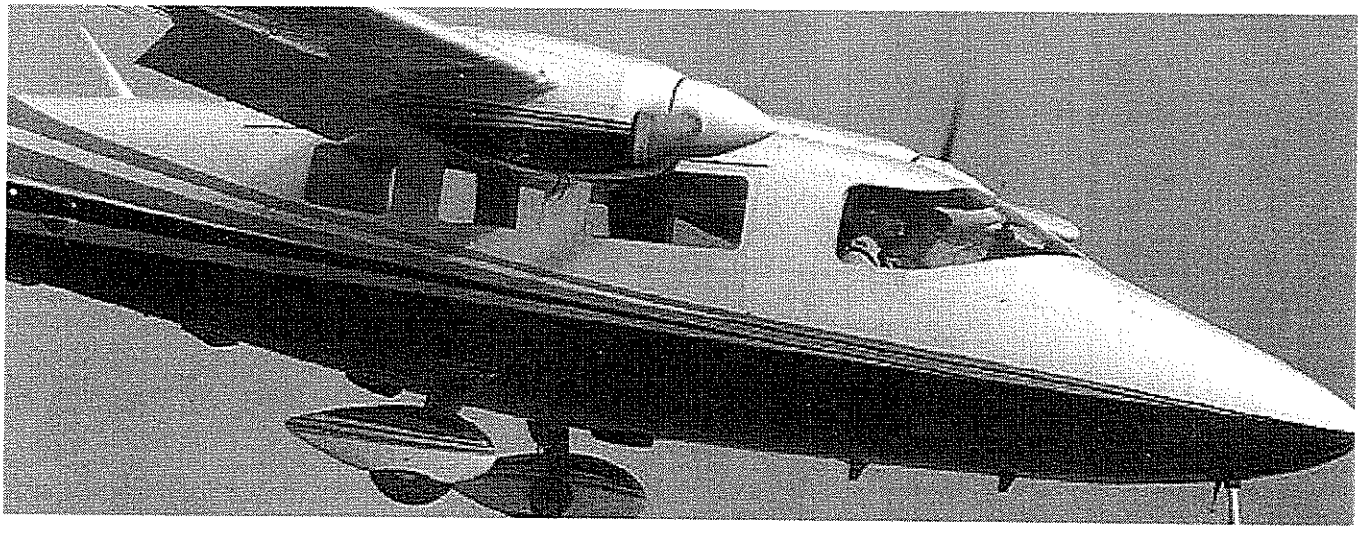
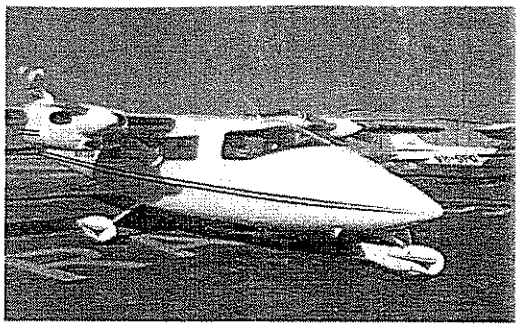
vulcanair

R. BEAUMONT.

PARTENAVIA P68B VICTOR



Flight Manual
Rob Beaumont



REDCLIFFE AERO CLUB

PARTENAVIA P-68B VH-IYC

NEVER EXCEED SPEED (Vne)	200 KTS
MAX STRUCTURAL CRUISING SPEED (Vno)	158 KTS
MANOEUVERING SPEEDS (Va)	130 KTS
PLANNING TAS	140 KTS
MAX FLAP EXTENSION (Vfe)	0° - 17° 157 KTS
	17° - 30° 143 KTS
	30° - 35° 101 KTS
TAKEOFF SAFETY SPEED (V_{TOSS})	79 KTS
MINIMUM SINGLE ENGINE CONTROL SPEED (V_{MCA})	62 KTS
BEST RATE OF CLIMB SINGLE ENGINE (V_{YSE})	89 KTS
BEST ANGLE OF CLIMB (Vx)	76 KTS
BEST RATE OF CLIMB (Vy)	90 KTS
SHORTFIELD LANDING	76 KTS
NORMAL APPROACH	90 KTS
STALL SPEED (FLAPS DOWN)	61 KTS
STALL SPEED (FLAPS UP)	71 KTS
USABLE FUEL EA/TANK 21 S. AUX 43 US/GAL / 123 MIN END	551 (389 + 162) LTS
TOTAL FUEL EA/TANK 81 S. MAIN 103 US/GAL / 290 MIN END	579 LTS
PLANNED FUEL CONSUMPTION 10.5 US/GAL. (21 US/GAL 1HR)	80 LTS/HR
OIL CAPACITY	6 - 8 QTS
MAX TAKEOFF WEIGHT	1990 KGS
MAX LANDING WEIGHT	1890 KGS
BASIC EMPTY WEIGHT	1353 KGS
MAX BAGGAGE COMPARTMENT LOAD	181 KGS
MAX CROSSWIND COMPONENT	25 KTS

Note: Redcliffe Aero Club Advisory Information Only. ALL pilots should refer to pilots operating handbook for full and correct data

PARTENAVIA PN68

NORMAL PROCEDURES

PRE START

Pre-Flight Checks . . . . . COMPLETE
Passenger Brief . . . . . COMPLETE
Seat . . . . . ADJUSTED & LOCKED
Hatches & Harnesses . . . . . SECURE
Controls . . . . . FREE & CORRECT
Circuit Breakers . . . . . IN
Radios . . . . . OFF
Alternate Air . . . . . OFF
Trims . . . . . SET
Fuel . . . . . ON MAINS
Master . . . . . ON
Alternator Switches . . . . . OFF
Magnetos . . . . . ON
Brakes . . . . . ON

START AND AFTER START

LEFT ENGINE
Mixture . . . . . RICH
Pitch . . . . . FULL FINE
Throttle . . . . . HALF / PRIME
Mixture . . . . . IDLE CUT OFF
Throttle . . . . . SET
Clear Prop & Press Starter 3 SECONDS
Idle . . . . . 1000 RPM
Alternator . . . . . ON (CHECK LOAD)
Oil Pressure . . . . . IN THE GREEN
Suction . . . . . SOURCE FUNCTIONING
RIGHT ENGINE - SAME PROCEDURE

BEFORE TAXI

Avionics . . . . . ON
HF . . . . . FREQUENCY SELECTED & CHECKED
VHF Nav . . . . . / SET / IDENTIFIED/TESTED
ADF . . . . . TUNED / IDENTIFIED/TESTED
DME . . . . . TUNED / IDENTIFIED/TESTED
Directional Gyro . . . . . SET
VHF Coms . . . . . CLEARANCE - SET TRANSPONDER CODE
SET ASSIGNED ALTITUDE INDICATOR
ATIS SET QNH & HDG BUG FOR DUTY RWY
TAXY CALL

PARTENAVIA PN68

TAXY CHECKS

Flight Instruments . . . . . NORMAL

PRE TAKE OFF

Engine Instruments . . . . . ALL IN GREEN
Run Up . . . . . 2300 PITCH
2100 ~~1900~~ MAGS (MAX DROP 125)
1500 FEATHER (300 DROP)
Vacuum Gauge . . . . . CHECKED
Alternators . . . . . ON & CHARGING
Idle RPM . . . . . Check SET 1000 RPM
Trims . . . . . SET FOR TAKE OFF
Mixture . . . . . RICH
Pitch . . . . . FULL FINE
Magnetos . . . . . ALL SWITCHES ON
Flaps . . . . . 15°
Friction Nut . . . . . SET
Fuel . . . . . ON POSITION
QUANTITY SUFFICIENT
Instruments . . . . . CHECKED /SET
Switches . . . . . CHECK LEFT TO RIGHT
Nav Aids . . . . . SET FOR DEPARTURE
Controls . . . . . FULL & FREE
Hatches / Harnesses . . . . . SECURE

PRE TAKE OFF CONSIDERATIONS

90 Kts = BEST SEROC
SEROC PERFORMANCE
TERRAIN/OBSTACLES
TAKE OFF MINIMA
TAKE OFF INTENTIONS
SID/DEPARTURE PROCEDURES
RADIO CALL

LINE UP

Fuel Pumps . . . . . ON
Pitot Heat . . . . . ON (IF ENTERING CLOUD)
Strobes . . . . . ON
Transponder . . . . . ON/ALT

PARTENAVIA PN68

AFTER TAKE OFF

Brakes	APPLY /RELEAS
Gear	FIXE
Flaps	U
Power	25" / 2500 RPM
Engine Instruments	IN THE GREE
Fuel Pumps	OFF / FUEL FLOWS STABL

TOP OF CLIMB

Cruise Power	23" / 2400 RPM
Mixtures	LEANE
Directional Gyro	SET TO COMPASS
Altimeters	SET AREA QNH
Fuel	QUANTITIES NOTE
Position	NOTE

CRUISE

Revise ETA

Plan Descent Point

APPROACH BRIEF

Self Brief	FAMILIARISE ALL SEGMENTS
TAF	RUNWAY TO USE
	ORIENTATION OF RUNWAY

TOP OF DESCENT

Traffic	NOTE
Lowest Safe Altitude	SE
Destination QNH	SET / ALTIMETERS CROSS CHECK
Mixtures	RICHEN AS REQUIRED
Fuel	ON MAINS

APPROACHING DESTINATION

Nav Aids	SET FOR APPROACH
Slowed Down	18" / 2400 RPM / FLAPS 15°
Ident	MONITORED
Self Brief	CHECK SECTOR ENTRY
TAF	CHECK WIND DIRECTION

INSTRUMENT APPROACH SPEEDS

Holding	18" / 2400 RPM
Initial Leg If Descending	15" / 2400 RPM / GEAR DOWN
Final Leg for Circling	18" / 2400 RPM / GEAR DOWN
Final Leg for Runway Approach	18" / 2400 RPM / GEAR DOWN / FLAPS 15°

PARTENAVIA PN68

PRE LANDING

Brakes	OFF / PRESSURE CHECKED
Undercarriage	FIXED
Mixtures	RICH
Fuel / Fuel Pump	ON & SUFFICIENT
Hatches / Harnesses	SECURE

NORMAL LANDING

Base	15° FLAPS/ TO GIVE 110 KTS -100 KTS

FINAL APPROACH

Pitch	FULL FINE
Undercarriage	FIXED
Flaps	35°TO GIVE 90 KTS - 85 KTS
Flaps (Cowl)	NOT APPLICABLE

AFTER LANDING

Power	1000 RPM
Transponder	OFF
Trims	NEUTRAL
Flaps	UP
Fuel Booster Pump	OFF
Pitot Heat	OFF
Strobes	OFF
External Lights	AS REQUIRED
Radio	CALL AS NECESSARY

SHUTDOWN

Power	1000 RPM
Magnetos	CHECK
Switches	OFF
Avionics	OFF
Engine Instruments	IN THE GREEN
Mixtures	IDLE CUT OFF
Throttles	CLOSED
Magnetos	OFF
Alternator Switches	OFF
Master	OFF
Controls	LOCKED

PARTENAVIA PN68
EMERGENCY PROCEDURES

ENGINE FAILURE - TAKE OFF

Below decision speed (must be at least 90kts)

Throttles . . . . . CLOSE AND LAND AHEAD

Above decision speed

Control . . . . . MAINTAIN
Mix . . . . . UP
Pitch . . . . . UP
Power . . . . . UP
Gear . . . . . UP
Flaps . . . . . UP
Identify . . . . . DEAD LEG DEAD ENGINE
CONFIRM
FEATHER
Climb . . . . . at VYSE of 90kts (blue line

When time permits, secure engine as follows:

Mixture . . . . . ICO
Throttle . . . . . CLOSED
Fuel boost pump . . . . . OFF
Fuel selector . . . . . OFF
Magnetos . . . . . OFF
Alternator . . . . . OFF
Electric load . . . . . MONITOR

Engine Failure In Cruise

Control . . . . . MAINTAIN
Mixture . . . . . UP
Pitch . . . . . UP
Power . . . . . UP
Gear . . . . . UP
Flaps . . . . . UP

Identify re-identify and feather

Mixtures . . . . . CHECKED
Fuel selector . . . . . ON
Boost pump . . . . . ON
Magnetos . . . . . CHECKED L & R

If power not restored, proceed to shut down the engine.

Failed Engine . . . . . SHUTDOWN

ENGINE FIRE IN FLIGHT

Fuel . . . . . OFF
Mixture . . . . . LEAN
Throttle . . . . . CLOSED
Fuel pump . . . . . OFF
If fire not out
Gear . . . . . DOWN
Flap . . . . . DOWN
Aircraft . . . . . LAND

OR If fire goes out.
Mixture on live engine . . . . . UP
Pitch on live engine . . . . . UP
Power on live engine . . . . . UP
Gear . . . . . UP
Flap . . . . . UP
Failed Engine . . . . . Identify
Propeller . . . . . Feather
Failed Engine . . . . . Shutdown

EMERGENCY DESCENT

Throttles . . . . . BOTH CLOSED
Flap . . . . . Full
Descent . . . . . AT 101 kts
Note: Medium turns during descent will significantly increase rate of descent.

ELECTRICAL FAILURES

One Alternator Off Line

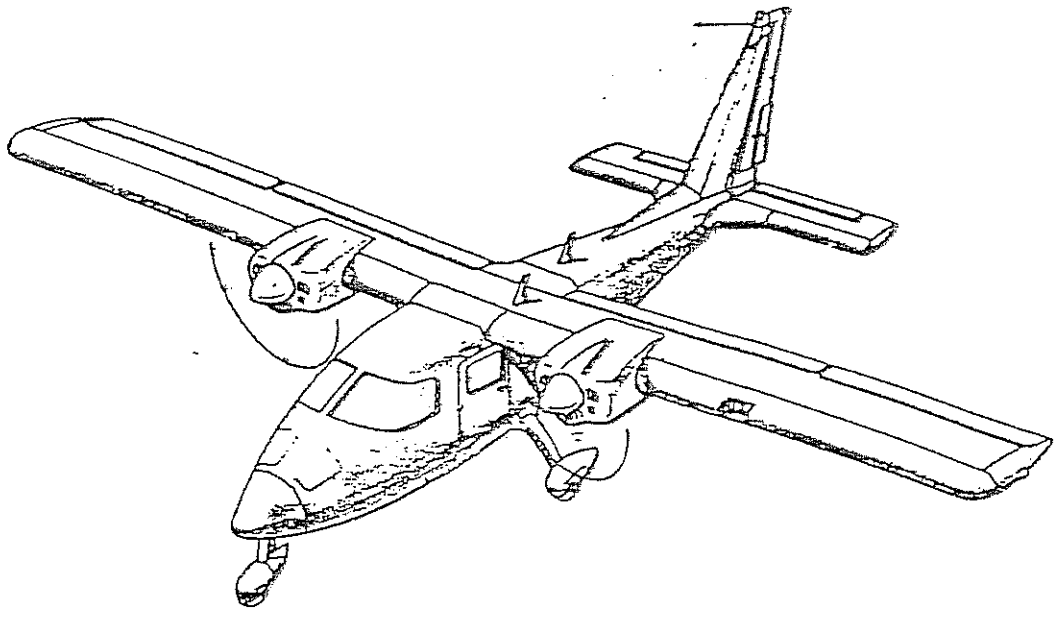
Inop. alternator switch . . . . . OFF
Circuit breakers . . . . . CHECK
Inop. alternator switch . . . . . ON
* If power not restored (Alt OFF), reduce electrical load to a maximum of 50 amps.

Both Alternators Off Line

Try to restore operation as per one alternator off-line. If not successful:
Battery master switch . . . . . OFF
Alternator switches . . . . . ON (One at a time)

If operation not restored:
Battery master switch . . . . . ON
Alternator . . . . . OFF
Note: Battery power only is available and will last for approx 20 mins.

FLIGHT MANUAL



PIPER VICTOR

R.A.I. Approved with letter No. 115.831/T dated 24th May 1974 for Sections I, II, III and for pages 4-1, 4-3, 4-5, 4-5bis of Section IV.

THIS DOCUMENT MUST BE CARRIED IN THE AIRPLANE AT ALL TIMES

Serial Number 119

Registration Number VH - IYC

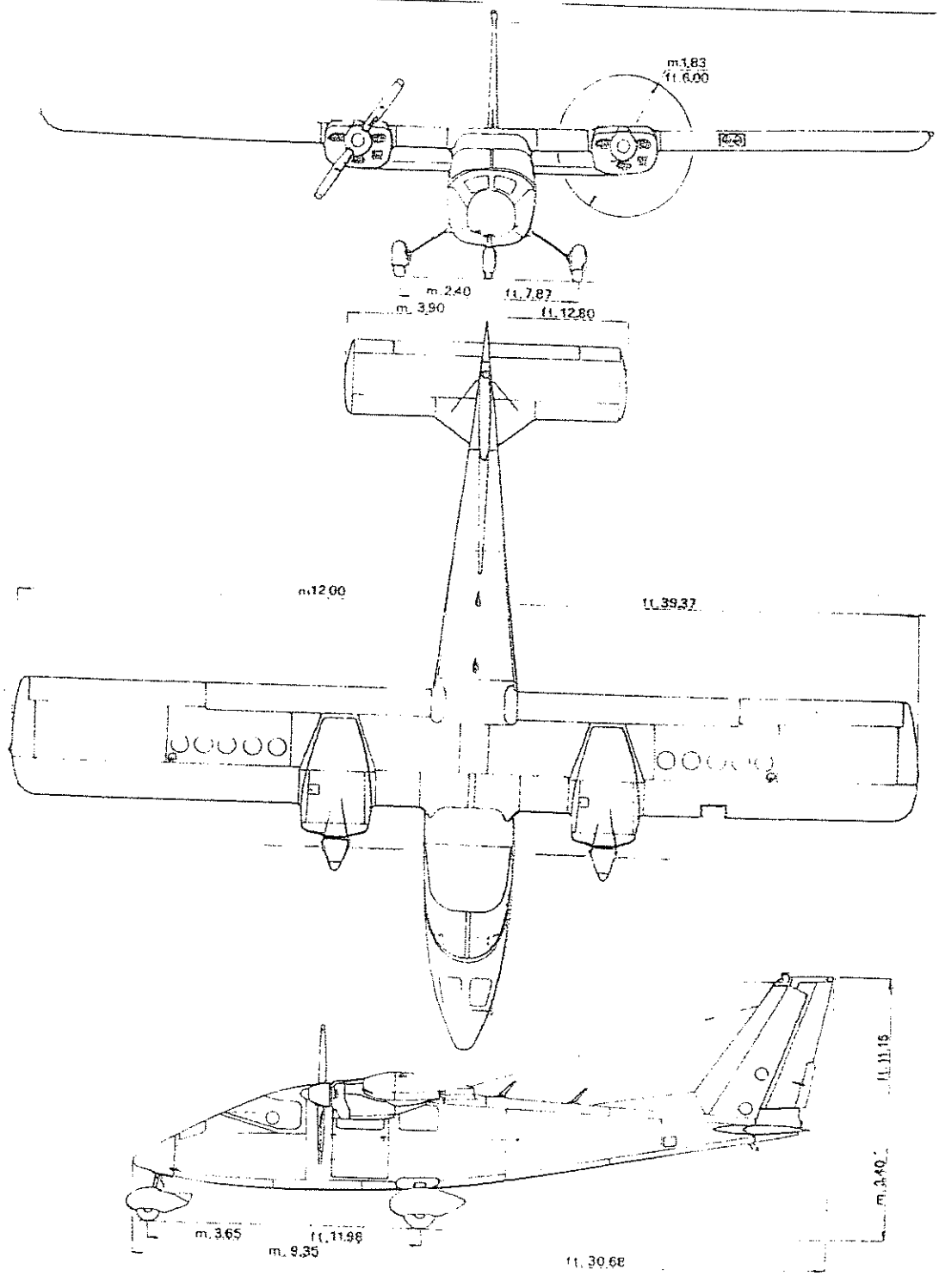
Compiled by R. STEEL

Date 20/9/02

Revision 8

NOR10.707-21

vulcanair


m.1,83
ft. 6,00
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m. 3,90
ft. 12,80
m12,00
ft. 39,37
ft. 11,15
m. 3,40
m. 3,65
ft. 11,98
m. 9,35
ft. 30,68

PARTENAVIA COSTRUZIONI AERONAUTICHE

Naples, Italy

Report _____

Page 1

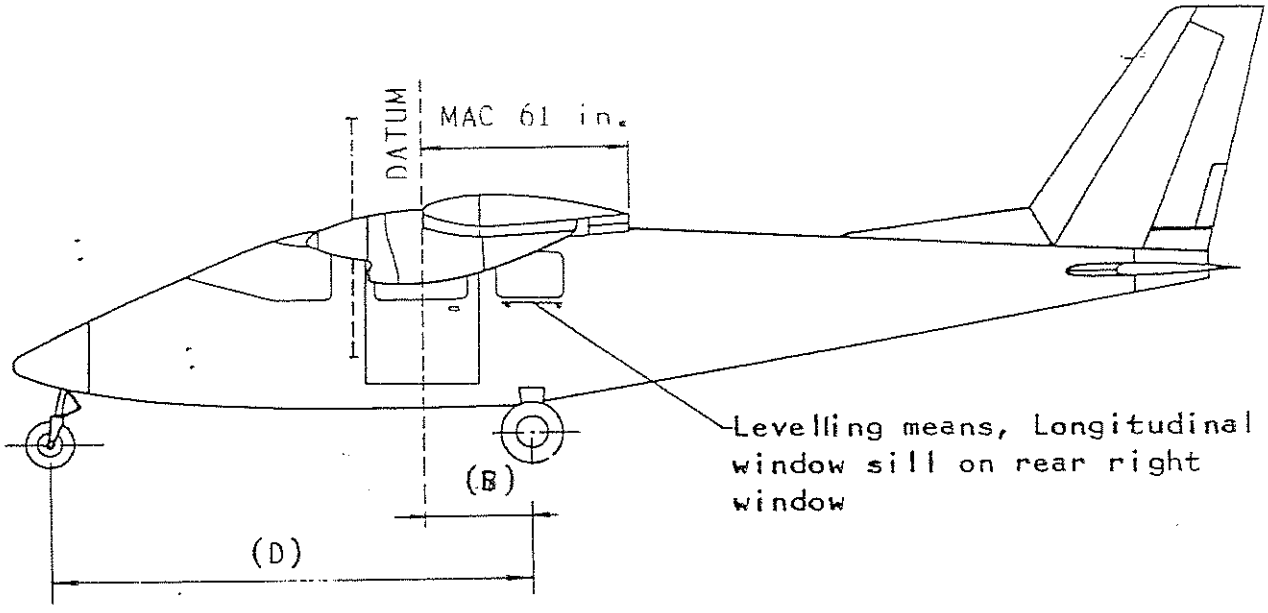
Model P 68B

REPORT NO.

ACTUAL WEIGHT AND BALANCE

MODEL P 68B VICTOR

SERIAL NO. 119 IDENTIFICATION VH-IYC DATE: 20/9/00



Empty Weight as weighed (includes Items checked on Equipment List)

Left Wheel

Right Wheel

Nose Wheel (N)

TOTAL (T) 1318 kg.

