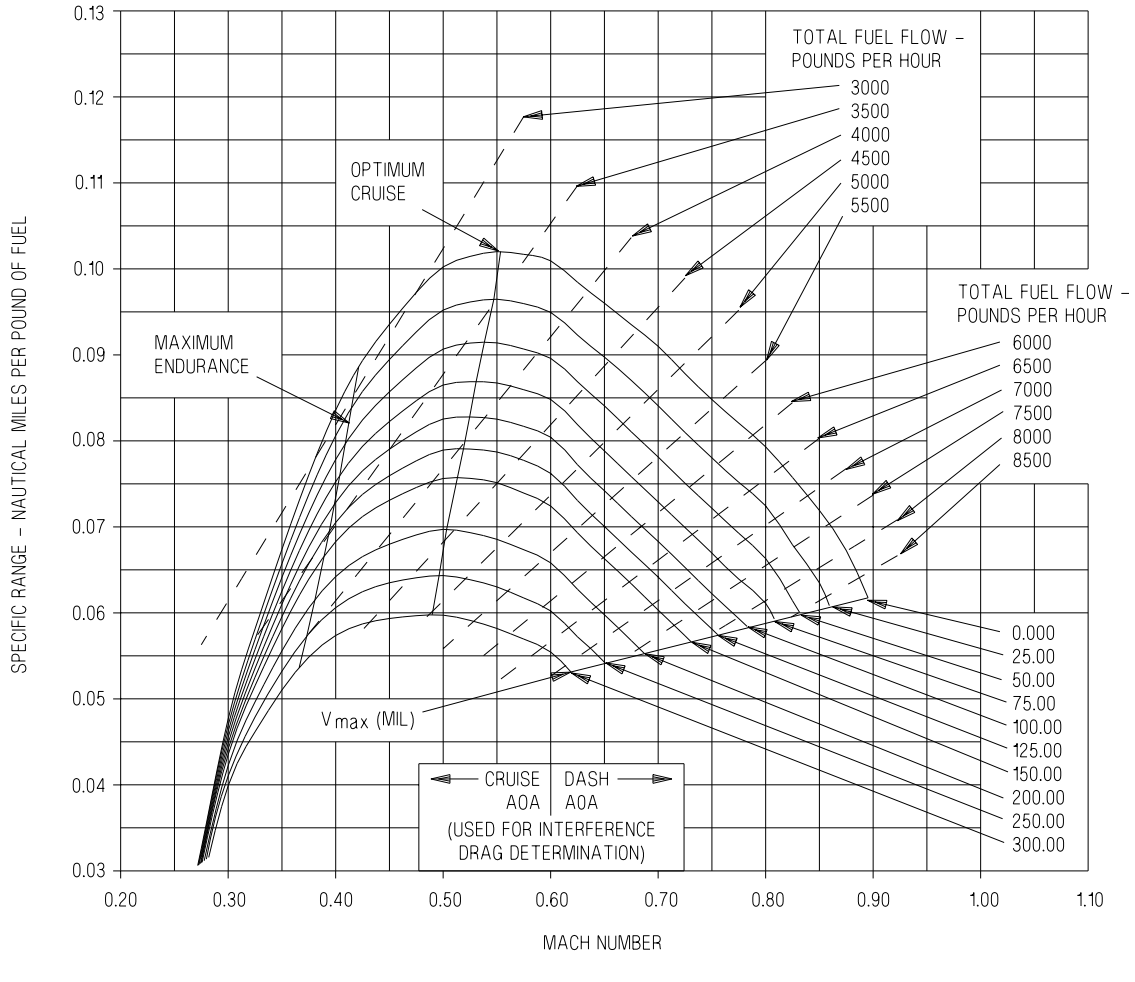


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Figure 5-137. Single Engine Specific Range - 20,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 34,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

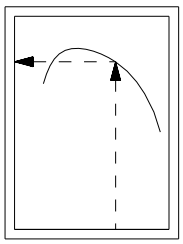
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

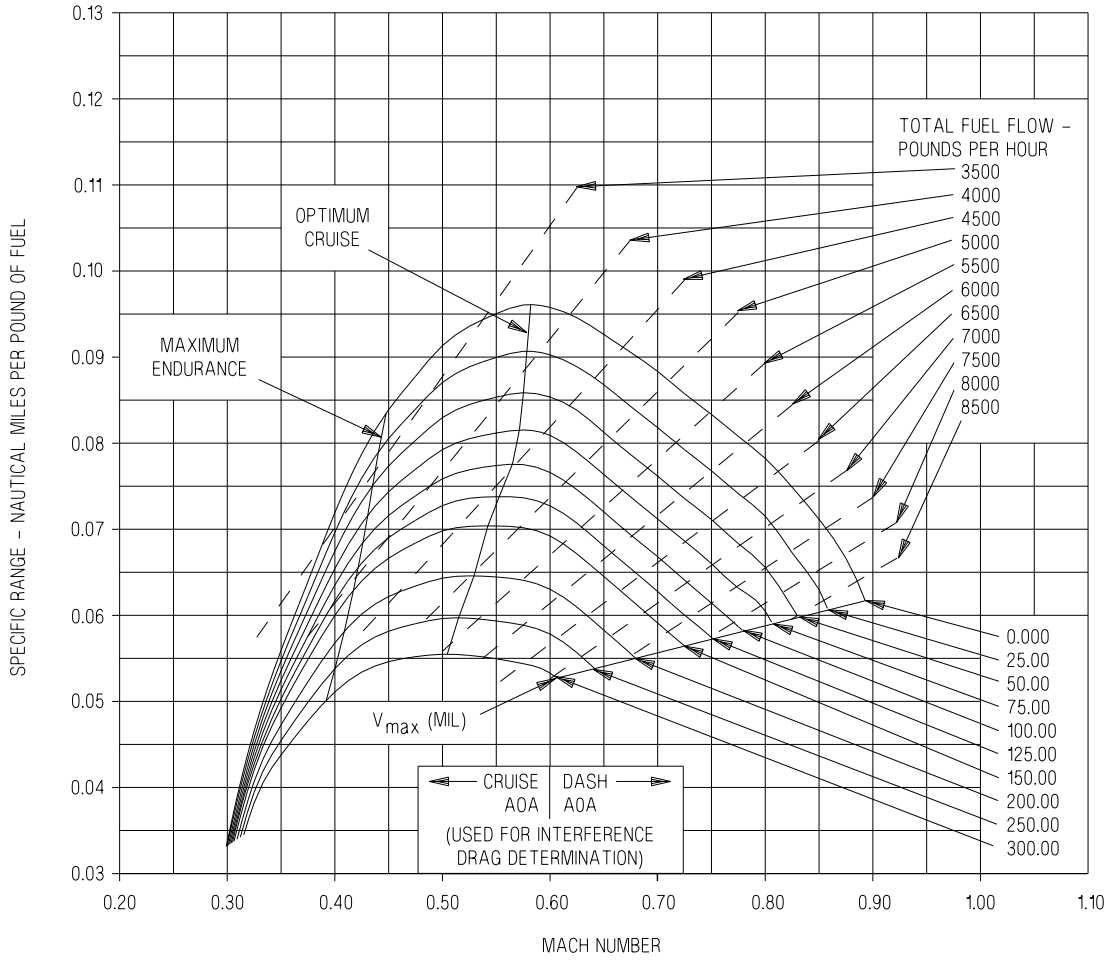
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-545-1-004

Figure 5-138. Single Engine Specific Range - 20,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 38,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

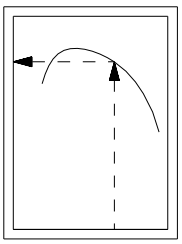
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

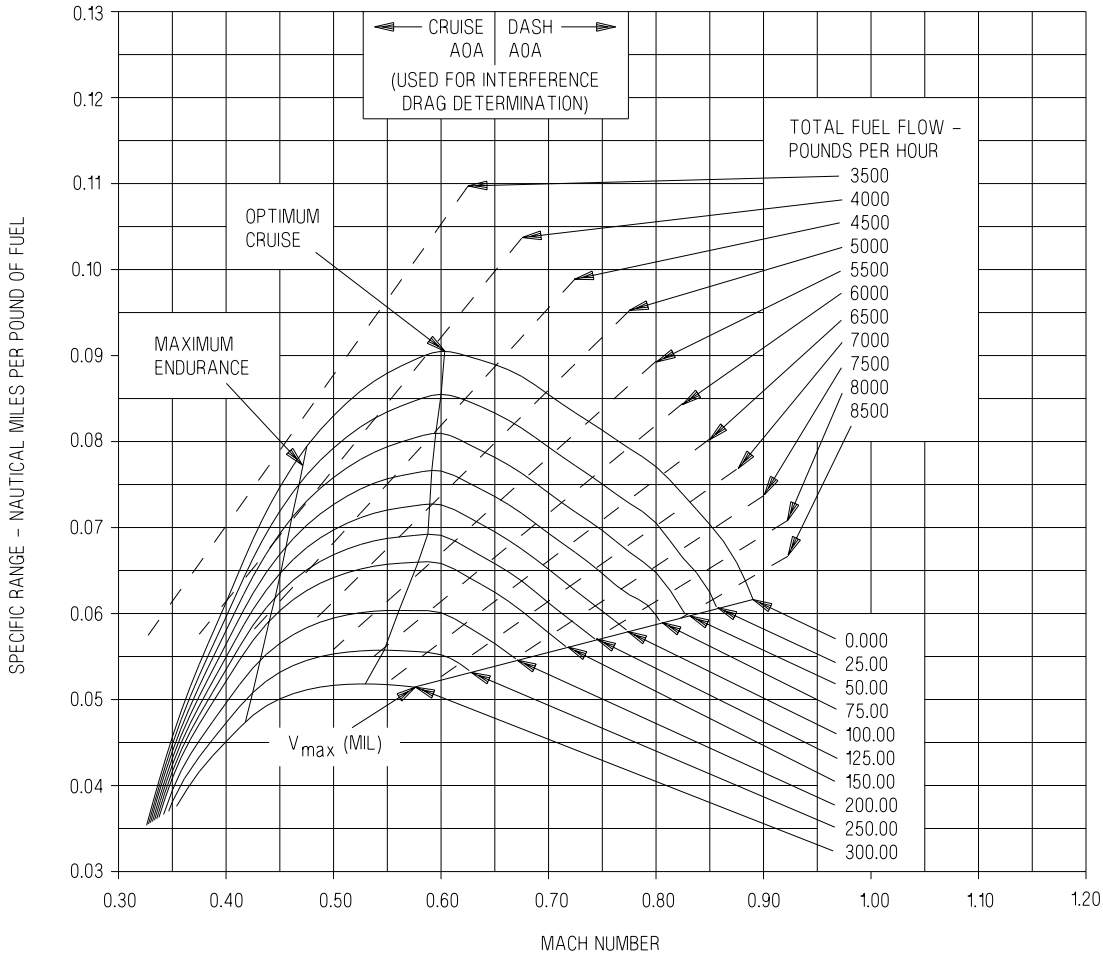
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-544-1-004

Figure 5-139. Single Engine Specific Range - 20,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 42,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

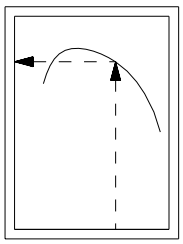
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

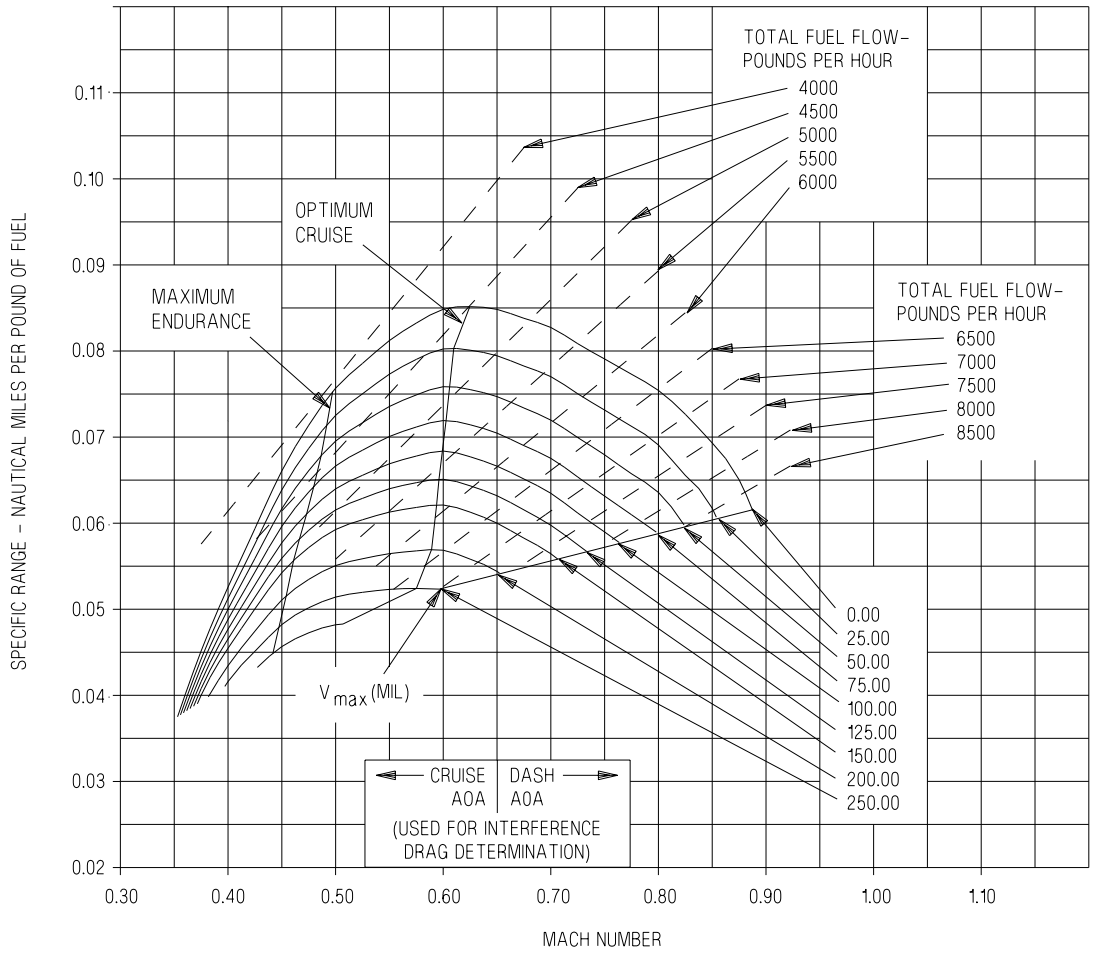
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-543-1-004

Figure 5-140. Single Engine Specific Range - 20,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 46,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

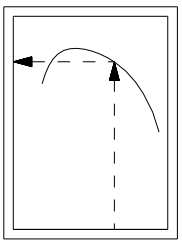
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

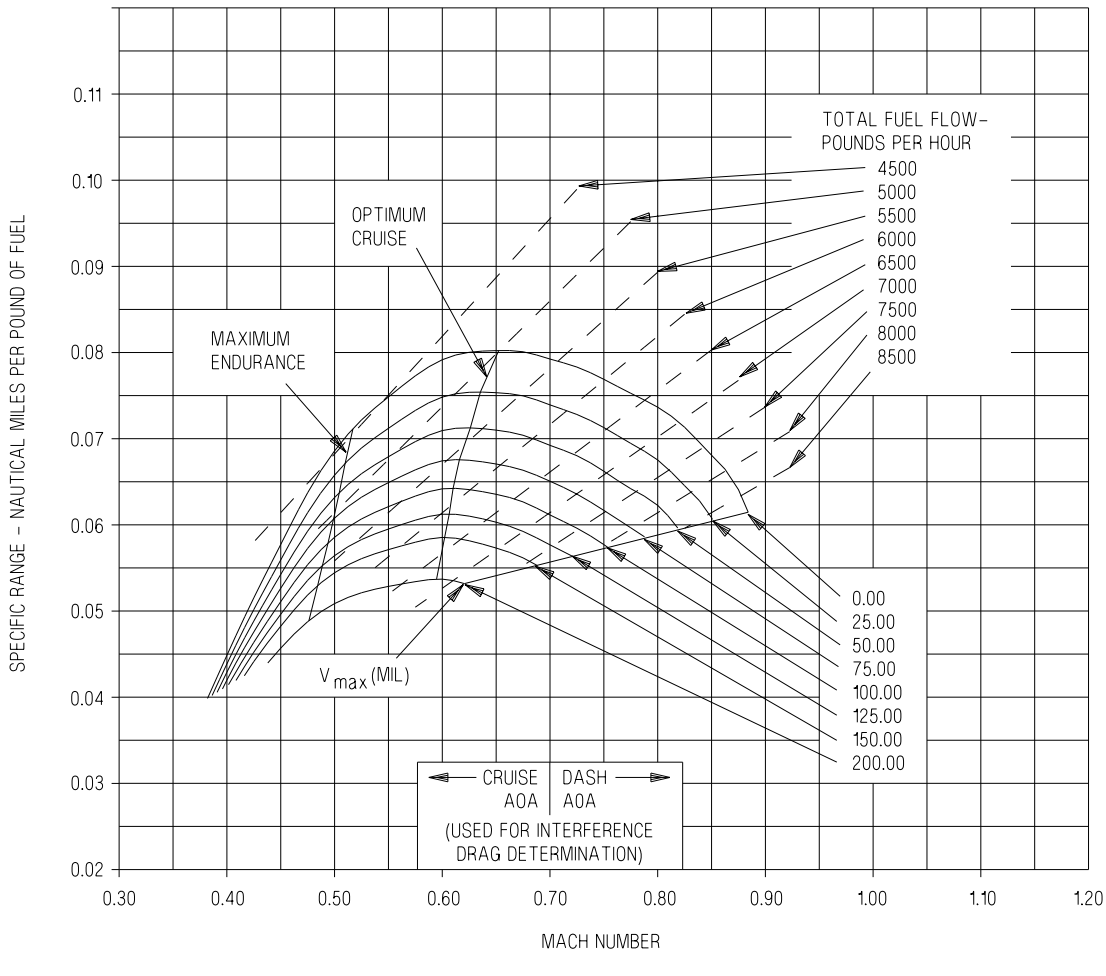
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-542-1-004

Figure 5-141. Single Engine Specific Range - 20,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 50,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

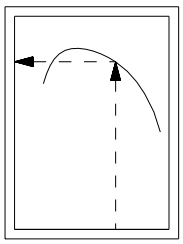
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

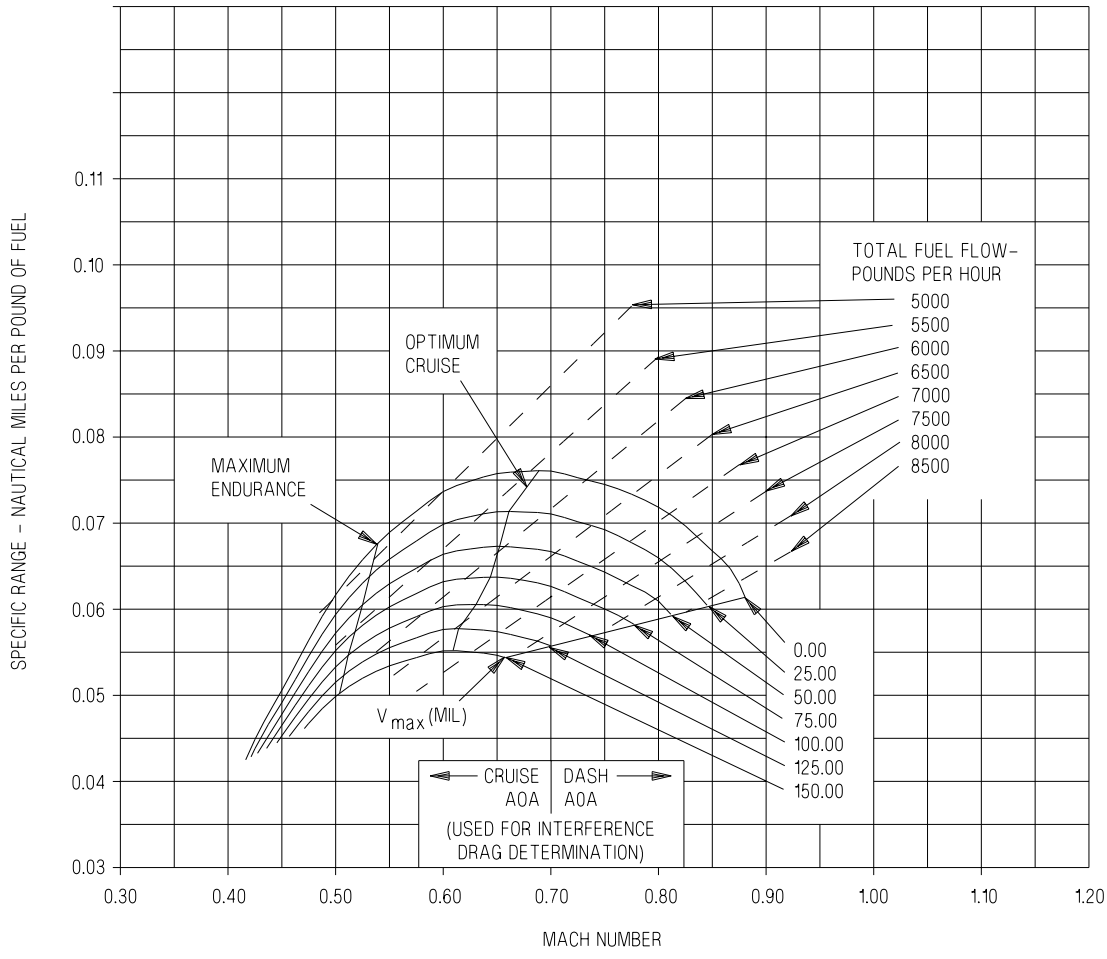
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-541-1-004

Figure 5-142. Single Engine Specific Range - 20,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 54,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

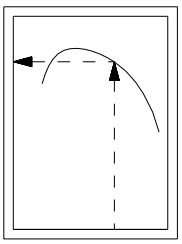
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

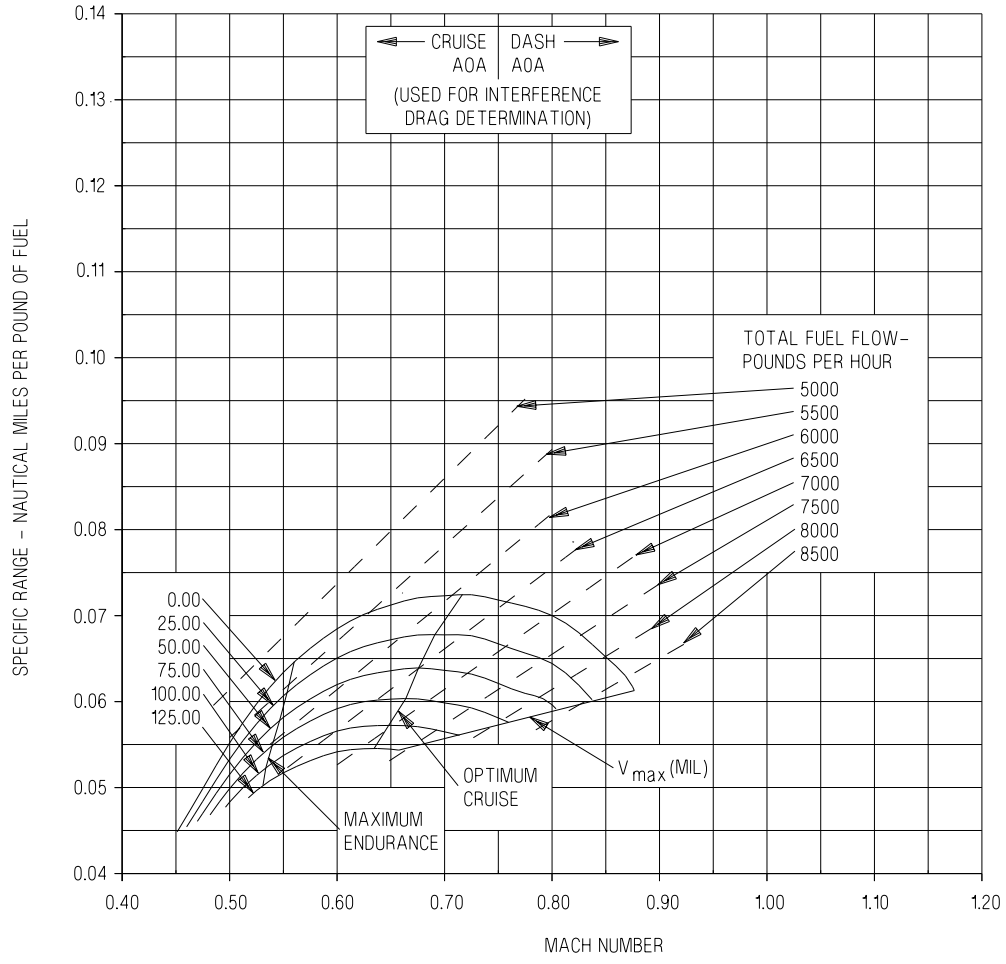
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-540-1-004

Figure 5-143. Single Engine Specific Range - 20,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 58,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

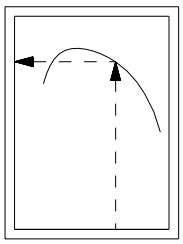
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

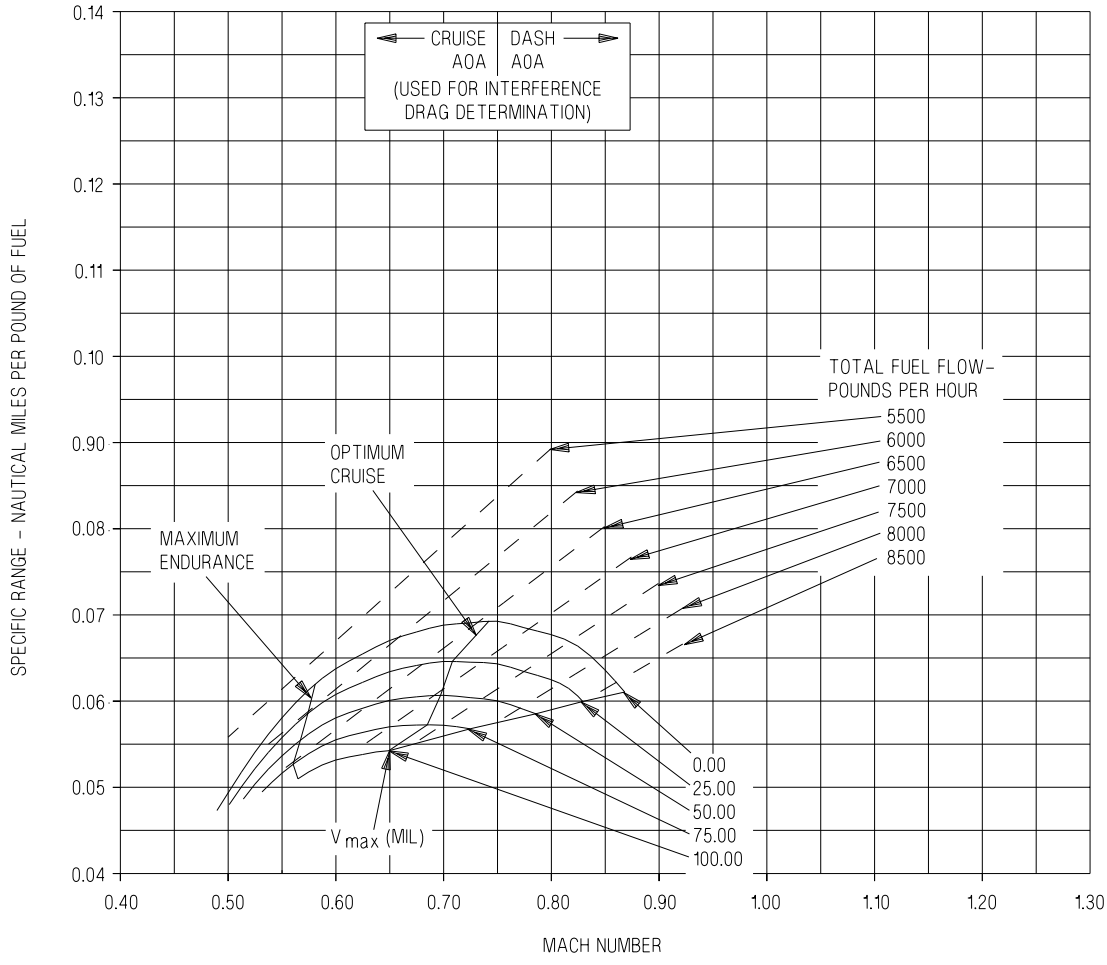
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-539-1-004

Figure 5-144. Single Engine Specific Range - 20,000 Feet - 58,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 62,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

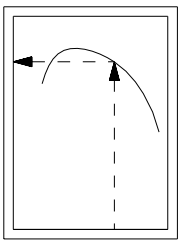
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

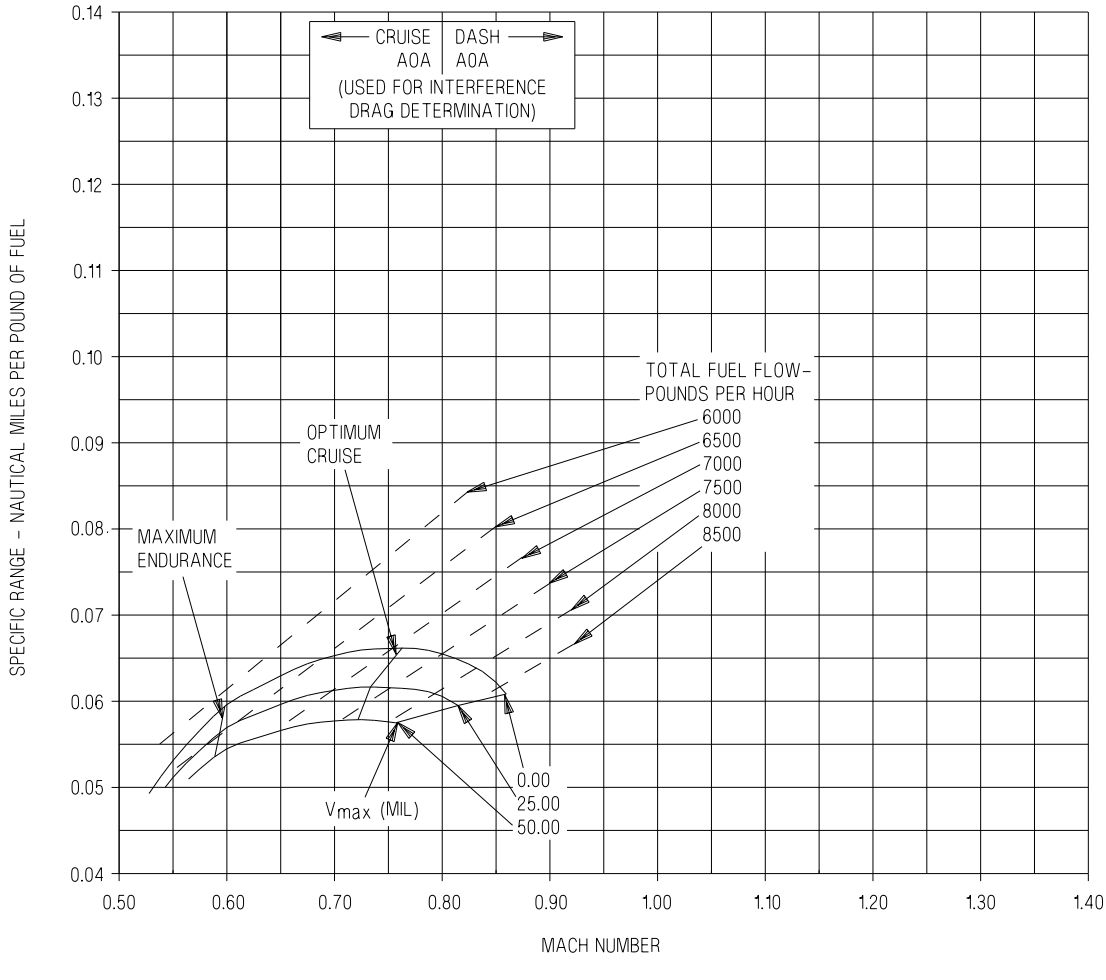
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-538-1-004

Figure 5-145. Single Engine Specific Range - 20,000 Feet - 62,000 Pounds

SPECIFIC RANGE

F414-GE-400

20,000 FEET - 66,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

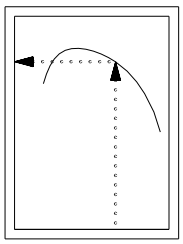
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

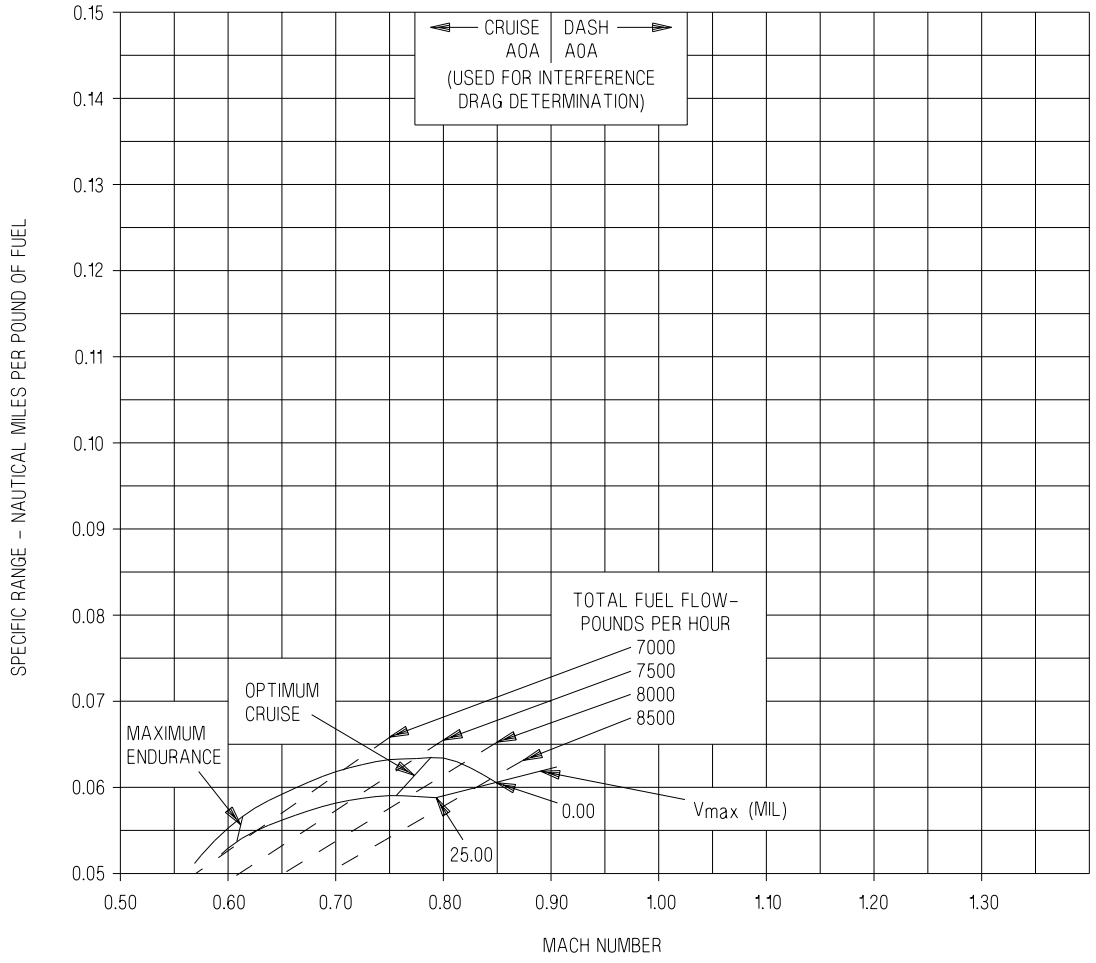
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-580-1-004

Figure 5-146. Single Engine Specific Range - 20,000 Feet - 66,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 30,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

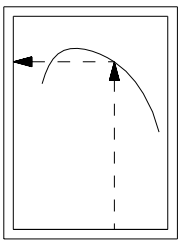
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

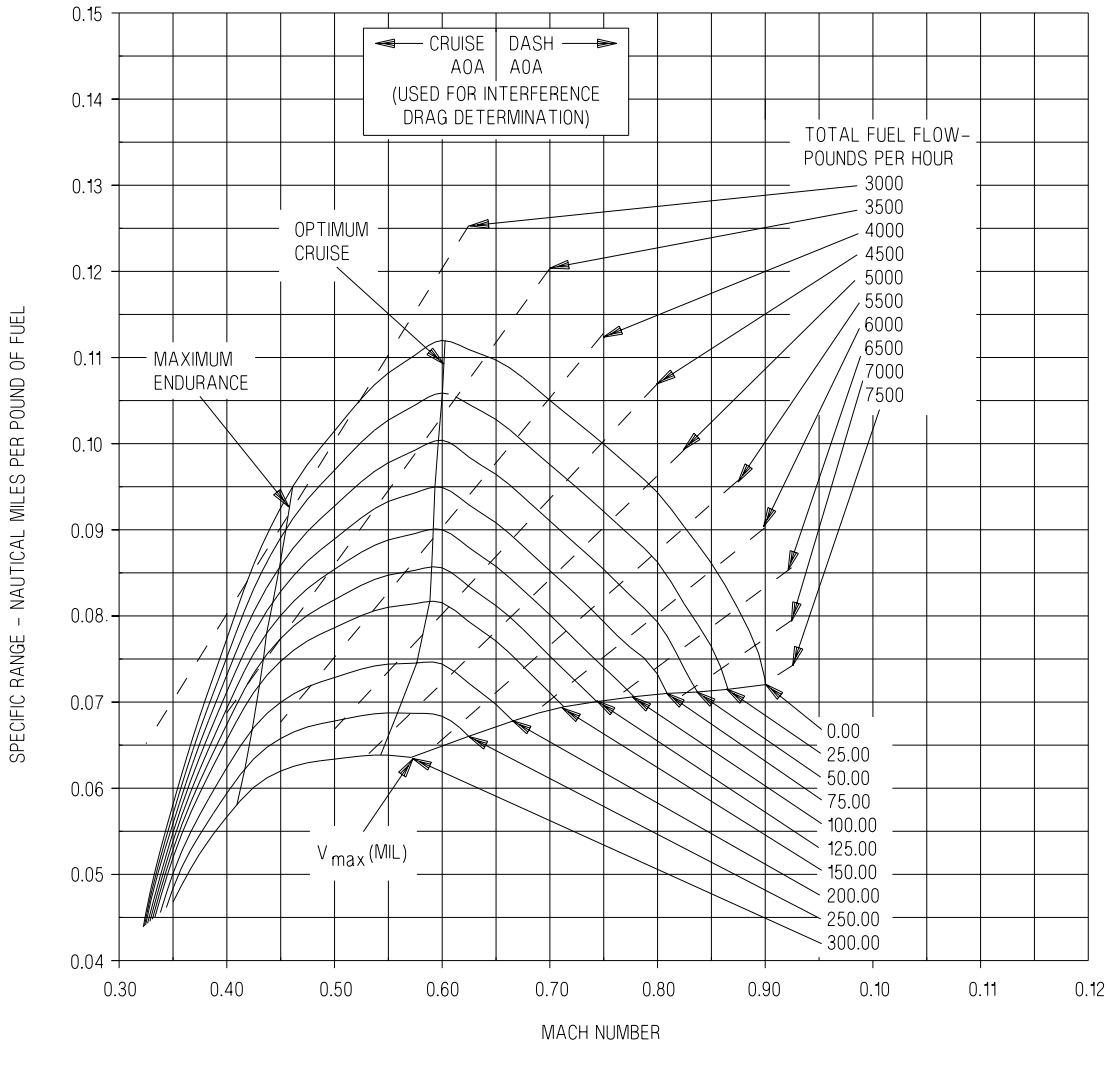
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-537-1-004

Figure 5-147. Single Engine Specific Range - 25,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 34,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

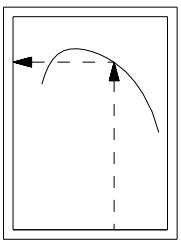
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

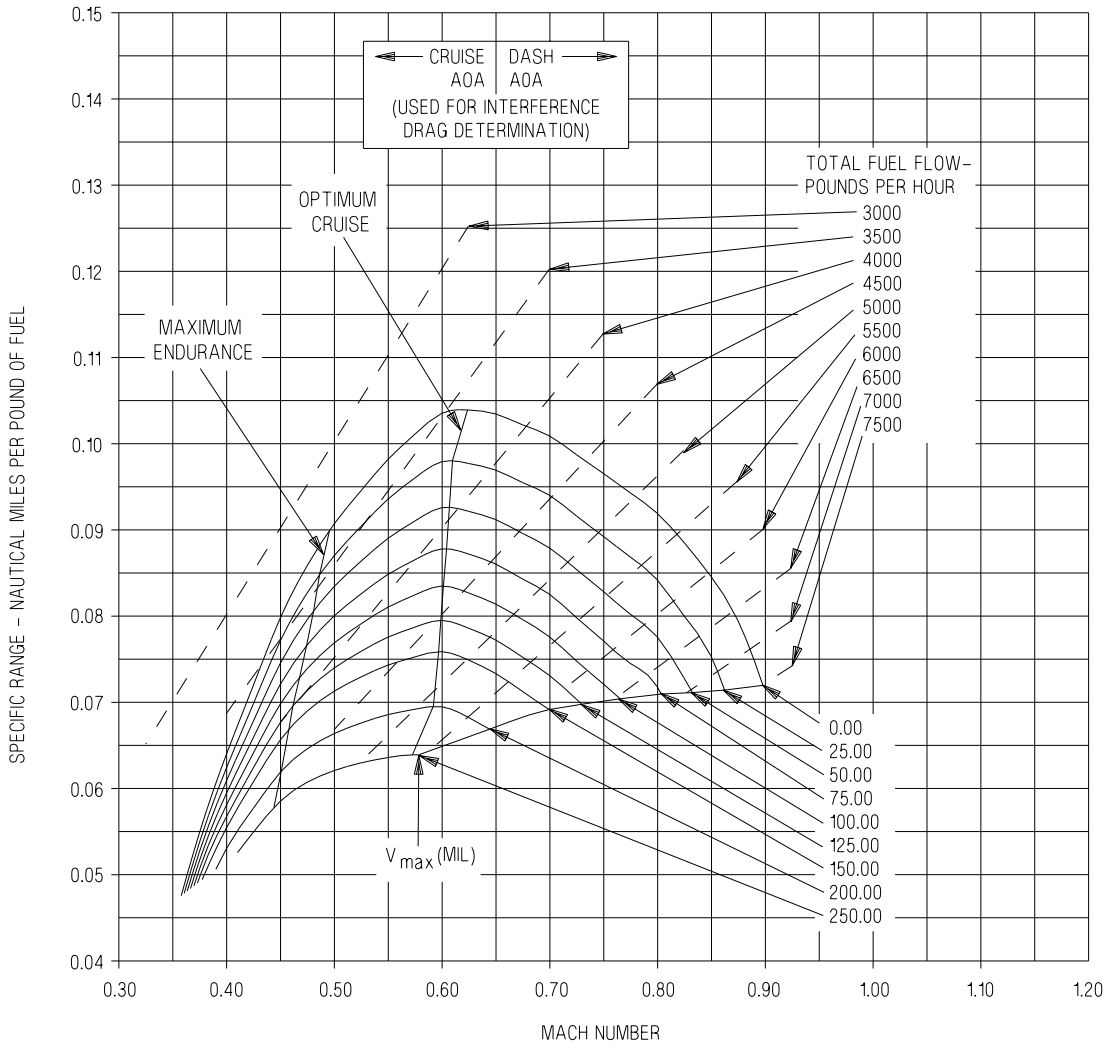
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-536-1-004

Figure 5-148. Single Engine Specific Range - 25,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 38,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

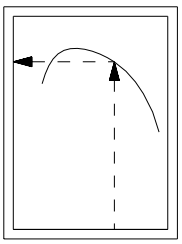
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

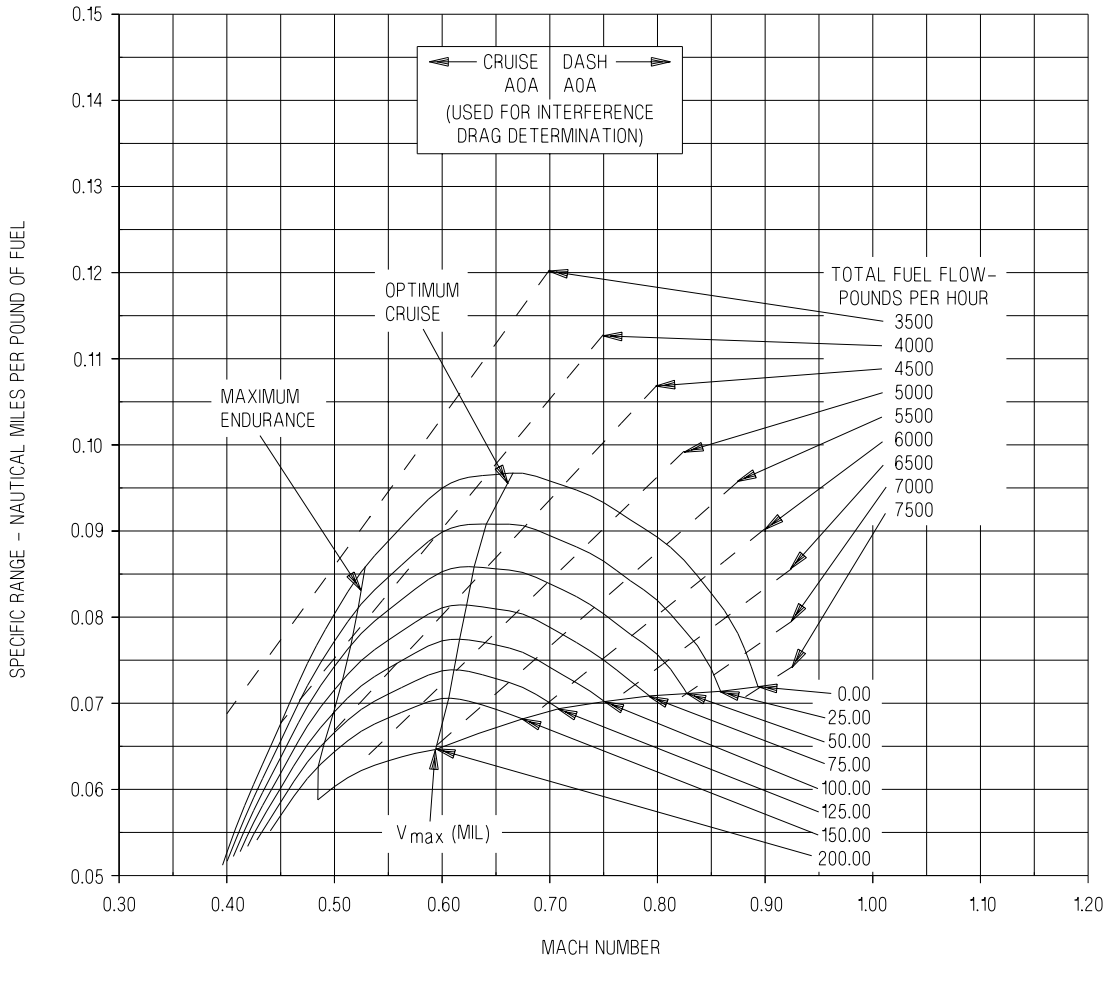
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-535-1-004

Figure 5-149. Single Engine Specific Range - 25,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 42,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

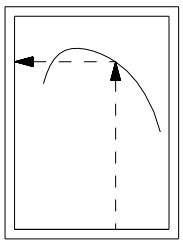
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

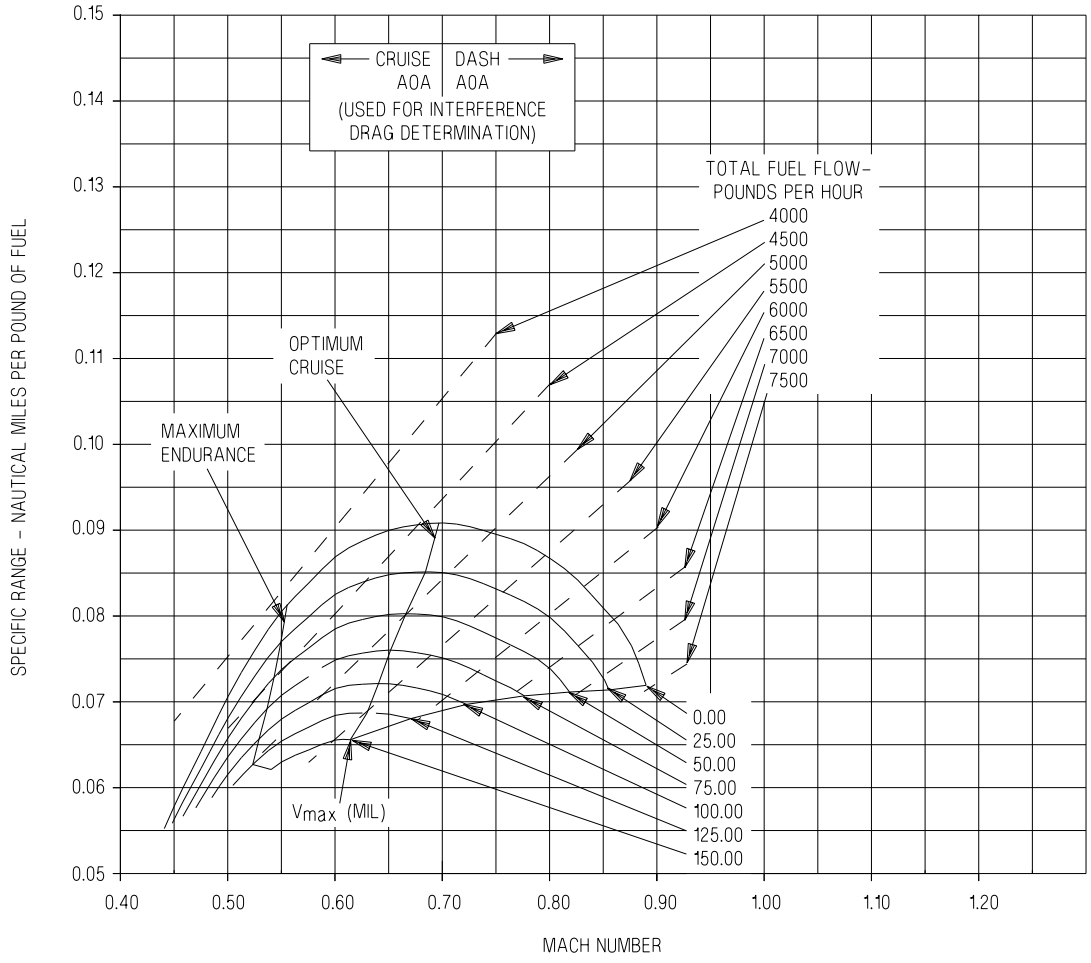
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-534-1-004

Figure 5-150. Single Engine Specific Range - 25,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 46,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

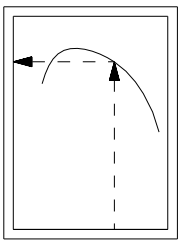
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

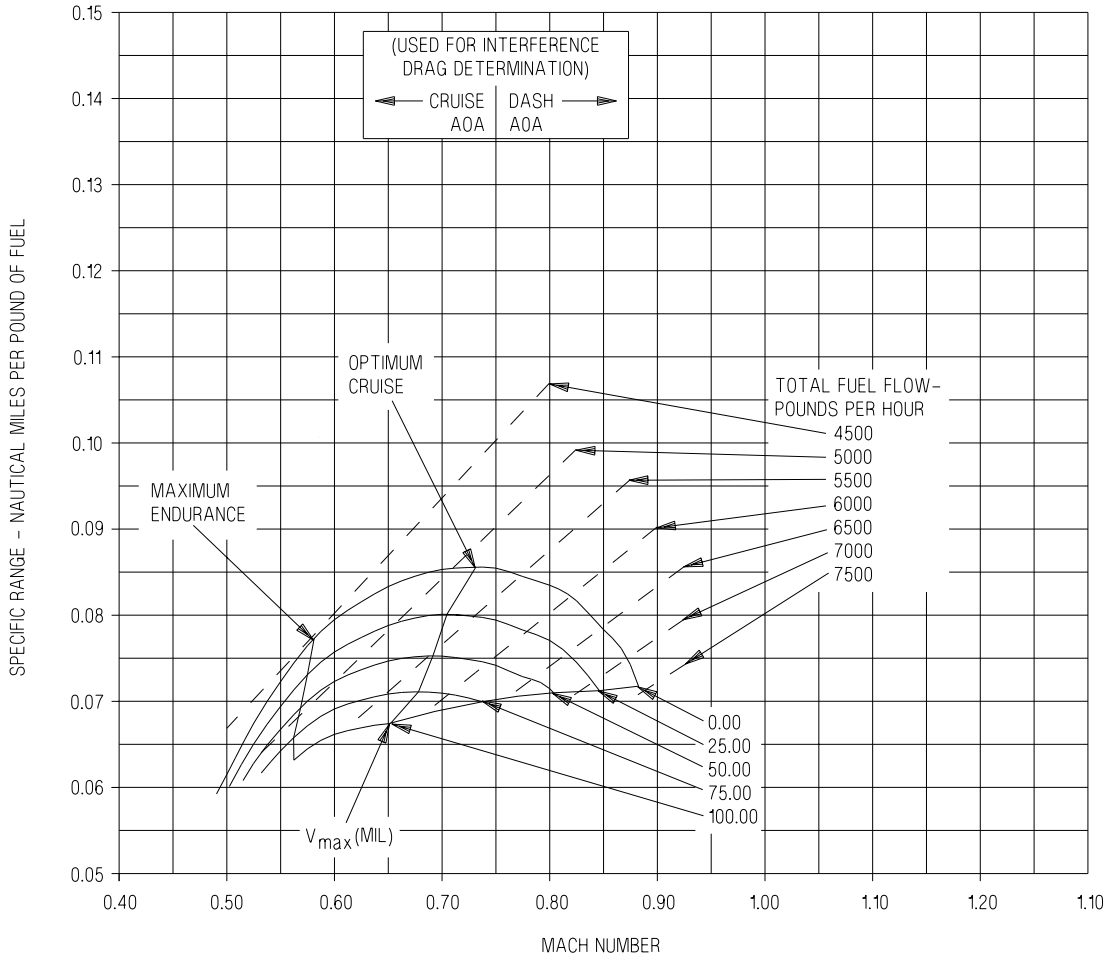
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-533-1-004

Figure 5-151. Single Engine Specific Range - 25,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 50,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

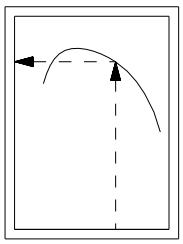
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

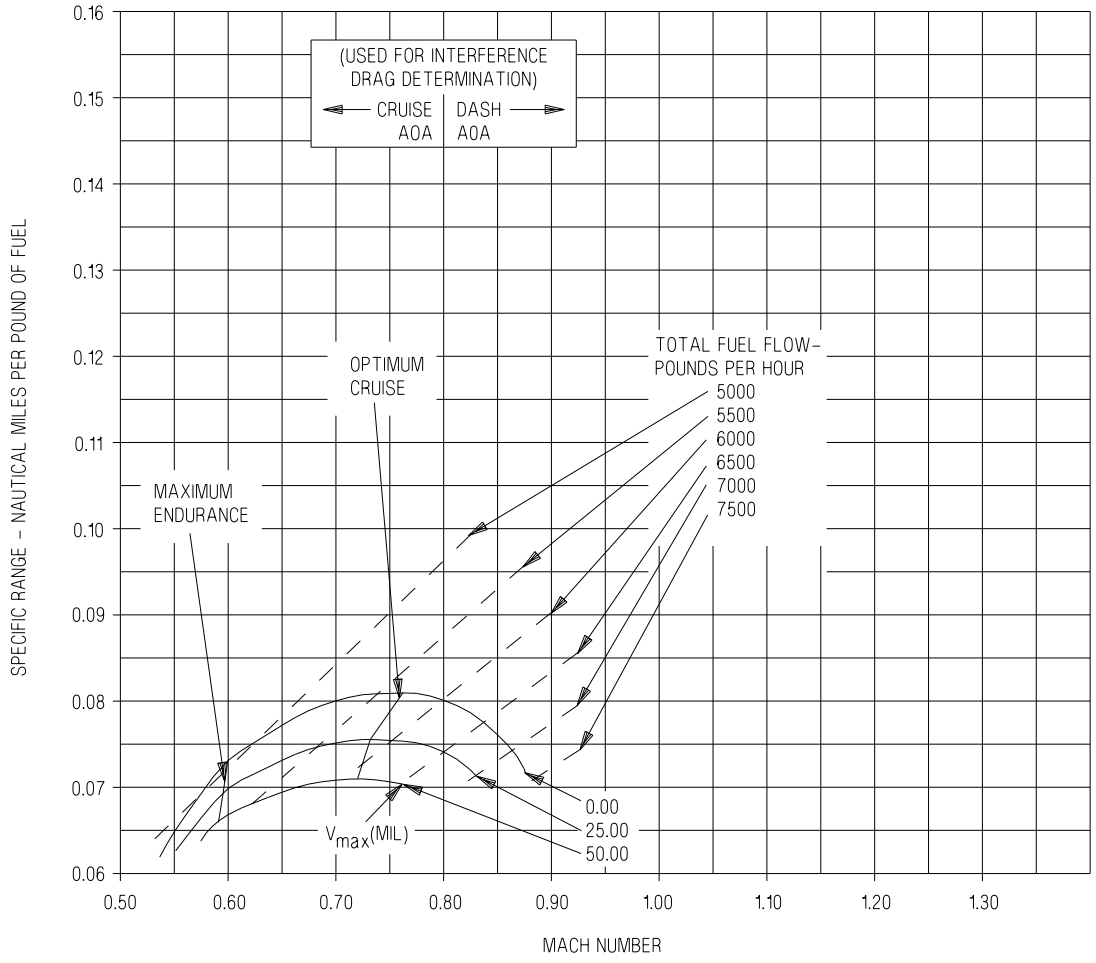
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-532-1-004

