

# N670RA

## 1993 King Air 300LW

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# Performance Data

**MSN: FA-226**



*Prepared by the worldwide aviation specialists at RidgeAire, Inc.*

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PERFORMANCE  
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## **INTRODUCTION**

The graphs and tables in this Section present performance information for takeoff, climb, flight planning, and landing at various parameters of weight, power, altitude, and temperature. Examples have been presented on performance graphs.

## **HOW TO USE GRAPHS**

1. All airspeeds and references to airspeeds in this Section are indicated airspeeds unless otherwise noted.
2. A reference line indicates where to begin following the guidelines. Always project to the reference line first, then follow the guidelines to the next known item by maintaining the same PROPORTIONAL DISTANCE between the guideline above and guideline below the projected line. For instance, if the projected line intersects the reference line in the ratio of 30% down/70% up between the guidelines, then maintain this same 30%/70% relationship between the guidelines all the way to the next known item or answer.
3. The AIRSPEED CALIBRATION - NORMAL SYSTEM - TAKE-OFF GROUND ROLL graph was used to obtain  $V_1$  and  $V_R$  indicated airspeeds (IAS). All other indicated airspeeds were obtained using the AIRSPEED CALIBRATION - NORMAL SYSTEM graph.
4. The associated conditions define the specific conditions from which performance parameters have been determined. They are not intended to be used as instructions; however, performance values determined from charts can only be achieved if the specified conditions exist.
5. The full amount of usable fuel is available for all approved flight conditions.
6. Notes have been provided on various graphs and tables to approximate performance with engine anti-ice on. The notes are based on a single worst-case condition, and thus actual effects may be less, depending upon airspeed and ambient conditions. At lower altitudes and/or temperatures, the effect of engine anti-ice diminishes to zero where either of the following conditions exist:
  - For take-off: The Minimum Take-off Power with Engine Anti-ice Off power can be set when the engine anti-ice system is on.
  - In-flight: 100% torque and 1700 RPM can be set without exceeding any engine limitations with the engine anti-ice system on.

Thus, if the above conditions exist, the performance degradation notes on maximum take-off weight graphs, take-off graphs, and all in-flight performance graphs where Take-off or Maximum Continuous Power is required, can be ignored even though the engine anti-ice system is on.

## TECHNIQUE

The takeoff and landing performance contained in this Section was obtained using the procedures listed below. The takeoff and accelerate-stop graphs are based on the power value obtained from the associated TAKE-OFF POWER graph. Torque was allowed to increase with increasing airspeed. No readjustments were made until reaching 400 feet above the runway. Some tension is required on power lever friction locks during takeoff to assist in making small power adjustments and to prevent creep.

### ACCELERATE-STOP

1. Autofeather switch was armed.
2. Torque - Torque was set to Minimum Take-off Power setting.
3. Brakes were released.
4. Torque was allowed to increase as speed increased.
5. An engine was failed just prior to  $V_1$ . Power levers were retarded to idle, and in a natural continuing motion, lifted and further retarded to the Minimum Ground Fine position at the  $V_1$  speed.
6. Brakes were applied with the maximum toe pressure possible without skidding tires just after power levers reached Ground Fine position, and maintained until fully stopped.

### ACCELERATE-GO

1. Autofeather switch was armed.
2. Torque was set at Static Take-off Power setting.
3. Brakes were released.
4. Torque was allowed to increase as speed increased.
5. An engine was failed just prior to  $V_1$  and autofeather functioned normally.
6. The airplane was rotated at  $V_1$  to approximately 8° pitch attitude.
7. Landing gear was retracted immediately after becoming airborne.
8. Pitch attitude was adjusted as required to achieve  $V_2$  by 35 ft AGL.  $V_2$  was maintained until reaching 400 ft AGL.
9. Power adjustments were made to preclude exceeding torque and ITT limits.
10. Flaps were retracted (if extended) at  $V_{YSE}$ .

### TAKE-OFF

1. Torque was set to Minimum Take-off Power setting.
2. Brakes were released.
3. Torque was allowed to increase as speed increased, and was reduced only as necessary to prevent exceeding ITT and torque limits.

4. The airplane was rotated at  $V_R$ , then accelerated to  $V_2$  by 50 feet AGL.
5. The landing gear was retracted immediately after becoming airborne.

## **LANDING**

1. The landing gear was extended.
2. The flaps were set to LANDING or UP position, depending upon the landing chart being used.
3. The approach speed corresponding to the flap position was established.
4. The propellers were set to 1500 rpm.
5. Power was adjusted to maintain a descent rate of 3 degrees or 800 ft/min, depending upon the landing chart being used (a 3° approach corresponded to approximately 600 ft/min rate of descent).
6. Power levers were retarded to idle position at 50 ft above the landing surface.
7. Propeller levers were adjusted to high rpm, and a firm touchdown was accomplished with minimum flare.
8. Power levers were lifted and retarded to the Minimum Ground Fine position at touchdown.
9. Just after power levers reached Ground Fine position, brakes were applied using the maximum toe pressure possible without skidding tires. This configuration was maintained until fully stopped.

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## EXAMPLE

The following example presents calculations for flight time, block speed, and fuel required for a proposed flight from Denver, Colorado to Reno, Nevada using the conditions listed below, except as noted.

### CONDITION

At Stapleton International (DEN):

Outside Air Temperature	.....	28°C
Elevation	.....	5333 feet <sup>1</sup>
Altimeter Setting	.....	30.25 in. Hg
Wind	.....	310° at 13 knots
Runway 35L Length	.....	3505 meters <sup>1</sup>
Runway Gradient	.....	0.4% downhill

<sup>1</sup>Source: Jeppesen Airport Diagram, AUG 26-83

Route of Trip: DEN - J116 - EKR - J173 - SLC - J154 - BAM - J32 - RNO

Route Segment Data:<sup>2</sup>

ROUTE SEGMENT	AVERAGE MAGNETIC COURSE	AVERAGE MAGNETIC VARIATION	DISTANCE NM	WIND AT FL 260 DIR/KNOTS	OAT AT FL 260 °C	OAT AT 18,000 FT <sup>3</sup> °C	ALTIMETER SETTING IN. HG
DEN-EKR	265°	13°E	143 <sup>4</sup>	350°/40	-10	-6	29.82
EKR-SLC	269°	14°E	192	350°/40	-10	-6	29.82
SLC-BVL	248°	14°E	81	340°/35	-20	0	29.48
BVL-BAM	249°	16°E	145	340°/35	-20	0	29.75
BAM-RNO	226°	17°E	146 <sup>4</sup>	290°/45	-20	-4	29.60

<sup>2</sup>Source: Jeppesen High Altitude Enroute Chart US (HI) 2, NOV 18-83.

<sup>3</sup>To illustrate the MEA requirement, the floor of the Jet Airways (18,000 ft MSL) was used in this example.

<sup>4</sup>Includes distance between airport and VORTAC, per Jeppesen Airport Directory, OCT 7-83.

At Cannon International (RNO):

Outside Air Temperature	.....	32°C
Field Elevation	.....	4412 feet <sup>5</sup>
Altimeter Setting	.....	29.83 in. Hg
Wind	.....	260° at 10 knots
Runway 25 Length	.....	1859 meters <sup>5</sup>
Runway Gradient	.....	.Not published; zero assumed

<sup>5</sup>Source: Jeppesen Airport Diagram, AUG 19-83

## **PRESSURE ALTITUDE**

To determine the approximate pressure altitude at origin and destination airports, add 1000 feet to field elevation for each 1.00 in. Hg that the reported altimeter setting value is below 29.92 in. Hg, and subtract 1000 feet for each 1.00 in. Hg above 29.92 in. Hg. Always subtract the reported altimeter setting FROM 29.92 in. Hg. Then multiply the answer by 1000 to find the difference in feet between field elevation and pressure altitude.

**Pressure Altitude at DEN:**

$$\begin{array}{r} 29.92 \\ -30.25 \\ \hline -0.33 \end{array}$$

$$-0.33 \times 1000 \text{ feet} = -330 \text{ feet}$$

Field Elevation .....	5333 feet
Pressure Altitude Correction .....	<u>-330 feet</u>
Field Pressure Altitude .....	5003 feet

**Pressure Altitude at RNO:**

$$\begin{array}{r} 29.92 \\ -29.83 \\ \hline 0.09 \end{array}$$

$$0.09 \times 1000 \text{ feet} = 90 \text{ feet}$$

Field Elevation .....	4412 feet
Pressure Altitude Correction .....	<u>+ 90 feet</u>
Field Pressure Altitude .....	4502 feet

## **TAKE-OFF WEIGHT**

The following examples illustrate the use of graphs which may restrict take-off weight.

### **NOTE**

Do not exceed the Maximum Take-off Weight Limitation of 5670 kg.

### **MAXIMUM TAKE-OFF WEIGHT TO ACHIEVE POSITIVE ONE-ENGINE-INOPERATIVE CLIMB AT LIFT-OFF**

Enter the graphs at 5003 feet pressure altitude, 28°C, and read:

Flaps Up .....	5670 kg
Flaps Approach .....	5670 kg

### MAXIMUM ENROUTE WEIGHT FOR 50-FT/MINUTE ONE-ENGINE-INOPERATIVE CLIMB

To determine the maximum take-off weight, the weight of the fuel used to reach the MEA is added to the maximum enroute weight obtained from this graph. Use the Time, Fuel, and Distance to Cruise Climb graph to determine the weight of the fuel used to climb. Use the Cruise Power tables to determine the weight of the fuel used to cruise to each MEA.

Enter the MAXIMUM ENROUTE WEIGHT FOR 50-FT/MINUTE ONE-ENGINE-INOPERATIVE CLIMB graph at the conditions for each enroute MEA. In order to demonstrate the proper use of this graph more clearly, an example altimeter setting of 29.65 in. Hg is shown on the graph.

#### Maximum Enroute Weight for 50-Ft/Minute One-Engine-

Inoperative Climb . . . . . Exceeds Structural Limit of 5670 kg

Since this weight is greater than the maximum Take-off Weight Limitation of 5670 kg (12,500 pounds) there is no limitation to meet FAR 135 Enroute Weight Requirements. Anytime the value is less than 5670 kg (12,500 pounds), add the fuel required to climb, plus any fuel used in cruise before reaching each MEA, to determine the maximum allowable take-off weight to meet the requirement for each route segment of the trip.

### MINIMUM FIELD LENGTH

The following example illustrates the use of graphs which may restrict take-off weight due to field length available under existing conditions.

### TAKE-OFF DISTANCE

Enter the graphs at 28°C, 5003 feet pressure altitude, 5500 kilograms, 0.4% down runway gradient, and 10 knots headwind component, and obtain the following results:

	FLAPS UP	FLAPS APPROACH
Ground Roll . . . . .	705 m	620 m
Total Distance Over 50-foot Obstacle . . . . .	1010 m	780 m
$V_R$ . . . . .	106 kts	100 kts
$V_2$ . . . . .	114 kts	101 kts

### ACCELERATE-STOP DISTANCE

Enter the graphs at 28°C, 5003 feet pressure altitude, 5500 kilograms, 0.4% down-hill runway gradient, and 10 knots headwind component, and obtain the following results:

## Section V Performance

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	FLAPS UP	FLAPS APPROACH
Accelerate-Stop Field Length .....	1635 m	1360 m
$V_R$ .....	106 kts	100 kts

### TAKE-OFF FLIGHT PATH (FLAPS UP)

The following example assumes the airplane is loaded to a take-off weight of 5500 kilograms, and illustrates the use of graphs which may restrict take-off weight due to the climb gradient necessary to clear obstructions beyond the end of the runway.

### ACCELERATE-GO DISTANCE OVER 35-FOOT OBSTACLE - FLAPS UP

Enter the graph at 28°C, 5003 feet pressure altitude, 5500 kilograms, 0.4% down-hill runway gradient, and 10 knots headwind component:

Total Distance Over 35-foot Obstacle .....	1605 m
$V_R$ .....	106 kts
$V_2$ .....	114 kts

### NET GRADIENT OF CLIMB - ONE ENGINE INOPERATIVE - FLAPS UP

Enter the graph at 28°C, 5003 feet pressure altitude, and 5500 kilograms:

Climb Gradient .....	4.53%
$V_2$ .....	114 kts

A 4.53% climb gradient is 45.3 feet of vertical height for each 1000 feet (304.8 m) of horizontal distance.

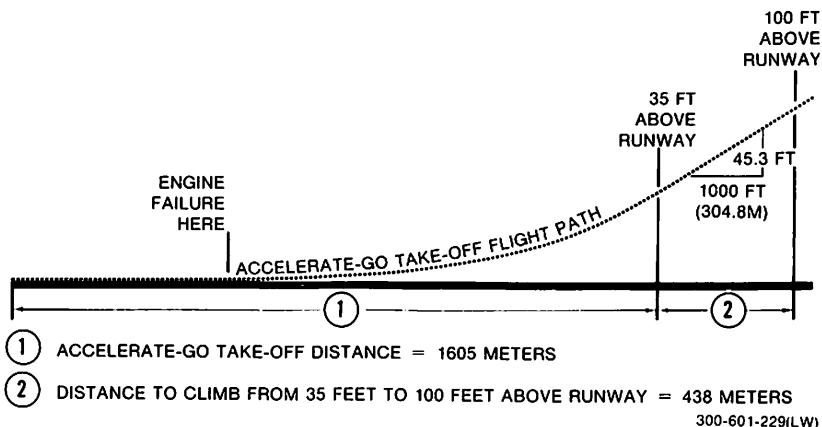
### NOTE

The graphs for take-off climb gradient assume a zero-wind condition. Climbing into a headwind will result in higher angles of climb and hence better obstacle clearance capabilities.

Calculation of the horizontal distance to clear an obstacle 100 feet above the runway surface:

Distance from 35 ft AGL to 100 ft AGL .....	65 ft
(100 - 35) (1000 ÷ 45.3) .....	1435 ft (437.4 m)
Total Distance = 1605 m + 438 m .....	2043 m

This example is illustrated as follows:



## FLIGHT PLANNING EXAMPLE

The following calculations provide information for flight planning.

Calculations for flight time, block speed, and fuel requirements for the proposed flight are detailed below.

## NOTE

For example purposes, the differences between MSL altitudes and pressure altitudes have been ignored in enroute calculations.

## ISA CONVERSION

Enter the graph at the conditions indicated:

DEN - SLC Pressure Altitude .....	26,000 ft
OAT .....	-10°C
ISA Condition .....	ISA + 27°C
SLC - RNO Pressure Altitude .....	26,000 ft
OAT .....	-20°C
ISA Condition .....	ISA + 17°C

## TIME, FUEL, AND DISTANCE TO CRUISE CLIMB

Enter the graph at 28°C, to 5003 feet pressure altitude, and to 5500 kilograms. Enter again at -10°C, to 26,000 feet pressure altitude, and to 5500 kilograms. The following results are obtained:

## Section V Performance

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Time to Climb .....	15 - 2 = 13 min
Fuel to Climb .....	225 - 40 = 185 lbs
Distance Traveled .....	51 - 7 = 44 nm

### TIME, FUEL, AND DISTANCE TO DESCEND

Enter the graph at 26,000 feet, and enter again at 4502 feet, and find:

Time to Descend .....	17.3 - 3.1 = 14.2 min
Fuel Used to Descend .....	192 - 35 = 157 lbs
Distance Traveled .....	88 - 13 = 75 nm

### CRUISE WEIGHT (ESTIMATED)

For the following cruise segment examples, the estimated average cruise weight used is 5120 kilograms.

### CRUISE TRUE AIRSPEED

Enter the tables for NORMAL CRUISE POWER at 1500 RPM for ISA + 10°C, ISA + 20°C, and for ISA + 30°C, and determine speeds for 26,000 feet at 5120 kilograms. Interpolate between these speeds for ISA + 27°C and ISA + 17°C.

### CRUISE TRUE AIRSPEEDS-KTS (5120 KILOGRAMS)

ALTITUDE FEET	ISA+10°C	ISA+17°C	ISA+20°	ISA+27°C	ISA+30°C
26,000	300	295	293	287	284

### CRUISE POWER SETTING

Enter the graph for NORMAL CRUISE POWER at 1500 RPM at 26,000 feet and read the recommended torque setting for ISA + 27°C (-2°C IOAT), and for ISA + 17°C (-12°C IOAT):

Torque per Engine at ISA + 27°C .....	58%
Torque per Engine at ISA + 17°C .....	64%

### NOTE

For flight planning, enter the cruise power graph at the planned cruise altitude to the forecasted ISA condition. For enroute power settings, enter at the Indicated Outside Air Temperature actually observed, and proceed to the actual pressure altitude.

### CRUISE FUEL FLOW

Enter the graph for FUEL FLOW AT NORMAL CRUISE POWER at 1500 RPM at 26,000 feet and read the fuel flow values for ISA + 27°C and for ISA + 17°C:

Fuel Flow per Engine at ISA + 27°C .....	276 lbs/hr
Total Fuel Flow at ISA + 27°C .....	552 lbs/hr
Fuel Flow per Engine at ISA + 17°C .....	300 lbs/hr
Total Fuel Flow at ISA + 17°C .....	600 lbs/hr

### NOTE

For flight planning, enter the fuel flow graph at the planned cruise altitude to the forecasted ISA condition. For enroute fuel flow, enter at the Indicated Outside Air Temperature actually observed, and proceed to the actual pressure altitude.

### FLIGHT PLANNING RESULTS

ROUTE	DISTANCE	ESTIMATED GROUND SPEED	TIME AT CRUISE ALTITUDE	FUEL USED FOR CRUISE <sup>3</sup>
		KTS	HRS:MIN	LBS
	NM			
DEN-EKR	99 <sup>1</sup>	273	:21.8	200
EKR-SLC	192	269	:42.8	394
SLC-BVL	81	286	:17.0	170
BVL-BAM	145	284	:30.6	307
BAM-RNO	71 <sup>1</sup>	262	:16.3	163

<sup>1</sup>Distance required to climb or descend has been subtracted from segment distance.

<sup>2</sup>Time = Distance divided by Ground Speed

<sup>3</sup>Fuel Used = Distance divided by Ground Speed, multiplied by Total Fuel Flow

ITEM	TIME	FUEL	DISTANCE
	HRS:MIN	POUNDS	NM
Start, Runup, Taxi and Take-off Acceleration	:00.0	100	0
Climb	:13.0	185	44
Cruise	2:08.5	1234	588
Descent	:14.2	157	75
<b>TOTAL</b>	<b>2:35.7</b>	<b>1676</b>	<b>707</b>

Block Speed 707 NM + 2 hrs, 36 Min=272 kts

### **RESERVE FUEL**

Reserve Fuel is the amount required to fly at cruise altitude for 45 minutes at Maximum Range Power. This example assumes the average cruise weight while using Reserve Fuel to be 4719 kilograms.

Since the lowest weight values presented in the tables are for 4989.5 kgs, enter the MAXIMUM RANGE POWER at 1500 RPM tables for ISA + 10°C and for ISA + 20°C at 4989.5 kgs and 26,000 feet:

ISA + 10°C .....	376 lbs/hr
ISA + 20°C .....	386 lbs/hr

Interpolate to find the total fuel flow at ISA + 17°C:

Total Fuel Flow = 383 lbs/hr

Reserve Fuel = 45 minutes X 383 lbs/hr = 287.25 = 288 lbs

### **TOTAL FUEL REQUIREMENT**

$$\text{Calculated Fuel Usage} + \text{Reserve Fuel} = \text{Total Fuel Requirement}$$

$$1,676 \text{ lbs} + 288 \text{ lbs} = 1,964 \text{ lbs}$$

### **ZERO FUEL WEIGHT LIMITATION**

For this example, the following conditions were assumed:

Ramp Weight .....	5545.4 kg (12,225 lbs)
Weight of Usable Fuel Onboard .....	890.9 kg (1,964 lbs)

Zero Fuel Weight = Ramp Weight - Weight of Usable Fuel Onboard

Zero Fuel Weight = 5545.4 kg - 890.9 kg = 4654.5 kg (10,261 lbs)

Maximum Zero Fuel Weight (from LIMITATIONS Section) .....	5216 kg (11,500 lbs)
--	----------------------

Maximum Zero Fuel Weight Limitation has not been exceeded.

Anytime the Zero Fuel Weight exceeds the Maximum Zero Fuel Weight Limit by X kilograms, at least X kilograms of payload must be off-loaded. If desired, additional fuel may then be added until the maximum ramp weight limitation of 5670 kilograms is reached. However, previous calculations will remain valid only if fuel equal in weight to off-loaded payload is added.

## LANDING EXAMPLE

The estimated Landing Weight is determined by subtracting the fuel required for the trip from the Ramp Weight:

Ramp Weight .....	5545.4 kg (12,225 lbs)
Fuel Usage Expected for Total Trip .....	(-) 760.2 kg (1,676 lbs)
Landing Weight .....	4785.2 kg (10,549 lbs)

## LANDING DISTANCE - FLAPS DOWN - 3-DEGREE APPROACH

Enter the graph at 32°C, 4502 feet, 4785 kilograms, zero runway gradient, 10 knots headwind component, and read the following:

Landing Field Length .....	838 m
Approach Speed .....	93 kts

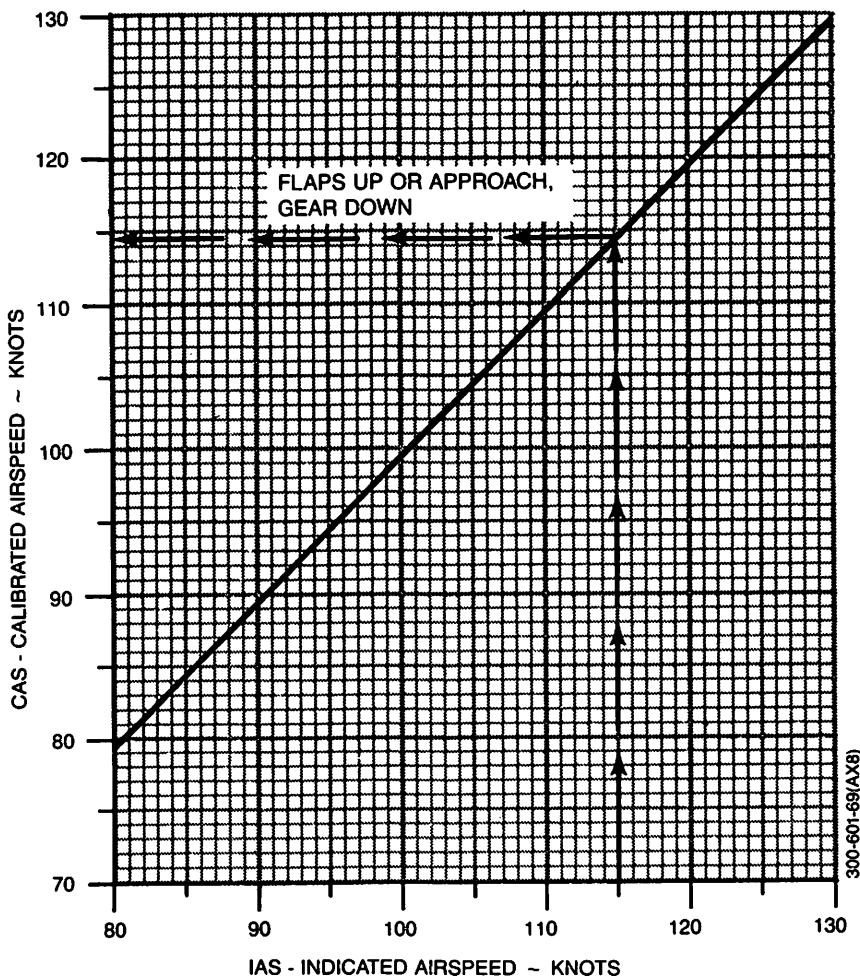
## CLIMB - BALKED LANDING

Enter the graph at 32°C, 4900 feet (see note 2 on graph), 4785 kilograms, and read the following results:

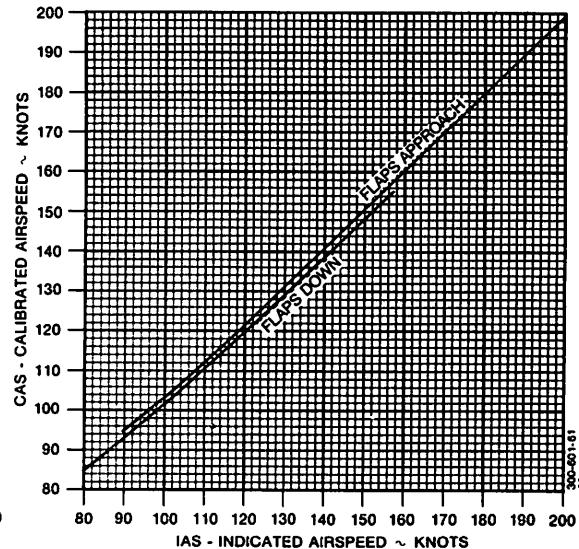
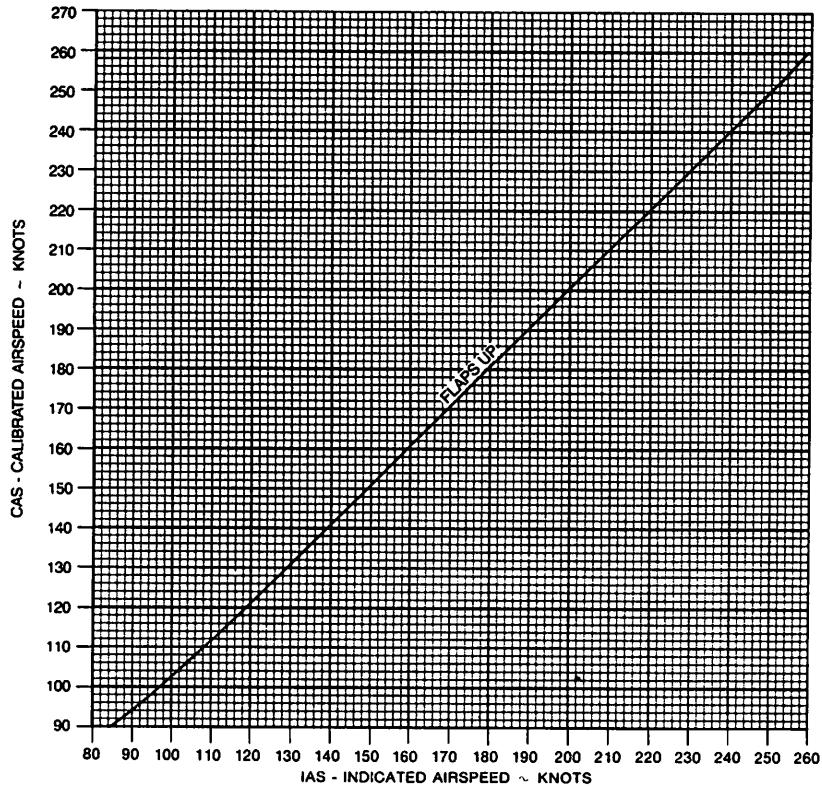
Rate of Climb .....	1985 ft/min
Climb Gradient .....	15.6%
Climb Speed .....	93 kts

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## AIRSPEED CALIBRATION — NORMAL SYSTEM TAKE-OFF GROUND ROLL

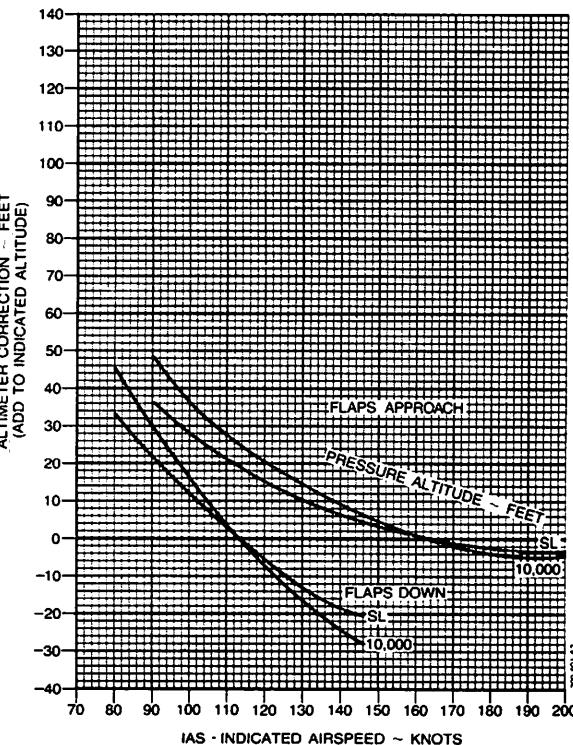
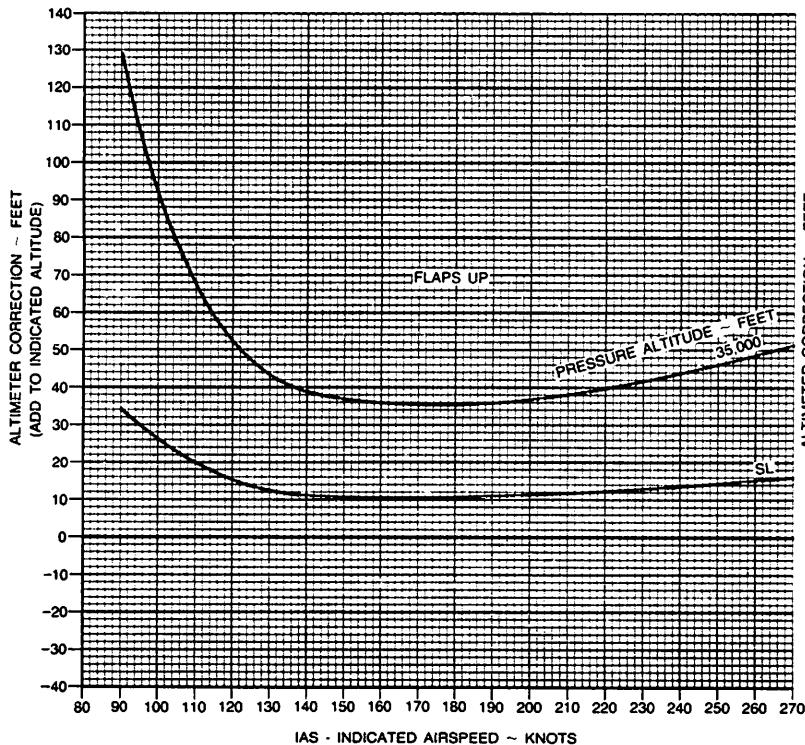


# AIRSPEED CALIBRATION — NORMAL SYSTEM



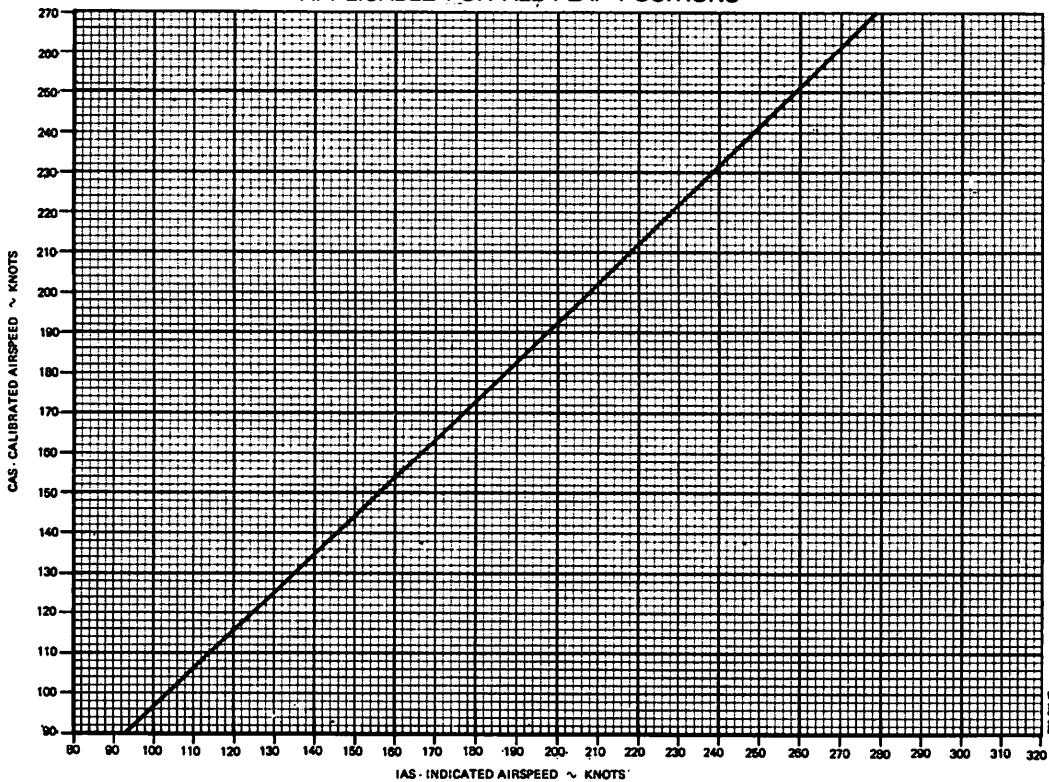
October, 1983

## ALTIMETER CORRECTION — NORMAL SYSTEM



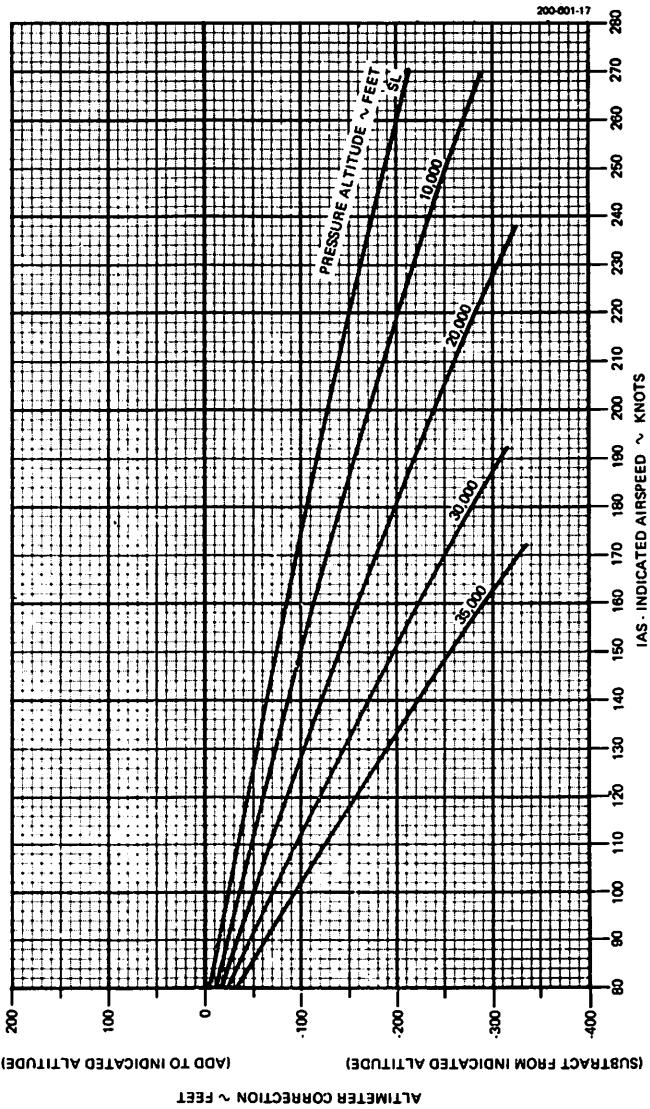
# AIRSPEED CALIBRATION - ALTERNATE SYSTEM