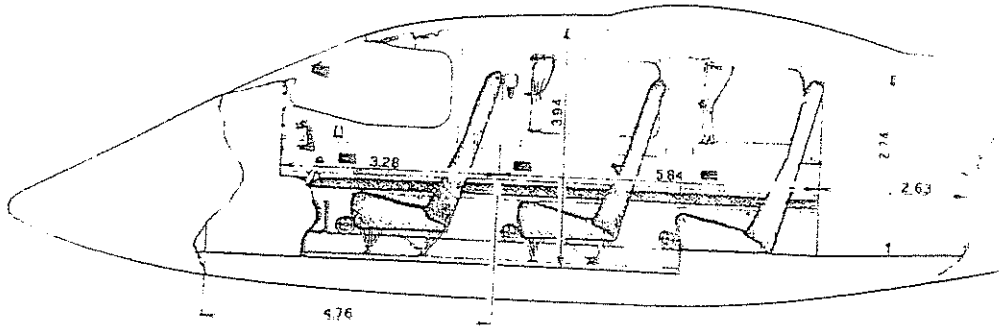
DIMENSIONS AND AREAS

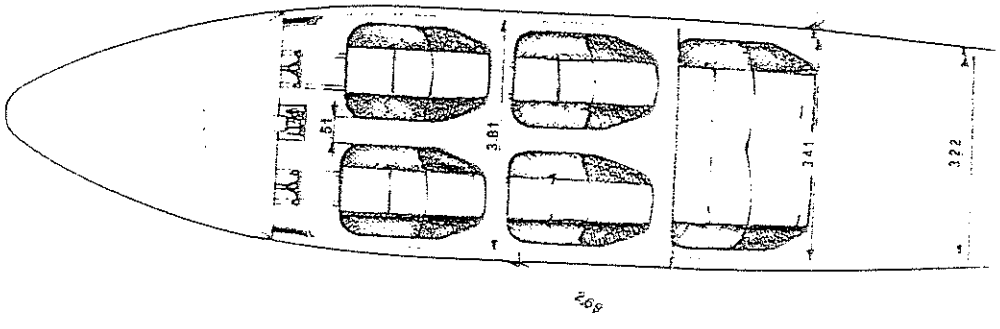
A three view illustration, showing the principal dimensions of the Airplane, appears in Fig. 1-1.

The following table shows the area values.

AREA (GROSS)	SQ. FEET
Wing	200.20
Wing Flaps	26.00
Ailerons	18.90
Fin & Rudder	21.80
Stabilator	41.40

CABIN, BAGGAGE COMPARTMENT AND ENTRY DIMENSIONS





NOTE: Dimensions in feet.

Figure 1-2

ABBREVIATIONS

AIRSPEED

KIAS	Indicated Airspeed - Knots
KCAS	Calibrated Airspeed - Knots
KTAS	True Airspeed - Knots
V_X	Best Angle-of-Climb Speed
V_Y	Best Rate-of-Climb Speed
R/C	Rate of Climb
V_{MC}	Minimum Control Speed
g	Gravity Acceleration

TEMPERATURE

°C	Temperature in degrees Celsius
°F	Temperature in degrees Fahrenheit
I.S.A.	International Standard Atmosphere
O.A.T.	Outside Air Temperature

POWER

BHP	Brake Horsepower
RPM	Revolution per minute (of the propeller shaft)
M.P.	Manifold Pressure (in inches of Hg)
CHT	Cylinder Head Temperature

WEIGHT, VOLUME AND LENGTH CONVERSION GRAPHS

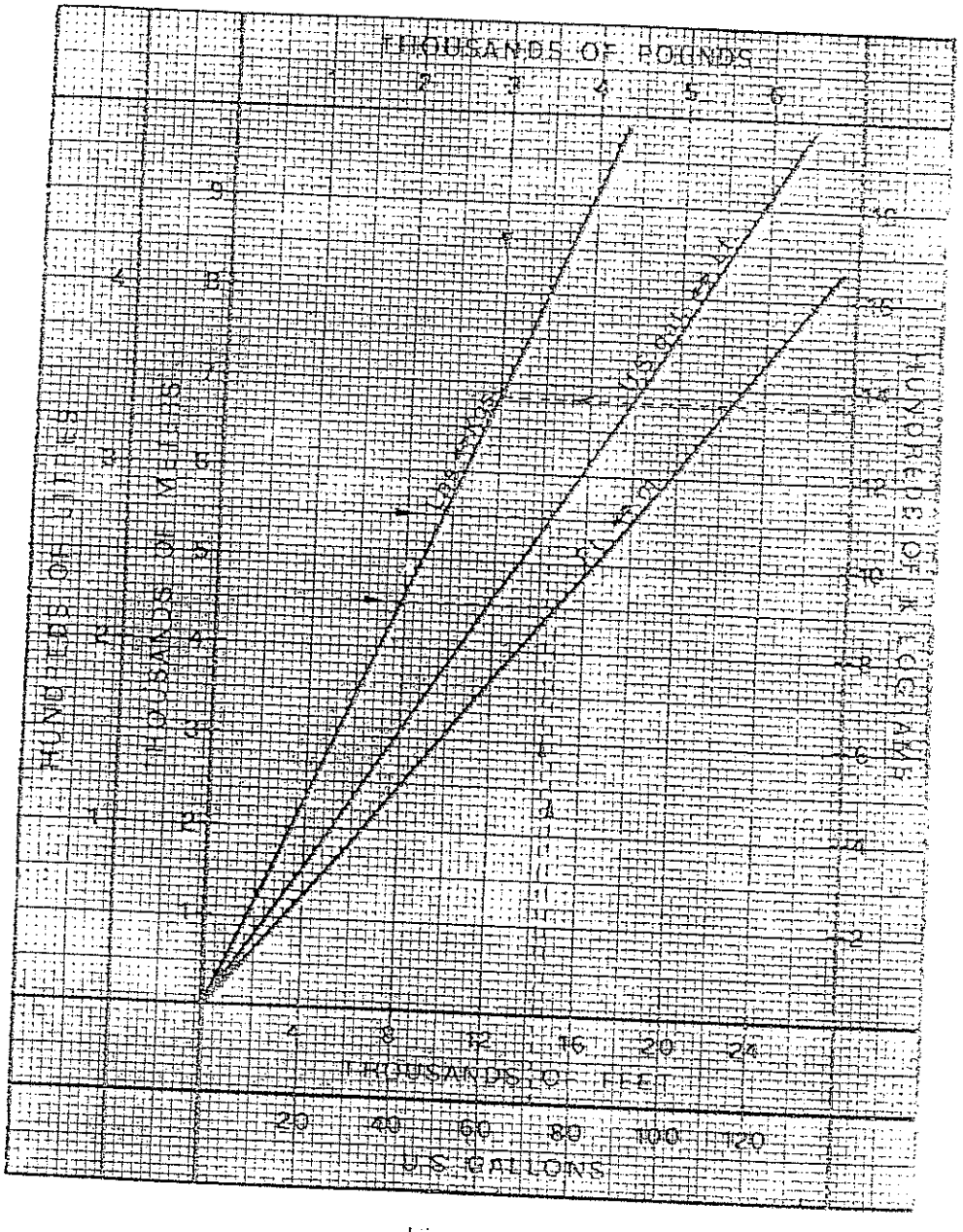


Figure 1.3

SECTION 2

OPERATING LIMITATIONS

TABLE OF CONTENTS

INTRODUCTION

Section 2 of this Manual presents the operating limitations and their significance, instrument markings, color coding, and basic placards necessary for the safe operation of the airplane, its power-plants, standard systems and standard equipment.

NOTE

Refer to Section 7 of this Flight Manual for operating limitations for airplanes equipped with specific options.

Section 2
OPERATING LIMITATIONS

POWERPLANT LIMITATIONS

Number of Engines: 2
Engine Manufacturer: AVCO LYCOMING
Engine Model: IO-360-A1B or IO-360-A1B6
Engine Operating Limits:

a. Maximum power for all operations
   1. 2700 RPM, 200 HP
   2. 475°F Max. Cylinder Head Temperature
   3. 245°F Max. Engine Oil Temperature.

Oil Grade

Single or multi viscosity aviation grade oils, in accordance with the latest issue of Avco Lycoming Service Instruction 1014, should be used. The following seasonal aviation oil grades and seasonal ambient temperature ranges are recommended:

AMBIENT TEMPERATURE	SINGLE VISCOSITY	MULTI VISCOSITY
Above 60°F	SAE 50	SAE 40 or 50
30 to 90°F	SAE 40	SAE 40
0 to 70°F	SAE 30	SAE 40 or 30
Below 10°F	SAE 20	SAE 30

Oil Pressure
   a. Minimum for Idle: 25 PSI
   b. Maximum: 90 PSI

Oil Quantity
   a. Total Capacity: 8 Qts. per engine
   b. Usable: 6 Qts. per engine

Fuel Grade
   a. 100/130 Minimum Grade Aviation Gasoline

Fuel Pressure
   a. Maximum 12 PSI

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Date 23-5-1978

Fuel Quantity

a. 51.5 U.S. Gals. (196 lts.) usable fuel in each tank
b. 2.5 U.S. Gals. (9 lts.) unusable fuel in each tank

Note: Avoid rapid taxi turns before take-off or excessive nose up attitude with 1/4 fuel or less in each tank.

PROPELLER OPERATING LIMITS

a. Number of Propellers: 2
b. Manufacturer: Hartzell
c. Model Number: HC-C2YK-2C ( ) F/FC7666A-4
d. Number of blades: 2
e. Diameter: 72 inches
f. Blade angle range (at 30 in. station)
   1. Low Pitch : 14.2° - 0.2°
   2. Feather : 81.2° - 0.3°

→ Note: For IO-360-A1B engines only, avoid continuous operation between 2100 RPM and 2350 RPM.

POWERPLANT INSTRUMENT MARKINGS

Oil Temperature
   a. Green Arc (Normal) 75 to 245°F
   b. Red Radial (Maximum) 245°F
Oil Pressure
   a. Red Radial (Minimum for Idle) 25 PSI
   b. Green Arc (Normal) 60 to 90 PSI
   c. Red Radial (Maximum) 90 PSI
Cylinder Head Temperature
   a. Green Arc (Normal) 200° to 475°F
   b. Red Radial (Maximum) 475°F
Tachometer
   a. Green Arc (Normal) 550 to 2700 RPM
   b. Red Radial (Maximum) 2700 RPM
   c. Red Arc (for IO-360-A1B only) 2100 to 2350 RPM
Fuel Pressure
   a. Red Radial (Maximum) 12 PSI
Suction
   a. Green Arc (Normal) 4.5 to 5.2 In. Hg

AIRSPEED LIMITATIONS

AIRSPEED LIMITATION TABLE

SPEED	KIAS	REMARKS	KCAS
Maneuvering Speed, V_A	129	Do not make full or abrupt control movements above this speed	125
Maximum Flap Extended Speed V_{FE} 0^o to 17^o 17^o to 30^o 30^o to 35^o	 157 143 101	Do not exceed this speed with the given flap setting	 152 138 99
Minimum Control Speed, V_{MC}	62	This is the lowest speed at which the airplane is controllable with a bank of not more than 5^o when one engine suddenly becomes inoperative and the other engine is operating at Take-off power	60
Never Exceed Speed, V_{NE}	200	Do not exceed this speed in any operation	193
Maximum Structural Cruising Speed, V_{NO}	158	Do not exceed this speed except in smooth air and then only with caution	153

AIRSPEED INDICATOR MARKINGS

MARKING	KIAS VALUE OR RANGE	SIGNIFICANCE
Red Radial	62	Minimum Control Speed
White Arc	60 to 101	Full Flap Operating Range, Lower Limit is maximum weight stalling speed in landing configuration. Upper limit is maximum speed permissible with flaps extended.
Blue Radial	88	One Engine Inoperative Best Rate of Climb Speed.
Green Arc	65 to 158	Normal Operating Range. Lower limit is maximum weight stalling speed with flaps retracted. Upper limit is maximum structural cruising speed.
Yellow Arc	158 to 200	Operations must be conducted with caution and only in smooth air.
Red Radial	200	Maximum speed for all operations.

CROSSWIND

a. Maximum demonstrated crosswind velocity for take-off and landing . . . . . 25 KTS

MANEUVER LIMITS

This is a normal category airplane. Acrobatic maneuvers, including spins, are prohibited.

When above the Manuevering Speed (129 KIAS), the controls must not be fully deflected.

FLIGHT LOAD FACTOR LIMITS

At the Maximum Gross Weight of 4321 Pounds:

a. Flaps 0°: + 3.80 g to — 1.52 g
b. Flaps 35°: + 2.00 g to — 0.80 g

WEIGHT AND CENTER OF GRAVITY LIMITS

Weight Limits

a. Maximum Take-off Weight: 4321 Pounds.
b. Maximum Landing Weight: 4100 Pounds.

Center of Gravity Limits (see figure 2-1)

a. Aft Limit:
   20.7 inches (34% M.A.C.) aft of Datum at all weights.
b. Forward Limits:
   12.8 inches (21% M.A.C.) aft of Datum at 4321 Pounds.
   10.2 inches (16.8% M.A.C.) aft of Datum at 3527 Pounds or less with straight line variation between these points.

Datum location is at wing leading edge.

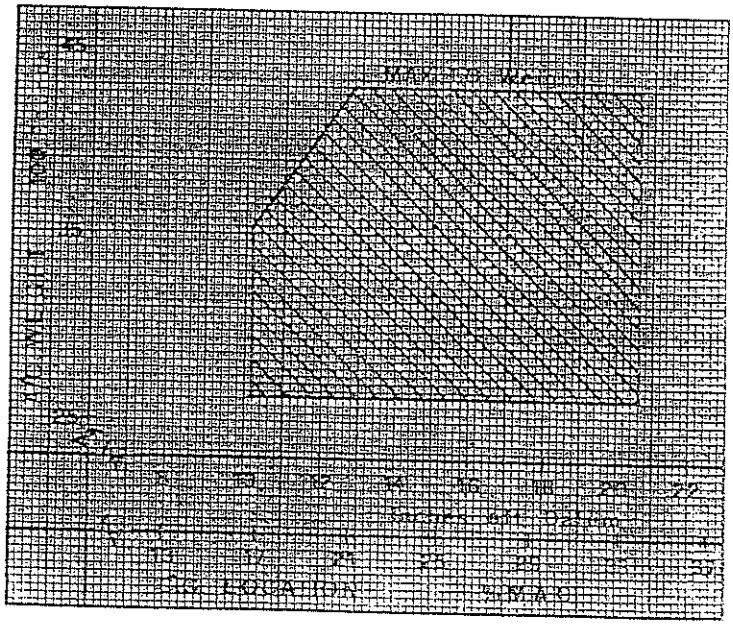


Figure 2-1

FLIGHT CREW AND MAXIMUM PASSENGER SEATING LIMITS

a. The minimum flight crew is one pilot.
b. The total number of persons carried in the airplane should not exceed the number of seats, equipped with safety belts, and in any case should not exceed seven (two in the 1st row, two in the 2nd row and three on the bench-seat).

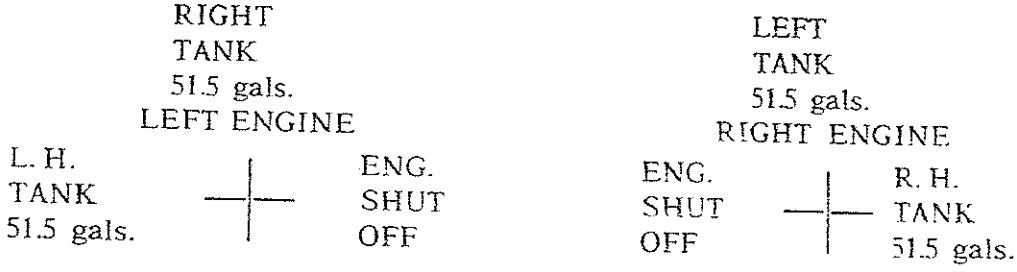
PLACARDS

On Emergency Window

a. « EMERGENCY EXIT »
« 1. PULL LOWER HANDLE
2. SLIDE UPPER LEVER RIGHT
3. PUSH WINDOW OUT »

Near Fuel Selector Valves:

a. « TAKE-OFF AND LAND WITH AUXILIARY FUEL PUMPS ON »
b.



On front Panel-Left Side:

a. « OPERATIONAL LIMITS »
« This Airplane must be operated as a NORMAL Category Airplane in compliance with the operating limitations stated in the form of placards, markings and Manuals.
No acrobatic Maneuvers, including spins, approved.
Minimum Single Engine Control Speed: 62 KIAS
Maneuvering Speed: 129 KIAS
Demonstrated Crosswind Velocity for Take-off and Landing: 25 kts
One Engine Inoperative Stall:
Max. Altitude Loss: 600 ft
Max. Pitch Angle: 30° ».

b. « WARNING

— Do not lower flaps with cargo door open.
— Expect large trim change with flaps.
— Maximum flaps extension speed:
0° - 17° : 157 KIAS
17° - 30° : 143 KIAS
30° - 35° : 101 KIAS

c. « PARKING BRAKE - To apply brakes, depress rudder pedals and pull knob then release pedal pressure.
To release the brakes, push knob ».

On Instrument Panel:

a. « Stall warning inoperative with battery and alternators OFF »
b. « VFR »
« IFR »
« DAY » or « NIGHT » as applicable
c. Calibration placard of the magnetic compass
d. « WARNING - When flying in high humidity environment and at freezing temperature, open the engine alternate air doors »
e. « WARNING - Avoid rapid taxi turns before take-off or excessive nose up attitude with 1/4 fuel or less in each tank »
f. « Flight in known icing conditions prohibited »
g. « To avoid optical illusion and severe vertigo, turn anti-collision lights OFF upon entering clouds, fog or haze ».

On Electrical Panel:

a. « When starting on external power select « OFF » both alternators and battery ».

On Aft Cabin Wall:

a. « Maximum baggage capacity: 400 pounds
maximum distributed load on cabin and cargo floor: 200 lb/sq. ft ».

On Engine Control Pedestal:

a. « OPEN - THROTTLE - CLOSED »
b. « INCR. - PROPELLER - RPM - DECR. - FEATHER »
c. « RICH - MIXTURE - LEAN - IDLE CUT-OFF »
d. Near Stabilator Trim Control:
« NOSE DOWN - NOSE UP »

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Date 23-5-1978

e. Near Rudder Trim Control:
« L - O - R »
f. On Rudder Trim Control:
« L - NOSE - R »

On the door:
a. « OPEN - LOCKED »

Near Each Fuel Filler Cap:
a. « Full Tank Capacity 54 U.S. Gal.
— 100/130 minimum grade aviation gasoline ».

Near the Oil Filler Cap:
a. « Oil - 8 Qts. capacity ».

SECTION 3

EMERGENCY PROCEDURES

TABLE OF CONTENTS

INTRODUCTION

This Section of the Flight Manual describes the approved procedures for emergency situations.

NOTE

Refer to Section 7 of this Flight Manual for emergency procedures for airplanes equipped with specific options.

ENGINE INOPERATIVE PROCEDURES

a. **ENGINE FAILURE DURING TAKE-OFF - SPEED BELOW 62 KIAS**
1. Throttles - CLOSE IMMEDIATELY.
2. Brakes - AS REQUIRED.

b. **ENGINE FAILURE DURING TAKE-OFF - SPEED ABOVE 62 KIAS RUNWAY STILL AVAILABLE FOR LANDING**
1. Cut Power
2. Maintaining direction, land directly.

c. **ENGINE FAILURE DURING TAKE-OFF - SPEED ABOVE 62 KIAS NO RUNWAY AVAILABLE FOR LANDING**
1. Mixtures - FULL RICH.
2. Propellers - FULL FORWARD.
4. Establish Best Angle-of-Climb Speed V_x 76 KIAS and bank 5° towards operative engine.
5. Inoperative engine:
   (1) Throttle - CLOSE;
   (2) Propeller - FEATHER;
   (3) Mixture - IDLE CUT-OFF.
6. Flaps - RETRACT (if extended).
7. Best Rate-of-Climb Speed V_y 88 KIAS.
8. Trim Tabs - ADJUST
9. Inoperative Engine - SECURE as follows:
   (1) Fuel Selector - ENG. SHUT-OFF;
   (2) Auxiliary Fuel Pump - OFF;
   (3) Magneto Switches - OFF;
   (4) Alternator - OFF.
10. As soon as practical - LAND.

d. **PROCEDURE FOR BEST PERFORMANCE AFTER ENGINE FAILURE DURING CRUISE FLIGHT**
1. Inoperative Engine - SECURE.
2. Operative Engine - ADJUST as required.
3. Trim Tabs - ADJUST.
4. Fuel Valves Position:
   (1) Inoperative Engine - ENG. SHUT-OFF;
   (2) Operative Engine - ON (see also Crossfeed Procedure).
5. Electrical Load - DECREASE to minimum required.
6. As soon as practical - LAND.

c. ENGINE INOPERATIVE LANDING

1. Operative Engine:
   (1) Fuel Selector - ON;
   (2) Mixture - FULL RICH;
   (3) Propeller - FORWARD;
2. Flaps - EXTEND 15°
3. Approach Speed - 90 KIAS
4. Flaps - FULL DOWN only when Landing assured.
5. Speed - BELOW 90 KIAS only when Landing assured.

f. ENGINE INOPERATIVE GO AROUND

1. Power - 2700 RPM and FULL THROTTLE
2. Flaps - UP or 15° if extended
3. Trim - ADJUST for Climb with 5° bank toward operative Engine
4. Speed - Best Angle of Climb - 76 KIAS
5. Speed - Best Rate of Climb - 88 KIAS

g. ENGINE RESTART IN FLIGHT

1. Fuel Selector - ON.
2. Magneto Switches - ON.
3. Auxiliary Fuel Pump - ON.
4. Throttle - FORWARD approximately 1/2 inch.
5. Propeller - FULL FORWARD.
6. Mixture - RICH, until a fuel flow is indicated, then IDLE CUT-OFF.
7. Starter - PRESS; when engine fires, RELEASE Starter and move Mixture toward FULL RICH (The Mixture Lever should be advanced in function of the Altitude).
8. Auxiliary Fuel Pump - OFF.
9. Alternator - ON.

NOTE

If start is unsuccessful, turn inoperative engine magneto switches OFF, retard mixture to IDLE CUT-OFF, open throttle fully, and engage starter for several revolutions. Then repeat restart in flight procedure.

h. FUEL CROSSFEED PROCEDURE

1. Right Tank to Left Engine (Right Engine Shut-Off):
   (1) L/H Fuel Selector - RIGHT TANK;
   (2) R/H Fuel Selector - ENG. SHUT-OFF.

2. Left Tank to Right Engine (Left Engine Shut-Off):
   (1) R/H Fuel Selector - LEFT TANK;
   (2) L/H Fuel Selector - ENG. SHUT-OFF.
3. Right Tank to Both Engines:
   (1) R/H Fuel Selector - RIGHT TANK;
   (2) L/H Fuel Selector - RIGHT TANK.
4. Left Tank to Both Engines:
   (1) R/H Fuel Selector - LEFT TANK;
   (2) L/H Fuel Selector - LEFT TANK.

i. FUEL SYSTEM INDEPENDENCE

To render right side fuel system completely independent from left side fuel system, position each fuel selector on to corresponding tank.