Figure 5-152. Single Engine Specific Range - 25,000 Feet - 50,000 Pounds

SPECIFIC RANGE

F414-GE-400

25,000 FEET - 54,000 POUNDS

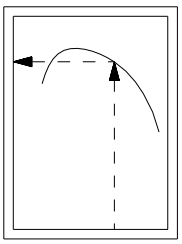
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE
DI VALID TO 0.9 MACH

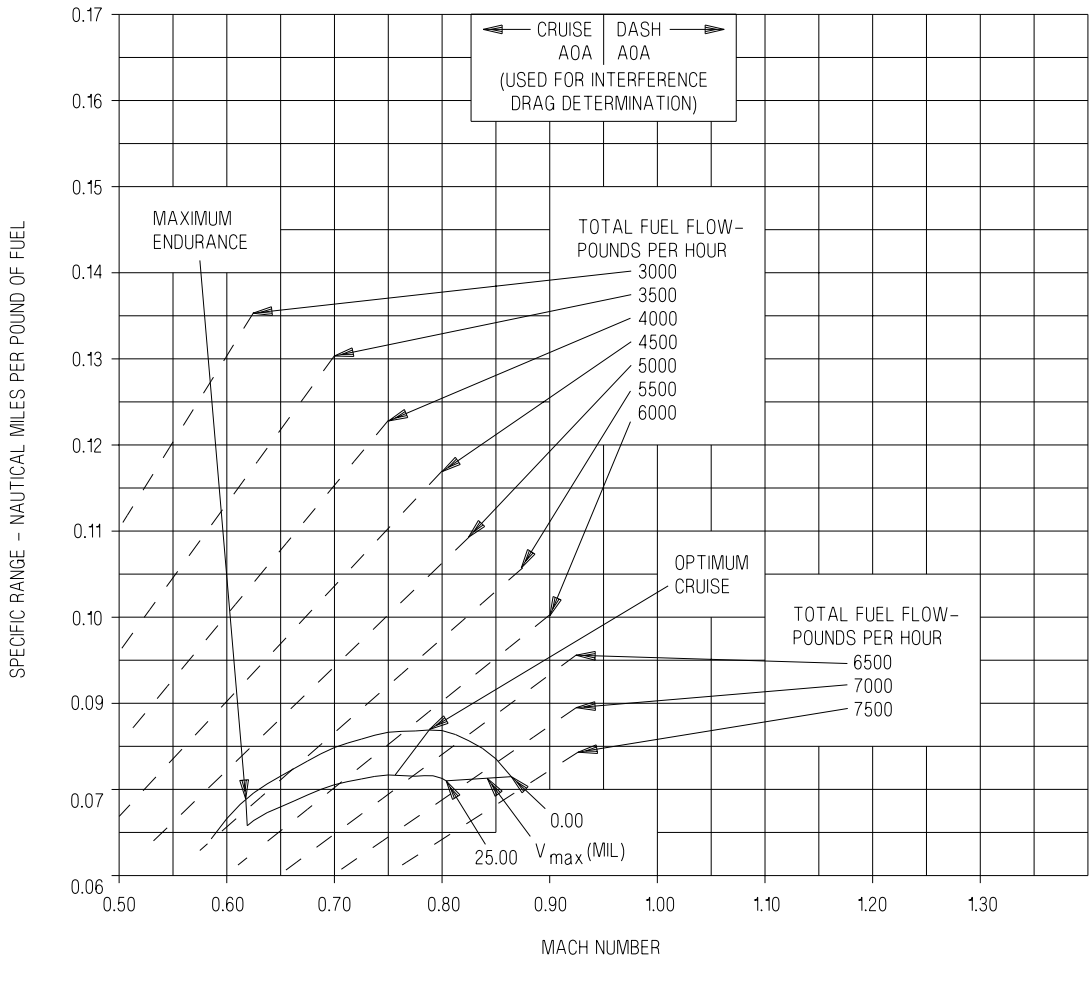
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-576-1-004

Figure 5-153. Single Engine Specific Range - 25,000 Feet - 54,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET – 30,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

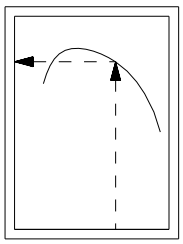
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

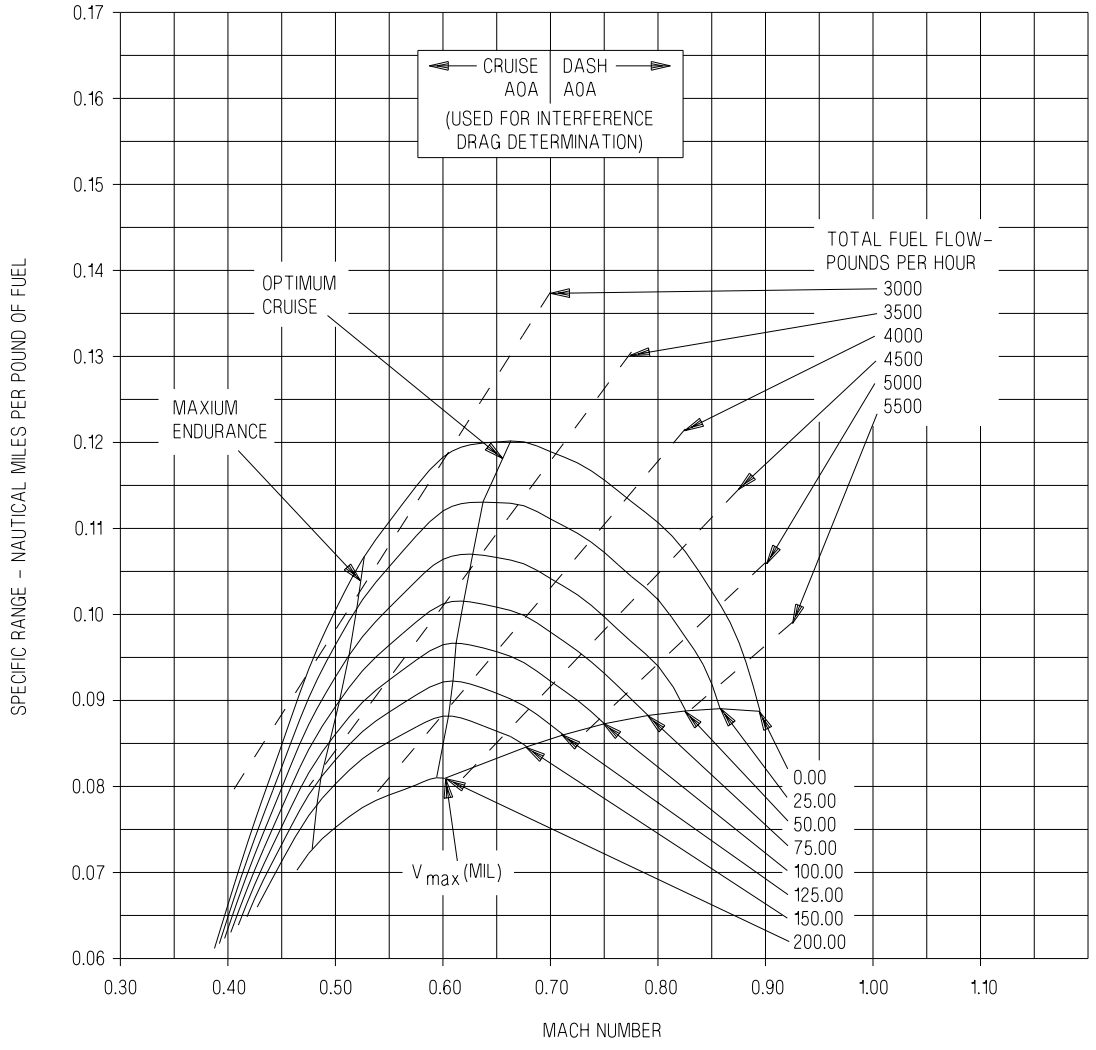
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	–5	12
15K	–15	6
20K	–25	–12
25K	–35	–30
30K	–44	–48
35K	–54	–66
40K	–57	–70
70K	–57	–70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-531-1-004

Figure 5-154. Single Engine Specific Range - 30,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 34,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

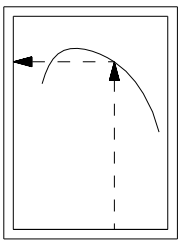
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

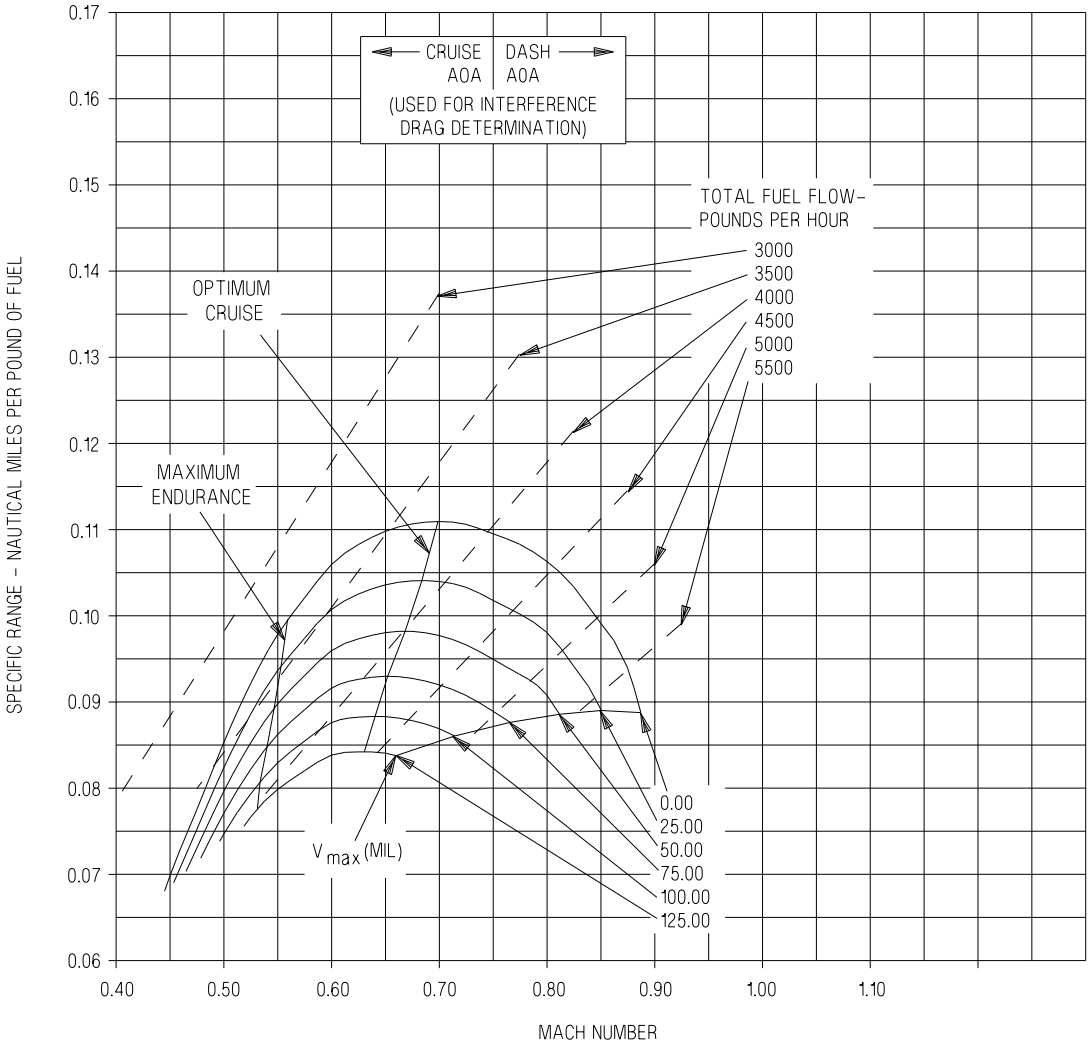
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-530-1-004

Figure 5-155. Single Engine Specific Range - 30,000 Feet - 34,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 38,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

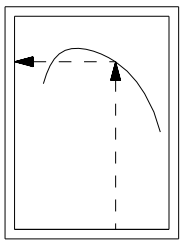
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

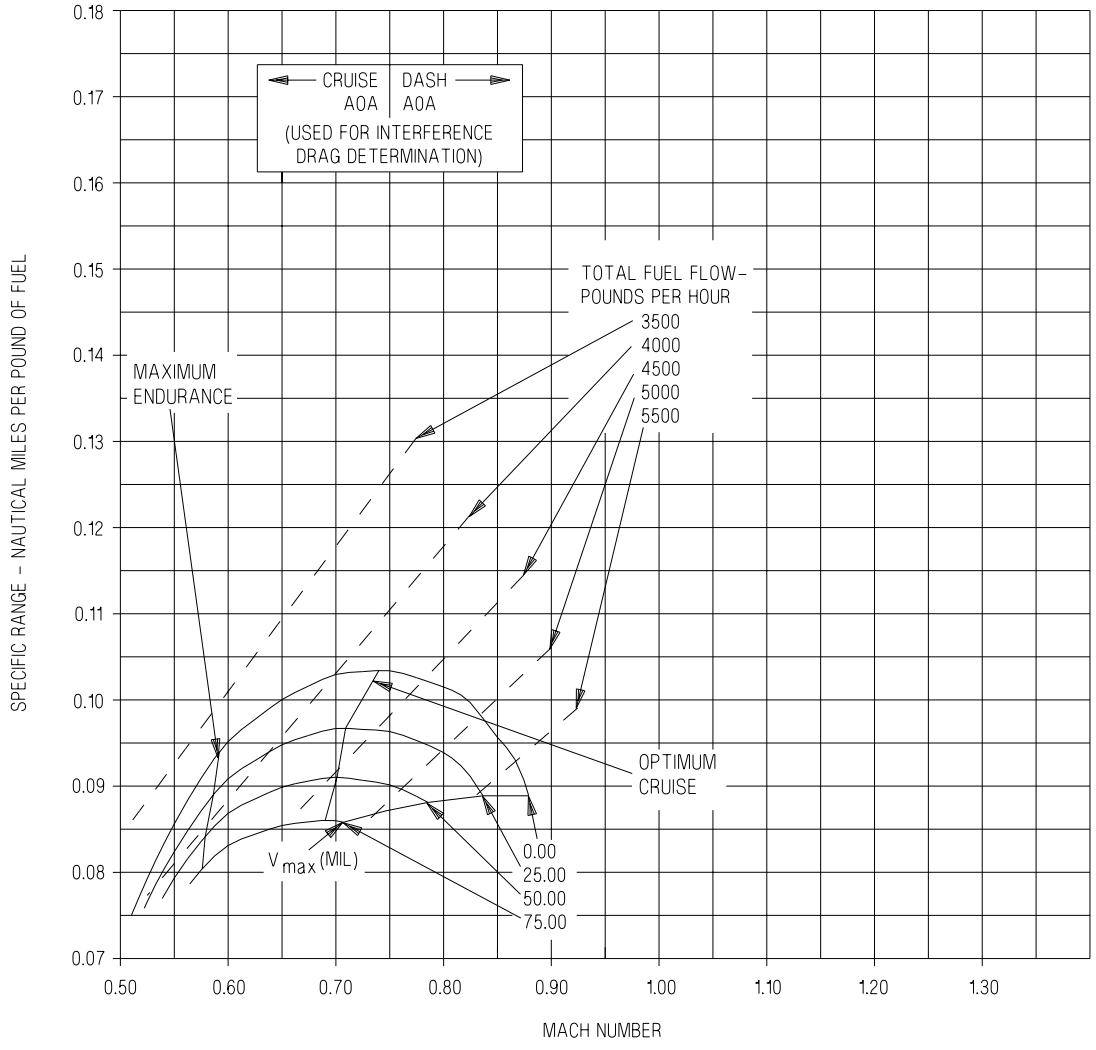
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-529-1-004

Figure 5-156. Single Engine Specific Range - 30,000 Feet - 38,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 42,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

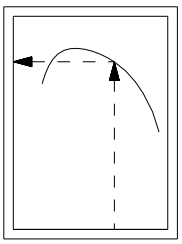
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

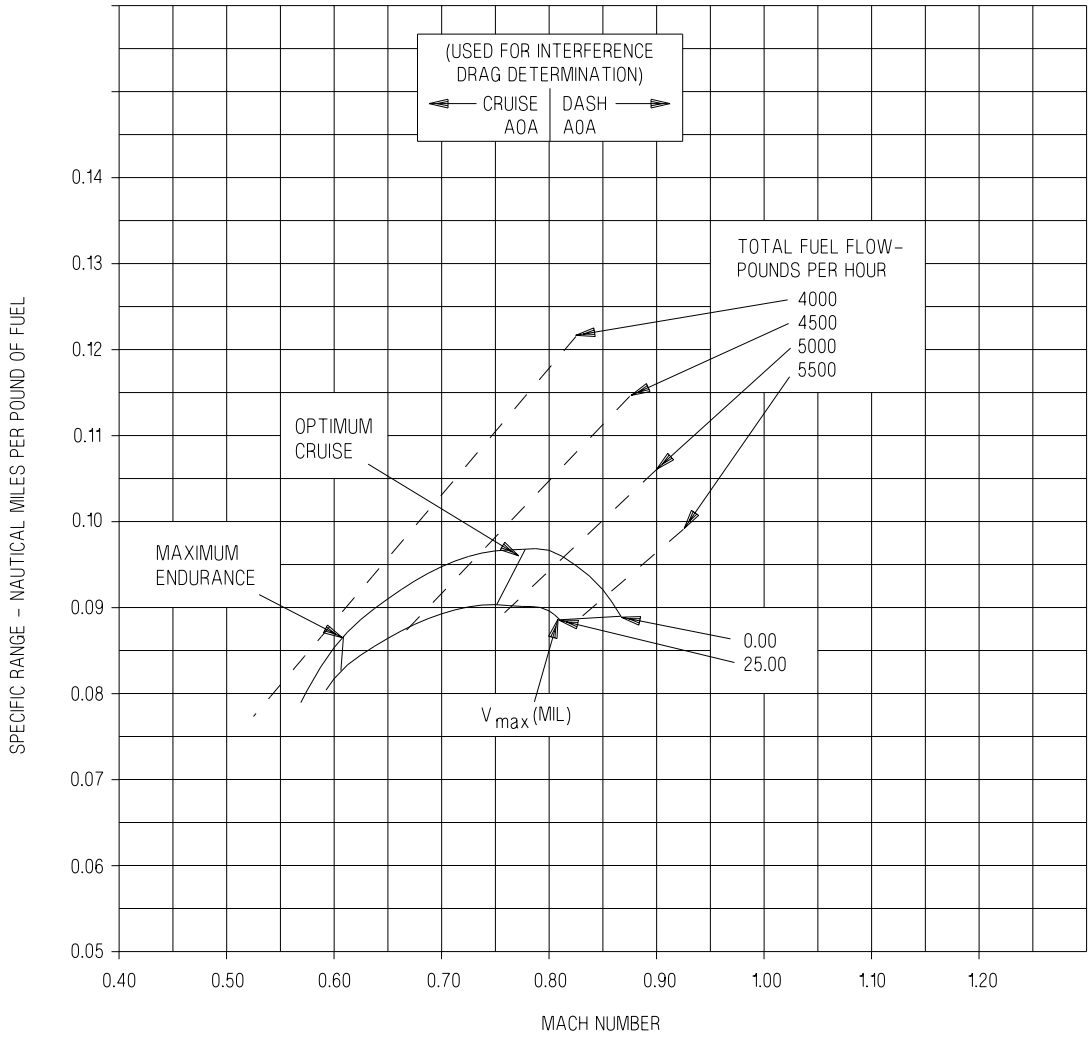
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-549-1-004

Figure 5-157. Single Engine Specific Range - 30,000 Feet - 42,000 Pounds

SPECIFIC RANGE

F414-GE-400

30,000 FEET - 46,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

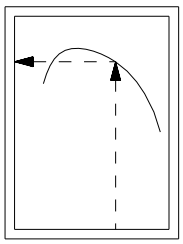
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING,
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

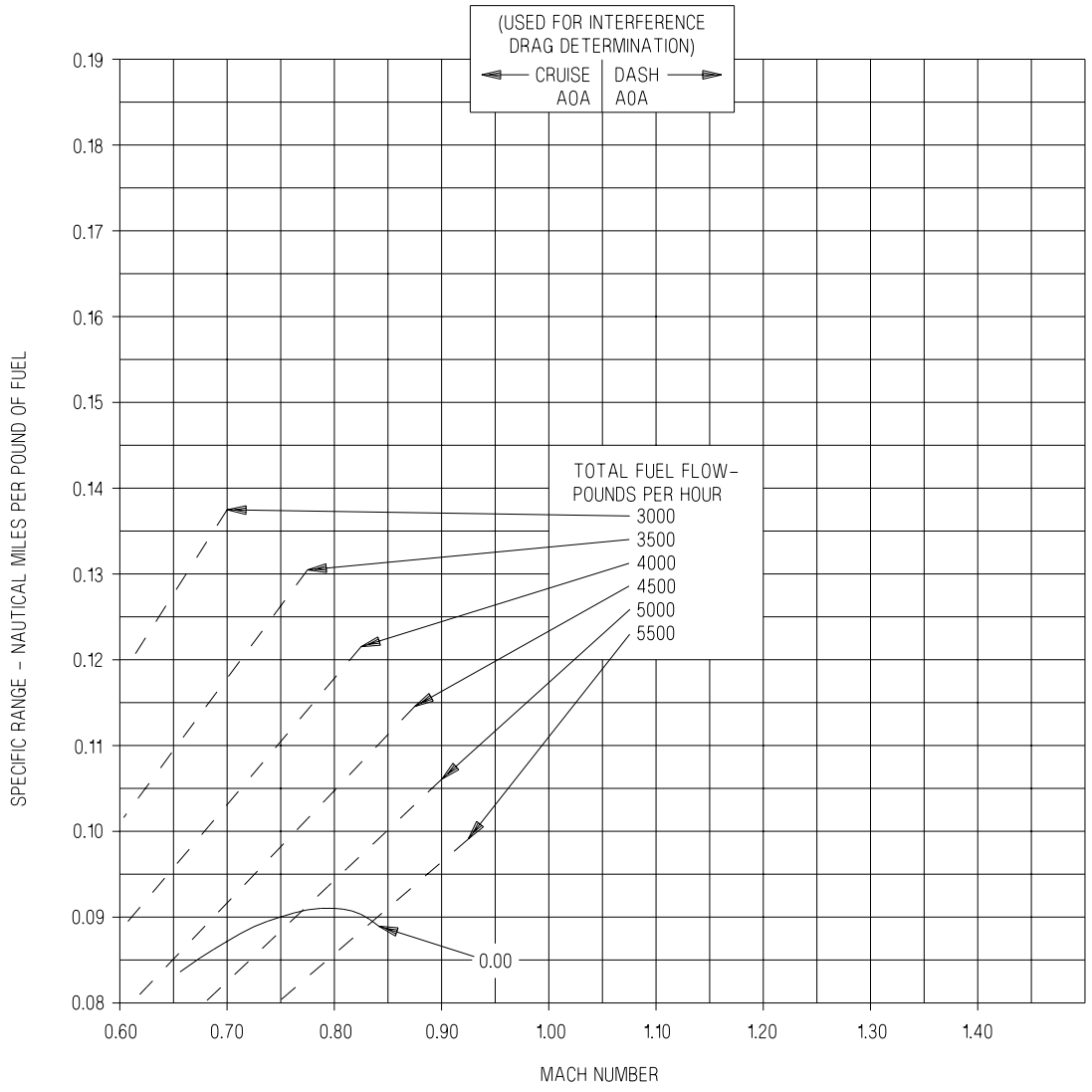
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-577-1-004

Figure 5-158. Single Engine Specific Range - 30,000 Feet - 46,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 30,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

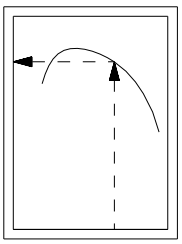
REMARKS
ENGINES (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

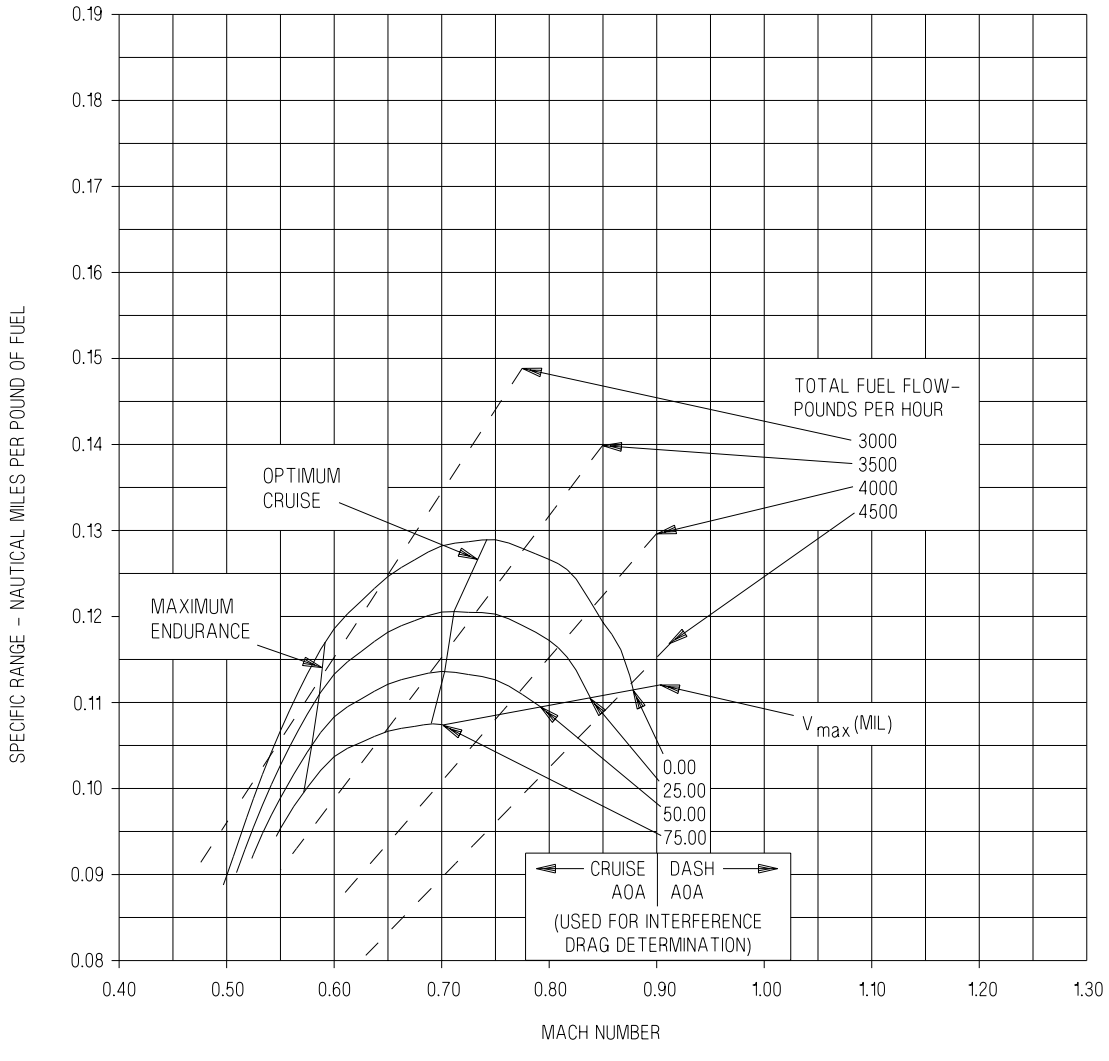
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-578-1-004

Figure 5-159. Single Engine Specific Range - 35,000 Feet - 30,000 Pounds

SPECIFIC RANGE

F414-GE-400

35,000 FEET - 34,000 POUNDS

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

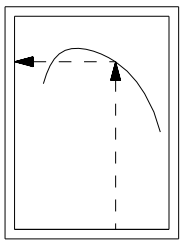
REMARKS
ENGINE (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

NOTE

DI VALID TO 0.9 MACH

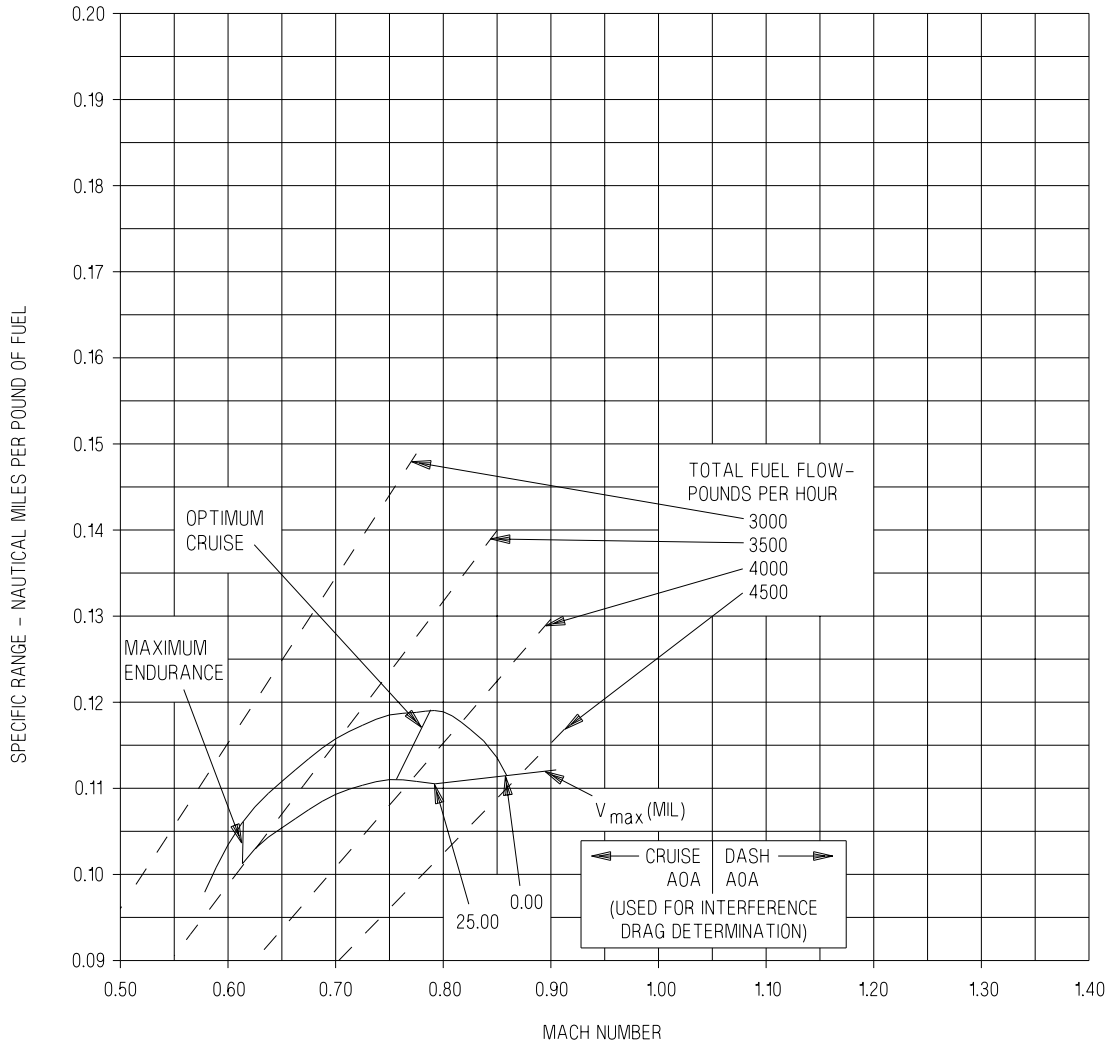
STANDARD TEMP		
ALT	°C	°F
SL	15	59
5K	5	41
10K	-5	12
15K	-15	6
20K	-25	-12
25K	-35	-30
30K	-44	-48
35K	-54	-66
40K	-57	-70
70K	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-579-1-004

Figure 5-160. Single Engine Specific Range - 35,000 Feet - 34,000 Pounds

COMBAT SPECIFIC RANGE

STABILIZED LEVEL FLIGHT
GROSS WEIGHT = 42,000 POUNDS

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

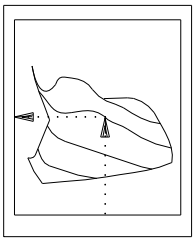
NOTE

CHANGE IN GROSS WEIGHT HAS NO APPRECIABLE EFFECT ON FUEL FLOW

———— STANDARD DAY
- - - - - - - STANDARD DAY + 10 ° C

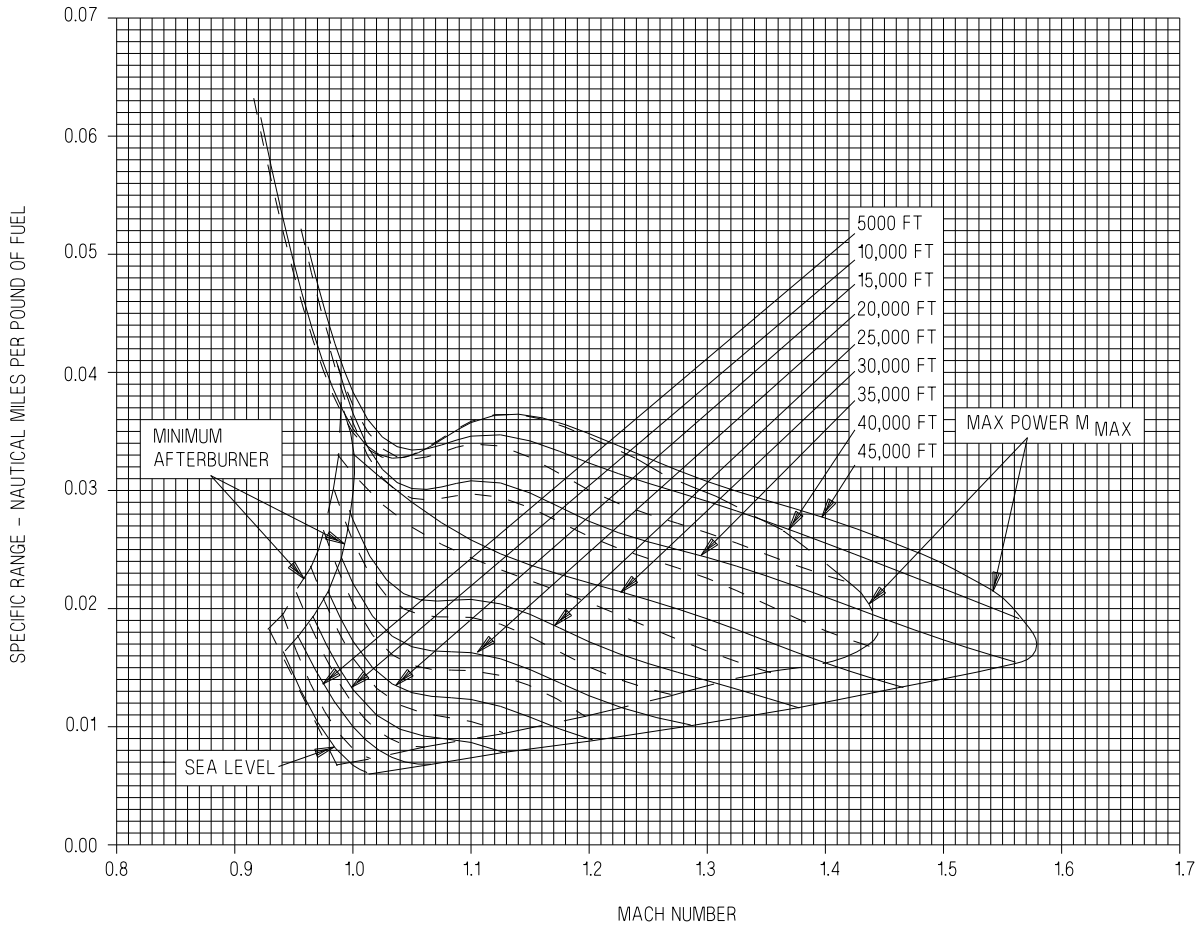
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCT 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-295-1-004

Figure 5-161. Combat Specific Range - Stabilized Level Flight - 42,000 Pounds (Sheet 1 of 4)

COMBAT SPECIFIC RANGE

STABILIZED LEVEL FLIGHT
GROSS WEIGHT = 42,000 POUNDS

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120
+ C_L 480 TANK

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

NOTE

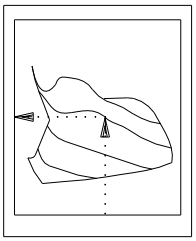
CHANGE IN GROSS WEIGHT HAS NO APPRECIABLE EFFECT ON FUEL FLOW

———— STANDARD DAY

- - - - - - - STANDARD DAY + 10 ° C

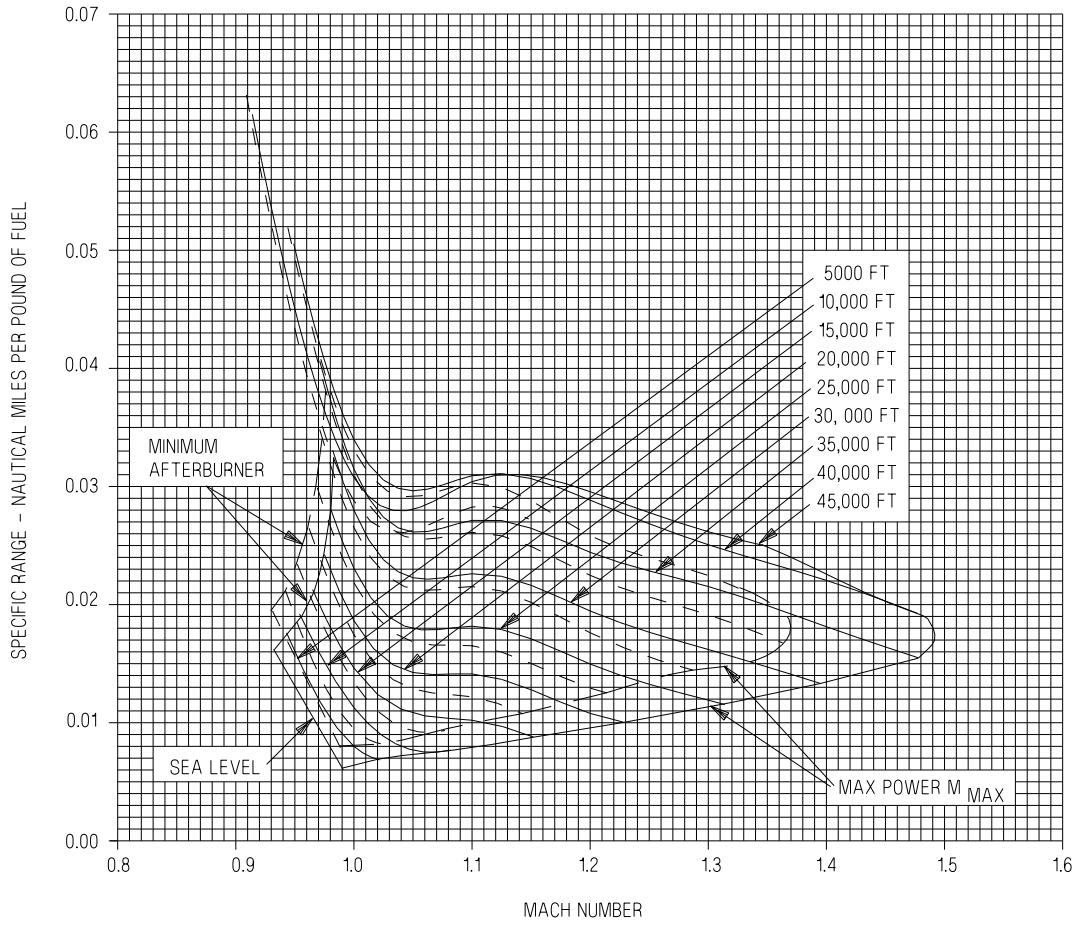
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCT 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-296-1-004

Figure 5-161. Combat Specific Range - Stabilized Level Flight - 42,000 Pounds (Sheet 2 of 4)

COMBAT SPECIFIC RANGE

STABILIZED LEVEL FLIGHT
GROSS WEIGHT = 42,000 POUNDS

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
(2) AIM-9 + (5) AIM-120
+ TFLIR

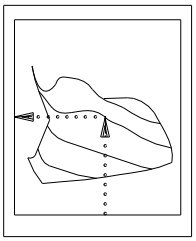
NOTE

CHANGE IN GROSS WEIGHT HAS NO APPRECIABLE EFFECT ON FUEL FLOW

———— STANDARD DAY
- - - - - - STANDARD DAY + 10 ° C

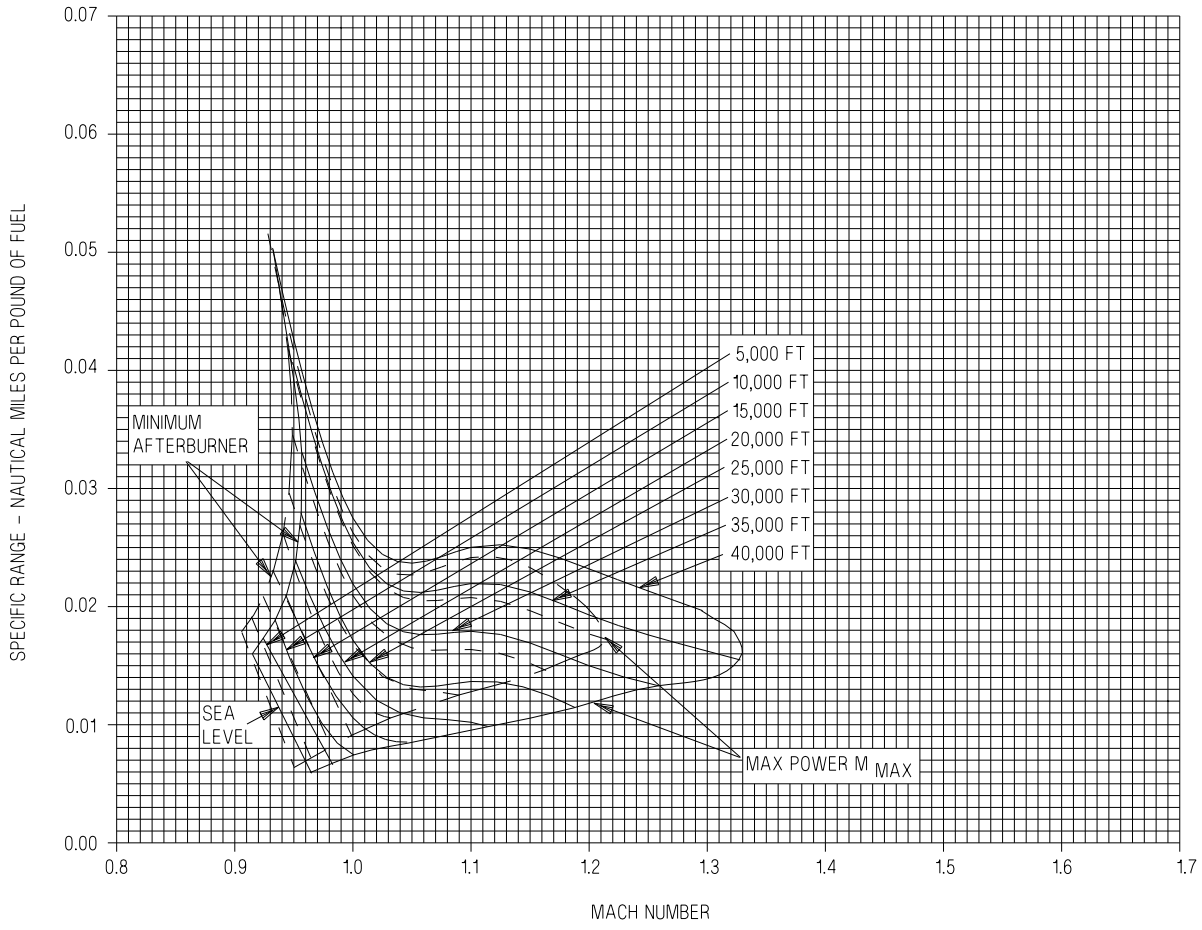
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-297-1-004

Figure 5-161. Combat Specific Range - Stabilized Level Flight - 42,000 Pounds (Sheet 3 of 4)

COMBAT SPECIFIC RANGE

STABILIZED LEVEL FLIGHT
GROSS WEIGHT = 42,000 POUNDS

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
(2) AIM-9 + (5) AIM-120
+ $\mathbb{C}_L$ 480 TANK + TFLIR

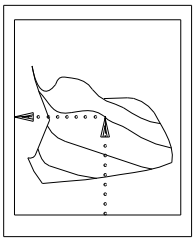
NOTE

CHANGE IN GROSS WEIGHT HAS NO APPRECIABLE EFFECT ON FUEL FLOW

———— STANDARD DAY
- - - - - - STANDARD DAY + 10 ° C

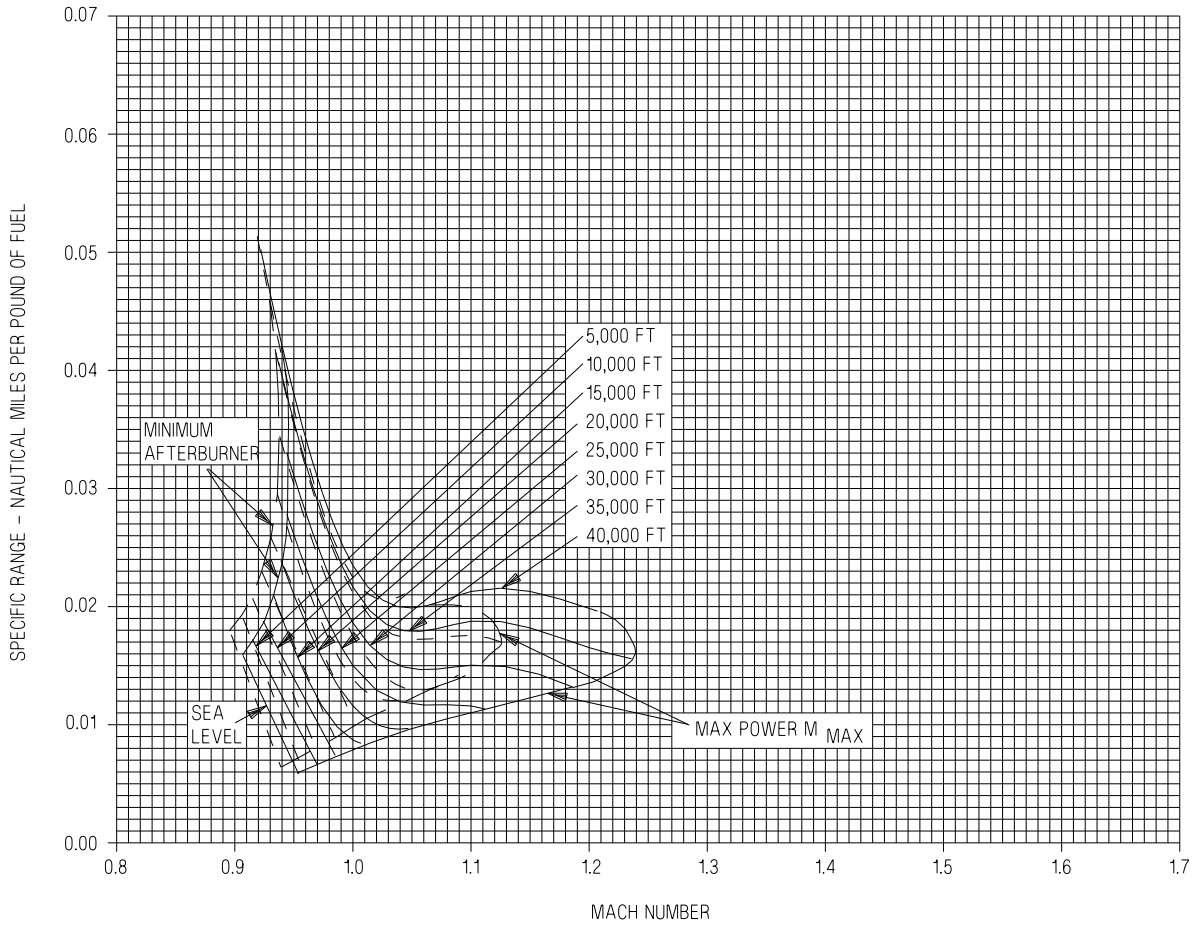
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-298-1-004

Figure 5-161. Combat Specific Range - Stabilized Level Flight - 42,000 Pounds (Sheet 4 of 4)

COMBAT FUEL FLOW

STABILIZED LEVEL FLIGHT
GROSS WEIGHT = 42,000 POUNDS

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120

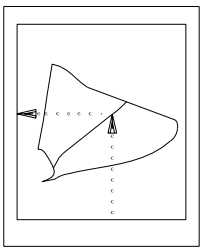
NOTE

CHANGE IN GROSS WEIGHT HAS NO APPRECIABLE EFFECT ON FUEL FLOW

——————— STANDARD DAY
—— —— STANDARD DAY + 10 ° C

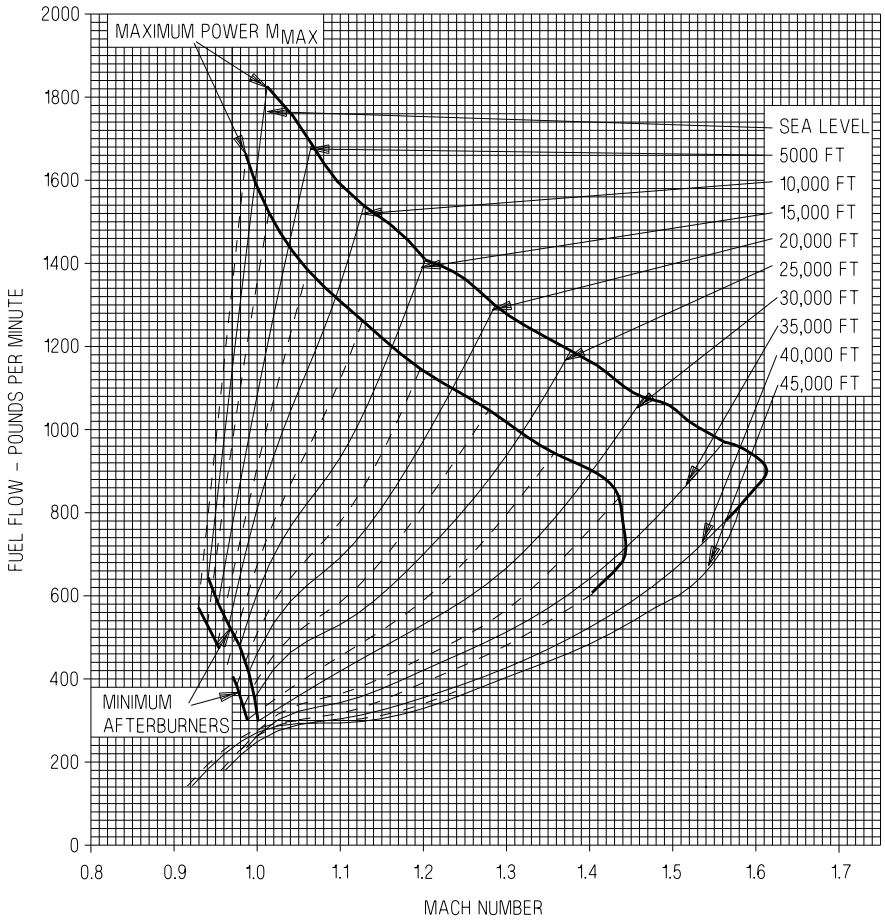
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-294-1-004

Figure 5-162. Combat Fuel Flow - Stabilized Level Flight - 42,000 Pounds (Sheet 1 of 4)

COMBAT FUEL FLOW

STABILIZED LEVEL FLIGHT
GROSS WEIGHT = 42,000 POUNDS

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120
+ $\mathbb{C}_L$ 480 TANK

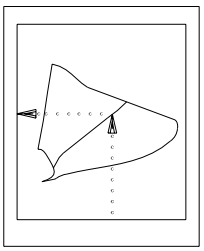
NOTE

CHANGE IN GROSS WEIGHT HAS NO APPRECIABLE EFFECT ON FUEL FLOW

——— STANDARD DAY
— — — STANDARD DAY + 10 ° C

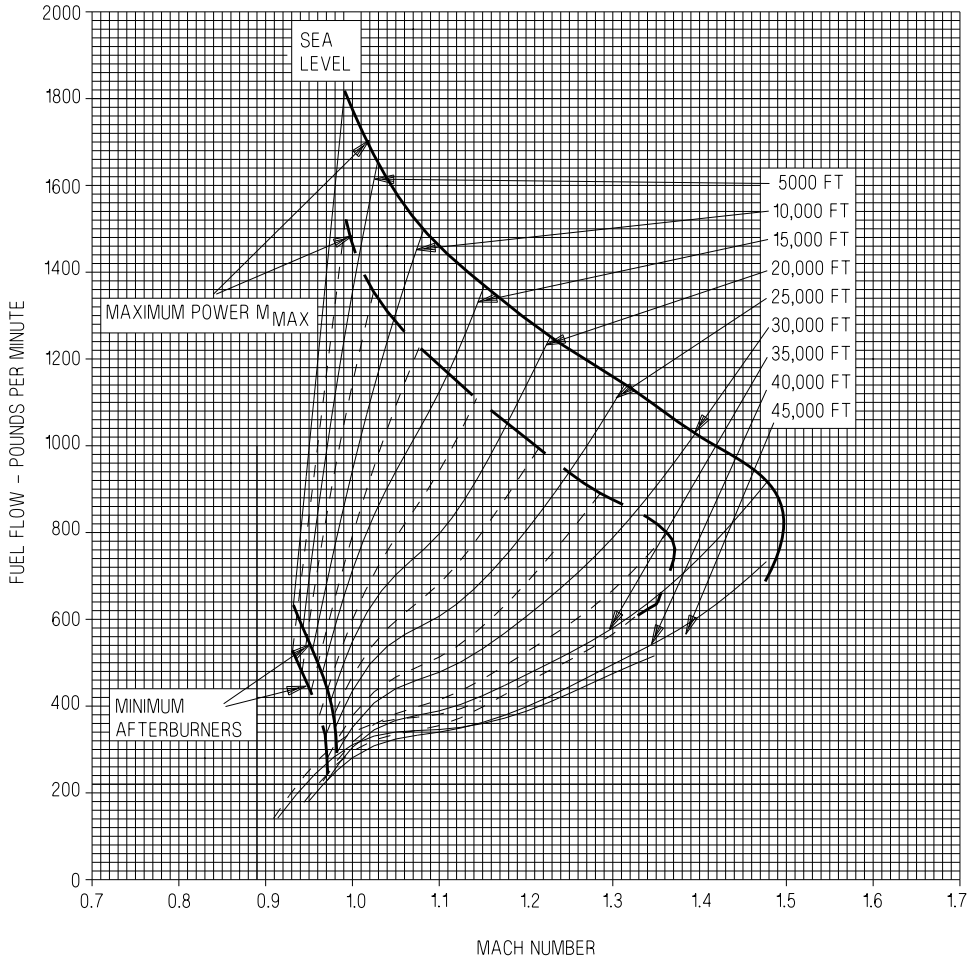
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-293-1-004

Figure 5-162. Combat Fuel Flow - Stabilized Level Flight - 42,000 Pounds (Sheet 2 of 4)

COMBAT FUEL FLOW

STABILIZED LEVEL FLIGHT
GROSS WEIGHT = 42,000 POUNDS

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

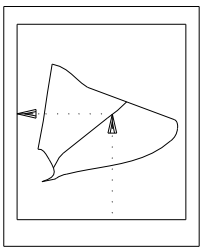
AIRCRAFT CONFIGURATION
(2) AIM-9 + (5) AIM-120
+ TFLIR