APPLICABLE FOR ALL FLAP POSITIONS



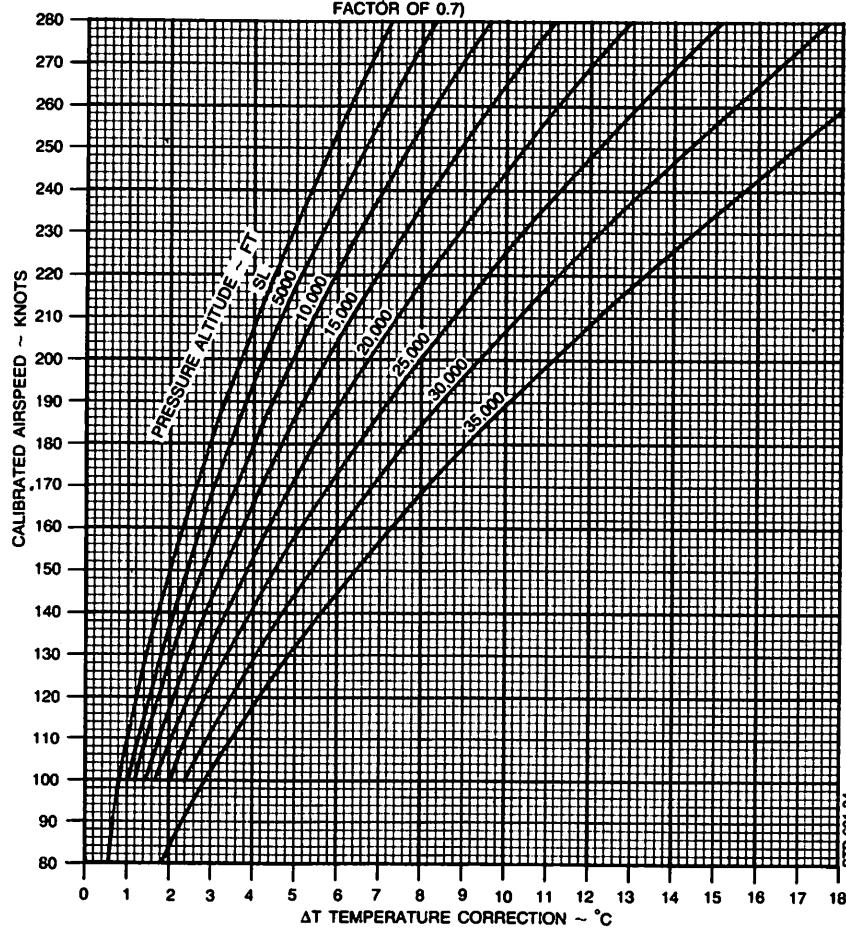
ALTIMETER CORRECTION - ALTERNATE SYSTEM

APPLICABLE FOR ALL FLAP POSITIONS

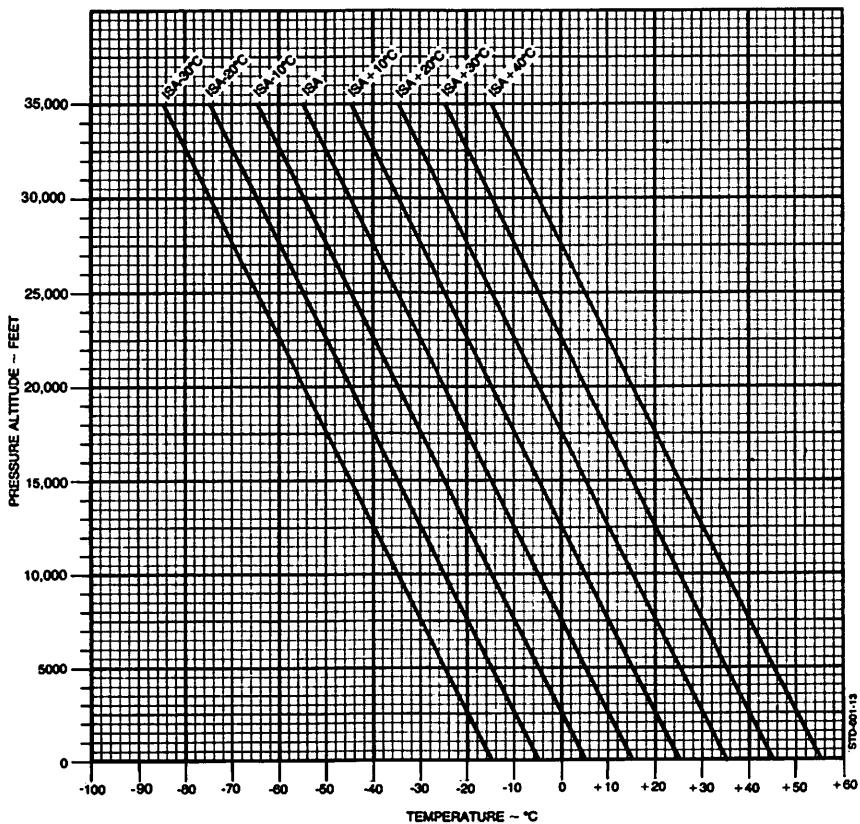


**INDICATED OUTSIDE AIR TEMPERATURE CORRECTION  
STANDARD DAY (ISA)**

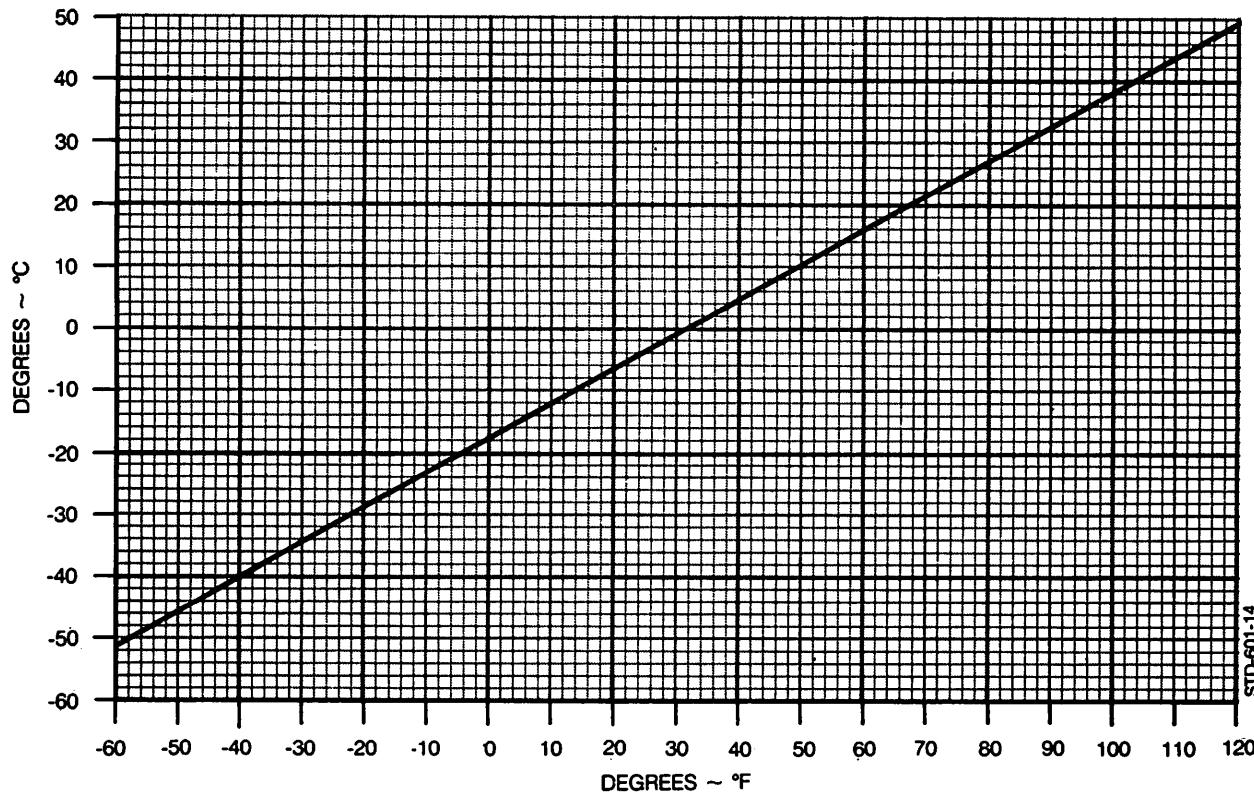
NOTE: SUBTRACT  $\Delta T$  FROM INDICATED  
(GAGE) OAT TO OBTAIN TRUE  
OAT. ( $\Delta T$  ASSUMES A RECOVERY  
FACTOR OF 0.7)



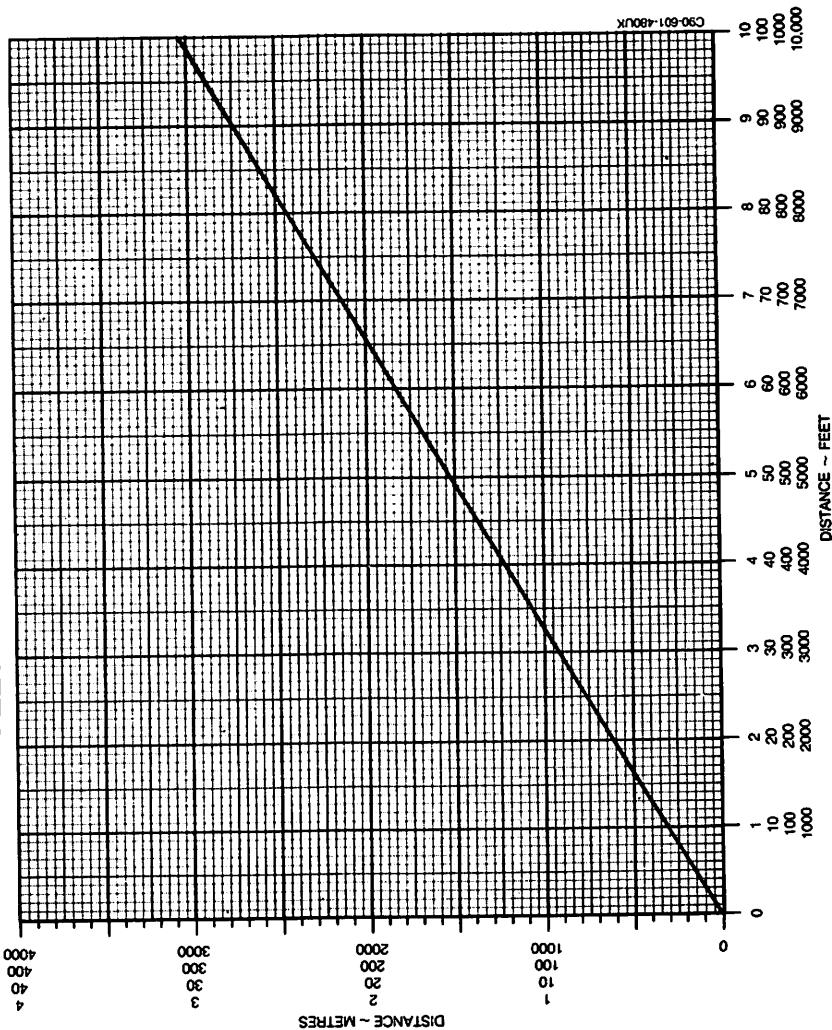
ISA CONVERSION  
PRESSURE ALTITUDE vs OUTSIDE AIR TEMPERATURE



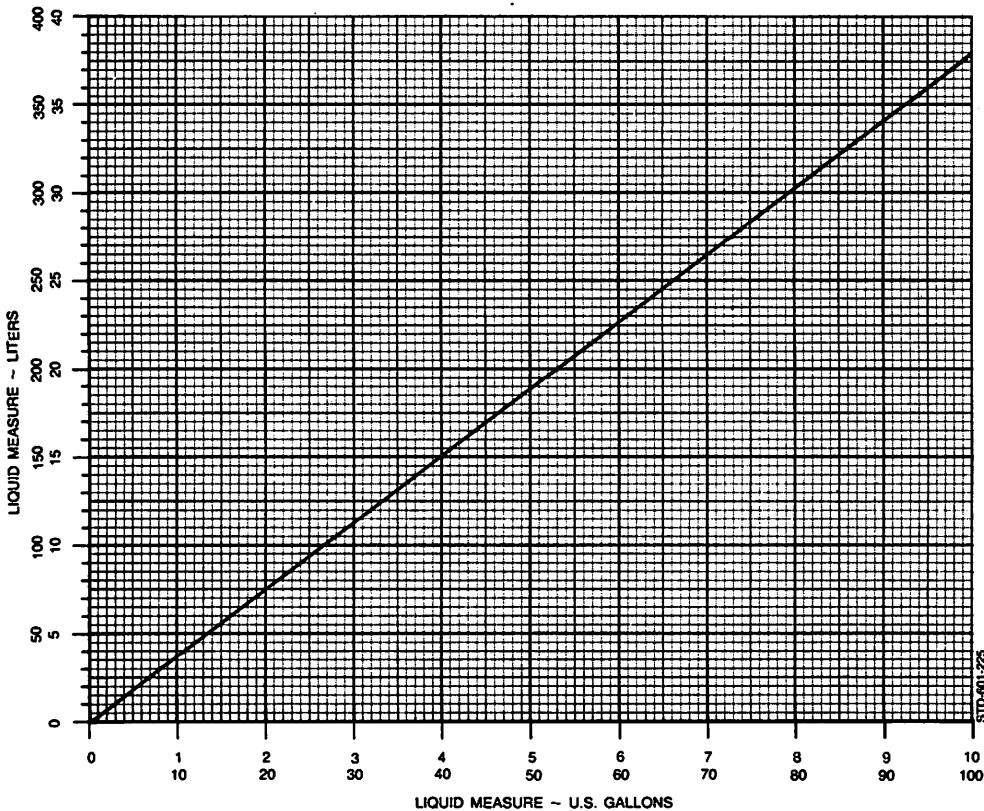
## FAHRENHEIT TO CELSIUS TEMPERATURE CONVERSION



FEET - METRES CONVERSION



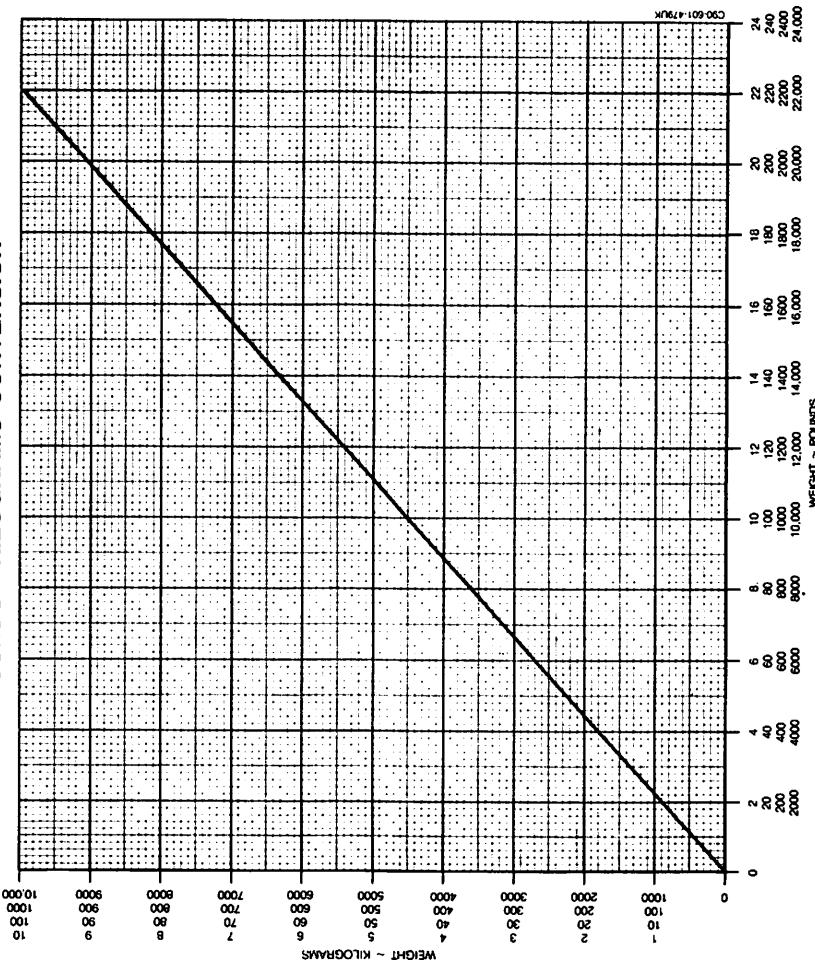
## U.S. GALLONS – LITERS CONVERSION



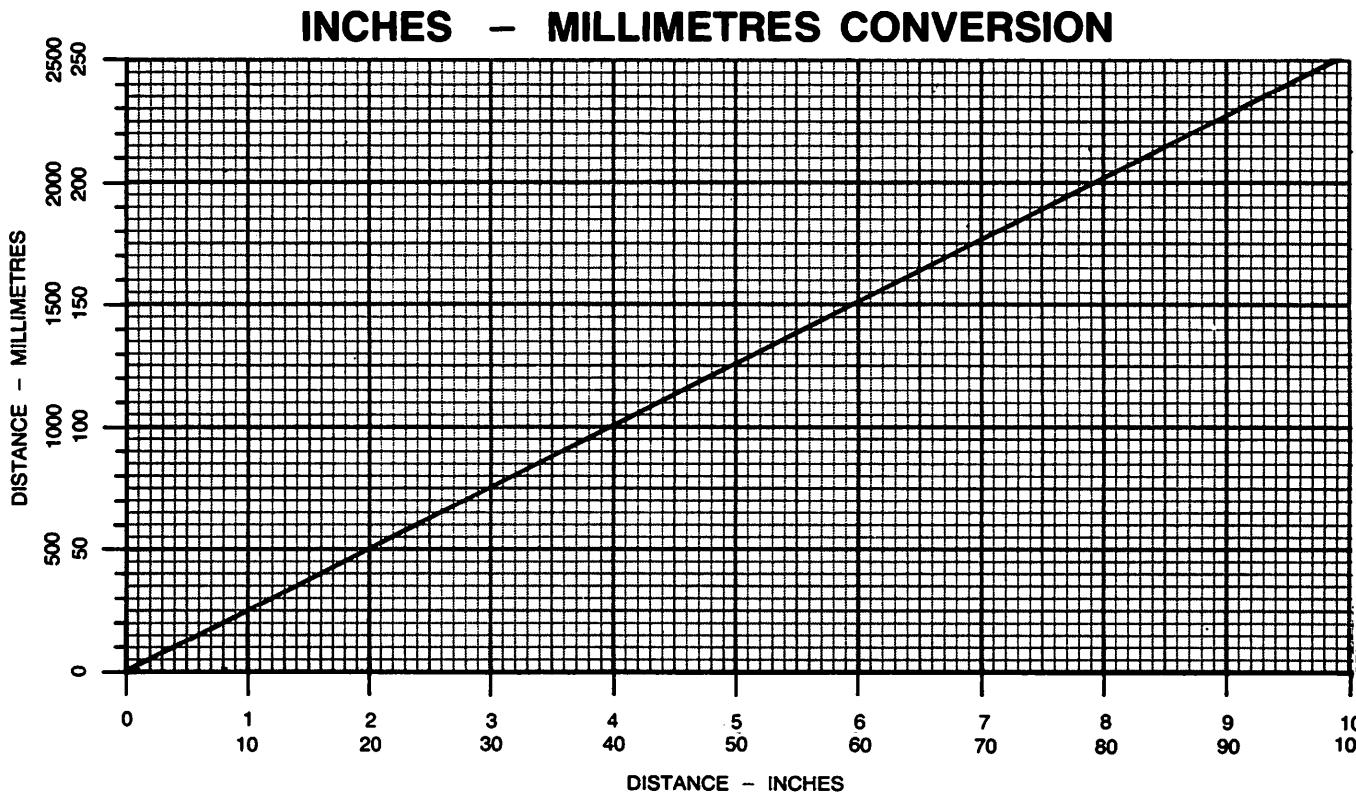
**BEECHCRAFT**  
**Super King Air 300LW**

**Section V**  
**Performance**

**POUNDS - KILOGRAMS CONVERSION**



SN982Z-109-CLS

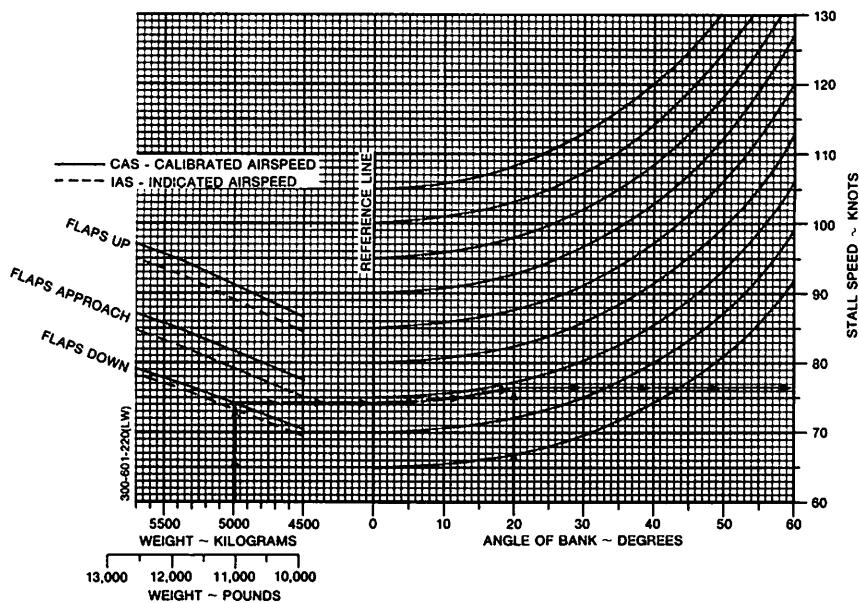


### STALL SPEEDS - POWER IDLE

- NOTES:
1. ALTITUDE LOSS EXPERIENCED WHILE CONDUCTING STALLS WAS 1000 FEET.
  2. MAXIMUM NOSE-DOWN PITCH ATTITUDE AND ALTITUDE LOSS DURING RECOVERY FROM ONE-ENGINE-INOPERATIVE STALL ARE APPROXIMATELY 7° AND 300 FEET RESPECTIVELY.
  3. A NORMAL STALL RECOVERY TECHNIQUE MAY BE USED. THE BEST PROCEDURE IS A BRISK FORWARD WHEEL MOVEMENT TO A NOSE-DOWN ATTITUDE. LEVEL THE AIRPLANE AFTER AIRSPEED INCREASES APPROXIMATELY 25 KNOTS ABOVE STALL.
  4. LANDING GEAR POSITION HAS NO EFFECT ON STALL SPEED.

EXAMPLE:

WEIGHT	.....	4990 KG
FLAPS	.....	DOWN
ANGLE OF BANK	.....	20°
STALL SPEED	.....	76.5 KCAS

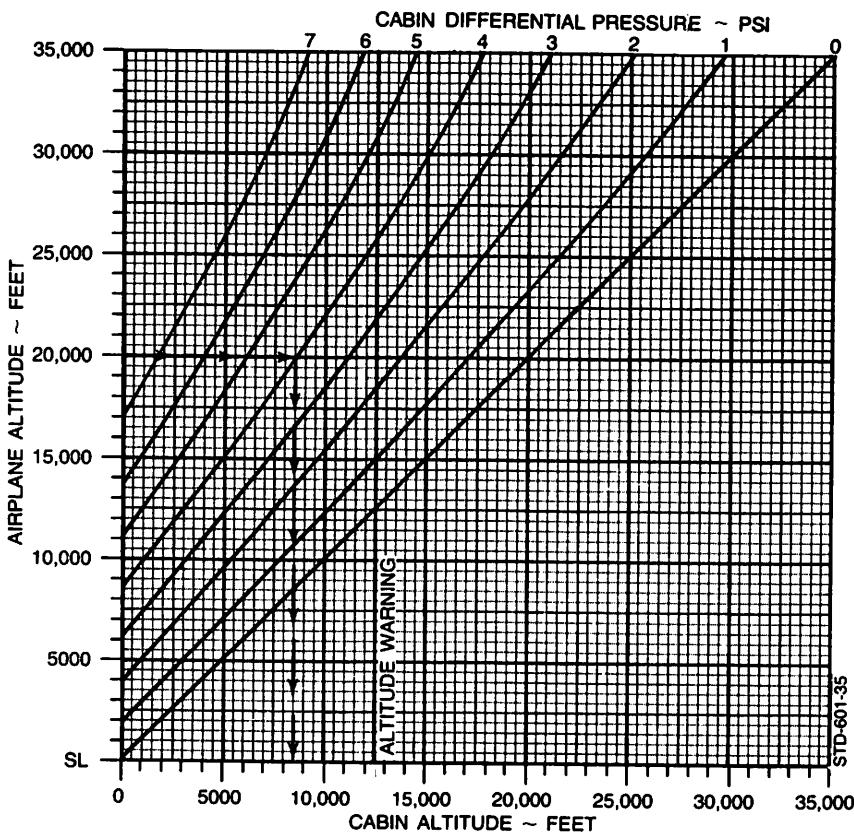


## CABIN ALTITUDE FOR VARIOUS AIRPLANE ALTITUDES

EXAMPLE:

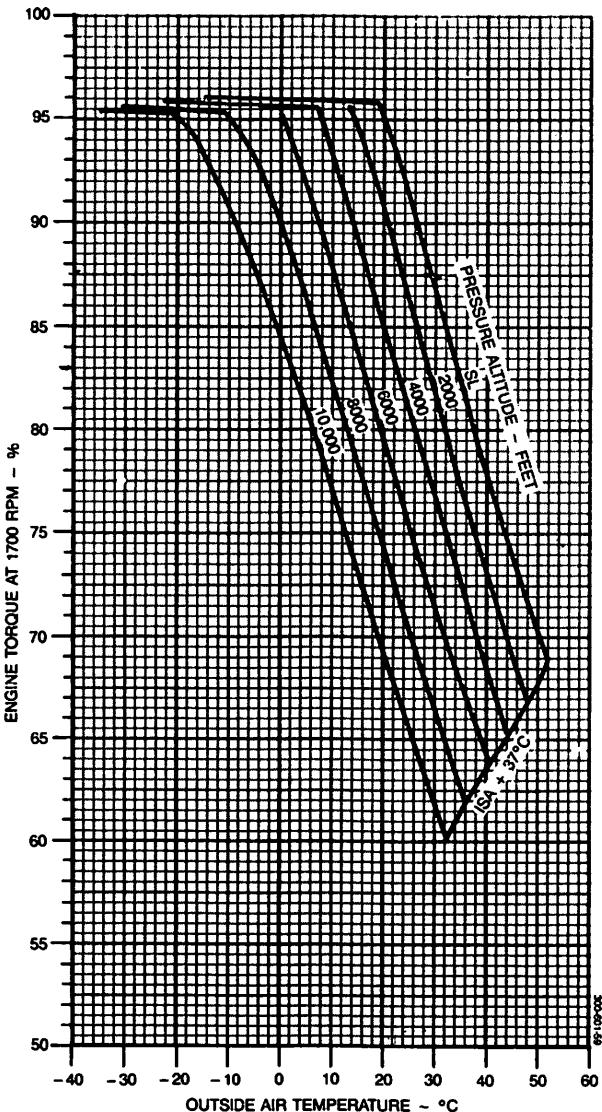
AIRPLANE ALTITUDE ..... 20,000 FT  
CABIN DIFFERENTIAL PRESSURE ..... 4.0 PSI

CABIN ALTITUDE ..... 8500 FT



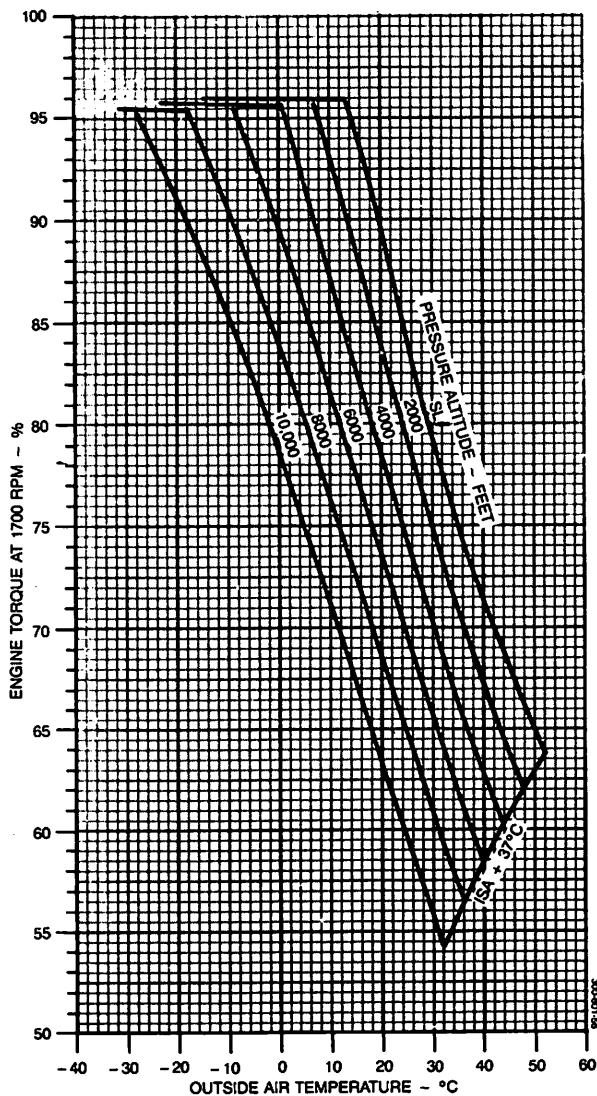
**MINIMUM TAKE-OFF POWER AT 1700 RPM**  
**WITH ENGINE ANTI-ICE OFF**

NOTES: 1. TORQUE SHOULD INCREASE APPROXIMATELY 3% FROM ZERO TO 100 KNOTS.  
2. THE POWER (TORQUE) INDICATED IS THE MINIMUM VALUE BEFORE BRAKE RELEASE AT WHICH TAKE-OFF PERFORMANCE IN THIS SECTION CAN BE OBTAINED. EXCESS POWER WHICH CAN BE DEVELOPED WITHOUT EXCEEDING ENGINE LIMITATIONS SHOULD BE UTILIZED.



**MINIMUM TAKE-OFF POWER AT 1700 RPM**  
**WITH ENGINE ANTI-ICE ON**

NOTES: 1. TORQUE SHOULD INCREASE APPROXIMATELY 3% FROM ZERO TO 100 KNOTS.  
2. THE POWER (TORQUE) INDICATED IS THE MINIMUM VALUE BEFORE BRAKE RELEASE AT WHICH TAKE-OFF PERFORMANCE IN THIS SECTION CAN BE OBTAINED. EXCESS POWER WHICH CAN BE DEVELOPED WITHOUT EXCEEDING ENGINE LIMITATIONS SHOULD BE UTILIZED.