FLIGHT INSTRUMENTS-EMERGENCY PROCEDURES

a. VACUUM SYSTEM (Attitude and Directional Gyros)
   1. Red Indicator on Gage will show Failure.
   2. Automatic Valve will select Operative Source.

b. STATIC ALTERNATE AIR DOOR ACTUATION

In the event of ice, foreign matter or other causes obstructing the external static doors, actuate the alternate air control located on the left hand side of the engine pedestal.
The corrections of Altitude and Airspeed do not exceed —30 ft. and —4 kts respectively.

ELECTRICAL SYSTEM EMERGENCY PROCEDURES

a. ONE ALTERNATOR FAILURE LIGHT COMES ON
   1. Check output of affected alternator;
   2. If output is normal, disregard light and have the system checked after Landing;
   3. If output is zero, insufficient or fluctuating, switch OFF the Alternator and PULL the related Breaker.

b. BOTH ALTERNATOR FAILURE LIGHTS COME ON
   1. Electrical Load - REDUCE.
   2. Left Alternator:
      (1) Check output;

(2) If output is normal, disregard left alternator Failure Light and have the system checked after Landing;
(3) If output is zero, insufficient or fluctuating, switch OFF left alternator and PULL the related breaker.

3. Right Alternator:
(1) Check output;
(2) If output is normal, disregard left alternator Failure Light and have the system checked after Landing;
(3) If output is zero, insufficient or fluctuating, switch OFF right alternator and PULL the related breaker.

WARNING

IF BOTH ALTERNATORS HAVE BEEN SWITCHED OFF, REDUCE THE ELECTRICAL LOADS TO THE MINIMUM REQUIRED AND PREPARE TO TERMINATE THE FLIGHT.

SPINS

All spins are prohibited, however in the event an unintentional spin is encountered, recovery can be accomplished by immediately using the following procedure:

1. Retard both throttles to the idle position.
2. Apply full rudder in the opposite direction to the spin.
3. Push control wheel full forward.
4. Maintain controls in these positions until the spin stops. Then neutralize rudder.
5. Recover from dive with smooth back pressure in the control wheel. No abrupt control movement should be used during recovery from the dive, as the maneuvering speed and positive limit maneuvering load factor may be exceeded.

NOTE

The airplane has not been flight tested in spins, thus the above recommended procedure is based entirely on Partenavia's best judgment.

SECTION 4

NORMAL PROCEDURES

TABLE OF CONTENTS

INTRODUCTION

This Section of the Flight Manual describes the recommended procedures for the conduct of normal operations.

NOTE

Refer to Section 7 of the Flight Manual for normal procedures for airplanes equipped with specific options.

PRE-FLIGHT INSPECTION

1. Check for general serviceability and cleanliness of all external surfaces, intakes and aerials; accumulated frost or snow must be adequately removed.
2. Check security of access panels and fuel tank caps.
3. Inspect de-icer boots (if fitted) for damage.
4. Examine oleo gear for obvious pressure faults and inspect tires for creeping and conditions; check the brake hoses for general serviceability and look for signs of fluid leakage in this area.
5. See that all external locks and covers are removed and stowed.

CAUTION

If fluid de-frosting preparations are used to clear ice and snow from wing and tail surfaces, ensure that the solutions do not contaminate the control surface ball bearings as this leads to seizure.

BEFORE ENGINE STARTING

1. Preflight Inspection - COMPLETE
2. Cabin Door - LATCHED
3. Seat, Seat Belts and Shoulder Harness - ADJUST and SECURE
4. Brakes - TEST and SET
5. Circuit Breakers - IN
6. All Switches - OFF
7. Avionics - OFF
8. Auxiliary Fuel Pumps - OFF
9. Altimeter and Clock - SET
10. Throttles - OPEN 1/2 INCH.
11. Propellers - FULL FORWARD
12. Mixtures - IDLE CUT-OFF
13. Light Dimming Switches - AS REQUIRED
14. Fuel Selectors: RH. ENG. - RH. TANK/LH. ENG. - LH. TANK
15. Alternate Air Controls - OFF
16. Battery - ON; Check Fuel Quantity and then OFF.

ENGINE STARTING (LEFT ENGINE FIRST)

a. WITH A/C BATTERY

1. Battery and Alternators - ON
2. Anticollision Light - ON

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3. Left Magneto Switch - ON
4. Auxiliary Fuel Pump - ON
5. Mixture Control - RICH until a stabilized fuel flow is indicated, then IDLE CUT-OFF
6. Propeller - CLEAR
7. Starter - ENGAGE
8. Mixture Control - ADVANCE as engine starts.
9. Magneto Switches - ON.
10. Oil Pressure - CHECK to see that the oil pressure rises within 30 seconds (except in very cold weather, when it may take somewhat longer). If the oil pressure gage does not show an indication, shut down the engine and have it checked.
11. Auxiliary Fuel Pump - OFF.
12. Throttle - 1000 RPM
13. Right Engine - START - Repeat steps 3 through 12.
14. Alternators - CHECK.

b. **WITH EXTERNAL POWER**

1. Battery and Alternators - OFF.
2. External Power Source - ATTACH.
3. Anticollision Light - ON.
4. Left Magneto Switch - ON.
5. Auxiliary Fuel Pump - ON.
6. Mixture Control - RICH until a stabilized fuel flow is indicated, then IDLE CUT-OFF
7. Propeller - CLEAR.
8. Starter - ENGAGE.
9. Mixture Control - ADVANCE as engine starts.
10. Magneto Switches - ON.
11. Oil Pressure - CHECK to see that the oil pressure rises within 30 seconds (except in very cold weather, when it may take somewhat longer). If the oil pressure gage does not show an indication, shut down the engine and have it checked.
12. Auxiliary Fuel Pump - OFF.
13. Throttle - 1000 RPM.
14. Right Engine - START; repeat steps 4 through 13.
15. External Power Source - REMOVE.

16. Battery - ON.
17. Alternators - ON and CHECK.

BEFORE TAXIING

1. Wing Flaps - CHECK full Range and then UP.
2. Avionics - SET.
3. Lights - AS REQUIRED.
4. Brakes - RELEASE.

TAXIING

1. Throttles - AS REQUIRED.
2. Brakes - CHECK.
3. Rate Gyros - CHECK.

ENGINES RUN-UP

1. Parking Brake - SET.
2. Fuel Selectors: RH. ENG. - RH. TANK/LH. ENG. - LH. TANK
3. Auxiliary Fuel Pumps - OFF.
4. Mixture - FULL RICH.
5. Propellers - FULL FORWARD.
6. Alternate Air - OFF.
7. Throttles - 1200 RPM.
8. Left Engine:
   (1) Throttle - FORWARD to 1500 RPM;
   (2) Alternate Output - CHECK;
   (3) Vacuum Gage - CHECK 4.5 to 5.2 inches Hg;
   (4) Propeller - CHECK feathering to 1000 RPM; return to high RPM;
   (5) Mixture - CHECK;
   (6) Alternate Air - ON, then OFF again;
   (7) Throttle - FORWARD to 2100 RPM;
   (8) Magnetos - CHECK 175 RPM, maximum drop with a maximum differential of 50 RPM - Normal drop: 100 RPM;
   (9) Throttle - 1200 RPM;
9. Right Engine - Repeat steps 8.(1) through 8.(9).

BEFORE TAKE-OFF

1. Flight Instruments - CHECK and SET
2. Engine Gages - CHECK green Arc
3. Wing Flaps - SET for Take-Off
4. Rudder Trim - SET
5. Stabilator Trim - SET for Take-Off (white Arc)
6. Auxiliary Fuel Pumps - ON
7. Seat Belts - FASTENED
8. Flight Controls - CHECK, free and correct
9. Mixture - FULL RICH
10. Propellers - FULL FORWARD
11. Alternate Air - OFF
12. Quadrant Friction - ADJUSTED

WARNING

WHEN FLYING IN HIGH HUMIDITY ENVIRONMENT AND AT FREEZING TEMPERATURE, OPEN THE ENGINE ALTERNATE AIR DOORS.

TAKE-OFF

1. Power - 2700 RPM and FULL THROTTLE
2. Air Minimum Control Speed - 62 KIAS
3. Stabilator Control - Raise Nose Wheel at 65 KIAS
4. Best Angle of Climb Speed - 76 KIAS

CLIMB

1. Wing Flaps - RETRACT at safe Altitude
2. Auxiliary Fuel Pumps - OFF at safe Altitude
3. Maximum Climb Power - 2700 RPM and FULL THROTTLE
4. Best Rate of Climb Speed - 90 KIAS

CRUISE

1. Throttles - SET
2. Propellers - SET
3. Mixtures - SET
4. If Auxiliary Fuel Tanks are installed, transfer when Main Tank Fuel Quantity Indicator reads half tank.

BEFORE LANDING

1. Fuel Selectors: RH. ENG. - RH. TANK/LH. ENG. - LH. TANK
2. Auxiliary Fuel Pumps - ON
3. Mixtures - FULL RICH
4. Propellers - FULL FORWARD
5. Wing Flaps - DOWN 15° below 157 KIAS
6. Wing Flaps - DOWN 30° below 143 KIAS
7. Wing Flaps - DOWN 35° below 101 KIAS
8. Approach Speed - 76 KIAS Minimum
9. Air Minimum Control Speed - 62 KIAS.

BALKED LANDING

1. Power - 2700 RPM and FULL THROTTLE
2. Balked Landing Transition Speed - 76 KIAS
3. Flaps - REDUCE to 15°
4. Trim - ADJUST for Climb
5. Flaps - RETRACT when all Obstacles are cleared and a safe Altitude and Airspeed are obtained.

AFTER LANDING

1. Auxiliary Fuel Pumps - OFF
2. Wing Flaps - UP
3. Unnecessary Avionics - OFF.

SECURING AIRCRAFT

1. Parking Brake - SET
2. Avionics - OFF
3. All Switches, except Battery, Alternator and Magneto Switches - OFF
4. Throttles - IDLE
5. Propellers - FORWARD
6. Mixtures - IDLE CUT-OFF
7. Magneto Switches - OFF after Engines stop
8. Battery and Alternators - OFF
9. Fuel Selectors - OFF
10. Control Locks - INSTALL.

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SECTION 5

PERFORMANCE

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NOTE

Refer to Section 7 of the Flight Manual for performances for airplanes equipped with specific options.

Section 5
PERFORMANCE

INTRODUCTION

Performance data charts presented in this Section may be used, to know what to expect from aircraft under various conditions, and also to facilitate the planning of flights with reasonable accuracy. The data on graphical and tabular charts have been averaged from actual flight tests, with the aircraft and engines in good condition, and using average piloting techniques.

NOTE:

Performance loss should be expected when incorporating external modifications causing a significant increase in the aerodynamic drag.

SAMPLE PROBLEM

CONDITIONS

AIRPLANE

Airplane Weight	4200 Pounds
Usable Fuel Load	370 Pounds

TAKE-OFF

Airport Altitude	2000 Feet
Temperature	21°C (I.S.A. + 10°C)
Wind Component along runway	5 Kts.-Tailwind

CRUISE

Total required Distance	400 n.m.
Altitude	6000 Feet
Temperature	3°C (I.S.A.)

LANDING

Airport Altitude	2000 Feet
Temperature	21°C (I.S.A. + 10°C)
Wind Component along runway	10 Kts.-Headwind

PROCEDURE

TAKE-OFF

The measured take-off distances are reported in figure 5-5 as a function of ambient temperature, including variations for weight change and wind influence.

These distances are related to HARD RUNWAYS (friction coefficient

of 0.05) and they increase up to 25% when operating from a grass surface (friction coefficient of 0.1).

In this particular sample problem:

(1) enter Figure 5-5 at 21°C Temperature;
(2) proceed horizontally to the 2000 feet airport altitude line;
(3) proceed vertically down to the reference line;
(4) follow the slope of the adjacent take-off lines until intersecting the horizontal 4200 Pounds line;
(5) proceed vertically downwards to the reference line;
(6) follow the slope of the adjacent take-off lines until intersecting the horizontal 5 kts tailwind line;
(7) proceed vertically to obtain the total required take-off distance (1680 Feet).

NOTE: The take-off run will not exceed 60% of the take-off distance.

RATE-OF-CLIMB — MAXIMUM CLIMB

(1) Enter Figure 5-6 at 2000 Feet-Altitude;
(2) proceed horizontally right up to the Rate-of-Climb line at I.S.A. +10°C;
(3) proceed vertically downwards to the reference line;
(4) follow the slope of the adjacent Rate-of-Climb lines until intersecting the horizontal 4200 Pounds line;
(5) proceed vertically to obtain the initial Rate-of-Climb (1460 FPM).

RATE-OF-CLIMB — CRUISE CLIMB

(1) Enter Figure 5-7 at 2000 Feet-Altitude;
(2) proceed horizontally right up to the Rate-of-Climb line at I.S.A. +10°C;
(3) proceed vertically downwards to the reference line;
(4) follow the slope of the adjacent Rate-of-Climb lines until intersecting the horizontal 4200 Pounds line;
(5) proceed vertically to obtain the Rate-of-Climb (1260 FPM).

RATE-OF-CLIMB — SINGLE ENGINE

(1) Enter Figure 5-8 at 2000 Feet-Altitude;
(2) proceed horizontally right up to the Rate-of-Climb line at I.S.A. + 10°C;
(3) proceed vertically downwards to the reference line;
(4) follow the slope of the adjacent Rate-of-Climb lines until intersecting the horibontal 4200 Pounds line;
(5) proceed vertically to obtain the Rate-of-Climb (240 FPM).

TIME, FUEL AND DISTANCE TO CLIMB — CRUISE CLIMB

Time, Fuel and Distance to Climb are determined by finding the difference between the airport and cruise conditions; thus, the indicated procedure must be followed twice: one for the airport conditions and the second for the cruise conditions.

(1) Enter Figure 5-11 at the given Altitude (Airport or Cruise);
(2) proceed horizontally up to the Time-to-Climb line at given temperature;
(3) proceed vertically up to the reference line;
(4) follow the slope of the adjacent Time-to-Climb lines until intersecting the horizontal 4200 Pounds line;
(5) proceed vertically until intersecting the horizontal (given) Altitude line;
(6) interpolate the value of the required Fuel-to-Climb;
(7) proceed vertically to read the required Time-to-Climb;
(8) Enter Figure 5-12 at the given Altitude;
(9) proceed horizontally up to the Distance line at the given temperature;
(10) proceed vertically up to the reference line;
(11) follow the slope of the adjacent Distance-to-Climb lines until intersecting the horizontal 4200 Pounds line;
(12) proceed vertically to read the required Distance-to-Climb.

In this sample problem the calculation supplies the following results:

Airport Time-to-Climb	1.8 minutes
Airport Fuel-to-Climb	3.5 pounds
Airport Distance-to-Climb	= 2.4 nautical miles
Cruise Time-to-Climb	= 5.2 minutes
Cruise Fuel-to-Climb	= 11.2 pounds
Cruise Distance-to-Climb	8 nautical miles
Time-to-Climb	= 5.2-1.8 = 3.4 minutes
Fuel-to-Climb	= 11.2-3.5 = 7.7 pounds
Distance-to-Climb	= 8.0-2.4 = 5.6 nautical miles

For total fuel used add 20 pounds for start, taxi and take-off.

TIME, FUEL AND DISTANCE TO CLIMB-MAXIMUM CLIMB

If the values of the Time, Fuel and Distance to Climb are required in maximum power conditions, the figure 5-9 and 5-10 must be used with the same procedure of the previous paragraph.

CRUISE PERFORMANCE — BEST ECONOMY MIXTURE

The power setting selection for cruise must be determined on the basis of the required and available fuel load.
In this sample problem, with a cruise altitude of 6000 feet (I.S.A. Temperature) and distance of 400 n.m., the figure 5-13 shows:

Percent Power = 65.5 (at 2350 RPM and 22"Hg)
T.A.S. = 149 knots
Fuel Flow = 109 pounds per hour

The required Fuel Load must be calculated as follows:

Distance during cruise = Total distance-Climb distance-Descent distance
= 400 - 5.6 - 24.4
= 370.0 nautical miles

Fuel to Cruise = (Distance during Cruise/T.A.S.) x Fuel Flow
= (370/149) x 109
= 270.7 Pounds

Total Required Fuel Load = Fuel to Cruise + Fuel to Climb + Fuel to descent
= 270.7 + 27.7 + 8.0
= 306.4 Pounds

Reserve Fuel = Usable Fuel Load-Total Required Fuel Load
= 370 - 306.4
= 63.6

The reserve Fuel must be greater than 60 Pounds to allow minimum 45 minutes of Reserve at 45% Power (2200 RPM).

TIME, FUEL AND DISTANCE TO DESCENT

Time, Fuel and Distance to Descent are determined by finding the difference between the cruise and the landing airport conditions; thus the indicated procedure must be followed twice: one for the cruise conditions and the second for the airport landing conditions.

(1) Enter figure 5-16 at the given Altitude (Cruise or Airport);
(2) proceed vertically up to Time to Descent line relating to selected R/S and read the required Time to Descent;

(3) proceed vertically to Fuel to Descent line relating to selected R/S and read the required Fuel to Descent;
(4) proceed vertically up to Distance to Descent line relating to selected R/S and read the required Distance to Descent.

In this sample problem the calculation supplies the following results, with a selected R/S of 500 FPM:

Airport Landing Time to Descent	=	4.0 minutes
Airport Landing Fuel to Descent		3.5 pounds
Airport Landing Distance to Descent	=	12.1 nautical miles
Cruise Time to Descent		12.5 minutes
Cruise Fuel to Descent	=	11.5 pounds
Cruise Distance to Descent		36.5 nautical miles
Time to Descent	=	12.5-4 = 8.5 minutes
Fuel to Descent	=	11.5-3.5 = 8.0 pounds
Distance to Descent	=	36.5-12.1 = 24.4 nautical miles

LANDING

The measured Landing distances (over 50 Feet obstacle) are reported in figure 5-17 as a function of Ambient Temperature including variations for weight change and wind influence.
These Distances are related to HARD RUNWAYS. Increments of 12% should be applied when operating from a grass surface.
In this sample problem:

(1) enter Figure 5-17 at 21°C Temperature;
(2) proceed horizontally right to the 2000-foot Airport Altitude line,
(3) proceed vertically down to the reference line;
(4) follow the slope of the adjacent Landing distance lines until intersecting the horizontal 3906 Pounds (Foreseen Landing Weight = T.O. Weight - Total Required Fuel Load) line;
(5) proceed vertically down to the reference line;
(6) follow the slope of the adjacent Landing distance lines until intersecting the horizontal 5 kts Headwind line;
(7) proceed vertically to read the required Landing Distance (1360 Feet).

NOTE:

For the convenience of the User, the Figures 5-18, 5-19 and 5-20 show the PAYLOAD Vs. RANGE Graph for 75%, 65% and 55% Rated Power.

Section 5
PERFORMANCE

NOISE LEVEL

In conformity with ICAO annexe 16 regulations, the maximum noise level p
mitted for the P 68B at its certified gross weight of 1990 Kgs. (4387 Pounds)
80 dB(A).
The noise level determined according to the prescribed rules and conditions f
the P 68B is 76.8 dB(A).
The C. of A. of P 68B S/N ..... has therefore been issued with noise certific
tion statement according to annexe 16.

AIRSPEED CALIBRATION

a. A.S.I. SYSTEM ERROR Vs. I.A.S.

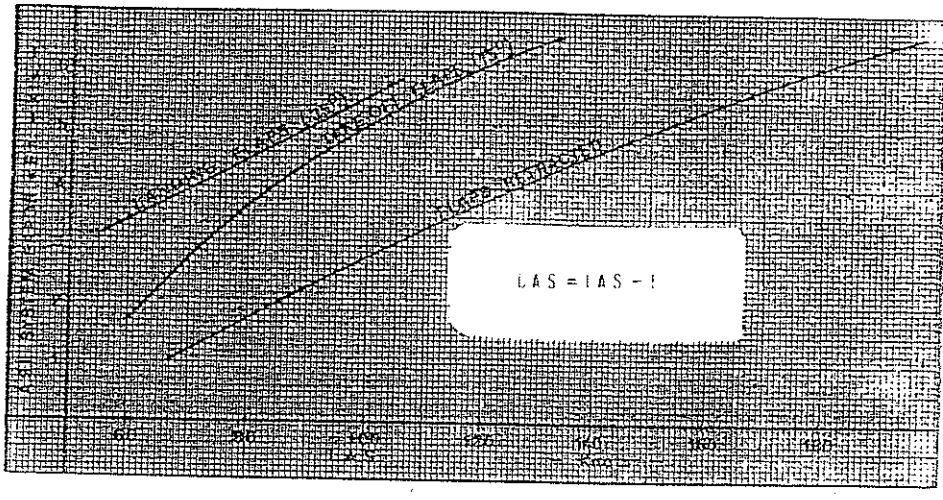


Figure 5-1

b. A.S.I. SYSTEM ERROR Vs. C.A.S.

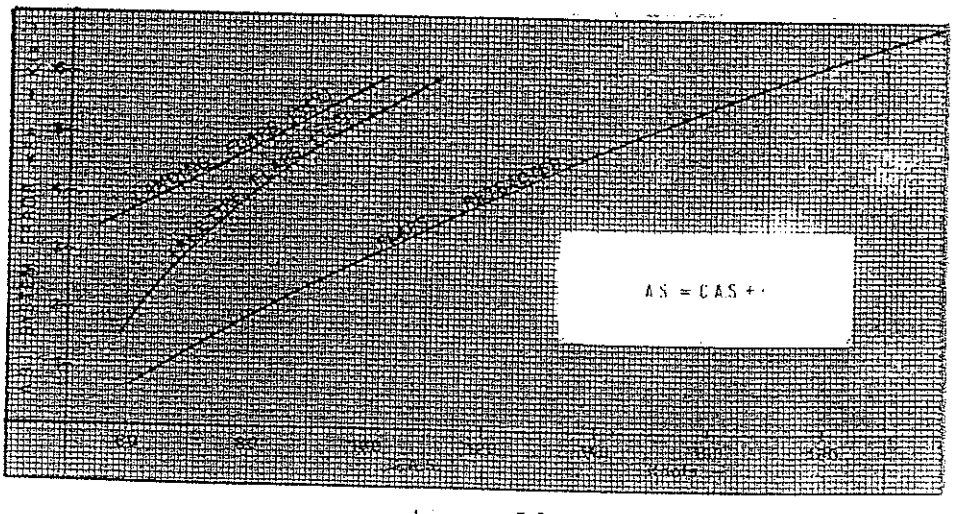


Figure 5-2

ALTIMETER CORRECTION

The maximum value of the static error correction to be applied to the a
meter reading does not exceed 30 feet.