NOTE

CHANGE IN GROSS WEIGHT HAS NO APPRECIABLE EFFECT ON FUEL FLOW

——— STANDARD DAY
— — — STANDARD DAY + 10 ° C

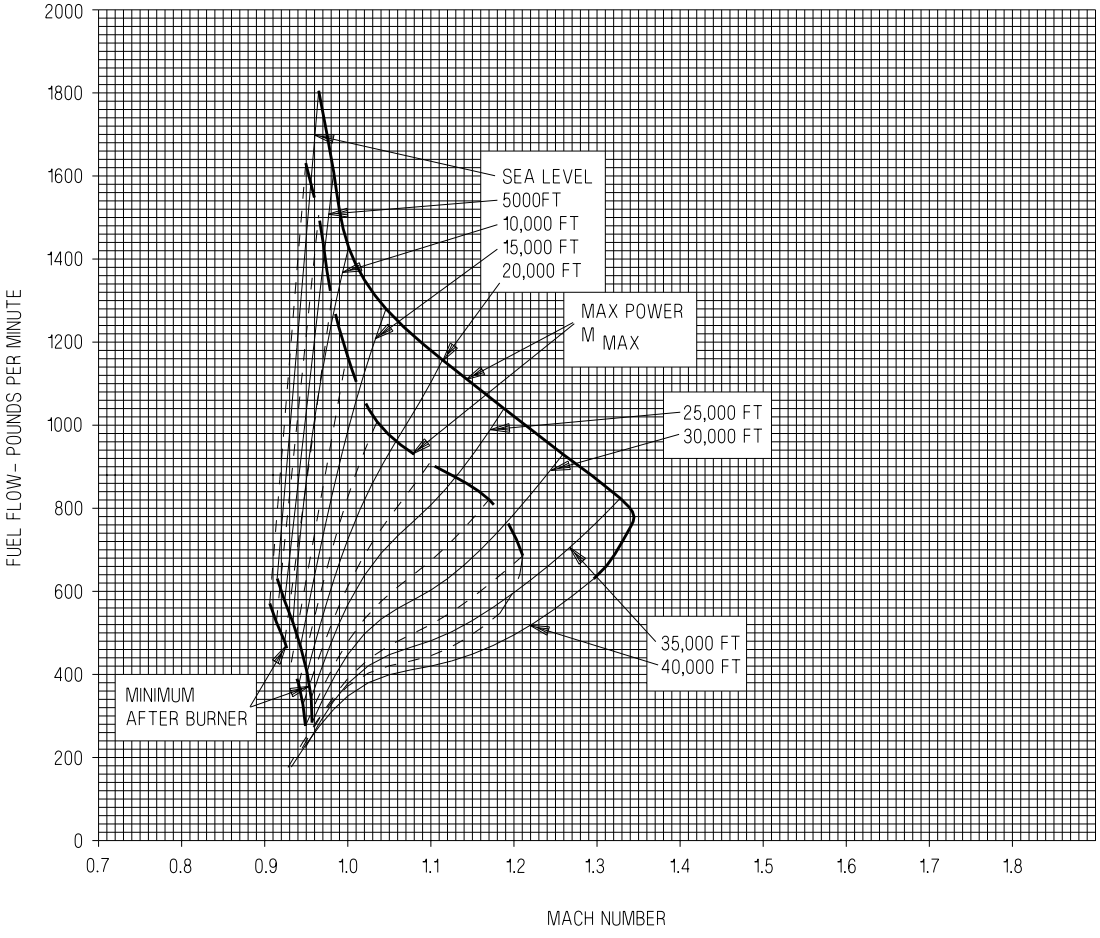
GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70



EFN523-291-1-004

Figure 5-162. Combat Fuel Flow - Stabilized Level Flight - 42,000 Pounds (Sheet 3 of 4)

COMBAT FUEL FLOW

STABILIZED LEVEL FLIGHT

GROSS WEIGHT = 42,000 POUNDS

AIRCRAFT CONFIGURATION
(2) AIM-9 + (5) AIM-120
+ TFLIR + $\underset{L}{C}$ 480 TANK

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

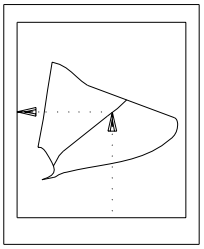
NOTE

CHANGE IN GROSS WEIGHT HAS NO APPRECIABLE EFFECT ON FUEL FLOW

——————— STANDARD DAY
—— —— STANDARD DAY + 10 ° C

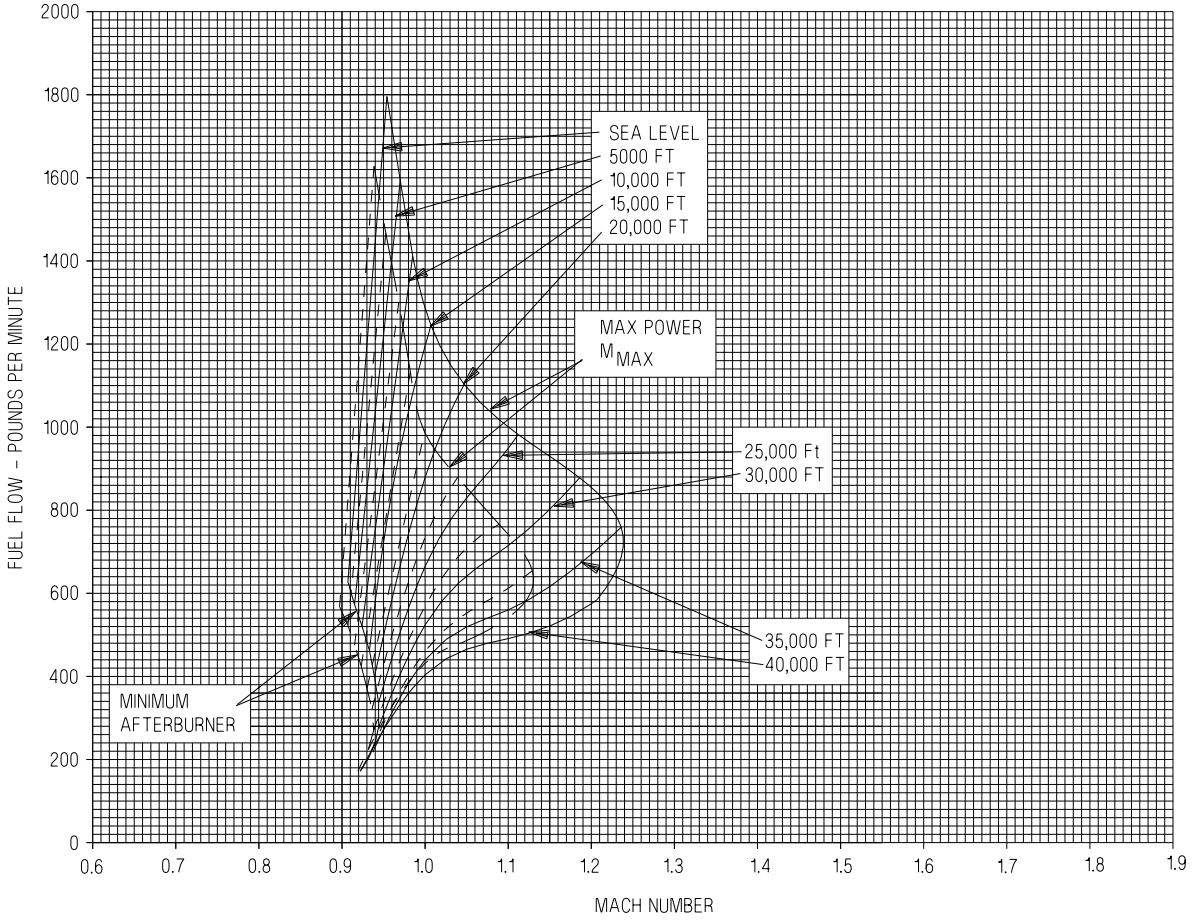
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



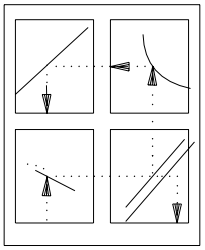
EFN523-292-1-004

Figure 5-162. Combat Fuel Flow - Stabilized Level Flight - 42,000 Pounds (Sheet 4 of 4)

CONSTANT ALTITUDE/LONG RANGE CRUISE

SPEED – TIME – FUEL

GUIDE

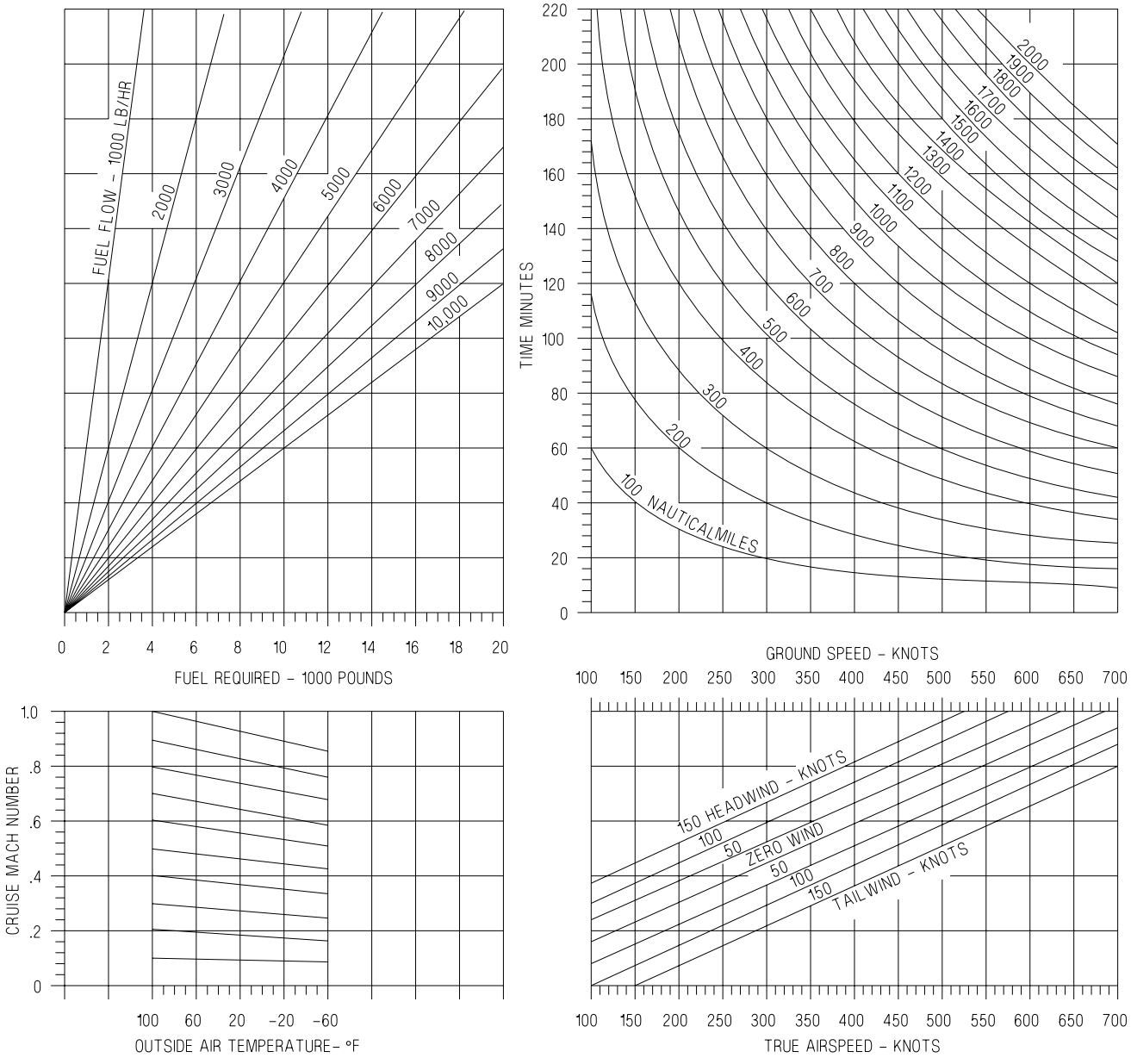


AIRCRAFT CONFIGURATION
ALL DRAG INDEXES

REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 15 JULY 1986
DATA BASIS: ESTIMATED (BASED ON FLIGHT TEST)

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



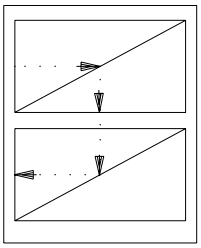
EFN523-273-1-001

Figure 5-163. Constant Altitude/Long Range Cruise (Sheet 1 of 2)

CONSTANT ALTITUDE/LONG RANGE CRUISE

TRUE AIRSPEED AND FUEL FLOW

GUIDE

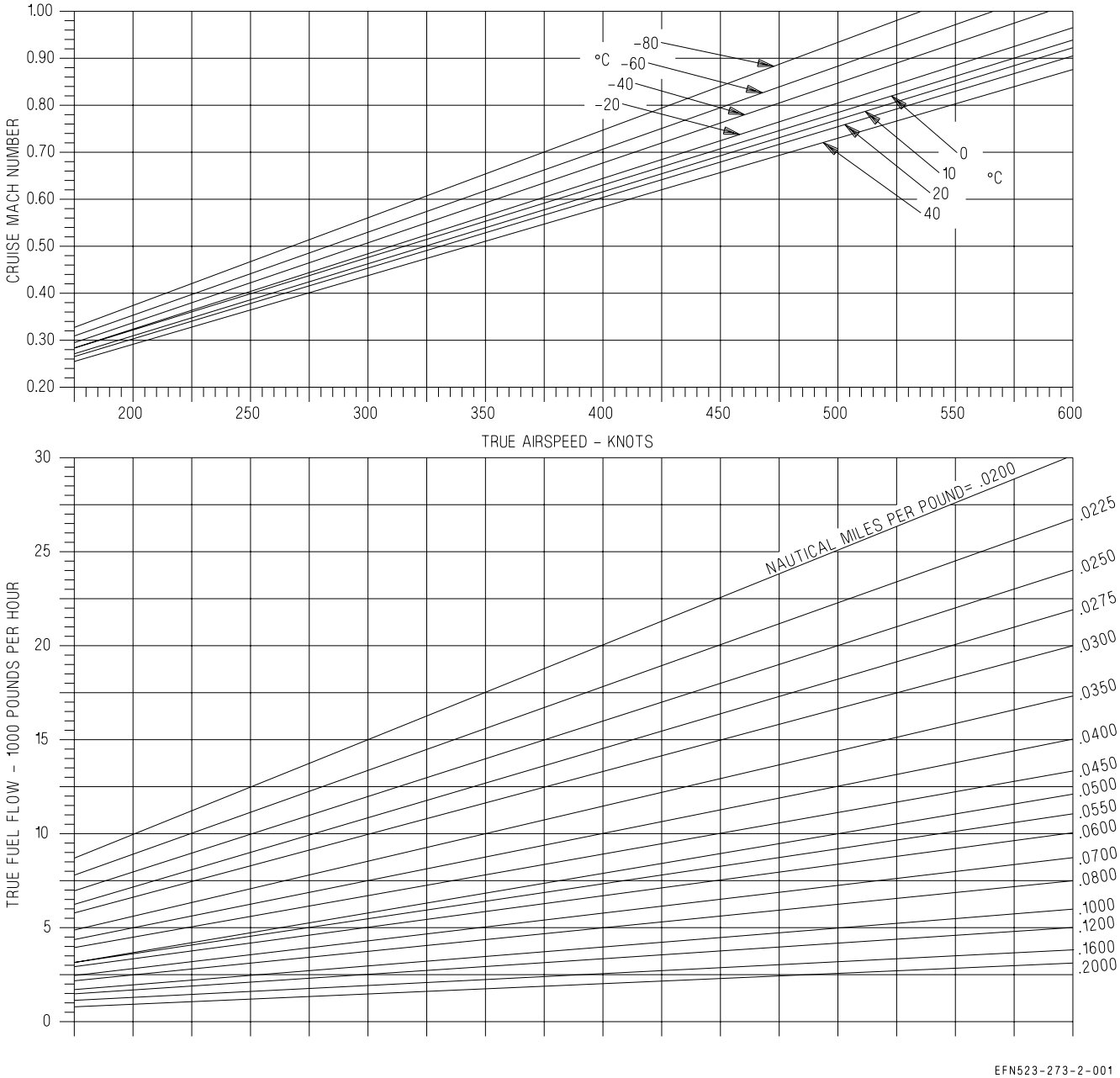


AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 15 JULY 1986
DATA BASIS: ESTIMATED (BASED ON FLIGHT TEST)

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-273-2-001

Figure 5-163. Constant Altitude/Long Range Cruise (Sheet 2 of 2)

BINGO

DRAG INDEX 0 COUNTS - FLAPS AUTO

REMARKS

- ALL ALTITUDES - x1000 FEET
- ENGINE(S): (2) F414-GE-400
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

U.S. STANDARD DAY, 1962

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
200	Dual	Up	43	237	81	3.7	3.9	4.2	4.7	307	5.9
	Dual	Down	32	222	27	5.7	6.4	7.4	8.8	251	8.9
	Single	Up	33	269	54	4.0	4.3	4.7	5.1	282	5.3
	Single	Down	18	209	14	6.9	7.8	9.3	11.3	228	8.6
180	Dual	Up	43	237	81	3.5	3.8	4.0	4.4	307	5.5
	Dual	Down	32	221	27	5.3	6.0	6.8	8.2	251	8.1
	Single	Up	33	269	54	3.8	4.1	4.4	4.9	281	4.9
	Single	Down	18	211	14	6.4	7.2	8.4	10.2	227	7.9
160	Dual	Up	43	237	81	3.4	3.6	3.8	4.2	306	5.0
	Dual	Down	32	221	27	5.0	5.6	6.3	7.5	250	7.4
	Single	Up	32	269	52	3.6	3.9	4.2	4.6	280	4.6
	Single	Down	18	211	14	5.9	6.6	7.6	9.2	226	7.1
140	Dual	Up	43	237	81	3.2	3.4	3.7	4.0	306	4.6
	Dual	Down	30	222	25	4.7	5.1	5.8	6.9	250	6.7
	Single	Up	32	269	52	3.4	3.7	3.9	4.3	280	4.2
	Single	Down	18	211	14	5.4	6.0	6.9	8.2	225	6.4
120	Dual	Up	43	237	81	3.1	3.2	3.5	3.8	305	4.2
	Dual	Down	30	222	25	4.3	4.7	5.4	6.3	249	6.0
	Single	Up	30	271	48	3.3	3.4	3.7	4.0	279	3.9
	Single	Down	18	211	14	4.9	5.4	6.2	7.3	224	5.7
100	Dual	Up	39	258	71	2.9	3.1	3.3	3.6	305	3.8
	Dual	Down	30	222	25	4.0	4.3	4.9	5.7	249	5.3
	Single	Up	28	269	45	3.1	3.2	3.5	3.8	279	3.5
	Single	Down	17	213	13	4.4	4.9	5.5	6.5	223	5.1
80	Dual	Up	34	274	58	2.8	2.9	3.1	3.3	304	3.4
	Dual	Down	29	223	24	3.6	3.9	4.4	5.2	248	4.6
	Single	Up	23	269	36	2.9	3.0	3.2	3.5	279	3.2
	Single	Down	16	214	13	4.0	4.3	4.9	5.7	221	4.4
60	Dual	Up	28	280	46	2.6	2.7	2.9	3.1	303	3.0
	Dual	Down	26	229	21	3.3	3.5	3.9	4.6	247	3.9
	Single	Up	14	278	22	2.6	2.8	2.9	3.2	278	2.9
	Single	Down	12	216	9	3.5	3.8	4.2	4.9	220	3.7
40	Dual	Up	19	283	30	2.4	2.5	2.6	2.8	303	2.6
	Dual	Down	19	226	15	2.9	3.1	3.4	4.0	247	3.2
	Single	Up	9	279	14	2.4	2.5	2.6	2.9	278	2.5
	Single	Down	4	219	3	2.9	3.2	3.5	4.1	219	3.1
20	Dual	Up	10	292	16	2.1	2.2	2.3	2.5	302	2.2
	Dual	Down	7	232	6	2.4	2.6	2.8	3.3	246	2.6
	Single	Up	2	279	3	2.1	2.2	2.3	2.5	277	2.2
	Single	Down	1	218	1	2.4	2.5	2.8	3.3	217	2.5

PROFILES:

- DUAL ENGINE AND GEAR UP: 515 KCAS TO 0.85 IMN
- DUAL ENGINE AND GEAR DOWN: 250 KCAS TO 0.45 IMN
- SINGLE ENGINE AND GEAR UP: 310 KCAS TO 0.68 IMN
- SINGLE ENGINE AND GEAR DOWN: 195 KCAS TO 0.42 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 34,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE

Figure 5-164. Bingo - Flaps Auto - Drag Index 0 Counts

BINGO

DRAG INDEX 50 COUNTS - FLAPS AUTO

REMARKS

- ALL ALTITUDES - x1000 FEET
- ENGINE(S): (2) F414-GE-400
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

U.S. STANDARD DAY, 1962

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
200	Dual	Up	43	242	72	3.9	4.2	4.6	5.0	298	6.2
	Dual	Down	32	218	26	5.9	6.6	7.7	9.2	246	9.2
	Single	Up	30	258	44	4.3	4.6	5.1	5.6	277	5.7
	Single	Down	15	213	11	7.2	8.3	9.9	12.2	225	9.0
180	Dual	Up	43	242	72	3.7	4.0	4.3	4.7	298	5.8
	Dual	Down	32	218	26	5.5	6.2	7.1	8.5	246	8.5
	Single	Up	30	257	44	4.1	4.4	4.8	5.3	277	5.3
	Single	Down	15	213	11	6.7	7.6	8.9	10.9	223	8.2
160	Dual	Up	43	242	72	3.6	3.8	4.1	4.5	297	5.3
	Dual	Down	32	217	26	5.2	5.7	6.6	7.8	245	7.7
	Single	Up	30	257	44	3.9	4.1	4.5	4.9	276	4.9
	Single	Down	15	212	11	6.1	6.9	8.1	9.7	222	7.5
140	Dual	Up	43	242	72	3.4	3.6	3.9	4.2	296	4.9
	Dual	Down	31	218	25	4.8	5.3	6.0	7.2	245	6.9
	Single	Up	29	257	42	3.6	3.9	4.2	4.6	275	4.5
	Single	Down	15	212	11	5.6	6.3	7.2	8.7	221	6.7
120	Dual	Up	43	242	72	3.2	3.4	3.6	4.0	296	4.4
	Dual	Down	30	219	24	4.4	4.9	5.5	6.5	244	6.2
	Single	Up	28	257	40	3.4	3.6	3.9	4.3	275	4.1
	Single	Down	15	211	11	5.1	5.7	6.5	7.7	219	6.0
100	Dual	Up	40	248	65	3.0	3.2	3.4	3.7	294	4.0
	Dual	Down	30	219	24	4.1	4.5	5.0	5.9	244	5.4
	Single	Up	27	257	39	3.2	3.4	3.6	4.0	274	3.7
	Single	Down	15	211	11	4.6	5.0	5.7	6.8	218	5.3
80	Dual	Up	35	264	54	2.9	3.0	3.2	3.5	293	3.6
	Dual	Down	29	220	23	3.7	4.0	4.5	5.3	243	4.7
	Single	Up	23	262	33	3.0	3.1	3.3	3.6	274	3.3
	Single	Down	15	211	11	4.1	4.5	5.0	5.9	217	4.6
60	Dual	Up	29	267	43	2.7	2.8	3.0	3.2	292	3.1
	Dual	Down	26	224	20	3.3	3.6	4.0	4.7	243	4.0
	Single	Up	17	269	24	2.7	2.9	3.0	3.3	273	3.0
	Single	Down	13	211	10	3.5	3.9	4.3	5.0	212	3.9
40	Dual	Up	20	274	29	2.4	2.6	2.7	2.9	291	2.7
	Dual	Down	19	222	14	2.9	3.1	3.5	4.0	242	3.3
	Single	Up	11	270	15	2.5	2.6	2.7	2.9	272	2.6
	Single	Down	6	215	4	3.0	3.2	3.6	4.2	206	3.2
20	Dual	Up	8	286	11	2.2	2.3	2.4	2.6	290	2.3
	Dual	Down	7	228	5	2.4	2.6	2.9	3.3	242	2.6
	Single	Up	2	273	3	2.1	2.2	2.4	2.5	272	2.2
	Single	Down	1	203	1	2.4	2.6	2.8	3.3	200	2.6

PROFILES:

- DUAL ENGINE AND GEAR UP: 490 KCAS TO 0.83 IMN
- DUAL ENGINE AND GEAR DOWN: 250 KCAS TO 0.45 IMN
- SINGLE ENGINE AND GEAR UP: 300 KCAS TO 0.64 IMN
- SINGLE ENGINE AND GEAR DOWN: 195 KCAS TO 0.40 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 34,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE

Figure 5-165. Bingo - Flaps Auto - Drag Index 50 Counts

BINGO

DRAG INDEX 100 COUNTS - FLAPS AUTO

REMARKS

- ALL ALTITUDES - x1000 FEET
- ENGINE(S): (2) F414-GE-400
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

U.S. STANDARD DAY, 1962

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
200	Dual	Up	42	235	63	4.2	4.5	4.9	5.4	291	6.6
	Dual	Down	31	217	23	6.1	6.9	8.0	9.7	240	9.6
	Single	Up	28	246	37	4.6	5.0	5.5	6.1	274	6.1
	Single	Down	15	211	11	7.5	8.7	10.4	13.0	221	9.4
180	Dual	Up	42	235	63	4.0	4.3	4.6	5.1	290	6.1
	Dual	Down	31	216	23	5.7	6.4	7.4	8.9	240	8.8
	Single	Up	28	246	37	4.4	4.7	5.1	5.7	273	5.6
	Single	Down	15	210	11	7.0	8.0	9.4	11.6	219	8.6
160	Dual	Up	42	235	63	3.8	4.0	4.4	4.8	289	5.6
	Dual	Down	31	216	23	5.3	5.9	6.8	8.1	239	7.9
	Single	Up	28	246	37	4.1	4.4	4.8	5.3	272	5.2
	Single	Down	15	210	11	6.4	7.2	8.5	10.3	218	7.8
140	Dual	Up	42	235	63	3.6	3.8	4.1	4.5	288	5.1
	Dual	Down	31	216	23	4.9	5.5	6.2	7.4	239	7.1
	Single	Up	28	246	37	3.9	4.1	4.5	4.9	272	4.8
	Single	Down	15	209	11	5.8	6.6	7.6	9.1	217	7.0
120	Dual	Up	42	234	63	3.4	3.6	3.9	4.2	287	4.6
	Dual	Down	30	217	23	4.6	5.0	5.7	6.7	238	6.4
	Single	Up	27	249	35	3.6	3.8	4.1	4.5	271	4.3
	Single	Down	15	209	11	5.3	5.9	6.8	8.0	212	6.2
100	Dual	Up	40	241	59	3.2	3.4	3.6	3.9	286	4.2
	Dual	Down	30	216	23	4.2	4.6	5.2	6.1	238	5.6
	Single	Up	26	251	34	3.4	3.6	3.8	4.2	270	3.9
	Single	Down	15	208	11	4.7	5.2	6.0	7.0	206	5.5
80	Dual	Up	36	256	51	3.0	3.2	3.4	3.7	285	3.7
	Dual	Down	29	217	22	3.8	4.1	4.6	5.4	237	4.8
	Single	Up	23	257	30	3.1	3.3	3.5	3.8	270	3.5
	Single	Down	14	207	10	4.2	4.6	5.2	6.1	205	4.7
60	Dual	Up	28	257	38	2.8	2.9	3.1	3.4	283	3.2
	Dual	Down	26	219	19	3.4	3.7	4.1	4.8	237	4.1
	Single	Up	17	262	22	2.8	3.0	3.2	3.4	269	3.1
	Single	Down	12	205	8	3.6	4.0	4.4	5.2	203	4.0
40	Dual	Up	19	272	25	2.5	2.6	2.8	3.0	282	2.8
	Dual	Down	19	219	14	2.9	3.2	3.5	4.1	236	3.4
	Single	Up	12	264	15	2.5	2.6	2.8	3.0	268	2.7
	Single	Down	6	211	4	3.1	3.3	3.7	4.3	201	3.3
20	Dual	Up	8	280	10	2.2	2.3	2.4	2.6	281	2.3
	Dual	Down	7	224	5	2.4	2.6	2.9	3.3	236	2.6
	Single	Up	3	267	4	2.2	2.3	2.4	2.6	268	2.3
	Single	Down	0	199	0	2.4	2.6	2.9	3.3	199	2.6

PROFILES:

- DUAL ENGINE AND GEAR UP: 475 KCAS TO 0.82 IMN
- DUAL ENGINE AND GEAR DOWN: 250 KCAS TO 0.45 IMN
- SINGLE ENGINE AND GEAR UP: 280 KCAS TO 0.60 IMN
- SINGLE ENGINE AND GEAR DOWN: 190 KCAS TO 0.38 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 34,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE

Figure 5-166. Bingo - Flaps Auto - Drag Index 100 Counts

BINGO

DRAG INDEX 150 COUNTS - FLAPS AUTO

REMARKS

- ALL ALTITUDES - x1000 FEET
- ENGINE(S): (2) F414-GE-400
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

U.S. STANDARD DAY, 1962

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
200	Dual	Up	43	226	59	4.4	4.7	5.1	5.7	285	6.9
	Dual	Down	31	214	22	6.3	7.1	8.3	10.1	236	9.9
	Single	Up	26	244	31	5.0	5.4	6.0	6.7	269	6.5
	Single	Down	14	203	9	7.9	9.2	11.2	14.1	207	9.8
180	Dual	Up	43	226	59	4.2	4.5	4.9	5.4	284	6.4
	Dual	Down	31	214	22	5.9	6.6	7.7	9.2	236	9.0
	Single	Up	26	244	31	4.7	5.1	5.6	6.2	268	6.0
	Single	Down	14	203	9	7.3	8.4	10.0	12.4	205	8.9
160	Dual	Up	43	226	59	3.9	4.2	4.6	5.0	283	5.9
	Dual	Down	31	214	22	5.5	6.1	7.1	8.4	235	8.2
	Single	Up	26	244	31	4.4	4.7	5.2	5.7	267	5.5
	Single	Down	14	203	9	6.7	7.6	9.0	11.0	202	8.1
140	Dual	Up	43	226	59	3.7	4.0	4.3	4.7	282	5.3
	Dual	Down	31	213	22	5.1	5.6	6.5	7.7	234	7.4
	Single	Up	26	244	31	4.1	4.4	4.8	5.3	267	5.0
	Single	Down	14	203	9	6.1	6.9	8.0	9.7	200	7.3
120	Dual	Up	42	229	57	3.5	3.7	4.0	4.4	281	4.8
	Dual	Down	30	215	21	4.7	5.2	5.9	6.9	234	6.5
	Single	Up	24	251	28	3.8	4.1	4.4	4.9	266	4.6
	Single	Down	14	202	9	5.5	6.2	7.1	8.5	199	6.4
100	Dual	Up	41	233	55	3.3	3.5	3.7	4.1	280	4.3
	Dual	Down	30	215	21	4.3	4.7	5.3	6.2	233	5.7
	Single	Up	23	252	27	3.5	3.8	4.0	4.4	265	4.1
	Single	Down	14	202	9	4.9	5.5	6.2	7.4	199	5.6
80	Dual	Up	36	246	47	3.1	3.3	3.5	3.8	279	3.8
	Dual	Down	29	215	21	3.9	4.2	4.7	5.6	233	5.0
	Single	Up	22	254	26	3.2	3.4	3.7	4.0	265	3.6
	Single	Down	13	201	9	4.3	4.8	5.4	6.3	200	4.9
60	Dual	Up	29	247	36	2.8	3.0	3.2	3.5	279	3.3
	Dual	Down	26	216	18	3.4	3.7	4.2	4.9	232	4.2
	Single	Up	17	258	20	2.9	3.1	3.3	3.6	264	3.2
	Single	Down	11	198	7	3.7	4.1	4.6	5.4	201	4.1
40	Dual	Up	21	264	25	2.6	2.7	2.9	3.1	278	2.8
	Dual	Down	21	216	14	3.0	3.2	3.6	4.2	232	3.4
	Single	Up	9	261	10	2.6	2.7	2.9	3.1	263	2.7
	Single	Down	4	207	3	3.1	3.4	3.8	4.4	202	3.4
20	Dual	Up	6	275	7	2.2	2.3	2.5	2.7	277	2.3
	Dual	Down	7	220	5	2.5	2.6	2.9	3.4	231	2.7
	Single	Up	2	261	2	2.2	2.3	2.4	2.6	263	2.3
	Single	Down	0	202	0	2.5	2.6	2.9	3.4	202	2.6

PROFILES:

- DUAL ENGINE AND GEAR UP: 420 KCAS TO 0.79 IMN
- DUAL ENGINE AND GEAR DOWN: 250 KCAS TO 0.45 IMN
- SINGLE ENGINE AND GEAR UP: 255 KCAS TO 0.58 IMN
- SINGLE ENGINE AND GEAR DOWN: 185 KCAS TO 0.37 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 34,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE

Figure 5-167. Bingo - Flaps Auto - Drag Index 150 Counts

BINGO

DRAG INDEX 200 COUNTS - FLAPS AUTO

REMARKS

- ALL ALTITUDES - x1000 FEET
- ENGINE(S): (2) F414-GE-400
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

U.S. STANDARD DAY, 1962

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
200	Dual	Up	40	238	51	4.8	5.2	5.7	6.4	292	7.5
	Dual	Down	29	223	21	7.0	8.0	9.4	11.6	240	10.6
	Single	Up	20	265	23	5.7	6.3	7.0	8.0	274	7.2
	Single	Down	10	214	7	8.9	10.6	13.2	17.5	227	10.7
180	Dual	Up	40	238	51	4.5	4.9	5.4	6.0	291	6.9
	Dual	Down	29	222	21	6.5	7.3	8.6	10.5	239	9.7
	Single	Up	20	265	23	5.3	5.8	6.5	7.3	273	6.6
	Single	Down	10	214	7	8.2	9.6	11.7	14.9	226	9.7
160	Dual	Up	40	237	51	4.3	4.6	5.0	5.5	291	6.3
	Dual	Down	29	222	21	6.0	6.8	7.8	9.4	238	8.7
	Single	Up	20	265	23	5.0	5.4	6.0	6.7	272	6.1
	Single	Down	10	213	7	7.5	8.6	10.3	12.9	225	8.8
140	Dual	Up	40	237	51	4.0	4.3	4.7	5.2	290	5.7
	Dual	Down	29	221	21	5.5	6.2	7.1	8.5	238	7.8
	Single	Up	20	265	23	4.6	5.0	5.5	6.1	271	5.5
	Single	Down	10	213	7	6.8	7.7	9.1	11.1	223	7.8
120	Dual	Up	40	237	51	3.8	4.0	4.3	4.8	289	5.1
	Dual	Down	29	221	21	5.1	5.6	6.4	7.6	237	6.9
	Single	Up	19	264	21	4.2	4.6	5.0	5.5	271	5.0
	Single	Down	10	212	7	6.1	6.8	8.0	9.6	221	6.9
100	Dual	Up	38	246	48	3.5	3.7	4.0	4.4	288	4.6
	Dual	Down	28	221	20	4.6	5.1	5.7	6.8	237	6.1
	Single	Up	18	264	20	3.9	4.1	4.5	4.9	270	4.4
	Single	Down	9	213	6	5.4	6.0	6.9	8.2	220	6.1
80	Dual	Up	35	249	43	3.3	3.5	3.7	4.0	287	4.0
	Dual	Down	26	222	19	4.1	4.5	5.1	6.0	236	5.2
	Single	Up	17	263	19	3.5	3.7	4.0	4.4	269	3.9
	Single	Down	8	214	5	4.7	5.2	5.9	6.9	217	5.2
60	Dual	Up	28	250	33	3.0	3.1	3.4	3.7	287	3.5
	Dual	Down	24	222	17	3.6	3.9	4.4	5.2	235	4.4
	Single	Up	12	266	13	3.1	3.3	3.5	3.9	269	3.4
	Single	Down	6	216	4	4.0	4.4	4.9	5.7	215	4.3
40	Dual	Up	18	272	21	2.7	2.8	3.0	3.2	286	2.9
	Dual	Down	19	223	13	3.1	3.4	3.7	4.4	235	3.5
	Single	Up	7	269	8	2.7	2.9	3.0	3.3	268	2.9
	Single	Down	3	212	2	3.3	3.5	4.0	4.6	208	3.5
20	Dual	Up	7	282	8	2.3	2.4	2.5	2.7	285	2.4
	Dual	Down	7	225	5	2.5	2.7	3.0	3.5	234	2.7
	Single	Up	1	268	1	2.3	2.4	2.5	2.7	268	2.4
	Single	Down	0	201	0	2.5	2.7	3.0	3.5	201	2.7

PROFILES:

- DUAL ENGINE AND GEAR UP: 380 KCAS TO 0.76 IMN
- DUAL ENGINE AND GEAR DOWN: 250 KCAS TO 0.45 IMN
- SINGLE ENGINE AND GEAR UP: 235 KCAS TO 0.55 IMN
- SINGLE ENGINE AND GEAR DOWN: 185 KCAS TO 0.36 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 38,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE

Figure 5-168. Bingo - Flaps Auto - Drag Index 200 Counts

BINGO

DRAG INDEX 250 COUNTS - FLAPS AUTO

REMARKS

- ALL ALTITUDES - x1000 FEET
- ENGINE(S): (2) F414-GE-400
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

U.S. STANDARD DAY, 1962

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
200	Dual	Up	40	235	48	5.0	5.5	6.1	6.8	287	7.8
	Dual	Down	28	221	19	7.2	8.3	9.9	12.2	237	11.0
	Single	Up	19	260	20	6.1	6.7	7.6	8.7	269	7.7
	Single	Down	10	210	6	9.3	11.1	14.1	19.4	225	11.1
180	Dual	Up	40	235	48	4.8	5.2	5.7	6.3	286	7.2
	Dual	Down	29	220	20	6.7	7.6	9.0	10.9	237	10.0
	Single	Up	20	259	21	5.7	6.2	7.0	7.9	268	7.0
	Single	Down	10	210	6	8.6	10.0	12.4	16.1	223	10.1
160	Dual	Up	40	235	48	4.5	4.8	5.3	5.9	285	6.6
	Dual	Down	29	220	20	6.2	7.0	8.1	9.8	236	9.0
	Single	Up	20	259	21	5.3	5.7	6.4	7.2	267	6.4
	Single	Down	10	209	6	7.8	9.0	10.9	13.7	222	9.1
140	Dual	Up	40	235	48	4.2	4.5	4.9	5.4	284	5.9
	Dual	Down	29	219	20	5.7	6.4	7.4	8.8	235	8.1
	Single	Up	20	258	21	4.9	5.3	5.8	6.5	266	5.8
	Single	Down	10	209	6	7.0	8.1	9.5	11.7	220	8.1
120	Dual	Up	40	235	48	3.9	4.2	4.6	5.0	284	5.3
	Dual	Down	29	219	20	5.2	5.8	6.6	7.9	234	7.2
	Single	Up	18	258	19	4.5	4.8	5.3	5.8	265	5.2
	Single	Down	9	210	6	6.3	7.1	8.3	10.1	218	7.2
100	Dual	Up	38	239	45	3.7	3.9	4.2	4.6	283	4.7
	Dual	Down	28	219	19	4.7	5.2	5.9	7.0	233	6.2
	Single	Up	18	257	19	4.1	4.4	4.7	5.2	264	4.6
	Single	Down	8	211	5	5.6	6.2	7.2	8.6	213	6.3
80	Dual	Up	34	240	39	3.4	3.6	3.9	4.2	282	4.1
	Dual	Down	26	219	18	4.2	4.6	5.2	6.1	232	5.3
	Single	Up	17	257	18	3.7	3.9	4.2	4.6	263	4.1
	Single	Down	7	211	4	4.8	5.3	6.1	7.2	205	5.4
60	Dual	Up	23	258	25	3.1	3.3	3.5	3.8	282	3.6
	Dual	Down	23	219	16	3.7	4.0	4.5	5.3	231	4.5
	Single	Up	12	261	12	3.2	3.4	3.7	4.0	263	3.5
	Single	Down	6	212	4	4.1	4.5	5.0	5.9	205	4.5
40	Dual	Up	16	271	17	2.7	2.9	3.0	3.3	281	3.0
	Dual	Down	19	219	13	3.2	3.4	3.8	4.4	231	3.6
	Single	Up	7	263	7	2.8	2.9	3.1	3.4	262	2.9
	Single	Down	2	205	1	3.3	3.6	4.0	4.7	202	3.6
20	Dual	Up	7	276	7	2.3	2.4	2.5	2.8	280	2.4
	Dual	Down	7	222	5	2.6	2.7	3.0	3.5	230	2.7
	Single	Up	1	261	1	2.3	2.4	2.6	2.8	261	2.4
	Single	Down	0	200	0	2.6	2.8	3.1	3.5	200	2.7

PROFILES:

- DUAL ENGINE AND GEAR UP: 330 KCAS TO 0.76 IMN
- DUAL ENGINE AND GEAR DOWN: 250 KCAS TO 0.45 IMN
- SINGLE ENGINE AND GEAR UP: 225 KCAS TO 0.52 IMN
- SINGLE ENGINE AND GEAR DOWN: 180 KCAS TO 0.35 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 38,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE

Figure 5-169. Bingo - Flaps Auto - Drag Index 250 Counts

BINGO

DRAG INDEX 300 COUNTS - FLAPS AUTO

REMARKS

- ALL ALTITUDES - x1000 FEET
- ENGINE(S): (2) F414-GE-400
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

U.S. STANDARD DAY, 1962

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
200	Dual	Up	39	233	43	5.3	5.8	6.4	7.2	282	8.2
	Dual	Down	28	218	18	7.5	8.6	10.3	12.8	235	11.4
	Single	Up	18	244	18	6.5	7.2	8.2	9.5	262	8.1
	Single	Down	9	208	6	9.7	11.7	15.0	22.4	222	11.5
180	Dual	Up	39	232	43	5.0	5.4	6.0	6.7	282	7.5
	Dual	Down	28	218	18	6.9	7.9	9.3	11.5	234	10.3
	Single	Up	18	245	18	6.0	6.6	7.5	8.6	261	7.4
	Single	Down	9	206	6	8.9	10.5	13.1	17.4	220	10.5
160	Dual	Up	39	232	43	4.7	5.1	5.6	6.2	281	6.8
	Dual	Down	28	217	18	6.4	7.2	8.5	10.3	233	9.3
	Single	Up	18	246	18	5.6	6.1	6.8	7.7	260	6.8
	Single	Down	9	206	6	8.1	9.4	11.5	14.6	218	9.4
140	Dual	Up	39	232	43	4.4	4.7	5.2	5.7	280	6.2
	Dual	Down	28	217	18	5.9	6.6	7.6	9.2	232	8.3
	Single	Up	18	247	18	5.1	5.6	6.2	6.9	259	6.1
	Single	Down	9	206	6	7.3	8.4	10.0	12.4	218	8.4
120	Dual	Up	39	231	43	4.1	4.4	4.8	5.2	280	5.5
	Dual	Down	28	217	18	5.3	6.0	6.8	8.1	231	7.4
	Single	Up	18	248	18	4.7	5.1	5.6	6.2	259	5.5
	Single	Down	9	206	6	6.5	7.4	8.6	10.5	217	7.4
100	Dual	Up	37	232	40	3.8	4.0	4.4	4.8	279	4.9
	Dual	Down	28	216	18	4.8	5.3	6.1	7.2	230	6.4
	Single	Up	17	249	17	4.2	4.6	5.0	5.5	258	4.8
	Single	Down	8	207	5	5.7	6.4	7.4	8.9	216	6.5
80	Dual	Up	34	232	36	3.5	3.7	4.0	4.3	279	4.3
	Dual	Down	26	216	17	4.3	4.7	5.3	6.3	229	5.5
	Single	Up	14	251	14	3.8	4.1	4.4	4.8	257	4.2
	Single	Down	7	209	4	4.9	5.5	6.3	7.4	214	5.5
60	Dual	Up	28	238	29	3.2	3.3	3.6	3.9	278	3.7
	Dual	Down	24	216	16	3.8	4.1	4.6	5.4	228	4.6
	Single	Up	12	252	12	3.3	3.5	3.8	4.2	256	3.6
	Single	Down	6	210	4	4.2	4.6	5.2	6.1	213	4.6
40	Dual	Up	17	265	17	2.8	2.9	3.1	3.4	278	3.0
	Dual	Down	18	216	11	3.2	3.5	3.9	4.5	227	3.7
	Single	Up	7	254	7	2.9	3.0	3.2	3.5	256	3.0
	Single	Down	2	212	1	3.4	3.7	4.1	4.8	212	3.7
20	Dual	Up	7	270	7	2.3	2.4	2.6	2.8	277	2.5
	Dual	Down	7	219	4	2.6	2.8	3.1	3.6	225	2.8
	Single	Up	1	255	1	2.3	2.4	2.6	2.8	255	2.4
	Single	Down	0	211	0	2.6	2.8	3.1	3.6	211	2.8

PROFILES:

- DUAL ENGINE AND GEAR UP: 300 KCAS TO 0.71 IMN
- DUAL ENGINE AND GEAR DOWN: 250 KCAS TO 0.45 IMN
- SINGLE ENGINE AND GEAR UP: 220 KCAS TO 0.48 IMN
- SINGLE ENGINE AND GEAR DOWN: 180 KCAS TO 0.34 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 38,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE

Figure 5-170. Bingo - Flaps Auto - Drag Index 300 Counts

BINGO

DRAG INDEX 0 and 50 COUNTS - FLAPS HALF

REMARKS

- ALL ALTITUDES - x1000 FEET
- ENGINE(S): (2) F414-GE-400
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

U.S. STANDARD DAY, 1962

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
DRAG INDEX 0 COUNTS											
200	Dual	Up	35	193	23	6.5	7.5	8.9	11.2	206	10.5
	Single	Up	15	185	9	8.1	9.4	11.3	14.1	190	10.1
180	Dual	Up	35	193	23	6.1	7.0	8.3	10.4	206	9.6
	Single	Up	15	185	9	7.5	8.6	10.3	12.9	190	9.2
160	Dual	Up	35	192	23	5.7	6.5	7.6	9.7	205	8.7
	Single	Up	15	184	9	6.9	7.9	9.4	11.7	189	8.3
140	Dual	Up	35	192	23	5.3	6.0	7.0	8.9	205	7.8
	Single	Up	15	184	9	6.2	7.1	8.4	10.6	189	7.5
120	Dual	Up	35	192	23	4.9	5.5	6.5	8.2	204	6.9
	Single	Up	15	184	9	5.6	6.4	7.6	9.6	188	6.7
100	Dual	Up	33	192	21	4.5	5.0	5.9	7.5	204	6.1
	Single	Up	14	183	8	5.0	5.7	6.7	8.5	188	5.8
80	Dual	Up	32	191	21	4.1	4.5	5.3	6.8	203	5.2
	Single	Up	13	182	8	4.5	5.0	5.8	7.4	187	5.0
60	Dual	Up	28	188	18	3.6	4.0	4.7	6.0	203	4.4
	Single	Up	8	183	5	3.8	4.3	5.0	6.4	186	4.2
40	Dual	Up	17	192	10	3.1	3.5	4.0	5.2	203	3.6
	Single	Up	1	185	1	3.2	3.5	4.1	5.3	185	3.5
20	Dual	Up	3	198	2	2.5	2.8	3.2	4.2	202	2.7
	Single	Up	0	184	0	2.5	2.7	3.2	4.1	184	2.7
DRAG INDEX 50 COUNTS											
200	Dual	Up	34	196	21	6.8	7.8	9.3	11.6	203	10.8
	Single	Up	14	181	8	8.4	9.8	11.9	14.6	188	10.4
180	Dual	Up	35	197	22	6.3	7.2	8.6	10.8	203	9.9
	Single	Up	15	181	9	7.7	8.9	10.7	13.3	187	9.5
160	Dual	Up	35	198	22	5.9	6.7	7.9	10.0	202	8.9
	Single	Up	15	181	9	7.1	8.1	9.7	12.1	187	8.6
140	Dual	Up	35	198	22	5.5	6.2	7.3	9.2	202	8.0
	Single	Up	15	181	9	6.4	7.3	8.7	11.0	186	7.7
120	Dual	Up	34	196	21	5.0	5.7	6.7	8.5	201	7.1
	Single	Up	15	181	9	5.8	6.6	7.8	9.8	186	6.8
100	Dual	Up	33	194	20	4.6	5.2	6.1	7.7	201	6.2
	Single	Up	15	180	9	5.2	5.8	6.9	8.7	185	6.0
80	Dual	Up	32	190	20	4.2	4.7	5.4	7.0	200	5.3
	Single	Up	13	175	7	4.6	5.1	6.0	7.6	185	5.1
60	Dual	Up	27	183	16	3.7	4.1	4.8	6.2	200	4.5
	Single	Up	8	172	5	3.9	4.4	5.1	6.5	182	4.3
40	Dual	Up	14	188	8	3.2	3.5	4.1	5.3	199	3.6
	Single	Up	2	178	1	3.2	3.6	4.2	5.4	175	3.5
20	Dual	Up	2	197	1	2.6	2.8	3.3	4.2	199	2.8
	Single	Up	0	168	0	2.5	2.8	3.2	4.1	168	2.7

DRAG INDEX 0 PROFILES:

- DUAL ENGINE AND GEAR UP: 210 KCAS TO 0.49 IMN
- SINGLE ENGINE AND GEAR UP: 160 KCAS TO 0.34 IMN

DRAG INDEX 50 PROFILES:

- DUAL ENGINE AND GEAR UP: 200 KCAS TO 0.48 IMN
- SINGLE ENGINE AND GEAR UP: 160 KCAS TO 0.33 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 34,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE

Figure 5-171. Bingo - Flaps Half - Drag Index 0 to 300 Counts (Sheet 1 of 4)

BINGO

DRAG INDEX 100 and 150 COUNTS - FLAPS HALF

REMARKS

- ALL ALTITUDES - x1000 FEET
- ENGINE(S): (2) F414-GE-400
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

U.S. STANDARD DAY, 1962

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
DRAG INDEX 100 COUNTS											
200	Dual	Up	33	182	19	7.0	8.1	9.6	12.1	200	11.1
	Single	Up	14	173	8	8.7	10.2	12.3	15.2	185	10.8
180	Dual	Up	34	181	20	6.5	7.5	8.9	11.2	200	10.1
	Single	Up	14	173	8	8.0	9.3	11.2	13.9	184	9.8
160	Dual	Up	34	181	20	6.1	6.9	8.2	10.3	200	9.2
	Single	Up	14	173	8	7.3	8.4	10.1	12.6	184	8.9
140	Dual	Up	34	181	20	5.6	6.4	7.5	9.5	199	8.2
	Single	Up	14	173	8	6.6	7.6	9.0	11.3	183	7.9
120	Dual	Up	34	181	20	5.2	5.8	6.9	8.7	199	7.3
	Single	Up	14	173	8	6.0	6.8	8.0	10.1	183	7.0
100	Dual	Up	33	181	19	4.7	5.3	6.2	7.9	198	6.3
	Single	Up	14	173	8	5.3	6.0	7.1	8.9	178	6.2
80	Dual	Up	32	180	19	4.3	4.8	5.6	7.1	198	5.4
	Single	Up	13	171	7	4.6	5.2	6.1	7.8	171	5.3
60	Dual	Up	27	178	15	3.8	4.2	4.9	6.3	197	4.5
	Single	Up	8	171	4	4.0	4.4	5.2	6.7	170	4.4
40	Dual	Up	16	184	9	3.2	3.6	4.2	5.4	197	3.7
	Single	Up	3	175	2	3.3	3.6	4.2	5.5	168	3.6
20	Dual	Up	2	194	1	2.6	2.8	3.3	4.2	196	2.8
	Single	Up	0	166	0	2.5	2.8	3.2	4.2	166	2.8
DRAG INDEX 150 COUNTS											
200	Dual	Up	32	170	18	7.3	8.4	10.0	12.5	198	11.4
	Single	Up	13	169	7	9.0	10.5	12.8	15.7	172	11.2
180	Dual	Up	33	171	19	6.7	7.7	9.2	11.6	197	10.4
	Single	Up	13	169	7	8.2	9.6	11.6	14.3	169	10.2
160	Dual	Up	33	172	19	6.3	7.1	8.5	10.7	197	9.4
	Single	Up	13	169	7	7.5	8.7	10.4	12.9	171	9.2
140	Dual	Up	33	173	19	5.8	6.6	7.8	9.8	197	8.4
	Single	Up	13	169	7	6.8	7.8	9.3	11.6	169	8.2
120	Dual	Up	33	175	19	5.3	6.0	7.1	8.9	196	7.4
	Single	Up	13	169	7	6.1	7.0	8.2	10.4	166	7.3
100	Dual	Up	32	174	18	4.8	5.4	6.4	8.1	196	6.5
	Single	Up	13	169	7	5.4	6.1	7.2	9.2	166	6.3
80	Dual	Up	31	174	17	4.3	4.9	5.7	7.3	195	5.5
	Single	Up	12	168	6	4.7	5.3	6.3	8.0	167	5.4
60	Dual	Up	27	175	15	3.9	4.3	5.0	6.4	195	4.6
	Single	Up	8	172	4	4.1	4.5	5.3	6.8	168	4.5
40	Dual	Up	14	184	7	3.3	3.6	4.2	5.4	194	3.7
	Single	Up	2	173	1	3.3	3.7	4.3	5.5	169	3.6
20	Dual	Up	1	193	1	2.6	2.9	3.3	4.3	194	2.8
	Single	Up	0	170	0	2.6	2.8	3.3	4.2	170	2.8

DRAG INDEX 100 PROFILES:

- DUAL ENGINE AND GEAR UP: 195 KCAS TO 0.48 IMN
- SINGLE ENGINE AND GEAR UP: 160 KCAS TO 0.32 IMN

DRAG INDEX 150 PROFILES:

- DUAL ENGINE AND GEAR UP: 190 KCAS TO 0.47 IMN
- SINGLE ENGINE AND GEAR UP: 160 KCAS TO 0.32 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 34,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE

Figure 5-171. Bingo - Flaps Half - Drag Index 0 to 300 Counts (Sheet 2 of 4)

BINGO

DRAG INDEX 200 and 250 COUNTS - FLAPS HALF

REMARKS

- ALL ALTITUDES - x1000 FEET
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- ENGINE(S): (2) F414-GE-400
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999 U.S. STANDARD DAY, 1962 FUEL GRADE: JP-5
DATA BASIS: FLIGHT DERIVED FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
DRAG INDEX 200 COUNTS											
200	Dual	Up	29	188	17	8.0	9.3	11.2	13.8	204	12.2
	Single	Up	10	193	5	10.1	12.0	14.7	17.9	193	12.1
180	Dual	Up	29	188	17	7.4	8.6	10.2	12.8	204	11.1
	Single	Up	10	193	5	9.2	10.9	13.2	16.2	191	11.0
160	Dual	Up	30	188	17	6.8	7.8	9.3	11.7	203	10.0
	Single	Up	10	191	5	8.4	9.8	11.8	14.6	190	9.9
140	Dual	Up	30	188	17	6.3	7.2	8.5	10.7	202	8.9
	Single	Up	10	183	5	7.6	8.7	10.5	13.1	188	8.8
120	Dual	Up	30	188	17	5.7	6.5	7.7	9.7	201	7.9
	Single	Up	9	180	5	6.7	7.7	9.2	11.5	187	7.8
100	Dual	Up	29	188	17	5.2	5.8	6.9	8.7	200	6.8
	Single	Up	8	177	4	5.9	6.7	8.0	10.1	184	6.7
80	Dual	Up	28	187	16	4.6	5.2	6.1	7.8	199	5.8
	Single	Up	8	174	4	5.1	5.8	6.8	8.6	176	5.8
60	Dual	Up	22	189	12	4.1	4.5	5.3	6.8	198	4.8
	Single	Up	6	182	3	4.3	4.8	5.6	7.2	167	4.8
40	Dual	Up	13	186	7	3.4	3.8	4.4	5.7	197	3.8
	Single	Up	2	174	1	3.5	3.9	4.5	5.8	165	3.8
20	Dual	Up	1	195	1	2.7	2.9	3.4	4.4	196	2.9
	Single	Up	0	165	0	2.6	2.9	3.4	4.4	165	2.9
DRAG INDEX 250 COUNTS											
200	Dual	Up	29	183	16	8.2	9.6	11.5	14.3	203	12.5
	Single	Up	9	192	5	10.5	12.6	15.5	18.7	191	12.5
180	Dual	Up	29	183	16	7.6	8.8	10.6	13.2	202	11.3
	Single	Up	9	192	5	9.6	11.4	13.9	17.0	190	11.3
160	Dual	Up	29	182	16	7.0	8.1	9.6	12.1	201	10.2
	Single	Up	7	190	4	8.7	10.2	12.4	15.3	188	10.2
140	Dual	Up	29	182	16	6.5	7.4	8.8	11.0	199	9.1
	Single	Up	7	190	4	7.9	9.1	10.9	13.6	186	9.1
120	Dual	Up	29	182	16	5.9	6.7	7.9	10.0	198	8.0
	Single	Up	7	186	4	7.0	8.0	9.6	12.0	184	8.0
100	Dual	Up	29	182	16	5.3	6.0	7.1	8.9	197	7.0
	Single	Up	7	181	4	6.1	7.0	8.2	10.4	182	6.9
80	Dual	Up	27	182	15	4.7	5.3	6.2	7.9	196	5.9
	Single	Up	7	177	4	5.3	5.9	7.0	8.9	175	5.9
60	Dual	Up	22	186	12	4.1	4.6	5.4	6.9	195	4.9
	Single	Up	3	178	2	4.4	4.9	5.8	7.4	167	4.9
40	Dual	Up	13	186	7	3.5	3.9	4.5	5.8	194	3.9
	Single	Up	1	170	1	3.5	3.9	4.6	5.9	165	3.9
20	Dual	Up	1	193	1	2.7	3.0	3.4	4.4	193	2.9
	Single	Up	0	165	0	2.7	2.9	3.4	4.4	165	2.9