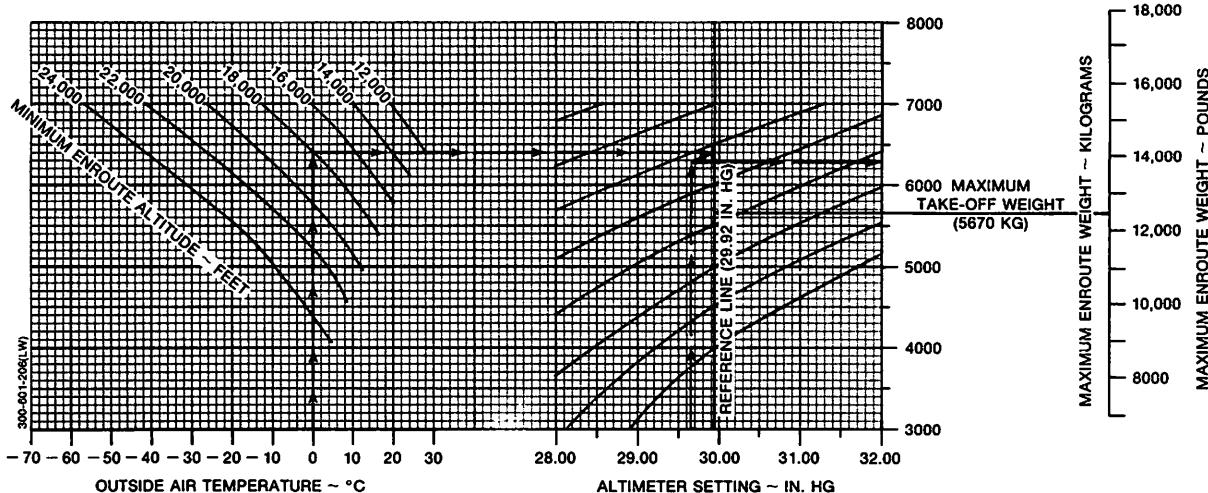
MAXIMUM ENROUTE WEIGHT  
 FOR 50-FT/MIN ONE-ENGINE-INOPERATIVE CLIMB

ASSOCIATED CONDITIONS:

POWER ..... TORQUE 100% ITT 820°C  
 FLAPS ..... UP  
 LANDING GEAR ..... UP  
 INOPERATIVE PROPELLER ..... FEATHERED

EXAMPLE:

OAT AT MEA ..... 0°C  
 MINIMUM ENROUTE ALTITUDE ..... 18,000 FT  
 ALTIMETER SETTING ..... 29.65 IN. HG  
 MAXIMUM ALLOWABLE WEIGHT  
 EXCEEDS TAKEOFF WEIGHT LIMIT OF 5670 KG



**TAKE-OFF WEIGHT — FLAPS UP**

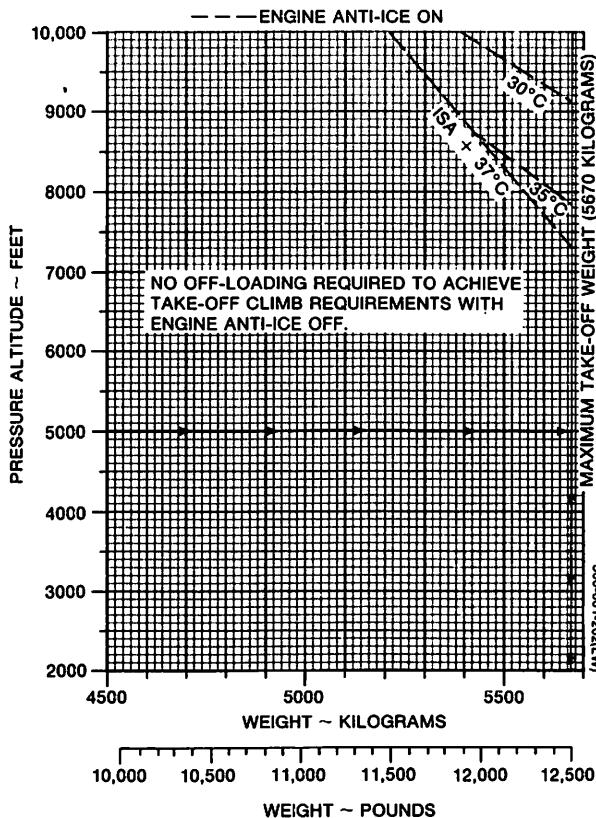
**TO ACHIEVE POSITIVE ONE-ENGINE-INOPERATIVE CLIMB AT LIFT-OFF**

**ASSOCIATED CONDITIONS:**

POWER	MINIMUM TAKE-OFF POWER SET BEFORE BRAKE RELEASE	PRESSURE ALTITUDE ... 5003 FT OAT ..... 28°C
		TAKE-OFF WEIGHT ..... 5670 KGS

LANDING GEAR ..... RETRACTED AFTER LIFT-OFF  
INOPERATIVE PROPELLER ..... FEATHERED

**EXAMPLE:**



### TAKE-OFF WEIGHT - FLAPS APPROACH

TO ACHIEVE POSITIVE ONE-ENGINE-INOPERATIVE CLIMB AT LIFT-OFF

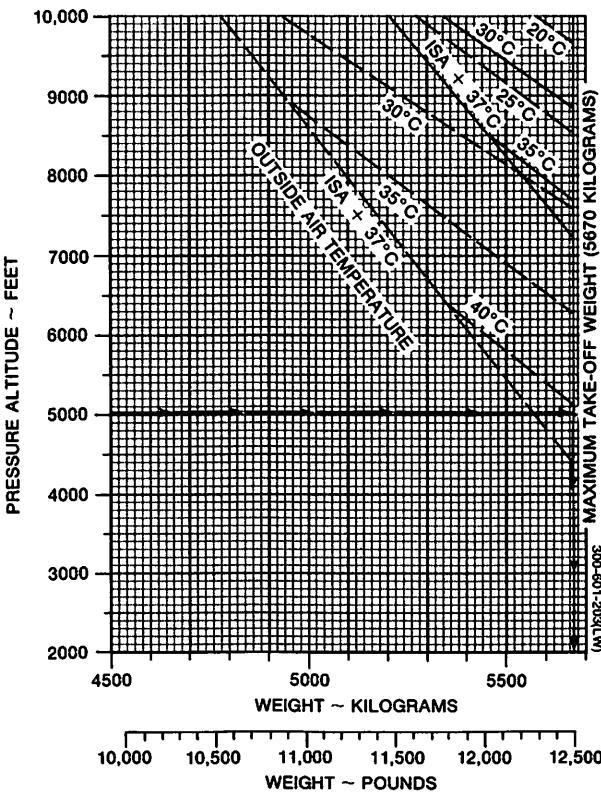
ASSOCIATED CONDITIONS:

POWER ..... MINIMUM TAKE-OFF  
POWER SET BEFORE  
BRAKE RELEASE  
LANDING GEAR ..... DOWN  
INOPERATIVE PROPELLER ..... FEATHERED

EXAMPLE:

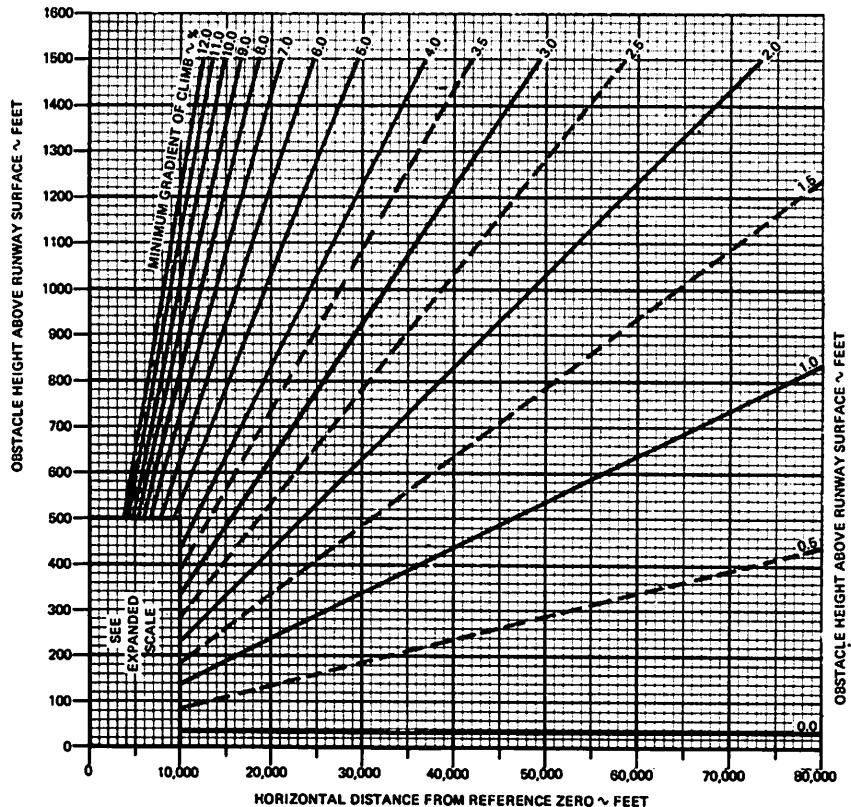
PRESSURE ALTITUDE ..... 5003 FT  
OAT ..... 28°C  
TAKE-OFF WEIGHT ..... 5670 KGS

— ENGINE ANTI-ICE OFF  
— — — ENGINE ANTI-ICE ON



## **TAKE-OFF FLIGHT PATH**

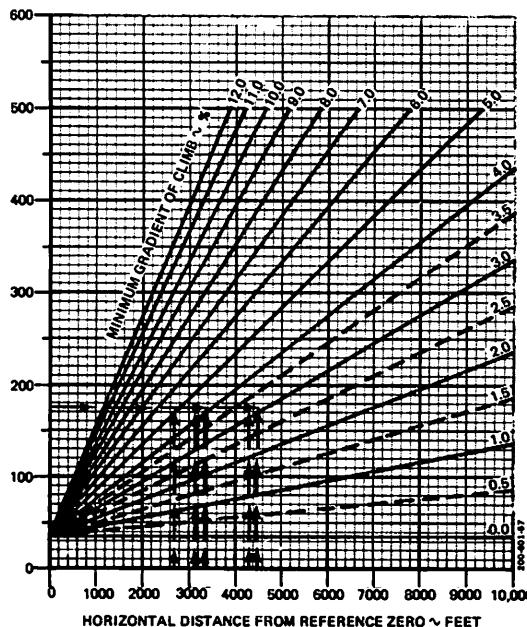
**REFERENCE ZERO:** THE POINT AT THE END OF THE TAKE-OFF RUN AT WHICH THE AIRPLANE IS 36 FEET ABOVE THE RUNWAY SURFACE.



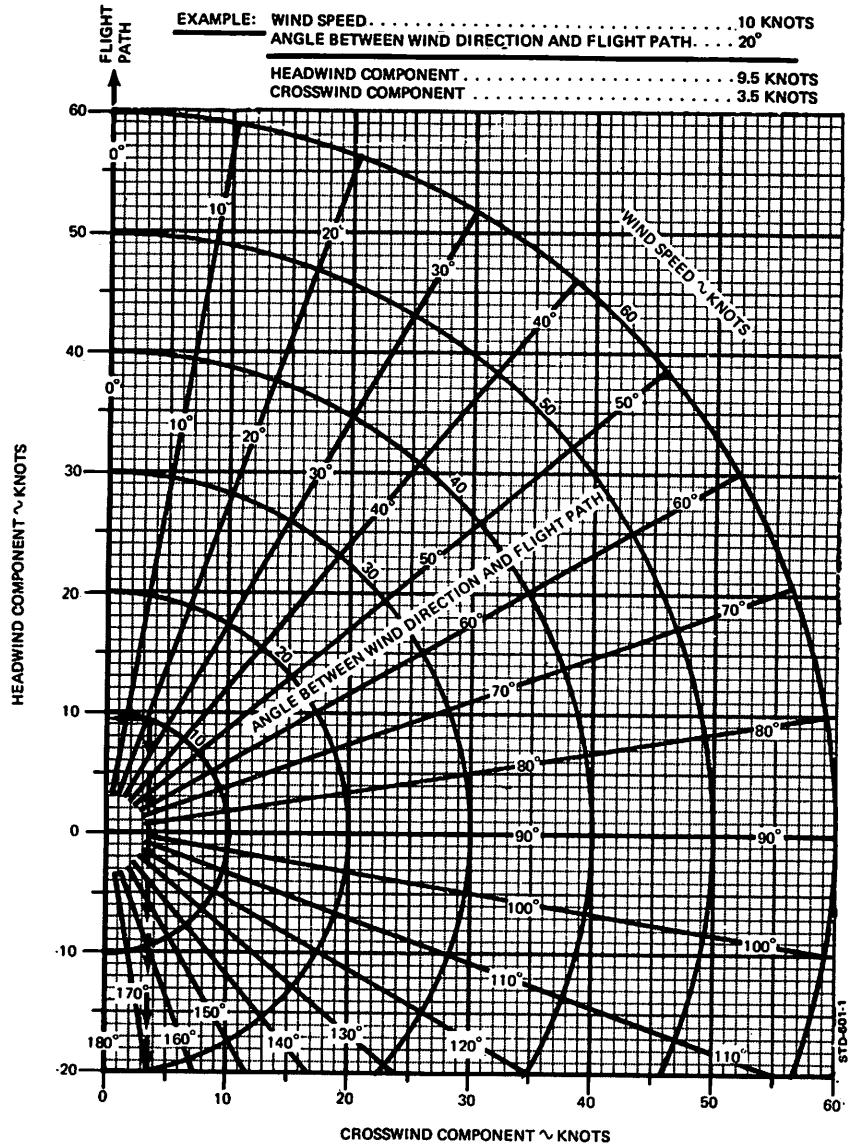
**EXAMPLE:**

**OBSTACLE HEIGHT . . . . 175 FEET**

HORIZONTAL DISTANCE FROM REFERENCE ZERO ~ FEET	MINIMUM GRADIENT OF CLIMB ~ %
2700	5.2
3388	4.1
4436	3.2
3118	4.5
4336	3.3



## WIND COMPONENTS



## TAKE-OFF DISTANCE — FLAPS UP

### ASSOCIATED CONDITIONS:

POWER ..... MINIMUM TAKE-OFF POWER  
SET BEFORE BRAKE RELEASE  
LANDING GEAR ..... RETRACTED AFTER LIFT-OFF  
RUNWAY ..... PAVED, DRY SURFACE

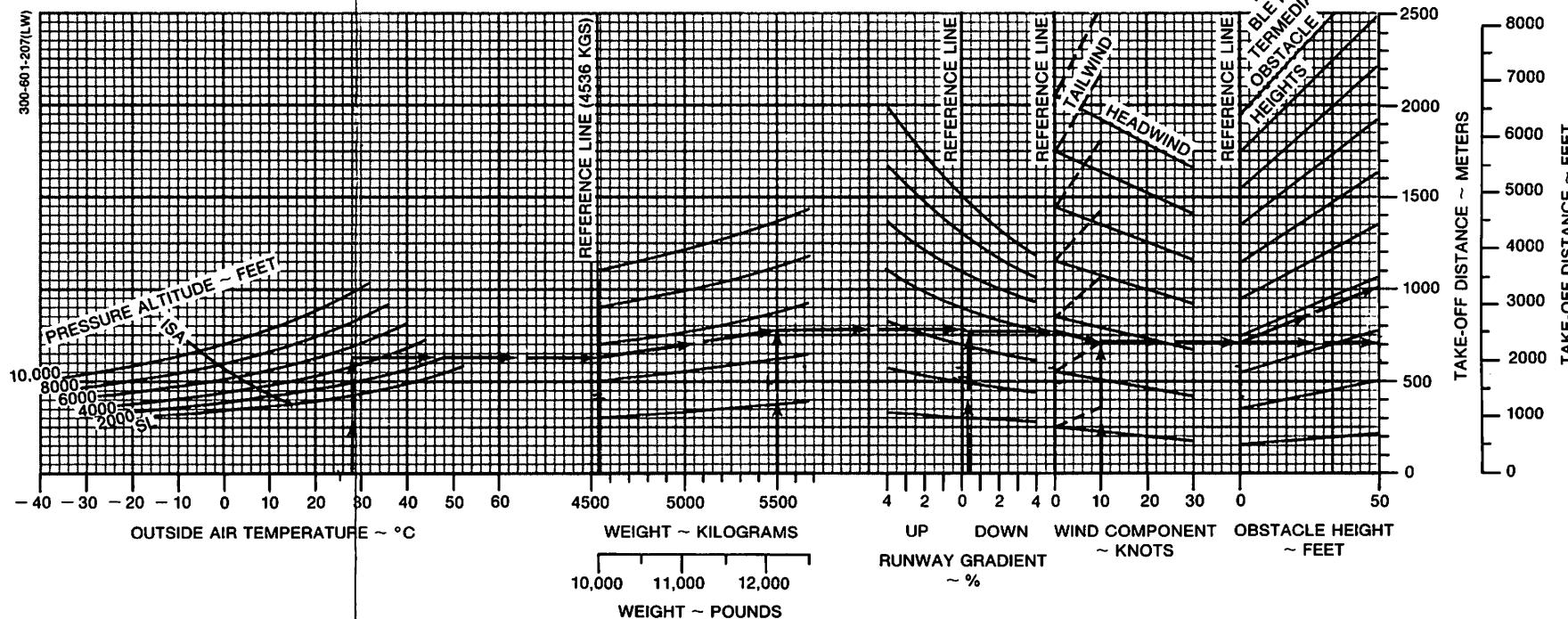
NOTE: FOR OPERATION WITH ENGINE ANTI-ICE ON, ADD 10% TO THE TOTAL  
DISTANCE OVER 50-FT OBSTACLE.

WEIGHT ~ KILOGRAMS (POUNDS)	TAKE-OFF SPEED ~ KNOTS	
	$V_R$	$V_2$
5670 (12,500)	107	114
5000 (11,023)	105	113
4500 (9921)	105	113

### EXAMPLE:

OAT ..... 28°C  
PRESSURE ALTITUDE ..... 5003 FT  
TAKE-OFF WEIGHT ..... 5500 KGS  
RUNWAY GRADIENT ..... 0.4% DN  
HEADWIND COMPONENT ..... 10 KTS

GROUND ROLL ..... 705 M  
TOTAL DISTANCE OVER  
50-FT OBSTACLE ..... 1010 M  
 $V_R$  ..... 106 KTS  
 $V_2$  ..... 114 KTS



**ACCELERATE-STOP — FLAPS UP**

**ASSOCIATED CONDITIONS:**

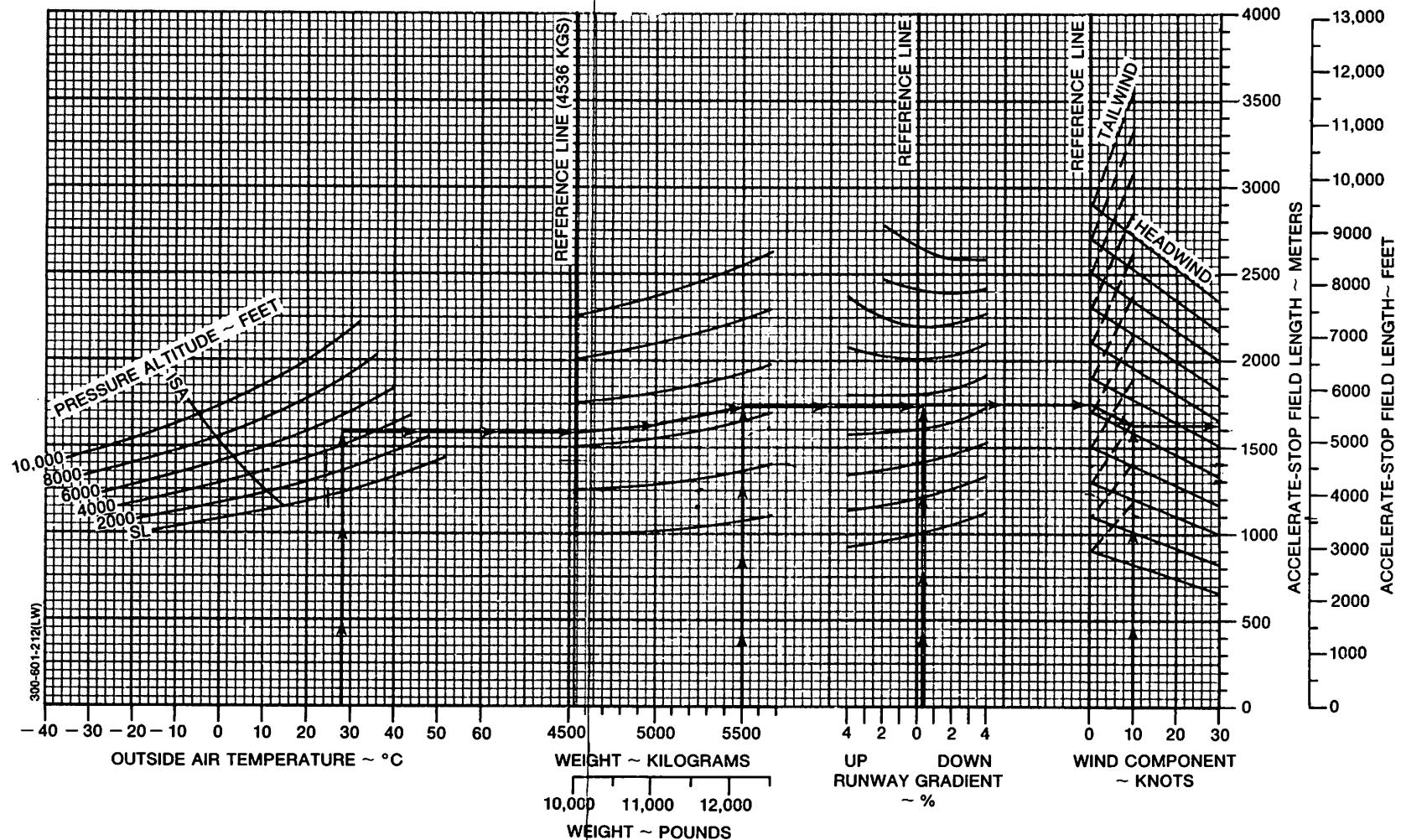
POWER ..... 1. MINIMUM TAKE-OFF POWER SET BEFORE BRAKE RELEASE  
2. BOTH ENGINES TO GROUND FINE AT V<sub>1</sub>  
AUTOFEATHER ..... ARMED  
BRAKING ..... MAXIMUM  
RUNWAY ..... PAVED, DRY SURFACE

NOTES: FOR OPERATION WITH ENGINE ANTI-ICE ON, ADD 5% TO THE ACCELERATE-STOP FIELD LENGTH.

WEIGHT ~ KILOGRAMS (POUNDS)	V <sub>1</sub> ~ KNOTS
5670 (12,500)	107
5000 (11,023)	105
4500 (9921)	105

**EXAMPLE:**

OAT	28°C
PRESSURE ALTITUDE	5003 FT
WEIGHT	5500 KGS
RUNWAY GRADIENT	0.4% DN
HEADWIND COMPONENT	10 KTS
FIELD LENGTH	1635 M
V <sub>1</sub>	106 KTS



**ACCELERATE-GO DISTANCE — FLAPS UP  
OVER 35-FOOT OBSTACLE**

**ASSOCIATED CONDITIONS:**

POWER ..... MINIMUM TAKE-OFF POWER  
SET BEFORE BRAKE RELEASE  
AUTOFEATHER ..... ARMED  
LANDING GEAR ..... RETRACTED AFTER LIFT-OFF  
RUNWAY ..... PAVED, DRY SURFACE

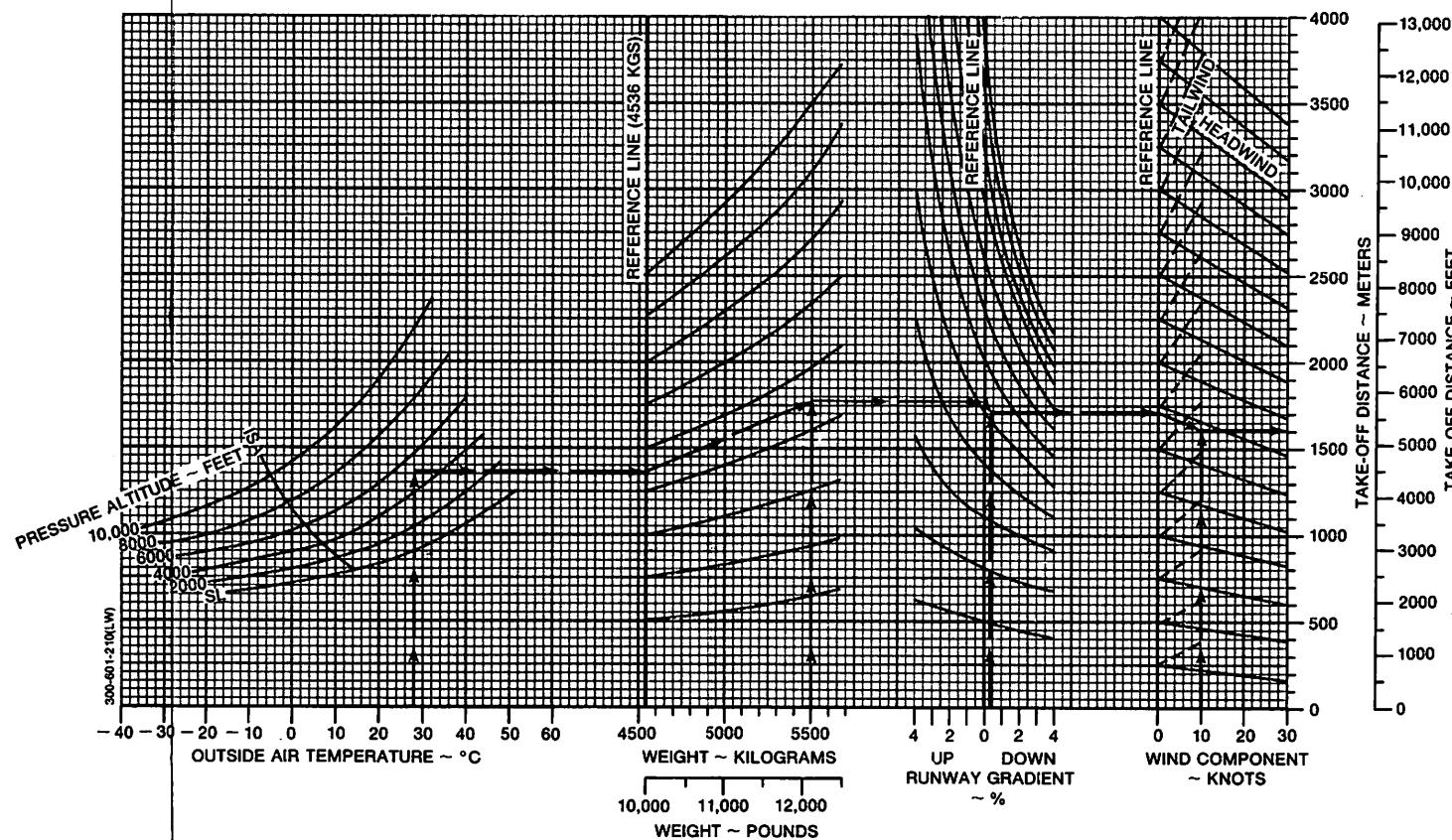
WEIGHT ~ KILOGRAMS (POUNDS)	TAKE-OFF SPEED ~ KNOTS	
	V <sub>R</sub>	V <sub>2</sub>
5670 (12,500)	107	114
5000 (11,023)	105	113
4500 (9921)	105	113

- NOTES: 1. GROUND ROLL DISTANCE IS APPROXIMATELY 55% OF TAKE-OFF DISTANCE.  
2. DISTANCES ASSUME AN ENGINE FAILURE AT ROTATION SPEED AND PROPELLER IMMEDIATELY FEATHERED.  
3. USABLE CLEARWAY CANNOT EXCEED 25% OF THE RUNWAY LENGTH.  
4. FOR OPERATION WITH ENGINE ANTI-ICE ON, ADD 15% TO THE DISTANCE READ FROM THIS CHART.  
5. V<sub>1</sub> (ENGINE FAILURE SPEED) EQUALS V<sub>R</sub> (ROTATION SPEED).

**EXAMPLE:**

OAT ..... 28°C  
PRESSURE ALTITUDE ..... 5003 FT  
WEIGHT ..... 5500 KGS  
RUNWAY GRADIENT ..... 0.4% DN  
HEADWIND COMPONENT ..... 10 KTS

TOTAL DISTANCE OVER  
35-FT OBSTACLE ..... 1605 M  
V<sub>R</sub> ..... 106 KTS  
V<sub>2</sub> ..... 114 KTS



**NET GRADIENT OF CLIMB — FLAPS UP**

ASSOCIATED CONDITIONS:

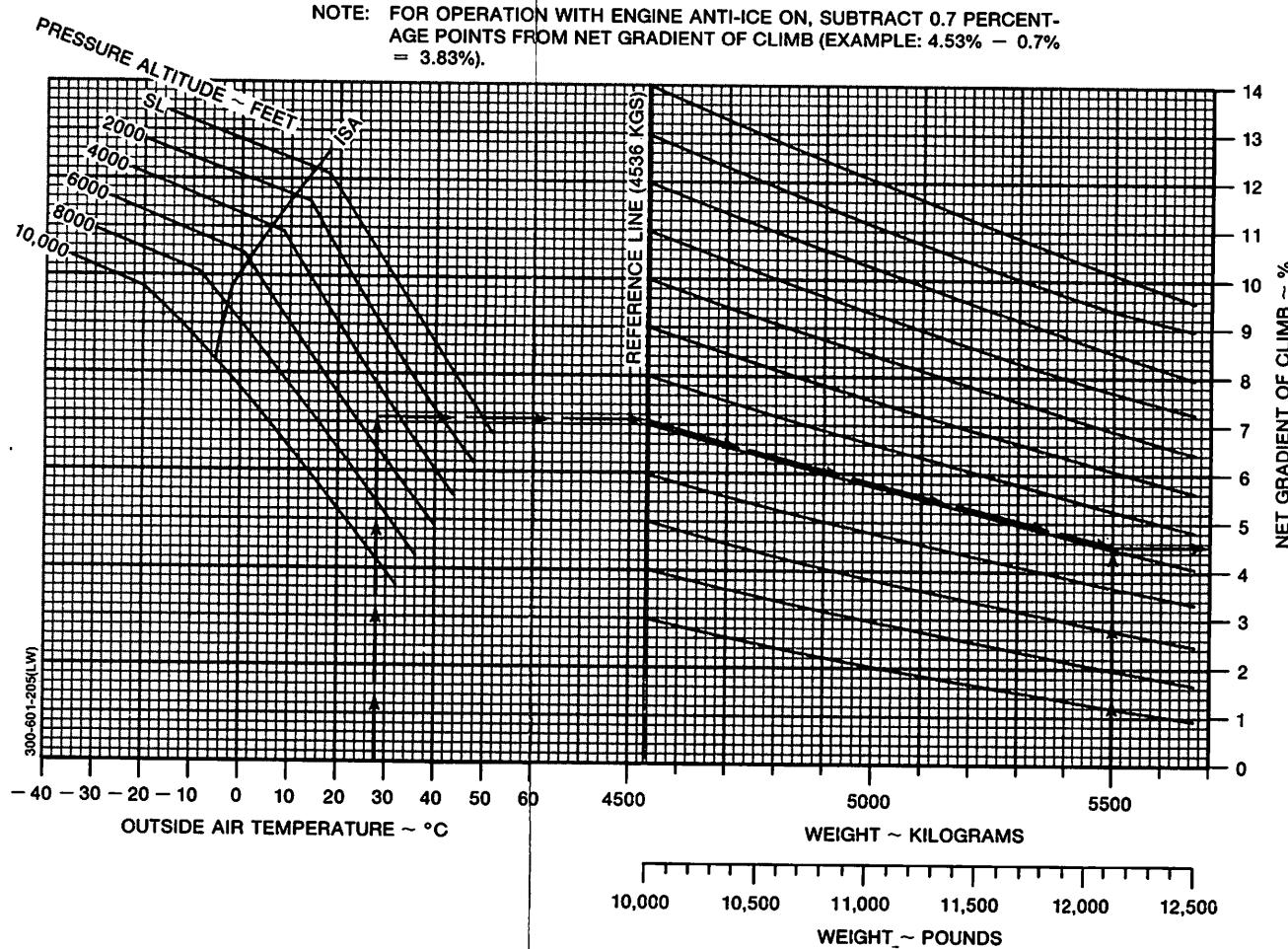
POWER ..... TAKE-OFF  
LANDING GEAR ..... UP  
INOPERATIVE PROPELLER ..... FEATHERED

WEIGHT ~ KILOGRAMS (POUNDS)	V <sub>2</sub> ~ KNOTS
5670 (12,500)	114
5000 (11,023)	113
4500 (9921)	113

EXAMPLE:

OAT .....	28°C
PRESSURE ALTITUDE .....	5003 FT
WEIGHT .....	5500 KGS
NET GRADIENT OF CLIMB .....	4.53%
V <sub>2</sub> .....	114 KTS

NOTE: FOR OPERATION WITH ENGINE ANTI-ICE ON, SUBTRACT 0.7 PERCENT-  
AGE POINTS FROM NET GRADIENT OF CLIMB (EXAMPLE: 4.53% — 0.7%  
= 3.83%).



## TAKE-OFF DISTANCE — FLAPS APPROACH

### ASSOCIATED CONDITIONS:

POWER ..... MINIMUM TAKE-OFF POWER  
SET BEFORE BRAKE RELEASE  
LANDING GEAR ..... RETRACTED AFTER LIFT-OFF  
RUNWAY ..... PAVED, DRY SURFACE

$V_R$  = 100 KTS (ALL WEIGHTS)

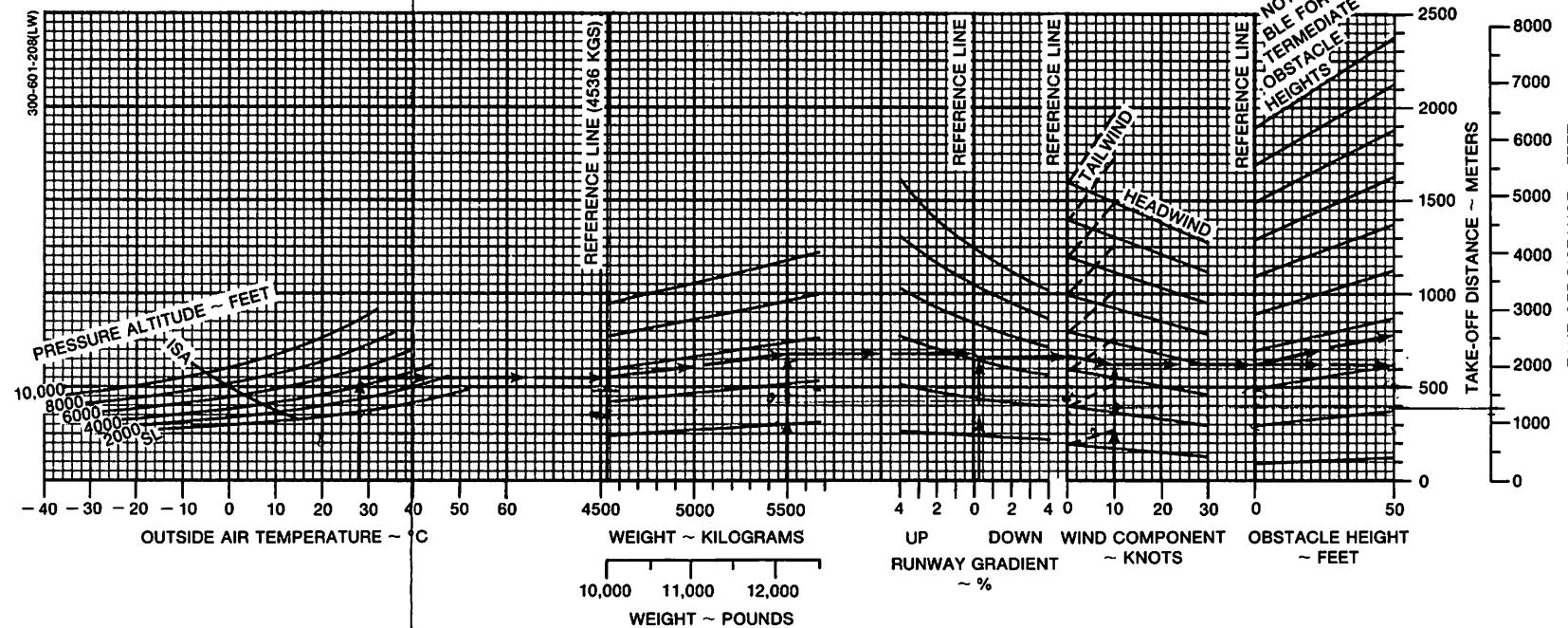
$V_2$  = 101 KTS (ALL WEIGHTS)

NOTE: FOR OPERATION WITH ENGINE ANTI-ICE ON, ADD 10% TO  
THE TOTAL DISTANCE OVER 50-FT OBSTACLE.

### EXAMPLE:

OAT ..... 28°C  
PRESSURE ALTITUDE ..... 5003 FT  
TAKE-OFF WEIGHT ..... 5500 KGS  
RUNWAY GRADIENT ..... 0.4% DN  
HEADWIND COMPONENT ..... 10 KTS

GROUNDS ROLL ..... 620 M  
TOTAL DISTANCE OVER  
50-FT OBSTACLE ..... 780 M



## ACCELERATE-STOP — FLAPS APPROACH

### ASSOCIATED CONDITIONS:

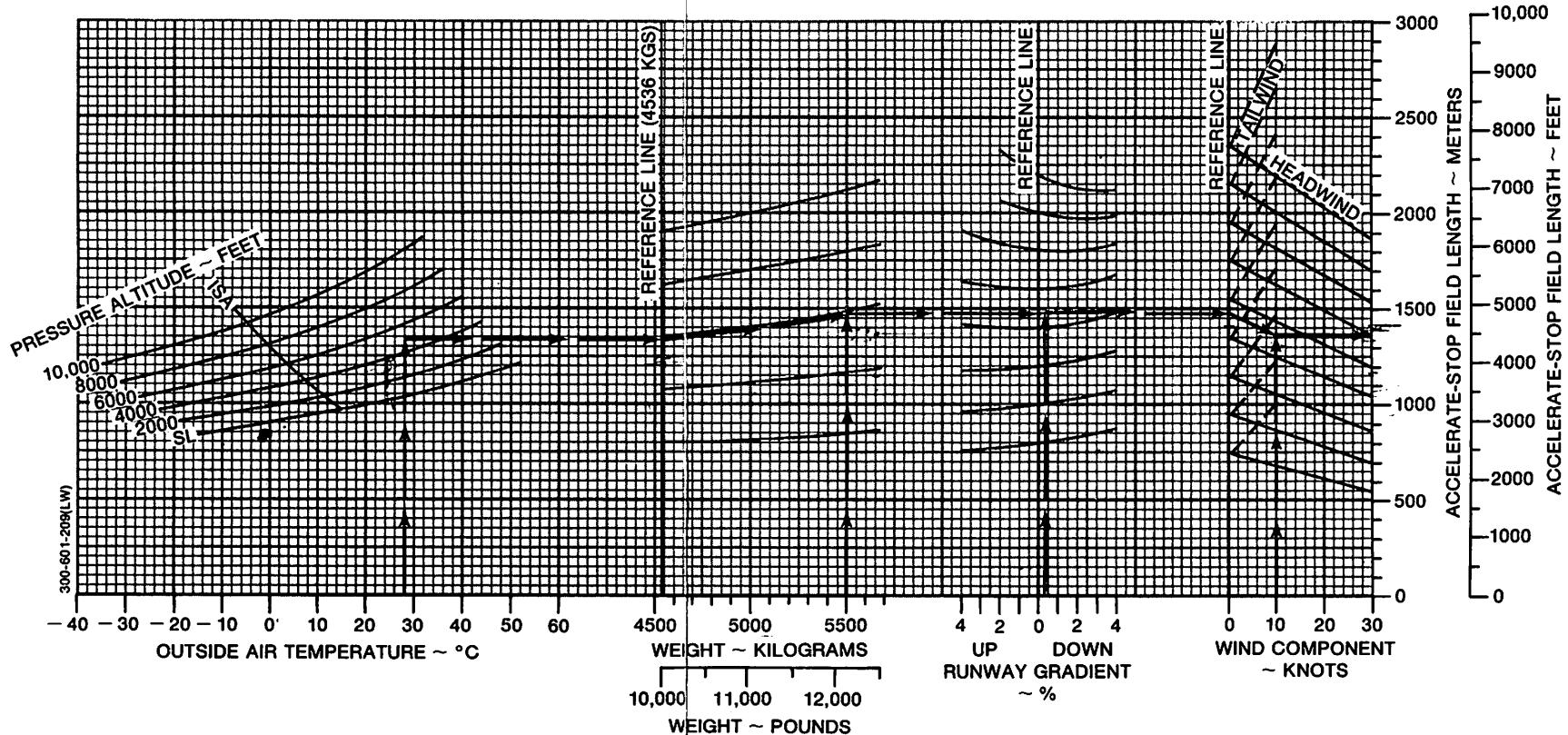
POWER ..... 1. MINIMUM TAKE-OFF POWER BEFORE BRAKE RELEASE  
2. BOTH ENGINES TO GROUND FINE AT  $V_1$   
AUTOFEATHER ..... ARMED  
BRAKING ..... MAXIMUM  
RUNWAY ..... PAVED, DRY SURFACE

$V_1$ : 100 KTS (ALL WEIGHTS)

### EXAMPLE:

OAT	.....	28°C
PRESSURE ALTITUDE	.....	5003 FT
WEIGHT	.....	5500 KGS
RUNWAY GRADIENT	.....	0.4% DN.
HEADWIND COMPONENT	.....	10 KTS
FIELD LENGTH	.....	1360 M

NOTE: FOR OPERATION WITH ENGINE ANTI-ICE ON, ADD 5% TO THE ACCELERATE-STOP FIELD LENGTH.