TEMPERATURE CONVERSION

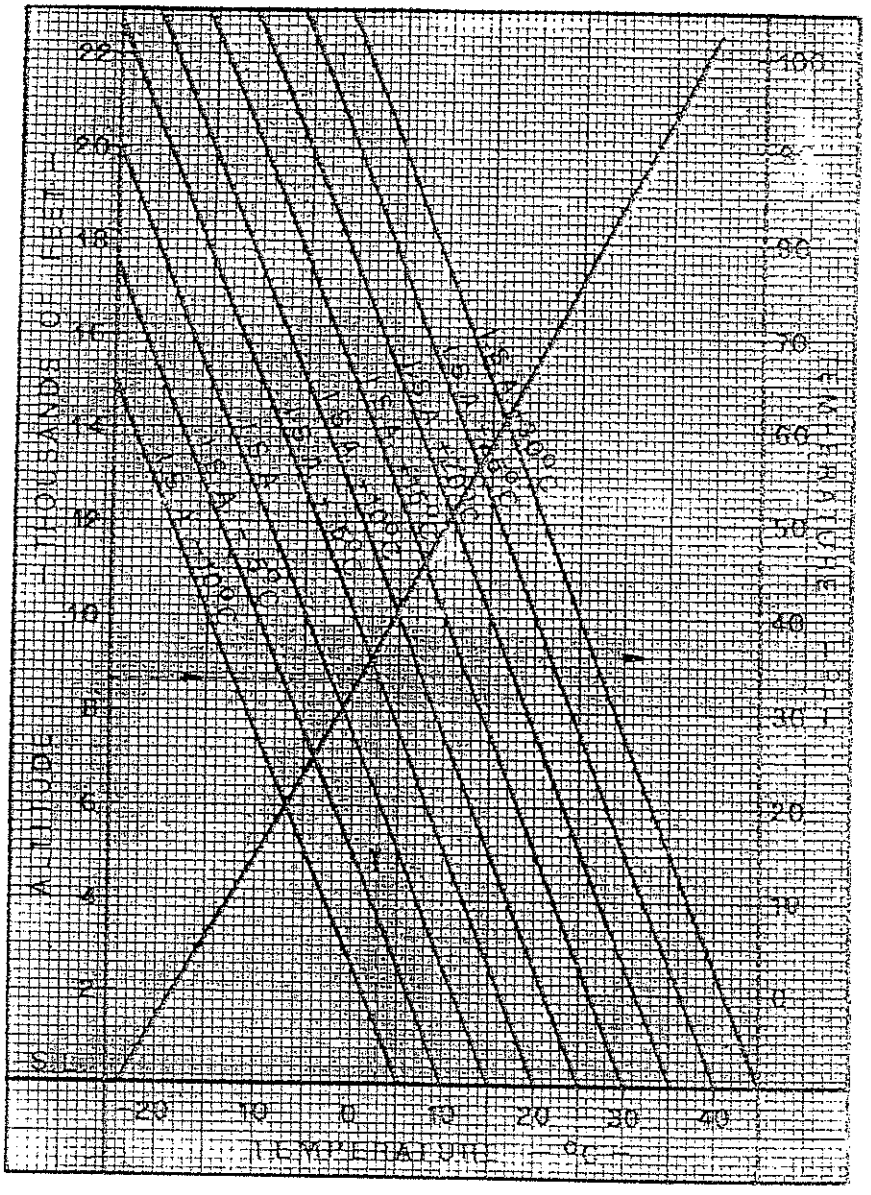


Figure 5.3

STALL SPEEDS

CONDITIONS:

Throttles - IDLE.

NOTE:

1. Maximum altitude loss experienced during conventional stalls is 120 feet
2. Maximum altitude loss experienced during one engine inoperative stalls is 600 feet.

WEIGHT Pounds	FLAPS	ANGLE OF BANK							
		0°		20°		40°		60°	
		KIAS	KCAS	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
4321	0°	65	64	67	66	75	73	94	91
	15°	62	60	64	62	72	69	89	85
	35°	60	56	62	58	68	64	84	79
4200	0°	64	63	66	65	73	72	92	89
	15°	61	59	63	61	71	68	88	84
	35°	59	55	61	57	67	63	83	78
4000	0°	63	62	65	64	71	70	90	87
	15°	60	58	62	60	69	66	86	82
	35°	58	54	60	56	66	62	81	76
3800	0°	61	60	63	62	70	69	87	85
	15°	57	56	60	58	66	64	84	80
	35°	56	53	58	54	64	60	79	74
3600	0°	59	58	61	60	68	67	85	83
	15°	56	55	58	57	65	63	82	78
	35°	54	51	56	53	62	58	76	72

WIND COMPONENT

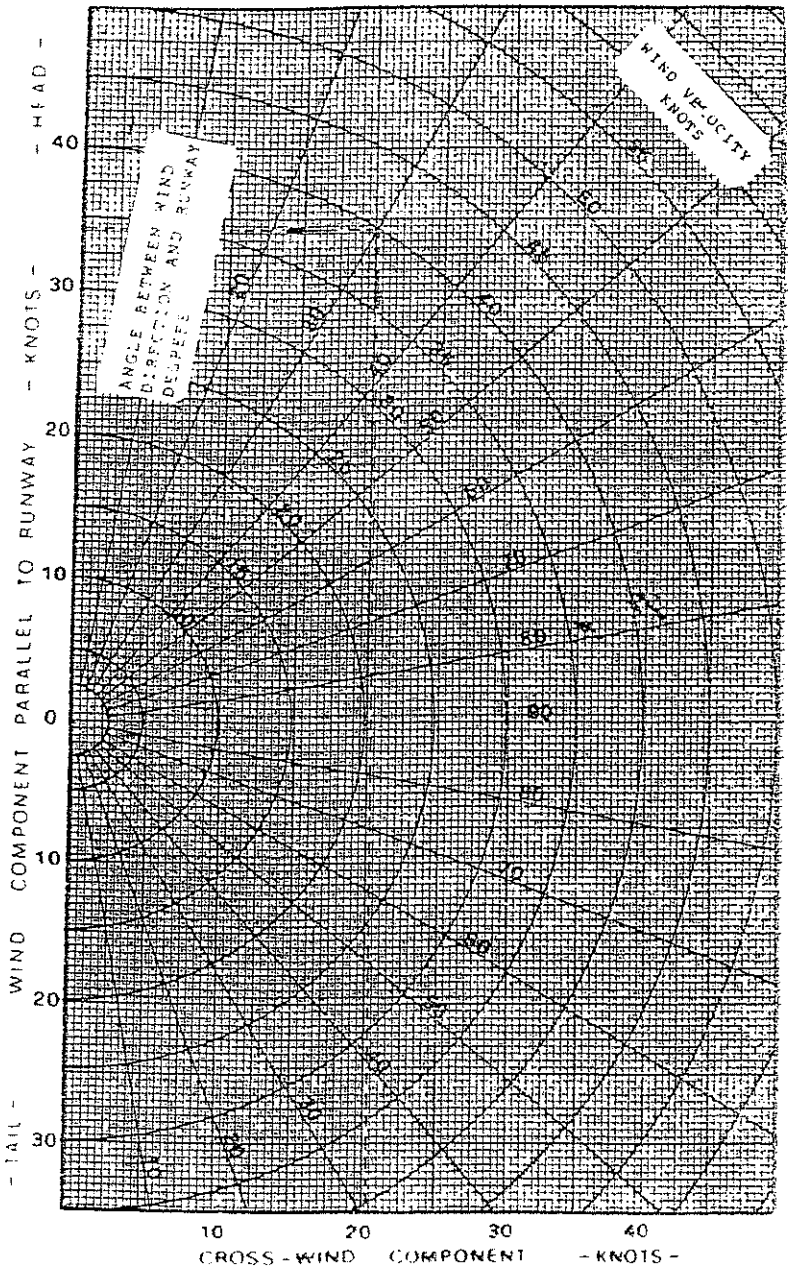


Figure 5-4

TAKE-OFF DISTANCE BOTH ENGINES OPERATING

CONDITIONS:

1. 2700 RPM and Full Throttle, before brake release
2. Flaps: 15°
3. Level, Hard Surface, Dry Runway
4. Speed over 50 ft obstacle - 72 KIAS.

NOTE:

The Ground Run is approx. 60% of T.O. Distance. Increase Ground Run 25% when operating from a grass surface.

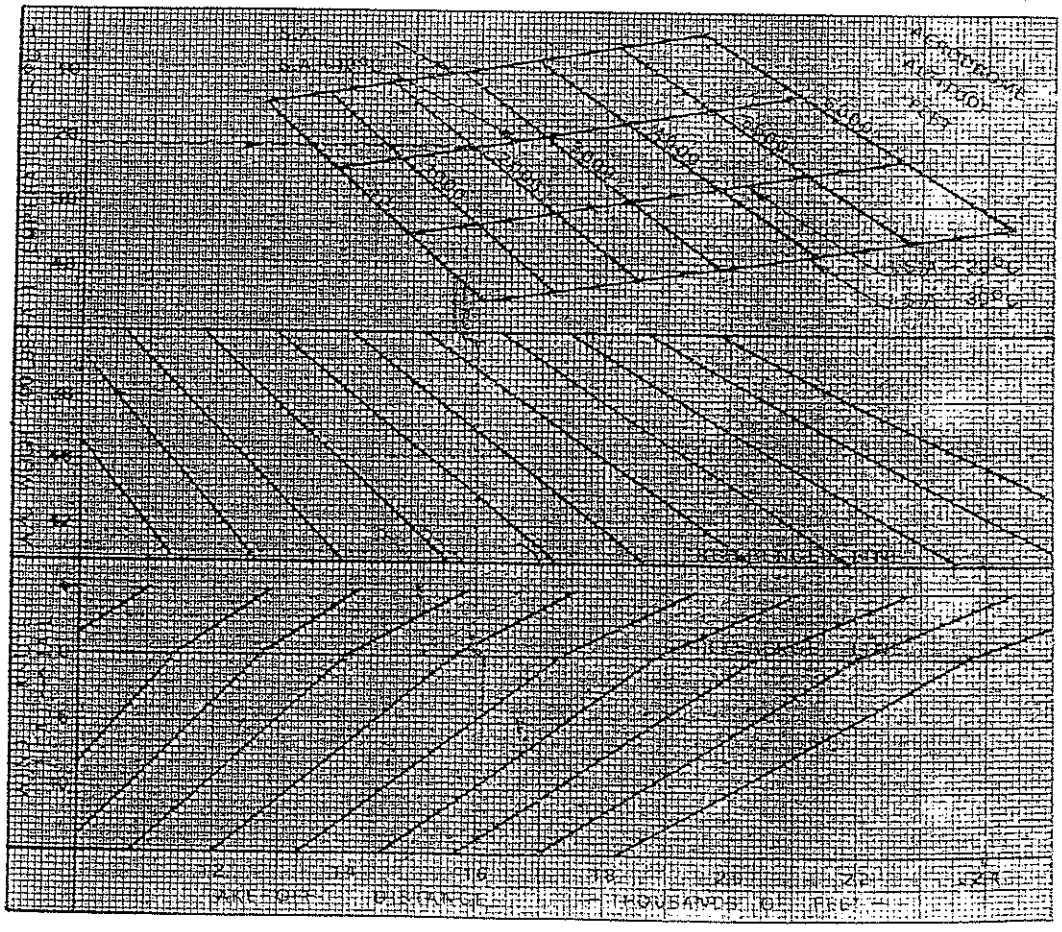


Figure 5-5

RATE-OF-CLIMB — MAXIMUM CLIMB

CONDITIONS:

1. 2700 RPM and Full Throttle
2. Mixture - FULL RICH up to 5000 Ft; at higher altitude lean for smooth operation. Do not exceed 435°F (224°C) C.H.T.
3. Flaps - UP
4. Best Rate-of-Climb Speed - 90 KIAS

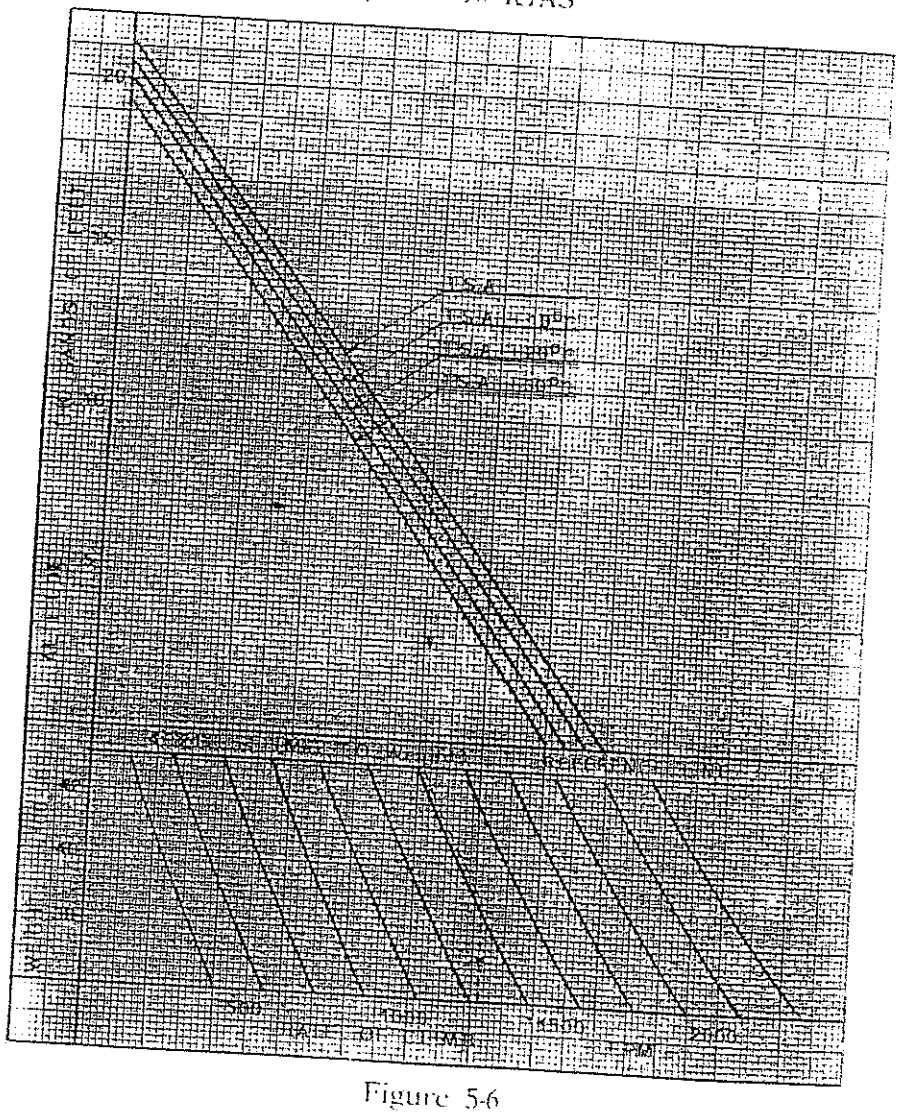


Figure 5-6

RATE-OF-CLIMB — CRUISE CLIMB

CONDITIONS:

1. 2500 RPM and 26 Inches of Hg to 3000 Feet. 2500 RPM and Full Throttle above 3000 feet
2. Mixture - lean for smooth operations. Do not exceed 435 F (224°C) C.H.T.
3. Flaps - UP
4. Climb Speed - 90 KIAS

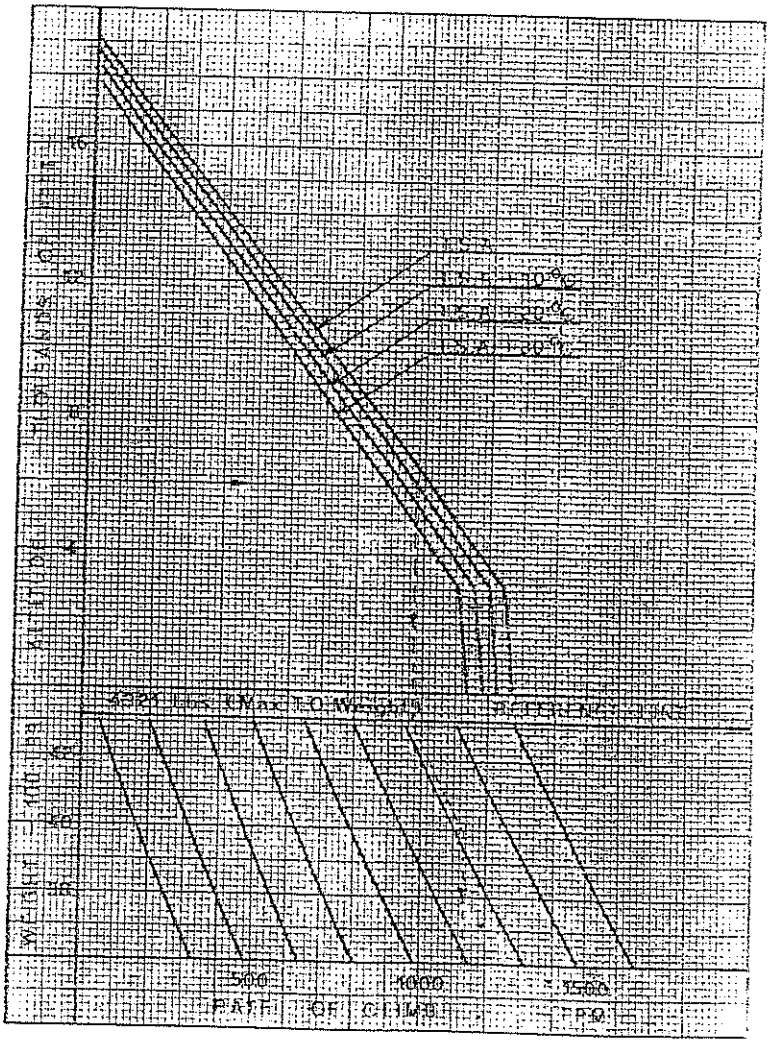


Figure 5-7

RATE-OF-CLIMB — SINGLE ENGINE

CONDITIONS:

1. 2700 RPM and Full Throttle
2. Mixture - Full Rich up to 5000 Ft; at Higher Altitude lean for smooth operation. Do not exceed 435°F (224°C) C.H.T.
3. Flaps - UP
4. Best Rate-of-Climb Speed - 88 KIAS

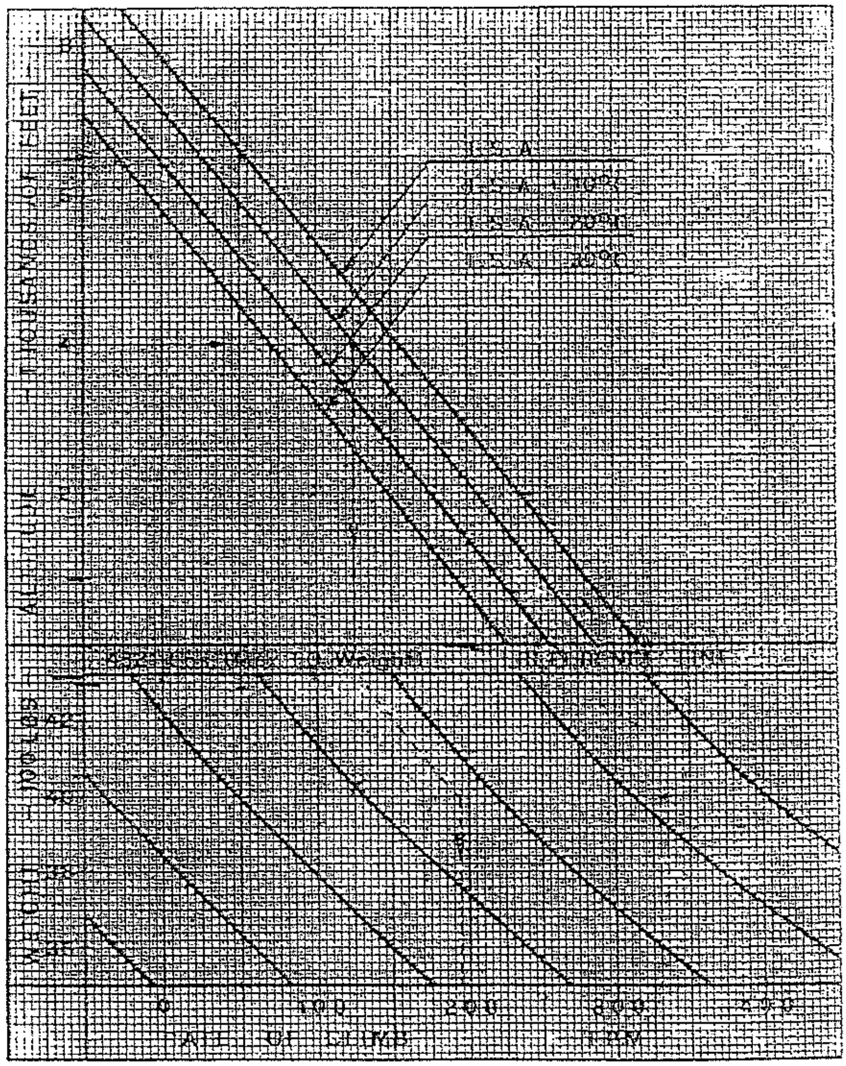


Figure 5-8

TIME AND FUEL TO CLIMB — CRUISE CLIMB

CONDITIONS:

1. 2500 RPM and 26 Inches of Hg to 3000 Feet. 2500 RPM and Full Throttle above 3000 Feet
2. Flaps - UP
3. Mixture - Lean for smooth operation; do not exceed 435°F (224°C) C.H.T.

NOTE:

For total fuel used, add 20 Pounds for start, taxi and take-off.