DRAG INDEX 200 PROFILES:

- DUAL ENGINE AND GEAR UP: 185 KCAS TO 0.45 IMN
- SINGLE ENGINE AND GEAR UP: 160 KCAS TO 0.31 IMN

DRAG INDEX 250 PROFILES:

- DUAL ENGINE AND GEAR UP: 180 KCAS TO 0.44 IMN
- SINGLE ENGINE AND GEAR UP: 155 KCAS TO 0.30 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 38,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE

Figure 5-171. Bingo - Flaps Half - Drag Index 0 to 300 Counts (Sheet 3 of 4)

BINGO

DRAG INDEX 300 COUNTS - FLAPS HALF

REMARKS

- ALL ALTITUDES - x1000 FEET
- ENGINE(S): (2) F414-GE-400
- ALL FUEL REQD - x1000 LBS
- ALL DISTANCES IN NAUTICAL MILES
- SINGLE ENGINE: INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

U.S. STANDARD DAY, 1962

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	CONFIGURATION		CRUISE		DESCEND	FUEL REQD WITH HEADWIND (knots)				SEA LEVEL CRUISE	
INBD DIST	ENGINE	LDG GEAR	ALT	KCAS	DIST	0	50	100	150	KCAS	FUEL
DRAG INDEX 300 COUNTS											
200	Dual	Up	28	178	15	8.5	9.9	12.0	14.8	201	12.8
	Single	Up	5	189	2	10.9	13.1	16.3	19.5	189	12.9
180	Dual	Up	28	179	15	7.9	9.1	10.9	13.6	200	11.6
	Single	Up	5	188	2	10.0	11.8	14.5	17.7	188	11.7
160	Dual	Up	28	179	15	7.2	8.3	10.0	12.4	199	10.5
	Single	Up	5	188	2	9.0	10.6	12.9	15.9	186	10.5
140	Dual	Up	28	180	15	6.6	7.6	9.0	11.3	197	9.3
	Single	Up	5	187	2	8.1	9.4	11.4	14.1	184	9.3
120	Dual	Up	28	180	15	6.0	6.8	8.1	10.2	196	8.2
	Single	Up	5	186	2	7.2	8.3	9.9	12.4	180	8.2
100	Dual	Up	28	181	15	5.4	6.1	7.2	9.1	195	7.1
	Single	Up	5	185	2	6.3	7.2	8.5	10.7	177	7.1
80	Dual	Up	27	181	14	4.8	5.4	6.3	8.1	193	6.0
	Single	Up	4	181	2	5.4	6.1	7.2	9.1	174	6.0
60	Dual	Up	23	183	12	4.2	4.7	5.5	7.0	192	5.0
	Single	Up	2	174	1	4.5	5.0	5.9	7.5	172	4.9
40	Dual	Up	13	184	7	3.5	3.9	4.5	5.8	191	3.9
	Single	Up	0	169	0	3.6	4.0	4.7	6.0	169	3.9
20	Dual	Up	1	190	1	2.7	3.0	3.5	4.5	190	2.9
	Single	Up	0	167	0	2.7	3.0	3.4	4.4	167	2.9

DRAG INDEX 300 PROFILES:

- DUAL ENGINE AND GEAR UP: 180 KCAS TO 0.43 IMN
- SINGLE ENGINE AND GEAR UP: 150 KCAS TO 0.30 IMN

DATA BASED ON:

- INITIAL ALTITUDE IS SEA LEVEL
- ZERO FUEL WEIGHT IS 38,000 POUNDS
- SEA LEVEL INCLUDES 25 KNOT HEADWIND
- FUEL REQUIRED INCLUDES 1800 POUNDS RESERVE FUEL
- MILITARY THRUST CLIMB TO INDICATED ALTITUDE
- 250 KCAS IDLE THRUST DESCENT TO SEA LEVEL (SPEEDBRAKE RETRACTED)

Figure 5-171. Bingo - Flaps Half - Drag Index 0 to 300 Counts (Sheet 4 of 4)

5.9 MAXIMUM RANGE AOA/MAXIMUM ENDURANCE AOA CHART

Using the Maximum Range AOA/Maximum Endurance AOA Charts -

- If required, refer to the Drag Index (DI) Values chart to determine applicable DI.
- To determine Maximum Range AOA, find appropriate DI and altitude being flown. Move up vertically in DI column until intersecting row of altitude being flown. Where DI column and altitude row intersect is maximum range AOA. (Example: with DI of 100 and altitude of 20,000 feet, maximum range AOA is 3.5)
- To determine Maximum Endurance AOA, find appropriate DI. AOA is listed directly below DI. (Example: with DI of 100, AOA equals 5.2)

If necessary, Maximum Range AOA and Maximum Endurance AOA can be calculated using the following formulas:

- Maximum Range AOA = 2.4 + (0.005 x DI) + (0.03 x altitude (x1000 feet))
- Maximum Endurance AOA = 4.4 + (0.0075 x DI)

Drag Index (DI) Values					
DI	**Store**	**DI**	**Store**	**DI**	**Store**
20.0	C_L	0.0	2 AIM-9	39.0	C_L + 2 pylons (standard)
17.0	2 pylons	16.8	1 I-MER	38.0	Standard + CATM-9
30.0	4 pylons	33.6	2 I-MER	83.4	Standard + 12 Mk-76
2.0	0 AIM-9	6.6	6 BDU-48	85.8	Standard + 12 BDU-48
1.0	1 AIM-9	5.4	6 Mk-76	72.6	Standard + 2 I-MER

Altitude (x1000 ft)	**Maximum Range AOA**										
40	3.8	3.8	3.9	4.0	4.0	4.1	4.1	4.2	4.4	4.5	4.6
35	3.6	3.7	3.7	3.9	3.9	3.9	4.0	4.1	4.2	4.3	4.5
30	3.4	3.5	3.6	3.7	3.7	3.8	3.8	3.9	4.1	4.2	4.3
25	3.3	3.4	3.4	3.6	3.6	3.6	3.7	3.8	3.9	4.0	4.2
20	3.1	3.2	3.3	3.4	3.4	3.5	3.5	3.6	3.8	3.9	4.0
15	3.0	3.1	3.1	3.2	3.3	3.3	3.4	3.5	3.6	3.7	3.9
10	2.8	2.9	3.0	3.1	3.1	3.2	3.2	3.3	3.5	3.6	3.7
5	2.7	2.8	2.8	2.9	3.0	3.0	3.1	3.2	3.3	3.4	3.6
Drag Index	25	40	50	75	80	92	100	125	150	175	200
Maximum Endurance AOA											
	4.6	4.7	4.8	5.0	5.0	5.1	5.2	5.3	5.5	5.7	5.9

Figure 5-172. Maximum Range AOA/Maximum Endurance AOA

CHAPTER 6

Endurance
F414-GE-400

6.1 MAXIMUM ENDURANCE CHARTS

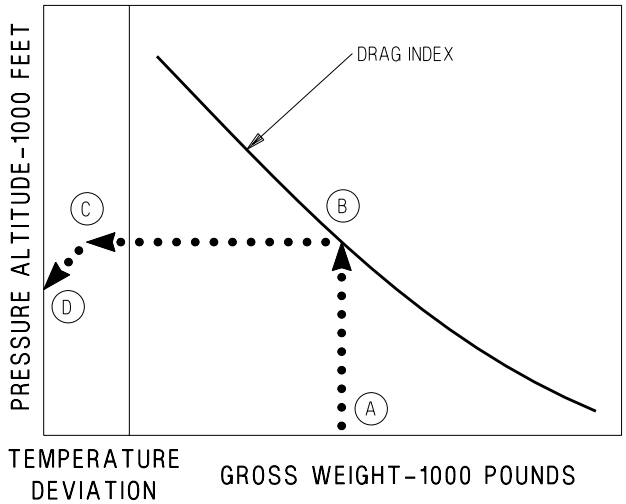
Maximum endurance charts are provided for two-engine (figure 6-1) and one-engine (figure 6-2) operation. Included are separate charts for maximum endurance altitude, Mach number and airspeed, and fuel flow and fuel required for various drag indexes at all gross weights and altitudes from sea level to 45,000 feet.

6.1.1 Use. ALTITUDE - Enter the chart with the effective gross weight and project up to the appropriate drag index curve, then project horizontally left to the temperature baseline and parallel the appropriate temperature deviation guideline to the correct temperature deviation. Project horizontally left to read maximum endurance altitude.

6.1.2 Sample Problem.

A. Effective gross weight	42,000 Lb.
B. Drag index	50
C. Temperature deviation from standard day	+10°C
D. Maximum endurance altitude	30,450 Ft.

SAMPLE MAXIMUM ENDURANCE ALTITUDE



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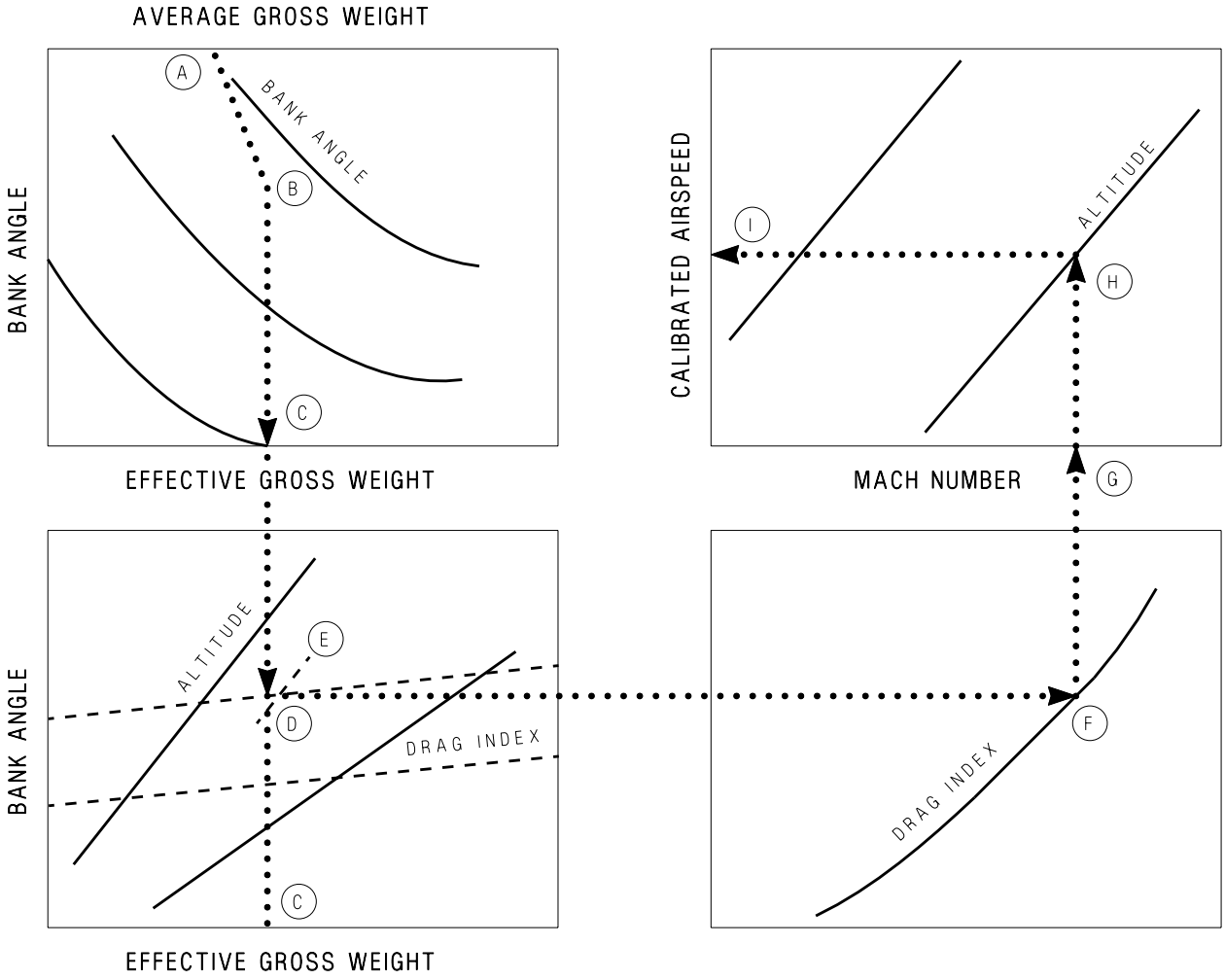
MACH NUMBER AND AIRSPEED - Enter the chart with the average gross weight and follow the nearest guideline down to the desired bank angle. From this point, project vertically down to determine effective gross weight. With the effective gross weight, project vertically (up or down) to intersect the optimum endurance at the appropriate drag index line or desired altitude, then project horizontally right to the appropriate drag index curve. From this point, project vertically up to read maximum endurance Mach number. To find calibrated airspeed, project vertically up from the Mach number to the endurance altitude, then project horizontally left to find the maximum corresponding endurance calibrated airspeed.

6.1.3 Sample Problem.

A. Average gross weight	30,000 Lb.
B. Bank angle	20°
C. Effective gross weight	32,000 Lb.
D. Drag index	50
E. Endurance altitude	37,000 Ft.
F. Drag index	50
G. Mach number	0.61
H. Endurance altitude	37,000 Ft.
I. Calibrated airspeed	180 Kt.

SAMPLE MACH NUMBER AND AIRSPEED WITH EFFECTIVE GROSS WEIGHT



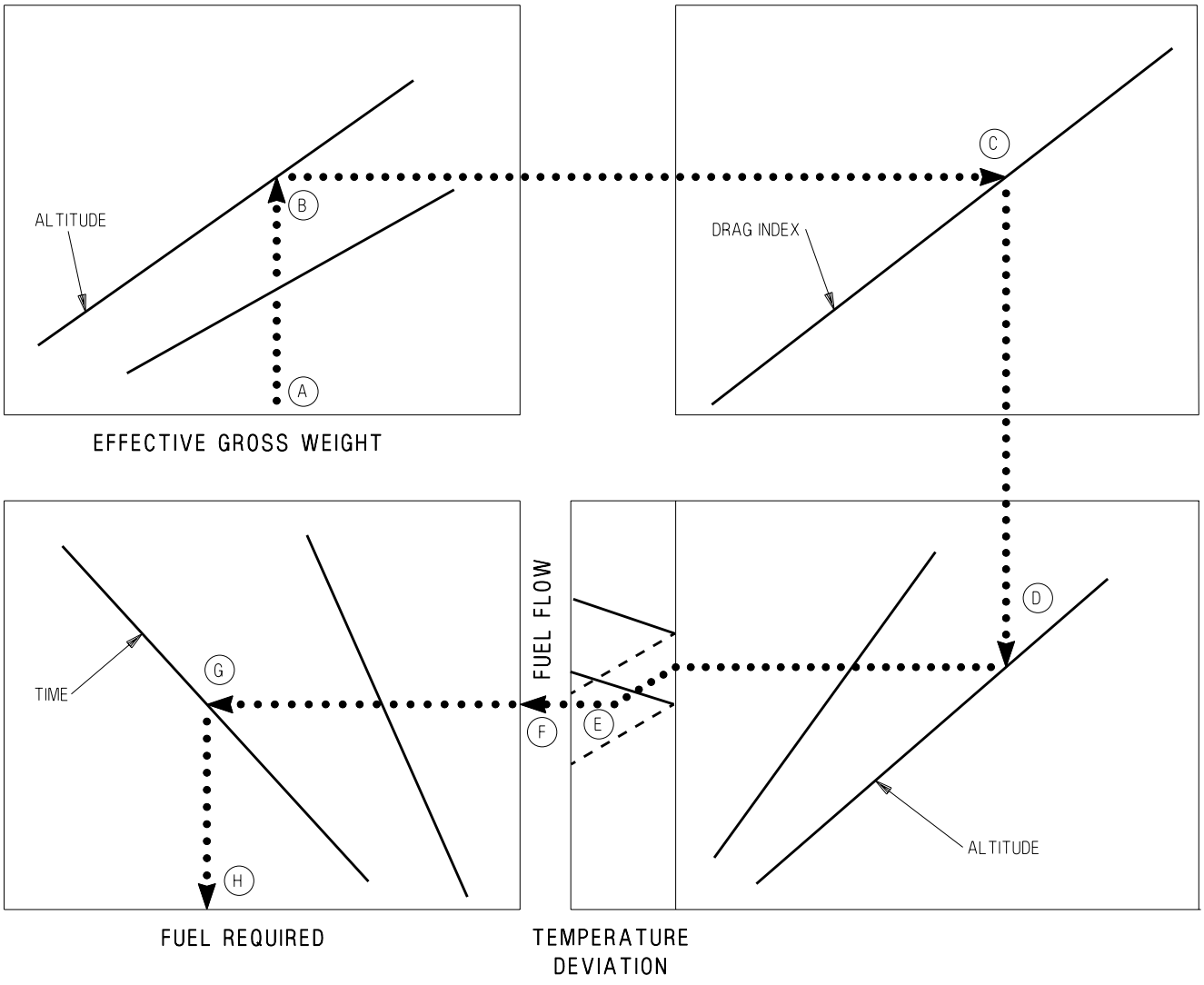
EFN523-261-1-001

FUEL FLOW AND FUEL REQUIRED - Enter the chart with the effective gross weight and project vertically up to intersect the desired altitude for endurance, then project horizontally right to the appropriate drag index curve. From this point, project vertically down to the appropriate altitude, then project horizontally left to the temperature baseline and parallel the appropriate temperature deviation guideline to the correct temperature deviation. From this point, project horizontally left to read fuel flow in pounds per hour. To find fuel required, continue to project horizontally left to intersect the desired endurance time, then vertically down to read fuel required.

6.1.4 Sample Problem.

A. Effective gross weight	32,000 Lb.
B. Endurance altitude	34,000 Ft.
C. Drag index	50
D. Endurance altitude	34,000 Ft.
E. Temperature deviation from standard day	+10°C
F. Fuel flow	3250 PPH
G. Endurance time	120 Min.
H. Fuel required	8000 Lb.

SAMPLE FUEL FLOW AND FUEL REQUIRED



EFN523-262-1-001

6.2 MAXIMUM RANGE AOA/MAXIMUM ENDURANCE AOA CHART

The Maximum Range AOA/Maximum Endurance AOA chart (figure 6-3) shows the AOA required to achieve maximum range or maximum endurance based on the aircraft drag index configuration.

MAXIMUM ENDURANCE

ALTITUDE
WITH EFFECTIVE GROSS WEIGHT

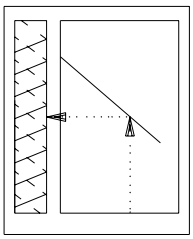
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

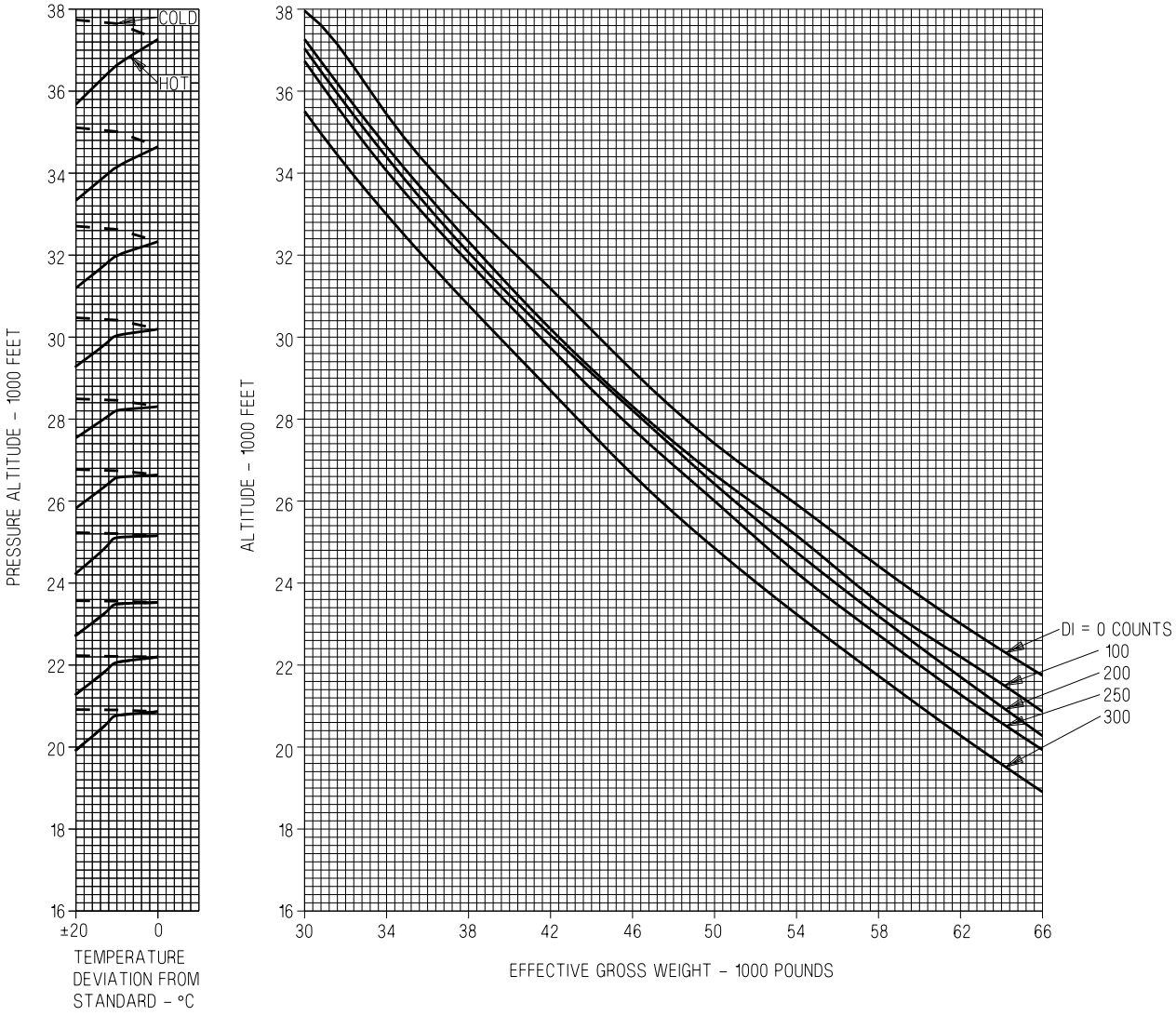
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-281-1-004

Figure 6-1. Maximum Endurance (Sheet 1 of 3)

MAXIMUM ENDURANCE

MACH NUMBER AND AIRSPEED WITH EFFECTIVE GROSS WEIGHT

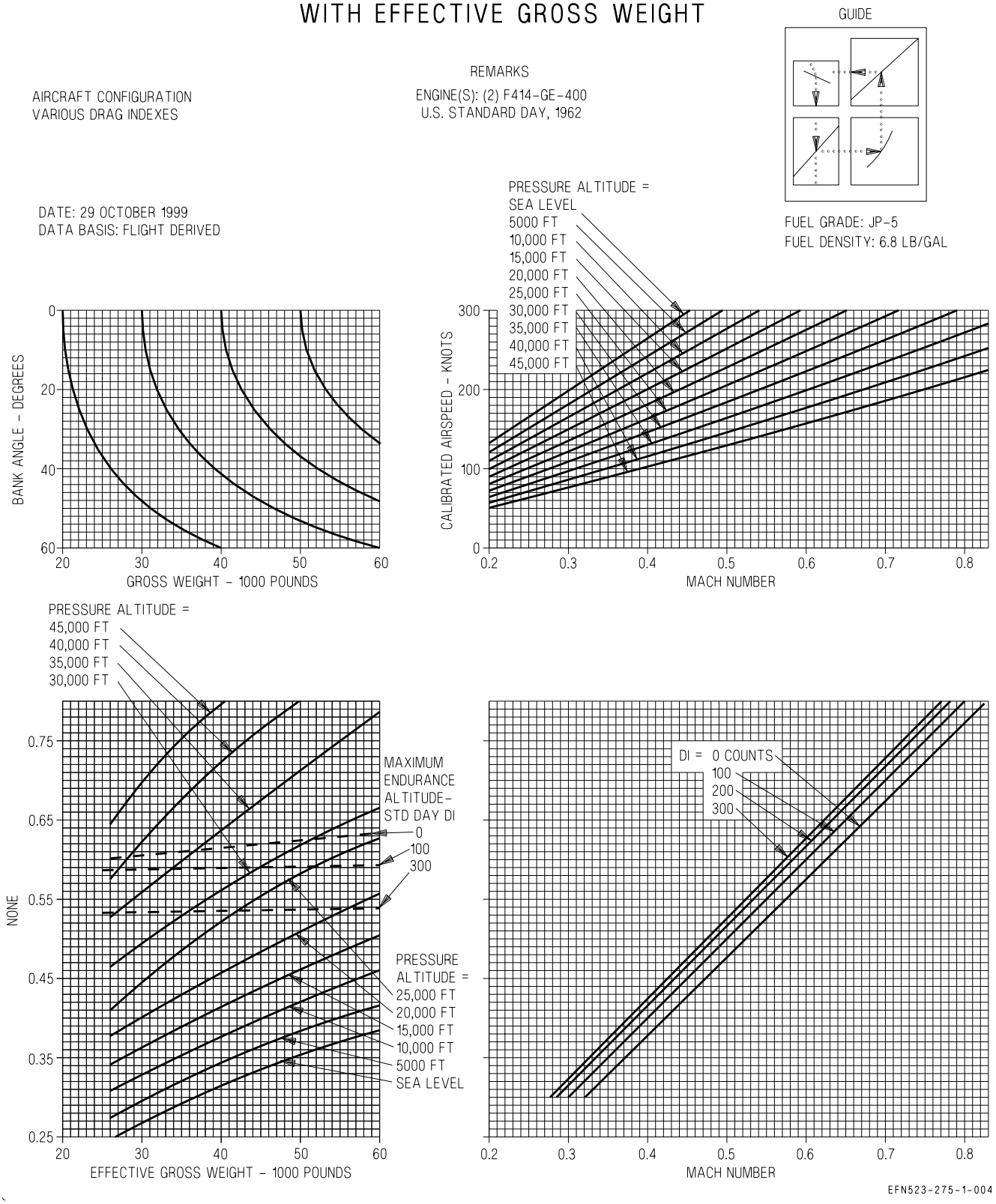


Figure 6-1. Maximum Endurance (Sheet 2 of 3)

MAXIMUM ENDURANCE

FUEL FLOW AND FUEL REQUIRED WITH EFFECTIVE GROSS WEIGHT

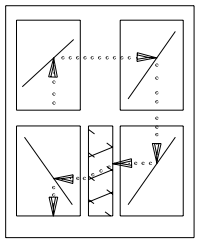
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

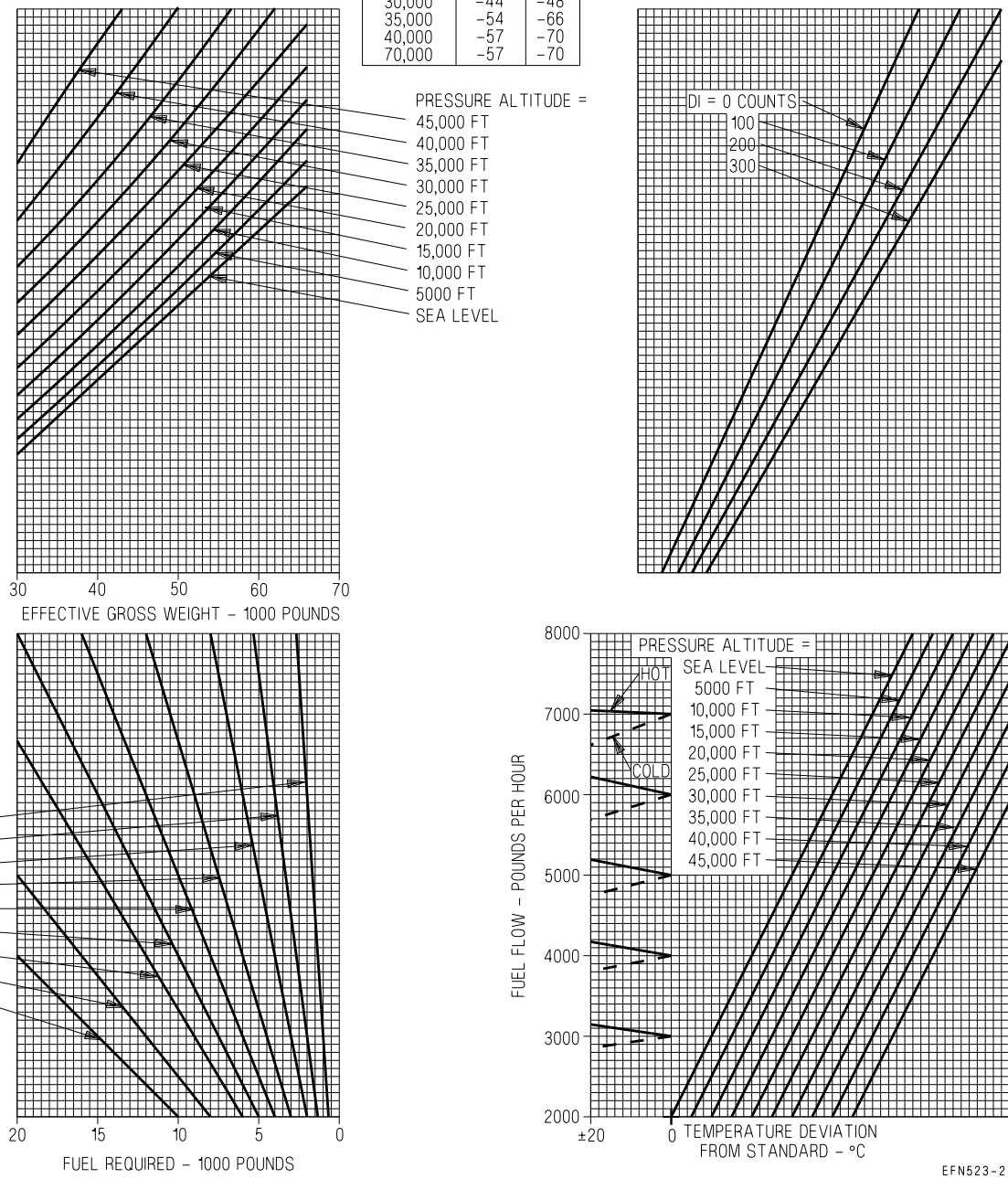


Figure 6-1. Maximum Endurance (Sheet 3 of 3)

MAXIMUM ENDURANCE

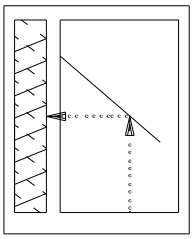
ALTITUDE
WITH EFFECTIVE GROSS WEIGHT

REMARKS

ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

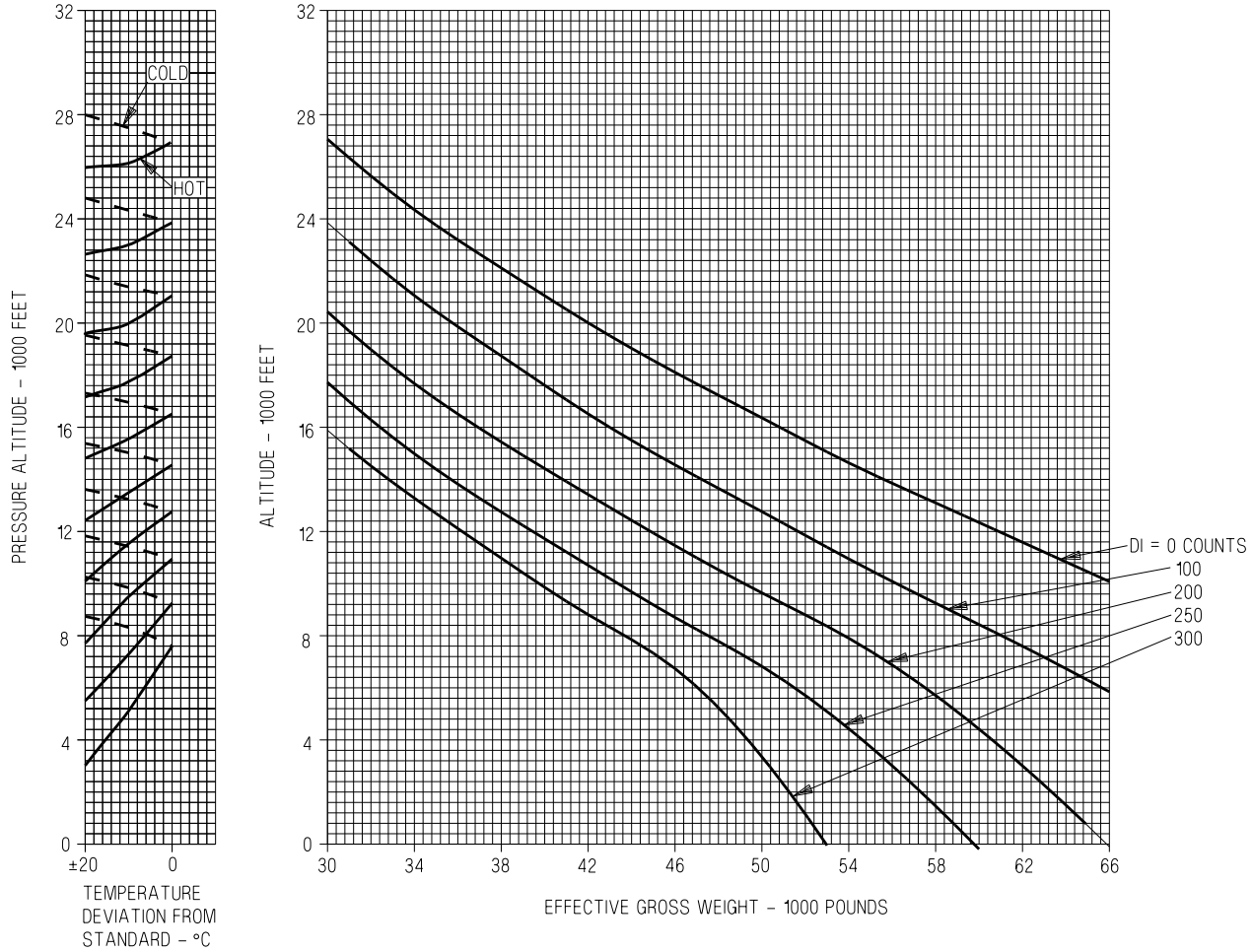
GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



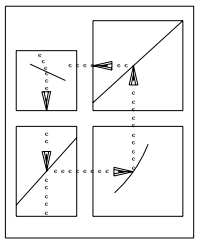
EFN523-559-1-004

Figure 6-2. Single Engine Maximum Endurance (Sheet 1 of 3)

MAXIMUM ENDURANCE

MACH NUMBER AND AIRSPEED WITH EFFECTIVE GROSS WEIGHT

GUIDE



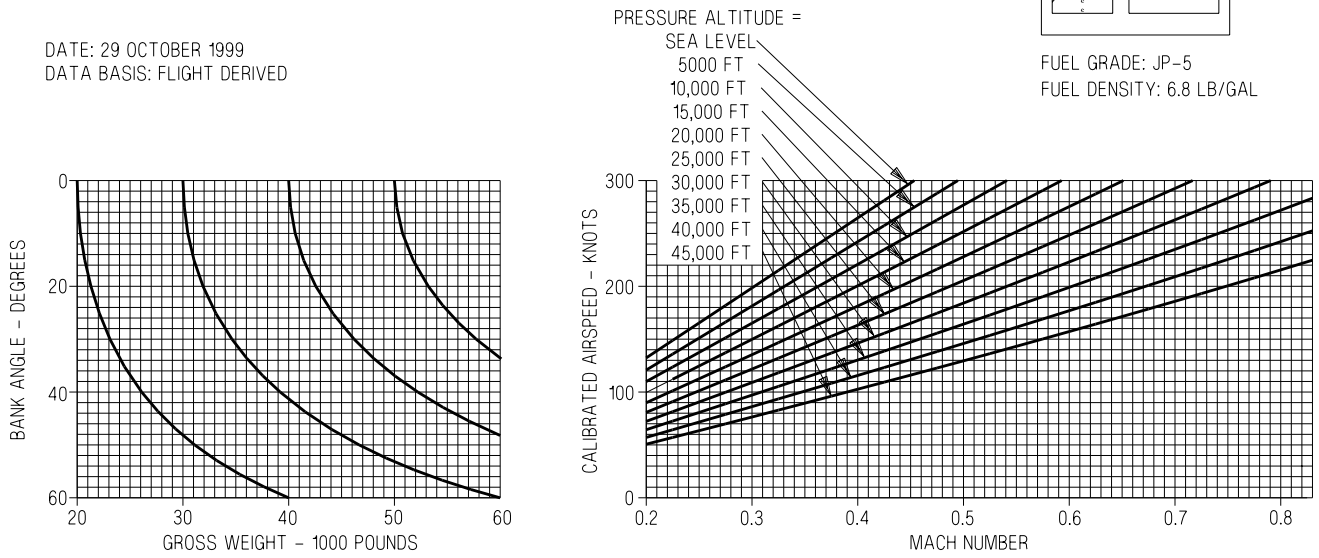
REMARKS

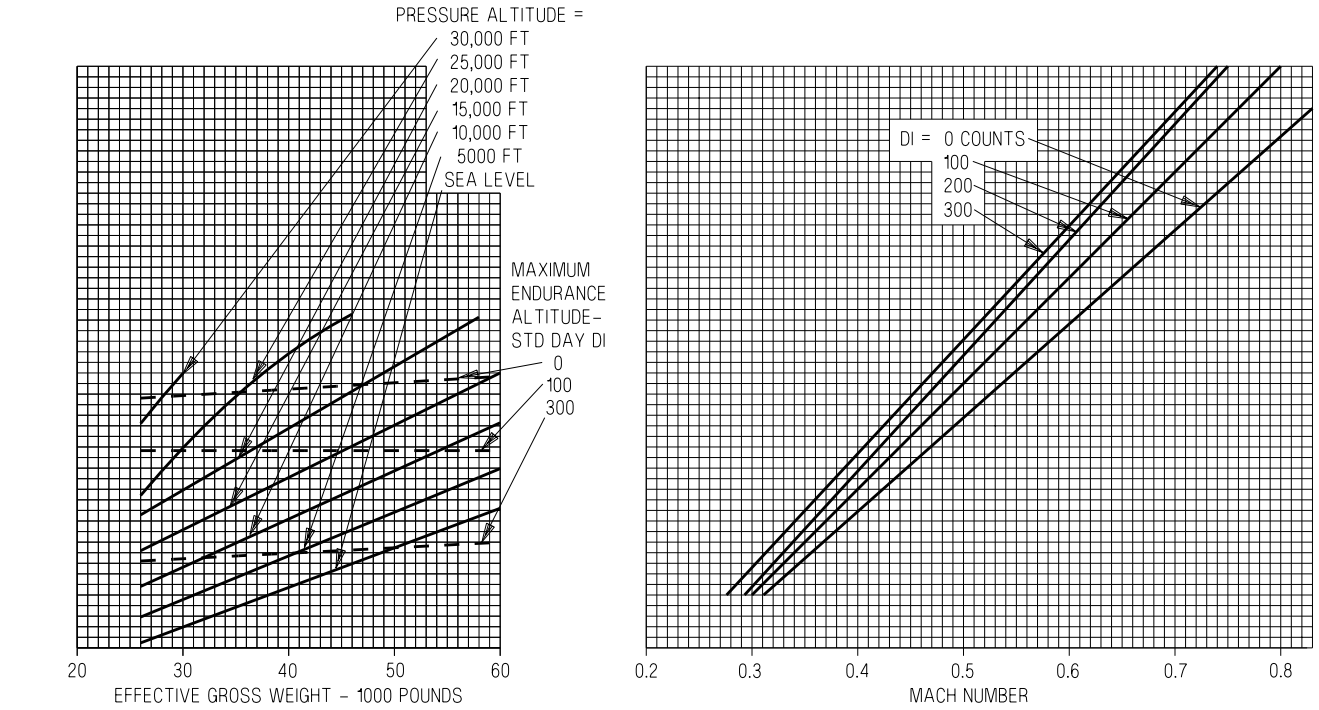
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-557-1-004

Figure 6-2. Single Engine Maximum Endurance (Sheet 2 of 3)

MAXIMUM ENDURANCE

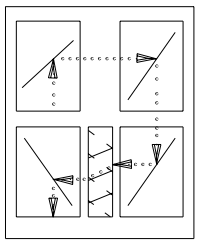
FUEL FLOW AND FUEL REQUIRED WITH EFFECTIVE GROSS WEIGHT

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

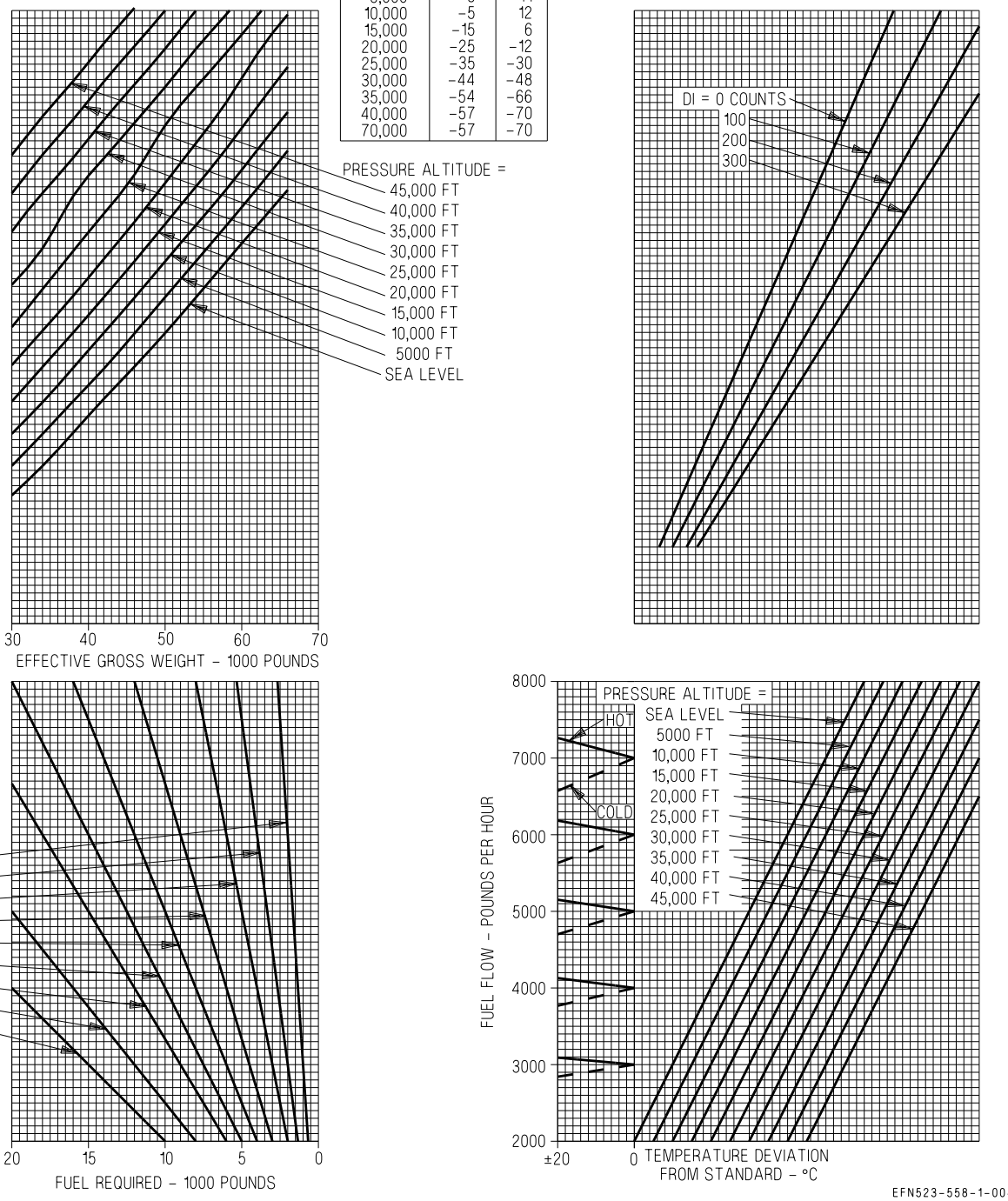
REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70



EFN523-558-1-004

Figure 6-2. Single Engine Maximum Endurance (Sheet 3 of 3)

Using the Maximum Range AOA/Maximum Endurance AOA Charts -

- If required, refer to the Drag Index (DI) Values chart to determine applicable DI.
- To determine Maximum Range AOA, find appropriate DI and altitude being flown. Move up vertically in DI column until intersecting row of altitude being flown. Where DI column and altitude row intersect is maximum range AOA. (Example: with DI of 100 and altitude of 20,000 feet, maximum range AOA is 3.5)
- To determine Maximum Endurance AOA, find appropriate DI. AOA is listed directly below DI. (Example: with DI of 100, AOA equals 5.2)

If necessary, Maximum Range AOA and Maximum Endurance AOA can be calculated using the following formulas:

- Maximum Range AOA = 2.4 + (0.005 x DI) + (0.03 x altitude (x1000 feet))
- Maximum Endurance AOA = 4.4 + (0.075 x DI)

Drag Index (DI) Values					
DI	**Store**	**DI**	**Store**	**DI**	**Store**
20.0	C_L	0.0	2 AIM-9	39.0	C_L + 2 pylons (standard)
17.0	2 pylons	16.8	1 I-MER	38.0	Standard + CATM-9
30.0	4 pylons	33.6	2 I-MER	83.4	Standard + 12 Mk-76
2.0	0 AIM-9	6.6	6 BDU-48	85.8	Standard + 12 BDU-48
1.0	1 AIM-9	5.4	6 Mk-76	72.6	Standard + 2 I-MER

Altitude (x1000 ft)	**Maximum Range AOA**										
40	3.8	3.8	3.9	4.0	4.0	4.1	4.1	4.2	4.4	4.5	4.6
35	3.6	3.7	3.7	3.9	3.9	3.9	4.0	4.1	4.2	4.3	4.5
30	3.4	3.5	3.6	3.7	3.7	3.8	3.8	3.9	4.1	4.2	4.3
25	3.3	3.4	3.4	3.6	3.6	3.6	3.7	3.8	3.9	4.0	4.2
20	3.1	3.2	3.3	3.4	3.4	3.5	3.5	3.6	3.8	3.9	4.0
15	3.0	3.1	3.1	3.2	3.3	3.3	3.4	3.5	3.6	3.7	3.9
10	2.8	2.9	3.0	3.1	3.1	3.2	3.2	3.3	3.5	3.6	3.7
5	2.7	2.8	2.8	2.9	3.0	3.0	3.1	3.2	3.3	3.4	3.6
Drag Index	25	40	50	75	80	92	100	125	150	175	200
Maximum Endurance AOA											
	4.6	4.7	4.8	5.0	5.0	5.1	5.2	5.3	5.5	5.7	5.9

Figure 6-3. Maximum Range AOA/Maximum Endurance AOA

CHAPTER 7

In-flight Refueling F414-GE-400

7.1 F/A-18E TANKER RECEIVER ENVELOPE

The tanker receiver envelope is used to determine the minimum and maximum Mach numbers for a receiver aircraft based on a closure rate of 1 knot per second, altitude, gross weight, and temperature. Refer to figure 7-1 for the tanker receiver envelope, including ARS limits, for F/A-18E aircraft.

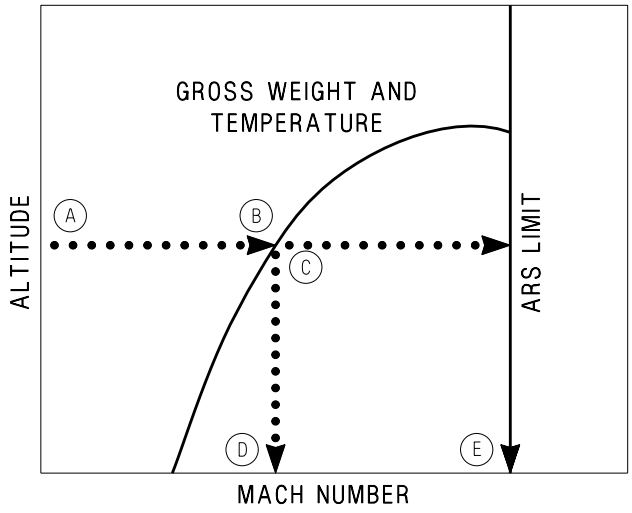
7.1.1 Use. Enter the chart at the desired altitude and project horizontally right until intersecting the appropriate gross weight and temperature. Then project vertically downward to the indicated Mach number. This is the minimum Mach number to be used by the receiver aircraft.

To determine the maximum Mach number, enter the chart at the desired altitude and project horizontally right until intersecting either the ARS limit line or the right-most applicable temperature line. Then project vertically downward to the indicated Mach number. This is the maximum Mach number to be used by the receiver aircraft.

7.1.2 Sample Problem.

A. Altitude	25,000 Ft.	D. Minimum Mach number	0.51
B. Gross weight	56,000 Lb.	E. Maximum Mach number	0.80
C. Temperature	Standard day		

SAMPLE
F/A-18E TANKER RECEIVER ENVELOPE



EFN523-575-1-004

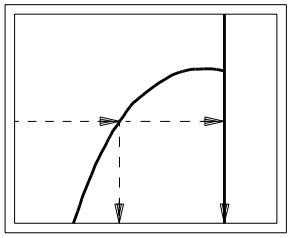
F/A-18E TANKER RECEIVER ENVELOPES

1 KT/SEC CAPABILITY

REMARKS
ENGINES (2) F414-GE-400
U.S. STANDARD DAY, 1962

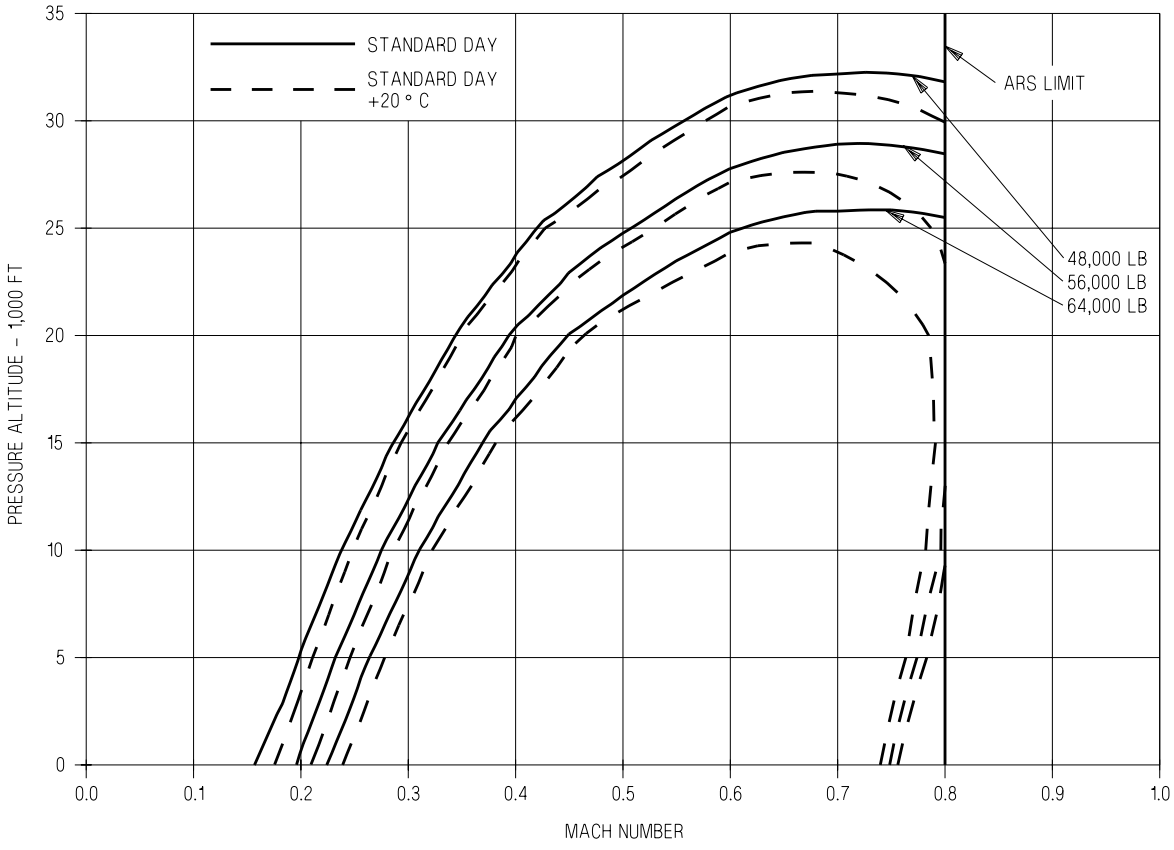
AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120 +
(4) 480 GAL TANKS +(2) OUTB'D PYLONS

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-571-1-004

Figure 7-1. F/A-18E Tanker Receiver Envelope

CHAPTER 8

Descent
F414-GE-400

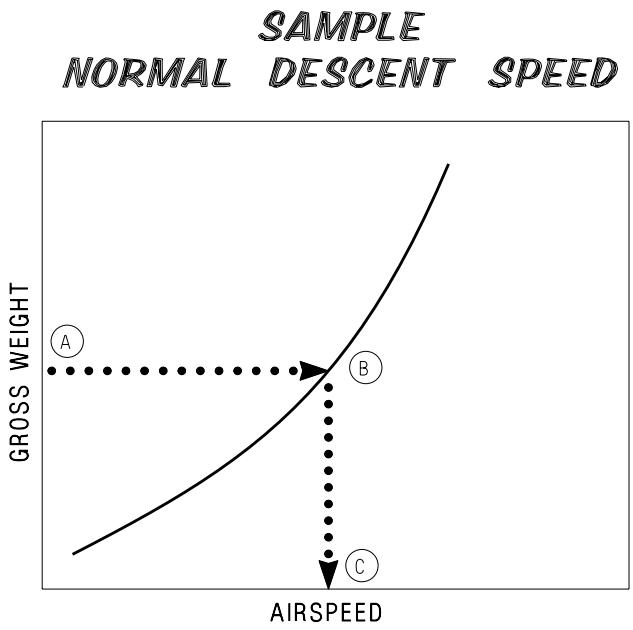
8.1 NORMAL DESCENT CHARTS

These charts (figure 8-1 for two engines, figure 8-2 for one engine) provide speed, time, fuel required, and distance data for a normal descent with speed brake retracted. Descent speed is based on aircraft gross weight and drag index. Optimum cruise altitudes are also depicted on the time, fuel, and distance charts.

8.1.1 Use. DESCENT SPEED - Enter the chart with the gross weight at start of descent and project horizontally right to the appropriate drag index number, then project vertically down to read the corresponding descent airspeed.