**ACCELERATE-GO DISTANCE — FLAPS APPROACH  
OVER 35-Ft OBSTACLE**

**ASSOCIATED CONDITIONS:**

POWER ..... MINIMUM TAKE-OFF POWER SET BEFORE BRAKE RELEASE  
AUTOFEATHER ..... ARMED  
LANDING GEAR ..... RETRACTED AFTER LIFT-OFF  
RUNWAY ..... PAVED, DRY SURFACE

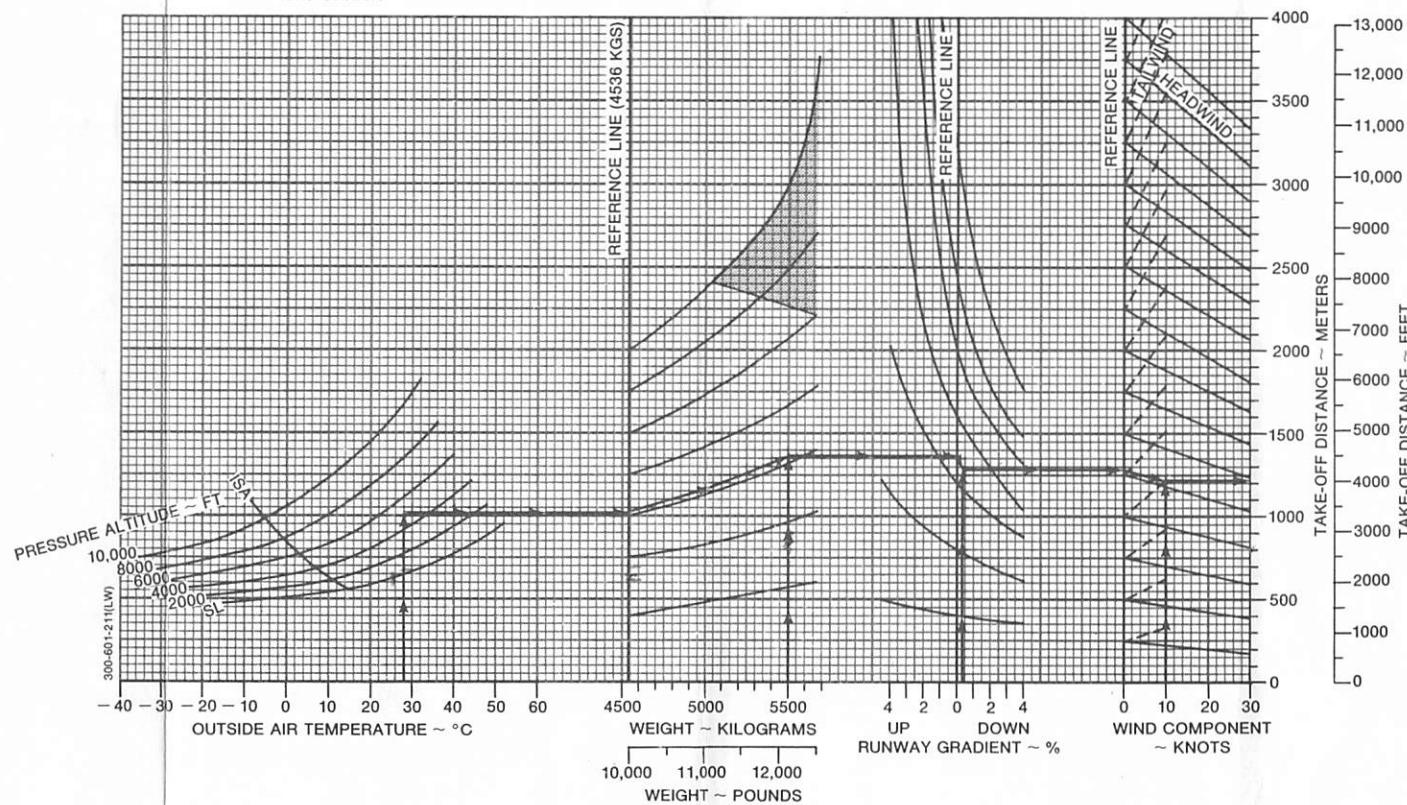
$V_R$  : 100 KTS (ALL WEIGHTS)  
 $V_2$  : 101 KTS (ALL WEIGHTS)

**EXAMPLE:**

OAT ..... 28°C  
PRESSURE ALTITUDE ..... 5003 FT  
WEIGHT ..... 5500 KGS  
RUNWAY GRADIENT ..... 0.4% DN  
HEADWIND COMPONENT ..... 10 KTS

TOTAL DISTANCE  
OVER 35-FOOT OBSTACLE .. 1215 M

- NOTES:
1. GROUND ROLL DISTANCE IS APPROXIMATELY 65% OF TAKE-OFF DISTANCE.
  2. DISTANCES ASSUME AN ENGINE FAILURE AT ROTATION SPEED AND PROPELLER IMMEDIATELY FEATHERED.
  3. USABLE CLEARWAY CANNOT EXCEED 16% OF THE RUNWAY LENGTH.
  4. FOR OPERATION WITH ENGINE ANTI-ICE ON, ADD 11% TO THE DISTANCE READ FROM THIS CHART.
  5. WEIGHTS IN SHADED AREA MAY NOT PROVIDE POSITIVE ONE-ENGINE-INOPERATIVE CLIMB. REFER TO TAKE-OFF WEIGHT GRAPH FOR MAXIMUM WEIGHT AT WHICH POSITIVE ONE-ENGINE-INOPERATIVE CLIMB AT LIFT-OFF CAN BE ACHIEVED.
  6.  $V_1$  (ENGINE FAILURE SPEED) EQUALS  $V_R$  (ROTATION SPEED).



### NET GRADIENT OF CLIMB — FLAPS APPROACH

#### ASSOCIATED CONDITIONS:

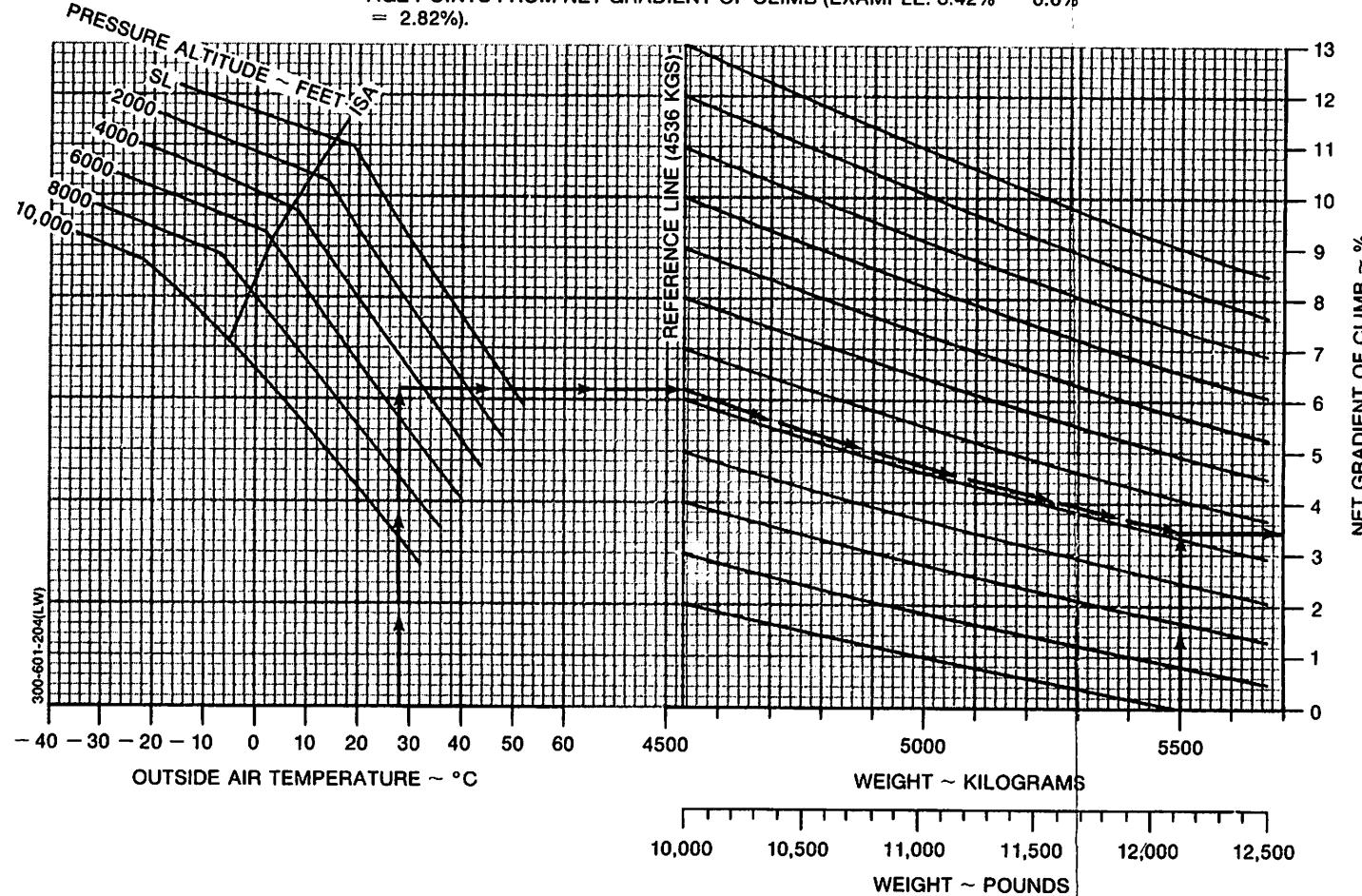
POWER ..... NO ADJUSTMENTS SINCE SETTING  
MINIMUM TAKE-OFF POWER  
LANDING GEAR ..... UP  
INOPERATIVE PROPELLER ..... FEATHERED

CLIMB SPEED: 101 KNOTS (ALL WEIGHTS)

#### EXAMPLE:

OAT	.....	28°C
PRESSURE ALTITUDE	.....	5003 FT
WEIGHT	.....	5500 KGS
NET GRADIENT OF CLIMB		..... 3.42%

NOTE: FOR OPERATION WITH ENGINE ANTI-ICE ON, SUBTRACT 0.6 PERCENTAGE POINTS FROM NET GRADIENT OF CLIMB (EXAMPLE: 3.42% - 0.6% = 2.82%).



## CLIMB - TWO ENGINES - FLAPS UP

ASSOCIATED CONDITIONS:

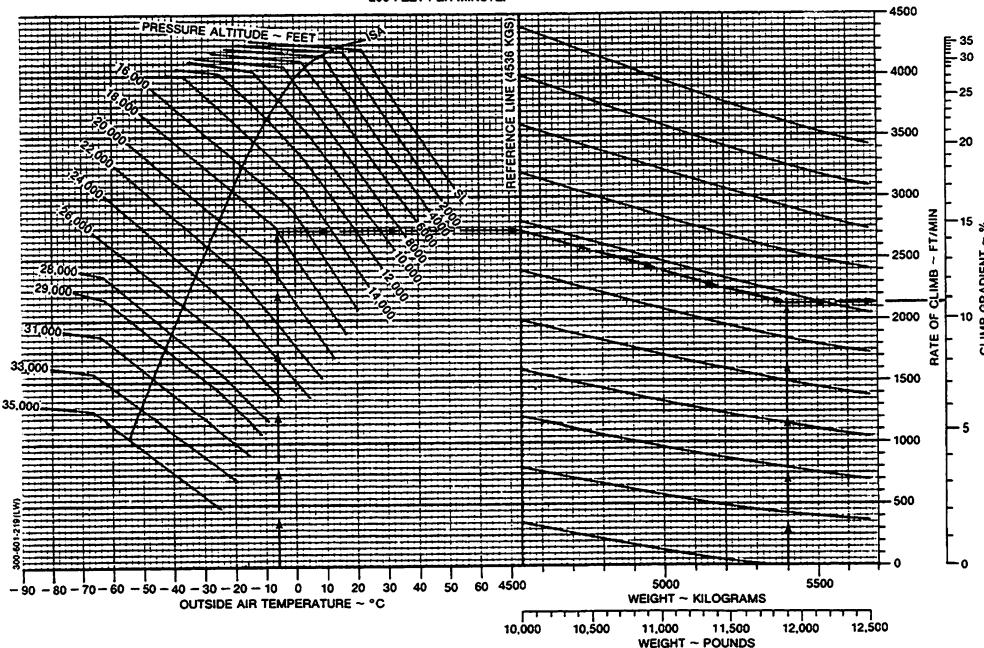
POWER ..... MAX CONTINUOUS  
 LANDING GEAR ..... UP

WEIGHT ~ KILOGRAMS (POUNDS)	CLIMB SPEED ~ KNOTS
5670 (12,500)	133
5000 (11,023)	129
4500 (9921)	126

EXAMPLE:

OAT ..... - 6°C  
 PRESSURE ALTITUDE ..... 18,000 FT  
 WEIGHT ..... 5400 KGS  
 RATE OF CLIMB ..... 2140 FT/MIN  
 CLIMB GRADIENT ..... 10.9%  
 CLIMB SPEED ..... 131 KTS

NOTE: DURING OPERATION WITH ENGINE ANTI-ICE ON,  
 RATE OF CLIMB WILL BE REDUCED APPROXIMATELY  
 200 FEET PER MINUTE.



## **CLIMB – TWO ENGINES – FLAPS APPROACH**

**EXAMPLE:**

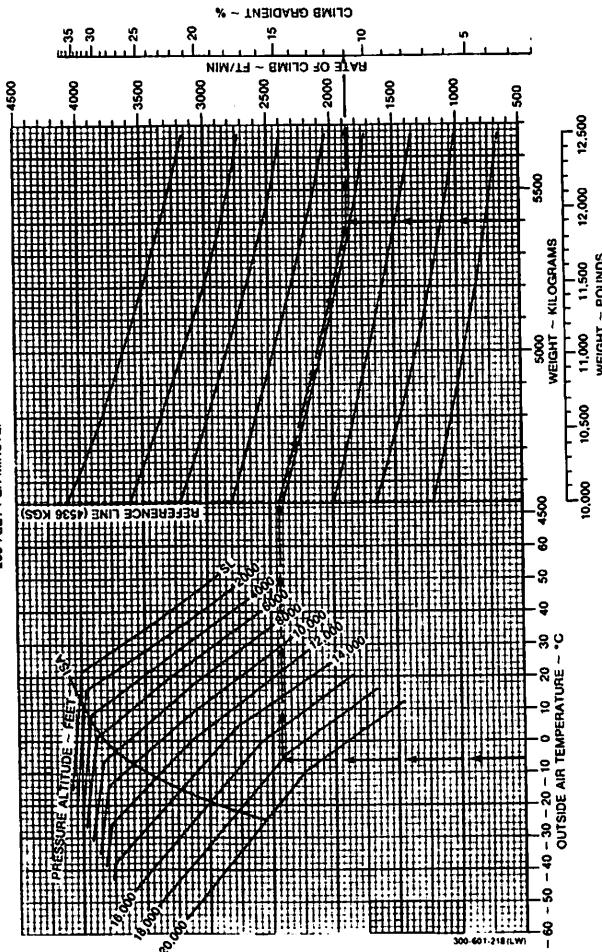
WEIGHT - KILOGRAMS (POUNDS)	CLIMB SPEED - KNOTS
5670 (12,500)	121
5000 (11,023)	117
4500 (9921)	114

#### ASSOCIATED CONDITIONS:

MAXIMUM CONTINUOUS  
POWER..... 111 P  
WINDING GEAR

WEIGHT	3400 KGS
RATE OF CLIMB	1870 FT/MIN
CLIMB GRADIENT	11.0%
CLIMB SPEED	110 KTS

**NOTE:** DURING OPERATION WITH ENGINE ANTI-ICE ON,  
RATE OF CLIMB WILL BE REDUCED APPROXIMATELY  
250 FEET PER MINUTE.



### CLIMB - ONE ENGINE INOPERATIVE

#### ASSOCIATED CONDITIONS:

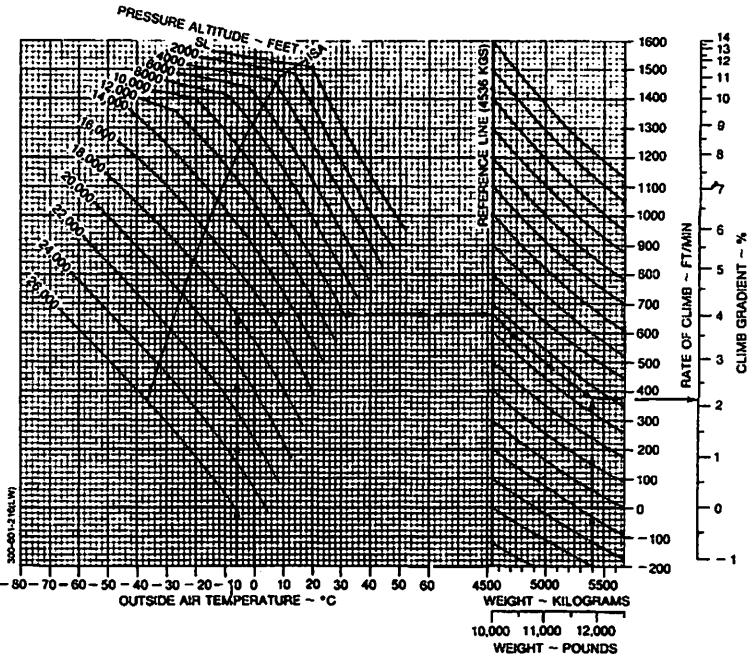
POWER ..... MAXIMUM CONTINUOUS  
 FLAPS ..... UP  
 LANDING GEAR ..... UP  
 INOPERATIVE PROPELLER ..... FEATHERED

WEIGHT - KILOGRAMS (POUNDS)	V <sub>YSE</sub> - KNOTS
5670 (12,500)	120
5000 (11,023)	116
4500 (9921)	113

NOTE: DURING OPERATION WITH ENGINE ANTI-ICE ON,  
 RATE OF CLIMB WILL BE REDUCED APPROXIMATELY  
 150 FEET PER MINUTE.

#### EXAMPLE:

OAT	- 6°C
PRESSURE ALTITUDE	18,000 FT
WEIGHT	5400 KGS
RATE OF CLIMB	379 FT/MIN
CLIMB GRADIENT	2.1%
CLIMB SPEED	118 KTS



## SERVICE CEILING — ONE ENGINE INOPERATIVE

### ASSOCIATED CONDITIONS:

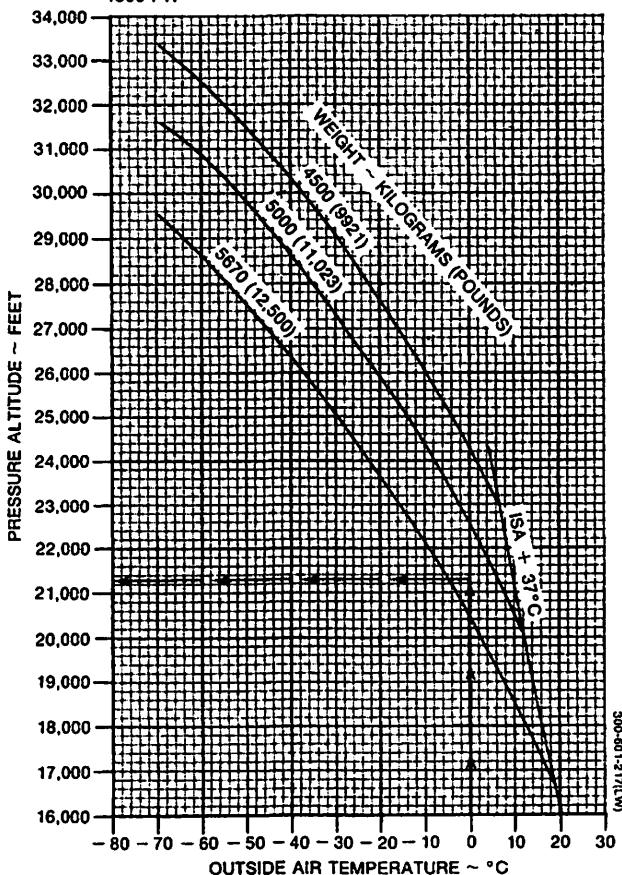
POWER ..... MAXIMUM CONTINUOUS  
 LANDING GEAR ..... UP  
 INOPERATIVE PROPELLER .. FEATHERED  
 FLAPS ..... UP  
 SPEED ..... V<sub>YSE</sub>

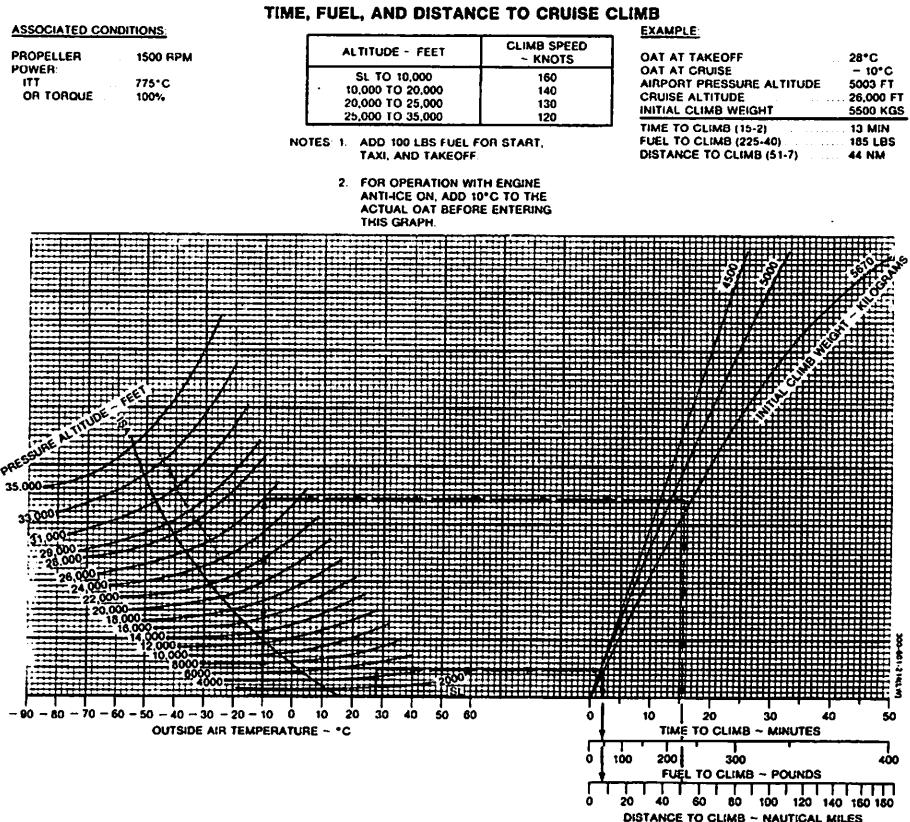
### EXAMPLE:

OAT .....	0°C
WEIGHT .....	5400 KGS
SERVICE CEILING .....	

SERVICE CEILING ..... 21,270 FT

- NOTES: 1. SERVICE CEILING IS THE MAXIMUM PRESSURE ALTITUDE AT WHICH THE AIRPLANE IS CAPABLE OF CLIMBING 50 FT/MIN WITH ONE PROPELLER FEATHERED.  
 2. DURING OPERATION WITH ENGINE ANTI-ICE ON, SERVICE CEILING WILL BE LOWERED APPROXIMATELY 1800 FT.





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## MAXIMUM CRUISE POWER

1500 RPM

ISA -30°C

(SEE NOTES BELOW)

PRESSURE ALTITUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	-9	-15	96	526	1052	259	246	259	246
2000	-13	-19	99	522	1044	259	253	259	253
4000	-17	-23	100	515	1030	259	260	259	260
6000	-20	-27	100	505	1010	257	265	257	265
8000	-24	-31	100	495	990	255	270	255	271
10,000	-28	-35	100	486	972	253	275	253	276
12,000	-31	-39	100	478	956	250	281	251	282
14,000	-35	-43	100	470	940	248	287	249	288
16,000	-39	-47	100	465	930	246	293	247	294
18,000	-42	-51	100	461	922	244	299	245	300
20,000	-46	-55	100	460	920	242	306	243	307
22,000	-50	-59	100	461	922	240	313	241	314
24,000	-53	-63	100	462	924	238	320	239	321
26,000	-57	-67	93	435	870	230	319	231	320
28,000	-62	-71	81	381	762	215	310	216	311
29,000	-64	-72	77	365	730	210	308	211	309
31,000	-68	-76	71	338	676	201	305	202	306
33,000	-72	-80	67	316	632	193	304	194	304
35,000	-76	-84	63	296	592	185	302	186	302

NOTE: IOAT, torque, and fuel flow are based on 12,000 pounds.

**MAXIMUM CRUISE POWER**

**1500 RPM**

**ISA -20°C**

(SEE NOTES BELOW)

PRESSURE ALTITUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	1	-5	98	535	1070	259	251	259	251
2000	-3	-9	100	529	1058	259	258	259	258
4000	-7	-13	100	517	1034	257	263	258	263
6000	-10	-17	100	507	1014	255	268	255	269
8000	-14	-2	100	497	994	253	273	253	274
10,000	-18	-25	100	489	978	250	279	251	280
12,000	-21	-29	100	481	962	248	285	249	285
14,000	-25	-33	100	474	948	246	291	247	291
16,000	-29	-37	100	469	938	244	297	245	298
18,000	-32	-41	100	464	928	242	303	243	304
20,000	-36	-45	100	462	924	240	310	240	311
22,000	-39	-49	100	461	922	237	317	238	318
24,000	-43	-53	100	461	922	235	324	236	325
26,000	-47	-57	95	439	878	228	325	230	327
28,000	-51	-61	89	410	820	220	324	221	326
29,000	-53	-62	85	396	792	216	323	217	325
31,000	-57	-66	79	367	734	207	320	208	323
33,000	-61	-70	72	338	676	197	317	199	320
35,000	-66	-74	65	307	614	186	311	189	315

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**MAXIMUM CRUISE POWER****1500 RPM****ISA -10°C**

(SEE NOTES BELOW)

PRESSURE ALTITUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	11	5	100	546	1092	259	256	259	256
2000	7	1	100	532	1064	257	261	258	261
4000	4	-3	100	520	1040	255	266	256	266
6000	0	-7	100	510	1020	253	271	254	272
8000	-4	-11	100	501	1002	251	277	251	277
10,000	-7	-15	100	492	984	249	282	249	283
12,000	-11	-19	100	484	968	246	288	247	289
14,000	-15	-23	100	477	954	244	294	245	295
16,000	-18	-27	100	471	942	242	300	243	301
18,000	-22	-31	100	466	932	240	307	240	308
20,000	-26	-35	100	462	924	237	314	238	315
22,000	-29	-39	100	458	916	235	320	236	322
24,000	-33	-43	94	433	866	228	321	229	322
26,000	-37	-47	88	406	812	220	320	221	322
28,000	-41	-51	82	379	758	211	319	213	321
29,000	-43	-52	79	365	730	207	317	209	320
31,000	-47	-56	73	338	676	198	313	200	318
33,000	-52	-60	67	311	622	188	308	191	315
35,000	-56	-64	60	283	566	177	300	181	309

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**MAXIMUM CRUISE POWER**  
**1500 RPM**  
**ISA**  
**(SEE NOTES BELOW)**

PRESSURE ALTI- TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/ HR	LB/ HR	IAS	TAS	IAS	TAS
SL	21	15	100	547	1094	258	259	259	259
2000	17	11	100	535	1070	256	264	256	264
4000	14	7	100	524	1048	254	269	254	270
6000	10	3	100	513	1026	251	274	252	275
8000	6	-1	100	503	1006	249	280	250	281
10,000	3	-5	100	493	986	247	286	247	286
12,000	-1	-9	100	485	970	244	291	245	292
14,000	-5	-13	100	478	956	242	298	243	299
16,000	-8	-17	100	471	942	240	304	241	305
18,000	-12	-21	100	465	930	238	311	238	312
20,000	-15	-25	98	451	902	233	315	234	316
22,000	-19	-29	92	426	852	226	315	227	317
24,000	-23	-33	87	400	800	219	315	220	317
26,000	-27	-37	82	375	750	211	315	212	317
28,000	-31	-41	76	349	698	202	313	204	316
29,000	-34	-42	73	336	672	198	312	200	315
31,000	-38	-46	67	311	622	189	308	191	312
33,000	-42	-50	61	285	570	179	303	182	308
35,000	-46	-54	55	259	518	168	295	171	301

NOTE: IOAT, torque and fuel flow based on 12,000 pounds.

**MAXIMUM CRUISE POWER**  
**1500 RPM**  
**ISA +10°C**  
**(SEE NOTES BELOW)**

<b>PRES- SURE ALTI- TUDE</b>	<b>IOAT</b>	<b>OAT</b>	<b>TORQUE PER ENG</b>	<b>FUEL FLOW PER ENG</b>	<b>TOTAL FUEL FLOW</b>	<b>AIRSPEED - KNOTS</b>			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
<b>FEET</b>	<b>°C</b>	<b>°C</b>	<b>%</b>	<b>LB/ HR</b>	<b>LB/ HR</b>	<b>IAS</b>	<b>TAS</b>	<b>IAS</b>	<b>TAS</b>
SL	31	25	100	549	1098	256	261	257	262
2000	28	21	100	537	1074	254	266	255	267
4000	24	17	100	525	1050	252	272	252	272
6000	20	13	100	514	1028	250	277	250	278
8000	17	9	100	504	1008	247	283	248	284
10,000	13	5	100	495	990	245	289	245	290
12,000	9	1	100	485	970	242	295	243	296
14,000	6	-3	100	477	954	240	301	241	302
16,000	2	-7	100	463	926	236	305	237	307
18,000	-2	-11	95	442	884	231	308	232	309
20,000	-6	-15	90	420	840	224	309	226	311
22,000	-10	-19	85	394	788	217	309	218	311
24,000	-14	-23	80	369	738	209	309	211	311
26,000	-18	-27	75	344	688	201	308	203	310
28,000	-22	-31	69	321	642	193	305	195	309
29,000	-24	-32	67	308	616	188	304	191	307
31,000	-28	-36	61	284	568	179	300	182	304
33,000	-33	-40	56	262	524	169	294	172	299
35,000	-37	-44	51	238	476	158	286	162	293

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**MAXIMUM CRUISE POWER**

**1500 RPM**

**ISA +20°C**

(SEE NOTES BELOW)

PRESSURE ALTITUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	41	35	100	554	1108	255	264	255	265
2000	38	31	100	540	1080	252	269	253	270
4000	34	27	100	527	1054	250	275	251	275
6000	30	23	100	516	1032	248	280	248	281
8000	27	19	100	505	1010	245	286	246	286
10,000	23	15	97	485	970	241	289	241	290
12,000	19	11	95	466	932	236	292	237	293
14,000	15	7	92	447	894	231	295	232	296
16,000	12	3	89	427	854	226	298	227	299
18,000	8	-1	86	407	814	220	300	222	302
20,000	4	-5	81	382	764	213	300	215	302
22,000	0	-9	77	360	720	206	300	208	303
24,000	-4	-13	72	337	674	199	300	201	302
26,000	-8	-17	68	315	630	191	299	193	302
28,000	-12	-21	63	294	588	183	297	186	300
29,000	-14	-22	61	283	566	179	295	181	299
31,000	-19	-26	56	262	524	170	291	173	296
33,000	-23	-30	51	240	480	160	284	163	291
35,000	-28	-34	46	218	436	148	274	153	282

NOTE: IOAT, torque and fuel flow based on 12,000 pounds.