Figure 5-11

DISTANCE TO CLIMB — CRUISE CLIMB

CONDITIONS:

1. 2500 RPM and 26 Inches of Hg to 3000 Feet. 2500 RPM and F Throttle above 3000 Feet
2. Mixture - Lean for smooth operation; Do not exceed 435°F (224° C.H.T.
3. Flaps - UP
4. Climb Speed - 90 KIAS

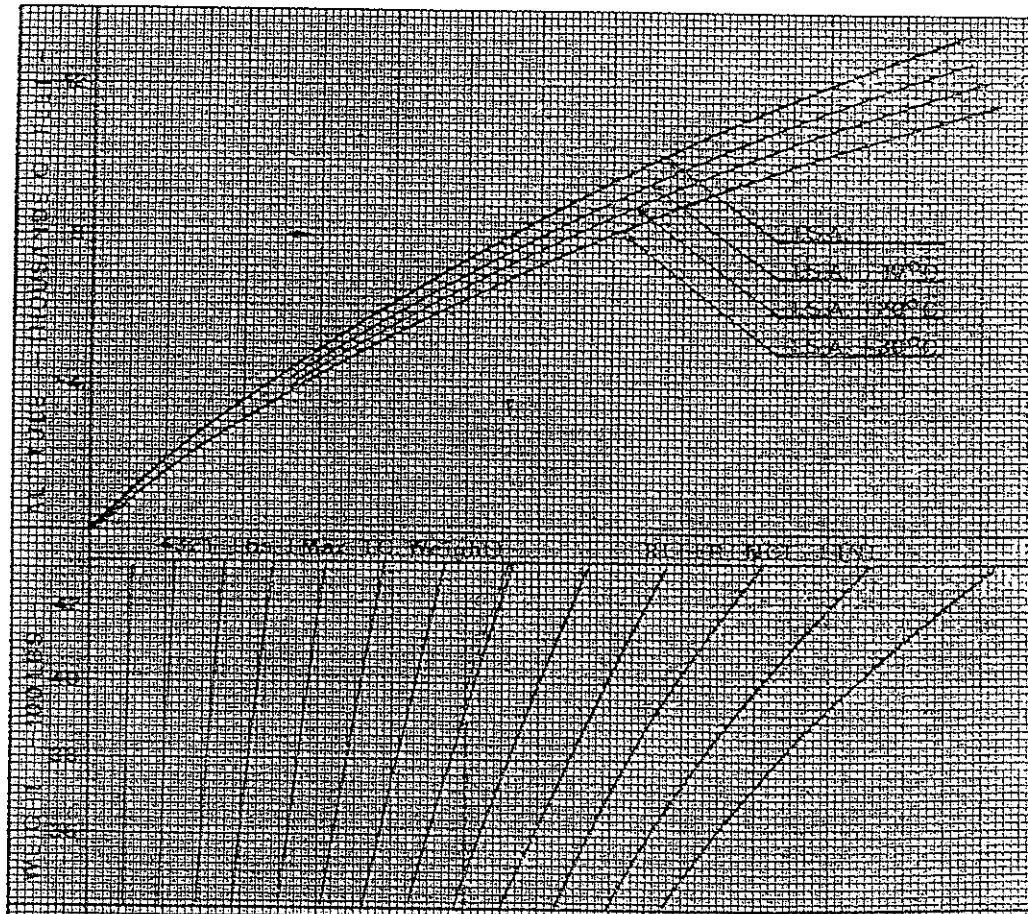


Figure 5-12

CRUISE PERFORMANCE — BEST ECONOMY MIXTURE

NOTE:

1. Increase speed by 7 KTAS for each *200* pounds below 4321 pounds.

ALTITUDE	RPM	MP	ISA - 20°C			ISA			ISA + 20°C		
			%BHP	KTAS	LB/HR	%BHP	KTAS	LB/HR	%BHP	KTAS	LB/HR
Sea level	2450	25	77.7	153	127	75.0	154	123	72.5	155	120
	2450	23	69.6	147	117	67.1	148	113	65.1	149	111
	2450	21	61.2	139	105	59.0	140	101	57.1	141	100
	2450	19	54.3	132	95	51.4	132	93	49.7	133	91
	2400	25	76.2	152	124	73.5	153	120	71.1	154	117
	2400	23	67.3	145	113	65.5	146	110	63.3	147	107
	2400	21	60.4	139	103	58.3	139	101	56.4	140	98
	2400	19	52.1	130	93	50.3	131	90	48.6	131	88
	2350	25	74.1	150	120	71.5	151	117	69.1	152	114
	2350	23	66.3	144	110	64.0	145	107	61.9	145	104
	2350	21	58.6	137	100	56.5	137	97	54.6	138	95
	2350	19	50.8	129	90	49.0	129	88	47.4	130	86
	2300	25	72.6	149	117	70.0	150	114	67.7	151	111
	2300	23	64.8	142	107	62.5	143	104	60.4	144	101
	2300	21	57.0	135	97	55.0	136	94	53.2	136	92
	2300	19	50.8	129	88	49.0	129	85	47.4	129	83

Figure 5-13
Sheet 1 of 5

CRUISE PERFORMANCE — BEST ECONOMY MIXTURE

NOTE:

1. Increase speed by *1* KTAS for each *200* pounds below 4321 pounds.

ALTITUDE	RPM	MP	ISA + 20°C			ISA			ISA + 20°C		
			%BHP	KTAS	LB/HR	%BHP	KTAS	LB/HR	%BHP	KTAS	LB/HR
3000 Feet	2450	25	81.3	160	132	78.4	161	128	75.8	162	124
	2450	23	73.0	154	121	70.4	154	117	68.0	155	114
	2450	21	64.5	146	110	62.2	147	107	60.1	147	104
	2450	19	56.4	138	99	54.2	139	96	52.4	139	94
	2400	24	75.2	155	124	72.5	156	119	70.1	157	116
	2400	22	67.2	149	112	64.8	149	109	62.6	150	106
	2400	20	58.6	141	101	56.5	141	98	54.6	141	96
	2400	18	50.8	132	91	49.0	132	89	47.4	132	87
	2350	24	73.1	153	119	70.5	154	116	68.1	155	112
	2350	22	65.4	147	109	63.0	147	106	60.9	148	103
	2350	20	57.3	139	101	55.2	140	96	53.4	140	94
	2350	18	49.5	131	88	47.8	131	86	46.1	131	84
	2300	24	71.6	152	116	69.0	153	113	66.7	153	110
	2300	22	63.8	145	106	61.5	146	103	59.4	146	100
	2300	20	56.0	138	96	54.0	138	93	52.2	138	91
	2300	18	48.1	129	85	46.4	129	83	44.8	129	81

Figure 5-13
Sheet 2 of 5

CRUISE PERFORMANCE — BEST ECONOMY MIXTURE

NOTE:

1. Increase speed by *1* KTAS for each *200* pounds below 4321 pounds.

ALTITUDE	RPM	MP	ISA - 20°C			ISA			ISA + 20°C		
			%BHP	KTAS	LB/HR	%BHP	KTAS	LB/HR	%BHP	KTAS	LB/HR
6000 Feet	2450	24	79.9	164	130	77.0	164	126	74.4	164	123
	2450	22	72.2	157	120	69.5	157	116	67.1	158	113
	2450	20	63.3	149	108	61.0	149	105	58.9	149	102
	2450	18	54.5	140	97	52.5	140	94	50.7	139	92
	2400	24	78.4	162	127	75.5	162	123	72.9	163	120
	2400	22	70.1	155	116	67.5	155	113	65.2	156	110
	2400	20	61.3	147	105	59.0	147	102	57.0	148	99
	2400	18	53.4	139	94	51.4	138	92	49.6	138	89
	2350	24	75.8	160	122	73.0	160	119	70.5	160	116
	2350	22	68.0	153	112	65.5	153	109	63.3	154	106
	2350	20	59.7	145	102	57.5	145	99	55.5	145	96
	2350	18	52.2	137	92	50.3	137	89	48.6	137	87
	2300	24	74.1	158	119	71.4	159	116	68.9	159	112
	2300	22	66.4	152	109	64.0	152	106	61.8	152	103
	2300	20	58.5	144	99	56.3	144	96	54.4	144	94
	2300	18	50.5	135	89	48.6	135	86	46.9	134	84

Figure 5-13
Sheet 3 of 5

CRUISE PERFORMANCE — BEST ECONOMY MIXTURE

NOTE:

1. Increase speed by *1* KTAS for each *200* pounds below 4321 pounds.

ALTITUDE	RPM	M P	ISA - 20°C			ISA			ISA + 20°C		
			%BHP	KTAS	LB/HR	%BHP	KTAS	LB/HR	%BHP	KTAS	LB/HR
9000 Feet	2450	22	75.4	165	124	72.6	165	120	69.2	164	114
	2450	20	66.0	156	112	63.5	156	108	61.3	155	106
	2450	19	61.5	151	106	59.2	151	103	57.1	150	100
	2450	18	57.2	147	100	55.0	147	97	53.1	147	95
	2400	21	68.4	158	114	65.8	158	110	63.5	157	107
	2400	20	63.9	152	108	61.5	152	105	59.3	151	102
	2400	19	59.8	149	103	57.5	149	100	55.5	148	97
	2400	18	55.6	145	97	53.5	145	94	51.6	145	92
	2350	21	66.5	156	110	64.0	156	107	61.8	155	104
	2350	20	62.2	152	105	59.9	151	102	57.8	151	99
	2350	19	58.1	147	99	55.9	147	97	53.9	147	94
	2350	18	54.5	143	95	52.4	143	92	50.6	142	90
	2300	21	64.9	154	107	62.5	154	104	60.3	153	101
	2300	20	60.6	150	102	58.3	149	99	56.3	149	96
	2300	19	56.6	146	96	54.5	145	94	52.6	145	91
	2300	18	52.6	141	91	50.6	141	89	48.8	139	86

Figure 5-13
Sheet 4 of 5

CRUISE PERFORMANCE — BEST ECONOMY MIXTURE

NOTE:

1. Increase speed by 2 KTAS for each *200* pounds below 4321 pounds.

ALTITUDE	RPM	MP	ISA - 20°C			ISA			ISA + 20°C		
			%BHP	KTAS	LB/HR	%BHP	KTAS	LB/HR	%BHP	KTAS	LB/HR
12000 Feet	2450	19	64.0	158	109	61.5	158	106	59.3	158	103
	2450	18	59.6	153	103	57.3	153	100	55.2	153	98
	2450	17	55.1	148	98	53.0	148	95	51.1	148	92
	2400	19	62.4	156	106	60.0	156	103	57.9	156	100
	2400	18	58.0	151	100	55.8	151	97	53.8	151	95
	2400	17	53.8	146	95	51.7	146	92	49.8	146	90
	2400	16	49.4	140	90	47.5	140	87	45.8	140	85
	2350	19	60.3	154	102	58.0	154	99	55.9	154	97
	2350	18	56.4	150	97	54.2	150	94	52.3	150	92
	2350	17	52.4	145	92	50.4	145	89	48.6	145	87
	2350	16	48.3	139	87	46.4	139	84	44.7	139	82
	2300	19	58.8	152	99	56.5	152	96	54.5	152	94
	2300	18	54.6	147	94	52.5	147	91	50.6	147	89
	2300	17	50.5	141	89	48.6	141	86	46.9	141	84
	2300	16	46.6	136	84	44.8	136	82	43.2	136	79

Figure 5-13
Sheet 5 of 5

RANGE PROFILE

CONDITIONS:

1. Starting Weight - 4321 Pounds
2. Maximum Climb to Desired Altitude
3. Mixture - Best Economy
4. Zero wind
5. Standard Day

NOTE:

Range Computations include [illegible] pounds of fuel for engine start and takeoff and [illegible] gallons for climb, cruise at 8000' and 45 minutes reserve at 45% power.

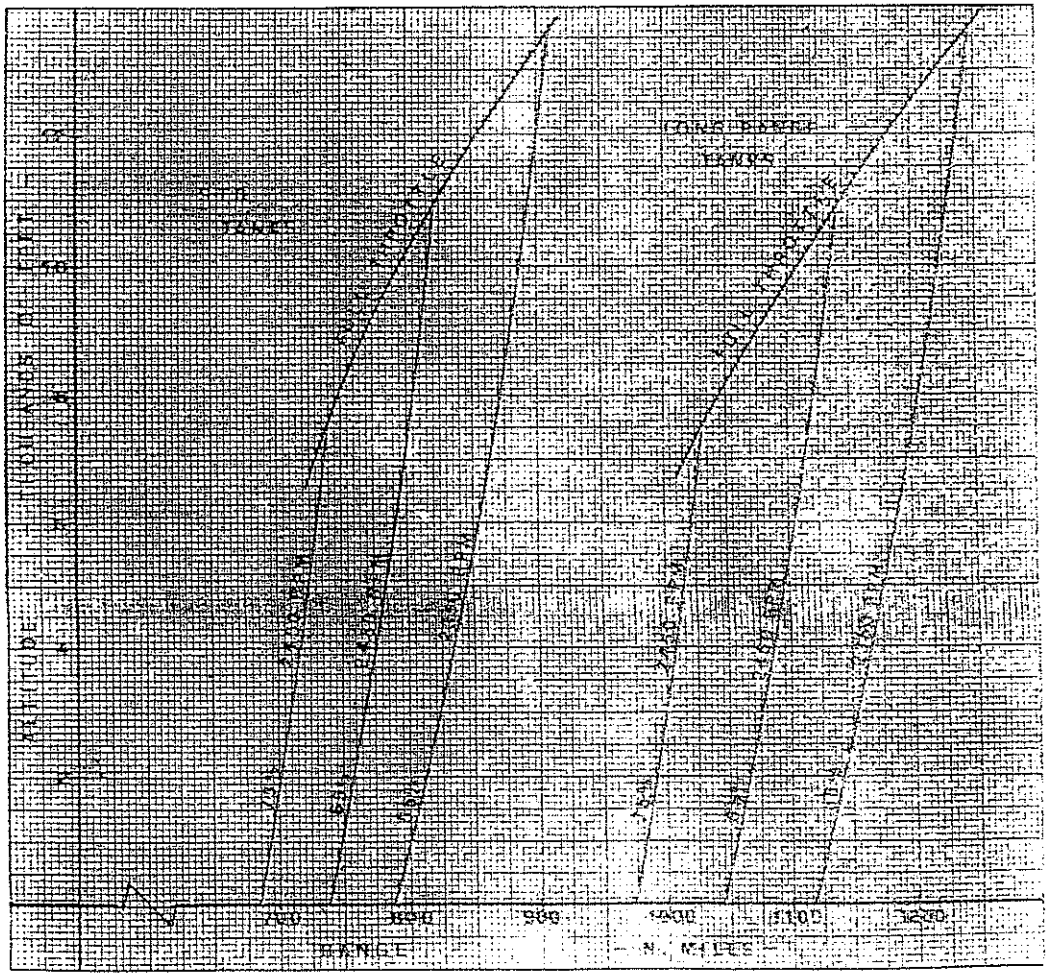


Figure 5-14

OPERATING ENVELOPE

CONDITIONS:

1. Weight: 4321 Pounds
2. Zero Wind
3. Standard Day
4. Flaps - UP

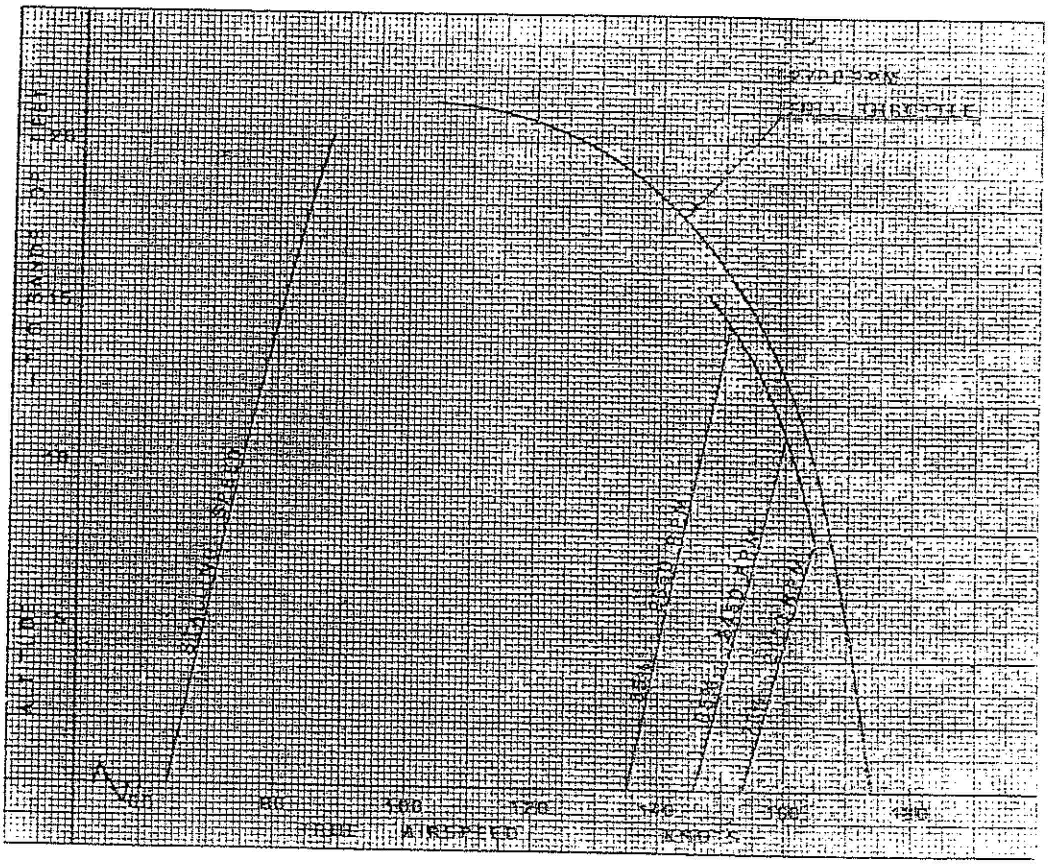


Figure 5-15

TIME, FUEL AND DISTANCE TO DESCENT

CONDITIONS:

1. Mixture - BEST ECONOMY
2. Flaps - UP
3. Airspeed - 158 KIAS
4. Power - As Required.

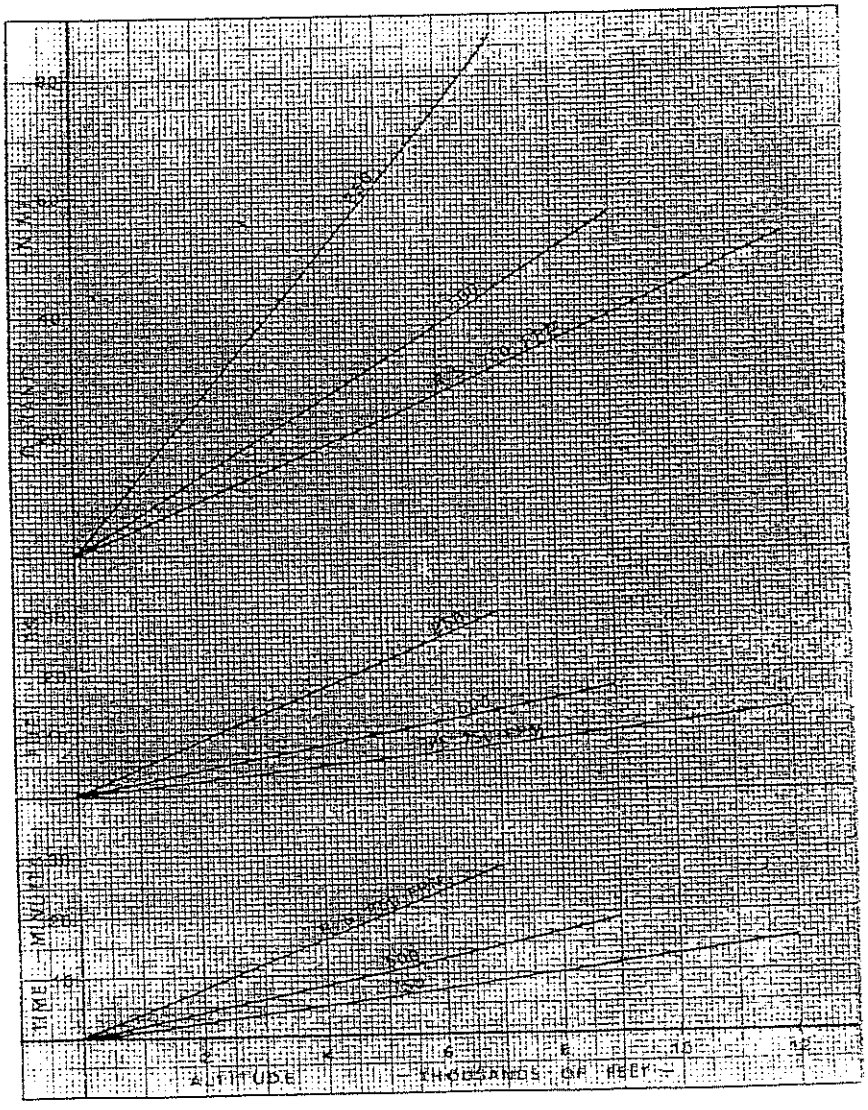


Figure 5-16

LANDING DISTANCE

CONDITIONS:

1. Throttle - Idle at 50 Feet above ground level
2. Flaps - 35°
3. Maximum Effective Braking
4. Level, Hard Surface, Dry Runway
5. Speed at 50 Ft obstacle - 1.3 V_{so}

NOTE:

Increase Landing Distance by 12% when operating from a grass surface.