8.1.2 Sample Problem.

A. Gross weight	46,000 Lb.
B. Drag index number	100
C. Descent speed	240 KCAS



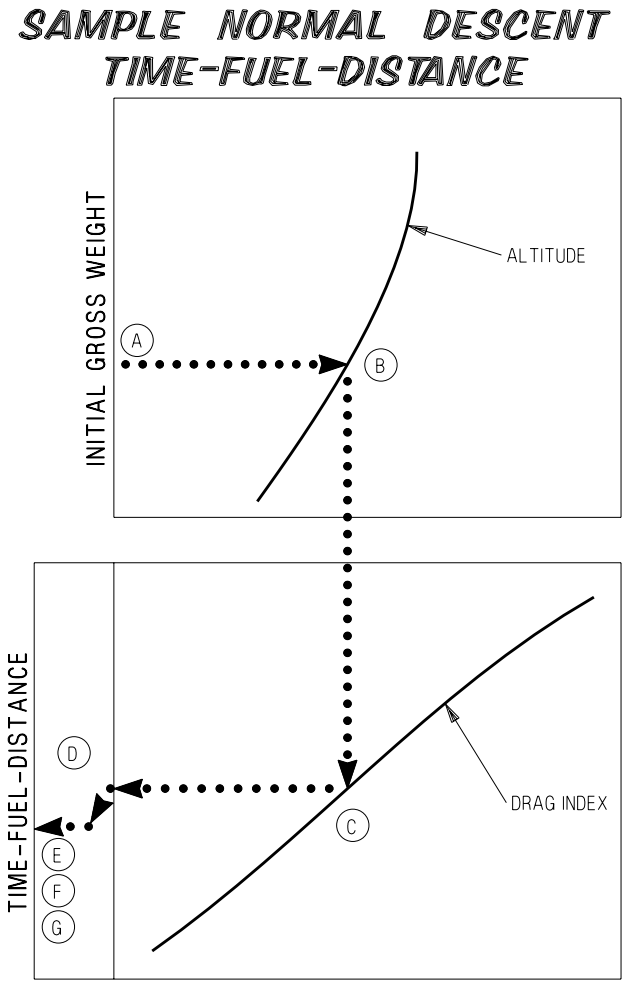
EFN523-265-1-004

TIME, FUEL, AND DISTANCE REQUIRED - Presentation of these charts is identical; therefore, they are used in the same manner. Enter the appropriate chart with the initial gross weight at start of descent and project horizontally right to intersect the pressure altitude at the start of descent. From this point, project vertically down to the appropriate drag index curve, then horizontally left to the

temperature baseline and follow the appropriate temperature deviation guideline to the appropriate temperature deviation. From this point project horizontally left to read time, fuel, and distance required during descent.

8.1.3 Sample Problem.

A. Initial gross weight	35,000 Lb.
B. Pressure altitude	30,000 Ft.
C. Drag index	100
D. Temperature deviation from standard day	+10°C
E. Time	9.9 Min.
F. Fuel required	310 Lb.
G. Distance	51 NM



8.2 MAXIMUM RANGE DESCENT CHARTS

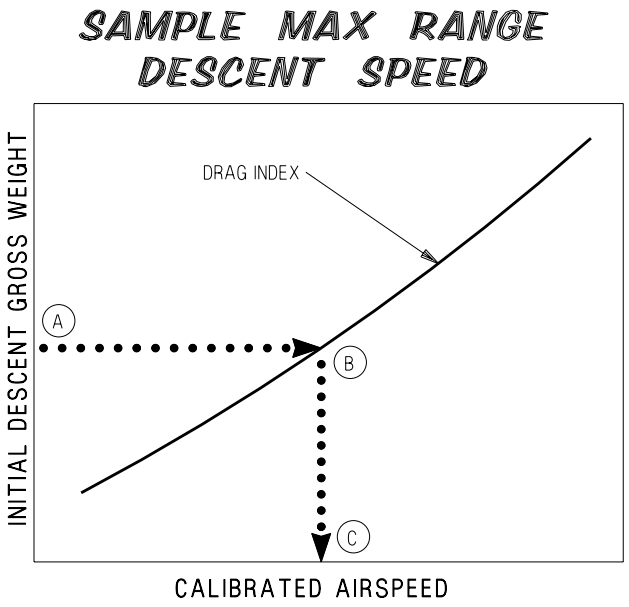
The descent charts (figure 8-3 for two engines, figure 8-4 for one engine) provide speed, time, fuel required, and distance data for a maximum range descent at idle thrust with speedbrake retracted. Included are separate charts for two-engine and single engine operation at various drag indexes. When cruise airspeed is below maximum descent airspeed, descend at the cruise Mach until the maximum range descent airspeed is reached. Optimum cruise altitudes are also depicted on the time, fuel, and distance charts.

8.2.1 Use.

8.2.1.1 Descent Speed. Enter the chart with the initial descent gross weight and project horizontally right to the appropriate drag index curve and then vertically down to read the corresponding descent calibrated airspeed. If the cruise airspeed before descent is below the descent airspeed, maintain and descend at the cruise Mach number until the descent airspeed is reached.

8.2.1.1.1 Sample Problem.

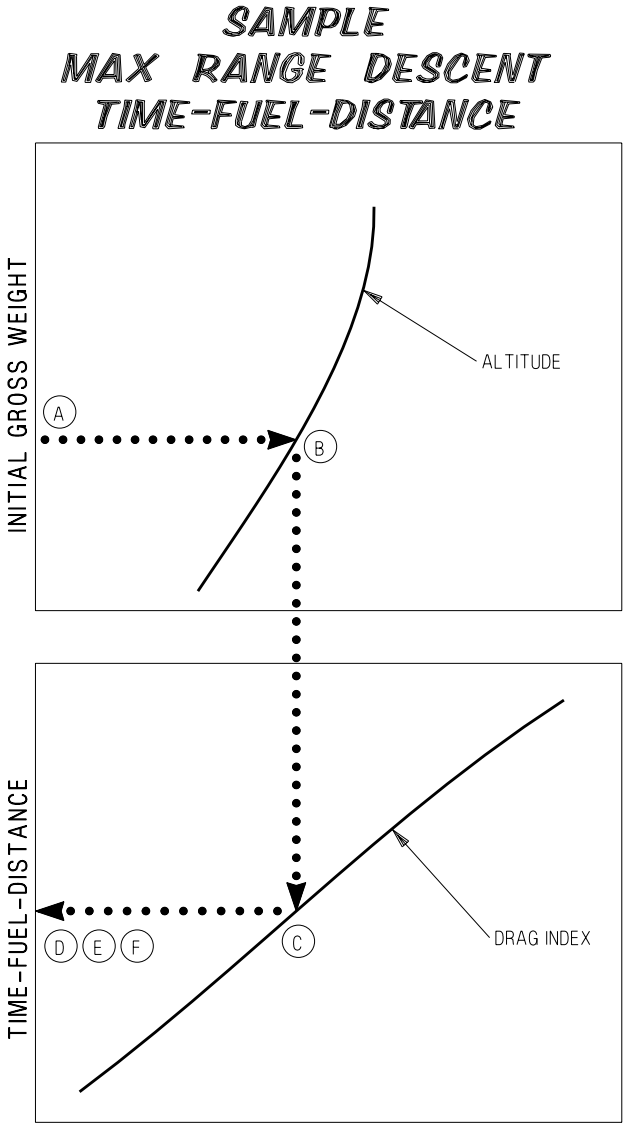
A. Initial Descent Gross Weight	35,000 Lb.
B. Drag Index	200
C. Maximum Range Descent Calibrated Airspeed	189 KCAS



8.2.1.2 Time, Fuel, and Distance Required. Presentation of these charts is identical; therefore, they are used in the same manner. Enter the appropriate chart with the initial gross weight at start of descent and project horizontally right to intersect the pressure altitude at the start of descent. From this point, project vertically down to the appropriate drag index curve, then horizontally left to read time, fuel, and distance required during descent.

8.2.1.2.1 Sample Problem.

A. Initial Gross Weight	35,000 Lb.
B. Pressure Altitude	30,000 Ft.
C. Drag Index	100
D. Time	10.8 Min.
E. Fuel required	260 Lb.
F. Distance	43 NM



EFN523-307-1-003

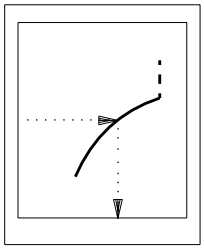
NORMAL DESCENT

F414-GE-400

DESCENT SPEED
SPEEDBRAKE RETRACTED
IDLE THRUST

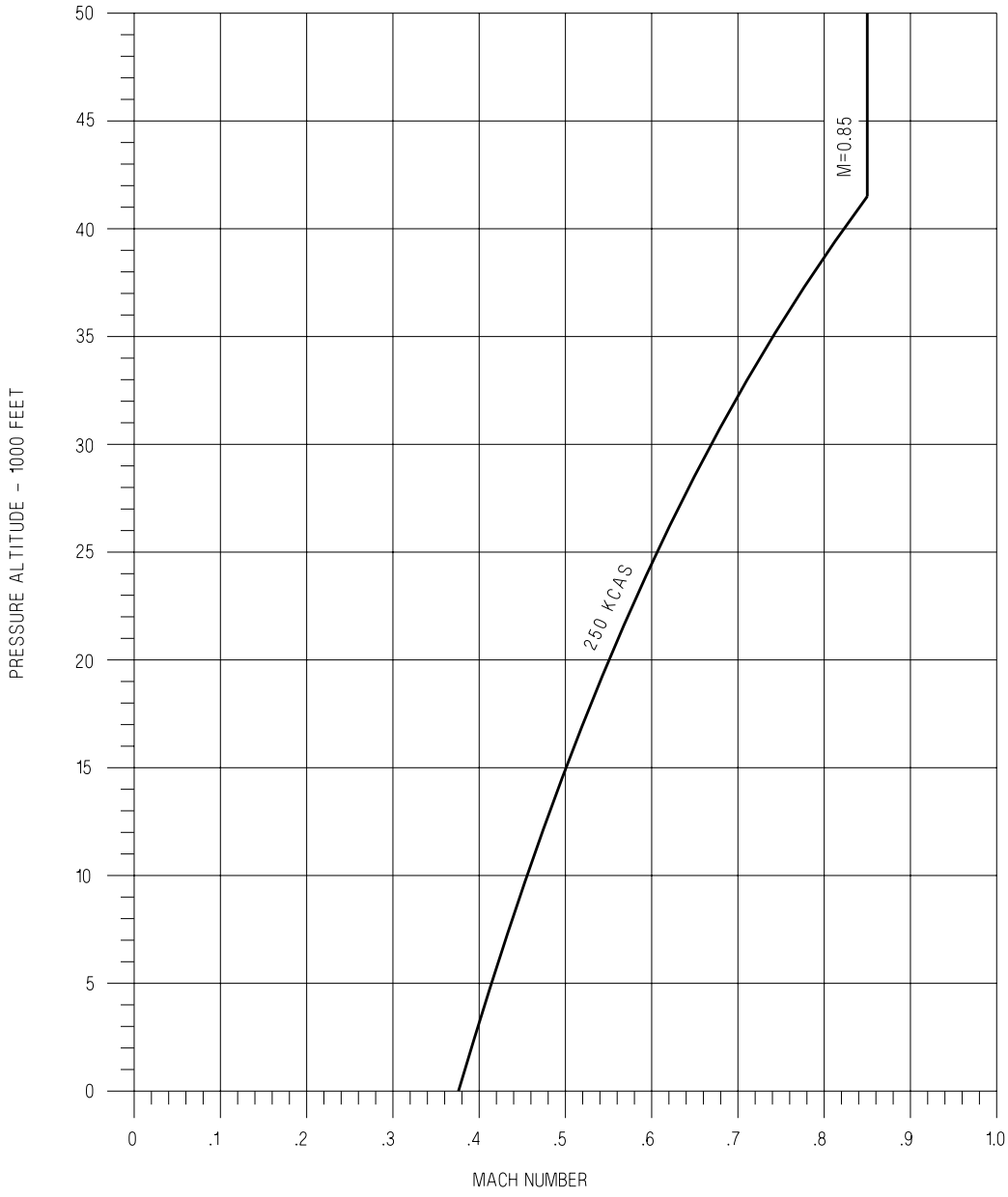
REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-354-1-004

Figure 8-1. Normal Descent (Sheet 1 of 4)

NORMAL DESCENT

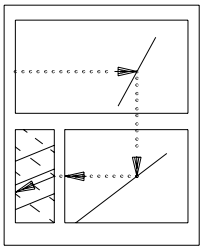
F414-GE-400

TIME REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

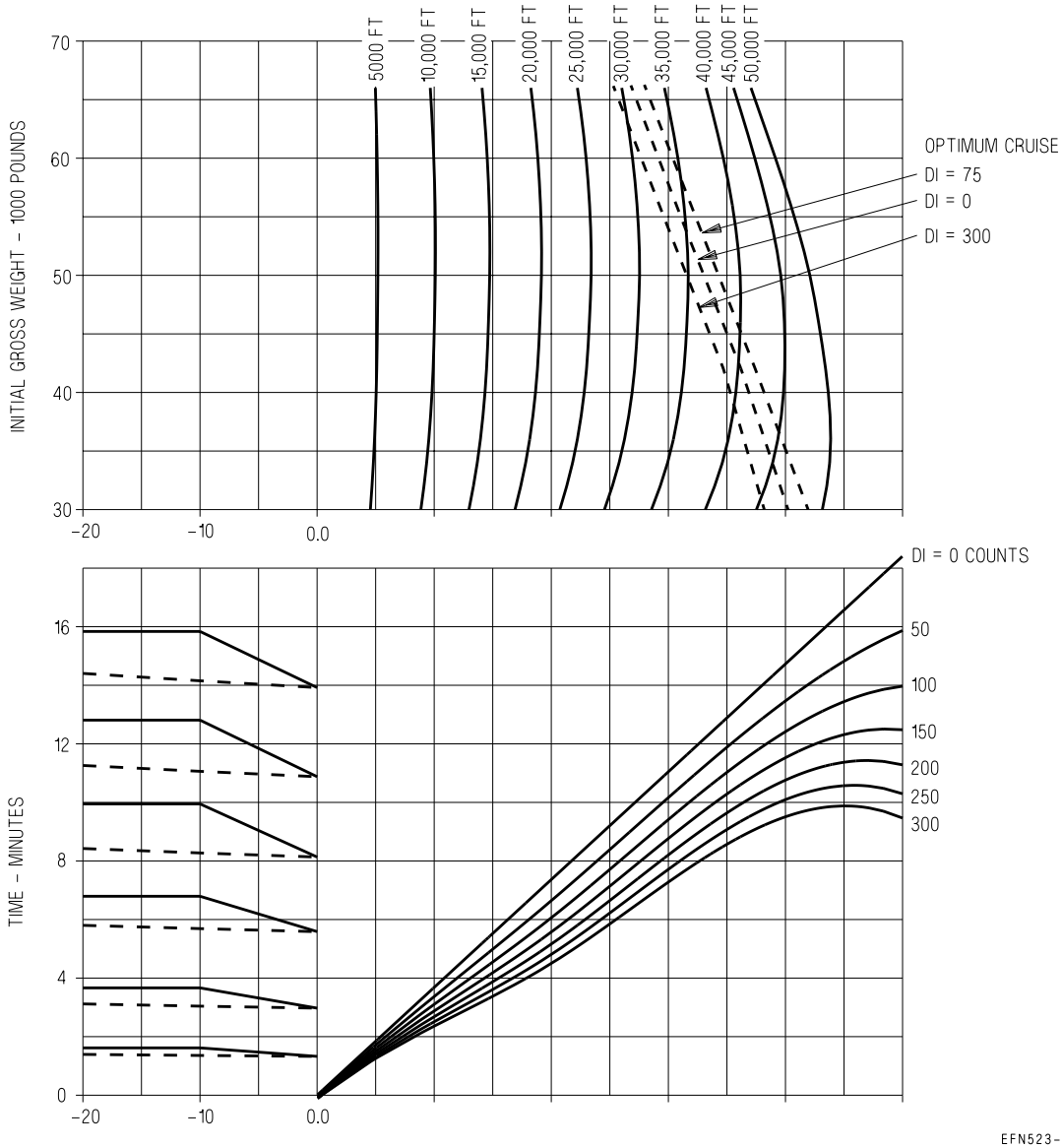
GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-325-1-004

Figure 8-1. Normal Descent (Sheet 2 of 4)

NORMAL DESCENT

F414-GE-400

FUEL REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

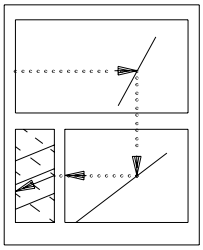
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

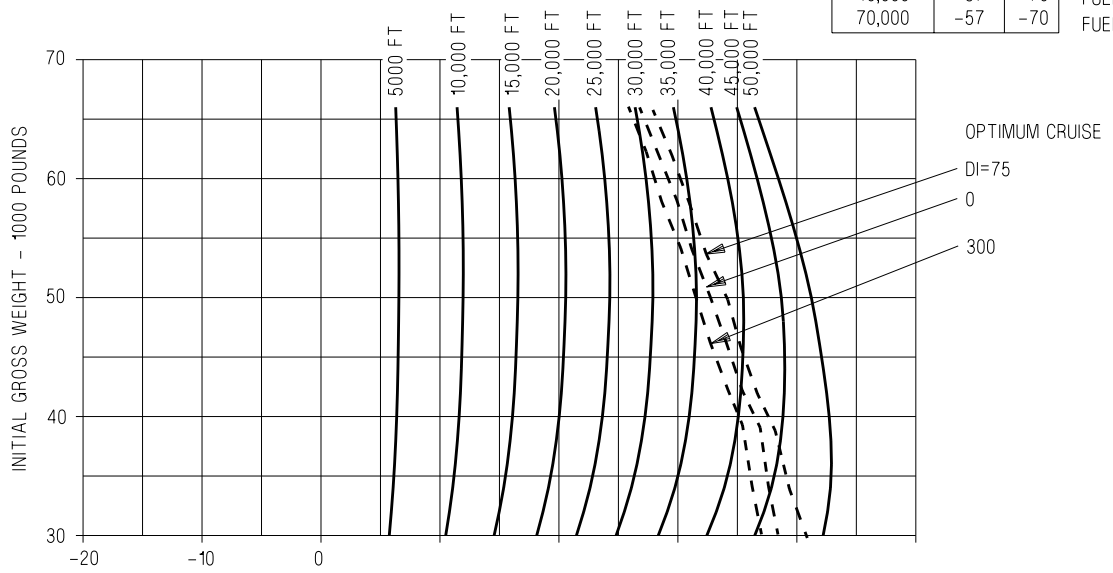
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

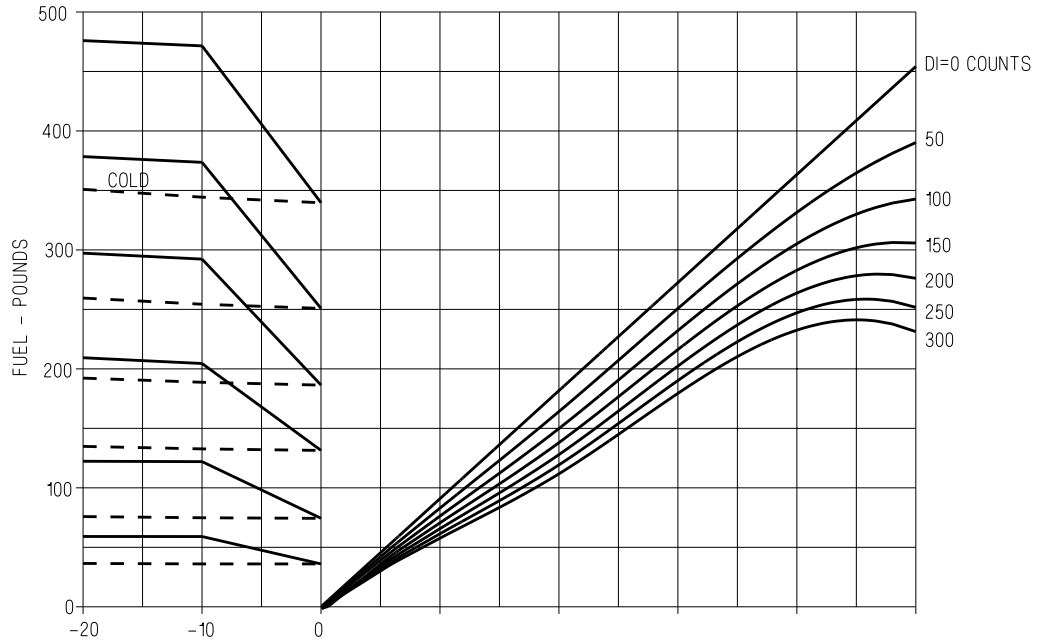
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-326-1-004

Figure 8-1. Normal Descent (Sheet 3 of 4)

NORMAL DESCENT

F414-GE-400

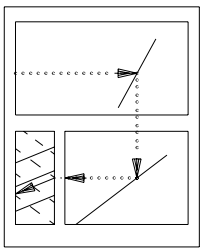
DISTANCE REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

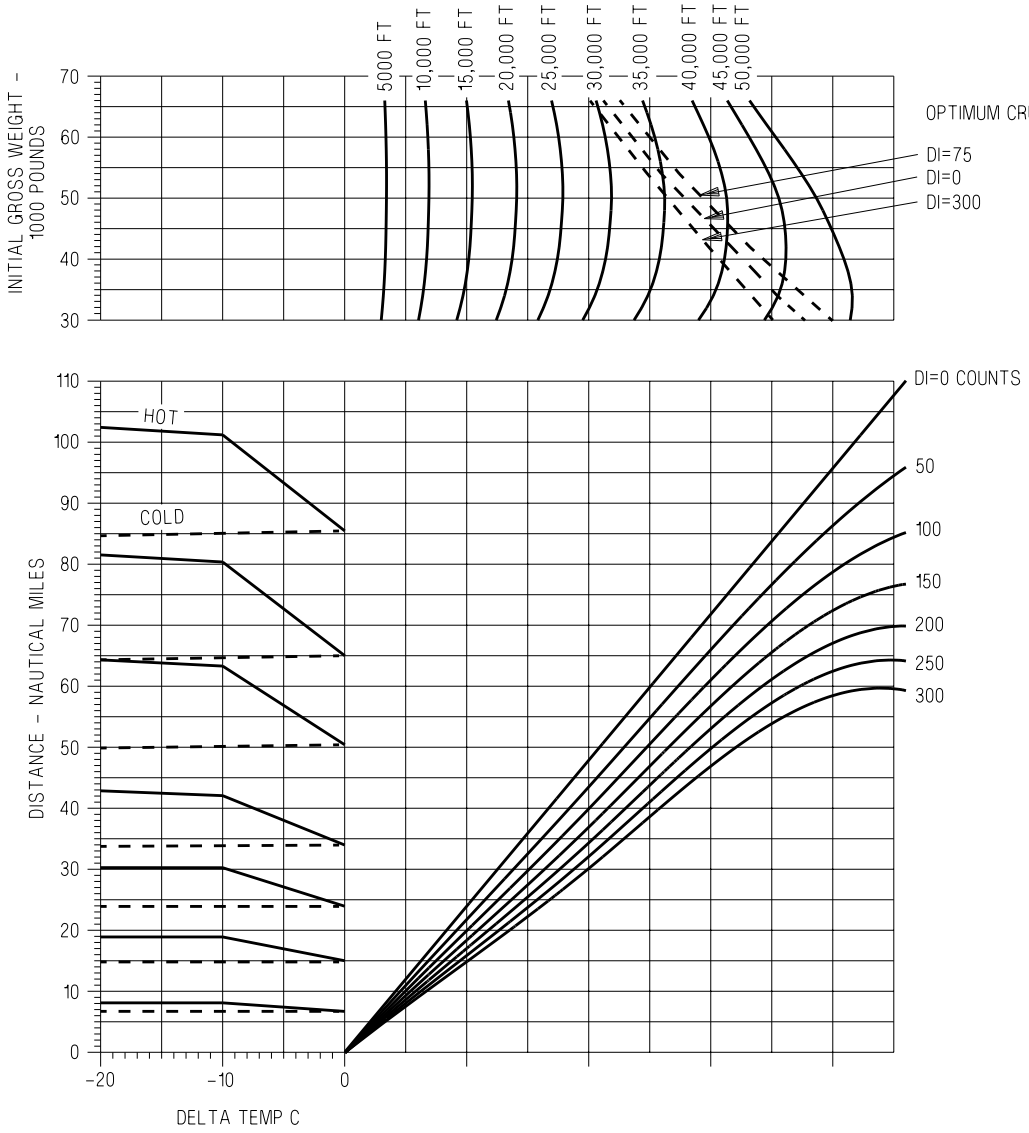
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-327-1-004

Figure 8-1. Normal Descent (Sheet 4 of 4)

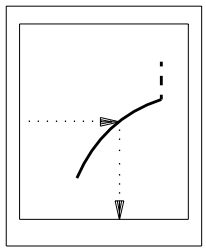
NORMAL DESCENT

F414-GE-400

DESCENT SPEED
SPEEDBRAKE RETRACTED
IDLE THRUST

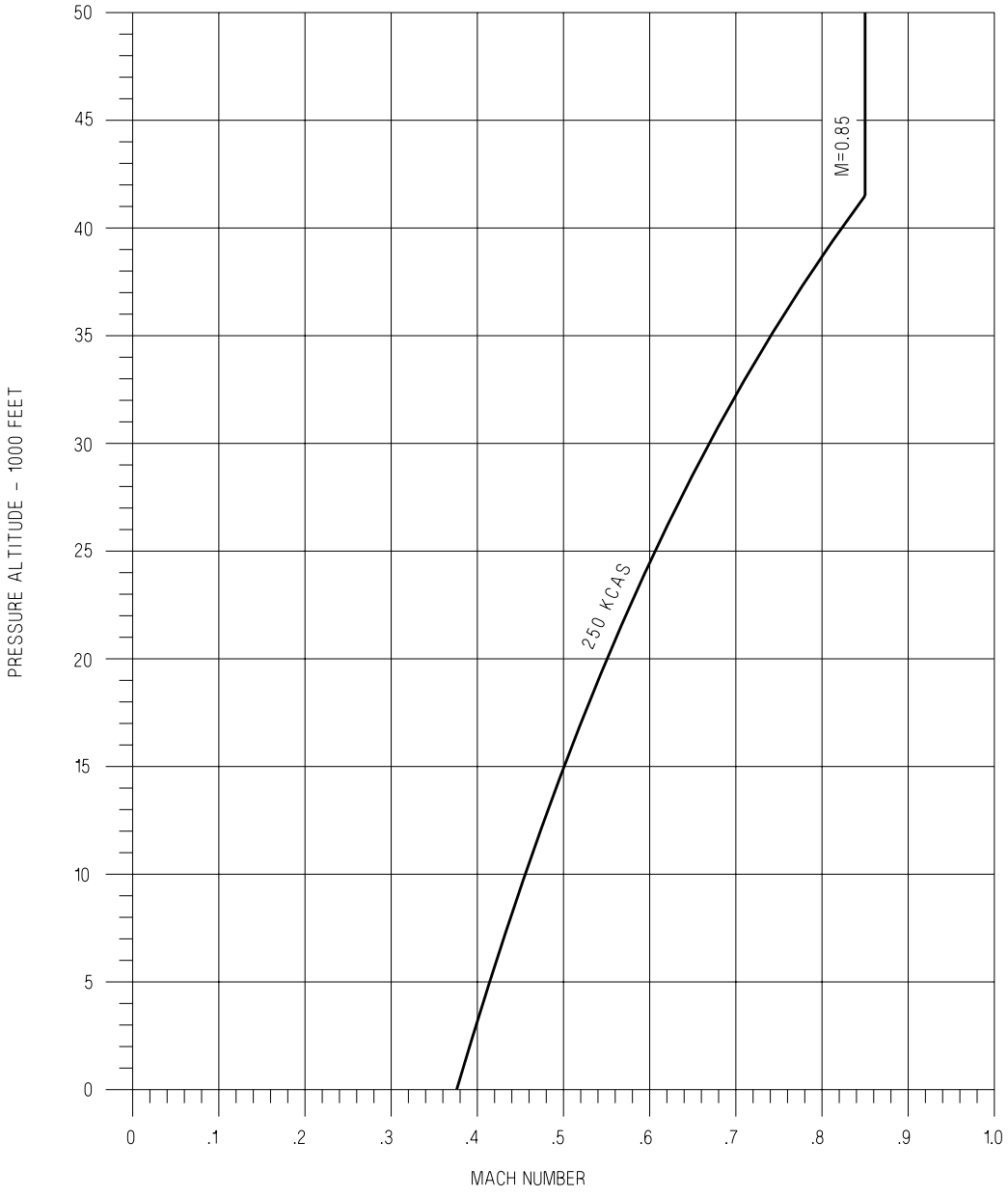
REMARKS
ENGINE: (1)F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATING ENGINE WINDMILLING

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-574-1-004

Figure 8-2. Single Engine Normal Descent (Sheet 1 of 4)

NORMAL DESCENT

F414-GE-400

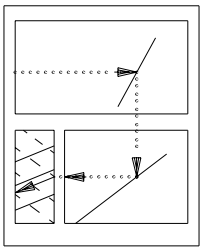
TIME REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING,
INOPERATIVE ENGINE WINDMILLING

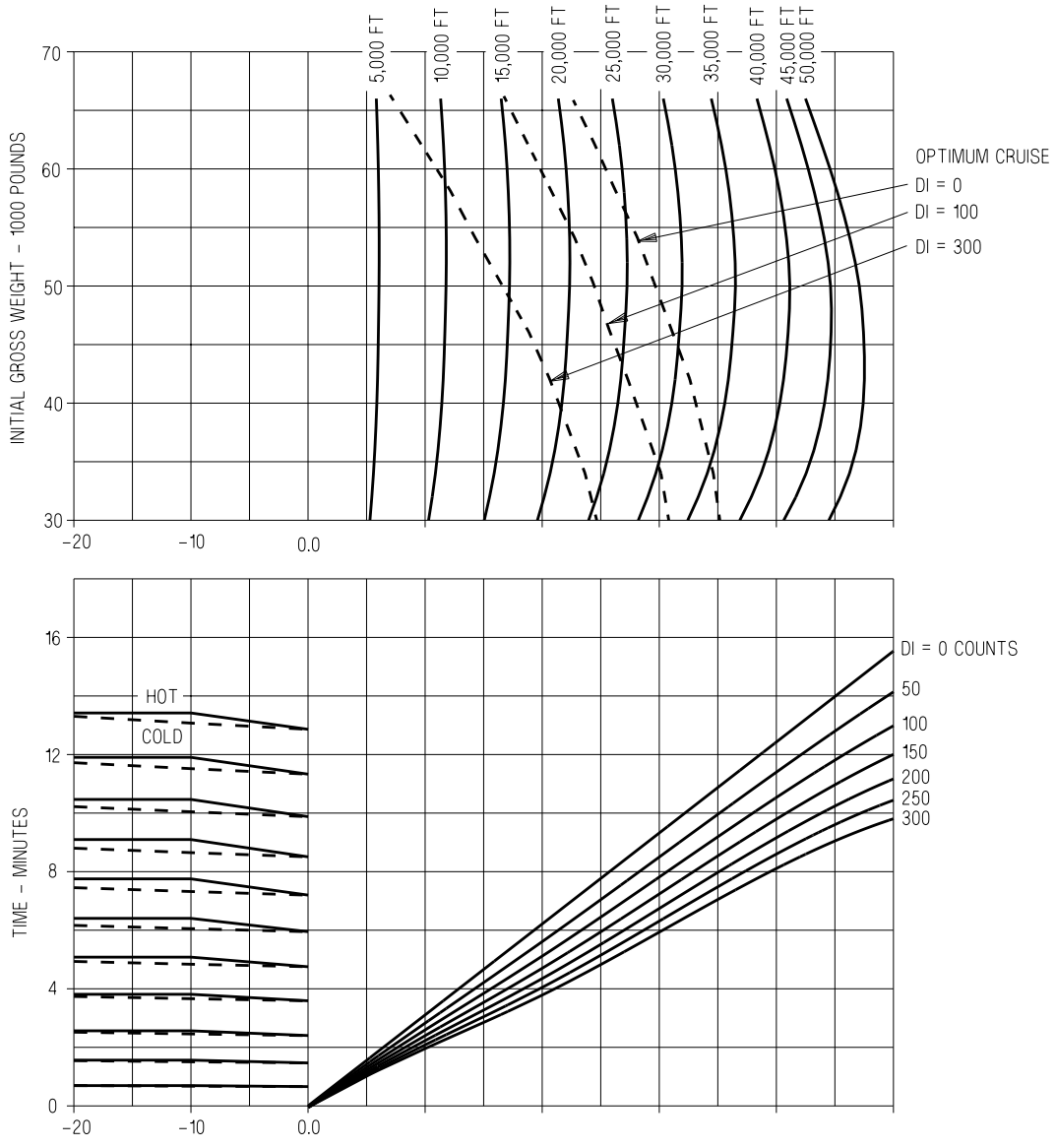
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-565-1-004

Figure 8-2. Single Engine Normal Descent (Sheet 2 of 4)

NORMAL DESCENT

F414-GE-400

FUEL REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

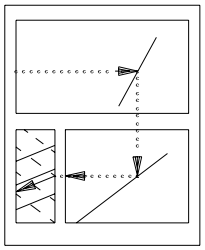
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

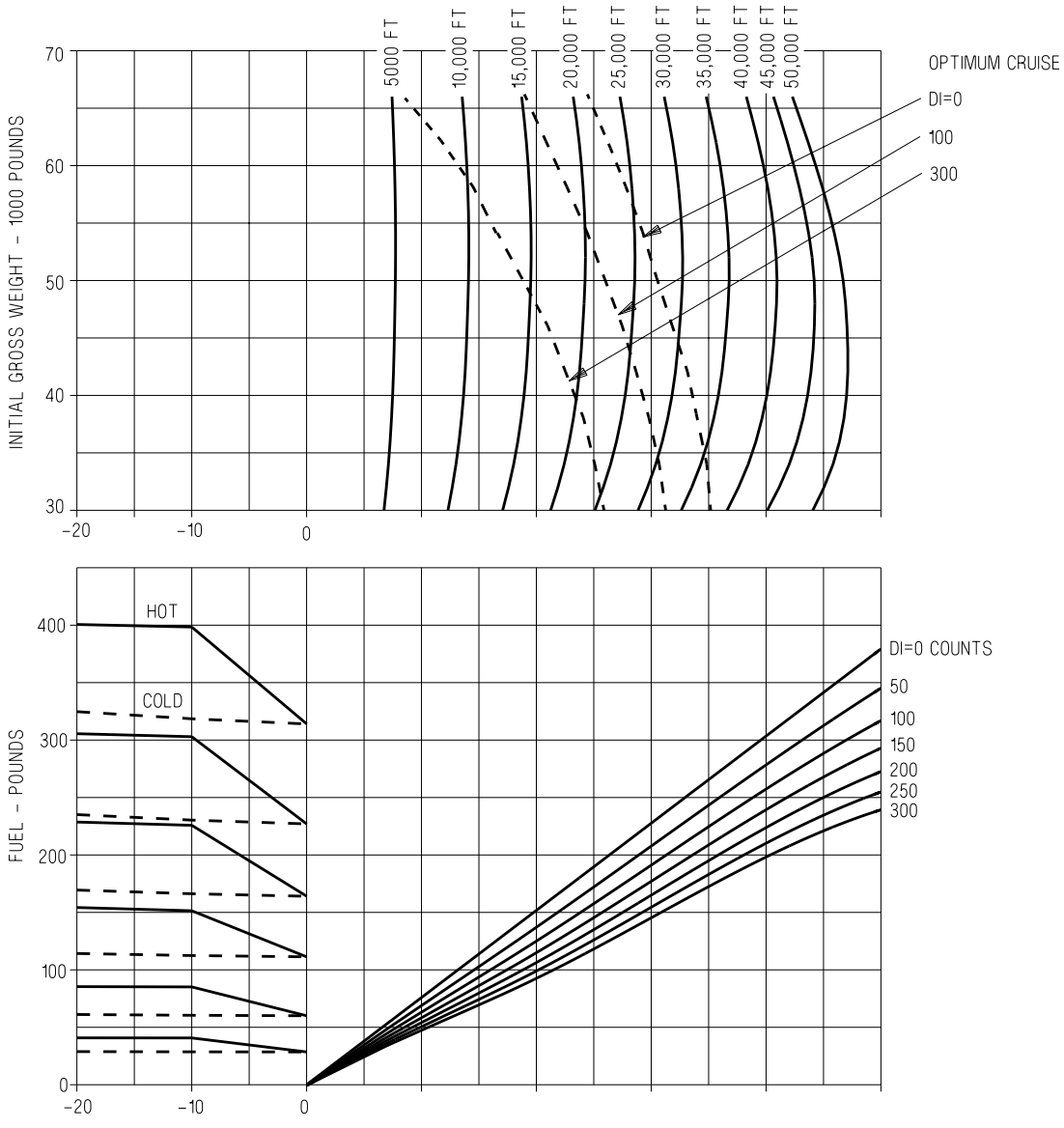
REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING,
INOPERATIVE ENGINE WINDMILLING

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-566-1-004

Figure 8-2. Single Engine Normal Descent (Sheet 3 of 4)

test

NORMAL DESCENT

F414-GE-400

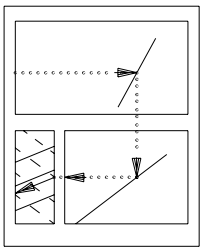
DISTANCE REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

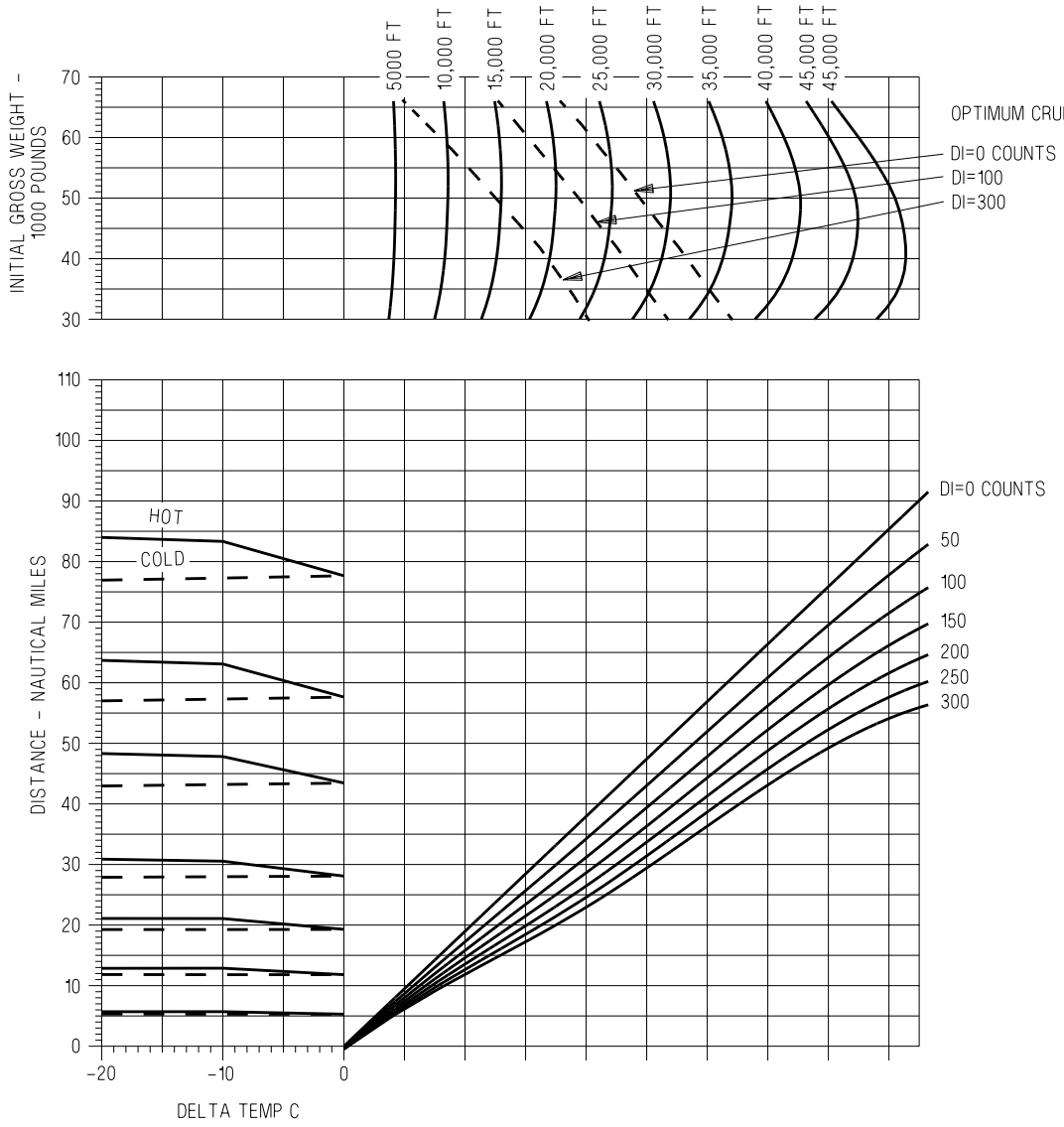
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-567-1-004

Figure 8-2. Single Engine Normal Descent (Sheet 4 of 4)

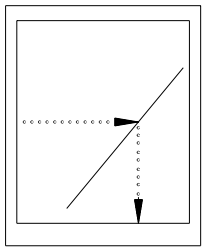
MAXIMUM RANGE DESCENT

F414-GE-400

DESCENT SPEED
SPEEDBAKE RETRACTED
IDLE THRUST

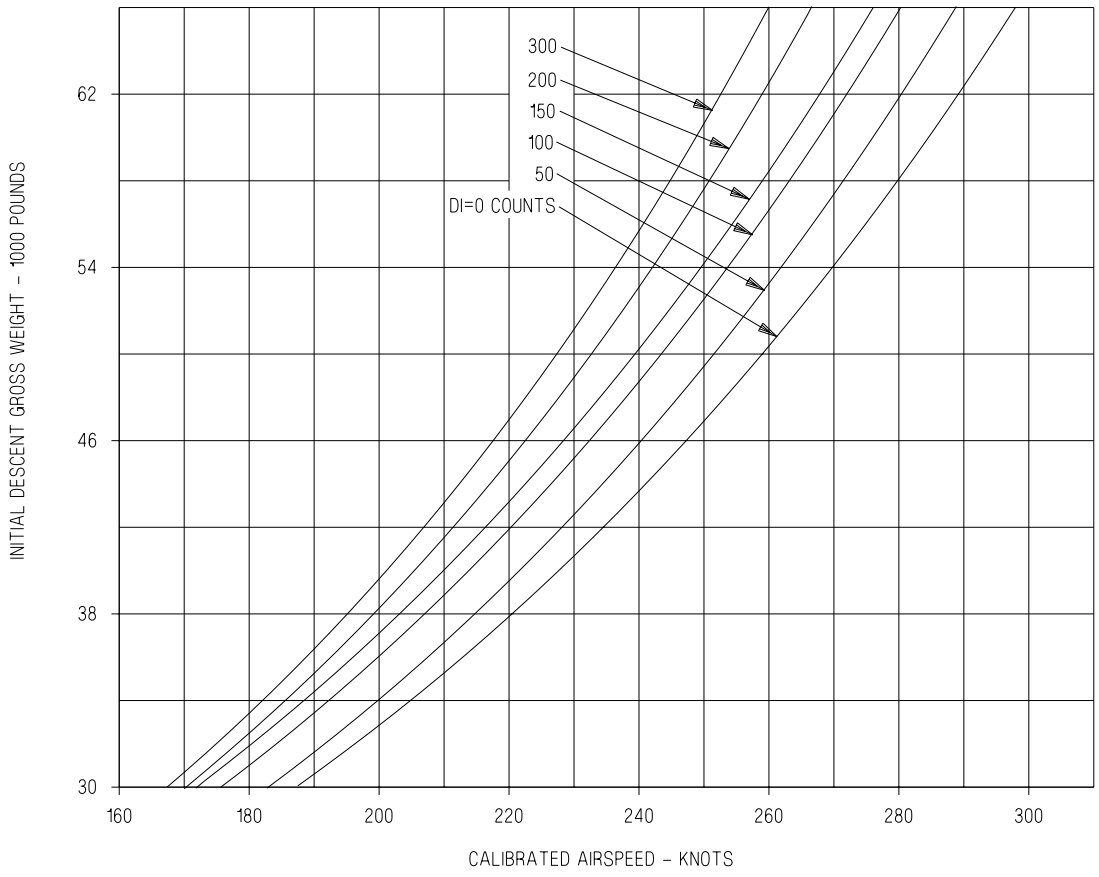
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-289-1-004

Figure 8-3. Maximum Range Descent (Sheet 1 of 4)

MAXIMUM RANGE DESCENT

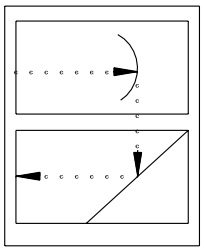
F414-GE-400

TIME REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

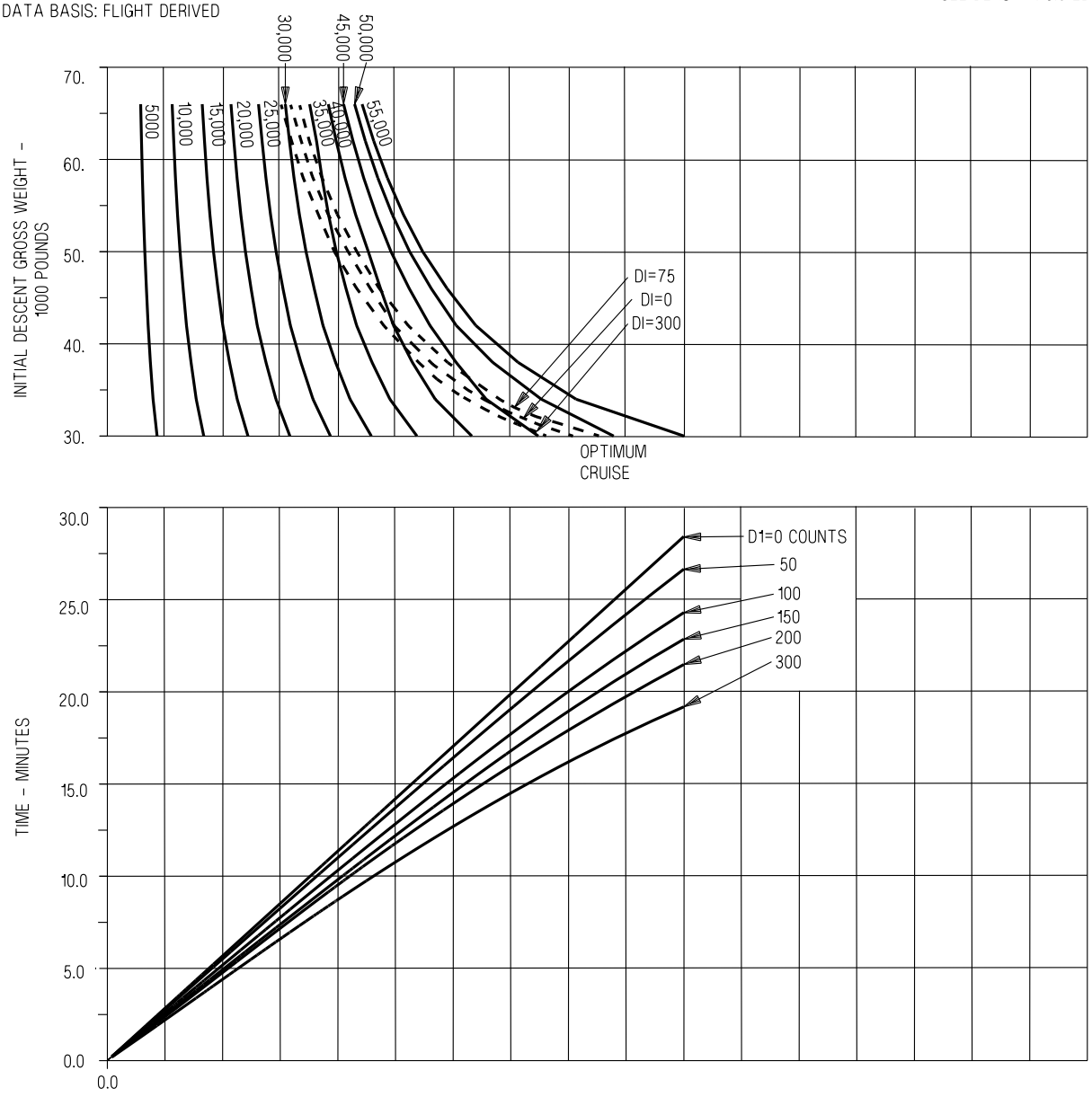
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-277-1-006

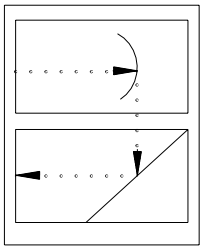
Figure 8-3. Maximum Range Descent (Sheet 2 of 4)

MAXIMUM RANGE DESCENT

F414-GE-400

FUEL REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

GUIDE

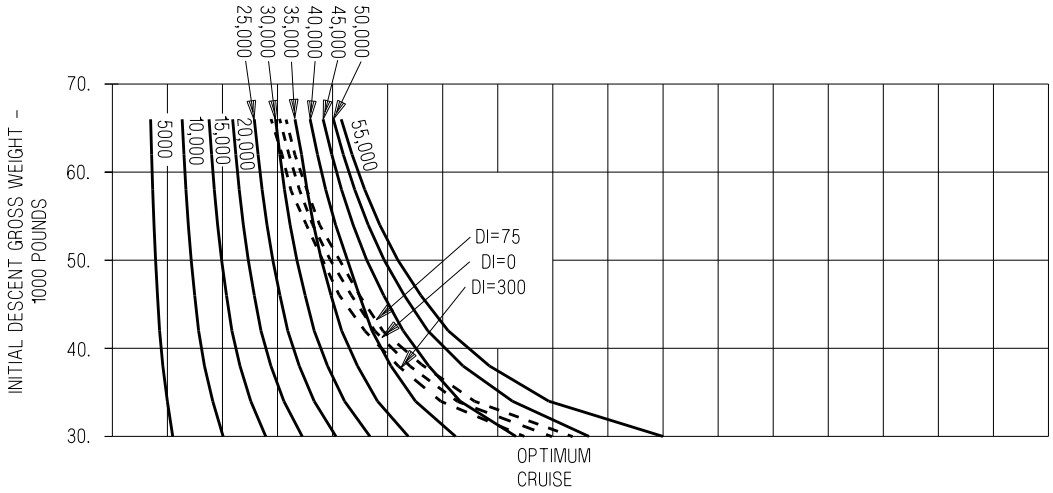


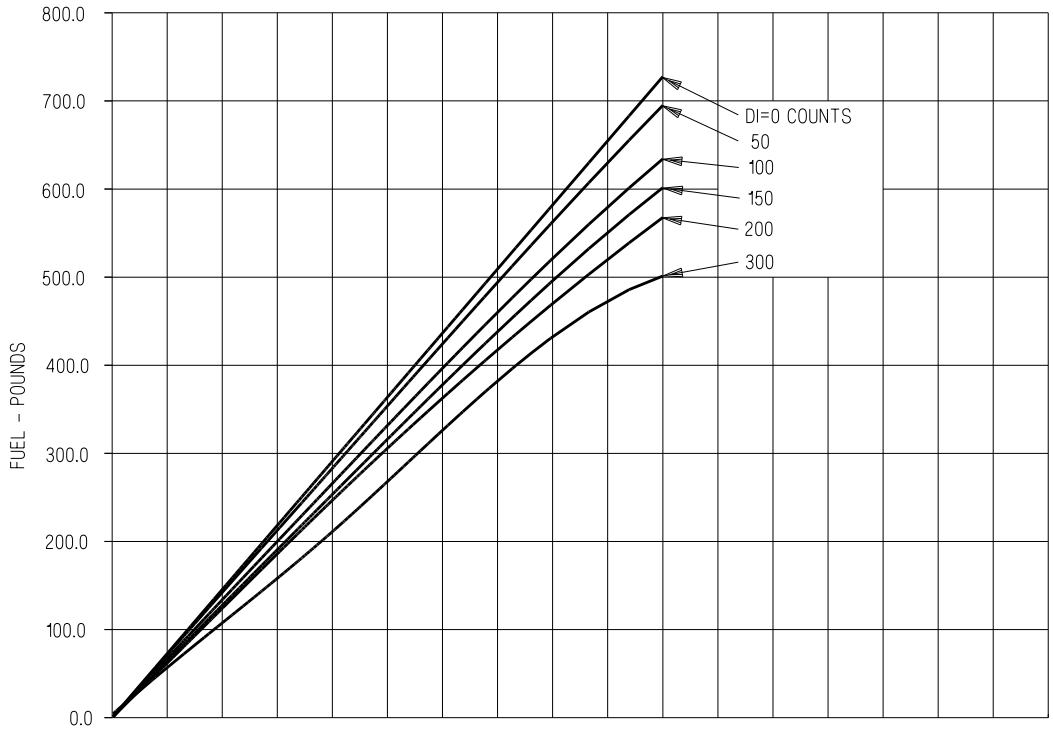
AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-278-1-004

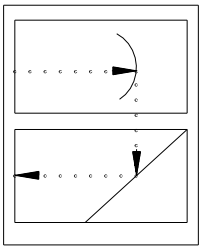
Figure 8-3. Maximum Range Descent (Sheet 3 of 4)

MAXIMUM RANGE DESCENT

F414-GE-400

DISTANCE REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

GUIDE

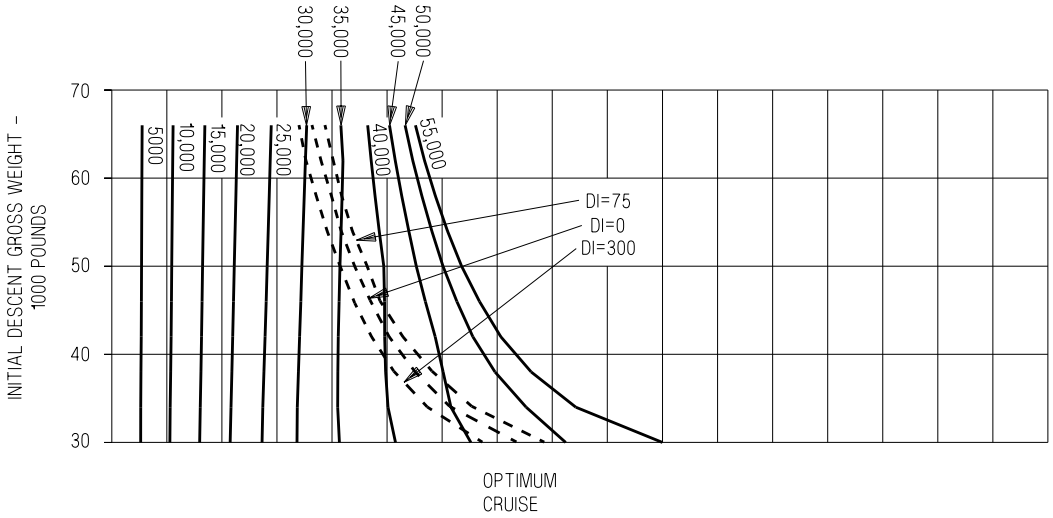


AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

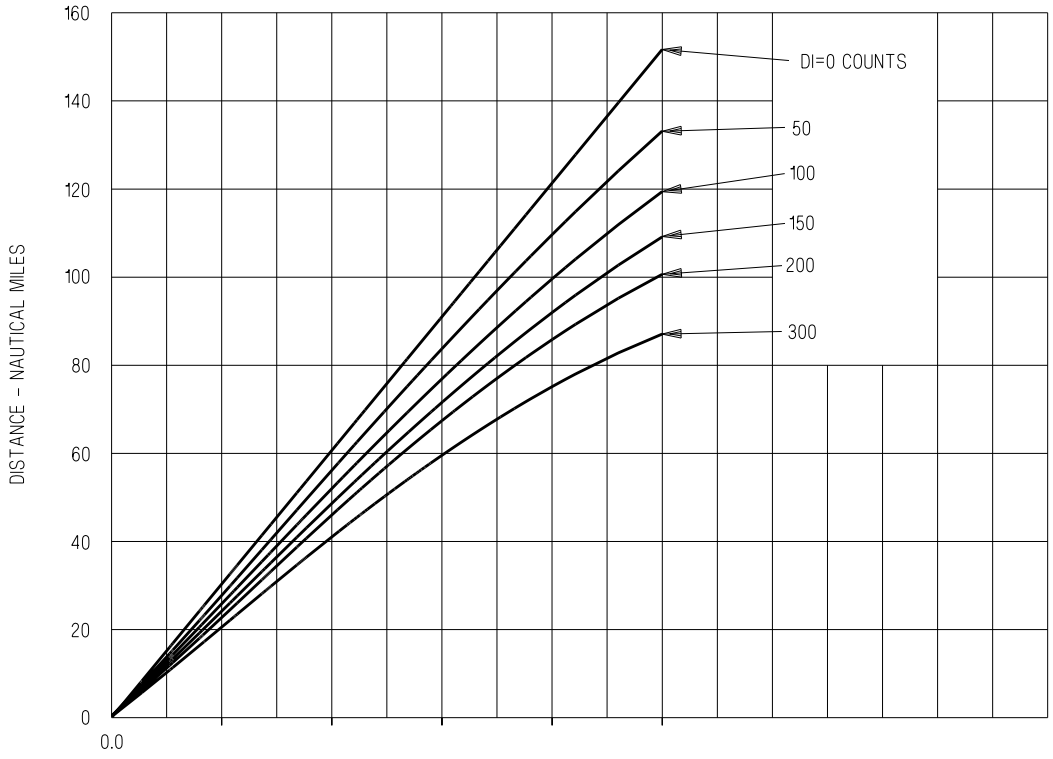
REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