**MAXIMUM CRUISE POWER****1500 RPM****ISA +30°C**

(SEE NOTES BELOW)

PRES- SURE ALTI- TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/ HR	LB/ HR	IAS	TAS	IAS	TAS
SL	51	45	97	548	1096	251	264	251	265
2000	48	41	95	526	1052	246	267	247	268
4000	44	37	94	508	1016	243	271	243	272
6000	40	33	92	489	978	239	275	240	276
8000	36	29	90	471	942	235	278	236	279
10,000	33	25	88	453	906	231	282	231	283
12,000	29	21	86	432	864	226	285	227	286
14,000	25	17	83	411	822	220	287	221	288
16,000	21	13	79	390	780	215	289	216	290
18,000	17	9	76	369	738	209	290	210	292
20,000	13	5	72	345	690	202	290	203	292
22,000	9	1	68	324	648	194	289	196	292
24,000	5	-3	64	303	606	187	288	189	291
26,000	1	-7	60	283	566	180	287	182	290
28,000	-3	-11	56	266	532	172	285	175	289
29,000	-5	-12	54	257	514	168	284	171	288
31,000	-9	-16	50	238	476	159	279	163	285
33,000	-14	-20	46	218	436	149	271	153	279
35,000	-19	-24	41	197	394	135	255	142	269

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**MAXIMUM CRUISE POWER**  
**1500 RPM**  
**ISA +37°C**  
**(SEE NOTES BELOW)**

PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/ HR	LB/ HR	IAS	TAS	IAS	TAS
SL	58	52	92	528	1056	244	260	245	261
2000	54	48	89	507	1014	240	263	241	264
4000	51	44	87	486	972	236	266	236	267
6000	47	40	85	467	934	231	269	232	270
8000	43	36	84	449	898	227	273	228	274
10,000	39	32	82	431	862	223	276	224	277
12,000	35	28	79	409	818	218	278	219	280
14,000	32	24	76	387	774	212	280	213	281
16,000	28	20	73	365	730	206	281	208	283
18,000	24	16	69	343	686	200	281	201	284
20,000	20	12	65	319	638	192	280	194	283
22,000	16	8	61	298	596	185	279	187	282
24,000	12	5	57	278	556	178	277	180	281
26,000	8	1	54	260	520	170	276	173	280
28,000	4	-4	51	245	490	163	274	166	279
29,000	2	-5	49	237	474	159	273	163	278
31,000	-3	-9	46	220	440	150	267	154	275
33,000	-7	-13	41	201	402	139	257	145	267
35,000	-12	-17	36	182	364	—	—	131	253

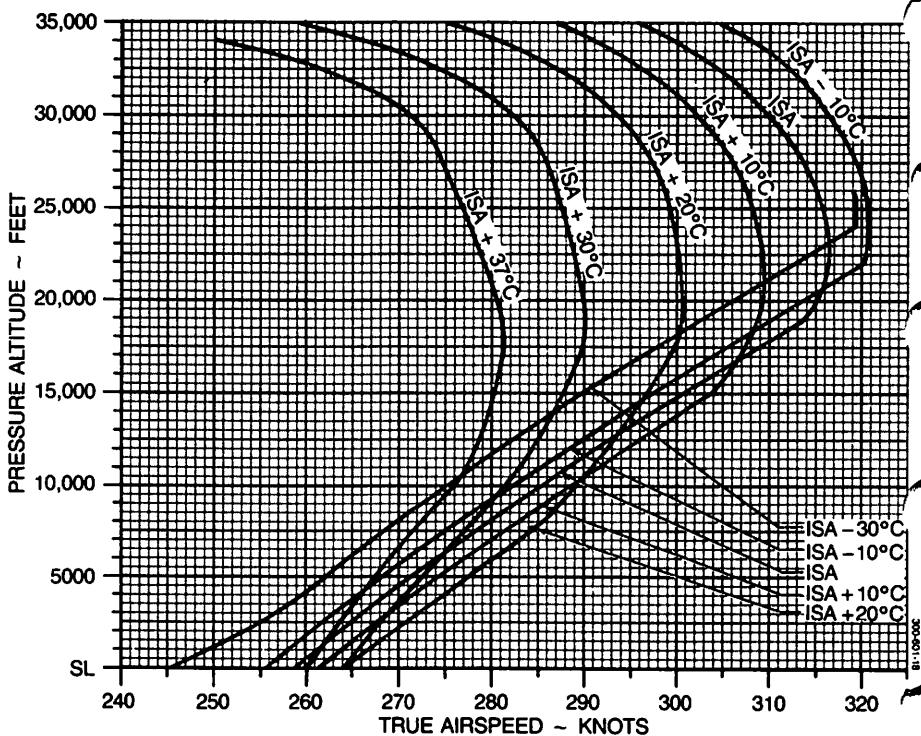
NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

## **MAXIMUM CRUISE SPEED**

**1500 RPM**

**WEIGHT 12,000 LBS**

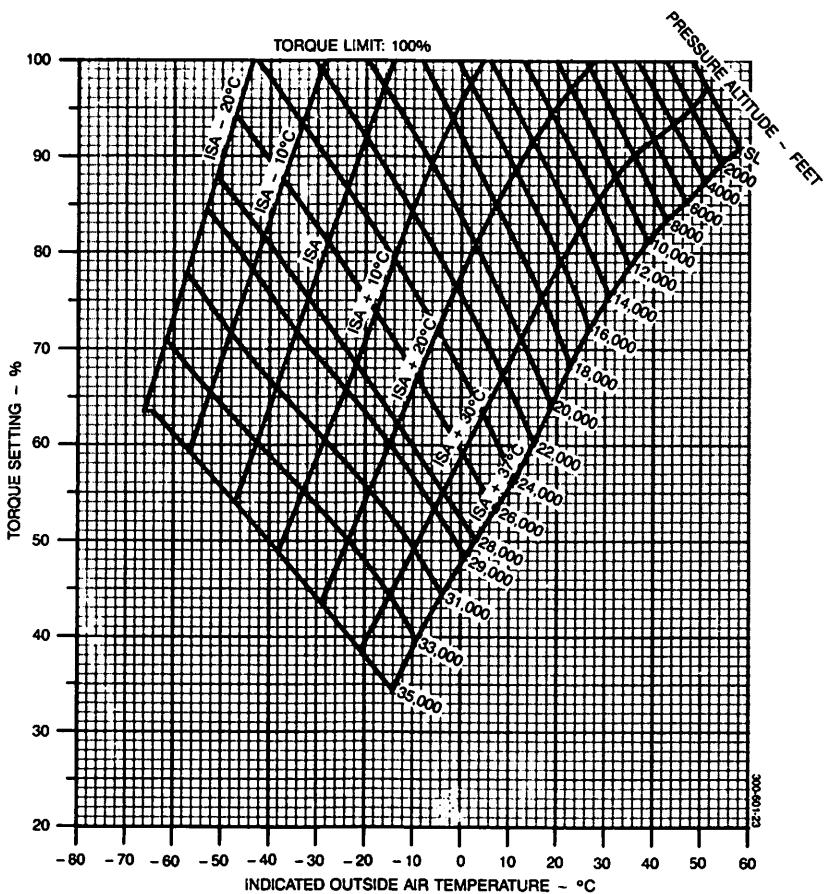
**NOTE: DURING OPERATION WITH ENGINE ANTI-ICE ON, TRUE AIRSPEED WILL BE REDUCED APPROXIMATELY 30 KNOTS IF ORIGINAL POWER IS NOT OR CANNOT BE RESET, BUT WILL BE UNCHANGED IF THE ORIGINAL POWER IS RESET.**



## MAXIMUM CRUISE POWER

1500 RPM

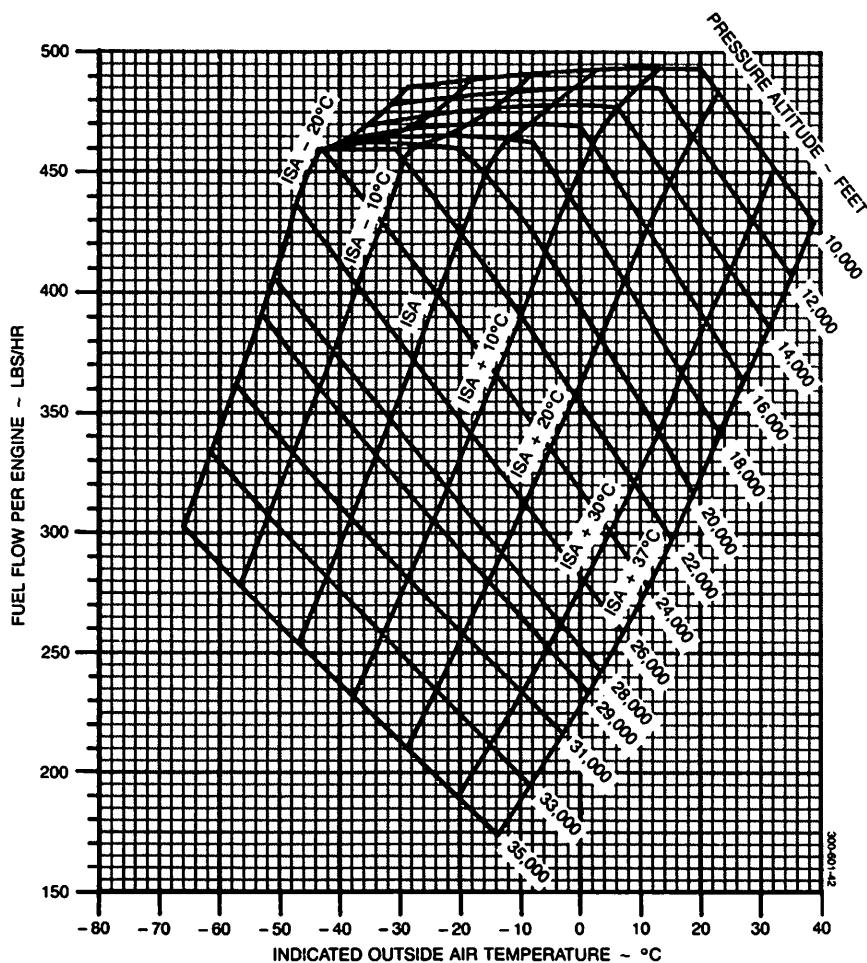
NOTE: DURING OPERATION WITH ENGINE ANTI-ICE ON, TORQUE WILL DECREASE APPROXIMATELY 15 %. IF DESIRED, ORIGINAL POWER MAY BE RESET, PROVIDED ITT LIMIT IS NOT EXCEEDED.



## FUEL FLOW AT MAXIMUM CRUISE POWER

**1500 RPM**

**NOTE:** DURING OPERATION WITH ENGINE ANTI-ICE ON, FUEL FLOW WILL DECREASE APPROXIMATELY 15% IF ORIGINAL POWER IS NOT OR CANNOT BE RESET. IF ORIGINAL POWER IS RESET, FUEL FLOW WILL INCREASE APPROXIMATELY 25 LBS/HR/ENG.



October, 1983

## RANGE PROFILE — MAXIMUM CRUISE POWER

### ASSOCIATED CONDITIONS:

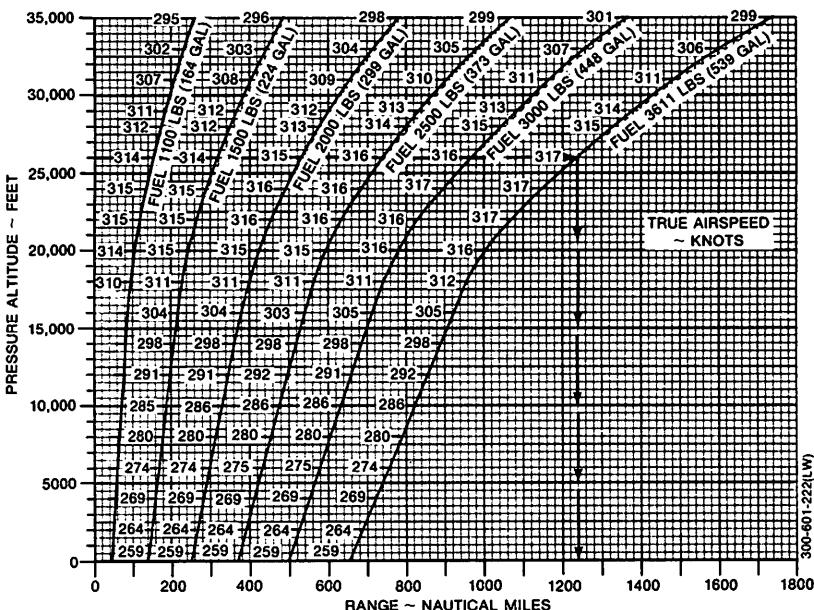
WEIGHT ..... 5715 KGS (12,600 LBS)  
BEFORE ENGINE START  
FUEL ..... AVIATION KEROSENE  
FUEL DENSITY ..... 6.7 LBS/GAL

1500 RPM  
STANDARD DAY (ISA)  
ZERO WIND

### EXAMPLE:

PRESSURE ALTITUDE . 26,000 FT  
FUEL ..... 3611 LBS  
RANGE ..... 1240 NM

NOTE: RANGE ALLOWS FOR TAXI AND RUNUP;  
INCLUDES CRUISE CLIMB AND DESCENT; AND ALLOWS  
FOR 45 MINUTES RESERVE FUEL AT MAXIMUM RANGE POWER.



## NORMAL CRUISE POWER

1500 RPM

ISA -30°C

(SEE NOTES BELOW)

PRES- SURE ALTI- TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/ HR	LB/ HR	IAS	TAS	IAS	TAS
SL	-9	-15	96	526	1052	260	246	260	246
2000	-13	-19	99	522	1044	260	253	260	253
4000	-17	-23	100	515	1030	259	260	260	260
6000	-20	-27	100	505	1010	257	265	257	265
8000	-24	-31	100	495	990	255	270	255	271
10,000	-28	-35	100	486	972	253	275	253	276
12,000	-31	-39	100	478	956	250	281	251	282
14,000	-35	-43	100	470	940	248	287	249	288
16,000	-39	-47	100	464	928	246	293	247	294
18,000	-42	-51	100	461	922	244	299	245	300
20,000	-46	-55	100	459	918	242	306	243	307
22,000	-50	-59	100	459	918	240	313	241	314
24,000	-53	-63	98	449	898	236	317	237	319
26,000	-57	-67	91	420	840	228	316	229	318
28,000	-61	-71	85	392	784	219	315	221	317
29,000	-63	-72	82	378	756	215	314	216	316
31,000	-68	-76	75	349	698	205	311	207	314
33,000	-72	-80	69	319	638	195	306	197	310
35,000	-76	-84	62	289	578	184	300	187	304

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**NORMAL CRUISE POWER**

**1500 RPM**

**ISA -20°C**

(SEE NOTES BELOW)

PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)	@ 4989.5 KG (11,000 LB)	IAS	TAS
FEET	°C	°C	%	LB/ HR	LB/ HR	IAS	TAS	IAS	TAS
SL	1	-5	98	535	1070	260	251	260	251
2000	-3	-9	100	529	1058	259	258	260	258
4000	-7	-13	100	517	1034	257	263	258	263
6000	-10	-17	100	507	1014	255	268	255	269
8000	-14	-21	100	497	994	253	273	253	274
10,000	-18	-25	100	489	978	250	279	251	280
12,000	-21	-29	100	481	962	248	285	249	285
14,000	-25	-33	100	474	948	246	291	247	291
16,000	-29	-37	100	468	936	244	297	245	298
18,000	-32	-41	100	463	926	242	303	242	304
20,000	-36	-45	100	460	920	240	310	240	311
22,000	-39	-49	98	452	904	236	315	237	317
24,000	-43	-53	92	422	844	228	314	229	316
26,000	-47	-57	86	393	786	219	313	221	315
28,000	-52	-61	80	366	732	211	312	213	314
29,000	-54	-62	77	352	704	207	310	208	313
31,000	-58	-66	71	327	654	198	308	200	311
33,000	-62	-70	66	304	608	189	305	191	308
35,000	-66	-74	60	281	562	179	300	182	304

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**NORMAL CRUISE POWER**

**1500 RPM**

**ISA -10°C**

**(SEE NOTES BELOW)**

<b>PRES-SURE ALTI-TUDE</b>	<b>IOAT</b>	<b>OAT</b>	<b>TORQUE PER ENG</b>	<b>FUEL FLOW PER ENG</b>	<b>TOTAL FUEL FLOW</b>	<b>AIRSPEED - KNOTS</b>			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
<b>FEET</b>	<b>°C</b>	<b>°C</b>	<b>%</b>	<b>LB/ HR</b>	<b>LB/ HR</b>	<b>IAS</b>	<b>TAS</b>	<b>IAS</b>	<b>TAS</b>
SL	11	5	100	546	1092	260	256	260	256
2000	7	1	100	532	1064	257	261	258	261
4000	4	-3	100	520	1040	255	266	256	266
6000	0	-7	100	509	1018	253	271	254	272
8000	-4	11	100	500	1000	251	277	251	277
10,000	-7	-15	100	491	982	248	282	249	283
12,000	-11	-19	100	483	966	246	288	247	289
14,000	-15	-23	100	476	952	244	294	245	295
16,000	-18	-27	100	469	938	242	300	243	301
18,000	-22	-31	100	463	926	240	307	240	308
20,000	-26	-35	98	451	902	236	312	237	313
22,000	-30	-39	92	423	846	228	311	229	313
24,000	-34	-43	86	395	790	220	310	221	312
26,000	-38	-47	80	368	736	211	309	213	311
28,000	-42	-51	74	342	684	203	307	205	310
29,000	-44	-52	72	329	658	198	306	200	309
31,000	-48	-56	66	305	610	190	303	192	306
33,000	-52	-60	61	283	566	181	299	183	303
35,000	-57	-64	56	261	522	171	294	174	299

**NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.**

**NORMAL CRUISE POWER**

**1500 RPM**

**ISA**

(SEE NOTES BELOW)

PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/ HR	LB/ HR	IAS	TAS	IAS	TAS
SL	21	15	100	547	1094	258	259	259	259
2000	17	11	100	535	1070	256	264	256	264
4000	14	7	100	523	1046	254	269	254	270
6000	10	3	100	512	1024	251	274	252	275
8000	6	-1	100	502	1004	249	280	250	281
10,000	3	-5	100	493	986	247	286	247	286
12,000	-1	-9	100	484	968	244	291	245	292
14,000	-5	-13	100	476	952	242	298	243	299
16,000	-8	-17	100	469	938	240	304	241	305
18,000	-12	-21	97	452	904	235	307	236	309
20,000	-16	-25	92	424	848	227	307	229	309
22,000	-20	-29	86	396	792	220	307	221	309
24,000	-24	-33	80	369	738	211	306	213	308
26,000	-28	-37	75	343	686	203	304	205	307
28,000	-32	-41	69	319	638	195	302	197	305
29,000	-34	-42	66	306	612	190	300	192	303
31,000	-38	-46	61	284	568	181	297	184	301
33,000	-43	-50	57	264	528	172	293	175	298
35,000	-47	-54	52	243	486	162	286	166	292

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**NORMAL CRUISE POWER**

**1500 RPM**

**ISA +10°C**

**(SEE NOTES BELOW)**

PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/ HR	LB/ HR	IAS	TAS	IAS	TAS
SL	31	25	100	550	1100	256	261	257	262
2000	28	21	100	537	1074	254	266	255	267
4000	24	17	100	525	1050	252	272	252	272
6000	20	13	100	514	1028	249	277	250	278
8000	17	9	100	504	1008	247	283	248	284
10,000	13	5	100	494	988	245	289	245	289
12,000	9	1	98	479	958	241	293	242	294
14,000	5	-3	96	460	920	236	296	237	297
16,000	2	-7	93	440	880	231	299	232	300
18,000	-2	-11	89	419	838	225	301	226	302
20,000	-6	-15	84	392	784	218	301	219	302
22,000	-10	-19	79	368	736	211	301	212	303
24,000	-14	-23	74	344	688	203	300	205	302
26,000	-18	-27	69	321	642	195	298	197	301
28,000	-22	-31	64	298	596	187	296	189	299
29,000	-25	-32	62	286	572	182	294	185	298
31,000	-29	-36	57	265	530	173	290	176	295
33,000	-33	-40	53	245	490	164	286	167	291
35,000	-37	-44	48	225	450	153	278	158	285

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**NORMAL CRUISE POWER**

**1500 RPM**

**ISA +20°C**

(SEE NOTES BELOW)

PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/ HR	LB/ HR	IAS	TAS	IAS	TAS
SL	41	35	99	551	1102	254	263	254	264
2000	38	31	97	531	1062	250	266	250	267
4000	34	27	96	514	1028	247	271	247	272
6000	30	23	95	497	994	243	275	243	276
8000	26	19	94	482	964	240	279	240	280
10,000	23	15	92	467	934	236	284	237	285
12,000	19	11	90	447	894	231	287	232	288
14,000	15	7	87	427	854	226	289	227	291
16,000	11	3	84	407	814	221	292	222	293
18,000	7	-1	81	387	774	215	294	216	295
20,000	3	-5	76	363	726	208	294	209	296
22,000	-1	-9	72	341	682	201	293	202	295
24,000	-5	-13	67	318	636	193	292	195	295
26,000	-9	-17	63	296	592	186	291	188	294
28,000	-13	-21	59	276	552	178	288	180	292
29,000	-15	-22	57	266	532	174	286	176	291
31,000	-19	-26	53	247	494	165	282	168	288
33,000	-23	-30	48	228	456	155	276	159	283
35,000	-28	-34	44	208	416	143	266	149	275

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**NORMAL CRUISE POWER**

**1500 RPM**

**ISA +30°C**

(SEE NOTES BELOW)

PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/ HR	LB/ HR	IAS	TAS	IAS	TAS
SL	51	45	90	518	1036	243	256	244	257
2000	47	41	87	496	992	239	259	239	260
4000	43	37	86	479	958	235	262	236	263
6000	40	33	85	463	926	232	267	233	268
8000	36	29	84	449	898	229	272	230	273
10,000	32	25	84	437	874	226	277	227	278
12,000	28	21	82	417	834	222	280	223	281
14,000	25	17	79	396	792	216	282	217	283
16,000	21	13	75	375	750	211	283	212	285
18,000	17	9	72	354	708	205	284	206	286
20,000	13	5	68	331	662	197	284	199	286
22,000	9	1	64	311	622	191	284	192	286
24,000	5	-3	61	291	582	183	283	185	286
26,000	1	-7	57	271	542	176	281	178	285
28,000	-3	-11	53	253	506	168	278	171	283
29,000	-5	-12	51	244	488	163	276	166	281
31,000	-10	-16	47	226	452	154	271	158	277
33,000	-14	-20	43	209	418	144	263	149	272
35,000	-19	-24	39	189	378	130	247	138	262

NOTE: IOAT, torque and fuel flow based on 12,000 pounds.

**NORMAL CRUISE POWER**

**1500 RPM**

**ISA +37°C**

(SEE NOTES BELOW)

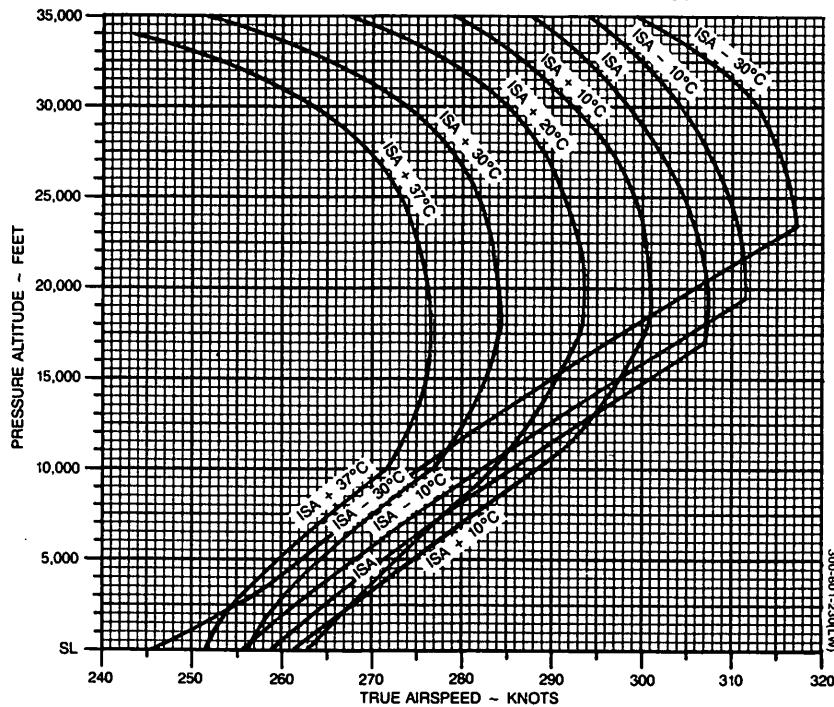
PRESSURE ALTITUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	58	52	83	496	992	236	251	237	252
2000	54	48	81	475	950	231	254	232	255
4000	50	44	80	459	918	228	258	229	259
6000	46	40	79	444	888	225	262	226	263
8000	43	36	79	431	862	222	267	223	268
10,000	39	32	78	418	836	219	272	220	273
12,000	35	28	76	396	792	214	274	215	275
14,000	31	24	73	374	748	209	275	210	277
16,000	27	20	69	353	706	203	276	204	278
18,000	23	16	66	332	664	196	277	198	279
20,000	19	12	62	310	620	189	276	191	279
22,000	15	8	59	291	582	182	275	185	278
24,000	11	5	55	272	544	175	274	178	278
26,000	7	1	52	254	508	168	272	171	276
28,000	3	-4	49	236	472	160	269	163	274
29,000	1	-5	47	228	456	155	266	159	272
31,000	-3	-9	43	211	422	146	260	151	268
33,000	-8	-13	40	194	388	135	250	141	262
35,000	-12	-17	35	173	346	—	—	128	248

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

## **NORMAL CRUISE SPEED**

**1500 RPM**

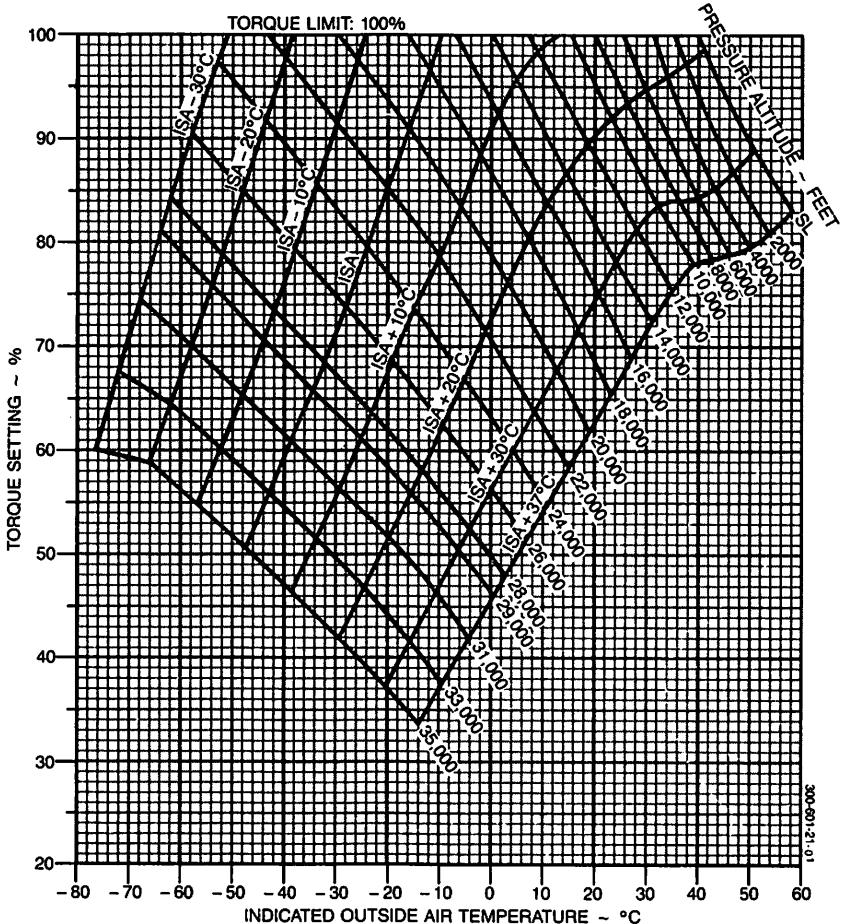
NOTE: DURING OPERATION WITH ENGINE ANTI-ICE ON, TRUE AIRSPEED WILL BE REDUCED APPROXIMATELY 25 KNOTS IF ORIGINAL POWER IS NOT OR CANNOT BE RESET, BUT WILL BE UNCHANGED IF THE ORIGINAL POWER IS RESET.



## **NORMAL CRUISE POWER**

**1500 RPM**

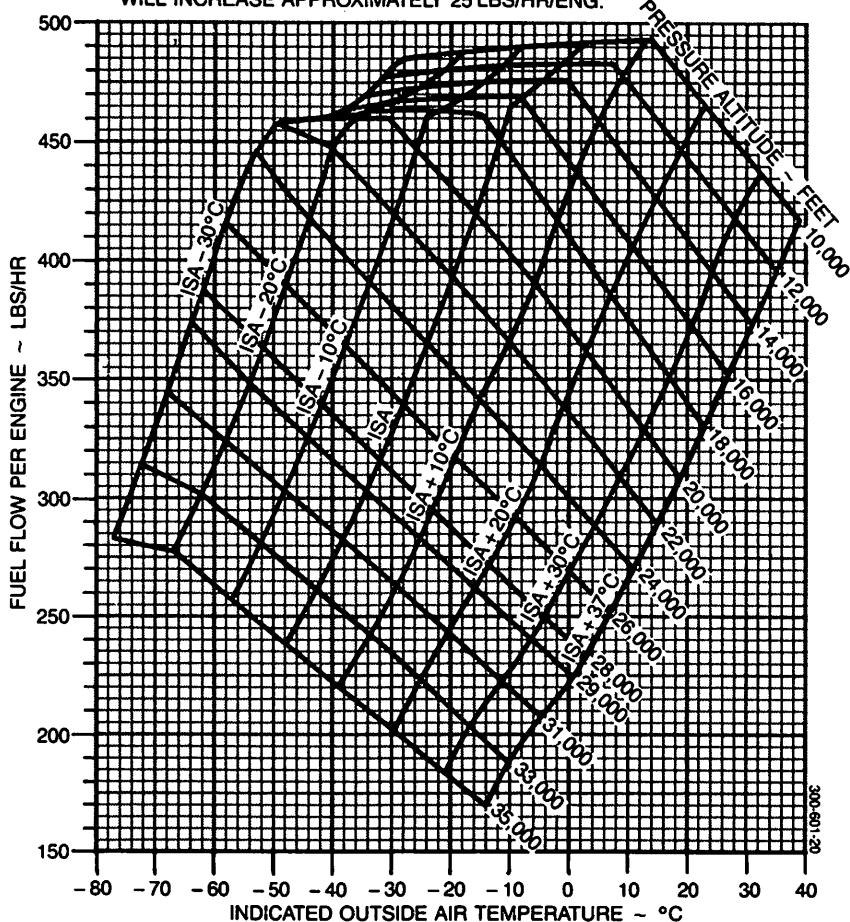
**NOTE: DURING OPERATION WITH ENGINE ANTI-ICE ON, TORQUE WILL DECREASE APPROXIMATELY 15 %. IF DESIRED, ORIGINAL POWER MAY BE RESET, PROVIDED ITT LIMIT IS NOT EXCEEDED.**



## FUEL FLOW AT NORMAL CRUISE POWER

1500 RPM

NOTE: DURING OPERATION WITH ENGINE ANTI-ICE ON, FUEL FLOW WILL DECREASE APPROXIMATELY 15 % IF ORIGINAL POWER IS NOT OR CANNOT BE RESET. IF ORIGINAL POWER IS RESET, FUEL FLOW WILL INCREASE APPROXIMATELY 25 LBS/HR/ENG.



October, 1983

## RANGE PROFILE - NORMAL CRUISE POWER

### ASSOCIATED CONDITIONS:

WEIGHT ..... 5715 KGS (12,600 LBS)  
BEFORE ENGINE START  
FUEL ..... AVIATION KEROSENE  
FUEL DENSITY ..... 6.7 LBS/GAL

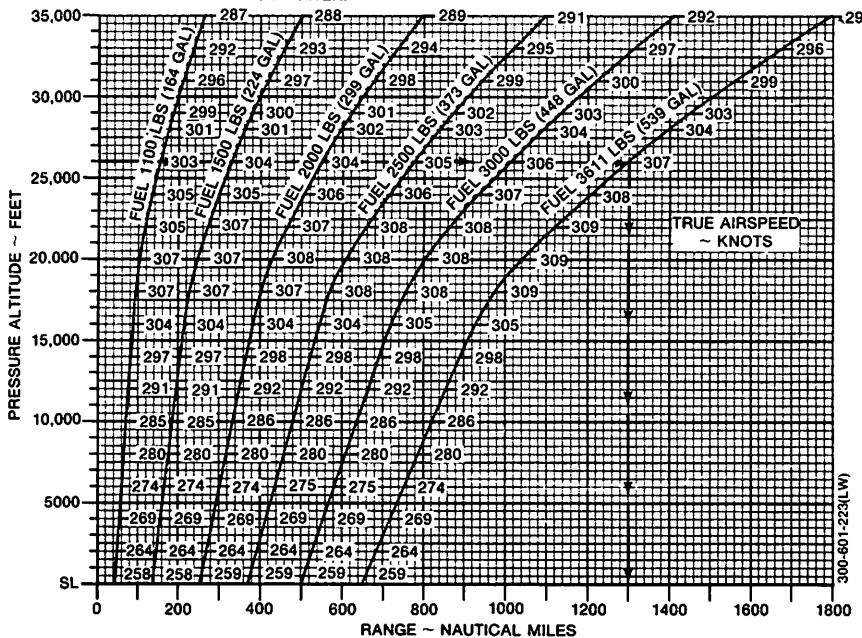
NOTE: RANGE ALLOWS FOR TAXI AND RUNUP; INCLUDES CRUISE  
CLIMB AND DESCENT; AND ALLOWS FOR 45 MINUTES  
RESERVE FUEL AT MAXIMUM RANGE POWER.

1500 RPM

STANDARD DAY (ISA)  
ZERO WIND

### EXAMPLE:

PRESSURE ALTITUDE ..... 26,000 FT  
FUEL ..... 3611 LBS  
RANGE ..... 1300 NM



**MAXIMUM RANGE POWER**

**1500 RPM**

**ISA -30°C**

(SEE NOTES BELOW)

WEIGHT →			5443.1 KG (12,000 LB)				4989.5 KG (11,000 LB)			
PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS
FEET	°C	°C	%	LB/ HR	LB/ HR	KTS	%	LB/ HR	LB/ HR	KTS
SL	-12	-15	44	334	668	183	42	324	648	180
2000	-16	-19	43	318	636	185	41	309	618	182
4000	-20	-23	42	303	606	186	40	295	590	183
6000	-24	-27	41	288	576	187	39	279	558	185
8000	-28	-31	39	272	544	187	37	262	524	184
10,000	-32	-35	38	258	516	189	36	249	498	186
12,000	-35	-39	38	246	492	191	35	236	472	187
14,000	-39	-43	37	235	470	193	34	225	450	189
16,000	-43	-47	36	224	448	195	33	213	426	191
18,000	-47	-51	35	212	424	197	32	201	402	192
20,000	-51	-55	34	201	402	198	31	189	378	192
22,000	-55	-59	34	193	386	200	30	180	360	193
24,000	-59	-63	34	185	370	202	30	171	342	195
26,000	-63	-67	34	179	358	205	30	164	328	197
28,000	-66	-71	34	176	352	210	30	159	318	200
29,000	-68	-72	34	174	348	212	30	157	314	202
31,000	-72	-76	34	171	342	216	29	151	302	203
33,000	-76	-80	35	171	342	221	28	144	288	200
35,000	-80	-84	36	173	346	229	29	145	290	207

NOTE: During operation with engine anti-ice on, torque will decrease. In order to maintain maximum range configuration, do not reset power to original setting. Fuel flow will remain about the same, but true airspeed will be reduced approximately 10 knots.

**MAXIMUM RANGE POWER**

**1500 RPM**

**ISA -20°C**

(SEE NOTES BELOW)

WEIGHT →			5443.1 KG (12,000 LB)					4989.5 KG (11,000 LB)				
PRES-SURE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS		
FEET	°C	°C	%	LB/ HR	LB/ HR	KTS	%	LB/ HR	LB/ HR	KTS		
SL	-2	-5	43	331	662	183	41	321	642	180		
2000	-6	-9	43	318	636	186	40	308	616	183		
4000	-10	-13	42	305	610	189	40	296	592	185		
6000	-14	-17	42	292	584	191	39	283	566	188		
8000	-17	-21	41	279	558	193	38	270	540	190		
10,000	-21	-25	40	265	530	194	37	256	512	191		
12,000	-25	-29	38	250	500	194	36	240	480	191		
14,000	-29	-33	38	238	476	197	35	228	456	193		
16,000	-33	-37	37	229	458	200	34	218	436	195		
18,000	-37	-41	37	220	440	204	34	209	418	198		
20,000	-41	-45	37	213	426	207	34	201	402	202		
22,000	-44	-49	37	206	412	211	34	194	388	205		
24,000	-48	-53	37	198	396	214	34	186	372	208		
26,000	-52	-57	37	192	384	217	34	180	360	212		
28,000	-56	-61	37	186	372	220	33	174	348	214		
29,000	-58	-62	37	184	368	222	33	171	342	216		
31,000	-62	-66	37	181	362	227	33	167	334	220		
33,000	-65	-70	37	178	356	230	34	165	330	225		
35,000	-69	-74	37	176	352	233	34	163	326	229		

Note: During operation with engine anti-ice on, torque will decrease. In order to maintain maximum range configuration, do not reset power to original setting. Fuel flow will remain about the same, but true airspeed will be reduced approximately 10 knots.