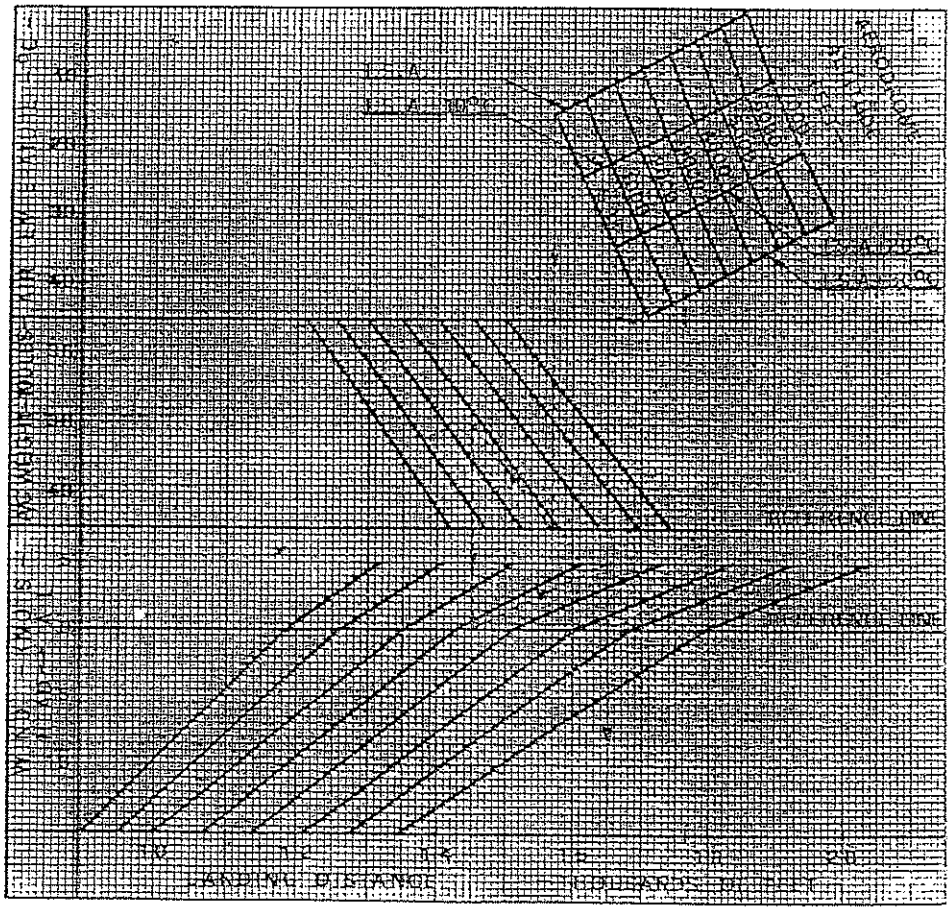
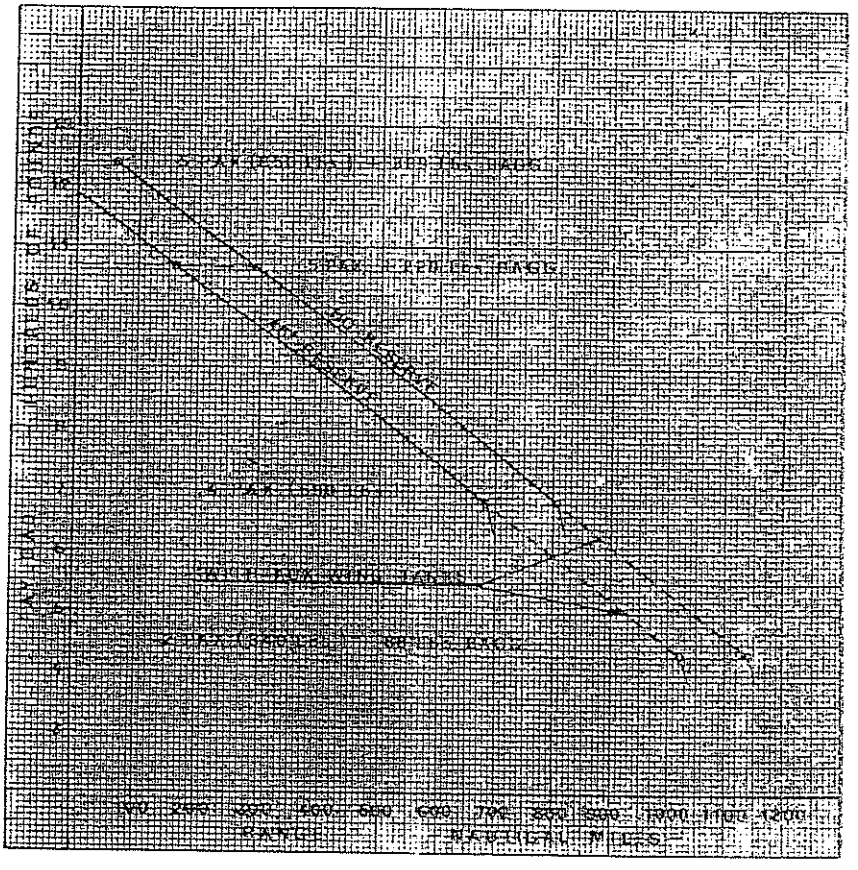


Figure 5-17

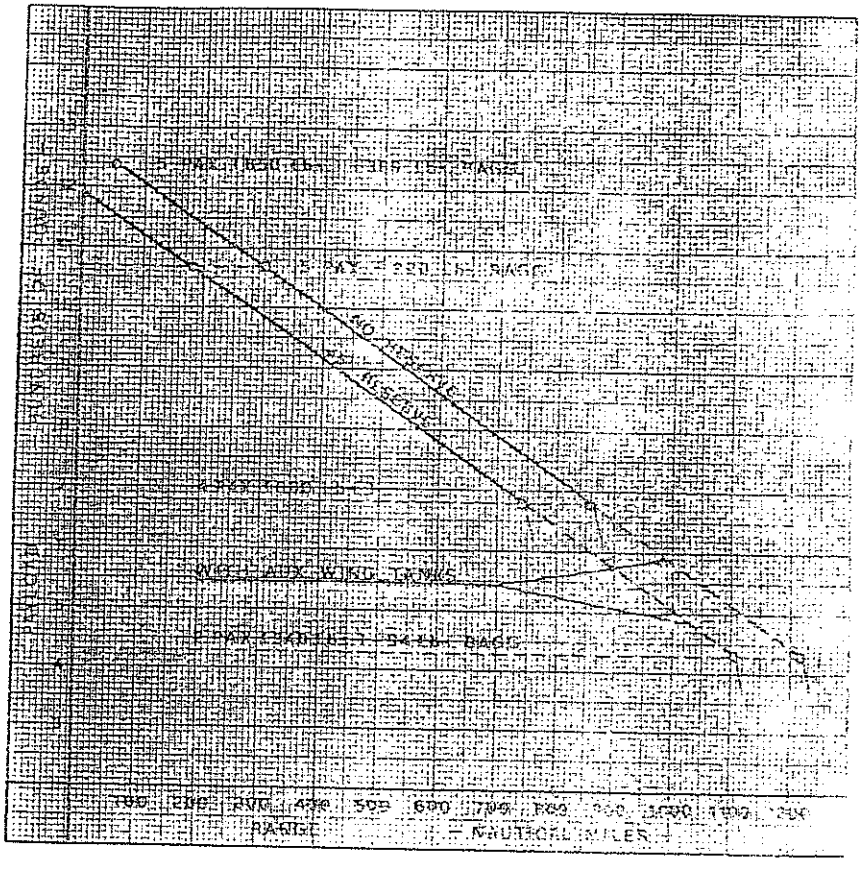


CONDITIONS:

1. I.S.A., Zero Wind
2. T.A.S.: 165 kts.
3. Altitude: 7500 Feet
4. Fuel Consumption: 20.6 U.S.G./hr.
5. Max T.O. Weight: 4321 lbs.
6. Basic Operating Weight: 3018 lbs. (including unusuable fuel, 170 lbs. pilot, IFR inst., avionics and oil; not including de-icing equipment)
7. Range computation includes fuel required for taxi, t.o., climb, descent and landing.

Figure 5-18

PAYLOAD Vs. RANGE (75% RATED POWER)

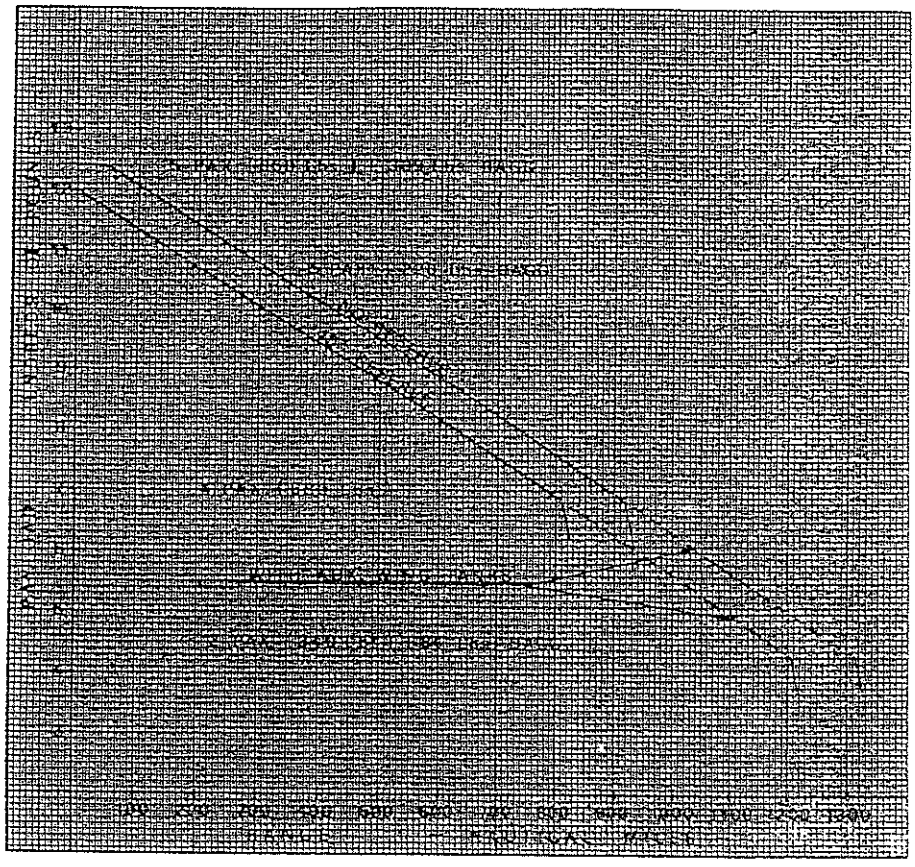


CONDITIONS

1. I.S.A., Zero Wind
2. T.A.S.: 159 kts.
3. Altitude: 11000 Feet
4. Fuel Consumption: 18.3 U.S.G./hr.
5. Max T.O. Weight: 5321 lbs.
6. Basic Operating Weight: 3918 lbs. (including unusuable fuel: 170 lbs. pilot, IFR inst., avionics and oil, not including deicing equipment).
7. Range computation includes fuel required for taxi, T.O., climb, descent and landing.

Figure 5-19

PAYLOAD VS. RANGE (65% RATED POWER)



CONDITIONS:

1. I.S.A., Zero Wind
2. T.A.S.: 152 kts.
3. Altitude 12000 Feet
4. Fuel Consumption 16 U.S.G./hr.
5. Max T.O. Weight: 4321 lbs.
6. Basic Operating Weight: 3018 lbs. (including unusuable fuel, 170 lbs. pilot, IFR inst., avionics and oil; not including de-icing equipment).
7. Range computation includes fuel required for taxi, t.o., climb, descent and landing.

Figure 5-20

PAYLOAD Vs. RANGE (55% RATED POWER)

APPENDIX

FOR MAXIMUM TAKE-OFF AND LANDING WEIGHT INCREASES

SECTION 1 GENERAL

This appendix must be attached to the R.A.I. Approved Flight Manual when the aircraft is operated at the following weights:

a. Maximum Take-off: 4387 Pounds (1990 Kgs.)
b. Maximum Landing : 4167 Pounds (1890 Kgs.)

For limitations, procedures, and performance data not contained in this appendix, consult the basic Aircraft Flight Manual.

NOTE: The limitations, performance data and information in this appendix must be considered to ovveride the basic Aircraft Flight Manual where there is any conflict between the appendix and Manual.

SECTION 2 LIMITATIONS

AIRSPEED LIMITATIONS

a. Maneuvering Speed, V_A . . . . . 130 KIAS
(126 KCAS)

LOAD DATA SHEET

Organisation: M.J. Punshon, PO Box 7679, Garbutt BC Queensland 4814, Tel: (07) 4774 7387

Aircraft Type: Partenavia P68B Serial No.: 119 Aircraft Registration: VH-IYC

Approved Loading System: As per instructions on this Load Data Sheet.

AUTHORISED	DATE	DATE OF EXPIRY	ISSUE
Michael Punshon	2 May 02	Indefinite	4

AIRCRAFT WEIGHT AND CENTRE OF GRAVITY DATA

ITEM	WEIGHT (kg)	ARM (mm)	MOMENT (kg.mm)	INDEX (kg.mm)	CONFIGURATION
Empty Weight	1340	397	531374	115	See below
[illegible] Weight	1353	394	532741	112	See below
Basic Weight	(lbs) 2982	(ins) 16	(lb.in) 46248		

Longitudinal Datum: FS 0.0: WLE

REMARKS

CONFIGURATION

Empty Weight includes: 6 Passenger Configuration
Unusable Fuel and Undrainable Oil

Basic Weight Includes: Empty weight and normal oil.

LOADING INSTRUCTIONS:

1/ Refer to the Aircraft Flight Manual for load limitations.

2/ Load in accordance with Load System JL-63 Issue 4.

Note that Load System JL-63 is based on a non standard datum 311mm aft of the standad aircraft datum.

Index = Weight x (Arm - 311) / 1000

APPROVED

(Signed) .....

Weight Control Authority No. AQ/39

DATE: 2 May 02

LIST OF ITEMS INCLUDED IN THE EMPTY WEIGHT OF THE AIRCRAFT

Aircraft Type: Partenavia P68B
Serial Number: 119
Aircraft Registration: VH-IYC

Issue No.: 4
Date: 2 May 02

ITEM		QTY
PROPULSION (Type)		
Lycoming IO-360-A1B6		2
PROPELLER(S)		
Hartzell HC-C21YK-2CUF		2
COMPASSES		
Magnetic		1
LIGHTS		
Anti-Collision		1
Cabin		1
Instrument		1
Landing		2
Map Reading		2
Navigation		3
INDICATORS		
ADF Ind	King KI 225	1
Airspeed		1
Assigned Altitude		1
Directional Gyro		1
ELT Ind		1
Engine Hour		1
[illegible]t Hour		1
Fuel Flow	Dual	1
Fuel Pump		2
Gen Out		2
FLUID TANKS		
Fuel, Auxiliary	Tip	2
Fuel, Mains	Wing	2

ITEM		QTY
INSTRUMENTS		
Absolute Altimeter		1
Altimeter		2
Ammeters	Duplex	1
Clocks		1
Voltmeter	Duplex	1
GAUGES		
Engine Oil Pressure	Triplex	2
Fuel Contents	Dual	1
Manifold Pressure	Dual	1
Suction Pressure		1
THERMOMETER		
CHT	Triplex	2
EGT	Dual	1
Oil Temp	Triplex	2
Outside Air Temp		1
Gyro Horizon		2
Stall Warning Light/Horn		1
Starter		2
Tachometer Non-recording	Dual	1
Transfer Pump Low		2
Trim Indicator		2
Turn Co-ordinator		1
Vertical Speed (rate of climb)		1
VOR	King KNI-520	1
Wing Flap Position		1
FLUID QUANTITY		
Fuel, Auxilairy	Unusable	0 lt
Fuel, Mains	Unusable	0 lt
Oil, Lubricating	Undrainable	0 lt

Weight Control Officer Signature:

LIST OF ITEMS INCLUDED IN THE EMPTY WEIGHT OF THE AIRCRAFT

Aircraft Type: Partenavia P68B
Serial Number: 119
Aircraft Registration: VH-IYC

Issue No.: 4
Date: 2 May 02

RADIO EQUIPMENT (Type)

ITEM		QTY
ADF	King KR 85	1
Antenna		12
Audio/Marker	King KMA 20	1
Auto Pilot	Century III	1
Cabin Speakers		1
DME	King KN 62A	1
ELT	Ack E-01	1
Slope Rx	King KN 73	1
GPS	Garmin GPS 100	1

ITEM		QTY
HF Tx/Rx	Sunair HF SSB	1
Intercom	Softcom	1
Transponder	King KT 76A	1
Transponder Encoder		1
VHF Marine	Uniden MC790	1
VHF Tx/Rx	King KY 195B	1
VHF/FM	Phillips PRM80R	1
VHF/Nav	King KY 175B	1

RESTRAINT EQUIPMENT

Inertia Reels	2
Lap Assemblies	4
Lap-sash Assemblies	2

ELECTRICAL EQUIPMENT

Alternator	2
Electric Storage Batteries	1
Starter	2

MISCELLANEOUS EQUIPMENT

Controls	2
Floor Carpet Set	1
Pitot Heater	1
Sun Visor	2
Vacuum Pumps	2
Wheel Spat	1

DISPOSABLE EQUIPMENT

Flight Manual - Partenavia	2
Partenavia POH	1
Curtain - Aft	1

Weight Control Officer Signature:

SUNGOLD AIRLINES

Pty. Limited

PARTENAVIA P68B LOAD SHEET

LOAD SYSTEM JL-63 Issue 4

VH-IYC

	WEIGHT-KG	INDEX
AIRCRAFT BASIC WEIGHT		
SEATS - ROW 1 (Crew)		77 KG
SEATS - ROW 2		77 KG
SEATS - ROW 3		77 KG
STRETCHER	N/A	
BAGGAGE		20 KG
HAT RACK (30 KG MAX)		10 KG
ZERO FUEL WEIGHT		
FUEL		80 KG
TAKE OFF WEIGHT		
FUEL BURN OFF		
LANDING WEIGHT		

NOTE:
THIS TRIM SHEET INCORPORATES A NON-STANDARD DATUM. DO NOT USE EMPTY OR BASIC DATA RELATING TO THE STANDARD AIRCRAFT DATUM.

INDEX UNITS (X UNIT MOMENTS)

-200 -100 0 100 200 300 400 500 600

ADD WEIGHT ONLY - NEGLIGIBLE EFFECT ON C of G

MAX TAKE OFF WEIGHT 1600 KG

THE C of G MUST FALL WITHIN THIS ENVELOPE

1600 1700 1800 1900 2000

CENTRE OF GRAVITY IN MILLIMETRES AFT OF DATUM

METHOD OF USE

1. Obtain the basic index and starting item this point on the appropriate index scale drop a vertical line to the scale for first compartment in use. Move horizontally along this scale in the indicated direction for the appropriate load increment, before dropping vertically to the other scales in use, moving along each line in the same manner.
2. Draw a vertical line from the last compartment scale in use down to the CG checking diagram (neglecting the fuel scale) stopping at the appropriate weight. This point shows the CG at zero fuel weight.
3. The CG at take-off may be found by returning to the fuel scale and making the appropriate allowance for fuel before dropping another vertical line to the CG checking diagram, stopping at the take-off weight .

SUNGOLD AIRLINES

Pty. Limited

PARTENAVIA P68B LOAD SHEET

VH-IYC

LOAD SYSTEM JL-63 Issue 4

FLIGHT No:	DATE:
FROM:	TO:
CAPTAIN:	
FIRST OFFICER:	

	WEIGHT-KG	INDEX
AIRCRAFT BASIC WEIGHT		
SEATS - ROW 1 (Crew)		77 KG
SEATS - ROW 2		77 KG
SEATS - ROW 3		77 KG
STRETCHER	N/A	
BAGGAGE		20 KG
HAT RACK (30 KG MAX)		10 KG
ZERO FUEL WEIGHT		
FUEL		50 KG
TAKE OFF WEIGHT		
FUEL BURN OFF		
LANDING WEIGHT		

PILOTS CERTIFICATE.

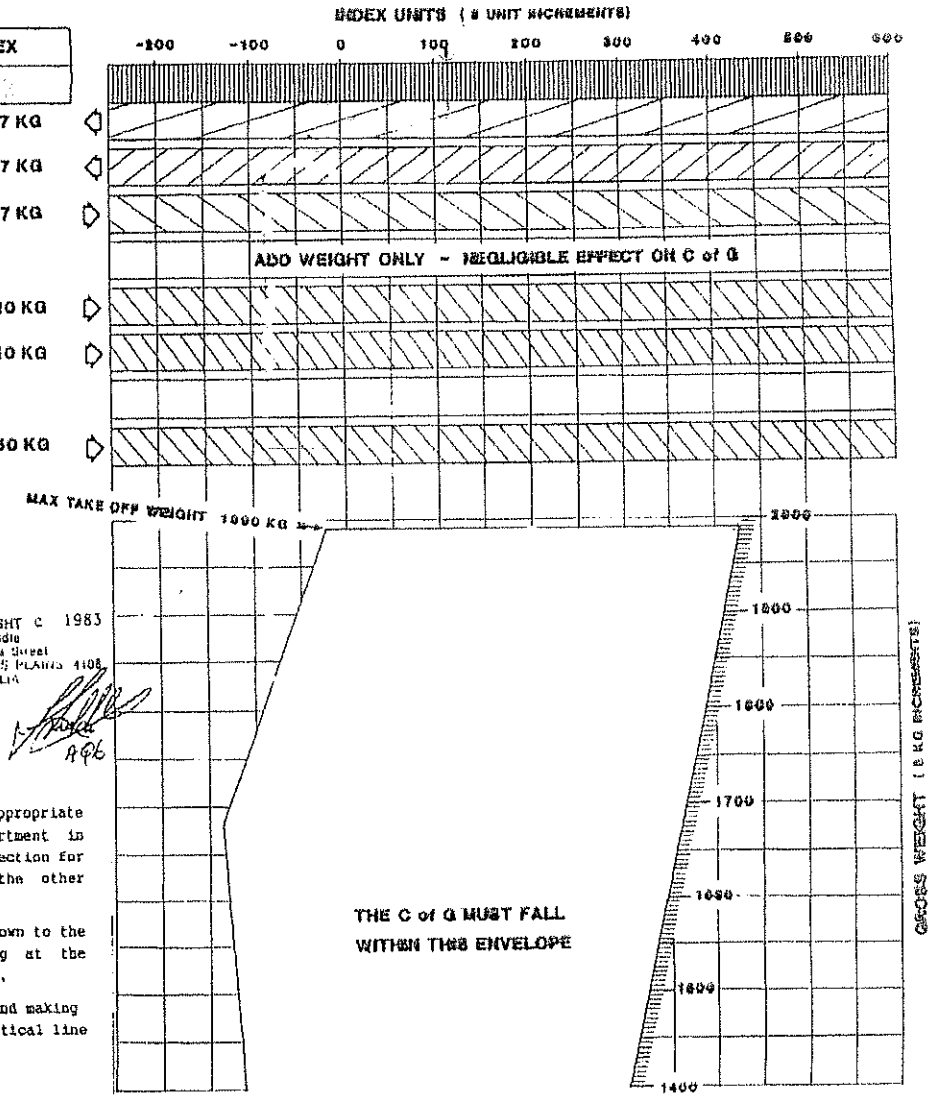
I AM SATISFIED THAT THE AIRCRAFT IS CORRECTLY LOADED FOR SAFETY IN ACCORDANCE WITH REGULATIONS SPECIFIED BY THE DEPARTMENT OF AVIATION.

CAPTAIN.....

DATE..... TIME.....

NOTE:

THIS TRIM SHEET INCORPORATES A NON-STANDARD DATUM. DO NOT USE EMPTY OR BASIC DATA RELATING TO THE STANDARD AIRCRAFT DATUM.



METHOD OF USE

1. Obtain the basic index and starting from this point on the appropriate index scale drop a vertical line to the scale for first compartment in use. Move horizontally along this scale in the indicated direction for the appropriate load increment, before dropping vertically to the other scales in use, moving along each line in the same manner.
2. Draw a vertical line from the last compartment scale in use down to the CG checking diagram (neglecting the fuel scale) stopping at the appropriate weight. This point shows the CG at Zero fuel weight.
3. The CG at take-off may be found by returning to the fuel scale and making the appropriate allowance for fuel before dropping another vertical line to the CG checking diagram, stopping at the take-off weight .