OPTIMUM
CRUISE



EFN523-290-1-004

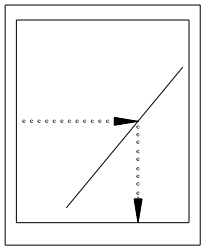
Figure 8-3. Maximum Range Descent (Sheet 4 of 4)

MAXIMUM RANGE DESCENT

F414-GE-400

DESCENT SPEED
SPEEDBAKE RETRACTED
IDLE THRUST

GUIDE

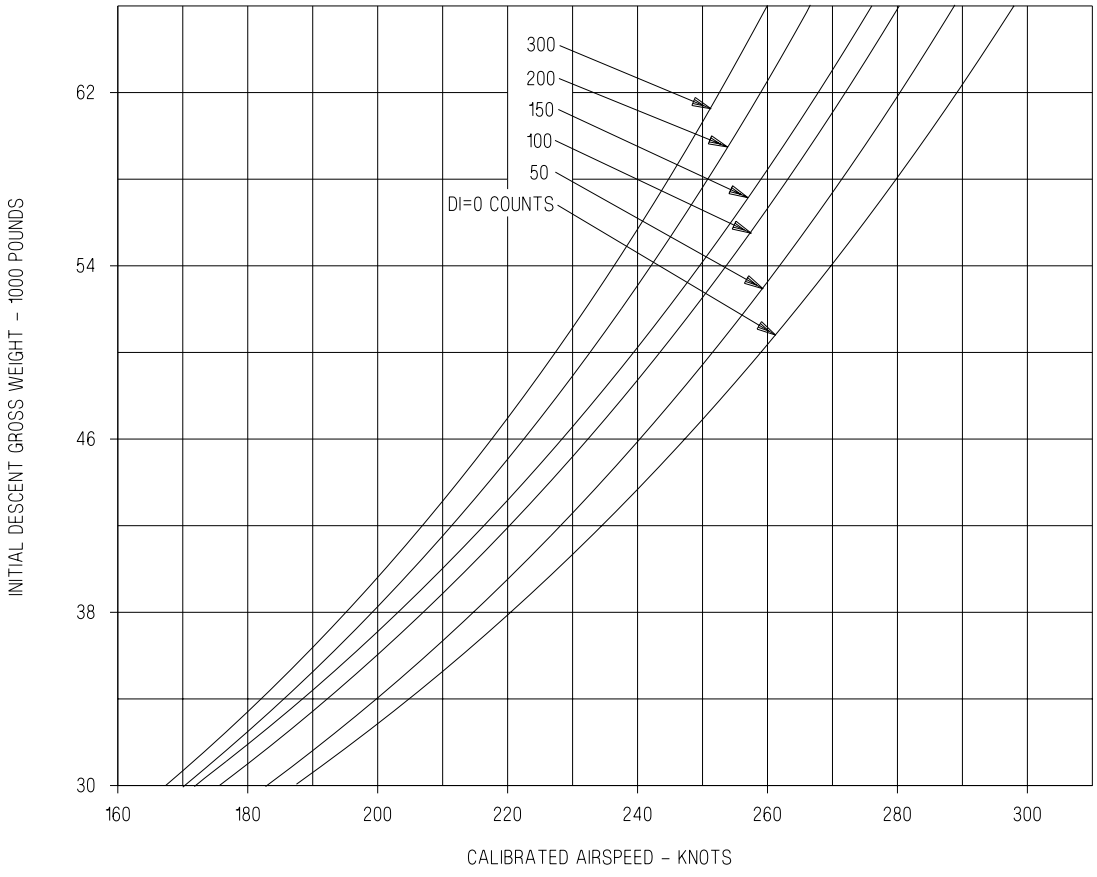


REMARKS

ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-572-1-004

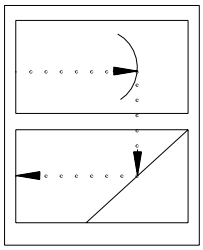
Figure 8-4. Single Engine Maximum Range Descent (Sheet 1 of 4)

MAXIMUM RANGE DESCENT

F414-GE-400

TIME REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

GUIDE

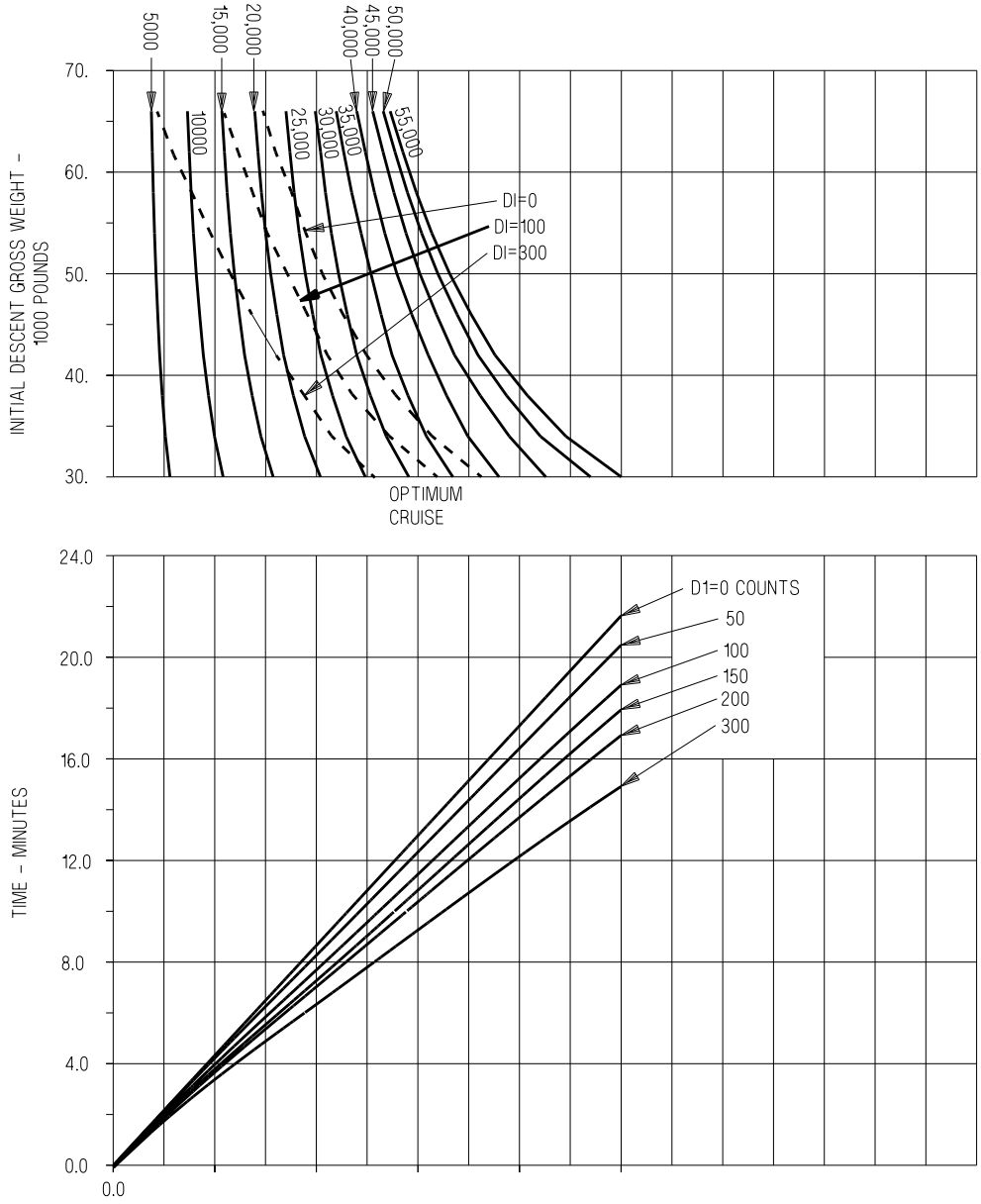


AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-560-1-004

Figure 8-4. Single Engine Maximum Range Descent (Sheet 2 of 4)

MAXIMUM RANGE DESCENT

F414-GE-400

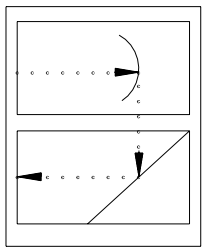
FUEL REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

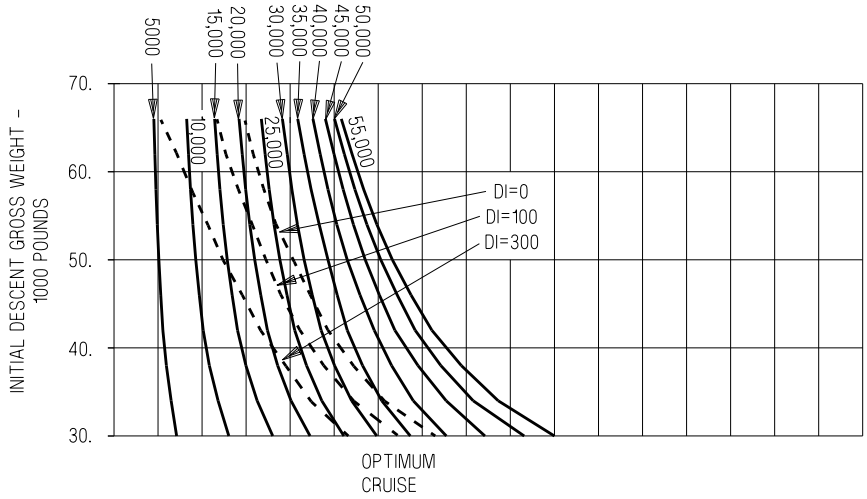
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

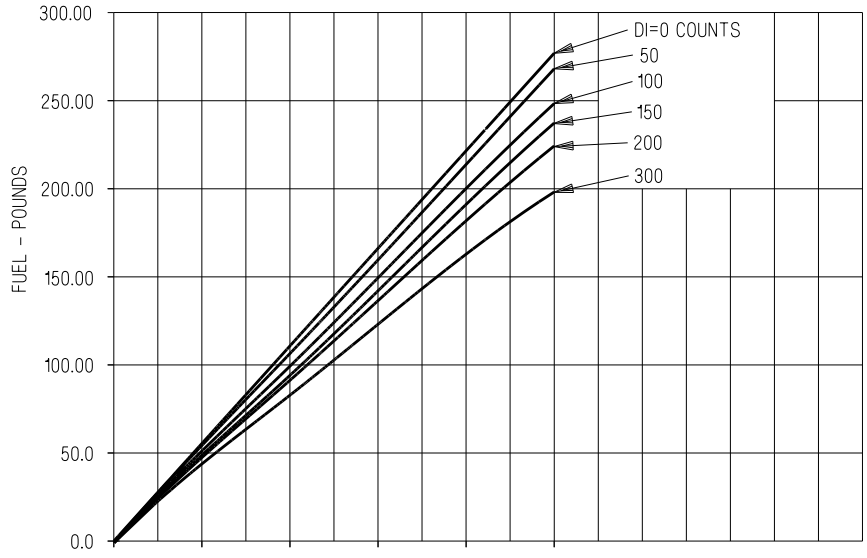
REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-561-1-004

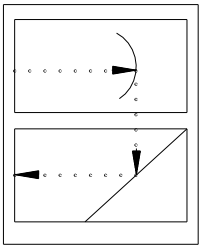
Figure 8-4. Single Engine Maximum Range Descent (Sheet 3 of 4)

MAXIMUM RANGE DESCENT

F414-GE-400

DISTANCE REQUIRED TO DESCEND
SPEEDBRAKE RETRACTED
IDLE THRUST

GUIDE

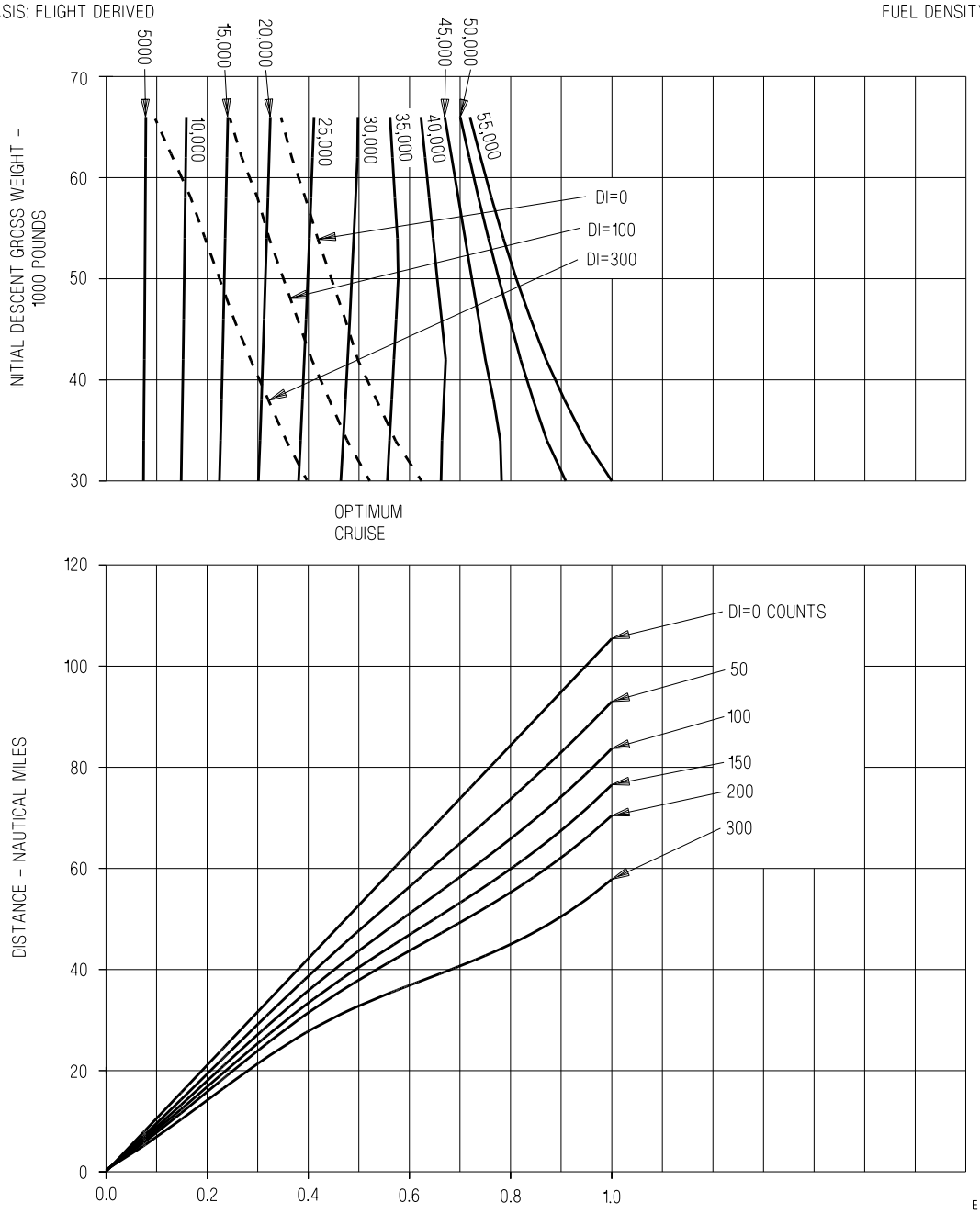


AIRCRAFT CONFIGURATION
VARIOUS DRAG INDEXES

REMARKS
ENGINE: (1) F414-GE-400
U.S. STANDARD DAY, 1962
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-562-1-004

Figure 8-4. Single Engine Maximum Range Descent (Sheet 4 of 4)

CHAPTER 9

Landing
F414-GE-400

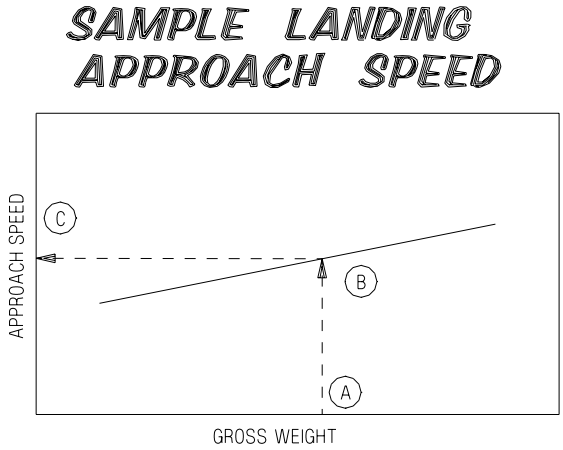
9.1 LANDING APPROACH SPEED CHART

The landing approach speed chart (figure 9-1) provides recommended approach speeds for various gross weights and landing configurations. In addition to providing two curves for normal landing configurations (full and half flaps at 8.1° AOA), the chart provides two curves for landing configurations with failed control.

9.1.1 Use. Enter the chart at the estimated landing gross weight and project vertically up to the appropriate flap deflection curve. From this point, project horizontally left to read recommended approach speed.

9.1.2 Sample Problem. Configuration - Full flaps, 8.1° AOA.

A. Estimated landing gross weight	42,900 Lb.
B. Full flaps, AOA curve	8.1°
C. Recommended approach speed	136 KCAS



EFN523-364-1-003

9.2 LANDING DISTANCE CHART

This chart (figure 9-2) provides landing ground roll distance information for dry hard runway conditions as well as wet runway conditions. The data presented reflect normal landing using full anti-skid braking. Variations in ambient temperature, pressure altitude, aircraft gross weight and effective wind parallel to runway centerline are taken into consideration.

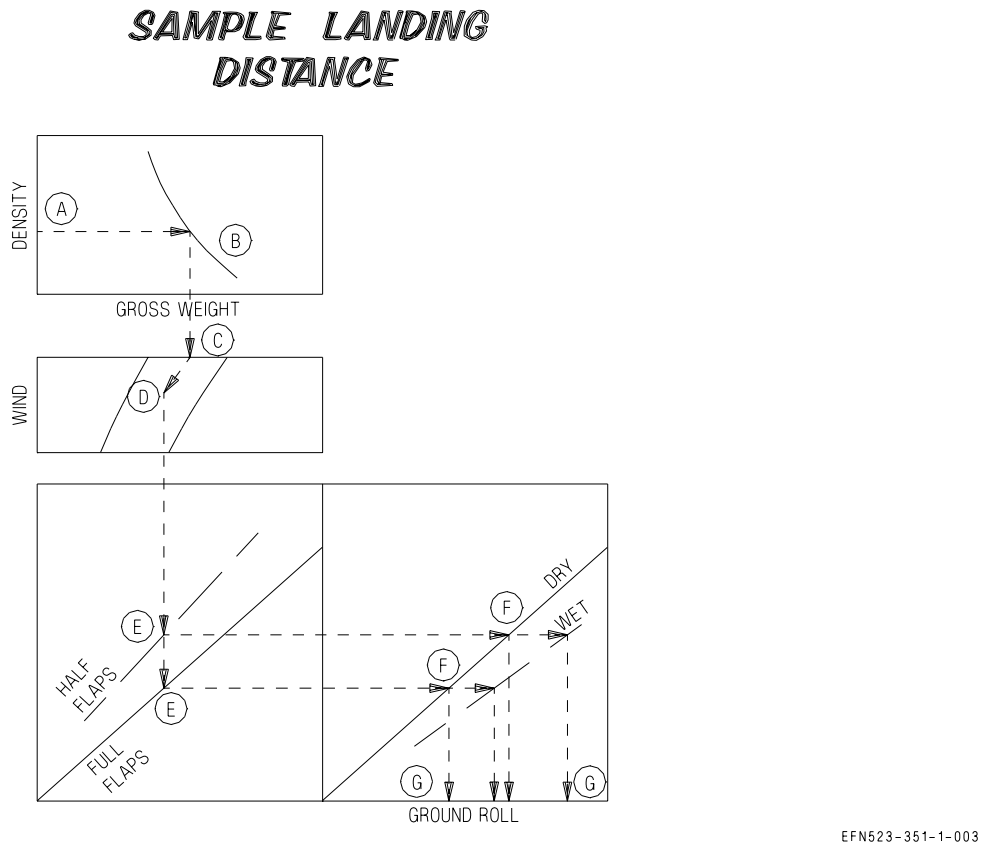
9.2.1 Use. Enter the chart with the prevailing density ratio and project horizontally right to intersect the appropriate gross weight curve. From this point, project vertically down to the zero wind baseline. Parallel the nearest guideline down to the effective headwind or tailwind. From this point project

vertically down to read flap setting (half or full). Then project horizontally to the appropriate runway condition (dry or wet). Finally, project vertically down to obtain the landing ground roll distance. For half flap landings at gross weights between 38,000 lb and 46,000 lb, linear interpolation of the distances determined by the GW≤38,000 lb and GW ≥46,000 lb curves must be used.

Increase landing ground rolls by 1.7 % for each knot that the approach speed exceeds that shown (25 % CG, no stores) on the landing approach speed chart (figure 9-1). To determine total distance required from a height of 50 feet, add 720 feet for a -4° glide slope with no flare, add 820 ft for a -3.5° glide slope with no flare, or add 1400 feet with flare.

9.2.2 Sample Problem.

A. Density ratio			0.90	
B. Gross weight			46,000 Lb.	
C. Wind baseline				
D. Effective headwind			10 Kt.	
E. Flaps	Half		Full	
F. Runway condition	Dry	Wet	Dry	Wet
G. Landing distance (Ft.)	4900	8400	3400	5800
H. Total Distance to clear 50 Ft. Obstacle (no flare, –4° glide slope) (G + 720)	5720	9220	4120	6520



9.3 MAXIMUM SINGLE ENGINE RECOVERY WEIGHT CHARTS

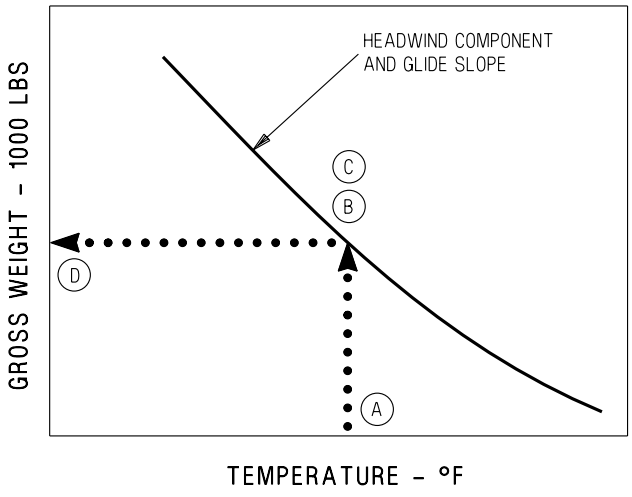
These charts (figure 9-3 for Military Thrust and figure 9-4 for Maximum Thrust) show the maximum single engine recovery weight. The recovery weight is based on thrust setting, temperature, optical glide slope, and headwind component.

9.3.1 Use. Enter the appropriate chart (Military Thrust or Maximum Thrust) with the current temperature and project vertically up to intersect the appropriate curve based on optical glide slope (-3.5° or -4°) being used, and headwind component (15 or 30 knots). From this point, project horizontally left to find maximum recovery gross weight.

9.3.2 Sample Problem.

Thrust setting	MIL
A. Temperature	84°F
B. Headwind Component	15 Knot
C. Optical glide slope	-3.5°
D. Maximum recovery weight	33,800 Lb.

SAMPLE MAXIMUM SINGLE ENGINE RECOVERY WEIGHT



EFN523-581-1-007

LANDING APPROACH SPEED

F414-GE-400

AIRCRAFT CONFIGURATION
FIGHTER ESCORT
FLAPS AS NOTED
GEAR DOWN

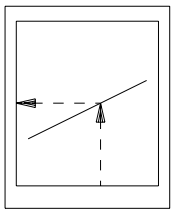
DATE: FEBRUARY 2002
DATA BASIS: FLIGHT DERIVED

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

N O T E

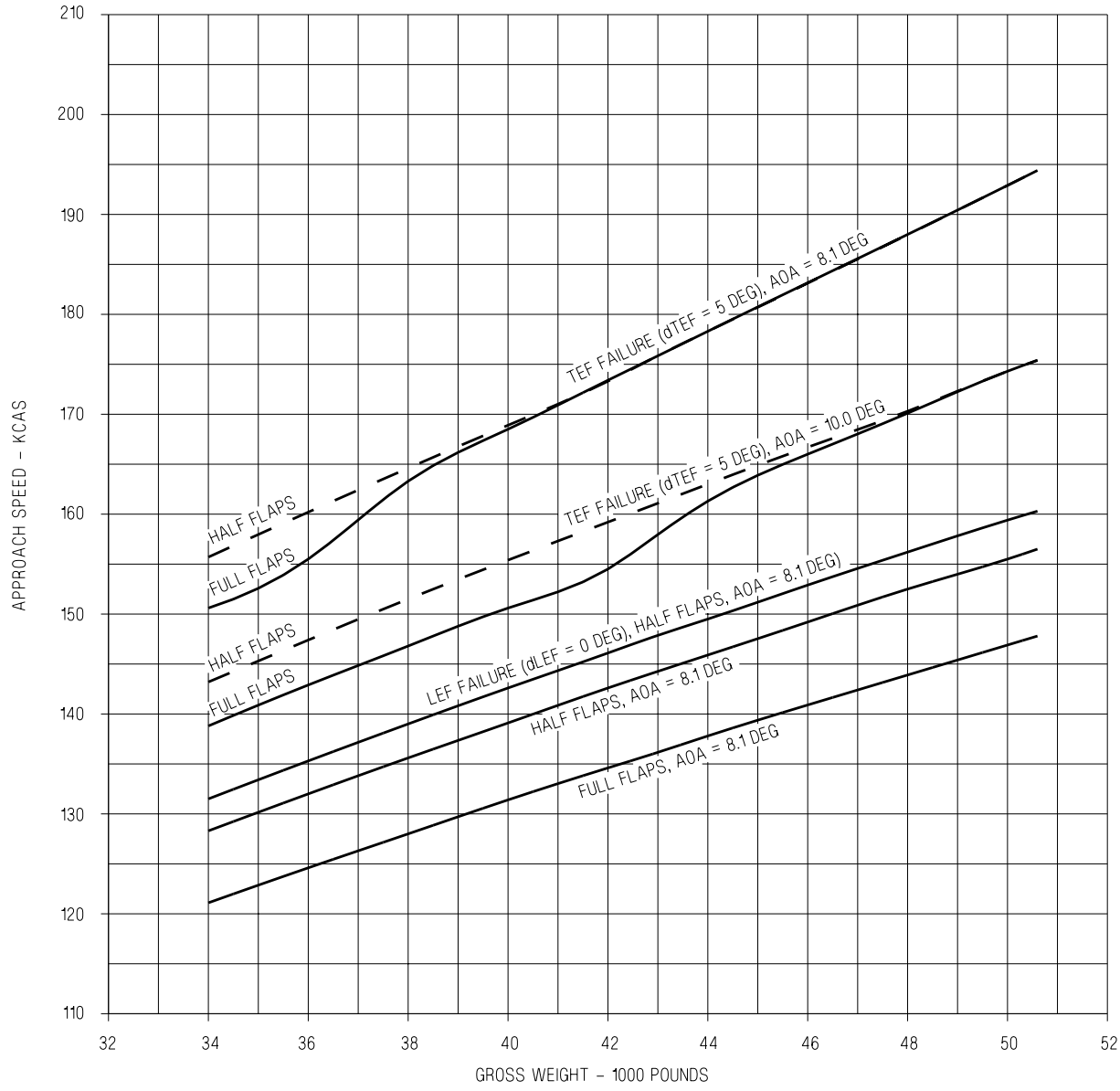
CG AT 25% MAC. APPROACH SPEED INCREASES 2 KNOTS FOR EACH 3% THE C.G. IS FORWARD OF 25% MAC AND DECREASES 2 KNOTS FOR EACH 3% THE C.G. IS AFT OF 25% MAC. INCREASE APPROACH SPEED BY 4 KNOTS IF EXTERNAL STORES ARE ON. INCREASE APPROACH SPEED BY 1 KNOT IF WINGTIP AIM-9'S ARE OFF. INCREASE APPROACH SPEED BY 1 KNOT IF FOR TWO-PLACE CANOPY.

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

MAIN GEAR TIRE LIMITATION 210 KNOTS GROUNDSPEED
NOSE GEAR TIRE LIMITATION 195 KNOTS GROUNDSPEED



EFN523-374-1-004

Figure 9-1. Landing Approach Speed

LANDING DISTANCE

F414-GE-400

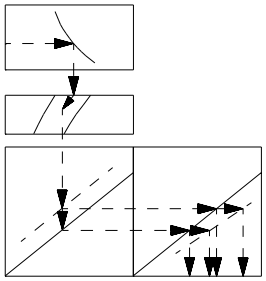
IDLE THRUST

AIRCRAFT CONFIGURATION:
FULL FLAPS
GEAR DOWN

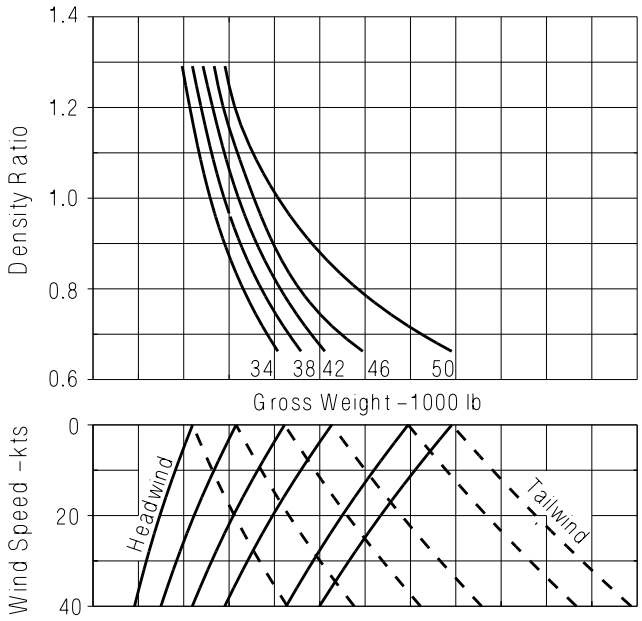
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

DATE: FEBRUARY 2002
DATA BASIS: FLIGHT DERIVED

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

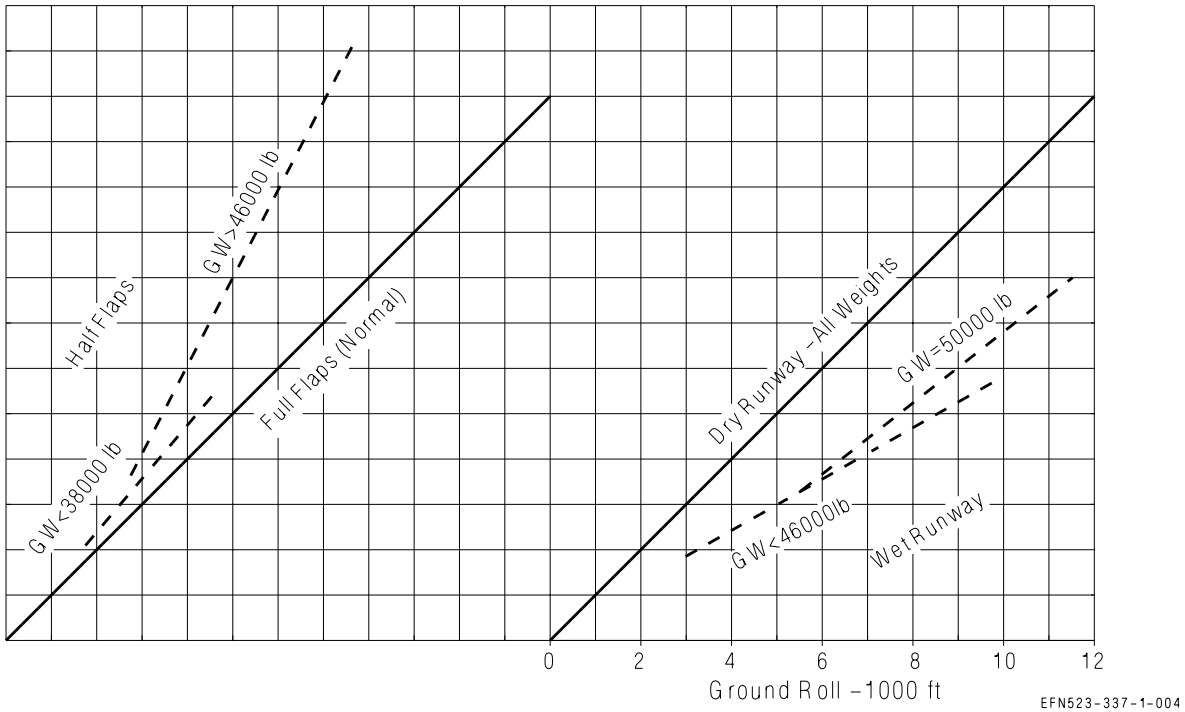


NOTES

LANDING GEAR ROLLS SHOWN CORRESPOND TO APPROACH SPEEDS FOR FULL FLAPS AND 8.1 DEG AOA AS SHOWN ON THE LANDING APPROACH SPEED CHART. INCREASE LANDING GROUND ROLLS BY 1.7% FOR EACH KNOT THAT THE APPROACH SPEED EXCEEDS THAT SHOWN (25% CG, NO STORES) ON THE LANDING APPROACH SPEED CHART.

FOR TOTAL LANDING DISTANCE OVER A 50 FOOT OBSTACLE ADD THE FOLLOWING DISTANCE TO GROUND ROLL:

-NO FLARE, -4 DEG GLIDESLOPE:	ADD 720 FT
-NO FLARE, -3.5 DEG GLIDESCOPE:	ADD 820 FT
-WITH FLARE:	ADD 1400 FT



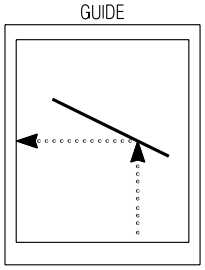
EFN523-337-1-004

Figure 9-2. Landing Distance

MAXIMUM SINGLE ENGINE RECOVERY WEIGHT

MILITARY THRUST

GUIDE



REMARKS

AIRCRAFT CONFIGURATION
HALF FLAPS
GEAR DOWN

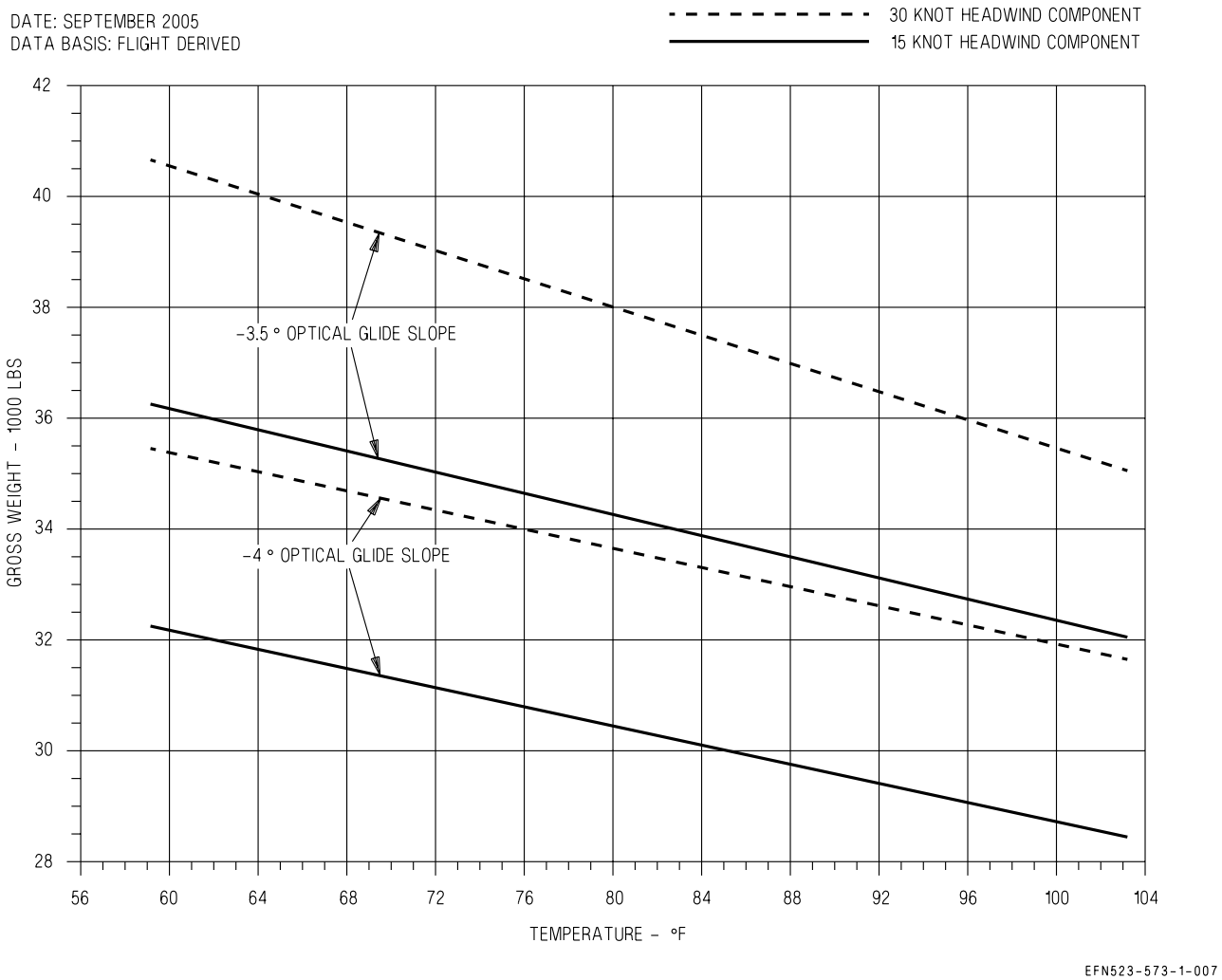
ENGINE:(1) F414-GE-400
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

NOTES

- C.G. AT 25% MAC.
- INCREASE MAX WEIGHT BY 175 LBS FOR EACH 1% THE C.G. IS AFT OF 25% MAC.
- DECREASE MAX WEIGHT BY 175 LBS FOR EACH 1% THE C.G. IS FWD OF 25% MAC.
- GREATER WOD PROVIDES IMPROVED WAVEOFF PERFORMANCE.
- ADJUSTING GROSS WEIGHT AT OR BELOW THE RECOMMENDED WEIGHT ENSURES LESS THAN 50 FEET ALTITUDE LOST DURING AN ON-SPEED AOA SINGLE ENGINE MILITARY POWER WAVEOFF FROM AN ON-SPEED AOA/ON GLIDE SLOPE CONDITION. MAXIMUM ALTITUDE LOST FOR TWO ENGINE OPERATION UNDER IDENTICAL CONDITIONS IS LESS THAN 35 FEET.

DATE: SEPTEMBER 2005
DATA BASIS: FLIGHT DERIVED



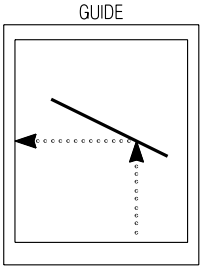
EFN523-573-1-007

Figure 9-3. Maximum Single Engine Recovery Weight - Military Thrust

MAXIMUM SINGLE ENGINE RECOVERY WEIGHT

MAXIMUM THRUST

GUIDE



REMARKS

AIRCRAFT CONFIGURATION
HALF FLAPS
GEAR DOWN

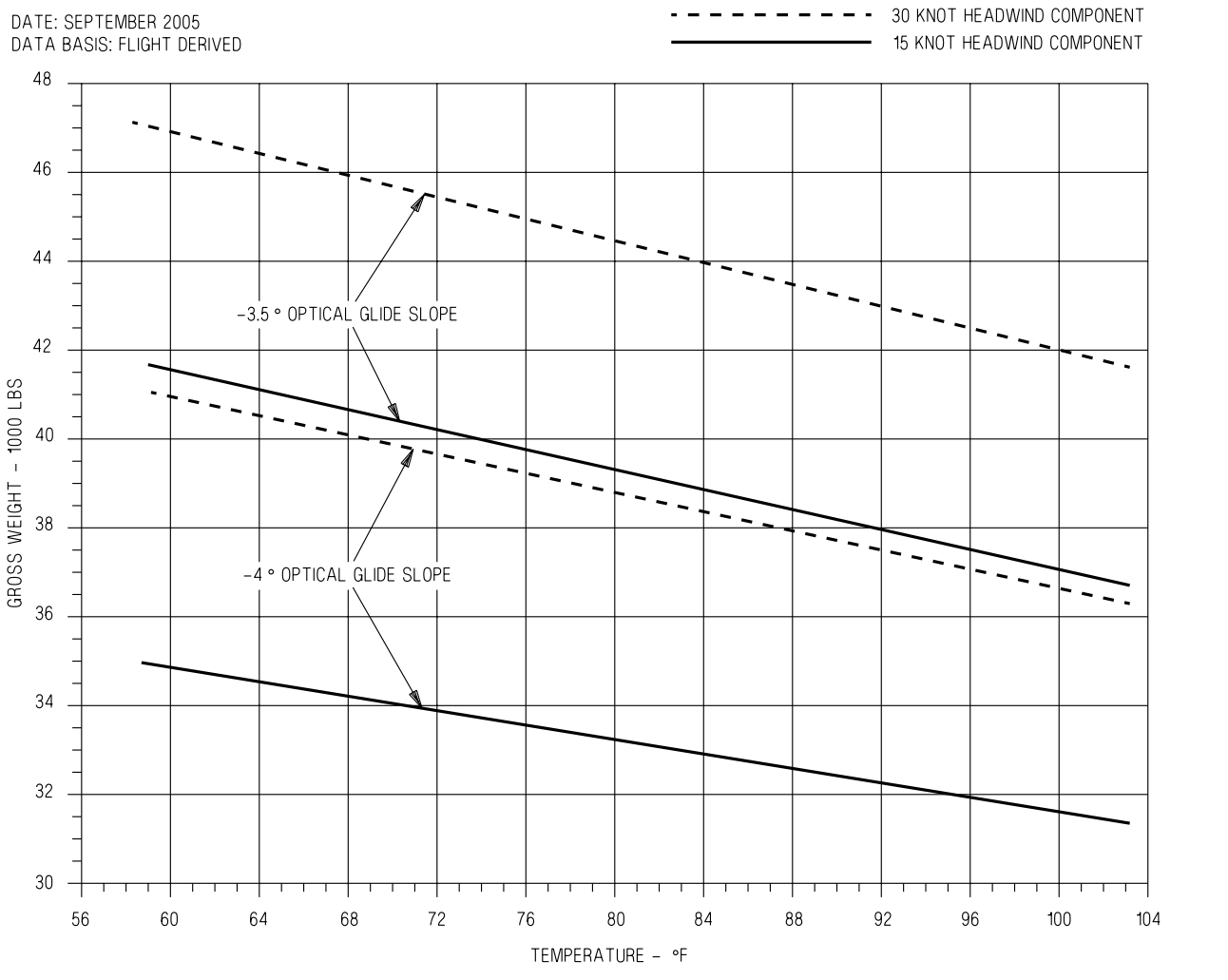
ENGINE:(1) F414-GE-400
ONE ENGINE OPERATING
INOPERATIVE ENGINE WINDMILLING

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

NOTES

- C.G. AT 25% MAC.
- INCREASE MAX WEIGHT BY 222 LBS FOR EACH 1% THE C.G. IS AFT OF 25% MAC.
- DECREASE MAX WEIGHT BY 222 LBS FOR EACH 1% THE C.G. IS FWD OF 25% MAC.
- GREATER WOD PROVIDES IMPROVED WAVEOFF PERFORMANCE.
- ADJUSTING GROSS WEIGHT AT OR BELOW THE RECOMMENDED WEIGHT ENSURES LESS THAN 50 FEET ALTITUDE LOST DURING AN ON-SPEED AOA SINGLE ENGINE MAXIMUM POWER WAVEOFF FROM AN ON-SPEED AOA/ON GLIDE SLOPE CONDITION. MAXIMUM ALTITUDE LOST FOR TWO ENGINE OPERATION UNDER IDENTICAL CONDITIONS IS LESS THAN 40 FEET.

DATE: SEPTEMBER 2005
DATA BASIS: FLIGHT DERIVED



EFN523-573-2-007

Figure 9-4. Maximum Single Engine Recovery Weight - Maximum Thrust

CHAPTER 10

Mission Planning F414-GE-400

10.1 TURN CAPABILITIES CHART

This chart (figure 10-1) presents the radius of turn and the rate of turn for a constant altitude, constant speed turn. Turn data is available for various speeds and bank angles. Load factor is also included for each bank angle.

10.1.1 Use. Enter the radius of turn plot with the true airspeed. Project horizontally right to the desired bank angle. Note the load factor, then project vertically down and read the radius of turn. Enter the rate of turn plot with the true airspeed. Project horizontally right to the bank angle, note the load factor and then project down to read the rate of turn.

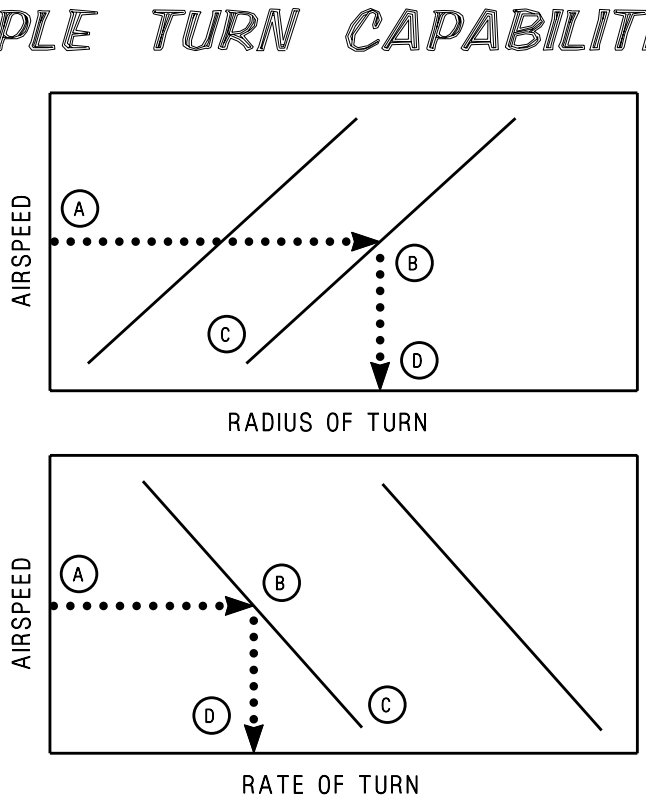
10.1.2 Sample Problem.

Radius of Turn

A. True airspeed	420 Kt.
B. Bank angle	60°
C. Load factor	2.0 G
D. Radius of Turn	9000 Ft.

Rate of Turn

A. True airspeed	420 Kt.
B. Bank angle	60°
C. Load factor	2.0 G
D. Rate of turn	4.5°/sec



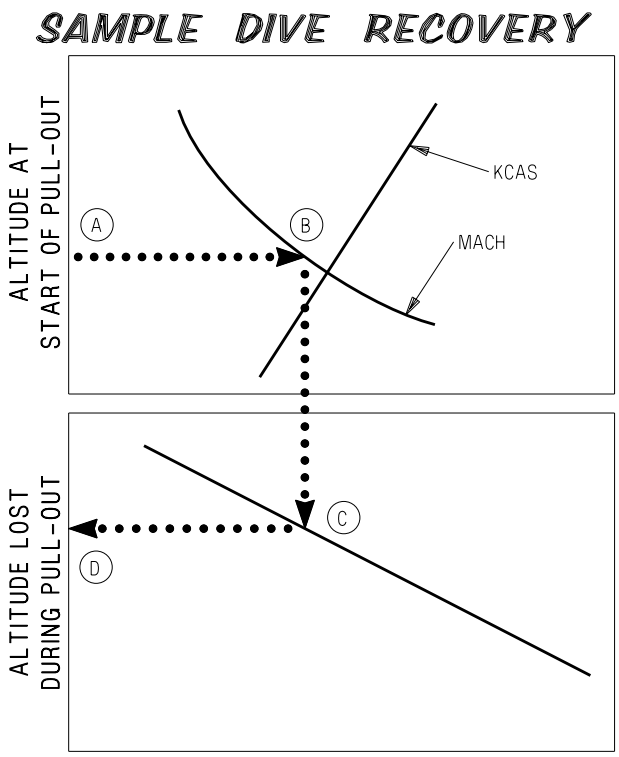
10.2 DIVE RECOVERY CHARTS

Subsonic dive recovery charts (figure 10-2) for two-engine operation are provided for the fighter escort configuration ((2)AIM-9 + (2)AIM-120) at a gross weight of 42,000 pounds and with the speedbrake retracted. Data is included for both military power and idle power settings. Two sets of dive recovery data are presented. The first set of charts show pull-ups limited by maximum lift or 4.0G, whichever occurs first, with entry rates of 4.0G and 2.0G per second. The second set of charts show pull-ups limited by maximum lift or 7.0G, whichever occurs first, with entry rate of 7.0G and 3.5G per second.

10.2.1 Use. Enter the chart with the altitude at the start of the pull-out and project horizontally right to intersect true Mach number or calibrated airspeed at the start of the pull-out. From this point project vertically down to intersect the dive angle at start of the pull-out then horizontally left to read altitude lost during pull-out.

10.2.2 Sample Problem. Military Power, 4G, 4G per second.

A. Altitude at start of pull out	15,000 Ft.
B. Mach number at start of pull-out	0.70
C. Dive angle at start of pull-out	75°
D. Altitude lost during pull-out	5400 Ft.



EFN523-303-1-003

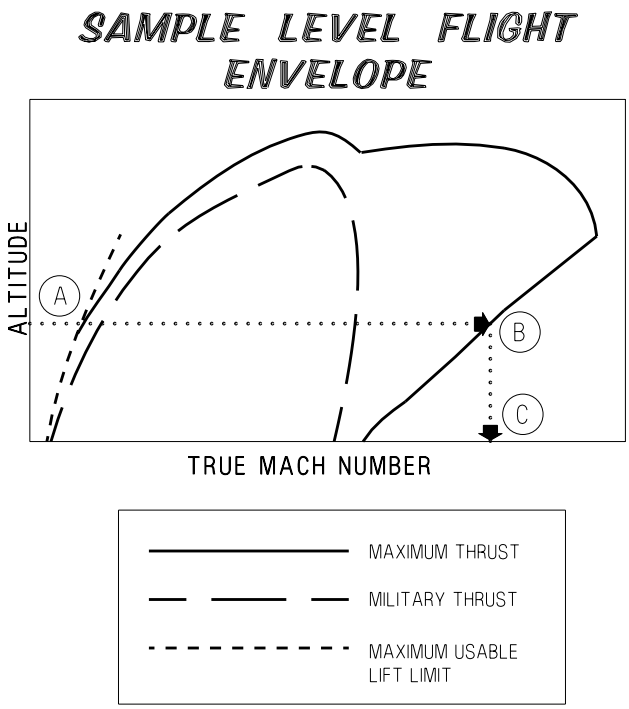
10.3 LEVEL FLIGHT ENVELOPES CHART

This chart (figure 10-3) presents the aircraft level flight speed envelope for various configurations at combat gross weights equal to 60 % total fuel. Parameters of the envelopes extend from the lift limit to V_{max} throughout the altitude range. Both maximum and military thrust flight envelopes are present.

10.3.1 Use. Enter the appropriate chart with the desired combat altitude. Project horizontally right to intersect the applicable configuration power curve. From this point, project vertically down to read the maximum attainable Mach number in level flight.

10.3.2 Sample Problem.

A. Combat Altitude	36,000 Ft.
B. Configuration Line:	(2) AIM-9 + (2) AIM-120
C. Maximum attainable Mach number	1.590



EFN523-477-1-003

10.4 LOW ALTITUDE ACCELERATION CHARTS

These charts (figures 10-4 and 10-5) present time and fuel required to accelerate from 360 KIAS to desired KIAS up thru 550 KIAS at altitudes of sea level, 2,000, 4,000, and 6,000 feet. Separate charts are provided for both maximum and military thrust for gross weights of 34,000, 38,000, 42,000, 46,000, and 50,000 pounds. The time and fuel values are calculated for U.S. Standard Day conditions; however, correction factors are given for nonstandard temperatures.

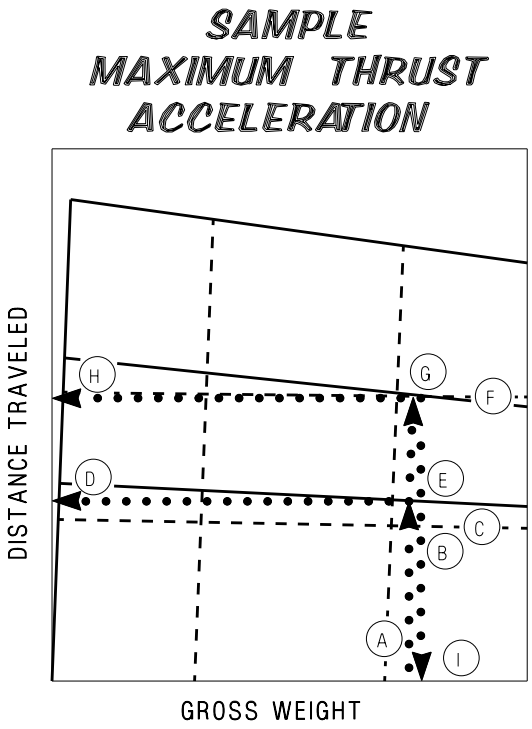
10.5 MAXIMUM THRUST ACCELERATION CHARTS

These charts (figures 10-6 thru 10-9) show the relationship of time, distance, and fuel required for level flight, maximum thrust accelerations. The Maximum Endurance Mach number (MAX END) for a given gross weight is provided across the bottom of the charts. This data is presented for various altitudes and configurations.

10.5.1 Use. Enter the applicable chart with the aircraft gross weight. Project vertically up to the initial Mach number. From this point, project both horizontally to the left and note time and distance; and up parallel to the vertical guide lines to the Mach number desired at the end of the acceleration. From this point, project horizontally to the left and note the time and distance; and vertically downwards and note gross weight. Subtract the time, distance, and gross weight corresponding to the initial Mach number from the time, distance and gross weight corresponding to the desired Mach number to determine the time, distance, and fuel required for acceleration.

10.5.2 Sample Problem. Configuration - (2) AIM-9 + (2) AIM-120 10,000 Feet

A. Gross weight	48,000 Lb.
B. Initial Mach number	0.8
C. Time	0.4 Min.
D. Distance	2.5 NM
E. Parallel guidelines	
F. Desired Mach number	1.0
G. Time corresponding to new Mach number	0 .62 Min.
H. Distance corresponding to new Mach number	5.0 NM
I. Gross weight corresponding to new Mach number	47,700 Lb.
J. Time required for acceleration (G-C)	0.22 Min.
K. Distance required for acceleration (H-D)	2.5 NM
L. Fuel required for acceleration (A-I)	300 Lb.