**MAXIMUM RANGE POWER**

**1500 RPM**

**ISA -10°C**

(SEE NOTES BELOW)

WEIGHT →			5443.1 KG (12,000 LB)					4989.5 KG (11,000 LB)				
PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS		
FEET	°C	°C	%	LB/ HR	LB/ HR	KTS	%	LB/ HR	LB/ HR	KTS		
SL	8	5	43	331	662	185	41	322	644	182		
2000	4	1	42	316	632	187	39	306	612	184		
4000	0	-3	41	303	606	189	39	293	586	186		
6000	-3	-7	41	291	582	192	38	281	562	189		
8000	-7	-11	41	280	560	195	38	270	540	191		
10,000	-11	-15	40	269	538	198	37	258	516	194		
12,000	-15	-19	40	257	514	201	37	246	492	197		
14,000	-19	-23	39	245	490	202	36	233	466	198		
16,000	-23	-27	38	234	468	205	35	222	444	199		
18,000	-27	-31	38	224	448	207	35	212	424	202		
20,000	-31	-35	38	216	432	211	35	204	408	206		
22,000	-34	-39	38	209	418	215	35	198	396	210		
24,000	-38	-43	37	201	402	218	35	191	382	215		
26,000	-42	-47	37	193	386	219	35	184	368	218		
28,000	-46	-51	36	186	372	221	34	178	356	220		
29,000	-48	-52	36	184	368	223	34	174	348	221		
31,000	-52	-56	37	182	364	229	33	168	336	223		
33,000	-55	-60	38	182	364	236	33	166	332	227		
35,000	-59	-64	38	182	364	240	34	166	332	233		

NOTE: During operation with engine anti-ice on, torque will decrease, in order to maintain maximum range configuration, do not reset power to original setting. Fuel flow will remain about the same, but true airspeed will be reduced approximately 10 knots.

**MAXIMUM RANGE POWER**  
**1500 RPM**  
**ISA**  
**(SEE NOTES BELOW)**

WEIGHT →			5443.1 KG (12,000 LB)				4989.5 KG (11,000 LB)			
PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS
FEET	°C	°C	%	LB/ HR	LB/ HR	KTS	%	LB/ HR	LB/ HR	KTS
SL	18	15	43	334	668	188	41	326	652	185
2000	14	11	42	316	632	188	39	307	614	186
4000	10	7	41	303	606	190	39	293	586	187
6000	7	3	40	290	580	193	38	280	560	189
8000	3	-1	40	279	558	196	37	269	538	192
10,000	-1	-5	40	267	534	199	37	257	514	195
12,000	-5	-9	39	256	512	202	37	246	492	198
14,000	-9	-13	39	246	492	204	36	237	474	202
16,000	-13	-17	38	235	470	207	36	227	454	205
18,000	-17	-21	38	225	450	210	35	216	432	207
20,000	-20	-25	38	217	434	213	35	207	414	209
22,000	-24	-29	38	210	420	217	34	199	398	212
24,000	-28	-33	38	204	408	221	34	192	384	215
26,000	-32	-37	38	198	396	225	34	186	372	219
28,000	-36	-41	38	194	388	230	35	181	362	223
29,000	-37	-42	38	191	382	231	35	178	356	226
31,000	-41	-46	38	186	372	233	35	174	348	230
33,000	-45	-50	38	185	370	239	34	171	342	233
35,000	-49	-54	38	183	366	241	35	170	340	238

NOTE: During operation with engine anti-ice on, torque will decrease. In order to maintain maximum range configuration, do not reset power to original setting. Fuel flow will remain about the same, but true airspeed will be reduced approximately 10 knots.

**MAXIMUM RANGE POWER**

**1500 RPM**

**ISA +10°C**

**(SEE NOTES BELOW)**

WEIGHT →			5443.1 KG (12,000 LB)				4989.5 KG (11,000 LB)			
PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS
FEET	°C	°C	%	LB/ HR	LB/ HR	KTS	%	LB/ HR	LB/ HR	KTS
SL	28	25	44	337	674	191	42	331	662	190
2000	24	21	42	321	642	192	40	312	624	190
4000	21	17	41	306	612	193	39	295	590	190
6000	17	13	41	292	584	195	37	280	560	191
8000	13	9	40	281	562	198	37	268	536	193
10,000	9	5	40	269	538	201	36	257	514	196
12,000	5	1	39	258	516	204	36	246	492	199
14,000	1	-3	39	248	496	207	36	236	472	202
16,000	-3	-7	39	238	476	211	36	227	454	206
18,000	-6	-11	38	229	458	214	35	218	436	209
20,000	-10	-15	38	221	442	217	35	210	420	213
22,000	-14	-19	38	213	426	220	35	203	406	217
24,000	-18	-23	38	205	410	222	35	196	392	220
26,000	-22	-27	38	200	400	227	35	188	376	222
28,000	-25	-31	39	197	394	233	34	181	362	224
29,000	-27	-32	39	195	390	236	35	180	360	227
31,000	-31	-36	39	191	382	239	35	178	356	234
33,000	-35	-40	38	186	372	239	35	175	350	238
35,000	-39	-44	39	189	378	245	35	171	342	239

**NOTE:** During operation with engine anti-ice on, torque will decrease. In order to maintain maximum range configuration, do not reset power to original setting. Fuel flow will remain about the same, but true airspeed will be reduced approximately 10 knots.

**MAXIMUM RANGE POWER**

**1500 RPM**

**ISA +20°C**

(SEE NOTES BELOW)

WEIGHT →			5443.1 KG (12,000 LB)				4989.5 KG (11,000 LB)			
PRES-SURE	ALTI-TUDE	IOAT OAT	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS
FEET	°C	°C	%	LB/HR	LB/HR	KTS	%	LB/HR	LB/HR	KTS
SL	38	35	41	328	656	188	40	323	646	187
2000	34	31	41	316	632	191	39	309	618	190
4000	31	27	41	305	610	194	39	297	594	192
6000	27	23	41	294	588	198	38	283	566	194
8000	23	19	41	284	568	202	37	271	542	197
10,000	19	15	41	274	548	206	37	260	520	200
12,000	15	11	40	261	522	208	37	250	500	204
14,000	11	7	39	250	500	210	37	241	482	207
16,000	7	3	39	239	478	212	36	230	460	210
18,000	4	-1	38	229	458	215	36	219	438	212
20,000	0	-5	38	221	442	219	35	210	420	214
22,000	-4	-9	39	216	432	224	35	203	406	218
24,000	-8	-13	39	211	422	229	35	197	394	223
26,000	-12	-17	39	204	408	232	36	193	386	228
28,000	-16	-21	38	195	390	231	36	187	374	232
29,000	-18	-22	38	193	386	232	35	183	366	231
31,000	-21	-26	39	193	386	239	34	177	354	232
33,000	-25	-30	40	198	396	249	35	176	352	237
35,000	-29	-34	—	—	—	—	37	181	362	248

NOTE: During operation with engine anti-ice on, torque will decrease. In order to maintain maximum range configuration, do not reset power to original setting. Fuel flow will remain about the same, but true airspeed will be reduced approximately 10 knots.

**MAXIMUM RANGE POWER**  
**1500 RPM**  
**ISA +30°C**  
**(SEE NOTES BELOW)**

WEIGHT →			5443.1 KG (12,000 LB)				4989.5 KG (11,000 LB)			
PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS
FEET	°C	°C	%	LB/ HR	LB/ HR	KTS	%	LB/ HR	LB/ HR	KTS
SL	48	45	41	330	660	189	39	321	642	187
2000	44	41	39	311	622	189	37	302	604	187
4000	41	37	39	301	602	193	37	291	582	190
6000	37	33	40	293	586	198	37	280	560	194
8000	33	29	40	284	568	203	37	270	540	198
10,000	29	25	41	274	548	208	37	261	522	202
12,000	25	21	39	260	520	209	37	251	502	206
14,000	21	17	38	247	494	210	36	238	476	208
16,000	18	13	38	238	476	213	35	227	454	209
18,000	14	9	38	230	460	217	35	219	438	213
20,000	10	5	38	222	444	220	35	211	422	216
22,000	6	1	38	214	428	222	35	205	410	220
24,000	2	-3	38	207	414	225	35	196	392	222
26,000	-1	-7	39	207	414	233	34	188	376	223
28,000	-5	-11	40	206	412	241	35	188	376	231
29,000	-7	-12	41	205	410	244	36	187	374	235
31,000	-11	-16	42	205	410	252	37	187	374	242
33,000	-14	-20	43	207	414	261	38	188	376	251
35,000	—	—	—	—	—	—	—	—	—	—

**NOTE:** During operation with engine anti-ice on, torque will decrease. In order to maintain maximum range configuration, do not reset power to original setting. Fuel flow will remain about the same, but true airspeed will be reduced approximately 10 knots.

**MAXIMUM RANGE POWER**  
**1500 RPM**  
**ISA +37°C**  
**(SEE NOTES BELOW)**

WEIGHT →			5443.1 KG (12,000 LB)				4989.5 KG (11,000 LB)			
PRES-SURE			TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS	TORQUE PER ENG	FUEL FLOW PER ENG	FUEL FLOW TOTAL	TAS
ALTI-TUDE	IOAT	OAT	%	LB/HR	LB/HR	KTS	%	LB/HR	LB/HR	KTS
FEET	°C	°C								
SL	55	52	42	337	674	193	40	327	654	190
2000	51	48	40	318	636	193	38	307	614	190
4000	48	44	39	300	600	193	36	289	578	190
6000	44	40	39	290	580	197	36	277	554	192
8000	40	36	40	285	570	204	36	269	538	198
10,000	36	32	40	273	546	208	37	261	522	203
12,000	32	28	40	262	524	211	37	251	502	207
14,000	29	24	39	252	504	214	36	240	480	210
16,000	25	20	39	242	484	217	36	230	460	213
18,000	21	16	38	231	462	218	36	221	442	215
20,000	17	12	38	222	444	220	35	212	424	218
22,000	13	8	39	218	436	226	35	203	406	219
24,000	10	5	40	216	432	234	35	198	396	224
26,000	6	1	41	213	426	240	36	196	392	231
28,000	2	-4	41	211	422	247	37	195	390	239
29,000	0	-5	42	210	420	250	38	194	388	242
31,000	-4	-9	—	—	—	—	38	192	384	249
33,000	-7	-13	—	—	—	—	39	192	384	257
35,000	—	—	—	—	—	—	—	—	—	—

NOTE: During operation with engine anti-ice on, torque will decrease. In order to maintain maximum range configuration, do not reset power to original setting. Fuel flow will remain about the same, but true airspeed will be reduced approximately 10 knots.

**RANGE PROFILE — MAXIMUM RANGE POWER**

ASSOCIATED CONDITIONS:

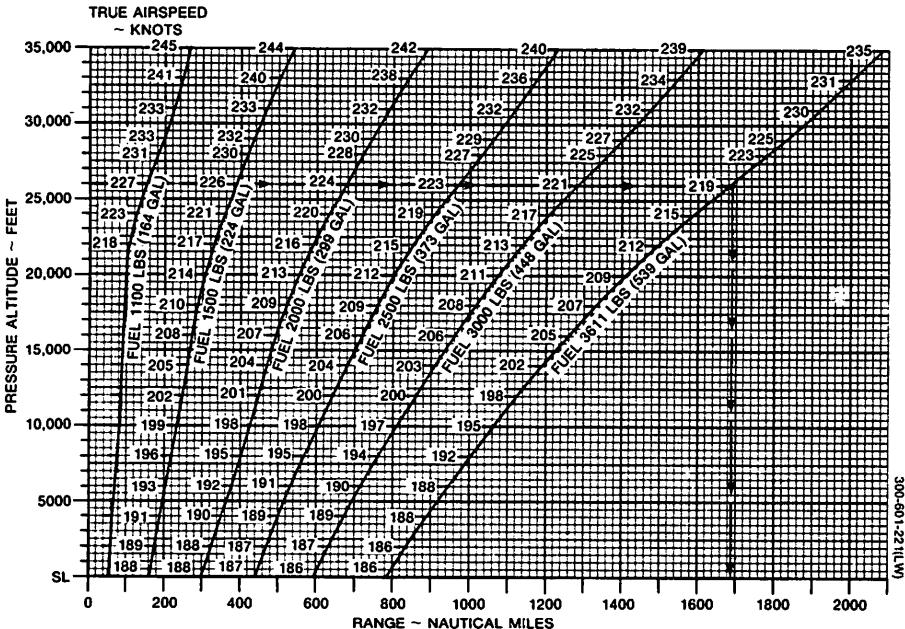
WEIGHT ..... 5715 KGS (12,600 LBS)  
 BEFORE ENGINE START  
 FUEL ..... AVIATION KEROSENE  
 FUEL DENSITY ..... 6.7 LBS/GAL

**1500 RPM**  
**STANDARD DAY (ISA)**  
**ZERO WIND**

EXAMPLE:

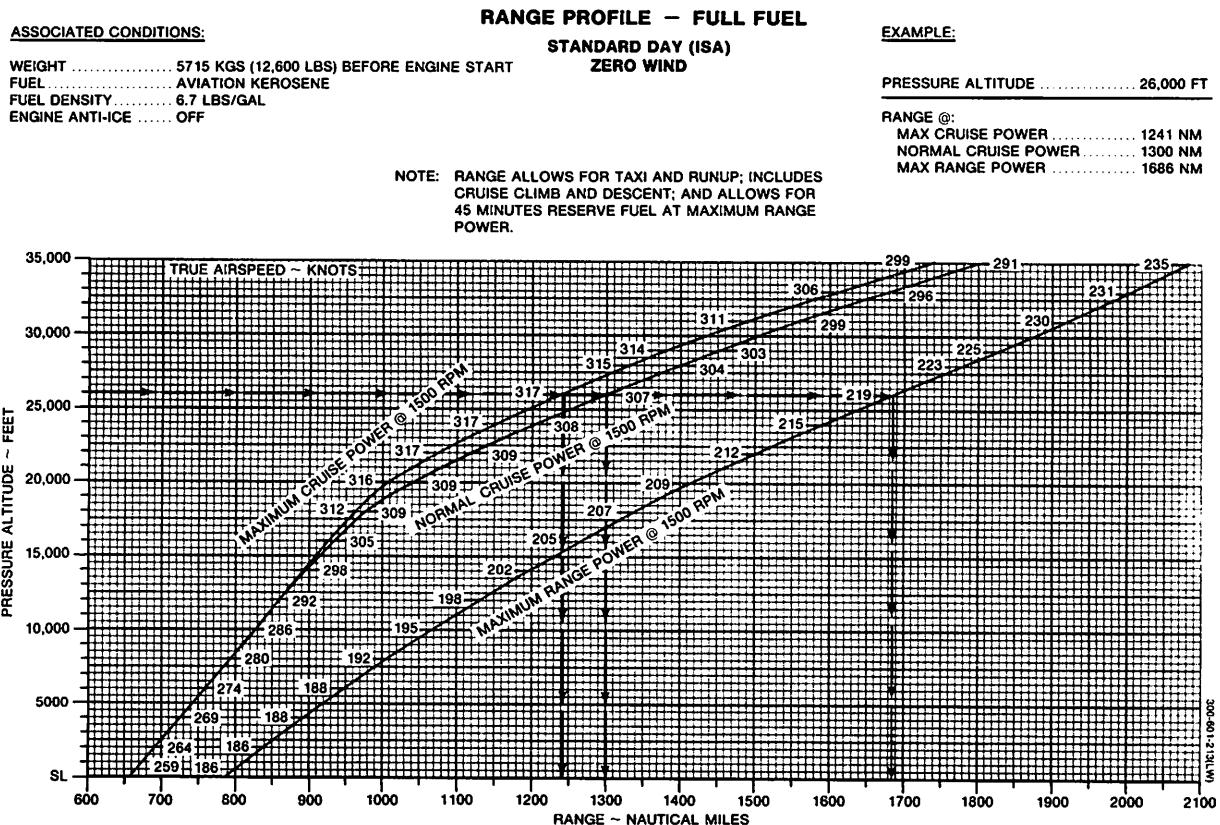
PRESSURE ALTITUDE ..... 26,000 FT  
 FUEL ..... 3611 LBS  
 RANGE ..... 1690 NM

NOTE: RANGE ALLOWS FOR TAXI AND RUNUP; INCLUDES CRUISE  
 CLIMB AND DESCENT; AND ALLOWS FOR 45 MINUTES  
 RESERVE FUEL AT MAXIMUM RANGE POWER.



BEECHCRAFT  
Super King Air 300LW

Section V  
Performance



## ENDURANCE PROFILE — FULL FUEL

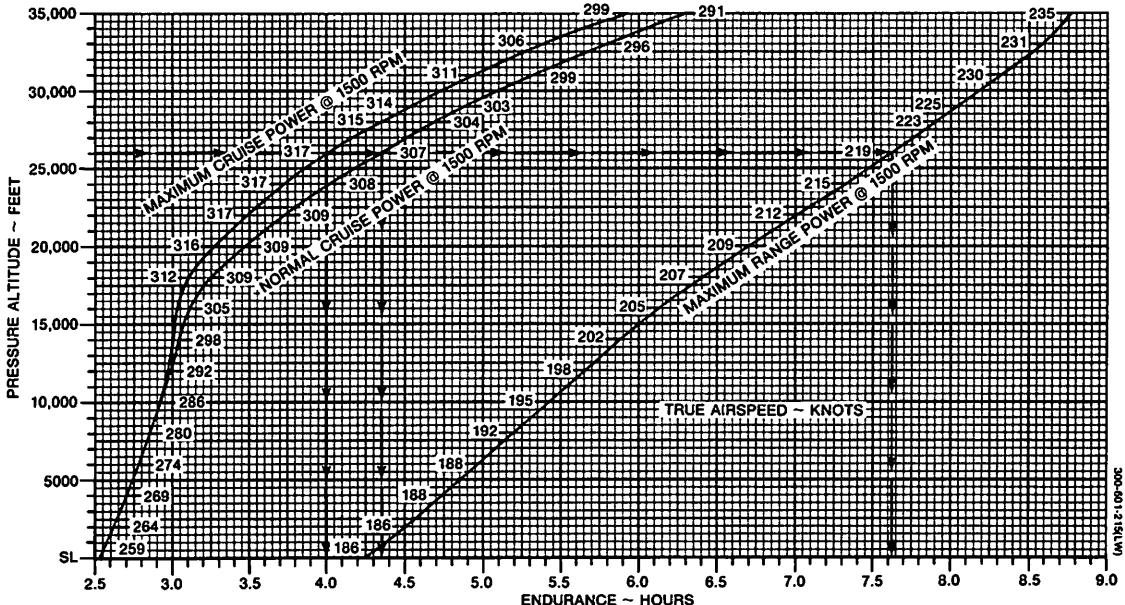
ASSOCIATED CONDITIONS:

WEIGHT ..... 5715 KGS (12,600 LBS) BEFORE ENGINE START  
 FUEL ..... AVIATION KEROSENE  
 FUEL DENSITY ..... 6.7 LBS/GAL  
 ENGINE ANTI-ICE ..... ON

STANDARD DAY (ISA)  
ZERO WINDEXAMPLES:

PRESSURE ALTITUDE ..... 26,000 FT  
 ENDURANCE @:  
 MAX CRUISE POWER ..... 4.00 HRS  
 NORMAL CRUISE POWER ..... 4.35 HRS  
 MAX RANGE POWER ..... 7.62 HRS

NOTE: ENDURANCE ALLOWS FOR TAXI AND RUNUP; INCLUDES CRUISE  
 CLIMB AND DESCENT; AND ALLOWS FOR 45 MINUTES  
 FUEL RESERVE AT MAXIMUM RANGE POWER.



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## ONE-ENGINE-INOPERATIVE MAXIMUM

## CRUISE POWER

1700 RPM

ISA -30°C

(SEE NOTES BELOW)

PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	-12	-15	100	597	597	205	195	206	196
2000	-15	-19	100	585	585	203	198	204	199
4000	-19	-23	100	574	574	201	202	202	203
6000	-23	-27	100	565	565	199	206	200	207
8000	-27	-31	100	558	558	197	209	198	211
10,000	-31	-35	100	552	552	195	213	196	215
12,000	-34	-39	100	547	547	192	217	194	219
14,000	-38	-43	100	544	544	190	221	192	223
16,000	-42	-47	100	543	543	188	225	190	227
18,000	-46	-51	99	540	540	185	229	187	231
20,000	-50	-55	95	516	516	179	229	181	231
22,000	-54	-59	89	490	490	172	227	175	231
24,000	-58	-63	84	463	463	165	225	168	229
26,000	-62	-67	78	431	431	157	221	160	226
28,000	-66	-71	70	391	391	146	213	151	220
29,000	-69	-72	66	370	370	139	207	145	216
31,000	-74	-76	59	285	285	—	—	131	202
33,000	—	—	—	—	—	—	—	—	—
35,000	—	—	—	—	—	—	—	—	—

NOTE: During operation with engine anti-ice on, torque will decrease. If original power is not or cannot be reset, true airspeed will decrease approximately 15 knots and fuel flow will decrease approximately 9%. If original power is reset, true airspeed will be unchanged and fuel flow will increase approximately 30 lbs/hr.

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**ONE-ENGINE-INOPERATIVE MAXIMUM  
CRUISE POWER**  
**1700 RPM**  
**ISA -20°C**

(SEE NOTES BELOW)

PRES- SURE ALTI- TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	-1	-5	100	601	601	203	197	205	198
2000	-5	-9	100	588	588	201	201	203	202
4000	-9	-13	100	577	577	199	204	200	206
6000	-13	-17	100	567	567	197	208	198	209
8000	-17	-21	100	560	560	195	212	196	213
10,000	-21	-25	100	553	553	193	216	194	217
12,000	-24	-29	100	547	547	190	220	192	221
14,000	-28	-33	100	543	543	188	224	190	226
16,000	-32	-37	99	534	534	185	227	187	229
18,000	-36	-41	94	509	509	179	226	181	229
20,000	-40	-45	89	483	483	172	226	175	229
22,000	-44	-49	84	457	457	165	224	168	227
24,000	-48	-53	79	430	430	158	221	161	225
26,000	-52	-57	73	402	402	149	216	154	222
28,000	-56	-61	67	373	373	140	210	145	217
29,000	-59	-62	64	359	359	133	203	135	214
31,000	—	—	—	—	—	—	—	—	—
33,000	—	—	—	—	—	—	—	—	—
35,000	—	—	—	—	—	—	—	—	—

NOTE: During operation with engine anti-ice on, torque will decrease. If original power is not or cannot be reset, true airspeed will decrease approximately 15 knots and fuel flow will decrease approximately 9%. If original power is reset, true airspeed will be unchanged and fuel flow will increase approximately 30 lbs/hr.

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**ONE-ENGINE-INOPERATIVE MAXIMUM  
CRUISE POWER**  
**1700 RPM**  
**ISA -10°C**  
**(SEE NOTES BELOW)**

PRES- SURE ALTI- TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	9	5	100	603	603	202	199	203	200
2000	5	1	100	590	590	200	203	201	204
4000	1	-3	100	579	579	198	206	199	208
6000	-3	-7	100	569	569	195	210	197	212
8000	-7	-11	100	560	560	193	214	195	216
10,000	-10	-15	100	551	551	191	218	192	220
12,000	-14	-19	100	545	545	189	222	190	224
14,000	-18	-23	97	527	527	184	224	186	226
16,000	-22	-27	93	504	504	179	224	181	226
18,000	-26	-31	89	480	480	173	223	175	226
20,000	-30	-35	84	453	453	166	222	169	225
22,000	-34	-39	79	426	426	158	219	162	223
24,000	-38	-43	73	399	399	150	215	154	221
26,000	-42	-47	68	372	372	141	209	146	217
28,000	-47	-51	62	344	344	130	200	137	211
29,000	-49	-52	—	—	—	—	—	126	201
31,000	—	—	—	—	—	—	—	—	—
33,000	—	—	—	—	—	—	—	—	—
35,000	—	—	—	—	—	—	—	—	—

NOTE: During operation with engine anti-ice on, torque will decrease. If original power is not or cannot be reset, true airspeed will decrease approximately 15 knots and fuel flow will decrease approximately 9%. If original power is reset, true airspeed will be unchanged and fuel flow will increase approximately 30 lbs/hr.

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**ONE-ENGINE-INOPERATIVE MAXIMUM  
CRUISE POWER  
1700 RPM  
ISA  
(SEE NOTES BELOW)**

PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	19	15	100	605	605	200	201	202	202
2000	15	11	100	592	592	198	205	200	206
4000	11	7	100	580	580	196	209	197	210
6000	7	3	100	569	569	194	212	195	214
8000	3	-1	100	559	559	191	216	193	218
10,000	0	-5	98	540	540	187	218	189	220
12,000	-4	-9	95	518	518	183	219	185	221
14,000	-8	-13	91	497	497	178	220	180	223
16,000	-12	-17	87	474	474	172	220	174	223
18,000	-16	-21	83	449	449	166	219	168	223
20,000	-20	-25	78	423	423	159	217	162	221
22,000	-24	-29	73	397	397	151	214	155	219
24,000	-29	-33	68	371	371	142	209	147	215
26,000	-33	-37	63	345	345	132	201	139	210
28,000	-37	-41	58	318	318	—	—	129	203
29,000	—	—	—	—	—	—	—	—	—
31,000	—	—	—	—	—	—	—	—	—
33,000	—	—	—	—	—	—	—	—	—
35,000	—	—	—	—	—	—	—	—	—

NOTE: During operation with engine anti-ice on, torque will decrease. If original power is not or cannot be reset, true airspeed will decrease approximately 15 knots and fuel flow will decrease approximately 9%. If original power is reset, true airspeed will be unchanged and fuel flow will increase approximately 30 lbs/hr.

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**ONE-ENGINE-INOPERATIVE MAXIMUM  
CRUISE POWER**  
**1700 RPM**  
**ISA +10°C**  
**(SEE NOTES BELOW)**

PRES-SURE ALTI-TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	29	25	100	608	608	199	203	200	204
2000	25	21	100	594	594	197	207	198	208
4000	21	17	98	572	572	193	209	194	210
6000	17	13	95	551	551	189	210	190	212
8000	13	9	93	528	528	184	212	186	214
10,000	9	5	90	506	506	180	213	182	215
12,000	5	1	88	487	487	175	215	178	217
14,000	2	-3	85	465	465	170	215	173	218
16,000	-2	-7	81	442	442	165	215	167	218
18,000	-6	-11	77	418	418	158	213	161	217
20,000	-10	-15	73	393	393	151	211	155	216
22,000	-15	-19	68	368	368	143	206	147	213
24,000	-19	-23	63	343	343	133	199	139	208
26,000	-23	-27	58	318	318	—	—	130	202
28,000	—	—	—	—	—	—	—	—	—
29,000	—	—	—	—	—	—	—	—	—
31,000	—	—	—	—	—	—	—	—	—
33,000	—	—	—	—	—	—	—	—	—
35,000	—	—	—	—	—	—	—	—	—

NOTE: During operation with engine anti-ice on, torque will decrease. If original power is not or cannot be reset, true airspeed will decrease approximately 15 knots and fuel flow will decrease approximately 9%. If original power is reset, true airspeed will be unchanged and fuel flow will increase approximately 30 lbs/hr.

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**ONE-ENGINE-INOPERATIVE MAXIMUM  
CRUISE POWER**  
**1700 RPM**  
**ISA +20°C**  
**(SEE NOTES BELOW)**

PRES- SURE ALTI- TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	39	35	91	577	577	191	198	192	200
2000	35	31	90	557	557	187	201	189	202
4000	31	27	88	536	536	184	203	186	204
6000	27	23	87	515	515	180	204	182	206
8000	23	19	84	495	495	176	206	178	208
10,000	19	15	82	474	474	172	207	174	210
12,000	15	11	80	452	452	167	208	169	211
14,000	11	7	77	432	432	162	208	165	212
16,000	7	3	74	410	410	156	208	159	212
18,000	3	-1	70	386	386	149	206	153	211
20,000	-1	-5	66	360	360	141	201	146	208
22,000	-5	-9	62	337	337	132	195	138	204
24,000	-9	-13	58	314	314	—	—	129	198
26,000	—	—	—	—	—	—	—	—	—
28,000	—	—	—	—	—	—	—	—	—
29,000	—	—	—	—	—	—	—	—	—
31,000	—	—	—	—	—	—	—	—	—
33,000	—	—	—	—	—	—	—	—	—
35,000	—	—	—	—	—	—	—	—	—

NOTE: During operation with engine anti-ice on, torque will decrease. If original power is not or cannot be reset, true airspeed will decrease approximately 15 knots and fuel flow will decrease approximately 9%. If original power is reset, true airspeed will be unchanged and fuel flow will increase approximately 30 lbs/hr.

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**ONE-ENGINE-INOPERATIVE MAXIMUM  
CRUISE POWER**  
**1700 RPM**  
**ISA +30°C**  
**(SEE NOTES BELOW)**

PRES- SURE ALTI- TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	48	45	83	543	543	182	192	183	194
2000	45	41	81	521	521	178	193	180	195
4000	41	37	79	502	502	174	195	176	198
6000	37	33	78	482	482	171	197	173	200
8000	33	29	76	462	462	167	198	169	201
10,000	29	25	74	442	442	162	200	165	203
12,000	25	21	72	421	421	158	200	161	204
14,000	21	17	69	398	398	152	199	155	204
16,000	17	13	66	375	375	145	197	149	203
18,000	13	9	62	351	351	137	193	143	200
20,000	9	5	58	327	327	128	186	135	196
22,000	4	1	55	306	306	—	—	126	191
24,000	—	—	—	—	—	—	—	—	—
26,000	—	—	—	—	—	—	—	—	—
28,000	—	—	—	—	—	—	—	—	—
29,000	—	—	—	—	—	—	—	—	—
31,000	—	—	—	—	—	—	—	—	—
33,000	—	—	—	—	—	—	—	—	—
35,000	—	—	—	—	—	—	—	—	—

NOTE: During operation with engine anti-ice on, torque will decrease. If original power is not or cannot be reset, true airspeed will decrease approximately 15 knots and fuel flow will decrease approximately 9%. If original power is reset, true airspeed will be unchanged and fuel flow will increase approximately 30 lbs/hr.

NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

**ONE-ENGINE-INOPERATIVE MAXIMUM  
CRUISE POWER**  
**1700 RPM**  
**ISA +37°C**  
**(SEE NOTES BELOW)**

PRES- SURE ALTI- TUDE	IOAT	OAT	TORQUE PER ENG	FUEL FLOW PER ENG	TOTAL FUEL FLOW	AIRSPEED - KNOTS			
						@ 5443.1 KG (12,000 LB)		@ 4989.5 KG (11,000 LB)	
FEET	°C	°C	%	LB/HR	LB/HR	IAS	TAS	IAS	TAS
SL	55	52	78	524	524	176	188	178	190
2000	51	48	76	502	502	172	189	174	192
4000	47	44	74	481	481	168	191	170	193
6000	44	40	72	460	460	164	192	167	195
8000	40	36	70	440	440	160	193	163	196
10,000	36	32	69	420	420	155	193	158	197
12,000	32	28	66	397	397	150	193	153	197
14,000	28	24	63	375	375	144	191	148	196
16,000	24	20	60	351	351	136	187	141	194
18,000	19	16	56	326	326	127	181	133	190
20,000	15	12	52	302	302	—	—	124	184
22,000	—	—	—	—	—	—	—	—	—
24,000	—	—	—	—	—	—	—	—	—
26,000	—	—	—	—	—	—	—	—	—
28,000	—	—	—	—	—	—	—	—	—
29,000	—	—	—	—	—	—	—	—	—
31,000	—	—	—	—	—	—	—	—	—
33,000	—	—	—	—	—	—	—	—	—
35,000	—	—	—	—	—	—	—	—	—

NOTE: During operation with engine anti-ice on, torque will decrease. If original power is not or cannot be reset, true airspeed will decrease approximately 15 knots and fuel flow will decrease approximately 9%. If original power is reset, true airspeed will be unchanged and fuel flow will increase approximately 30 lbs/hr.

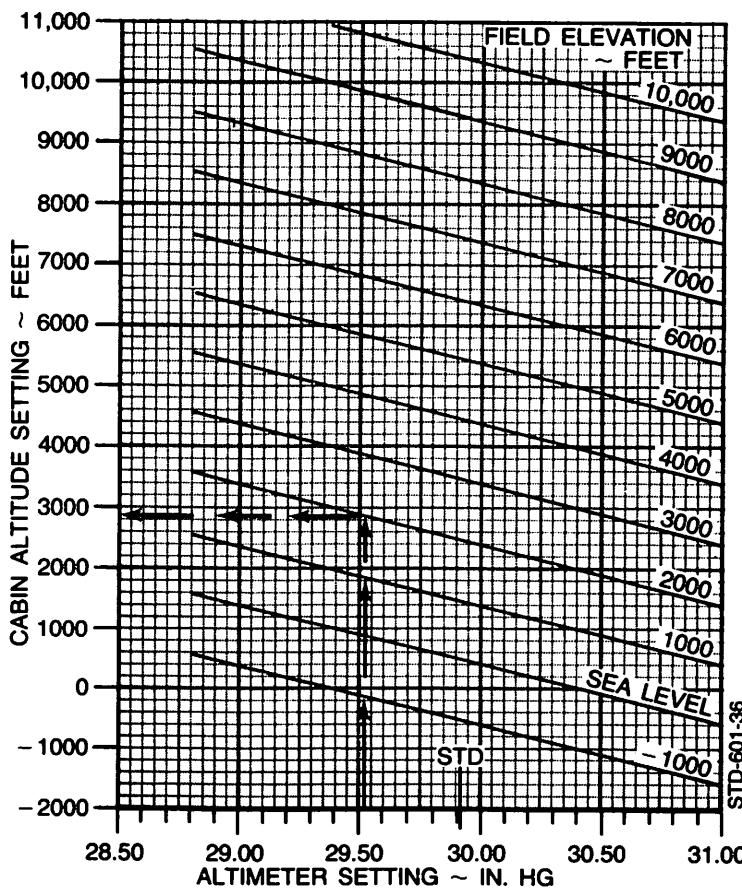
NOTE: IOAT, torque, and fuel flow based on 12,000 pounds.