EMPTY WEIGHT C.G. AS WEIGHTED

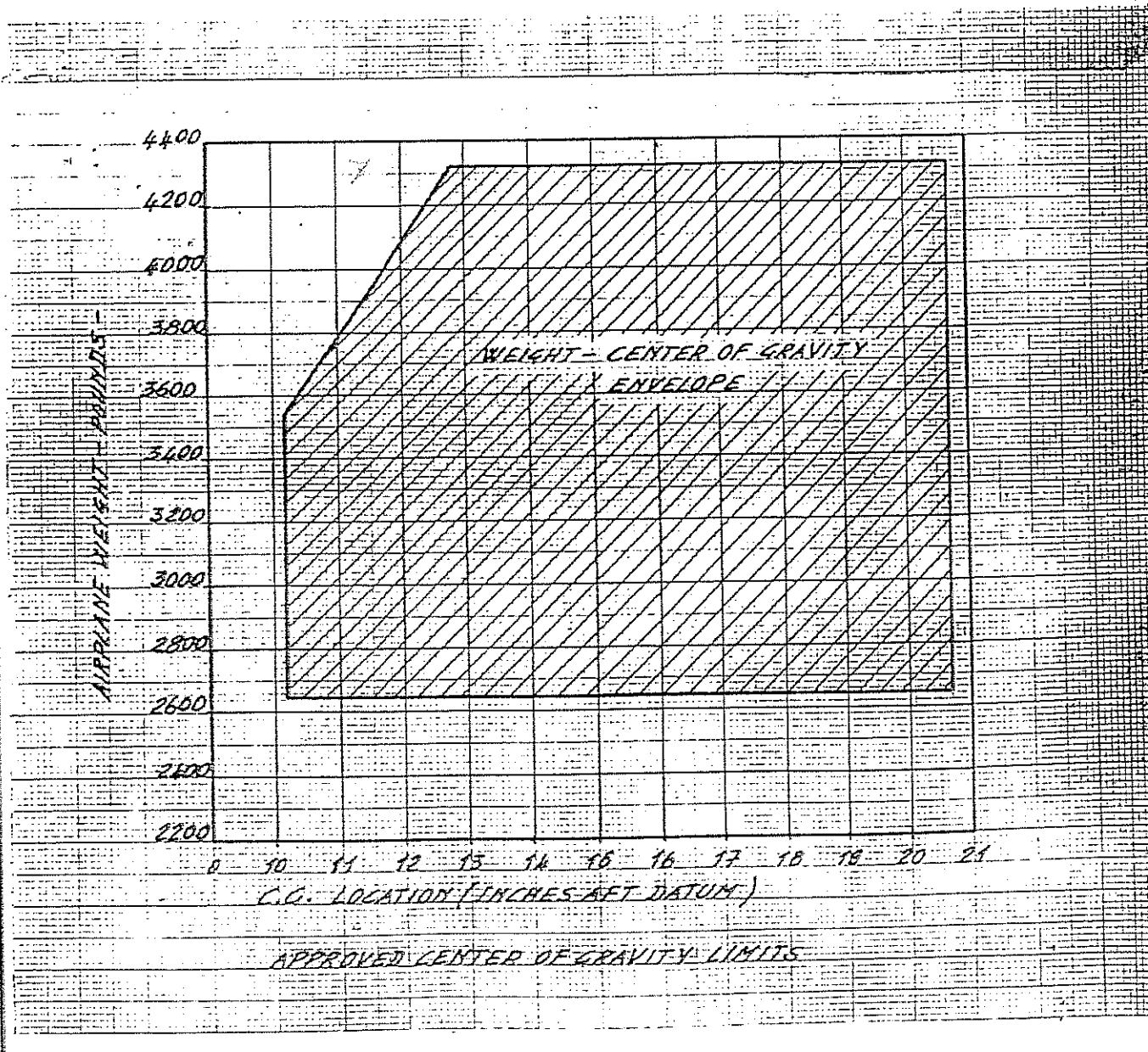
Empty Weight C.G. Aft Datum:

(B) $= \frac{(N)}{(T)} \times (D) =$ inches (A)

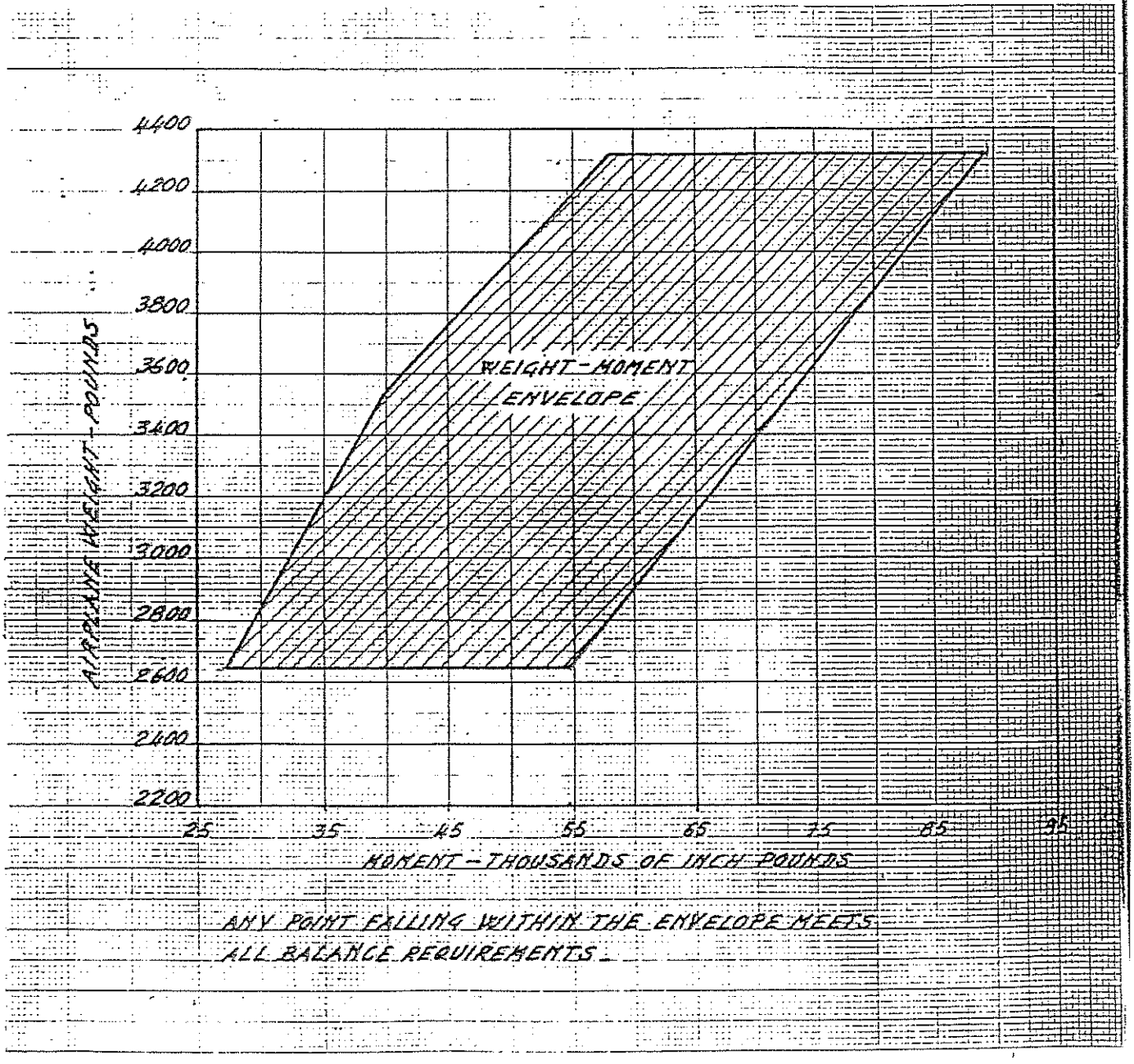
EMPTY WEIGHT AND C.G. WITH UNUSABLE FUEL

ITEM		WEIGHT	ARM	MOMENT
Empty Weight as Weighed	(T)	1318 kg	(A) 408 mm	538267 kg·mm
Unusable Fuel		28,6	30,3	866
Drainable Oil		29,0	4,0	116
BASIC WEIGHT AND C.G.		1332 kg	405 mm	539657 kg·mm

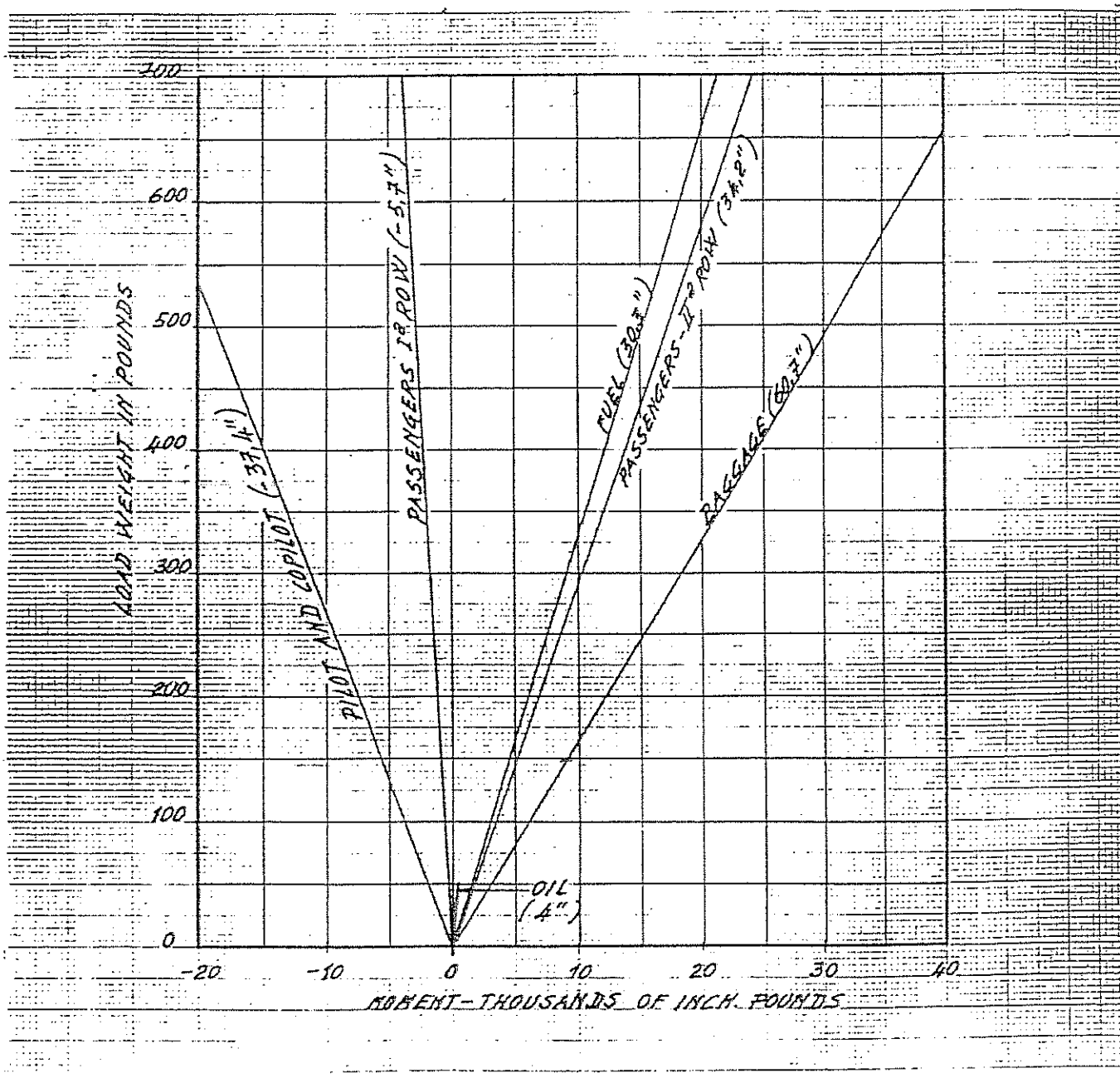
IT IS THE RESPONSIBILITY OF THE OWNER AND PILOT BEFORE ANY FLIGHT TO ASCERTAIN THAT THE AIRPLANE IS PROPERLY LOADED.



CENTER OF GRAVITY ENVELOPE



ANY POINT FALLING WITHIN THE ENVELOPE MEETS ALL BALANCE REQUIREMENTS.



Add weight of item to be carried to the licensed empty weight of the airplane. Add moment in thousands of inch pounds of these items to the total airplane moment in thousands of inch pounds found on the Center of Gravity Envelope.

WEIGHT AND CENTER OF GRAVITY LIMITS

Weight Limits

a. Maximum Take-off Weight: 4387 Pounds

b. Maximum Landing Weight : 4167 Pounds

Center of Gravity Limits (see figure 2-1)

a. Aft Limit:

20.7 Inches (34%M.A.C.) aft of datum at all weights

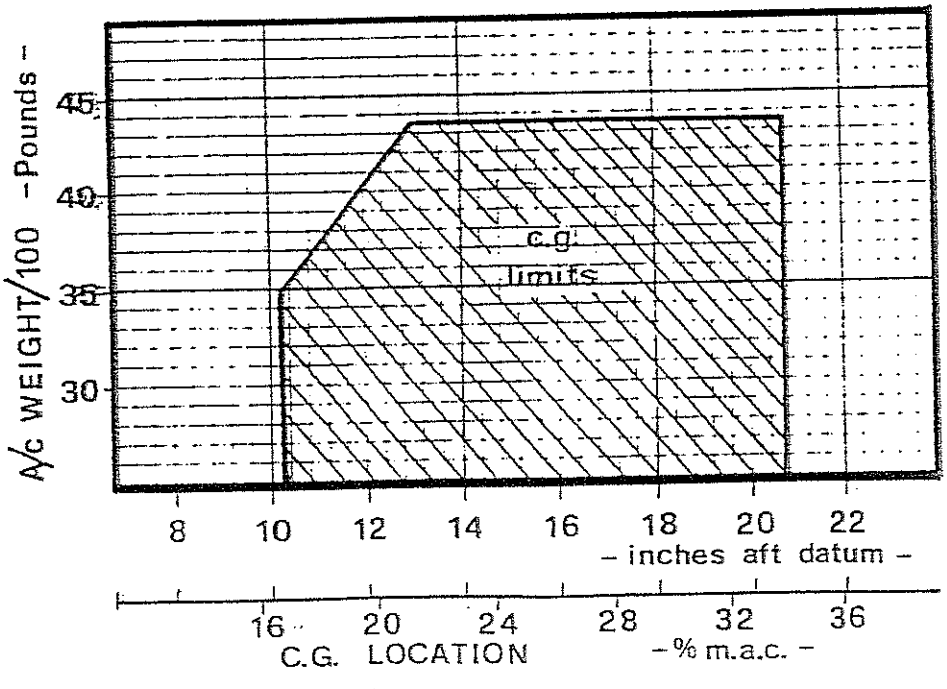
b. Forward Limits:

13.03 Inches (21.4% M.A.C.) aft of datum at 4387 pounds

10.20 Inches (16.8% M.A.C.) aft of datum at 3527 pounds

or less with straight line variation between these points.

Datum location is at wing leading edge.



- Fig. 2-1 -

SECTION 3 EMERGENCY PROCEDURES

No changes.

SECTION 4 NORMAL PROCEDURES

No changes.

SECTION 5 PERFORMANCE

NOTE: The Performance data not included in this Appendix, may be obtained from performance charts in the basic Flight Manual, by extrapolating the variation with weight up to 4387 pounds.

STALL SPEEDS

CONDITIONS:

1. Throttles - IDLE

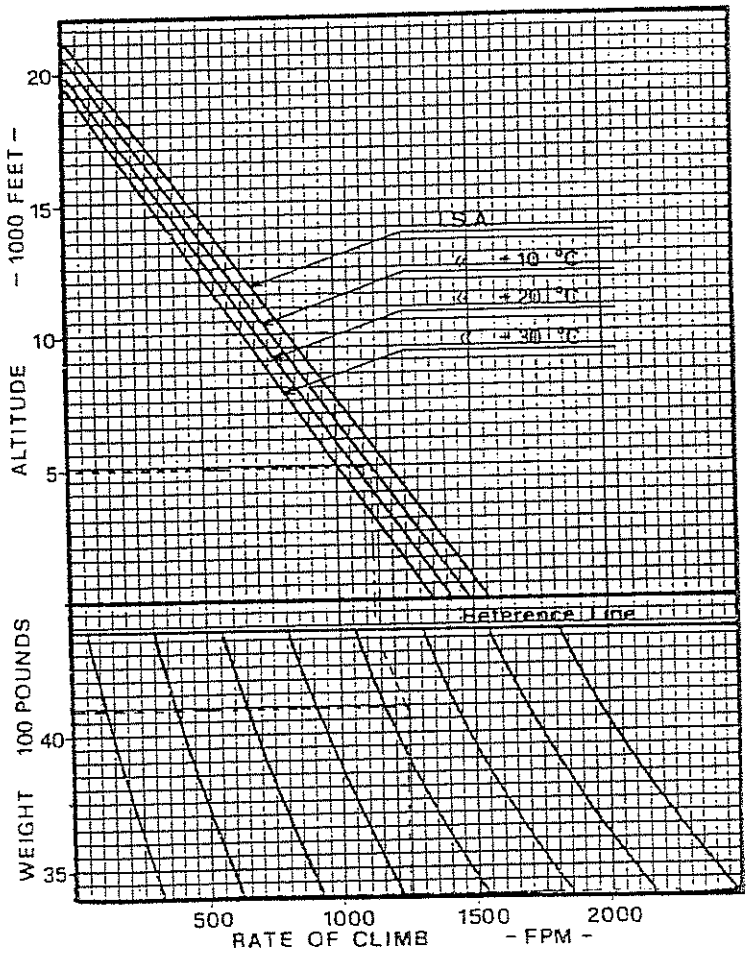
2. M.T.O. Weight - 4387 Pounds.

FLAPS	ANGLE OF BANK							
	0°		20°		40°		60°	
	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
0°	66	65	68	67	76	74	95	92
15°	63	61	65	63	73	70	90	86
35°	61	58	63	59	69	65	85	80

RATE-OF-CLIMB - MAXIMUM CLIMB

CONDITIONS:

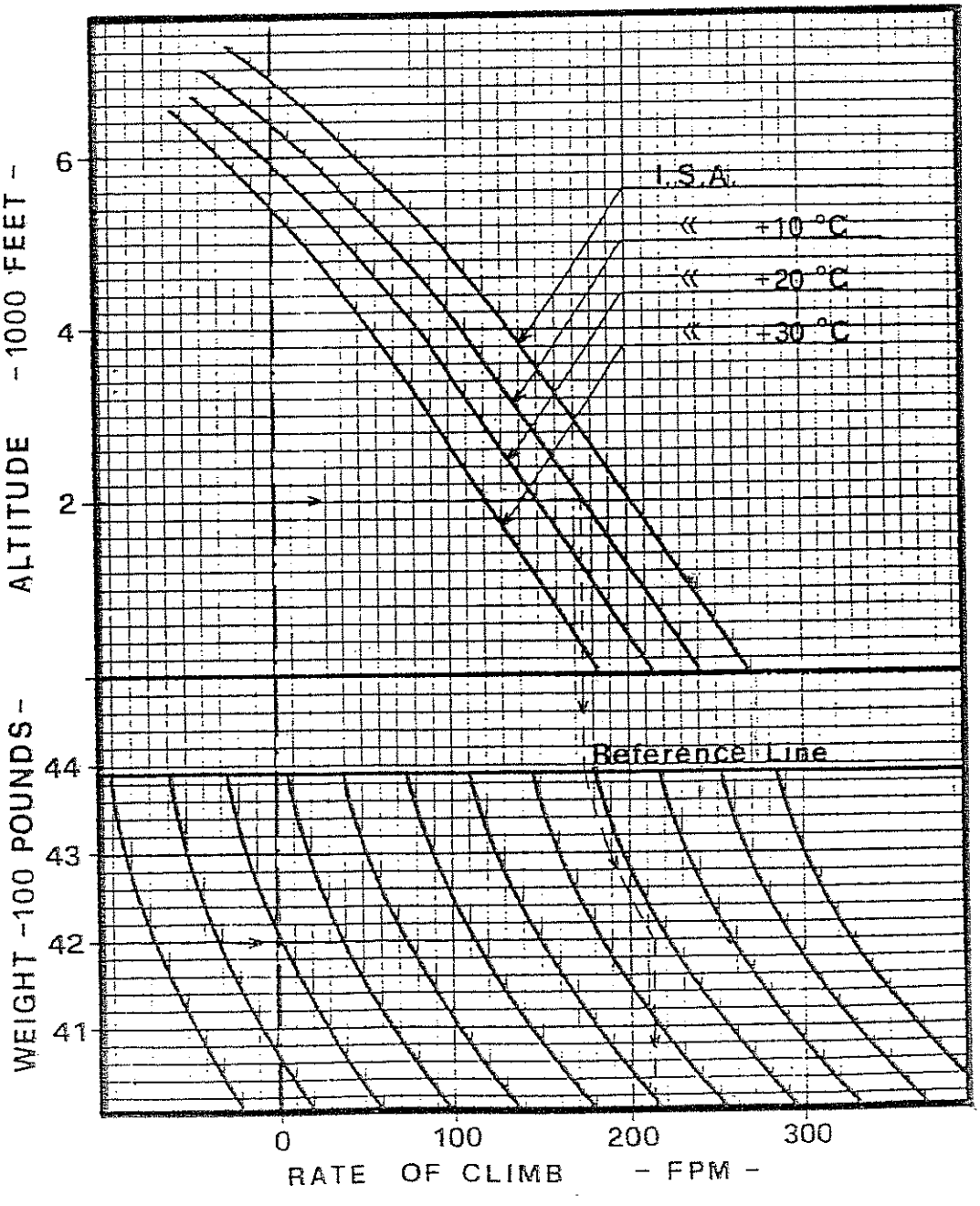
1. 2700 RPM and Full Throttle
2. Mixture - FULL RICH up to 5000 Ft; at higher altitude lean for smooth operation. Do not exceed 435°F (224°C) C.H.T.
3. Flaps - UP
4. Best Rate-of-Climb Speed - 90 KIAS



RATE-OF-CLIMB - SINGLE ENGINE

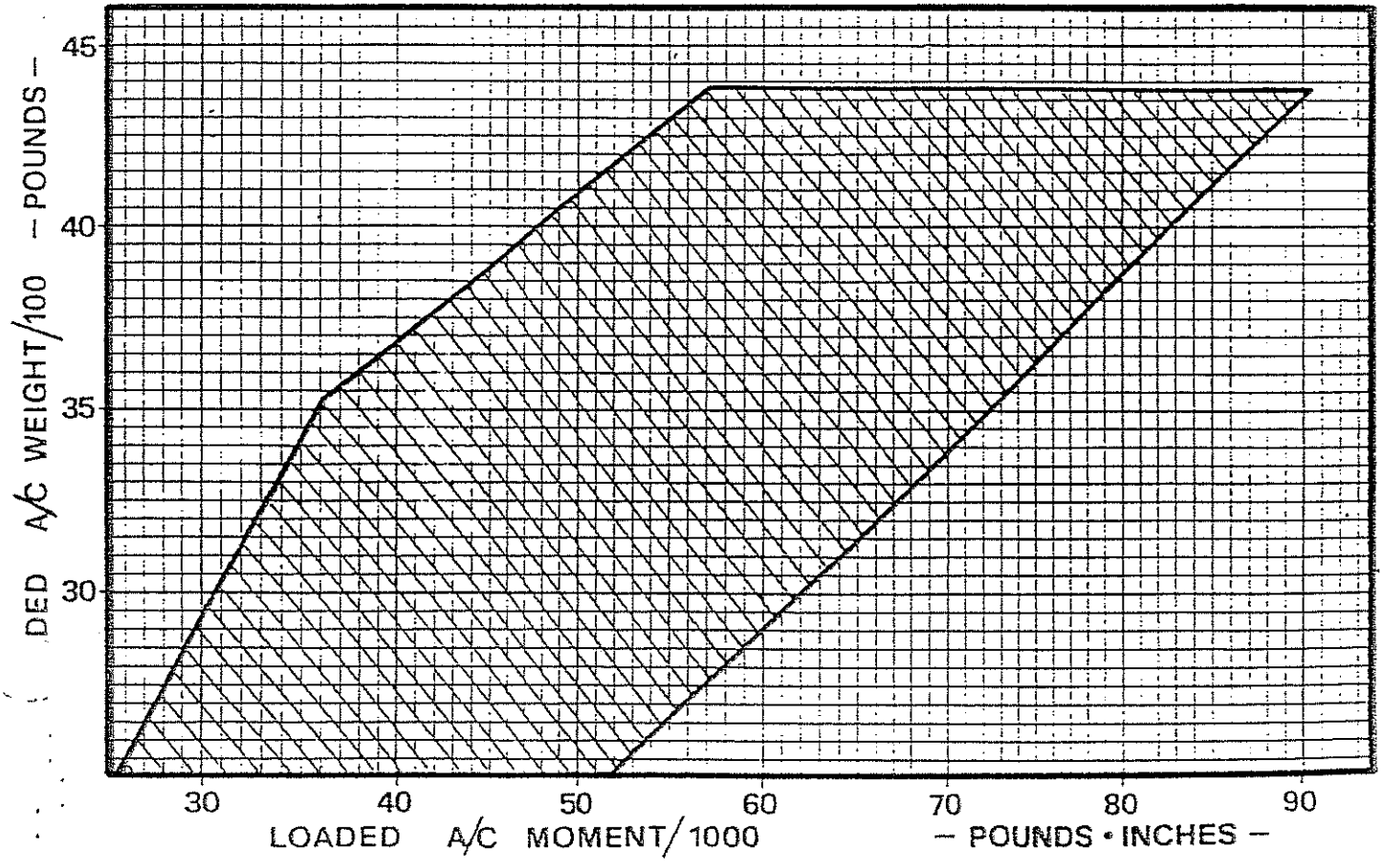
CONDITIONS:

1. 2700 RPM and Full Throttle
2. Mixture - Full Rich up to 5000 Ft; at Higher Altitude - lean for smooth operation. Do not exceed 435°F (224°C) C.H.T.
3. Flaps - UP
4. Best Rate-of-Climb Speed - 88 KIAS



SECTION 6 WEIGHT & BALANCE

CENTER OF GRAVITY MOMENT ENVELOPE



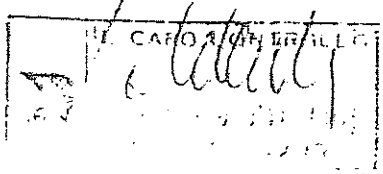
SECTION 7

SUPPLEMENTS

TABLE OF CONTENTS

INTRODUCTION

This Section consists of a series of supplements, each covering a sing optional system which may be installed in the airplane.