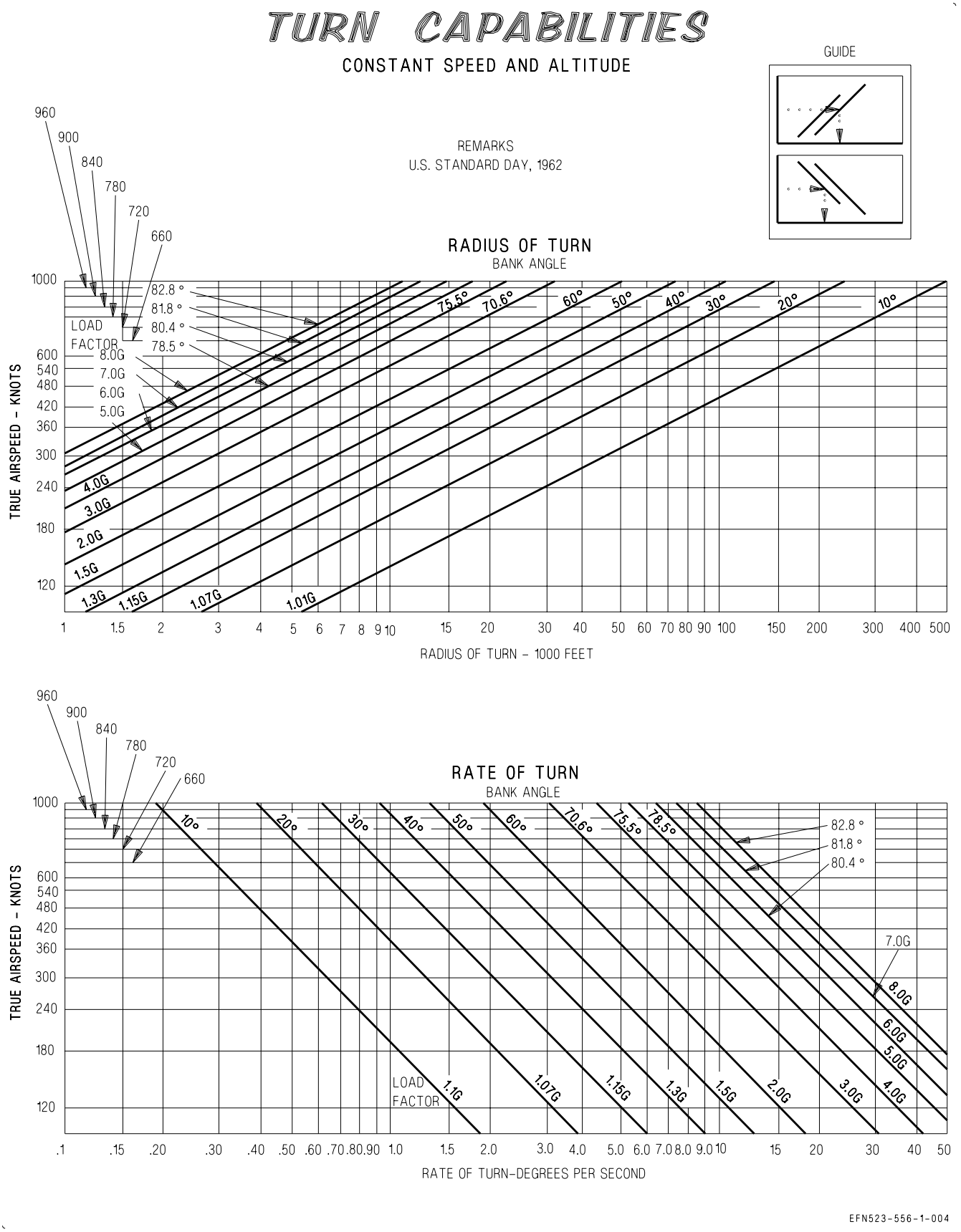


Figure 10-1. Turn Capabilities

DIVE RECOVERY

F414-GE-400

4.0G PULL-OUT
SUBSONIC-SPEEDBRAKE RETRACTED
MILITARY POWER

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120 MISSILES
G.W. = 42,000 POUNDS

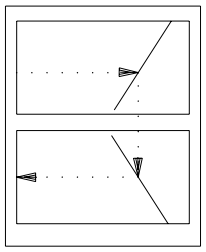
NOTE

PULL-OUT BASED ON 4.0G PER SECOND ACCELERATION BUILDUP TO MAXIMUM LIFT/STABILATOR LIMIT OR 4.0G WHICHEVER OCCURS FIRST.

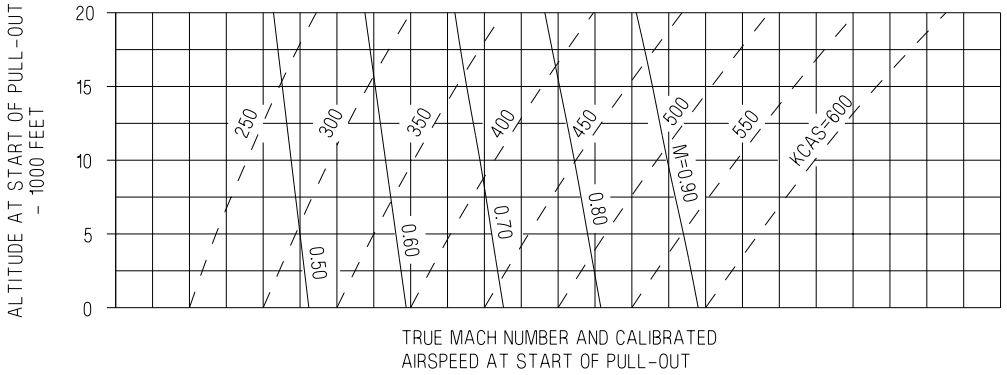
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

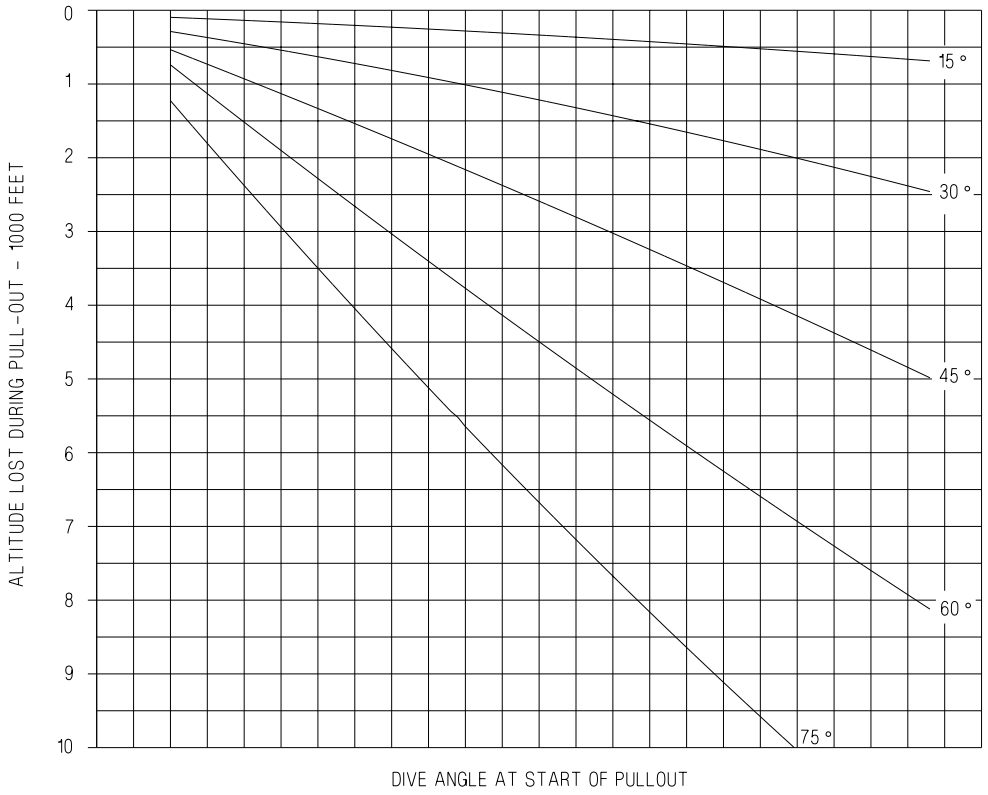
REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-282-1-004

Figure 10-2. Dive Recovery (Sheet 1 of 8)

DIVE RECOVERY

F414-GE-400

4.0G PULL-OUT
SUBSONIC-SPEEDBRAKE RETRACTED
MILITARY POWER

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120 MISSILES
G.W. = 42,000 POUNDS

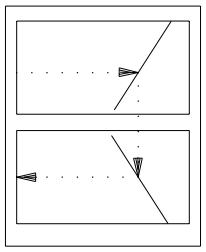
NOTE

PULL-OUT BASED ON 2.0G PER SECOND ACCELERATION BUILDUP TO MAXIMUM LIFT/STABILATOR LIMIT OR 4.0G WHICHEVER OCCURS FIRST.

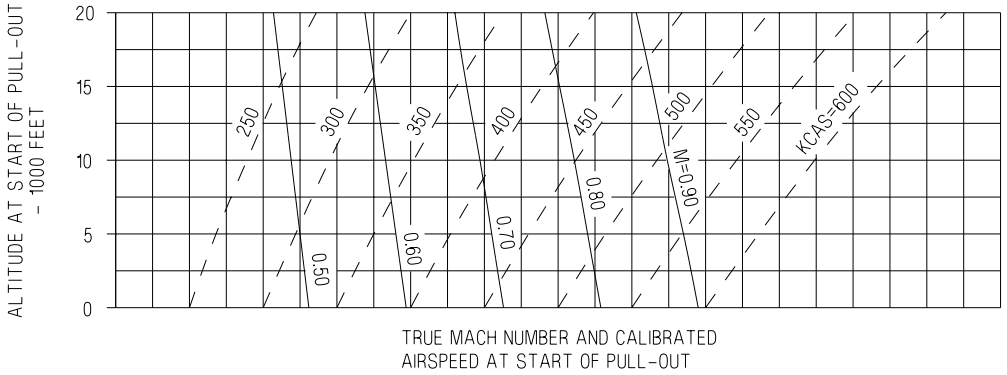
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

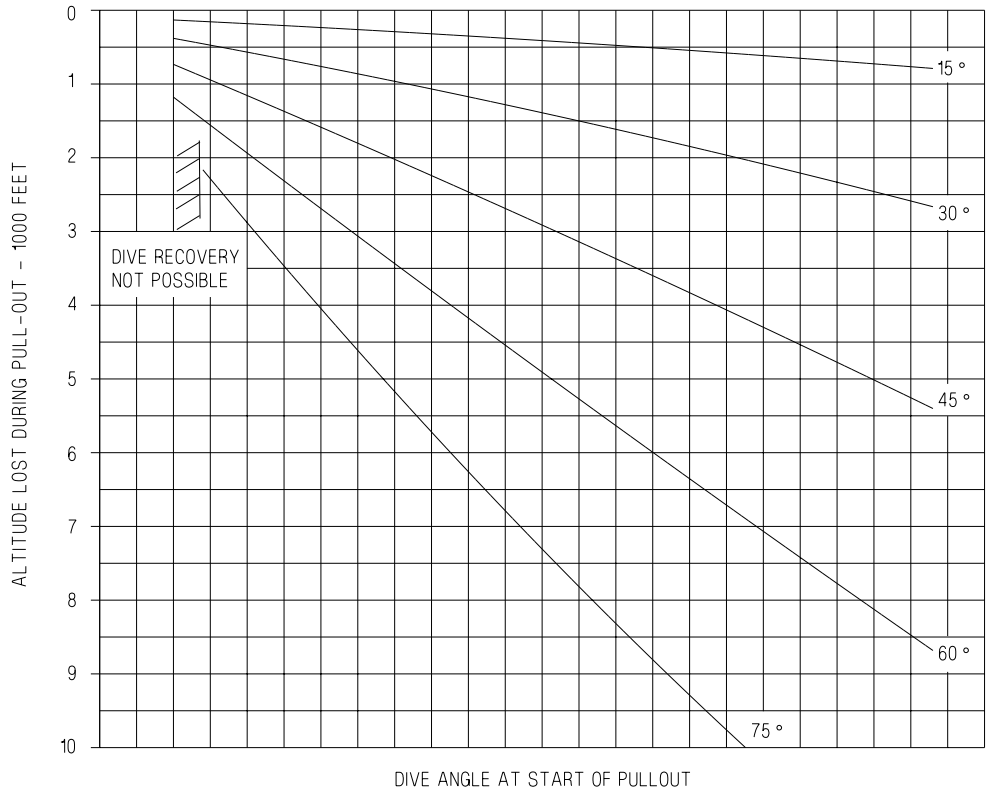
REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-283-1-004

Figure 10-2. Dive Recovery (Sheet 2 of 8)

DIVE RECOVERY

F414-GE-400

4.0G PULL-OUT
SUBSONIC-SPEEDBRAKE RETRACTED
IDLE POWER

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120 MISSILES
G.W. = 42,000 POUNDS

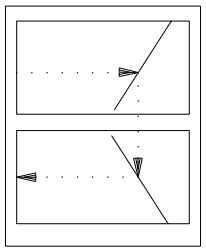
NOTE

PULL-OUT BASED ON 4.0G PER SECOND ACCELERATION BUILDUP TO MAXIMUM LIFT/STABILATOR LIMIT OR 4.0G WHICHEVER OCCURS FIRST.

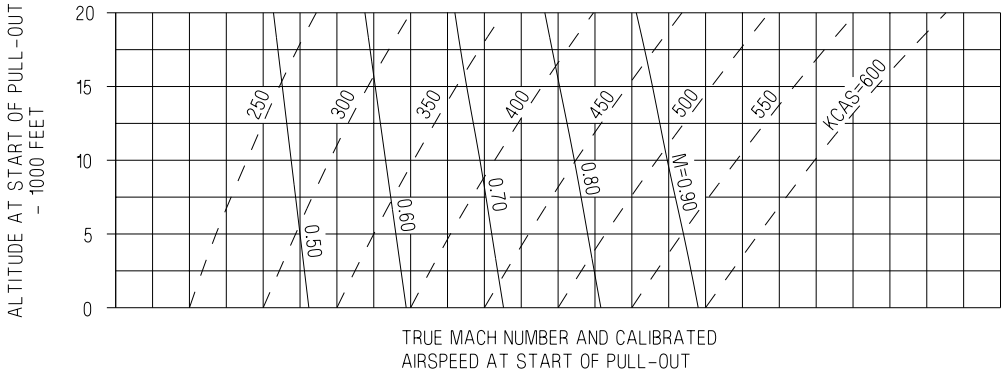
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

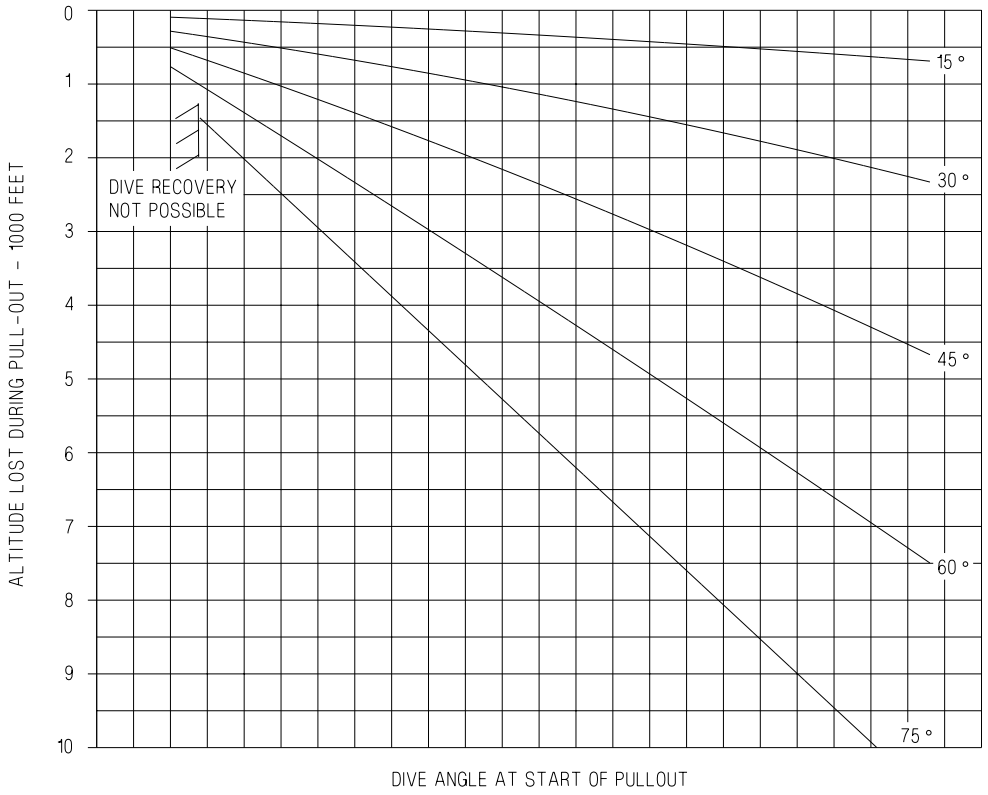
REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-284-1-004

Figure 10-2. Dive Recovery (Sheet 3 of 8)

DIVE RECOVERY

F414-GE-400

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120 MISSILES
G.W. = 42,000 POUNDS

NOTE

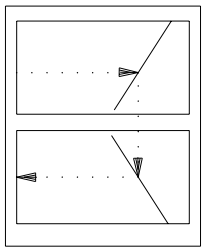
PULL-OUT BASED ON 2.0G PER SECOND ACCELERATION BUILDUP TO MAXIMUM LIFT/STABILATOR LIMIT OR 4.0G WHICHEVER OCCURS FIRST.

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

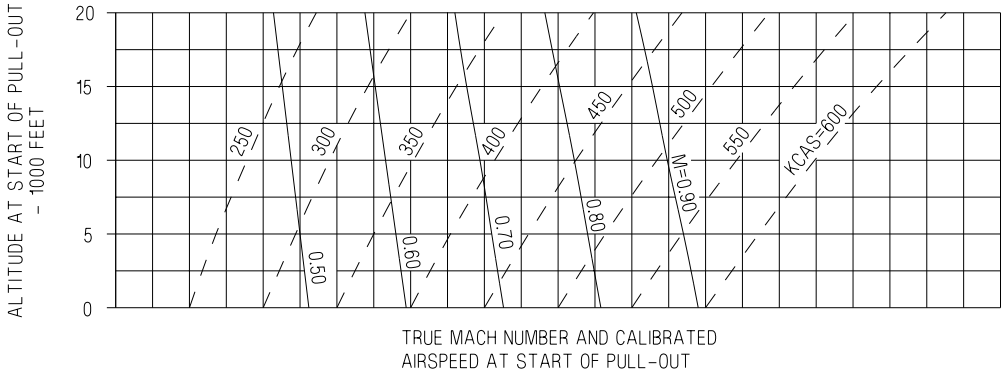
4.0G PULL-OUT
SUBSONIC-SPEEDBRAKE RETRACTED
IDLE POWER

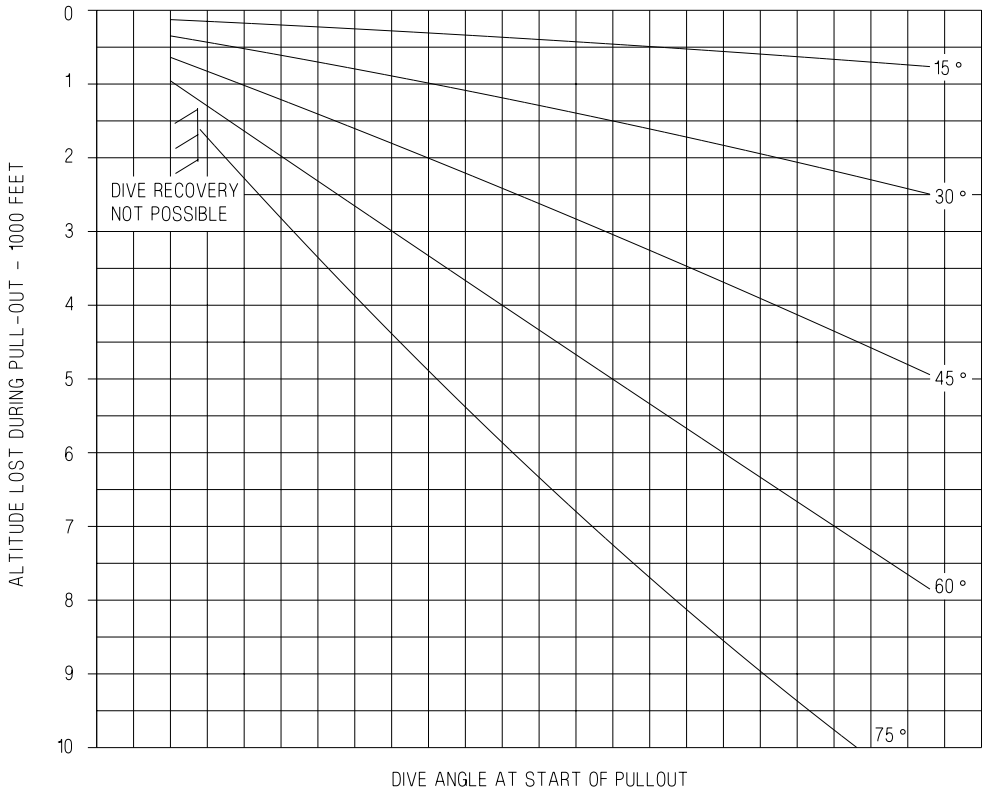
REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-285-1-004

Figure 10-2. Dive Recovery (Sheet 4 of 8)

DIVE RECOVERY

F414-GE-400

7.0G PULL-OUT
SUBSONIC-SPEEDBRAKE RETRACTED
MILITARY POWER

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120 MISSILES
G.W. = 42,000 POUNDS

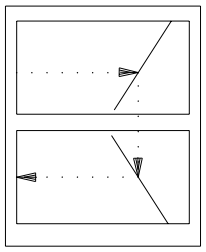
NOTE

PULL-OUT BASED ON 7.0G PER SECOND ACCELERATION BUILDUP TO MAXIMUM LIFT/STABILATOR LIMIT OR 7.0G WHICHEVER OCCURS FIRST.

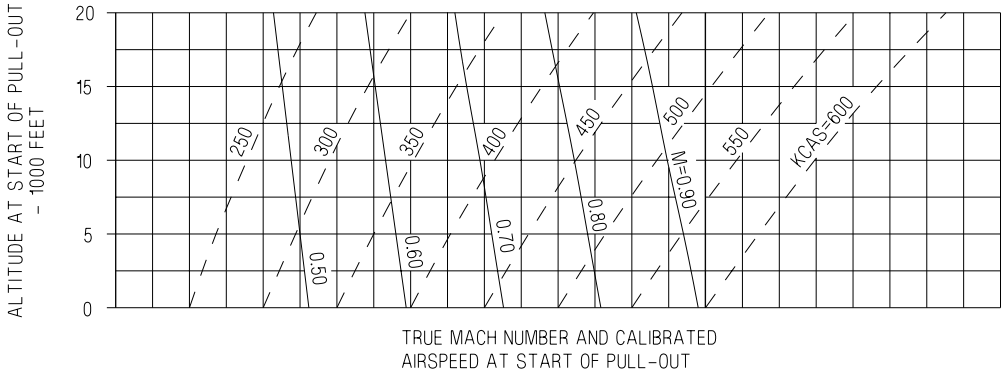
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

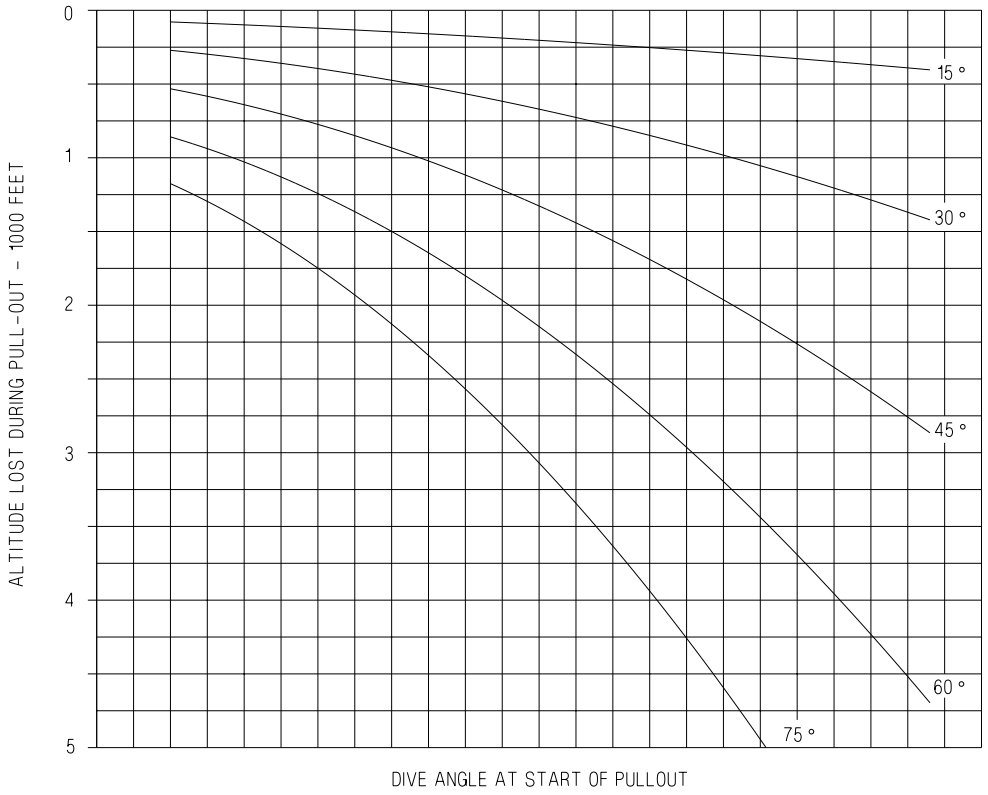
REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-286-1-004

Figure 10-2. Dive Recovery (Sheet 5 of 8)

DIVE RECOVERY

F414-GE-400

7.0G PULL-OUT
SUBSONIC-SPEEDBRAKE RETRACTED
MILITARY POWER

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120 MISSILES
G.W. = 42,000 POUNDS

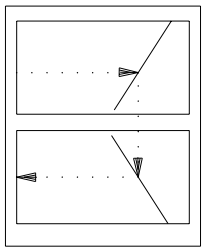
NOTE

PULL-OUT BASED ON 3.5G PER SECOND ACCELERATION BUILDUP TO MAXIMUM LIFT/STABILATOR LIMIT OR 7.0G WHICHEVER OCCURS FIRST.

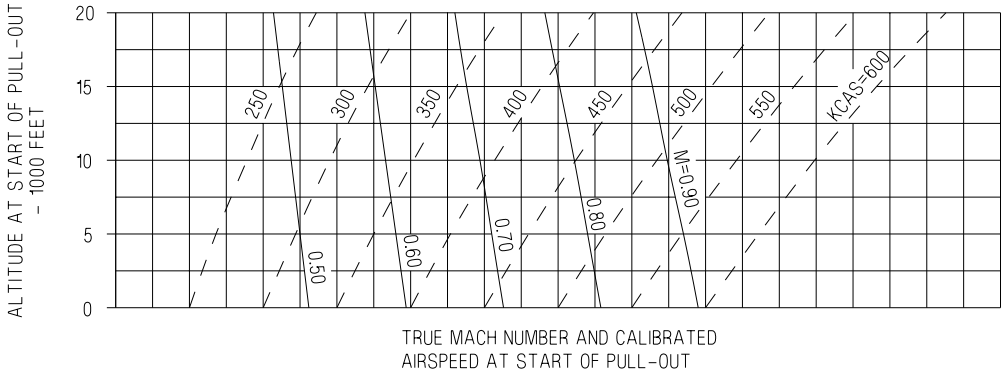
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

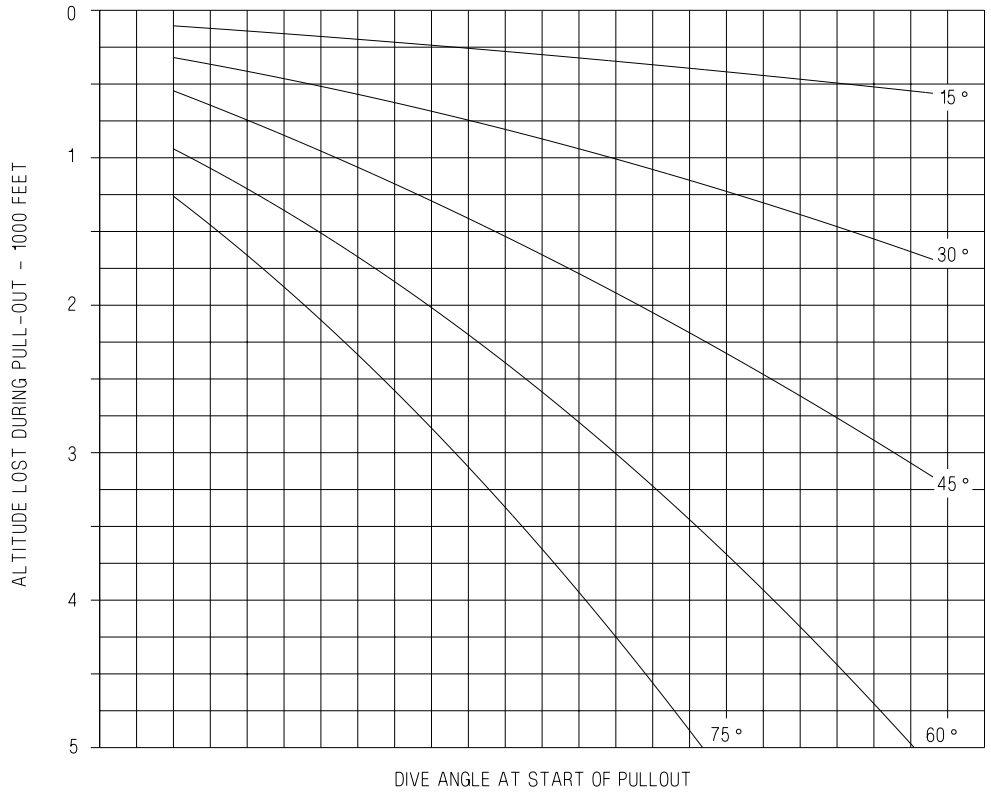
REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-287-1-004

Figure 10-2. Dive Recovery (Sheet 6 of 8)

DIVE RECOVERY

F414-GE-400

7.0G PULL-OUT
SUBSONIC-SPEEDBRAKE RETRACTED
IDLE POWER

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120 MISSILES
G.W. = 42,000 POUNDS

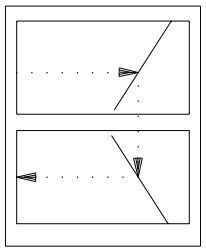
NOTE

PULL-OUT BASED ON 7.0G PER SECOND ACCELERATION BUILDUP TO MAXIMUM LIFT/STABILATOR LIMIT OR 7.0G WHICHEVER OCCURS FIRST.

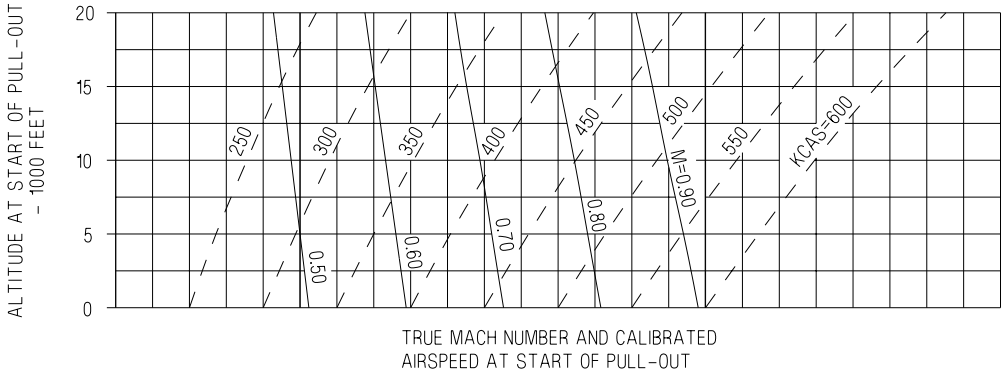
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

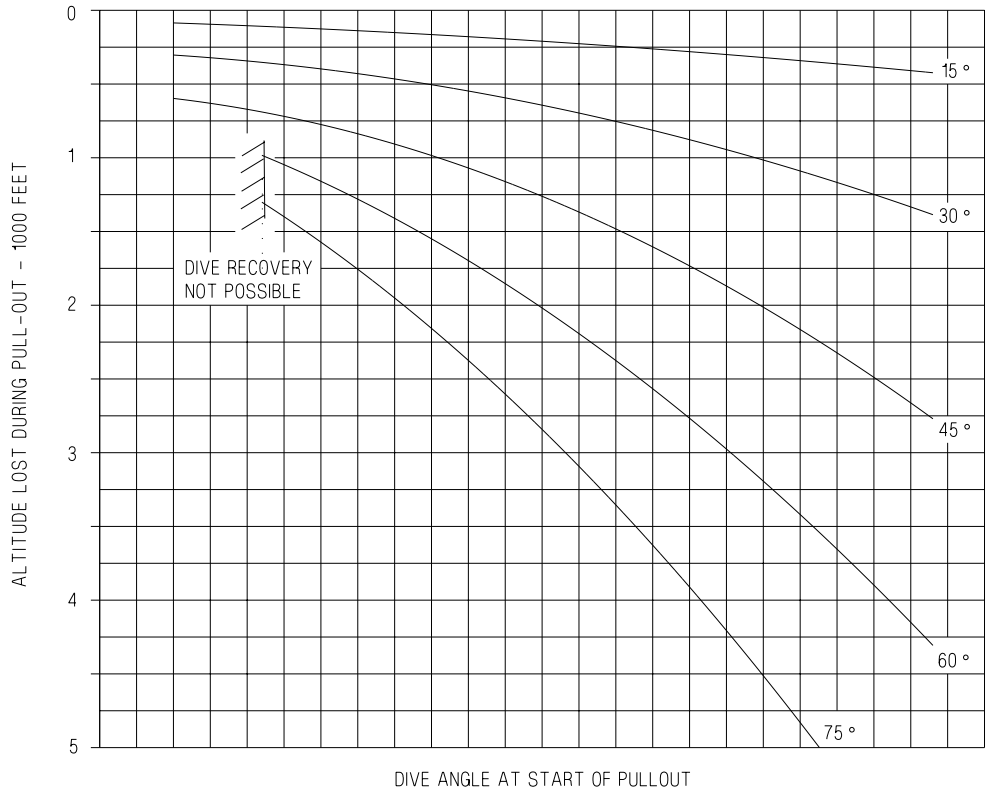
REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL





EFN523-493-1-004

Figure 10-2. Dive Recovery (Sheet 7 of 8)

DIVE RECOVERY

F414-GE-400

7.0G PULL-OUT
SUBSONIC-SPEEDBRAKE RETRACTED
IDLE POWER

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120 MISSILES
G.W. = 42,000 POUNDS

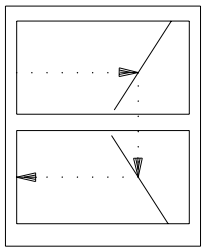
NOTE

PULL-OUT BASED ON 3.5G PER SECOND ACCELERATION BUILDUP TO MAXIMUM LIFT/STABILATOR LIMIT OR 7.0G WHICHEVER OCCURS FIRST.

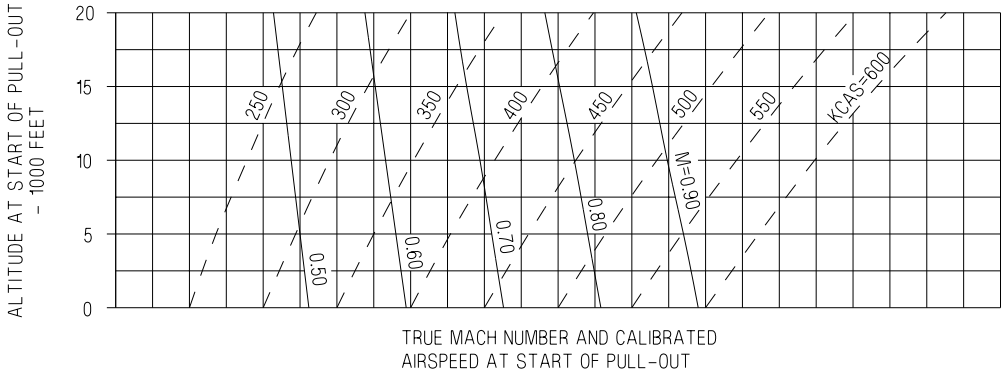
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

REMARKS
ENGINE(S): (2)F414-GE-400
U.S. STANDARD DAY, 1962

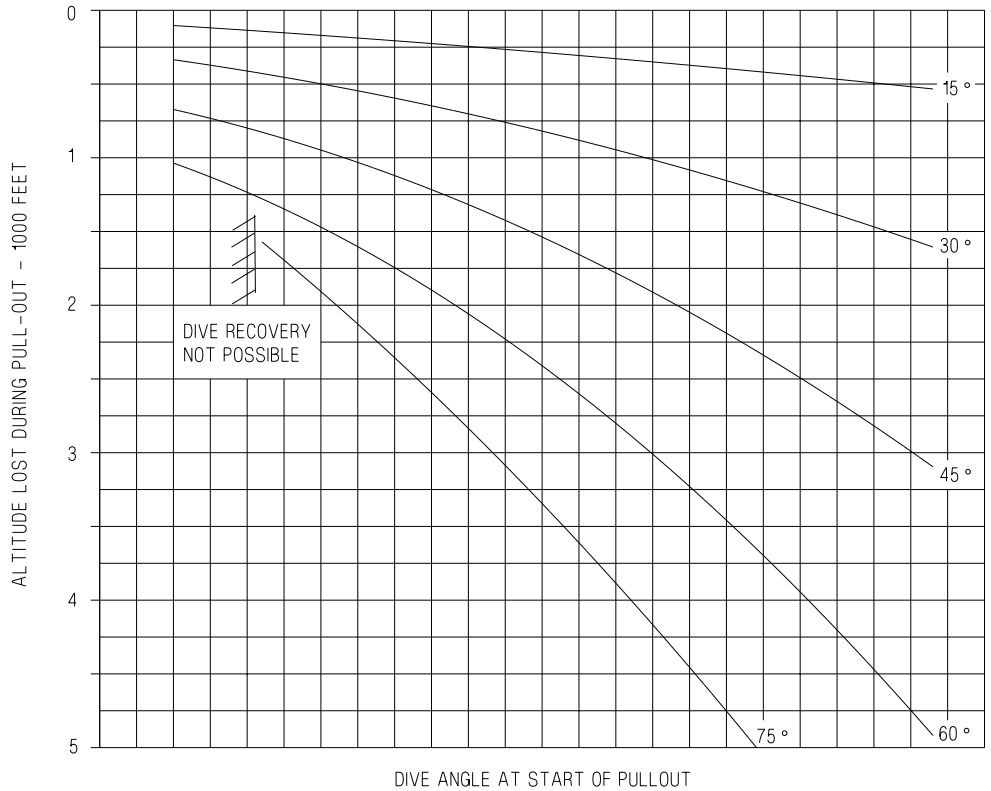
GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



TRUE MACH NUMBER AND CALIBRATED AIRSPEED AT START OF PULL-OUT



DIVE ANGLE AT START OF PULLOUT

EFN523-288-1-004

Figure 10-2. Dive Recovery (Sheet 8 of 8)

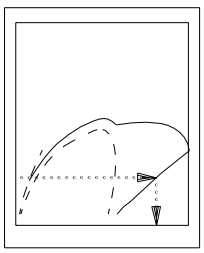
LEVEL FLIGHT ENVELOPES

F414-GE-400

COMBAT GROSS WEIGHTS

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

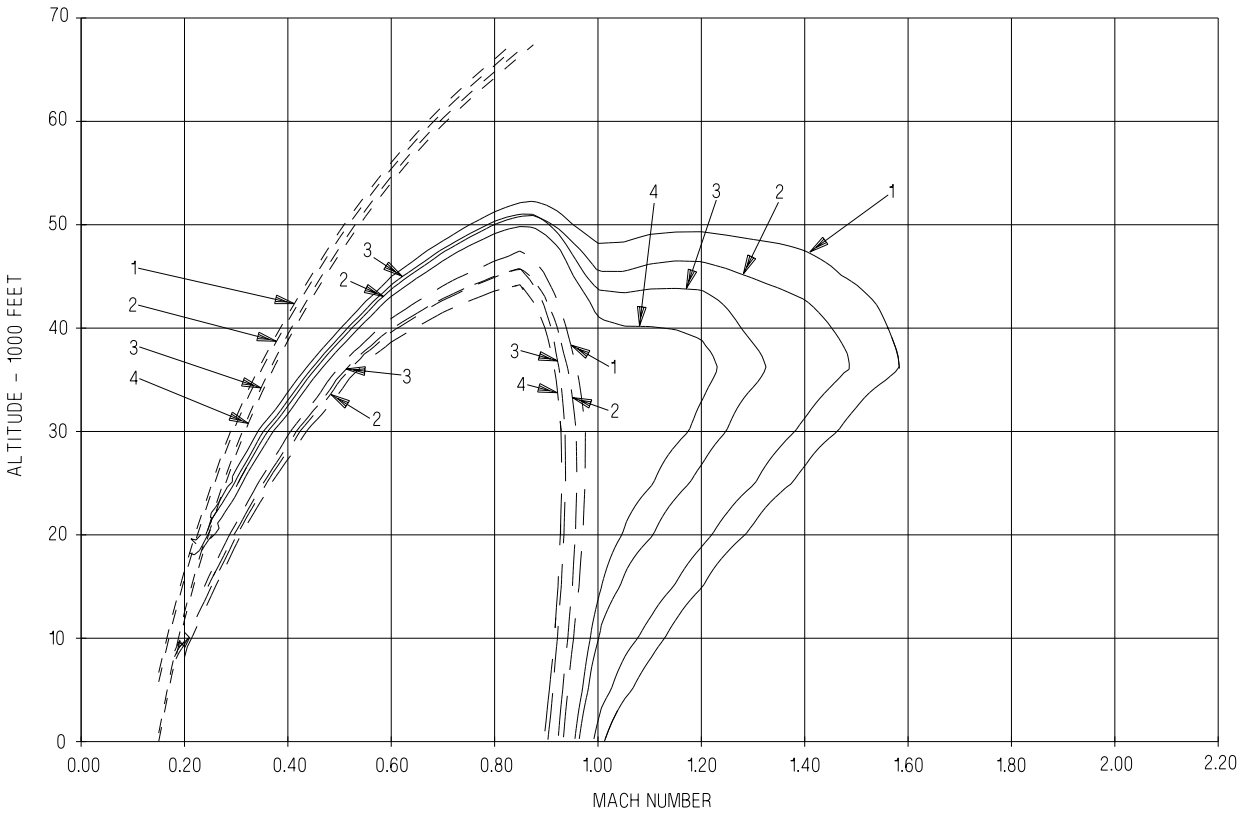
CURVE NO.	CONFIGURATION	GROSS WEIGHT (60% TOTAL FUEL REMAINING)
1	(2) AIM-9 + (2) AIM-120	42,412 lb
2	(2) AIM-9 + (2) AIM-120 + 480 C_L TANK	44,906 lb
3	(2) AIM-9 + (5) AIM-120 + TFLIR	43,764 lb
4	(2) AIM-9 + (5) AIM-120 + TFLIR + 480 C_L TANK	46,258 lb

LEGEND

MAXIMUM THRUST

MILITARY THRUST

MAXIMUM USABLE LIFT LIMIT



EFN523-280-1-004

Figure 10-3. Level Flight Envelopes

LOW ALTITUDE ACCELERATION

F414-GE-400

MAXIMUM THRUST
GROSS WEIGHT = 34,000 POUNDS

REMARKS

ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	SPEED (KIAS)	TIME TO ACCELERATE (SEC) / FUEL TO ACCELERATE (LBS) DRAG INDEX									TEMP. EFFECT FACTORS	
		0	25	50	75	100	150	200	250	300	+10°C	-10°C
SEA LEVEL (15°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	3/72	3/73	3/74	3/75	3/77	3/79	3/81	3/84	3/87	1.13/1.07	.91/.96
	480	6/149	6/152	6/154	6/157	6/160	7/167	7/174	7/181	7/190	1.14/1.08	.90/.95
	520	8/202	8/207	8/211	8/216	9/221	9/232	9/244	10/258	11/273	1.15/1.09	.89/.94
	550	9/244	10/251	10/257	10/264	10/272	11/288	12/307	12/330	14/357	1.17/1.11	.90/.94
2000 FEET (11°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	3/74	3/75	3/76	3/77	3/78	3/81	3/84	4/87	4/90	1.13/1.06	.91/.95
	480	6/152	6/154	6/157	7/161	7/164	7/171	7/179	8/187	8/197	1.14/1.08	.90/.95
	520	8/206	8/211	9/216	9/221	9/227	10/239	10/252	11/268	11/286	1.16/1.10	.90/.94
	550	10/250	10/257	11/265	11/273	11/282	12/302	13/327	14/358	16/401	1.18/1.12	.89/.93
4000 FEET (7°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	3/75	3/76	3/77	3/79	3/80	4/83	4/86	4/89	4/93	1.12/1.06	.92/.95
	480	7/155	7/158	7/161	7/165	7/168	7/176	8/185	8/194	9/205	1.15/1.08	.91/.95
	520	9/210	9/215	9/221	9/227	10/233	10/248	11/264	12/283	13/306	1.16/1.10	.90/.94
	550	11/255	11/264	11/273	12/284	12/296	13/325	15/365	18/439	---	1.17/1.11	.88/.92
6000 FEET (3°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/78	4/79	4/81	4/82	4/83	4/87	4/90	4/94	4/98	1.12/1.06	.92/.95
	480	7/159	7/162	7/166	8/170	8/174	8/182	9/192	9/203	10/215	1.14/1.08	.91/.95
	520	10/216	10/222	10/229	10/236	11/244	11/261	12/282	13/309	15/346	1.17/1.11	.89/.93
	550	11/263	12/275	12/288	13/303	14/321	16/375	---	---	---	1.19/1.13	.87/.91

Figure 10-4. Low Altitude Acceleration - Maximum Thrust (Sheet 1 of 5)

LOW ALTITUDE ACCELERATION

F414-GE-400

MAXIMUM THRUST
GROSS WEIGHT = 38,000 POUNDS

REMARKS

ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

		TIME TO ACCELERATE (SEC) / FUEL TO ACCELERATE (LBS)									TEMP. EFFECT FACTORS	
	SPEED (KIAS)	DRAG INDEX										
		0	25	50	75	100	150	200	250	300	+10°C	-10°C
SEA LEVEL (15°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	3/81	3/82	3/83	3/84	3/86	4/88	4/91	4/94	4/97	1.13/1.07	.91/.96
	480	7/167	7/170	7/173	7/176	7/179	7/187	8/195	8/203	8/213	1.14/1.08	.90/.95
	520	9/227	9/231	9/237	9/242	10/247	10/260	11/273	11/288	12/306	1.15/1.09	.90/.94
	550	10/274	11/281	11/288	11/296	12/304	12/322	13/344	14/369	15/400	1.17/1.11	.89/.94
2000 FEET (11°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	3/83	3/84	4/85	4/86	4/88	4/91	4/94	4/97	4/100	1.12/1.07	.91/.95
	480	7/170	7/173	7/176	7/180	8/184	8/192	8/200	9/210	9/220	1.14/1.08	.90/.95
	520	9/231	9/236	10/242	10/248	10/254	11/267	11/283	12/300	13/320	1.16/1.10	.90/.94
	550	11/280	11/288	12/297	12/306	12/316	13/338	14/366	16/401	18/447	1.18/1.12	.89/.93
4000 FEET (7°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/84	4/85	4/87	4/88	4/90	4/93	4/96	4/100	5/104	1.12/1.06	.92/.95
	480	7/173	8/177	8/181	8/185	8/189	8/197	9/207	9/218	10/230	1.15/1.08	.91/.95
	520	10/235	10/241	10/248	11/254	11/261	12/277	12/295	13/317	14/343	1.16/1.10	.90/.94
	550	12/286	12/295	13/306	13/318	14/331	15/363	17/408	20/489	---	1.17/1.11	.88/.92
6000 FEET (3°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/87	4/89	4/90	4/92	4/94	4/97	5/101	5/105	5/110	1.12/1.06	.92/.95
	480	8/178	8/182	8/186	8/190	9/195	9/204	10/215	10/227	11/241	1.14/1.08	.91/.95
	520	11/242	11/249	11/256	12/264	12/273	13/292	14/316	15/346	17/386	1.17/1.11	.89/.93
	550	13/295	13/207	14/322	15/339	15/359	18/419	---	---	---	1.19/1.13	.87/.91

Figure 10-4. Low Altitude Acceleration - Maximum Thrust (Sheet 2 of 5)

LOW ALTITUDE ACCELERATION

F414-GE-400

MAXIMUM THRUST
GROSS WEIGHT = 42,000 POUNDS

REMARKS

ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

		TIME TO ACCELERATE (SEC) / FUEL TO ACCELERATE (LBS)									TEMP. EFFECT FACTORS	
	SPEED (KIAS)	DRAG INDEX										
		0	25	50	75	100	150	200	250	300	+10°C	-10°C
SEA LEVEL (15°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/90	4/91	4/92	4/94	4/95	4/98	4/101	4/104	4/108	1.13/1.07	.91/.96
	480	7/185	7/188	8/191	8/195	8/199	8/207	8/216	9/225	9/236	1.14/1.08	.90/.95
	520	10/251	10/256	10/262	10/268	11/274	11/288	12/303	12/319	13/339	1.15/1.09	.90/.94
	550	12/303	12/311	12/319	12/327	13/337	14/357	14/380	15/408	17/442	1.17/1.11	.90/.94
2000 FEET (11°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/91	4/93	4/94	4/96	4/97	4/100	4/104	5/107	5/111	1.13/1.07	.91/.96
	480	8/188	8/192	8/195	8/199	8/203	9/212	9/222	9/232	10/244	1.14/1.08	.90/.95
	520	10/256	11/262	11/268	11/275	11/281	12/296	13/313	13/332	14/354	1.16/1.10	.90/.94
	550	12/310	13/319	13/329	13/339	14/350	15/375	16/405	17/443	19/495	1.18/1.12	.89/.93
4000 FEET (7°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/93	4/95	4/96	4/98	4/99	5/103	5/107	5/111	5/115	1.12/1.06	.92/.95
	480	8/192	8/196	8/200	9/204	9/209	9/219	10/229	10/241	11/254	1.14/1.08	.91/.95
	520	11/261	11/267	11/274	12/282	12/289	13/307	14/327	15/351	16/379	1.16/1.10	.90/.94
	550	13/316	14/327	14/339	14/352	15/366	17/402	18/451	22/539	---	1.17/1.11	.88/.92
6000 FEET (3°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/97	5/98	5/100	5/102	5/104	5/108	5/112	5/117	6/122	1.12/1.06	.92/.95
	480	9/197	9/201	9/206	9/211	10/216	10/227	11/239	11/252	12/267	1.14/1.08	.91/.95
	520	12/268	12/276	12/284	13/293	13/302	14/324	15/350	17/382	18/427	1.17/1.11	.89/.93
	550	14/327	15/341	15/356	16/375	17/397	20/463	---	---	---	1.19/1.13	.87/.92

Figure 10-4. Low Altitude Acceleration - Maximum Thrust (Sheet 3 of 5)

LOW ALTITUDE ACCELERATION

F414-GE-400

MAXIMUM THRUST
GROSS WEIGHT = 46,000 POUNDS

REMARKS

ENGINE(S): (2) F414-GE-400
DATE: 29 OCTOBER 1999 — U.S. STANDARD DAY, 1962 — FUEL GRADE: JP-5
DATA BASIS: FLIGHT DERIVED — FUEL DENSITY: 6.8 LB/GAL

		TIME TO ACCELERATE (SEC) / FUEL TO ACCELERATE (LBS)									TEMP. EFFECT FACTORS	
	SPEED (KIAS)	DRAG INDEX										
		0	25	50	75	100	150	200	250	300	+10°C	-10°C
SEA LEVEL (15°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/98	4/100	4/101	4/103	4/104	4/108	4/111	5/115	5/119	1.13/1.07	.91/.96
	480	8/203	8/206	8/210	8/214	9/218	9/227	9/237	10/247	10/259	1.14/1.08	.90/.95
	520	11/275	11/281	11/288	11/294	12/301	12/316	13/332	14/351	14/372	1.16/1.09	.89/.94
	550	13/333	13/341	13/350	14/359	14/369	15/392	16/417	17/448	18/485	1.17/1.11	.90/.94
2000 FEET (11°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/100	4/102	4/104	4/105	4/107	5/110	5/114	5/118	5/122	1.13/1.07	.91/.96
	480	8/206	9/210	9/215	9/219	9/223	9/233	10/244	10/255	11/268	1.14/1.08	.90/.95
	520	11/281	12/288	12/294	12/301	12/309	13/325	14/344	15/365	16/389	1.16/1.10	.90/.94
	550	14/341	14/350	14/361	15/372	15/384	16/411	18/444	19/486	21/542	1.18/1.12	.89/.93
4000 FEET (7°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/102	5/104	5/106	5/107	5/109	5/113	5/117	5/122	6/127	1.12/1.07	.92/.95
	480	9/211	9/215	9/220	10/225	10/230	10/240	11/252	11/265	12/280	1.15/1.08	.91/.95
	520	12/286	12/293	13/301	13/309	13/318	14/337	15/359	16/385	17/416	1.16/1.10	.90/.94
	550	14/347	15/359	15/372	16/386	17/402	18/441	20/494	24/598	---	1.18/1.11	.88/.92
6000 FEET (3°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	5/106	5/108	5/110	5/112	5/114	5/118	6/123	6/128	6/134	1.12/1.07	.92/.95
	480	10/217	10/221	10/226	10/231	11/237	11/249	12/262	12/277	13/294	1.15/1.08	.91/.95
	520	13/294	13/303	14/312	14/321	14/332	15/355	17/384	18/419	20/467	1.17/1.11	.89/.93
	550	15/359	16/374	17/391	18/412	19/436	22/507	---	---	---	1.19/1.13	.88/.92

Figure 10-4. Low Altitude Acceleration - Maximum Thrust (Sheet 4 of 5)

LOW ALTITUDE ACCELERATION

F414-GE-400

MAXIMUM THRUST
GROSS WEIGHT = 50,000 POUNDS

REMARKS

ENGINE(S): (2) F414-GE-400
DATE: 29 OCTOBER 1999 — U.S. STANDARD DAY, 1962 — FUEL GRADE: JP-5
DATA BASIS: FLIGHT DERIVED — FUEL DENSITY: 6.8 LB/GAL

		TIME TO ACCELERATE (SEC) / FUEL TO ACCELERATE (LBS)									TEMP. EFFECT FACTORS	
	SPEED (KIAS)	DRAG INDEX										
		0	25	50	75	100	150	200	250	300	+10°C	-10°C
SEA LEVEL (15°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	4/107	4/109	4/111	5/112	5/114	5/117	5/121	5/125	5/129	1.13/1.07	.91/.96
	480	9/221	9/225	9/229	9/233	9/238	10/248	10/258	11/270	11/282	1.15/1.08	.90/.95
	520	12/300	12/307	12/313	12/321	13/328	13/344	14/362	15/382	16/405	1.16/1.10	.89/.94
	550	14/363	14/372	15/381	15/392	15/402	16/427	17/455	19/488	20/528	1.17/1.11	.89/.94
2000 FEET (11°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	5/110	5/111	5/113	5/115	5/117	5/120	5/125	5/129	6/134	1.12/1.07	.91/.96
	480	9/225	9/229	10/234	10/239	10/244	10/254	11/266	11/278	12/293	1.14/1.08	.90/.95
	520	12/306	13/313	13/321	13/329	14/337	14/355	15/375	16/397	17/424	1.16/1.10	.90/.94
	550	15/371	15/382	16/393	16/405	17/418	18/448	19/484	21/529	23/589	1.18/1.12	.89/.93
4000 FEET (7°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	5/112	5/113	5/115	5/117	5/119	5/124	6/128	6/133	6/138	1.13/1.07	.92/.95
	480	10/230	10/235	10/240	10/245	11/250	11/262	12/275	12/289	13/305	1.15/1.08	.91/.95
	520	13/312	13/320	14/328	14/337	14/346	15/367	16/391	17/419	19/453	1.16/1.10	.90/.94
	550	16/379	16/391	17/405	17/421	18/438	20/480	22/538	26/648	---	1.18/1.11	.88/.92
6000 FEET (3°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	5/116	5/118	5/120	6/122	6/125	6/129	6/134	6/140	7/146	1.12/1.07	.92/.95
	480	10/236	11/241	11/247	11/252	11/258	12/271	13/286	13/302	14/320	1.15/1.09	.91/.95
	520	14/321	14/330	15/340	15/350	16/361	17/387	18/418	20/456	22/508	1.17/1.11	.89/.93
	550	17/391	18/407	18/426	19/448	20/475	23/551	---	---	---	1.19/1.13	.88/.92

Figure 10-4. Low Altitude Acceleration - Maximum Thrust (Sheet 5 of 5)

LOW ALTITUDE ACCELERATION

F414-GE-400

MILITARY THRUST
GROSS WEIGHT = 34,000 POUNDS

REMARKS

ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	SPEED (KIAS)	TIME TO ACCELERATE (SEC) / FUEL TO ACCELERATE (LBS) DRAG INDEX									TEMP. EFFECT FACTORS	
		0	25	50	75	100	150	200	250	300	+10°C	-10°C
SEA LEVEL (15°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	5/40	5/41	6/42	6/43	6/44	6/47	7/50	7/53	8/57	1.17/1.08	.90/.95
	480	11/84	11/87	12/90	12/94	13/97	14/106	15/117	17/130	19/148	1.22/1.13	.87/.92
	520	15/117	16/122	17/128	18/135	18/142	21/160	24/184	29/222	39/301	1.23/1.13	.83/.88
	550	19/145	20/153	21/162	22/173	24/187	29/224	---	---	---	1.27/1.17	.84/.91
2000 FEET (11°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	6/41	6/42	6/43	6/44	6/46	7/49	7/52	8/56	8/61	1.17/1.09	.90/.94
	480	12/87	12/90	13/93	13/97	14/102	15/112	17/124	19/141	22/163	1.23/1.14	.87/.92
	520	16/121	17/127	18/134	19/141	20/150	23/171	27/202	35/258	---	1.25/1.15	.84/.90
	550	20/151	22/161	23/173	25/188	28/207	---	---	---	---	1.25/1.16	.85/.91
4000 FEET (7°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	6/42	6/43	6/45	7/46	7/48	7/51	8/55	9/60	9/65	1.17/1.09	.90/.94
	480	13/90	13/93	14/98	14/102	15/107	17/119	19/134	22/154	26/184	1.25/1.16	.87/.91
	520	18/126	19/133	20/140	21/150	22/161	27/191	35/249	---	---	1.24/1.14	.85/.90
	550	22/157	24/171	26/188	30/214	---	---	---	---	---	1.23/1.14	.85/.90
6000 FEET (3°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	7/44	7/46	7/47	7/49	8/51	8/55	9/59	10/65	11/72	1.17/1.09	.90/.94
	480	14/93	14/98	15/102	16/107	17/113	19/127	21/146	25/172	32/215	1.22/1.14	.87/.91
	520	19/131	20/140	22/150	24/162	26/178	---	---	---	---	1.23/1.14	.87/.92
	550	24/169	27/191	33/230	---	---	---	---	---	---	1.24/1.14	.83/.88