## PRESSURIZATION CONTROLLER SETTING FOR LANDING

### EXAMPLE

ALTIMETER SETTING ..... 29.52 IN. HG  
LANDING FIELD ELEVATION ... 2000 FT

CABIN ALTITUDE SETTING .... 2885 FT

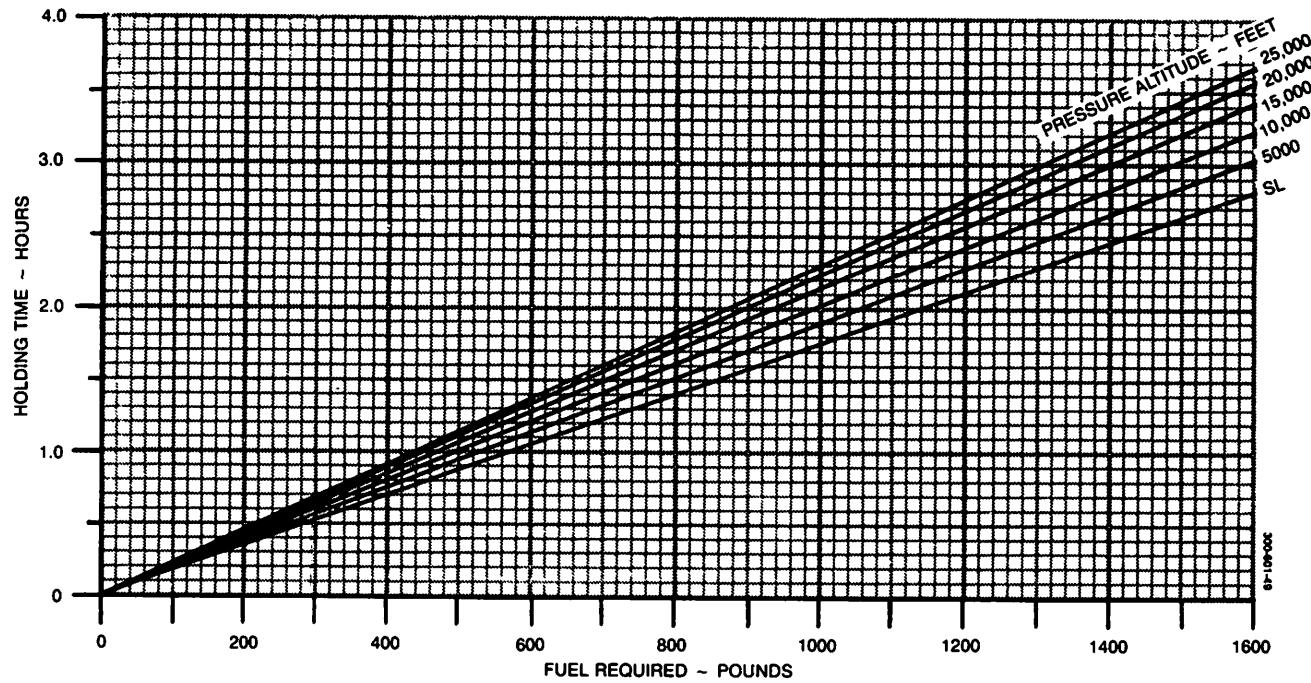


**ASSOCIATED CONDITIONS:**

TORQUE ..... AS REQUIRED TO  
MAINTAIN 160 KIAS  
PROPELLER SPEED... 1500 RPM

**HOLDING TIME**

NOTE: FOR OPERATION WITH ENGINE ANTI-ICE ON, HOLDING TIME WILL  
BE REDUCED APPROXIMATELY 2%.



## TIME, FUEL, AND DISTANCE TO DESCEND

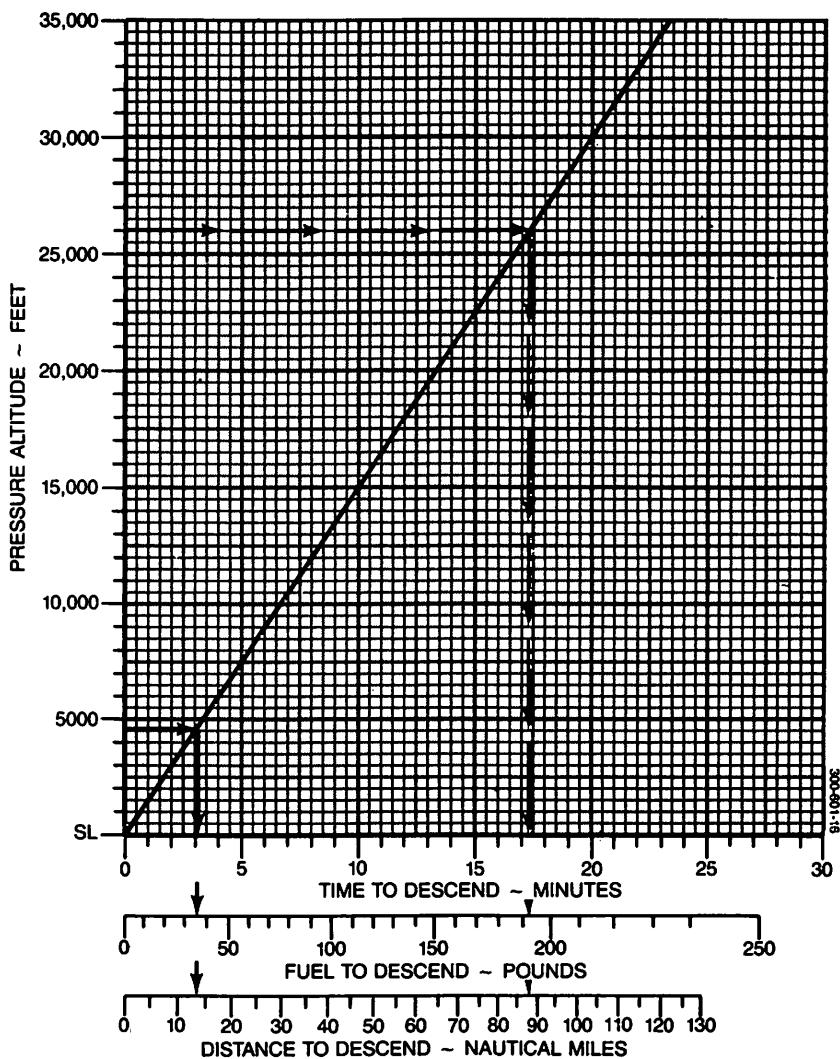
### ASSOCIATED CONDITIONS:

POWER . . . AS REQUIRED TO DESCEND  
AT 1500 FT/MIN  
GEAR . . . UP  
FLAPS . . . UP

### EXAMPLE:

INITIAL ALTITUDE . . . . . 26,000 FT  
FINAL ALTITUDE . . . . . 4502 FT  
TIME TO DESCEND (17.3 - 3.1) . . . . . 14.2 MIN  
FUEL TO DESCEND (192 - 35) . . . . . 157 LBS  
DISTANCE TO DESCEND (88 - 13) . . . . . 75 NM

DESCENT SPEED:  $M_{MO}$  OR 250 KNOTS, WHICHEVER IS LESS



October, 1983

ASSOCIATED CONDITIONS:

POWER ..... TAKE-OFF  
FLAPS ..... DOWN  
LANDING GEAR ..... DOWN

**CLIMB — BALKED LANDING**

WEIGHT ~ KILOGRAMS (POUNDS)	CLIMB SPEED ~ KNOTS
5670 (12,500)	99
5000 (11,023)	93
4500 (9921)	93

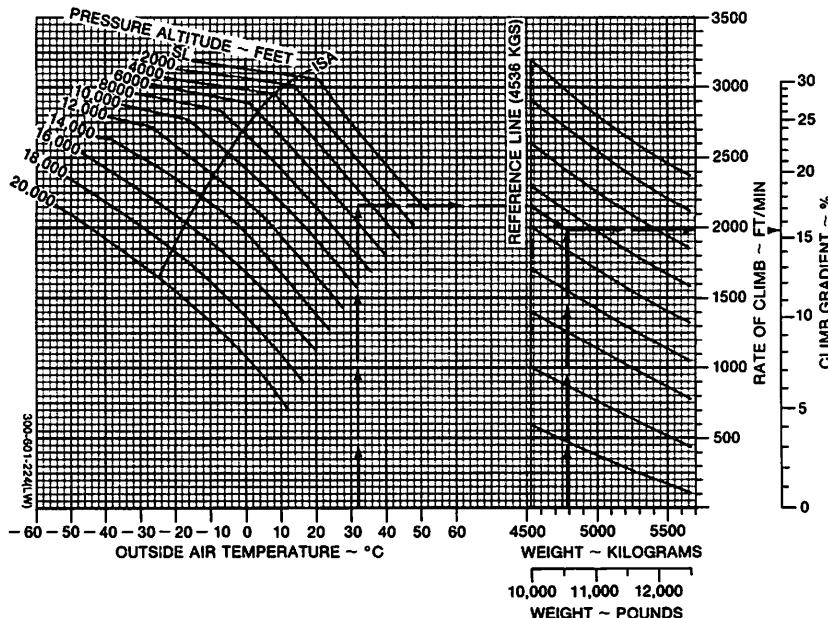
EXAMPLE:

OAT ..... 32°C  
PRESSURE ALTITUDE ..... 4900 FT  
WEIGHT ..... 4785 KGS  
RATE OF CLIMB ..... 1985 FT/MIN  
CLIMB GRADIENT ..... 15.6%  
CLIMB SPEED ..... 93 KTS

NOTES: 1. FOR OPERATION WITH ENGINE

ANTI-ICE ON, SUBTRACT 200 FT/MIN  
FROM THE RATE OF CLIMB READ FROM THIS GRAPH.

2. ENTER GRAPH AT PRESSURE ALTITUDE FROM WHICH A GO-AROUND  
WOULD BE EXECUTED.



## LANDING DISTANCE — FLAPS DOWN — 800 FT/MIN APPROACH

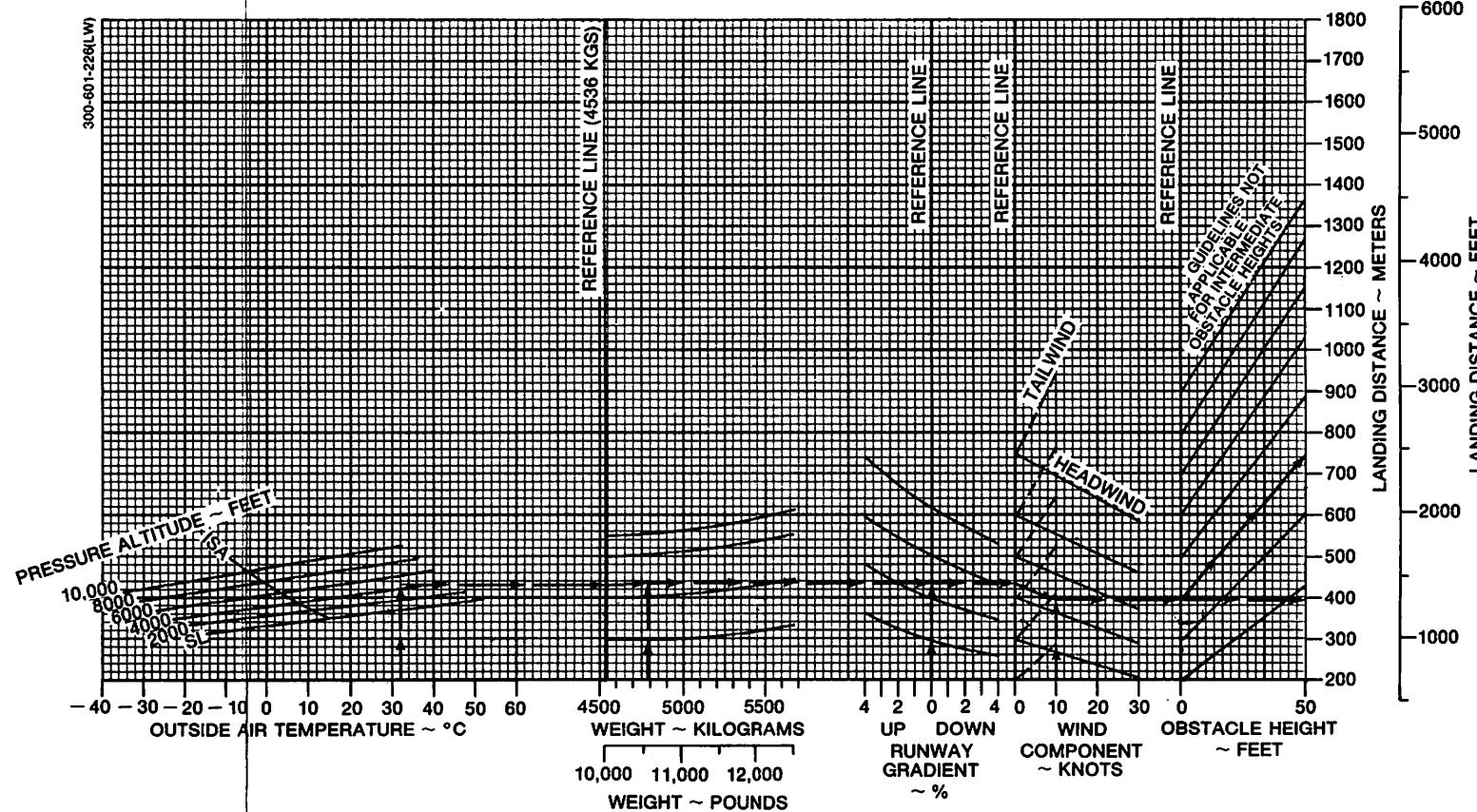
### ASSOCIATED CONDITIONS

POWER..... RETARDED TO MAINTAIN  
800 FT/MIN ON FINAL APPROACH  
RUNWAY..... PAVED, DRY SURFACE  
BRAKING..... MAXIMUM WITHOUT SLIDING TIRES

WEIGHT ~ KILOGRAMS (POUNDS)	APPROACH SPEED ~ KNOTS
5670 (12,500)	99
5000 (11,023)	93
4500 (9921)	93

### EXAMPLE:

OAT ..... 32°C  
PRESSURE ALTITUDE ..... 4502 FT  
WEIGHT ..... 4785 KG  
RUNWAY GRADIENT ..... 0%  
HEADWIND COMPONENT ..... 10 KTS  
GROUND ROLL ..... 393 M  
TOTAL OVER 50-FT OBSTACLE ..... 743 M  
APPROACH SPEED ..... 93 KTS



## LANDING DISTANCE — FLAPS DOWN — 3-DEGREE APPROACH

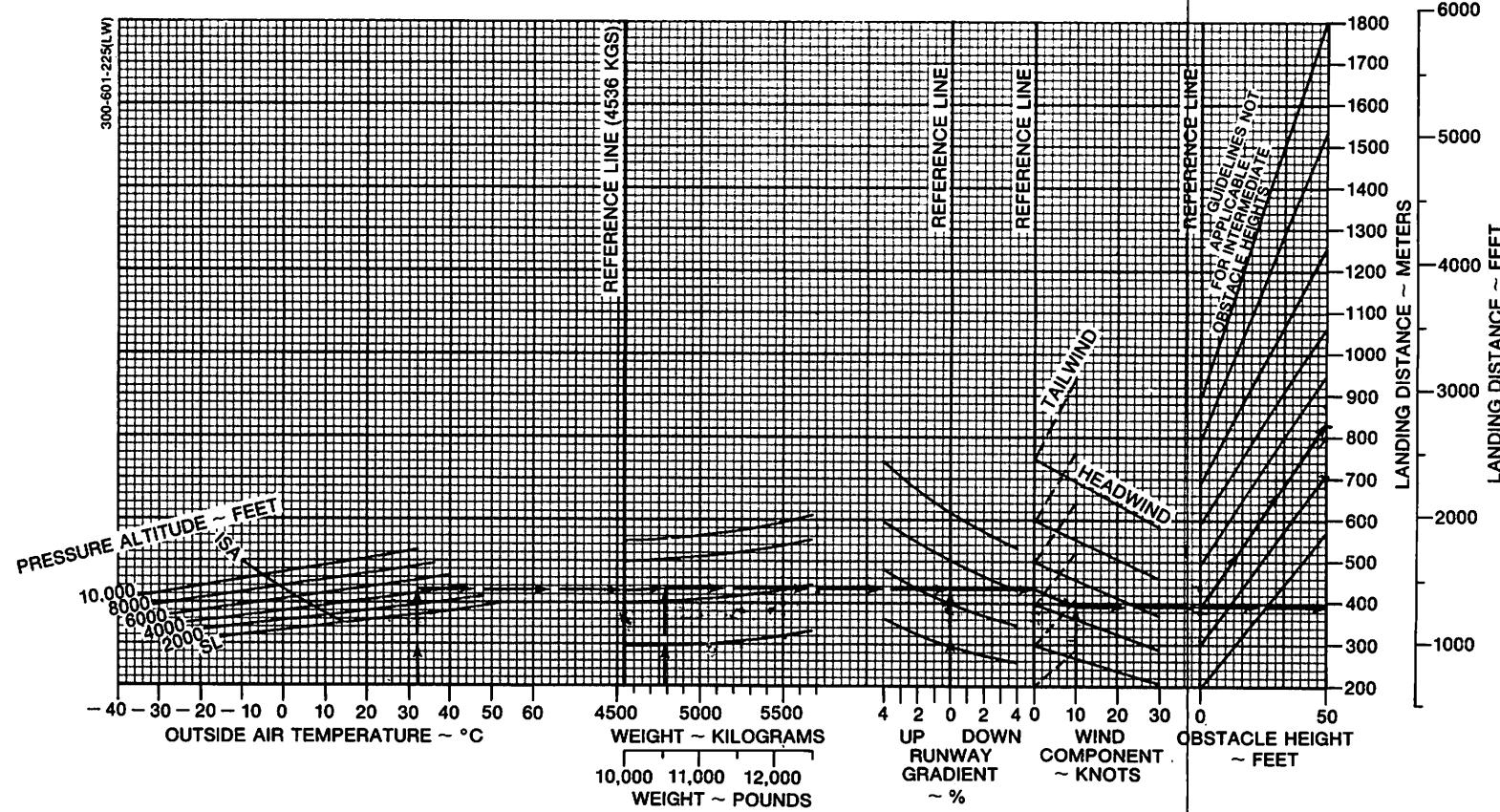
### ASSOCIATED CONDITIONS:

POWER ..... RETARDED TO MAINTAIN  
3-DEGREE APPROACH  
RUNWAY ..... PAVED, DRY SURFACE  
BRAKING ..... MAXIMUM WITHOUT SLIDING  
TIRES

WEIGHT ~ KILOGRAMS (POUNDS)	APPROACH SPEED ~ KNOTS
5670 (12,500)	99
5000 (11,023)	93
4500 (9921)	93

### EXAMPLE:

OAT ..... 32°C  
PRESSURE ALTITUDE ..... 4502 FT  
LANDING WEIGHT ..... 4785 KGS  
RUNWAY GRADIENT ..... 0%  
HEADWIND COMPONENT ..... 10 KTS  
GROUND ROLL ..... 393 M  
TOTAL OVER 50-FT OBSTACLE ..... 838 M  
APPROACH SPEED ..... 93 KTS



## LANDING DISTANCE — FLAPS UP

ASSOCIATED CONDITIONS:

POWER ..... RETARDED TO MAINTAIN 3-DEGREE APPROACH  
 PROPELLER CONTROLS ..... FULL FORWARD  
 RUNWAY ..... PAVED, LEVEL, DRY SURFACE  
 APPROACH SPEED ..... IAS AS TABULATED MAXIMUM  
 BRAKING.....

WEIGHT ~ KILOGRAMS (POUNDS)	APPROACH SPEED ~ KNOTS
5670 (12,500)	124
5000 (11,023)	116
4500 (9921)	110

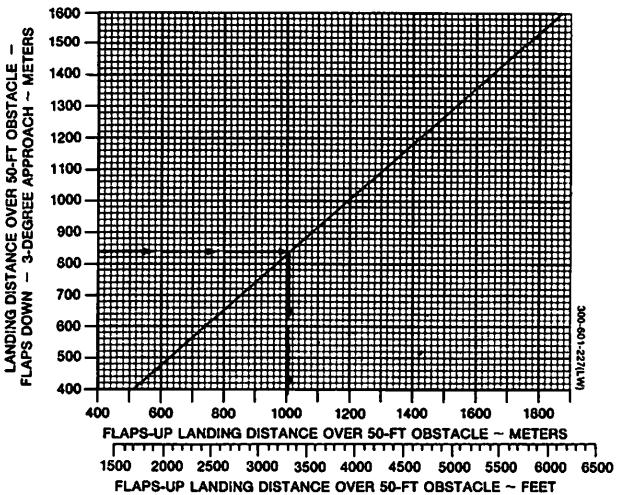
EXAMPLE:

LANDING DISTANCE  
OVER 50-FT OBSTACLE —  
 FLAPS DOWN —  
 3-DEGREE APPROACH ..... 838 M  
 LANDING WEIGHT ..... 4785 KGS

FLAPS-UP LANDING  
DISTANCE OVER 50-FT  
OBSTACLE ..... 1007 M  
APPROACH SPEED ..... 113 KTS

NOTES: 1. LANDING WITH FLAPS FULL DOWN IS NORMAL PROCEDURE. USE THE GRAPH BELOW WHEN IT IS NECESSARY TO LAND WITH FLAPS UP.

2. TO DETERMINE FLAPS-UP LANDING DISTANCE, READ FROM THE "LANDING DISTANCE — FLAPS DOWN — 3-DEGREE APPROACH" GRAPH THE LANDING DISTANCE APPROPRIATE TO OAT, ALTITUDE, WEIGHT, RUNWAY GRADIENT, WIND, AND 50-FT OBSTACLE. THEN ENTER THE GRAPH BELOW WITH THE DERIVED VALUE AND READ THE FLAPS-UP LANDING DISTANCE.



### LANDING DISTANCE — ONE ENGINE INOPERATIVE — FLAPS DOWN

#### ASSOCIATED CONDITIONS:

POWER ..... RETARDED TO MAINTAIN  
3-DEGREE APPROACH

PROPELLER CONTROLS:  
OPERATIVE ENGINE ..... FULL FORWARD  
INOPERATIVE ENGINE ..... FEATHERED

RUNWAY ..... PAVED, DRY SURFACE

APPROACH SPEED ..... IAS AS TABULATED  
BRAKING ..... MAXIMUM

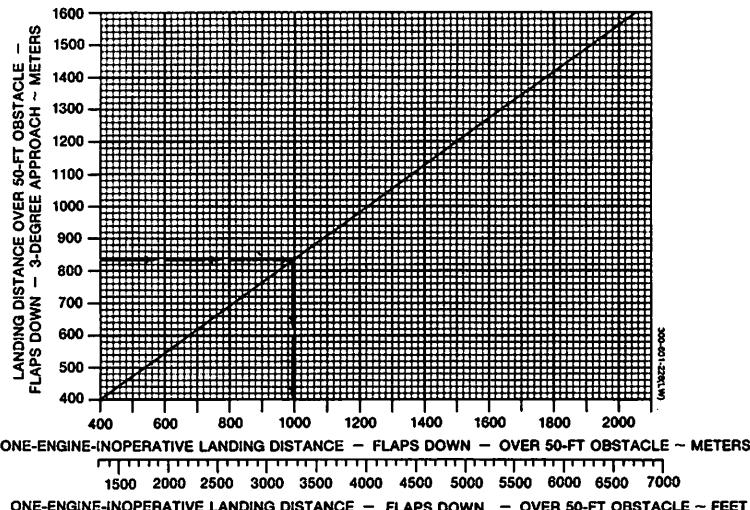
WEIGHT ~ KILOGRAMS (POUNDS)	APPROACH SPEED ~ KNOTS
5670 (12,500)	99
5000 (11,023)	93
4500 (9921)	93

#### EXAMPLE:

LANDING DISTANCE OVER  
50-FT OBSTACLE -  
FLAPS DOWN -  
3-DEGREE APPROACH ..... 838M  
LANDING WEIGHT ..... 4785 KGS

ONE-ENGINE - INOPERATIVE  
LANDING DISTANCE OVER  
50-FT OBSTACLE ..... 998M  
APPROACH SPEED ..... 93 KTS

NOTE: TO DETERMINE THE ONE-ENGINE-INOPERATIVE LANDING DISTANCE,  
READ FROM THE "LANDING DISTANCE — FLAPS DOWN — 3-DEGREE APPROACH" GRAPH  
THE LANDING DISTANCE APPROPRIATE TO OAT, ALTITUDE, WEIGHT,  
RUNWAY GRADIENT, WIND, AND 50-FT OBSTACLE, THEN ENTER THE GRAPH  
BELOW WITH THE DERIVED VALUE AND READ THE ONE-ENGINE-  
INOPERATIVE LANDING DISTANCE.



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# N670RA

## 1993 King Air 300-LW

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# Weight & Balance

Aircraft S/N: FA-226



*Prepared by the worldwide aviation specialists at RidgeAire, Inc.*

## SECTION VI

### WEIGHT AND BALANCE/EQUIPMENT LIST

DATE \_\_\_\_\_

SERIAL \_\_\_\_\_

REGISTRATION NO. \_\_\_\_\_

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## CONVERSION FACTORS

The numerical values, except inches, in this section are metric primary and U. S. secondary. The conversion factors are as follows:

**WEIGHT: 1 KILOGRAM = 2.2046 POUNDS**

**LIQUID VOLUME: 1 LITER = 0.2642 GALLON**

**WEIGHT/LIQUID VOLUME: 1 KILOGRAM/LITER = 8.3444 POUNDS/GALLON**

**MOMENT: 1 KILOGRAM-INCH = 2.2046 POUND-INCHES**

## WEIGHING INSTRUCTIONS

Periodic weighing of the airplane may be required to keep the Basic Empty Weight current. Frequency of weighing is to be determined by the operator. All changes to the airplane affecting weight and/or balance are the responsibility of the airplane operator.

1. Airplane may be weighed on wheels or jacks points. Three jack points are provided: one on the nose section of the fuselage at station 83.5, and one on each wing center section rear spar at station 225.5. Wheel reaction locations should be measured as described in paragraph 6 below.
2. Fuel should be drained preparatory to weighing. Tanks are drained from the regular drain ports with the airplane in static ground attitude. When tanks are drained, 4.5 kg (10 lb) of fuel remains in the airplane at an arm of 192.9 inches. The remainder of the unusable fuel to be added to a drained system is 19.1 kg (42 lb) at station 162.1.
3. Engine oil must be at the full level in each tank. Total engine oil aboard when both tanks are full is 25.9 kg (57 lb) at an arm of 118.0 inches.
4. To determine airplane configuration at time of weighing, installed equipment is checked against the airplane equipment list or superseding forms. All equipment must be in its proper place during weighing.
5. The airplane is placed on the scales in level attitude. Leveling screws are located on the fuselage entrance door frame. Leveling is accomplished with a plumb bob. Jack pad leveling may require the nose gear shock to be secured in the static position to prevent its extension. Wheel weighings can be leveled by varying the amount of air in the shocks and tires.
6. Measurement of the reaction arms for a wheel weighing is made using the nose jacking point for a reference. Using a steel measuring tape, measurements are taken with the airplane level on the scales from a reference (a plumb bob hung from the center of the nose jacking point) to the axle center line of the main gear and then from the main gear axle center line to the nose wheel axle center line. The main wheel axle center line is best located by stretching a string across from one main wheel to the other. All measurements are to be taken with the tape level with the hangar floor and parallel to the fuselage center line. The locations of the wheel reactions will be approximately at an arm of 209 inches for main wheels and 30 inches for the nose wheel.

7. The Basic Empty Weight and Moment are determined from the scale readings. Items weighed which are not part of the empty airplane are subtracted, i.e., usable fuel. Unusable fuel and engine oil are added if not already in the airplane.
8. Weighing should always be made in a enclosed area which is free from air currents. The scales used should be calibrated and certified in accordance with the basic tolerance values of National Bureau of Standards Handbook 44.

### **NOTE**

The certificated maximum ramp weight of 5715.3 kg (12,600 lb) for a normal category airplane may not be exceeded with:

- a. Full fuel and minimum crew of one pilot at 77.1 kg (170 lb) and/or;
- b. Each seat occupied at 77.1 kg (170 lb) each and enough fuel for one-half hour operation at maximum continuous power.

### **NOTE**

Each airplane is delivered with sample loading, empty weight and center of gravity, and equipment list, all pertinent to that specific airplane. It is the owner's responsibility to ensure that changes in equipment are reflected in a new weight and balance and in an addendum to the equipment list. Refer to the Empty Weight and Balance Record.

**BASIC EMPTY WEIGHT AND BALANCE**

DATE: \_\_\_\_\_



SERIAL NO: \_\_\_\_\_

REGISTRATION NO: \_\_\_\_\_

PREPARED BY: \_\_\_\_\_

STRUT POSITION -	NOSE	MAIN	JACK POINT LOCATION	FORWARD	83.5
EXTENDED	29.4	208.5			
COMPRESSED	30.8	211.0	AFT		225.5

REACTION WHEEL - JACK POINTS	SCALE READING	TARE	NET WEIGHT * (KG/LB)	STATION OR ARM	MOMENT * (KG-IN/LB-IN)
LEFT MAIN					
RIGHT MAIN					
SUB TOTAL					
NOSE					
TOTAL (AS WEIGHED)					

SPACE BELOW PROVIDED FOR ADDITIONS AND SUBTRACTIONS TO AS WEIGHED CONDITION

EMPTY WEIGHT			
ENGINE OIL UNUSABLE FUEL	25.9/57 23.6/52	118 168	3056/6726 3965/8736
<b>BASIC EMPTY WEIGHT</b>			

\* CROSS-OUT UNUSED UNITS

## **Section VI Wt and Bal/Equip List**

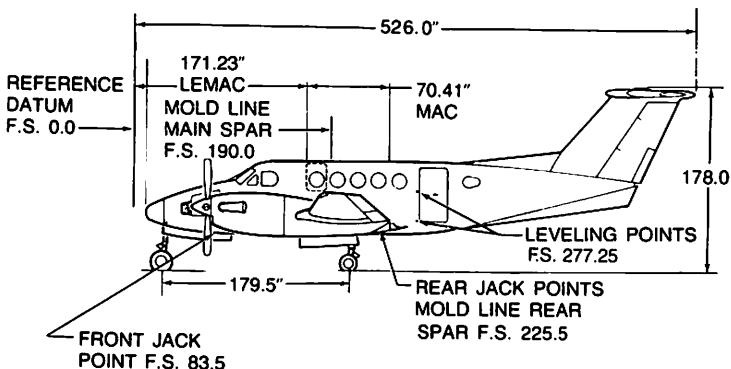
## **EMPTY WEIGHT AND BALANCE RECORD**

(Continuous History of Changes in Structure or Equipment Affecting Weight and Balance)

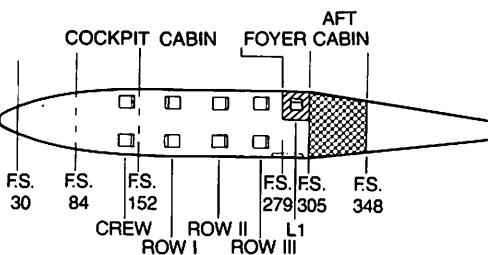
**• ENTER UNITS USED: KG OR LB**

300-603-81

**DIMENSIONAL AND LOADING DATA**



**STANDARD SEATING**



**OCCUPANT**

**CENTROID**

CREW	F.S. 129
ROW I	F.S. 176
ROW II	F.S. 215
ROW III	F.S. 259
L1	F.S. 293

<b>CONFIGURATION</b>	<b>BAGGAGE COMPARTMENT</b>	<b>BAGGAGE CAPACITY</b>	<b>CENTROID</b>
SIDE PASSENGER SEAT	*FOYER	45.4 Kg (100 LB)	F.S. 293
AND TOILET	AFT CABIN	249.5 Kg (550 LB)	F.S. 325

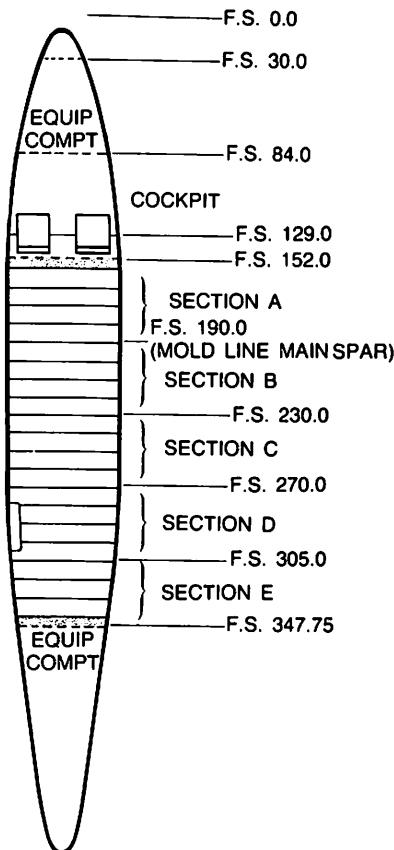
\* LOADING DATA FOR STANDARD CONFIGURATIONS ONLY.  
FOYER IS NOT EQUIPPED FOR LOOSE BAGGAGE. CLOTHING ON HANGERS MAY BE HUNG FROM THE ROD PROVIDED

300-603-10(AXB)

**LOADING DATA**  
**(CARGO CONFIGURATION)**

**NOTES:**

1. All cargo in Sections A, B, C & D must be supported on and secured to the seat tracks by an FAA approved system.
2. Concentrated cargo loads in Sections A, B, C & D must not exceed 90.7 Kg (200 lb) per square foot & must be supported on the seat rails.
3. Cargo in Section E is to be secured by Beech furnished baggage net, webbing, or straps.
4. Footman loops in Section E are to be used to secure cargo/baggage in that area only.
5. Concentrated floor loadings of cargo or baggage in Section E must not exceed 45.4 Kg (100 lb) per square foot.
6. Any exceptions to the above procedures will require approval by a local FAA office.

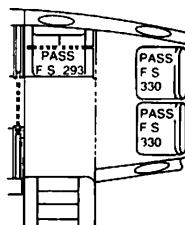
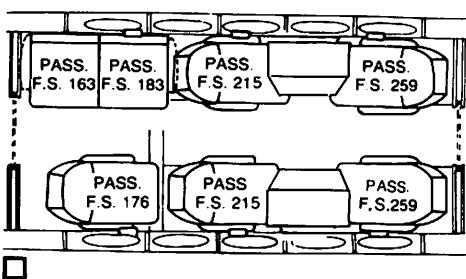


SECTION	MAXIMUM	CENTROID ARM
A	399.2 Kg (880 LB)	F.S. 171
B	390.1 Kg (860 LB)	F.S. 210
C	376.5 Kg (830 LB)	F.S. 250
D	249.5 Kg (550 LB)	F.S. 288
E	249.5 Kg (550 LB)	F.S. 325

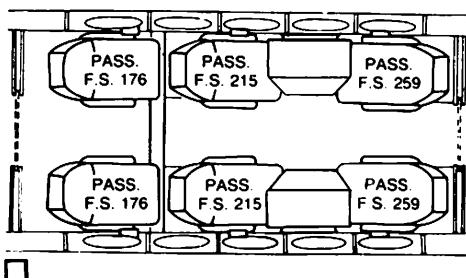
**CARGO TIEDOWN PROVISIONS ARE NOT PROVIDED**

300-603-4(AX8)

### CABIN ARRANGEMENT DIAGRAM



AFT FOLD UP SEATS  
 SIDE FACING TOILET



NOTES

The cabin seating may be arranged in different combinations. The diagrams marked  above represent the seating arrangement established for this airplane prior to delivery. The passenger locations shown on the designated diagram are average. Additional data for modified arrangements are noted. No diagrams are included for H-density versions.

300-603-82

**USEFUL LOAD WEIGHTS AND MOMENTS  
OCCUPANTS**

USE COLUMNS	CREW					LAVA- TORY SEAT	TWO PLACE COUCH FORWARD POSITION		AFT FOLD UP SEAT(S)
		CABIN CHAIRS					F.S.	*F.S.	
MARKED X →	F.S.	F.S.	F.S.	F.S.	F.S.	163	183	F.S. 330	
WEIGHT KG	MOMENT/100 KG-IN								
40	52	70	86	104	117	65	73	132	
50	65	88	108	130	147	82	92	165	
60	77	106	129	155	176	98	110	198	
70	90	123	151	181	205	114	128	231	
77.1	99	136	166	200	226	126	141	254	
80	103	141	172	207	234	130	146	264	
90	116	158	194	233	264	147	165	297	
100	129	176	215	259	293	163	183	330	
110	142	194	237	285	322	179	201	363	
WEIGHT LB	MOMENT/100 LB-IN								
80	103	141	172	207	234	130	146	264	
100	129	176	215	259	293	163	183	330	
120	155	211	258	311	352	196	220	396	
140	181	246	301	363	410	228	256	462	
160	206	282	344	414	469	261	293	528	
170	219	299	366	440	498	277	311	561	
180	232	317	387	466	527	293	329	594	
200	258	352	430	518	586	326	366	660	
220	284	387	473	570	645	359	403	726	
240	310	422	516	622	703	391	439	792	

**USEFUL LOAD WEIGHTS AND MOMENTS  
BAGGAGE**

WEIGHT KG	(Clothing on Hangers) FOYER F.S. 293	AFT CABIN F.S. 325
	MOMENT/100 KG-IN	
10	29	33
20	59	65
30	88	98
40	117	130
45.4	133	146
50		163
100		325
150		488
200		650
231.3		752
249.5		811
WEIGHT LB	MOMENT/100 LB-IN	
20	59	65
40	117	130
60	176	195
80	234	260
100	293	325
200		650
300		975
400		1300
500		1625
510		1658
550		1788

**USEFUL LOAD WEIGHTS AND MOMENTS**

**CABINET CONTENTS**

USE COLUMNS MARKED X -	CHART CASES	FORWARD CABINET	MIDDLE CABINET	AFT CABINET	COUCH DRAWERS
	F.S. 148	F.S. 158	F.S. 196	F.S. 272	F.S. 173
<b>WEIGHT</b> <b>KG</b>		<b>MOMENT/100</b> <b>KG-IN</b>			
5		7	8	10	14
10		15	16	20	27
13.6		20	21	27	37
20		30	32	39	54
25			40		
45			71		
<b>WEIGHT</b> <b>LB</b>		<b>MOMENT/100</b> <b>LB-IN</b>			
10		15	16	20	27
20		30	32	39	54
30		44	47	59	82
40		59	63	78	109
50		74	79		
100			158		

**NOTE:**

Weight and Moment/100 of Cabinet Contents must be included in all loading computations.

**USEFUL LOAD WEIGHTS AND MOMENTS**

**CARGO**

WEIGHT KG	COMPARTMENT*				
	A F.S. 152-190	B F.S. 190-230	C F.S. 230-270	D F.S. 270-305	E F.S. 305-348
	CENTROID				
	F.S. 171	F.S. 210	F.S. 250	F.S. 288	F.S. 325
	MOMEMT/100 KG-IN				
10	17	21	25	29	33
20	34	42	50	58	65
30	51	63	75	86	98
40	68	84	100	115	130
50	86	105	125	144	163
100	171	210	250	288	325
150	257	315	375	432	488
200	342	420	500	576	650
231.3	396	486	578	666	752
249.5	427	524	624	719	811
300	513	630	750		
350	599	735	875		
376.5	644	791	941	NOTE: All cargo must be supported by the seat tracks and tied down to the tracks by an FAA approved method.	
390.1	667	819			
399.2	683				

\* Refer to LOADING DATA CARGO CONFIGURATION

**USEFUL LOAD WEIGHTS AND MOMENTS**  
**CARGO**

WEIGHT LB	<b>COMPARTMENT*</b>				
	<b>A</b> <b>F.S. 152-190</b>	<b>B</b> <b>F.S. 190-230</b>	<b>C</b> <b>F.S. 230-270</b>	<b>D</b> <b>F.S. 270-305</b>	<b>E</b> <b>F.S. 305-348</b>
	<b>CENTROID</b>				
F.S. 171	F.S. 210	F.S. 250	F.S. 288	F.S. 325	MOMEMT/100 LB-IN
<b>MOMEMT/100 LB-IN</b>					
20	34	42	50	58	65
40	68	84	100	115	130
60	103	126	150	173	195
80	137	168	200	230	260
100	171	210	250	288	325
200	342	420	500	576	650
300	513	630	750	864	975
400	684	840	1000	1152	1300
500	855	1050	1250	1440	1625
510	872	1071	1275	1469	1658
550	941	1155	1375	1584	1788
600	1026	1260	1500		
700	1197	1470	1750	NOTE: All cargo must be supported by the seat tracks and tied down to the tracks by an FAA approved method.	
800	1368	1680	2000		
830	1419	1743	2075		
860	1471	1806			
880	1505				

Refer to LOADING DATA CARGO CONFIGURATION.

**USEFUL LOAD WEIGHTS AND MOMENTS**

**USABLE FUEL**

LITERS	.78 KG/LITER		.80 KG/LITER	
	WEIGHT	MOMENT /100	WEIGHT	MOMENT /100
50	39	66	40	67
100	78	131	80	135
150	117	198	120	203
200	156	265	160	272
250	195	336	200	344
300	234	408	240	419
350	273	482	280	494
400	312	555	320	569
450	351	628	360	644
500	390	702	400	720
550	429	775	440	795
600	468	848	480	870
650	507	920	520	943
700	546	991	560	1016'
750	585	1063	600	1090
800	624	1137	640	1166
850	663	1211	680	1242
900	702	1285	720	1318
950	741	1356	760	1391
1000	780	1427	800	1464
1050	819	1499	840	1537
1100	858	1573	880	1613
1150	897	1646	920	1688
1200	936	1720	960	1764
1250	975	1794	1000	1840
1300	1014	1867	1040	1915
1350	1053	1942	1080	1992
1400	1092	2018	1120	2070
1450	1131	2095	1160	2148
1500	1170	2174	1200	2230
1550	1209	2254	1240	2311
1600	1248	2333	1280	2392
1650	1287	2412	1320	2474
1700	1326	2490	1360	2554
1750	1365	2570	1400	2636
1800	1404	2651	1440	2719
1850	1443	2733	1480	2803
1900	1482	2811	1520	2883
1950	1521	2891	1560	2966
2000	1560	2969	1600	3045
2040	1591	3028	1632	3106

**USEFUL LOAD WEIGHTS AND MOMENTS  
USABLE FUEL**

GALLONS	6.5 LB/GAL		6.7 LB/GAL	
	WEIGHT	MOMENT/100	WEIGHT	MOMENT/100
10	65	109	67	113
20	130	219	134	226
30	195	330	201	340
40	260	440	268	454
50	325	553	335	570
60	390	666	402	686
70	455	785	469	809
80	520	907	536	935
90	585	1030	603	1062
100	650	1152	670	1188
110	715	1274	737	1313
120	780	1397	804	1440
130	845	1519	871	1566
140	910	1644	938	1695
150	975	1767	1005	1821
160	1040	1886	1072	1944
170	1105	2005	1139	2066
180	1170	2124	1206	2189
190	1235	2243	1273	2312
200	1300	2363	1340	2436
210	1365	2491	1407	2568
220	1430	2613	1474	2693
230	1495	2736	1541	2820
240	1560	2855	1608	2943
250	1625	2972	1675	3064
260	1690	3091	1742	3186
270	1755	3210	1809	3309
280	1820	3331	1876	3433
290	1885	3455	1943	3562
300	1950	3578	2010	3688
310	2015	3702	2077	3815
320	2080	3823	2144	3941
330	2145	3947	2211	4068
340	2210	4069	2278	4194
350	2275	4193	2345	4322

**USEFUL LOAD WEIGHTS AND MOMENTS  
USABLE FUEL (Cont'd)**

GALLONS	6.5 LB/GAL		6.7 LB/GAL	
	WEIGHT	MOMENT/100	WEIGHT	MOMENT/100
360	2340	4317	2412	4450
370	2405	4444	2479	4581
380	2470	4574	2546	4715
390	2535	4704	2613	4849
400	2600	4833	2680	4982
410	2665	4968	2747	5120
420	2730	5100	2814	5257
430	2795	5232	2881	5393
440	2860	5363	2948	5528
450	2925	5496	3015	5665
460	2990	5630	3082	5803
470	3055	5762	3149	5939
480	3120	5897	3216	6078
490	3185	6032	3283	6218
500	3250	6165	3350	6355
510	3315	6299	3417	6492
520	3380	6429	3484	6627
530	3445	6556	3551	6758
539	3504	6689	3611	6893

## **LOADING INSTRUCTIONS**

It is the responsibility of the airplane operator to ensure that the airplane is properly loaded. At the time of delivery, Beech Aircraft Corporation provides the necessary weight and balance to compute the individual loadings. All subsequent changes in airplane weight and balance are the responsibility of the airplane owner and/or operator.

The basic empty weight and moment of the airplane at the time of delivery are shown on the Basic Empty Weight and Balance form. Useful load items which may be loaded into the airplane are shown on the Useful Load Weight and Moment tables. The minimum and maximum moments approved by the FAA are shown on the Moment Limits vs. Weight diagram or table. These moments correspond to the forward and aft center of gravity flight limits (landing gear down) for a particular weight. All moments are divided by 100 to simplify computations.

### **CARGO LOADING**

The method of loading cargo, its placement in the airplane and the method of restraint should each be determined before starting the actual loading.

For loads that are evenly distributed in a given section, the useful Load Table under the heading of Cargo Compartment should be used. For any load that cannot be located at the centroid of a section or that extends over more than one section, it will be necessary to determine its own CG and its location in the airplane. Determine the CG arm (Fuselage Station) by measuring in inches, from a known location in the cabin to the CG of the load. Determine the "moment" for the load by multiplying the weight by the CG arm (Fuselage Station). This restraint should be divided by 100 to be compatible with other loading data.

### **COMPUTING PROCEDURE**

1. Record the basic empty weight and moment from the Basic Empty Weight and Balance form (or from the latest superseding forms). The moment must be divided by 100 to correspond to Useful Load Moments.
2. Record the weight and corresponding moment of each item to be carried. These values are found on the Useful Load Weight and Moment table.
3. Total the weight column and moment column (see Note). The total weight without usable fuel must not exceed the Maximum Zero Fuel Weight limitation of 5216.4 kilograms (11,500 pounds). All weight in excess of this limitation must be fuel. The auxiliary tanks may be used only when the main tanks are completely filled. The total take-off weight must not exceed the maximum allowable take-off weight (see Note).
4. Determine the fuel remaining at destination by subtracting the fuel used to destination, plus the start, taxi and take off fuel, from the fuel loading. Refer to the usable fuel weights and moments table for the remaining fuel corresponding moment.

5. To compute the landing condition, add the fuel remaining at destination to the zero fuel weight (see Note).

## NOTE

The Zero Fuel Weight, Take-off Weight and Landing Weight Moments must be within the limits shown on the Moment Limits vs. Weight Table. If the total moment is less than the minimum moment allowed, useful load items must be shifted aft, or forward load items reduced. If the total moment is greater than the maximum moment allowed, useful load items must be shifted forward, or aft load items reduced. If the weight or location of load items is changed, the calculations must be revised and the moments rechecked.

**Beechcraft SUPER KING AIR 300LW**  
**WEIGHT AND BALANCE LOADING FORM**

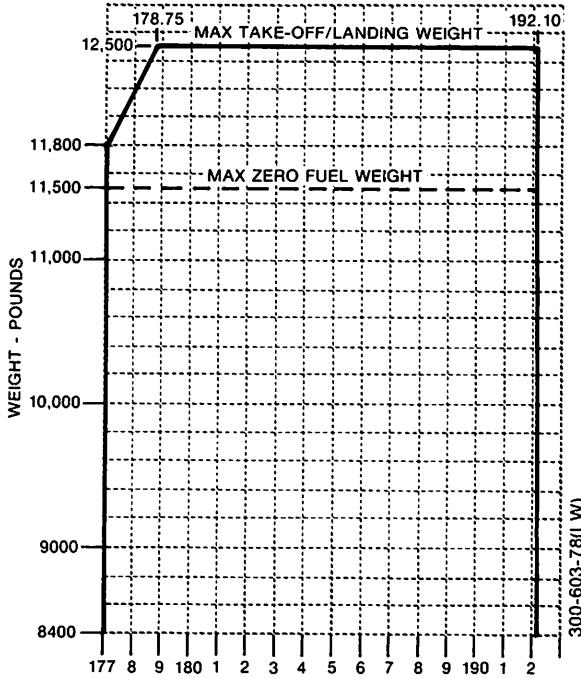
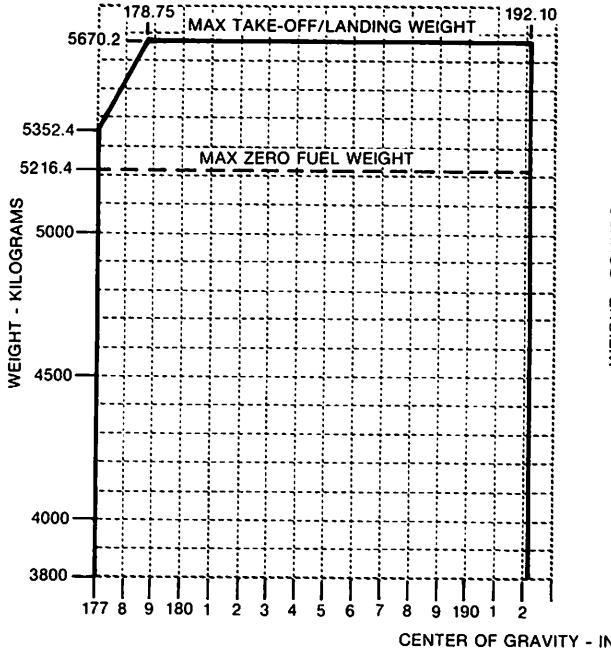
## WEIGHT AND BALANCE LOADING FORM

SERIAL:		REGISTRATION DATE: NO.:	
REF	ITEM	WEIGHT	STATION OR ARM
1.	BASIC EMPTY WEIGHT		
2.	CREW		
3.	PASSENGERS OR CARGO		
4.	BAGGAGE		
5.	CABINET CONTENTS		
6.	<b>SUB TOTAL</b> <b>ZERO FUEL CONDITION</b> <b>DO NOT EXCEED 5216.4</b> <b>KG (11,500 LB)</b>		
7.	FUEL LOADING		
8.	<b>SUB TOTAL</b> <b>RAMP CONDITION</b>		
9.	*LESS FUEL FOR START, TAXI AND TAKEOFF		
10.	<b>TOTAL</b> <b>TAKE-OFF CONDITION</b>		
11.	FUEL LOADING (FROM LINE 7)		
12.	MINUS TOTAL FUEL USED TO DESTINATION INCLUDING START, TAXI, AND TAKEOFF		
13.	FUEL REMAINING (TRANSFER TO LINE 15)		
14.	ZERO FUEL WEIGHT (FROM LINE 6)		
15.	PLUS FUEL REMAINING (FROM LINE 13)		
16.	<b>LANDING CONDITION</b>		

\*FUEL FOR START, TAXI AND TAKEOFF IS  
NORMALLY 45.4 KG(100 LB) AT AN AVERAGE  
MOMENT/100 OF 97 KG-IN (213 LB-IN)

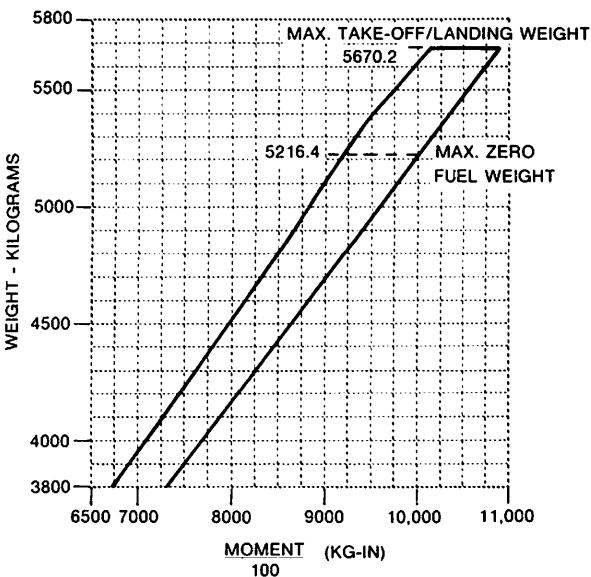
**Section VI**  
**Wt and Bal/Equip List**

**BEECHCRAFT**  
**Super King Air 300LW**

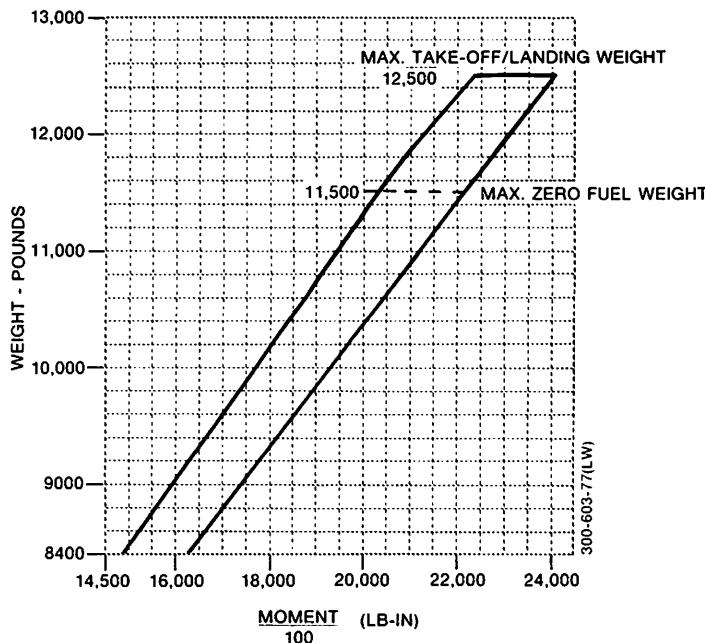


October, 1993

**MOMENT LIMITS DIAGRAM**



**MOMENT LIMITS DIAGRAM**



MOMENT LIMITS VS. WEIGHT

WEIGHT KG	MINIMUM MOMENT /100 KG-IN	MAXIMUM MOMENT /100 KG-IN
3800	6726	7300
3850	6815	7396
3900	6903	7492
3950	6992	7588
4000	7080	7684
4050	7169	7780
4100	7257	7876
4150	7346	7972
4200	7434	8068
4250	7523	8164
4300	7611	8260
4350	7700	8356
4400	7788	8452
4450	7877	8548
4500	7965	8645
4550	8054	8741
4600	8142	8837
4650	8231	8933
4700	8319	9029
4750	8408	9125
4800	8496	9221
4850	8585	9317
4900	8673	9413
4950	8762	9509
5000	8850	9605
5050	8939	9701
5100	9027	9797
5150	9116	9893
5200	9204	9989
5216.4	--- 9233 ---	--- 10021 ---
5250	9293	10085
5300	9381	10181
5350	9470	10277
5352.4	9474	10282
5400	9572	10373
5450	9676	10469

WEIGHT KG	MINIMUM MOMENT /100 KG-IN	MAXIMUM MOMENT /100 KG-IN
5500	9780	10566
5550	9884	10662
5600	9988	10758
5650	10093	10854
5670	10135	10892

MAXIMUM  
ZERO FUEL  
WEIGHT

MOMENT LIMITS VS. WEIGHT

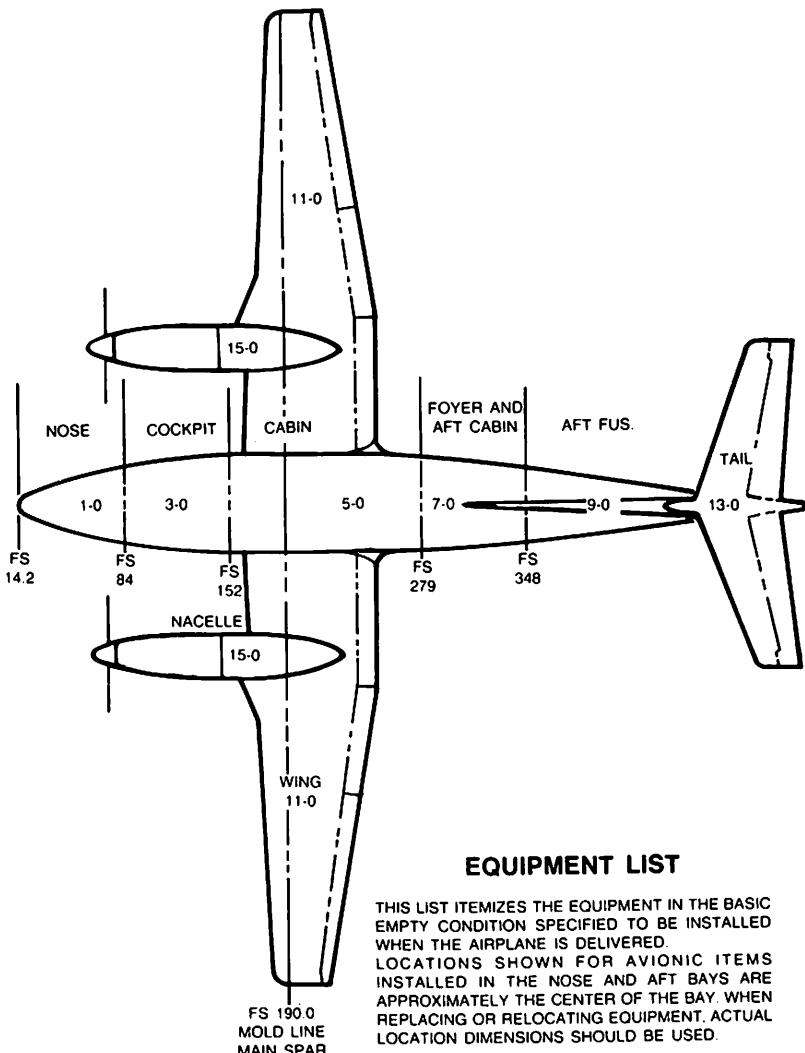
WEIGHT LBS	MINIMUM MOMENT/100 LB-IN	MAXIMUM MOMENT/100 LB-IN
8400	14868	16136
8500	15045	16329
8600	15222	16521
8700	15399	16713
8800	15576	16905
8900	15753	17097
9000	15930	17289
9100	16107	17481
9200	16284	17673
9300	16461	17865
9400	16638	18057
9500	16815	18250
9600	16992	18442
9700	17169	18634
9800	17346	18826
9900	17523	19018
10000	17700	19210
10100	17877	19402
10200	18054	19595
10300	18231	19786
10400	18408	19978
10500	18585	20171
10600	18762	20363
10700	18939	20555
10800	19116	20747
10900	19293	20939
11000	19470	21131
11100	19647	21323
11200	19824	21515
11300	20001	21707
11400	20178	21899
11500	20355	22092
11600	20532	22284
11700	20709	22476
11800	20886	22668
11900	21093	22860
12000	21300	23052
12100	21508	23244
12200	21716	23436
12300	21925	23628
12400	22134	23820
12500	22344	24013

BT04137

**CENTER OF GRAVITY LIMITS (LANDING GEAR DOWN)**

<b>WEIGHT CONDITION</b>	<b>FORWARD CG LIMIT</b>	<b>AFT CG LIMIT</b>
5670.2 KG (12,500 LB) MAX TAKE-OFF OR LANDING	178.75	192.10
5352.4 KG (11,800 LB) OR LESS	177.00	192.10

## EQUIPMENT ITEM NUMBER LOCATION DIAGRAM



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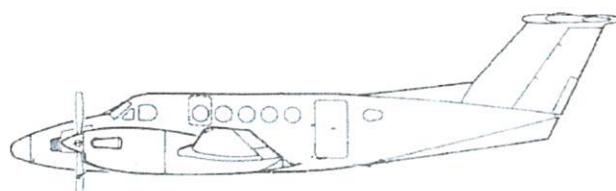


# RAPPORT DE PESEE AVION BEECH 300LW

## WEIGHING REPORT BEECH 300 LW AIRCRAFT

EDITE PAR  
**R&O Aircraft Center**

Approval Certificate N° PART FR.145.0691



Tail No.	SN A/C	Engines Model
F-GPRH	FA-226	PT6A-60A

Work Pack R&O No.	B0300LB170530
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Weighing Date	20/11/2017
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## A. GENERALITES

1.

### CONFIGURATION AVION

Avion	<input type="checkbox"/> Non Lisse	<input checked="" type="checkbox"/> Lisse
Trains	<input type="checkbox"/> Rentrés	<input checked="" type="checkbox"/> Sortis

2.

### CONDITIONS DE PESEE

Avions sur vérins, assiettes longitudinale et transversale : nulles

Appareil de pesée	
Type	CMS Model # JW-25
Date du dernier étalonnage	24/10/2017

3.

### CALCUL DU CENTRAGE

Cotes de calcul / Basic computation data	
Distance entre le vérin avant et le point de référence <i>Distance from nose jack to Ref point</i>	2,12 mètres 83,5 Inches
Distance entre les vérins arrières et le point de référence <i>Distance from aft jacks to Ref point</i>	5,73 mètres 225,5 Inches

#### B. INFORMATION EQUIPEMENT A BORD

**ETAT DE L'AVION AU MOMENT DE LA PESEE**

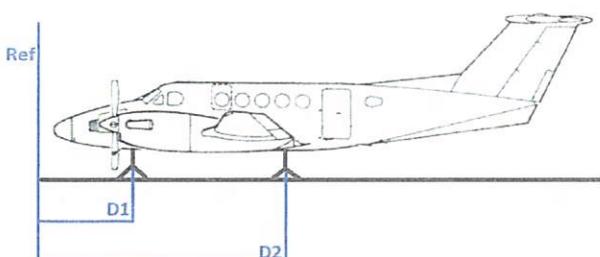
Equipage / Crew	Avec	Sans
CARBURANT DRAINABLE / DRAINABLE FUEL	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COMMISSARIAT / CATERING	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BARRE DE TRACTAGE / STOW BAR	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DOCUMENTATION DE VOL / FLIGHT DOCUMENTATION	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DOCUMENTATION AVION / AIRCRAFT DOCUMENTATION	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SERVITUDES CIRCUIT CENTRAL D'EAU / CENTRAL WATER SYSTEM SERVICE	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SERVITUDES TOILETTES / TOILET SERVICE	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CARBURANT NON DRAINABLE / NON DRAINABLE FUEL	<input type="checkbox"/>	<input checked="" type="checkbox"/>
HUILE MOTEUR / ENGINE OIL	<input checked="" type="checkbox"/>	<input type="checkbox"/>
OXYGENE / BREATHING OXYGEN	<input checked="" type="checkbox"/>	<input type="checkbox"/>
LIQUIDE HYDRAULIQUE / HYDRAULIC FLUID	<input checked="" type="checkbox"/>	<input type="checkbox"/>
LOT DE BORD COMPLET / COMPLETE LOOSE EQUIPMENT KIT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CANOTS DE SAUVETAGE / LIFE RAFTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
GILETS DE SAUVETAGE / LIFE JACKETS	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FOUR / OVEN	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TROSSE DE SECOURS / SURVIVAL KIT	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## **EQUIPEMENTS OPTIONNELS RADIO NAVIGATION INSTALLEES**

## C. FICHE DE PESEE AVION

1.

## **INFORMATIONS**



Pesée avion sur :  
Verrin Roues

Mise à niveau :	Plancher cabine
Référence (Ref 0) :	5,73 m en avant de l'axe du longeron principal de l'aile

	Mètres	Inches
D1 =	2,12	83,46
D2 =	5,73	225,50

**2. MASSE A VIDE ( Kg )**

	Masse lue	Tare	Masse nette (Kg)
Roue G	1214	0	1214
Roue D	1594	0	1594
Roue AV/AR	1240	0	1240
Masse à vide mesurée M ( Kg )		<b>4048</b>	

### 3. CALCULS

WT (Lbs)	Bras de levier ARM (In)	MOMENT (In.Lbs)	Bras de levier ARM (m)	MOMENT (m.Kg)
2676	225,50	603530	5,7277	6953
3514	225,50	792443	5,7277	9130
2734	83,46	228169	2,1200	2629
8924	181,99	1624142,38	4,62	18712,18

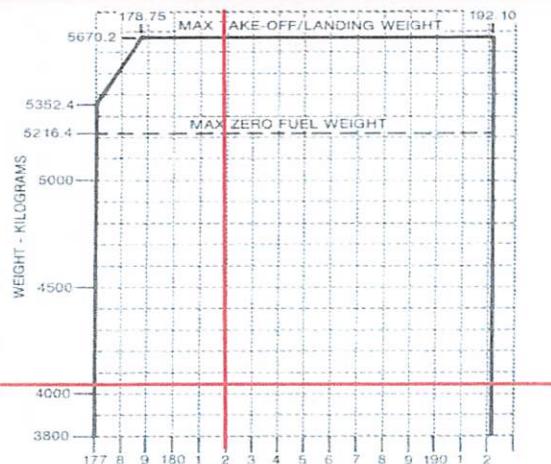
4

## **CORRECTIONS**

	WT (Lbs)	Masse (Kg)	Bras de levier		Moments(par rapport référence) (In x Lbs)	Moments (par rapport référence) (m x Kg)
			In	Mètres		
Valeurs lues	8924	4048	181,99	4,62	1624142,38	18712,18
Corrections ( + - ) (voir inventaire)	0	0	0	0	0,00	0,00
Résultats corrigés	8924,31	4048,00	181,99	4,62	1624142,38	18712,18

### 5. LIMITES DE CENTRAGE

**Faire coulisser les deux traits rouges sur le point de centrage**



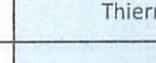
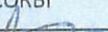
6.

**DONNEES PESEE PRECEDENTE**

	Lbs	Kg
Poids à vide	8950	4068
Date de la pesée		15/11/2012

7.

DATE + NOM TECHNICIEN + VISA

Nom	Thierry CORBI
Visa	 
Date	20/11/2017



## Calibration Report

Test # 147861

United States - Main Office  
3839 County Road 116  
Medina, MN 55340 USA  
[www.intercompeo.com](http://www.intercompeo.com)

TEL. (763) 476-2531 FAX (763) 476-2613

United Kingdom  
The Old Barn, Manor Farm  
Manor Rd., Shurlock Row  
Berkshire RG10 0PY

TEL. 44-118-932-0578 FAX 44-118-932-1034

Tester	CMS			Model #	JW-25	
Date	10/24/2017			Scale/Cell ID #	1	
Indicator	1026IG17001			Capacity	25000 Lbs.	
Serial#	21589247			Graduation (d)	5	
Part #	100276			Re-Cal Date	10/24/2018	
Temperature	°F	Humidity	%	Ack #		PO #

Accuracy: 0.1% of applied load or 0.02% of capacity, whichever is greater

As Left: In Tolerance

Weight (Lbs.)	Run #1(Lbs.)	Run #2 (Lbs.)	Run #3 (Lbs.)
0	0	0	0
1000	1000	1000	1000
2000	2000	2000	2000
3000	3000	3000	3000
4000	4000	4000	4000
5000	5000	5000	5000
7500	7500	7500	7500
10000	10005	10000	10000
15000	15005	15005	15005
20000	20005	20005	20005
25000	25005	25005	25000
0	0	0	0

Intercomp Company does hereby certify the above listed instrument meets or exceed all published Specifications and has been calibrated using standards whose accuracies are directly traceable to the U.S. National Institute of Standards and Technology.

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Calibration Procedure: per OEM Manual

Model #	Test/Trace #	Re-Cal Date
Tovey 25K	684/289070-17	09/21/2018

Tested By: *Charles Schubiger*

Title: Calibration Technician

Approve By: *Stayle L. Brown*

Title: Calibration supervisor

# RAPPORT DE PESEE AVION

## **1. INFORMATION**

AVION TYPE

DATE

15/11/2012

VISA

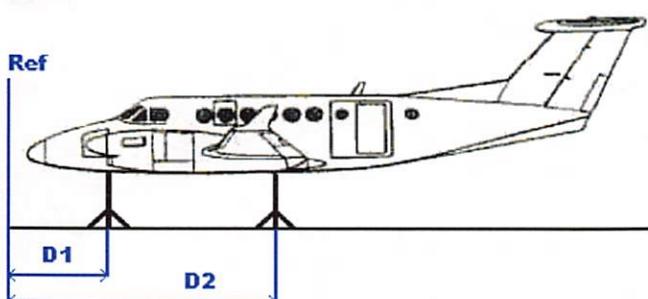
R.S.  
035  
A.E.

IMMATRICULATION F-GPRH

LIEU L'EPR

Nom

5,72 m en avant de l'axe du longeron principal de l'aile



Mise à niveau:

## Reference

5,72 m en avant de l'axe du longeron principal de l'aile

D1 (m)= 2,12

2,12

D2 (m)= 5,72

5,72

2. Masse à vide ( Kg)

3. Calculus

Massee à Vise ( Kg)				Caractéristiques					
	Masse	Tare	Masse nette	WT (Lbs)	ARM (In)	MOMENT (In.Lbs)	Masse (Kg)	Bras de levier (m)	Moment (m.Kg)
	2684	225,20	604427	1220	5,72	6978			
Vérin G	0	0	1220	3527	225,20	794178	1603	5,72	9169
	2739	83,46	228609	1245	2,12	2639			
Vérin D	0	0	1603	0	207,48	0	0	5,27	0,00
	8950	181,82	1627214	4068	4,62	18787			
Vérin AV	0	0	1245						
Carb inutilisable	0	0	0						
<i>8930</i>	Massee totale ( Kg)s)		4068	Bras de Levier ( m):					4,62

**4. CORRECTIONS**

	masse (Kg)	bras de levier X (m)	Moments (par rapport à la référence) (m x Kg)
Valeurs lues	4068	4,62	18786,96
Corrections (+ -) (voir inventaire)	0	0	0
Résultats corrigés	4068	4,62	18786,96
	masse à vide	Distance CG à vide	Moments

Date de validité / Validity date

15/11/2017

# Trescal

Parc technologique du Bois de l'Oratoire  
Rue de Mons  
41100 VENDOME  
Tel. : 0254733535  
Fax : 0254779432

BCA – LE BOURGET  
Aéroport du Bourget  
891 avenue de l'Europe  
93350 LE BOURGET

## DOSSIER DE SOUS TRAITANCE

N° 12438399

(Annule et remplace le document n° 12436802)

Date d'intervention : 23/10/2012

### Identification de l'instrument :

Désignation : Valise de pesée 3 capteurs

Marque : REVERE

N° de série : CV3589 DP0004 CP7120

Modèle : /

Identification client : MEC477

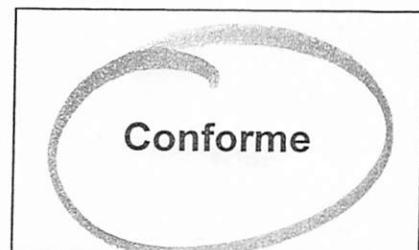
### Détail de l'intervention

Observation : /

Sous-traitant : TRESICAL AIX

Type d'intervention : Vérification

N° de document : 12438393 12438396 12438397



Ce document comprend : 13 page(s) dont 12 annexes

Date d'émission : le 07/11/2012

Responsable du laboratoire

Jacquin Bertrand

A handwritten signature in black ink, appearing to read "Jacquin Bertrand".

> Trescal S.A.  
S.A. au capital de 4 293 970 €  
R.C.S. Créteil 562 047 050 - SIREN 562 047 050  
Code TVA Fr 56 562 047 050

> Siège Social  
Parc d'Affaires SILIC  
8, rue de l'Estérel - BP 30441  
94593 RUNGIS Cedex

[www.trescal.com](http://www.trescal.com)