Figure 10-5. Low Altitude Acceleration - Military Thrust (Sheet 1 of 5)

LOW ALTITUDE ACCELERATION

F414-GE-400

MILITARY THRUST
GROSS WEIGHT = 38,000 POUNDS

REMARKS

ENGINE(S): (2) F414-GE-400
DATE: 29 OCTOBER 1999 — U.S. STANDARD DAY, 1962 — FUEL GRADE: JP-5
DATA BASIS: FLIGHT DERIVED — FUEL DENSITY: 6.8 LB/GAL

	SPEED (KIAS)	TIME TO ACCELERATE (SEC) / FUEL TO ACCELERATE (LBS) DRAG INDEX									TEMP. EFFECT FACTORS	
		0	25	50	75	100	150	200	250	300	+10°C	-10°C
SEA LEVEL (15°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	6/44	6/46	6/47	6/48	7/49	7/52	7/56	8/60	9/64	1.17/1.08	.90/.94
	480	12/94	13/98	13/101	14/105	14/109	16/119	17/131	19/146	22/167	1.22/1.13	.87/.92
	520	17/131	18/137	19/144	20/151	21/159	23/179	27/207	32/250	44/339	1.23/1.14	.83/.88
	550	21/162	22/171	24/182	25/194	27/209	32/252	---	---	---	1.27/1.17	.85/.91
2000 FEET (11°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	6/46	7/47	7/48	7/50	7/51	8/55	8/59	9/63	10/68	1.17/1.09	.90/.94
	480	13/97	14/101	14/105	15/109	16/114	17/126	19/140	22/158	25/183	1.23/1.14	.87/.92
	520	18/136	19/143	20/150	21/158	23/168	26/192	31/227	39/289	---	1.25/1.15	.84/.90
	550	23/169	24/180	26/194	28/211	31/232	---	---	---	---	1.26/1.16	.85/.91
4000 FEET (7°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	7/47	7/48	7/50	8/52	8/53	8/57	9/62	10/67	11/73	1.16/1.09	.90/.94
	480	14/101	15/105	16/110	16/115	17/120	19/133	21/150	24/173	29/207	1.25/1.16	.87/.92
	520	20/141	21/149	22/158	24/168	25/180	30/214	39/278	---	---	1.24/1.14	.85/.90
	550	25/177	27/192	29/211	33/241	---	---	---	---	---	1.23/1.13	.85/.90
6000 FEET (3°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	8/49	8/51	8/53	8/55	9/57	9/61	10/67	11/73	12/81	1.17/1.10	.90/.94
	480	15/105	16/110	17/115	18/121	19/127	21/143	24/164	28/193	36/242	1.22/1.14	.87/.91
	520	21/147	23/157	24/168	26/182	29/200	---	---	---	---	1.23/1.14	.87/.92
	550	27/189	31/214	37/258	---	---	---	---	---	---	1.23/1.14	.83/.88

Figure 10-5. Low Altitude Acceleration - Military Thrust (Sheet 2 of 5)

LOW ALTITUDE ACCELERATION

F414-GE-400

MILITARY THRUST
GROSS WEIGHT = 42,000 POUNDS

REMARKS

ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

	SPEED (KIAS)	TIME TO ACCELERATE (SEC) / FUEL TO ACCELERATE (LBS) DRAG INDEX									TEMP. EFFECT FACTORS	
		0	25	50	75	100	150	200	250	300	+10°C	-10°C
SEA LEVEL (15°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	7/49	7/51	7/52	7/53	7/55	8/58	8/62	9/67	10/72	1.17/1.08	.90/.94
	480	14/105	14/108	15/112	15/117	16/122	17/132	19/146	21/163	24/185	1.23/1.13	.87/.92
	520	19/146	20/152	21/159	22/168	23/177	26/199	30/230	36/277	49/377	1.24/1.14	.83/.88
	550	23/180	25/190	26/202	28/216	30/232	36/279	---	---	---	1.27/1.17	.84/.90
2000 FEET (11°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	7/51	7/52	8/54	8/55	8/57	8/61	9/65	10/70	11/76	1.17/1.09	.90/.94
	480	15/108	15/112	16/117	17/121	17/127	19/139	21/155	24/176	28/204	1.24/1.14	.87/.92
	520	20/151	21/158	23/166	24/176	25/186	29/213	34/252	44/326	---	1.25/1.15	.84/.89
	550	24/188	27/200	29/215	31/234	34/258	---	---	---	---	1.26/1.16	.85/.91
4000 FEET (7°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	8/52	8/54	8/56	8/57	9/59	9/64	10/69	11/75	12/82	1.17/1.09	.90/.94
	480	16/112	17/117	17/122	18/127	19/133	21/148	24/167	27/193	33/230	1.25/1.16	.87/.92
	520	22/156	23/165	24/175	26/186	28/200	33/238	42/304	---	---	1.24/1.14	.85/.90
	550	27/196	29/213	32/234	37/267	---	---	---	---	---	1.23/1.14	.85/.90
6000 FEET (3°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	8/55	9/57	9/59	9/61	10/63	10/68	11/74	12/82	14/90	1.17/1.10	.90/.93
	480	17/117	18/122	19/128	20/134	21/141	23/159	27/182	32/215	40/270	1.23/1.14	.87/.91
	520	24/164	25/174	27/187	29/202	32/222	---	--	---	---	1.23/1.14	.87/.91
	550	30/210	34/237	41/284	---	---	---	---	---	---	1.24/1.14	.83/.89

Figure 10-5. Low Altitude Acceleration - Military Thrust (Sheet 3 of 5)

LOW ALTITUDE ACCELERATION

F414-GE-400

MILITARY THRUST
GROSS WEIGHT = 46,000 POUNDS

REMARKS

ENGINE(S): (2) F414-GE-400
DATE: 29 OCTOBER 1999 — U.S. STANDARD DAY, 1962 — FUEL GRADE: JP-5
DATA BASIS: FLIGHT DERIVED — FUEL DENSITY: 6.8 LB/GAL

	SPEED (KIAS)	TIME TO ACCELERATE (SEC) / FUEL TO ACCELERATE (LBS) DRAG INDEX									TEMP. EFFECT FACTORS	
		0	25	50	75	100	150	200	250	300	+10°C	-10°C
SEA LEVEL (15°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	7/54	7/56	8/57	8/59	8/61	9/64	9/69	10/73	11/79	1.17/1.08	.90/.94
	480	15/115	16/119	16/124	17/129	18/134	19/146	21/161	24/180	27/204	1.23/1.13	.87/.92
	520	21/160	22/168	23/175	24/184	25/194	29/219	33/253	40/306	54/418	1.24/1.14	.83/.88
	550	26/198	27/209	29/222	31/237	33/255	40/307	---	---	---	1.23/1.13	.84/.90
2000 FEET (11°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	8/56	8/58	8/59	8/61	9/63	9/67	10/72	11/78	12/84	1.17/1.09	.90/.94
	480	16/119	17/123	18/128	18/134	19/140	21/154	23/171	26/194	31/226	1.24/1.14	.87/.92
	520	22/166	24/174	25/183	26/193	28/205	32/235	37/278	48/359	---	1.25/1.15	.84/.89
	550	28/207	30/220	32/237	34/257	38/283	---	---	---	---	1.26/1.16	.85/.91
4000 FEET (7°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	8/58	9/59	9/61	9/63	9/65	10/70	11/76	12/82	13/90	1.17/1.10	.90/.94
	480	17/123	18/128	19/134	20/140	21/147	23/163	26/184	30/213	36/256	1.25/1.16	.87/.91
	520	24/172	25/182	27/193	29/205	31/220	36/262	46/334	---	---	1.24/1.14	.85/.90
	550	30/216	32/234	36/258	41/293	---	---	---	---	---	1.24/1.14	.85/.90
6000 FEET (3°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	9/61	9/63	10/65	10/67	11/70	11/75	12/82	14/90	15/100	1.17/1.10	.90/.93
	480	19/128	20/134	21/141	22/148	23/156	26/175	30/201	35/238	44/299	1.23/1.14	.87/.91
	520	26/180	28/192	30/206	32/223	35/244	---	---	---	---	1.23/1.14	.87/.91
	550	33/232	38/261	---	---	---	---	---	---	---	1.24/1.14	.86/.91

Figure 10-5. Low Altitude Acceleration - Military Thrust (Sheet 4 of 5)

LOW ALTITUDE ACCELERATION

F414-GE-400

MILITARY THRUST
GROSS WEIGHT = 50,000 POUNDS

REMARKS

ENGINE(S): (2) F414-GE-400
DATE: 29 OCTOBER 1999 — U.S. STANDARD DAY, 1962 — FUEL GRADE: JP-5
DATA BASIS: FLIGHT DERIVED — FUEL DENSITY: 6.8 LB/GAL

		TIME TO ACCELERATE (SEC) / FUEL TO ACCELERATE (LBS)									TEMP. EFFECT FACTORS	
	SPEED (KIAS)	DRAG INDEX										
		0	25	50	75	100	150	200	250	300	+10°C	-10°C
SEA LEVEL (15°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	8/59	8/61	8/63	9/64	9/66	9/70	10/75	11/81	12/87	1.17/1.09	.90/.94
	480	17/126	17/130	18/135	18/141	19/146	21/160	23/176	26/197	29/224	1.23/1.13	.87/.92
	520	23/175	24/183	25/192	26/202	28/213	31/240	36/277	43/335	59/460	1.24/1.14	.82/.88
	550	28/216	30/229	31/243	34/259	36/279	43/335	---	---	---	1.23/1.13	.84/.90
2000 FEET (11°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	9/61	9/63	9/65	9/67	10/69	10/74	11/79	12/85	13/93	1.17/1.09	.90/.94
	480	18/130	18/135	19/140	20/146	21/153	23/168	26/187	29/213	34/247	1.24/1.15	.87/.92
	520	25/181	26/190	27/200	29/212	30/224	35/257	41/305	53/394	---	1.25/1.16	.84/.89
	550	30/226	32/241	35/259	38/281	41/310	---	---	---	---	1.26/1.16	.85/.91
4000 FEET (7°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	9/63	9/65	10/67	10/69	10/72	11/77	12/83	13/91	14/99	1.17/1.10	.90/.94
	480	19/135	20/140	21/147	22/153	23/161	25/179	29/202	33/233	40/281	1.26/1.16	.87/.91
	520	26/188	28/199	29/211	31/225	34/241	40/286	51/367	---	---	1.24/1.14	.85/.90
	550	32/236	35/256	39/282	44/321	---	---	---	---	---	1.24/1.14	.85/.90
6000 FEET (3°C)	360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
	420	10/66	10/69	11/71	11/74	12/76	12/83	14/90	15/99	17/110	1.17/1.10	.90/.93
	480	21/140	22/147	23/154	24/162	25/171	28/192	32/220	38/261	48/329	1.23/1.14	.87/.91
	520	29/197	31/210	33/225	35/243	39/267	---	---	---	---	1.23/1.14	.87/.91
	550	36/253	41/283	---	---	---	---	---	---	---	1.25/1.15	.86/.91

Figure 10-5. Low Altitude Acceleration - Military Thrust (Sheet 5 of 5)

MAXIMUM THRUST ACCELERATION

F414-GE-400

10,000 FEET

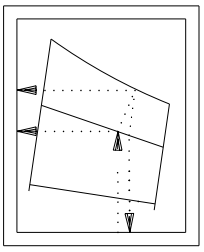
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120

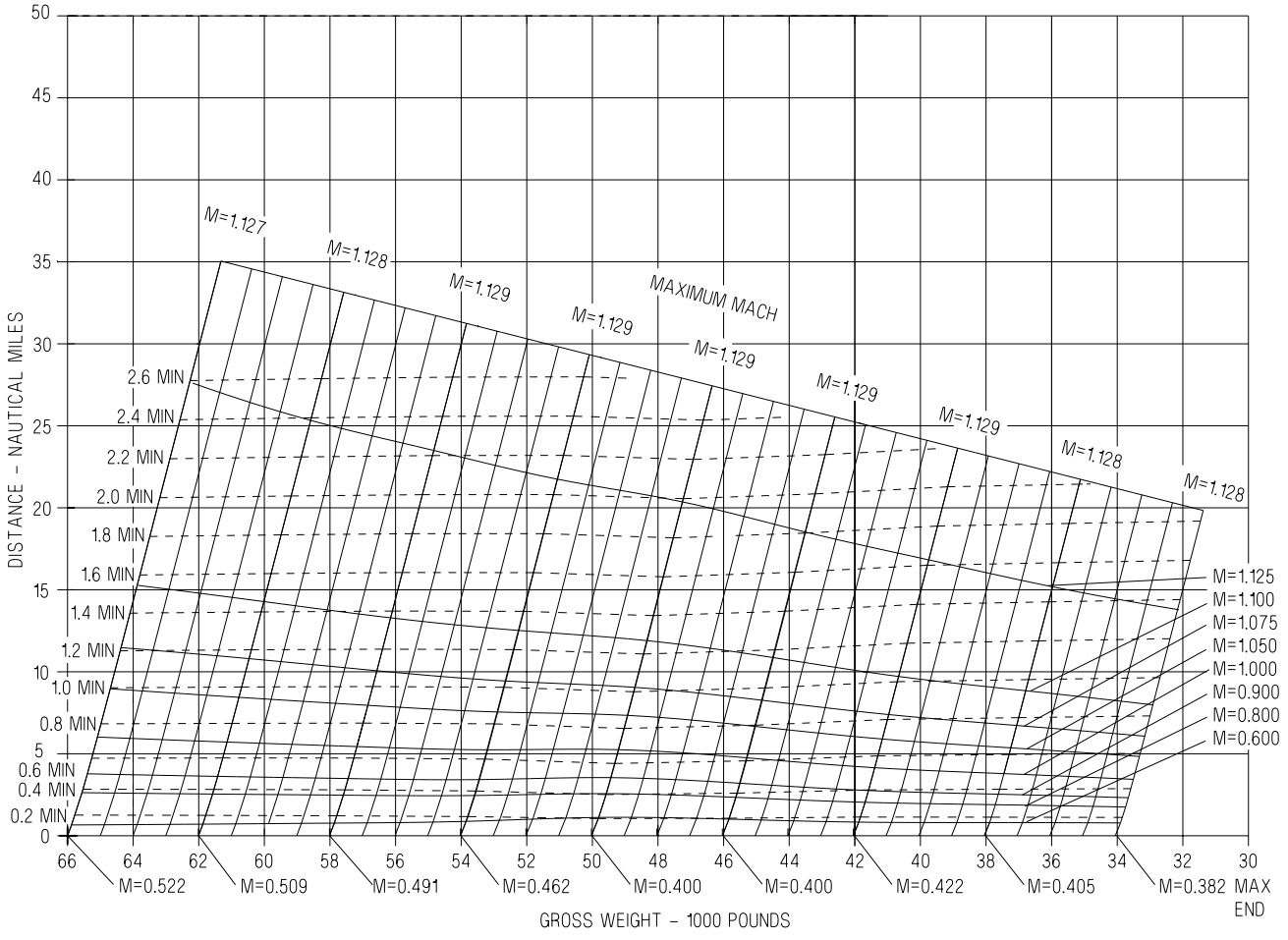
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-299-1-004

Figure 10-6. Maximum Thrust Acceleration - 10,000 Feet

MAXIMUM THRUST ACCELERATION

F414-GE-400

30,000 FEET

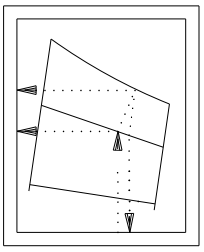
REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120

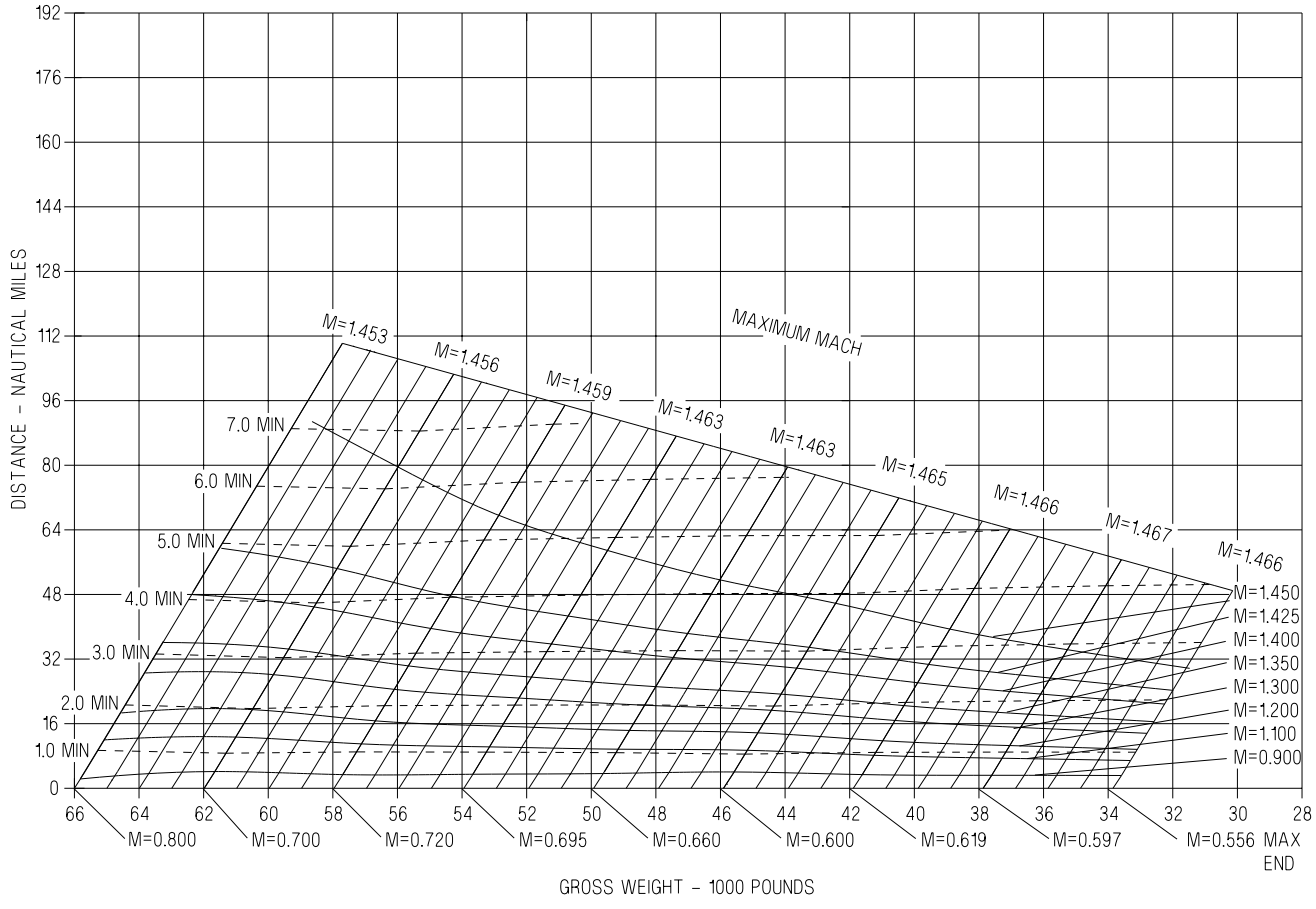
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-299-2-004

Figure 10-7. Maximum Thrust Acceleration - 30,000 Feet (Sheet 1 of 4)

MAXIMUM THRUST ACCELERATION

F414-GE-400

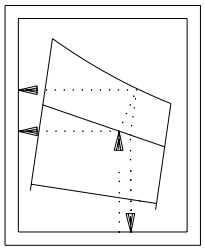
30,000 FEET

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120
+ ℄ 480 TANK

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

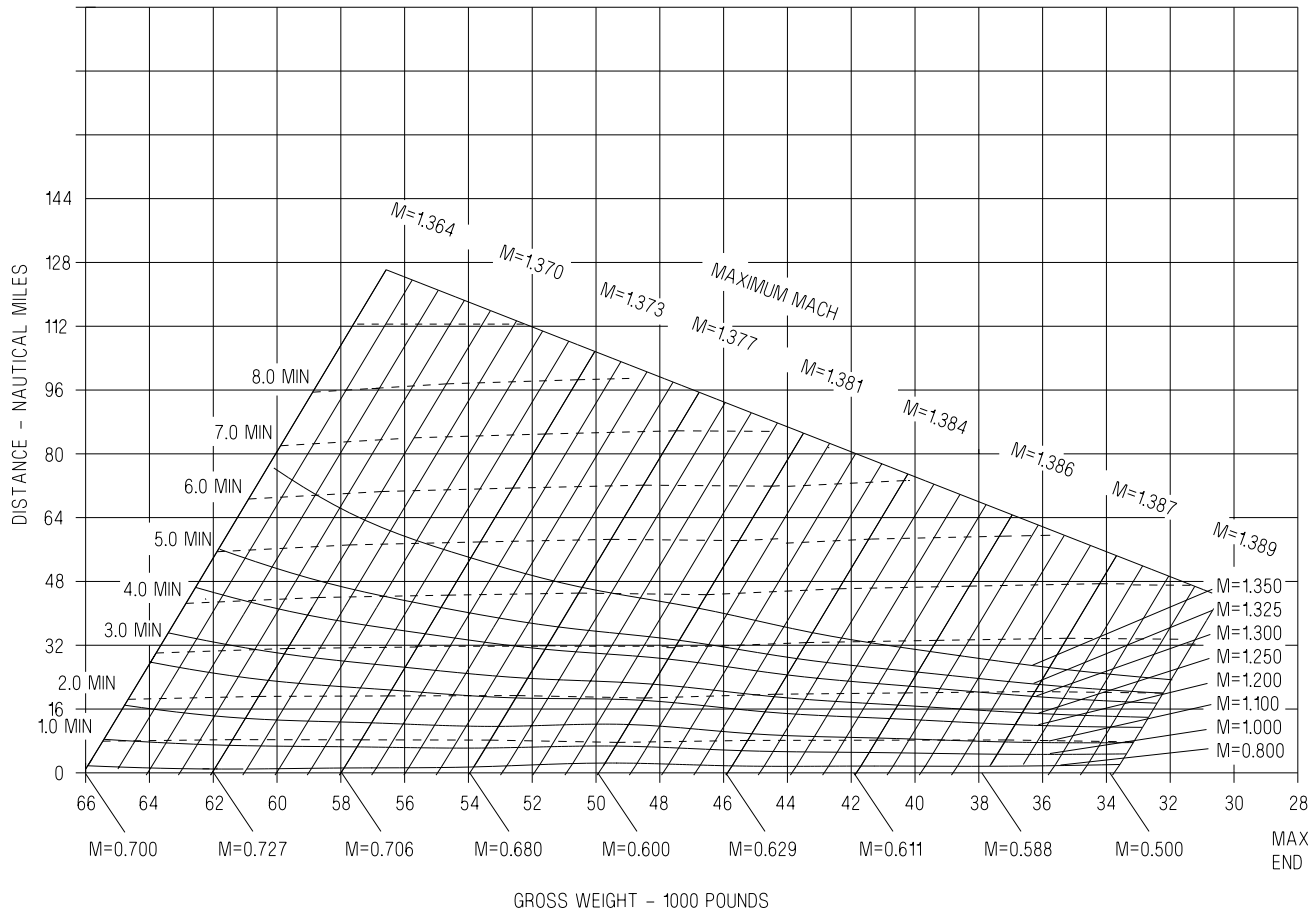
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-299-5-004

Figure 10-7. Maximum Thrust Acceleration - 30,000 Feet (Sheet 2 of 4)

MAXIMUM THRUST ACCELERATION

F414-GE-400

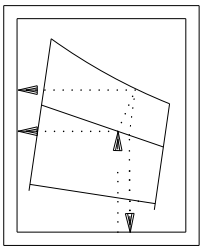
30,000 FEET

AIRCRAFT CONFIGURATION
(2) AIM-9 + (5) AIM-120
+ TFLIR

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

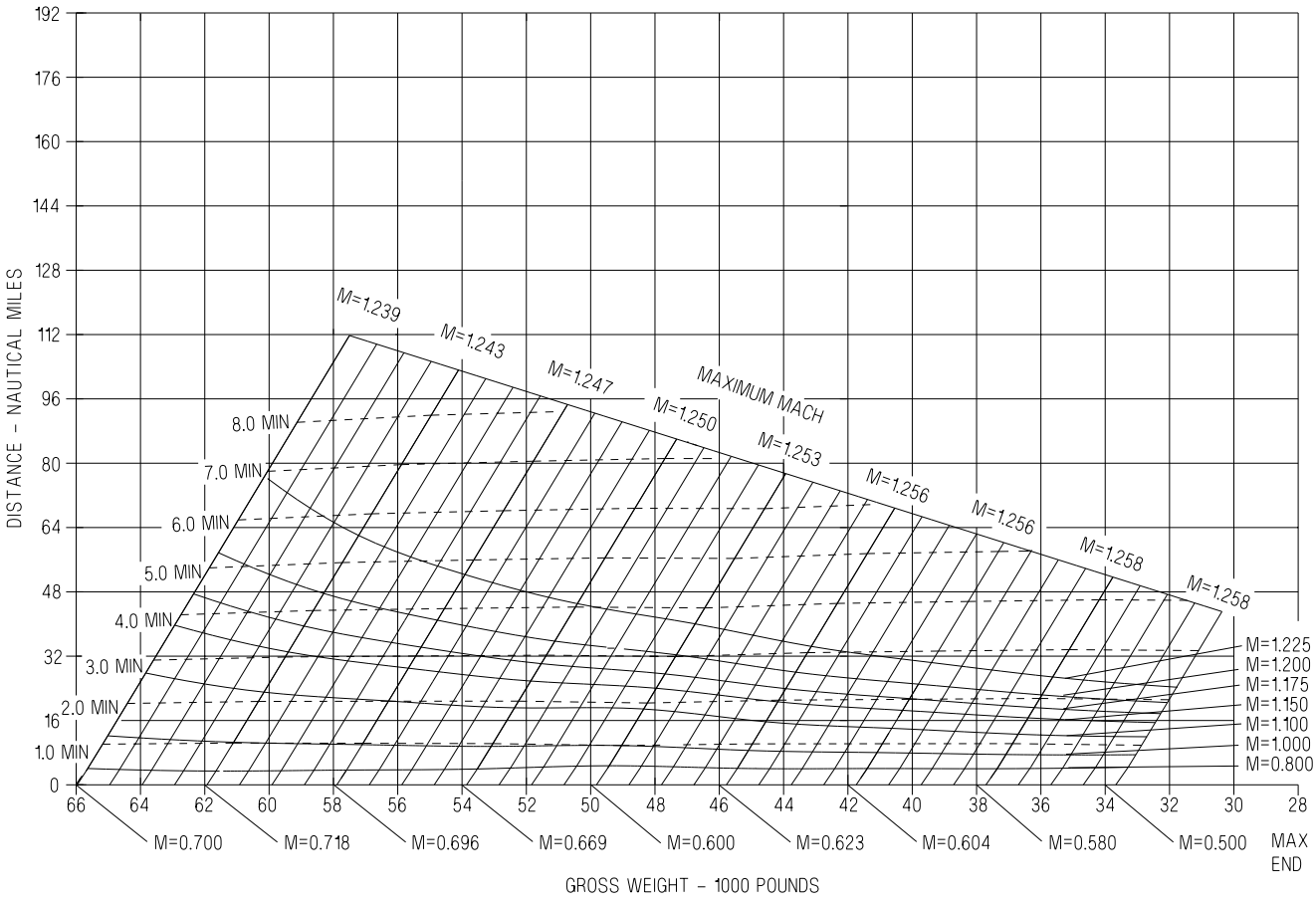
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-299-8-004

Figure 10-7. Maximum Thrust Acceleration - 30,000 Feet (Sheet 3 of 4)

MAXIMUM THRUST ACCELERATION

F414-GE-400

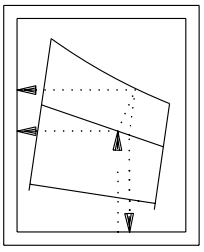
30,000 FEET

AIRCRAFT CONFIGURATION
(2) AIM-9 + (5) AIM-120
+ C_L 480 TANK + TFLIR

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

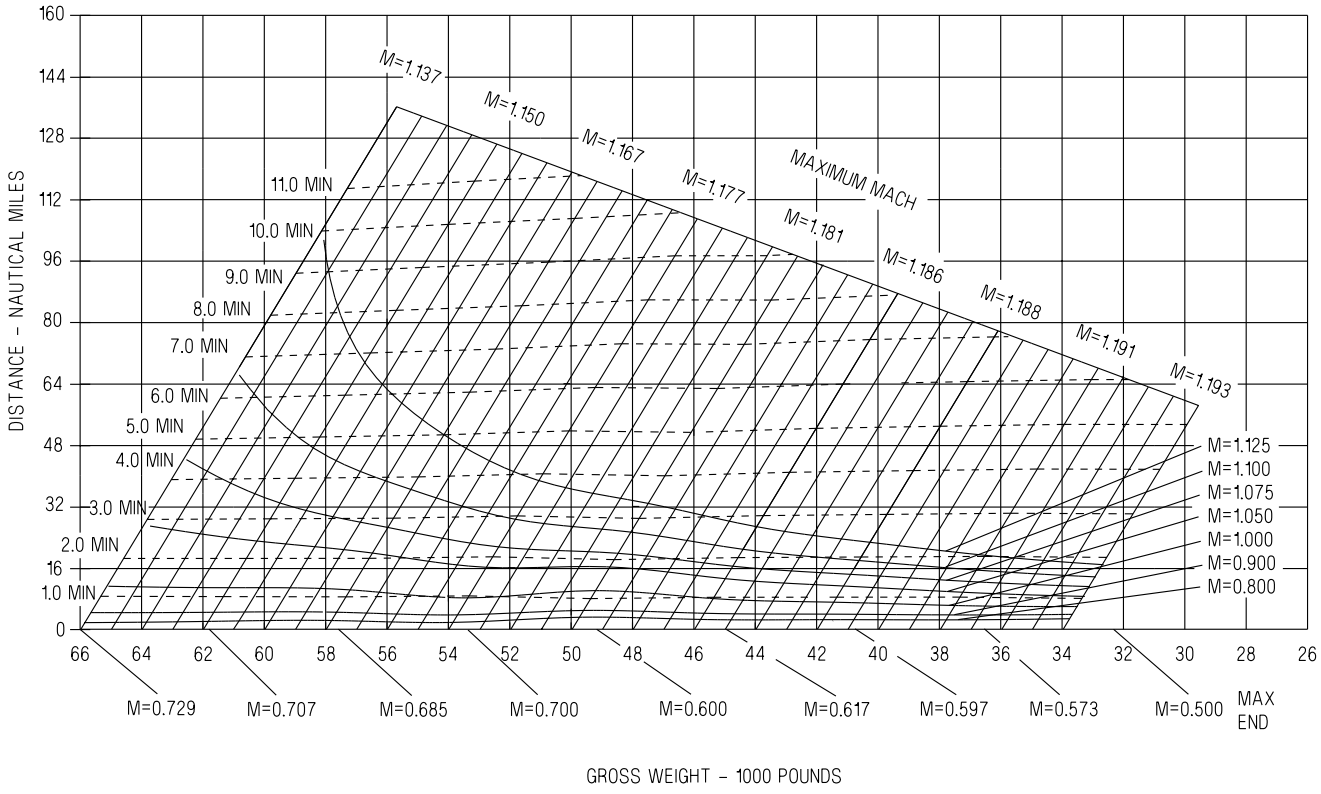
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-299-11-006

Figure 10-7. Maximum Thrust Acceleration - 30,000 Feet (Sheet 4 of 4)

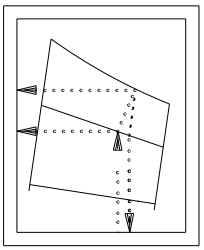
MAXIMUM THRUST ACCELERATION

F414-GE-400

35,000 FEET

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

GUIDE

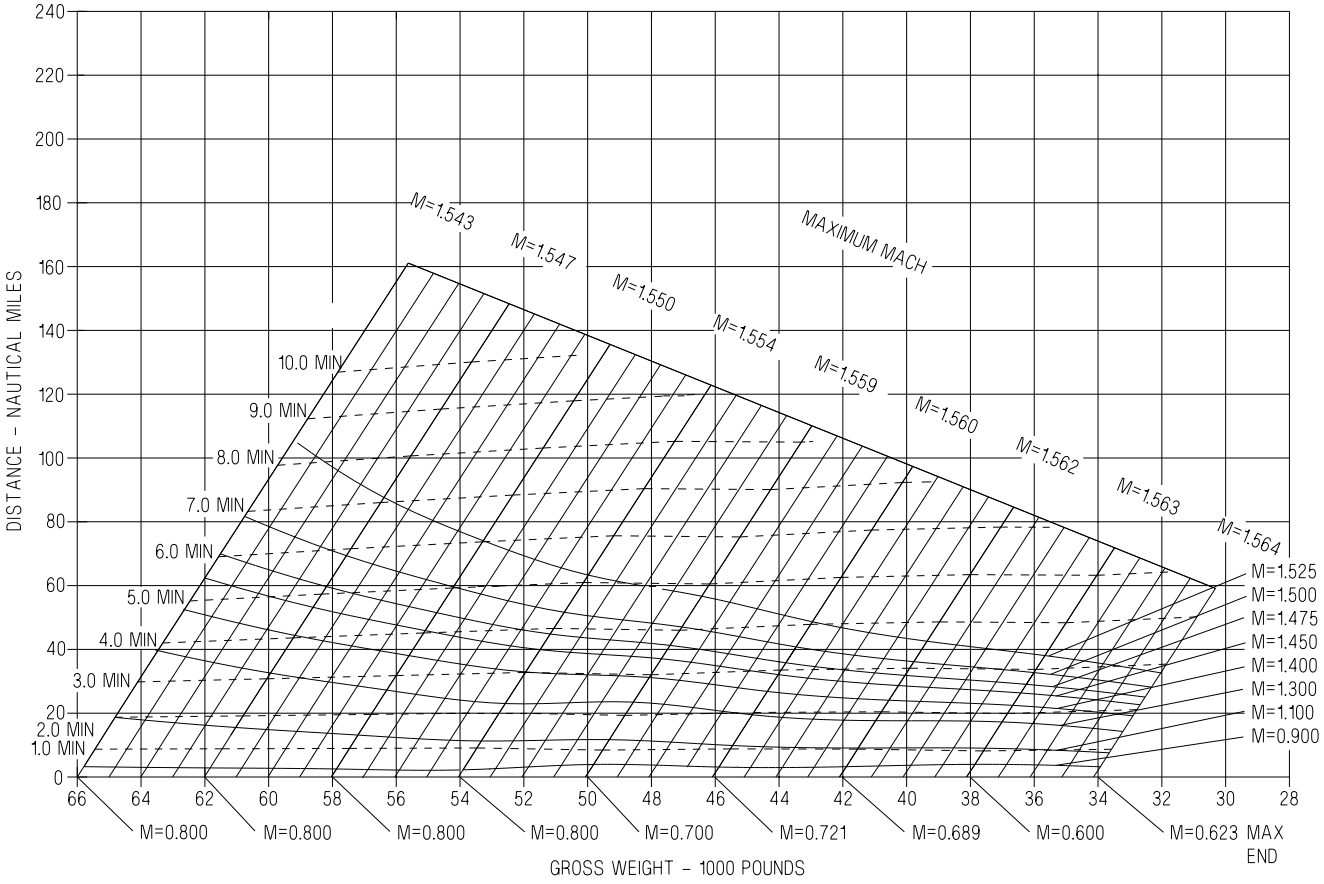


FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED



EFN523-299-3-004

Figure 10-8. Maximum Thrust Acceleration - 35,000 Feet (Sheet 1 of 4)

MAXIMUM THRUST ACCELERATION

F414-GE-400

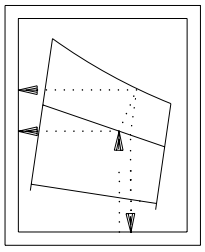
35,000 FEET

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120
+ C_L 480 TANK

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

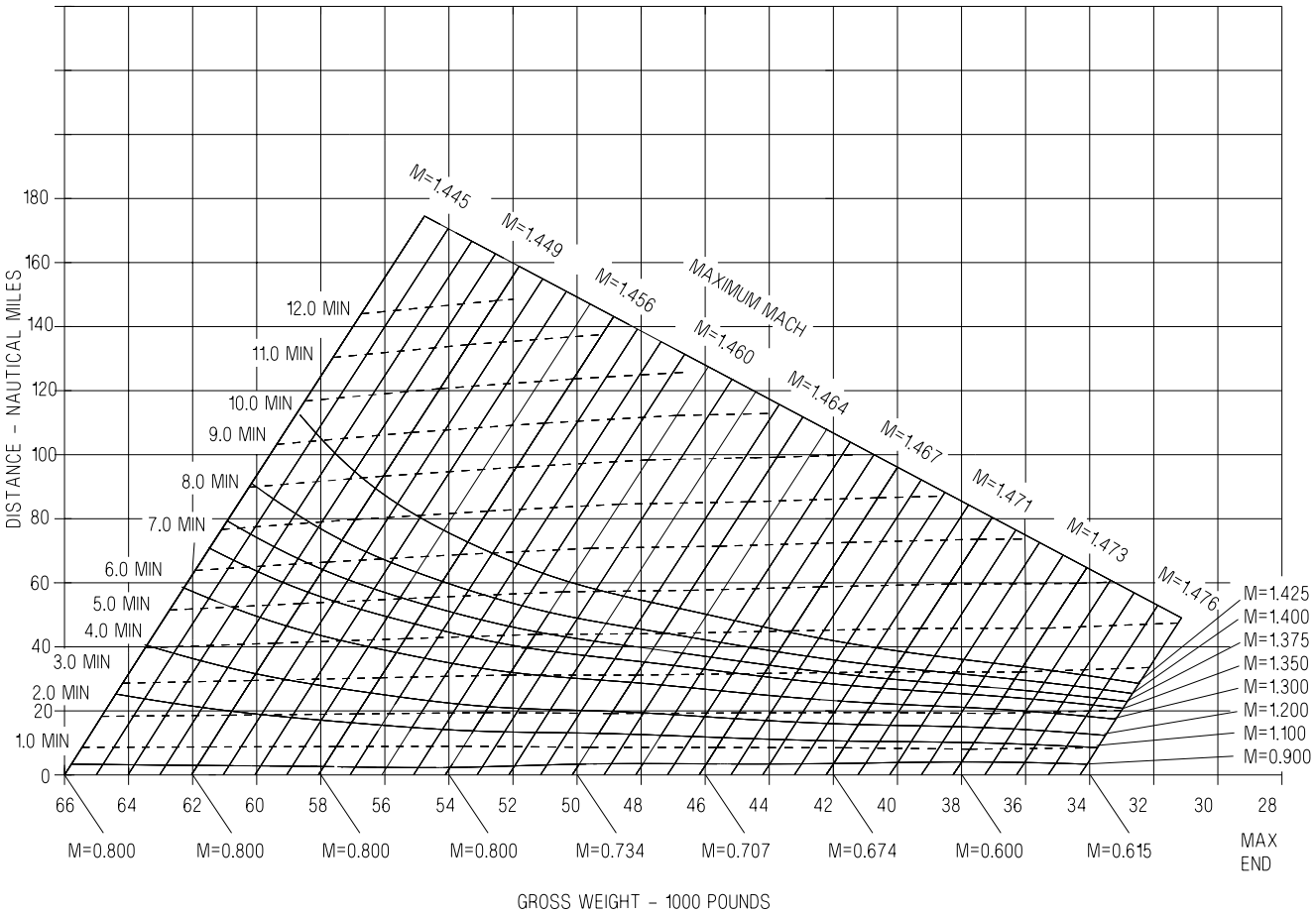
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-299-6-004

Figure 10-8. Maximum Thrust Acceleration - 35,000 Feet (Sheet 2 of 4)

MAXIMUM THRUST ACCELERATION

F414-GE-400

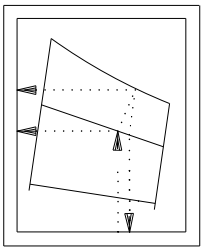
35,000 FEET

AIRCRAFT CONFIGURATION
(2) AIM-9 + (5) AIM-120
+ TFLIR

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL

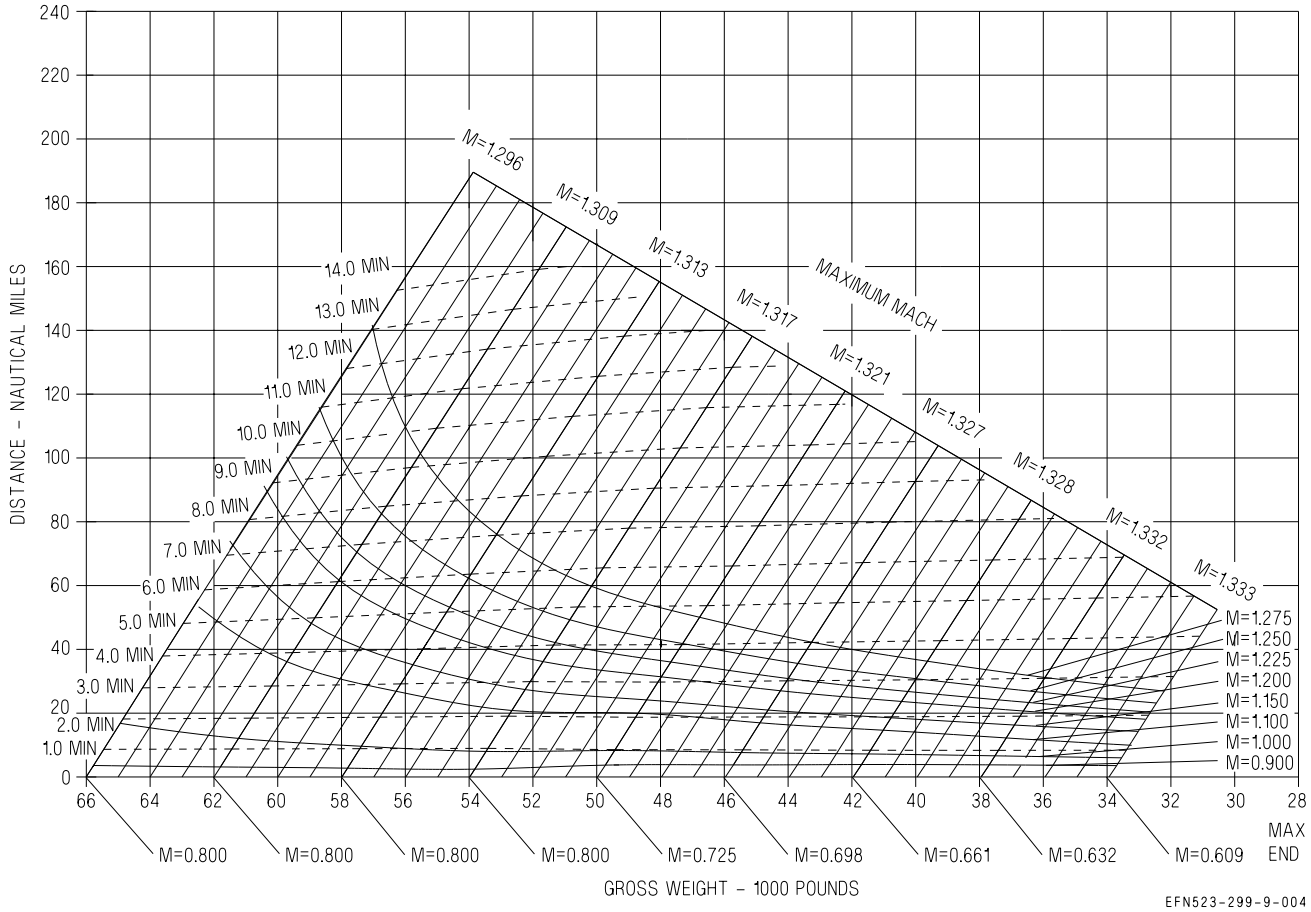


Figure 10-8. Maximum Thrust Acceleration - 35,000 Feet (Sheet 3 of 4)

MAXIMUM THRUST ACCELERATION

F414-GE-400

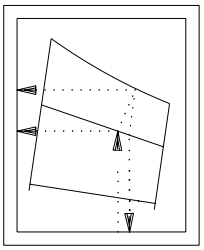
35,000 FEET

AIRCRAFT CONFIGURATION
(2) AIM-9 + (5) AIM-120
+ ℄ 480 TANK + TFLIR

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

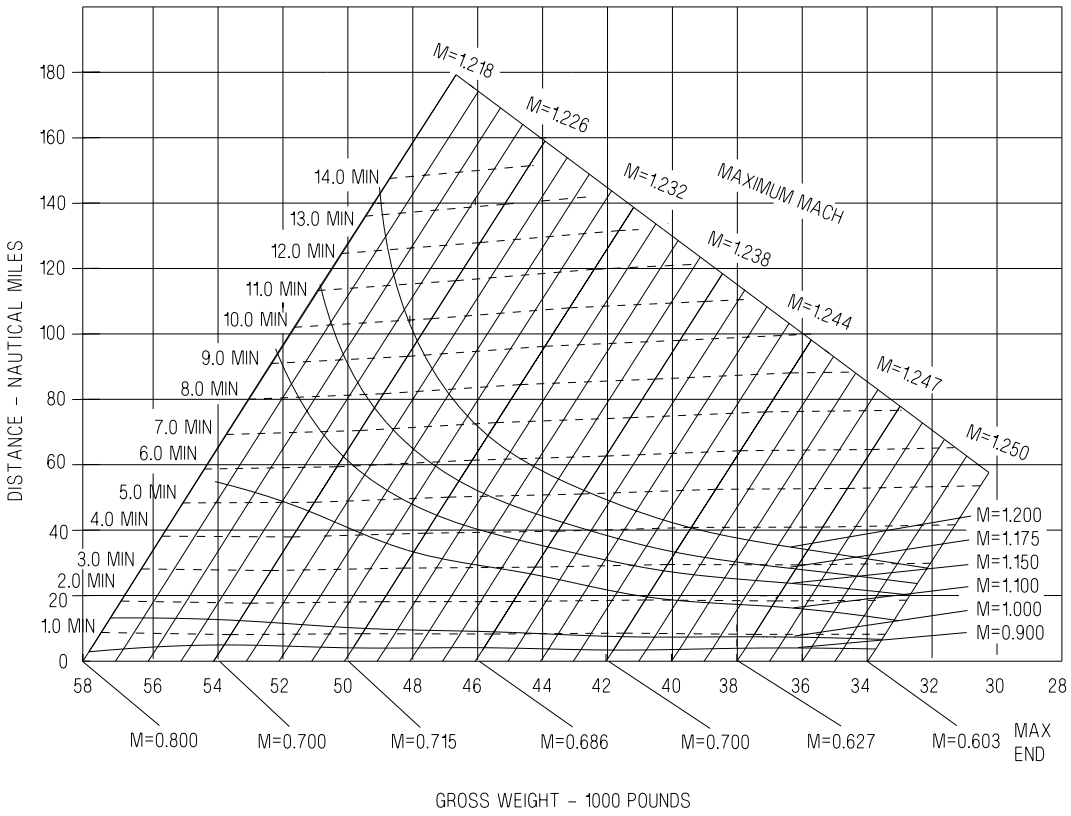
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-299-12-004

Figure 10-8. Maximum Thrust Acceleration - 35,000 Feet (Sheet 4 of 4)

MAXIMUM THRUST ACCELERATION

F414-GE-400

40,000 FEET

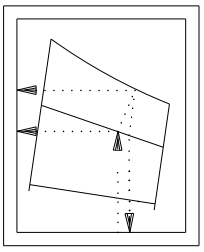
AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

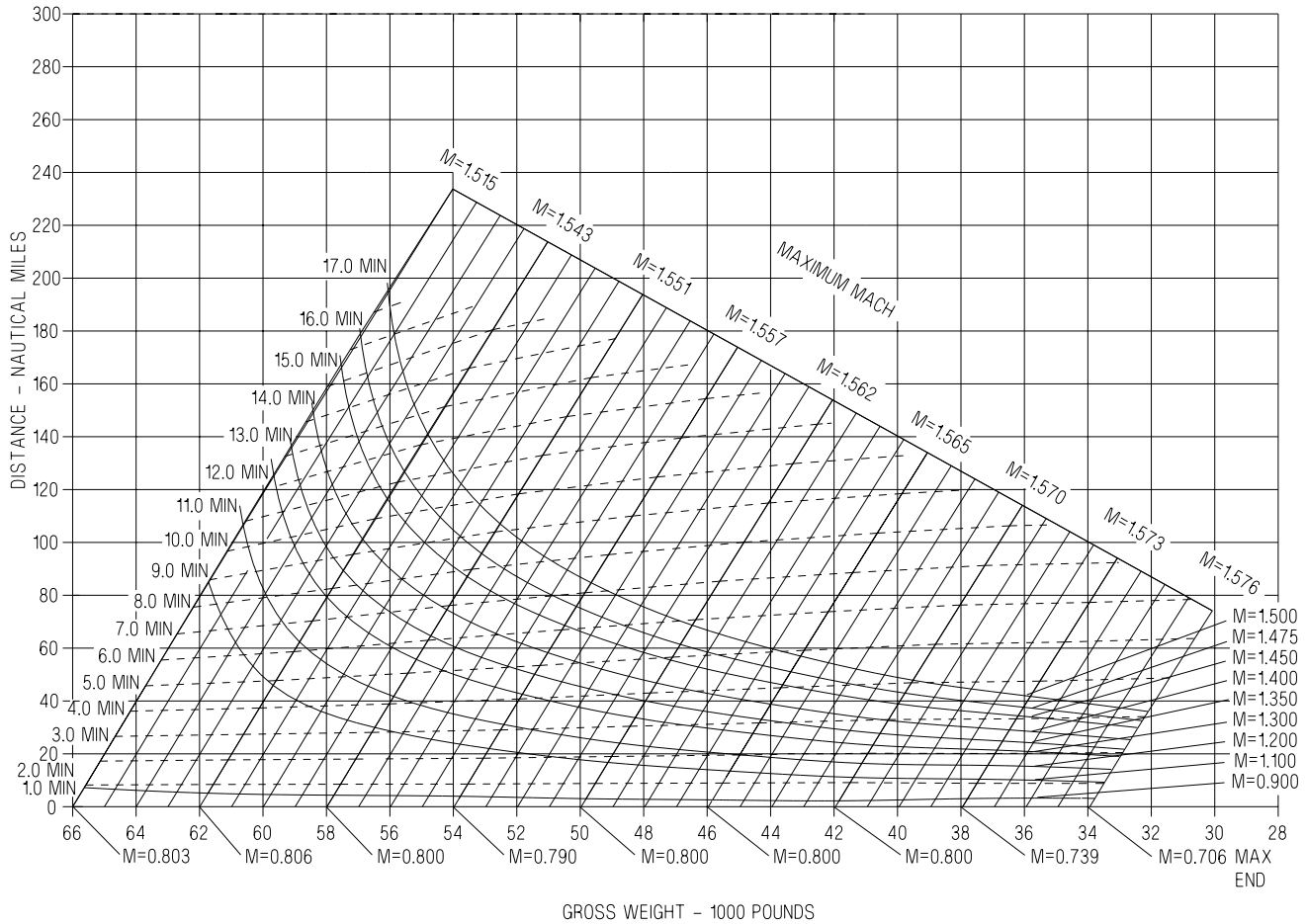
DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-299-4-004

Figure 10-9. Maximum Thrust Acceleration - 40,000 Feet (Sheet 1 of 2)

MAXIMUM THRUST ACCELERATION

F414-GE-400

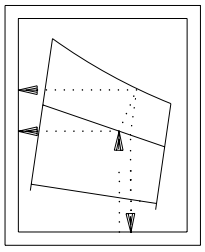
40,000 FEET

AIRCRAFT CONFIGURATION
(2) AIM-9 + (2) AIM-120
+ $\mathbb{C}_L$ 480 TANK

REMARKS
ENGINE(S): (2) F414-GE-400
U.S. STANDARD DAY, 1962

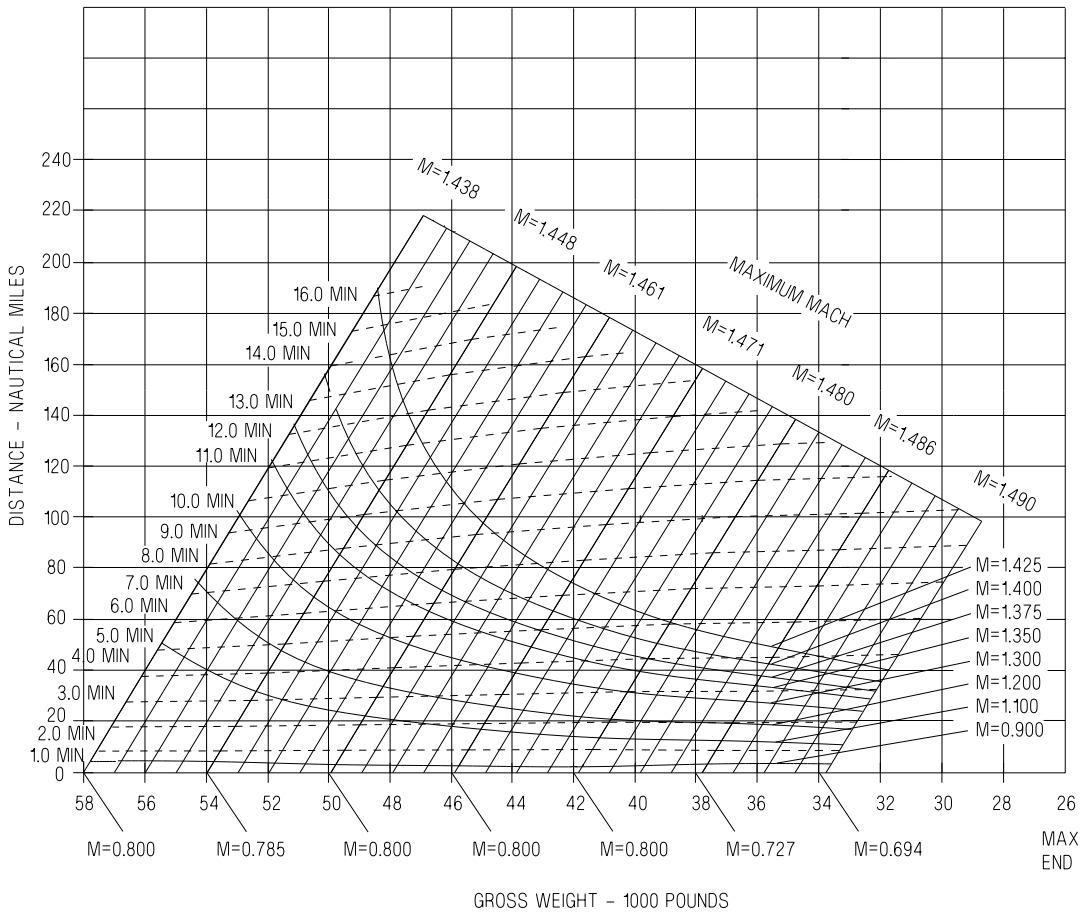
STANDARD TEMPERATURE		
ALT	°C	°F
SL	15	59
5,000	5	41
10,000	-5	12
15,000	-15	6
20,000	-25	-12
25,000	-35	-30
30,000	-44	-48
35,000	-54	-66
40,000	-57	-70
70,000	-57	-70

GUIDE



DATE: 29 OCTOBER 1999
DATA BASIS: FLIGHT DERIVED

FUEL GRADE: JP-5
FUEL DENSITY: 6.8 LB/GAL



EFN523-299-7-004

Figure 10-9. Maximum Thrust Acceleration - 40,000 Feet (Sheet 2 of 2)

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CHANGE 3	15 (Reverse Blank)
ORIGINAL	17 (Reverse Blank)
CHANGE 3	19 (Reverse Blank)
ORIGINAL	21 (Reverse Blank)
ORIGINAL	23 Thru 27 (Reverse Blank)
ORIGINAL	29 (Reverse Blank)
ORIGINAL	XI-1-1 (Reverse Blank)
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ORIGINAL	XI-5-5
CHANGE 1	XI-5-6
ORIGINAL	XI-5-7
CHANGE 1	XI-5-8 Thru XI-5-9
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CHANGE 1	XI-5-181 Thru XI-5-187
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