SUPPLEMENT A — INSTALLATION OF PHOTOGRAMMETRIC HATCH

SECTION 1

The aircraft is equipped with a photogrammetric hatch which can be opened in flight.
The hatch is actuated by a hand wheel located at frame No. 8, on the floor, right hand side.
The hatch can be operated at all speeds and configurations permitted.
Strong asymmetrical flying is forbidden while hatch is open.
It is compulsory for the hatch operator to keep his safety belt fastened.

SUPPLEMENT B — GOODRICH DEICE BOOT SYSTEM AND PROPELLER ELECTRIC ANTI-ICE SYSTEM

SECTION 1 - OPERATING LIMITATIONS

A. This aircraft is not approved for flight in icing conditions.
B. Placards - On front panel in full view of the pilot: « This aircraft is not approved for flight in icing conditions ».

SECTION 2 - NORMAL PROCEDURES (Inadvertent icing encounter)

A. Before Takeoff
   1. Surface Deice Switch - ACTUATE - visually check operation of boots
   2. Propeller Anti-ice Switch - ON - check propeller anti-ice ammeter
   3. Pitot Heat Switch - ON - check voltammeter

B. In Flight - Inadvertent icing encounter
   1. Before Entering Visible Moisture
      a. Pitot Heat Switch - ON
   2. If Icing Conditions are inadvertently encountered
      a. Propeller Anti-ice Switch - ON
   3. If Ice Accumulates to approximately 1/2 inch thickness
      a. Surface Deice Switch - ACTUATE

NOTES

1. This aircraft is not approved for flight in icing conditions since wing, horizontal stabilizer and vertical stabilizer deice boots alone do not provide adequate protection for the entire aircraft. If icing is encountered inadvertently, close attention should be given to the pitot-static system, propellers, induction system and other components subject to icing, and appropriate action taken to leave the icing area as soon as possible.

2. The deice system will operate satisfactorily on either or both engines. During single-engine operation, suction to the gyros will drop momentarily during boot inflation cycle.

Electrical output of one alternator may be insufficient for sustained flight, depending on flight conditions (IFR, night, icing). Check voltammeter.

3. Proper operation of propeller anti-ice system is indicated by periodic flucuations of from 8 to 12 amps. on propeller anti-ice ammeter. A reading below 8 ampères indicates that the blades of the propellers are not being deiced uniformly. Should this occur, it is imperative that the system be turned OFF. Do not operate when propellers are static.

4. Positioning the surface deice switch to ACTUATE will result in one complete inflation and deflection cycle lasting approximately 30 seconds.

SECTION 3 - EMERGENCY PROCEDURES

A. If Uneven Deicing of Propeller Blades is indicated
   1. Propeller Anti-ice Switch - OFF

SECTION 4 - PERFORMANCE

Performance is not affected by the installation of the deice system.

SUPPLEMENT C — PARACHUTIST VERSION

SECTION 1 - OPERATING LIMITATIONS

Maximum number of persons on board including pilot: 7
Maximum weight of aircraft allowed at take-off: 4321 lbs (1960 kg)
Maximum speed allowed: 150 KIAS
Minimum control speed: 65 KIAS
Maximum flap angle extension during jumps: 15°
Length of the static line: 3.50 mt
All other limitations indicated in the Flight Manual are also applicable, unless contradictory to those mentioned above.

SECTION 2 - NORMAL PROCEDURES

a. External checks
In addition to normal checks:
— Right wheel fairing (if installed) - REMOVED.
— Baggage compartment door - REMOVED

b. Internal checks
In addition to normal checks:
— Interior equipment according to « PARTENAVIA SPECIFICATION » for parachutist version
— Seating of parachutists on board according to the enclosed graph

c. In flight
— The parachutists must hold onto the proper handles during take-off, flight in turbulent air conditions and landing
— Configuration and speed: Flaps = 15°; Speed = 70 ÷ 75 KIAS; Engines = Low power
— In the case of static line dropping, the pilot must not be responsible for the recovery of the static lines. They must be withdrawn and fixed on board by a person not involved in the piloting of the aircraft.

SECTION 3 - EMERGENCY PROCEDURES

The relative sections of the Flight Manual are to be applied with the exception of higher value of the minimum control speed, Vmc = 65 KIAS

Section 7
SUPPLEMENT C

SECTION 4 - PERFORMANCE

The indicated stall airspeed values, with the door removed, are modified as follows:

— Flaps retracted	Vs = 65 KIAS
— Flaps 15°	Vs = 62 KIAS
— Flaps 35°	Vs = 60 KIAS

SECTION 5 - LOADING

To obtain the empty weight and the moment for the parachutist version, apply the following corrections to the STD empty equipped weight and moment respectively:
— 37.9 Kg
+ 14.832 m.Kg
Add the weights and moments obtained from the « Load Graph » to the empty equipped weight and moment for the parachutist version.
Take-off weight should not exceed 4321 lbs (1960 Kg); weight and moment should be contained within the allowed envelope shown in the Weight and Balance data sheet N. 3.

EXAMPLE	WEIGHTS	MOMENT
STD empty equipped weight of aircraft	1250,4 —	536,490 +
Correction to pass from STD to parachutist version	37,9 =	14.832 =
Empty equipped weight for parachutist version	1212,5	551,322
Pilot plus parachutist (copilot)	172	— 165,000
Parachutists 2nd row	172	— 35,000
Parachutists 3rd row	172	+ 145,000
Parachutists - rear	86	+ 132,000
Engine oil (full)	13	+ 1,300
Fuel	132,5	+ 100,000
	1960.0	729,622

Section 7
SUPPLEMENT C

Equipped empty weight
STD version

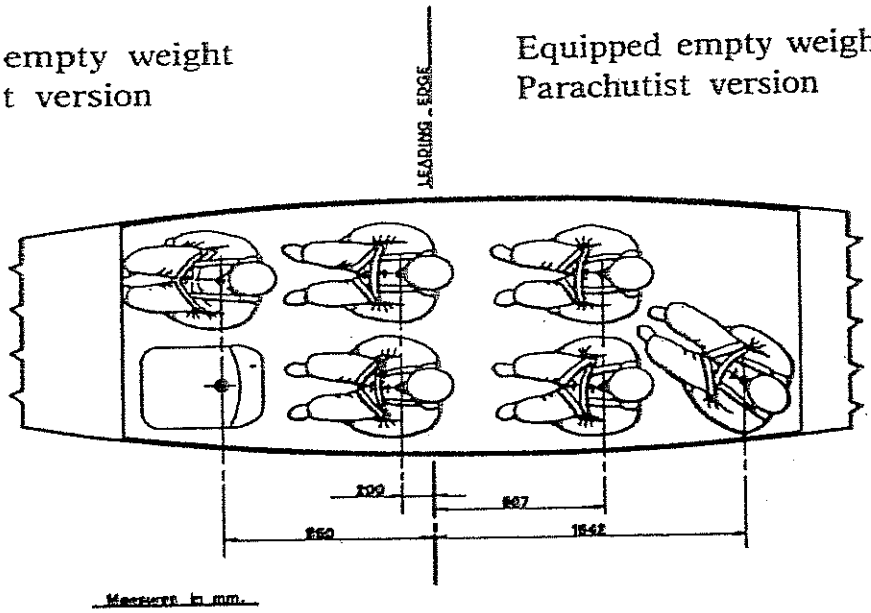
— 37,9 Kg

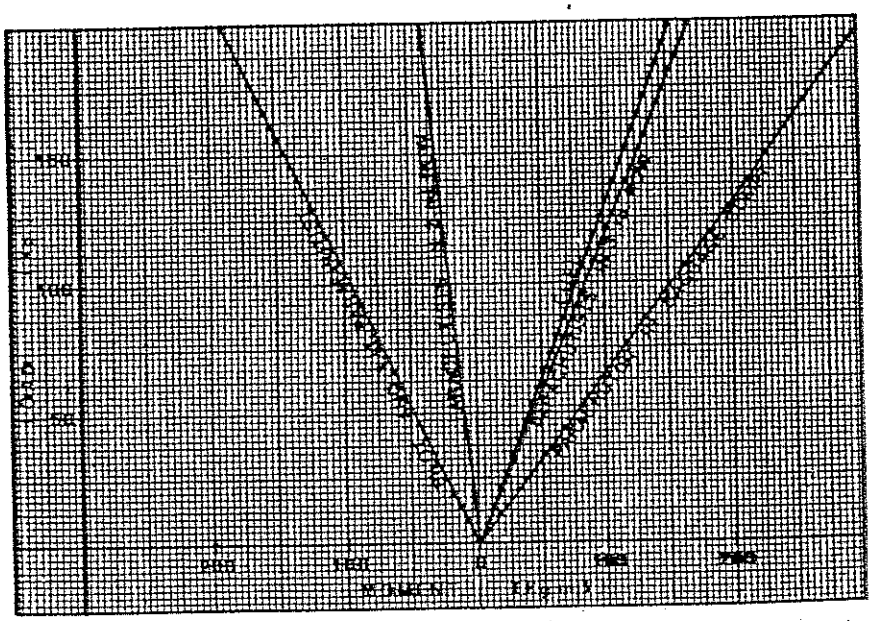
Equipped empty weight moment
STD version

+ 14,832 Kgm

Equipped empty weight
Parachutist version

Equipped empty weight moment
Parachutist version





Add the load weights and moments to the equipped empty weight and moment. The total weight and moment values thus obtained must correspond to a point within the envelope of the centre of gravity positions.

SUPPLEMENT D — EDO-AIRE MITCHELL CENTURY III AUTOPILOT AND ELECTRIC TRIM MODEL AK 511

SECTION 1 - OPERATING LIMITATIONS

1. Autopilot OFF during take-off and landing.
2. Maximum airspeed for autopilot operation is 190 kts. CAS.
3. Maximum speed for flap operation during autopilot operation is 100 kts. CAS.
4. During autopilot operation, initial flap actuation limited to 15°. After airspeed is stabilized, flaps may be extended to 35°.
5. Missed Approach (GO-AROUND) manoeuvre not authorized on autopilot.
6. During autopilot operation, the pilot must be in his seat with the seat belt fastened.

SECTION 2 - NORMAL OPERATING PROCEDURES

A. Pre-Flight

1. Roll Section

a. Place Radio Coupler in « Heading » mode and place Roll rock switch « ON » to engage roll section.
Rotate roll command knob left and right and observe th control wheel describes a corresponding left and right tu then center knob.

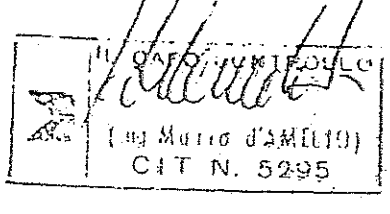
b. Set proper D.G. Heading on D.G. and turn Heading Bug aircraft heading. Engage « Heading » mode rocker switch a rotate heading bug right and left.
Aircraft control wheel should turn in the same direction Bug. Grasp control wheel and manually override servo, in b directions.

c. Disengage Autopilot by depressing trim switch. Check Aile operation is free and A/P is disconnected from controls.

2. Pitch Section

a. Engage « Roll » rocker switch.

b. Center pitch command disc and engage « Pitch » rocker swi



c. Rotate pitch command disc up and then down and check control yoke moves same direction. Check to see that servo can be overridden by hand at control wheel.

NOTE: Autopilot might not be able to raise elevators, on ground, without assistance from pilot.

d. Hold control yoke and disengage Autopilot by pressing Master A/P Disconnect/Trim Interrupt switch button. Check Roll and Pitch controls to assure autopilot has disconnected.

3. Trim System

General

This aircraft is equipped with a Command Trim System designed to withstand any type of single malfunction, either mechanical or electrical, without uncontrolled operating resulting. The pre-flight check procedure is designed to uncover hidden failures that might otherwise go undetected. Proper operation of the electric elevator trim system is predictated on conducting the following pre-flight check before each flight.

If the trim system fails in any part of the procedure, pull the trim circuit breaker out until trim system is repaired.

Substitution of any trim system component for another model is not authorised. For emergency interrupt information, refer to Section 2 (D) of this Supplement.

The command Electric Trim Switch on the left hand side of the pilot's control wheel has two functions:

a. When the top bar (AP OFF) is pressed, it disconnects the Autopilot.

b. When the top bar is pressed AND the rocker is moved forward, nose down trim will occur; when moved aft, nose up trim will occur.

Pre-Flight: Command Trim - *Before Each Flight*

a. Check trim circuit breaker - IN.
b. Trim Master Switch - ON.
c. AP OFF - Check normal trim operation - UP. Grasp trim wheel and check override capability. Check nose down operation. Recheck override.

d. Activate centre bar only - Push rocker fore and aft - only. Trim should not operate with either separate action.

Autotrim - *Before Each Flight*

a. AP ON - (Roll and Pitch Sections) Check automatic operation by activating autopilot pitch command UP then DN. Observe trim operation follows pitch command direction.

NOTE: In autopilot mode, there will be approximately a 3 second delay between operation of pitch command and operation of trim.

b. Press centre bar (AP OFF) - release - check autopilot disengagement.

c. Rotate trim wheel to check manual trim operation. Reset to take-off position prior to take-off.

B. In-Flight

1. Trim aircraft (Ball centred)
2. Check air pressure or vacuum to ascertain that the directional gyro and attitude gyro are receiving sufficient air.
3. Roll Section
   a. To engage centre ROLL knob, push ROLL rocker to « ON » position. To turn, rotate console ROLL knob in desiderd direction.
   b. For heading mode, set directional gyro with magnetic compass. Push directional gyro HDG knob in, rotate to select desired heading. Push console heading rocker (HDG) to « ON » position. (Maximum angle to bank will be 20° with heading lock engaged).
4. Pitch Section (Roll Section must be engaged prior to pitch section engagement).
   a. Centre pitch trim indicator with the pitch command disc.
   b. Engage pitch rocker switch. To change attitude, rotate pitch command disc in the desired direction.
5. Altitude Hold

   Upon reaching desired or cruising altitude, engage altitude hold mode rocker switch. As long as Altitude Hold mode rocker is en

gaged, aricraft will maintain selected altitude. For maximum passenger comfort, rate of climb or descent should be reduced to approximately 500 ft/m prior to altitude hold engagement. For accurate Altitude Holding below 100 knots, initially lower flaps 15°. After airspeed stabilization, lower flaps additionally, as desired.

6. Radio Coupling VOR/ILS with H.S.I. type instrument display. (Optional)

   VOR Navigation

   a. Tune and identify VOR Station. Select desiderd course with O.B.S. (OMNI Bearing Selector) (Course Selector of H.S.I. Instrument).
   b. Select OMNI mode on Radio Coupler.
   c. Select HDG mode on autopilot console to engage coupler. Aircraft will turn to a 45° intercept angle to intercept the selected VOR course. Intercept angle magnitude depends on radio needle off-course magnitude, 100 % needle deflection will result in 45° intercept angle, diminishing as the needle off-set diminshes.
   d. NAV mode - NAV mode provides reduced VOR sensitivity for tracking weak or noisy VOR signals.
      NAV mode should be selected after the aircraft is established on course.

   ILS - LOC Front Course.

   a. Set inbound, front, localizer course on O.B.S. (Course Selector Knob).
   b. Select LOC - Normal on Radio Coupler to intercept and track inbound on the localizer. Select LOC - REV to intercept and track the localizer course outbound to procedure turn area.
   c. Select HDG mode on autopilot console to engage coupler.

   ILS - Back Course.

   a. Set inbound, front, localizer course on O.B.S. (Course Selector Knob).
   b. Select LOC-REV on radio coupler to intercept and track inbound on the back localizer course. Select LOC-NOR to inter-

cept and track outbound on the back course to the procedure turn area.

c. Select HDG mode on autopilot console to engage coupler.

7. Radio Coupling - VOR/ILS with standard directional gyro.
Radio Coupler operation in conjunction with a standard directional gyro and VOR/LOC display differs from operation with an intetgrated display (H.S.I.) only in one respect.
The HDG bug is used as the radio course datum and therefore must be set to match the desired VOR/ILS course as selected on the O.B.S.

1. For VOR Intercepts and Tracking:
Select the desired VOR course and set the HDG bug to the same heading. Select OMNI mode on the coupler and HDG mode on the autopilot console.

2. For ILS Front Course Intercepts and Tracking:
Tune the localizer frequency and place the HDG bug on the inbound, front course heading. Select LOC-NOR mode on the Soupler and HDG mode on the autopilot console.

3. For LOC Back Course Intercepts and Tracking:
Tune the localizer frequency and place the HDG bug on the inbound course heading to the airport.
Select LOC-REV mode with coupler and HDG mode on the autopilot console.

C. Coupled Approach Operations

VOR or LOC

a. After arrival at the VOR Station, track outbound to the procedure turn area as described in Section B (6) or (7), as appropriate, and slow to 100 Kts. CAS and initially extend flaps 15°. After airspeed has stabilized, lower flaps as desired.

b. Use HDG mode and Pitch or Altitude Hold modes as appropriate during procedure turn.

c. At the F.A.F. inbound, return to pitch mode for control of descent

d. At the M.D.A. Select Altitude Hold mode and add power for level flight. Monitor Altimeter to assure accurate altitude control is being provided by the autopilot.

e. GO AROUND. The Go Around or Missed Approach manoeuvre is not authorised while operating with the autopilot engaged. At the Missed Approach point (or D.H.) disengage autopilot and prepare for landing or conduct the Missed Approach. After the Missed Approach Climb is established and the flaps are retracted, the autopilot may be re-engaged for Climb Out. Flap retraction during autopilot operation may cause a significant altitude loss depending upon aircraft configuration and power. (Refer to Limitations, Section I).

ILS-Front Course Approach with Glide Slope Capture (Optional)

a. Track inbound to L.O.M. as described in B- (6) or (7) above and in Altitude Hold mode.

b. Inbound to L.O.M. slow to 100 Kts. IAS and lower flaps 25° to 35°.

c. Automatic Glide slope capture will occur at Glide Slope intercept if the following conditions are met:
   1. Coupler in LOC-Normal mode.
   2. Altitude Hold mode engaged (Altitude Rocker or Console).
   3. Under Glide Slope for more than 20 seconds.
   4. Localizer radio frequency selected on NAV Receiver.

d. At Glide Slope Intercept immediately reduce power to maintain 90-100 Kts. CAS on final approach. Glide Slope capture is indicated by lighting of the green Glide Slope engage Annunciator Lamp and by a slight pitch down of the aircraft.

e. Monitor localizer and Glide Slope raw data throughout approach. Adjust power as necessary to maintain correct final approach airspeed. All power changes should be of small magnitude and smoothly applied for best tracking performance. Do not change aircraft configuration during approach while autopilot is engaged.

f. Go around or Missed Approach manoeuvre not authorised. Refer to Item C (e) above.

NOTE: Glide Slope coupler will not automatically decouple from Glide Slope.

Decoupling may be accomplished by any of the following means:
1. Disengage Altitude Mode.
2. Switch Radio Coupler to HDG Mode.
3. Disengage Autopilot.

SECTION 3 - EMERGENCY PROCEDURES

This aircraft is equipped with a Master Disconnect/Interrupt Switch on the pilot's control wheel. When the switch button is depressed it will disconnect the autopilot. When depressed and held it will interrupt all Electric Elevator Trim Operations. Trim operations will be restored when the switch is released. If any autopilot or trim emergency is encountered, do not attempt to determine which system is at fault. Immediately depress and hold the Master Disconnect/Interrupt button. Turn off autopilot and trim master switch retrim aircraft, then release the interrupt switch.

NOTE: During examination of this supplement, the pilot is advised to locate and identify the autopilot controls, the trim master switch and circuit breakers for both systems.

1. In the event of an autopilot malfunction, the autopilot can be: uncoupled, single or multi-engine.
   a. Overpowered at either control wheel.
      CAUTION: Do not overpower autopilot pitch axis for period longer than 3 seconds because the autotrim system will operate in a direction to oppose the pilot and will, thereby, cause an increase in the pitch overpower forces.
   b. Disconnected by depressing the Master Disconnect/Interrupt Switch.
   c. Disconnect by depressing the Trim Ewitch « AP OFF » bar.
   d. Disconnect by pushing the roll rocker switch OFF.

2. In the event of a trim malfunction:
   a. Depress and hold the Master Trim Interrupt Switch.
   b. Trim Master Switch - OFF. Retrim aircraft as necessary using manual trim system.
   c. Release Master Interrupt Switch - be alert for possible trim action
   d. Trim Circuit Breaker - Pull. Do not operate trim until problem corrected.

3. If a trim runway occurs with the autopilot operating, the above procedures will disconnect the autopilot which will immediately resu

in higher control heel forces. Be prepared to manually retrim as necessary to eliminate undesiderable forces.

4. Altitude Loss During Malfunction:
   a. An autopilot malfunction during Climb Cruise or Descent with a 3 second delay in recovery initiation could result in as much as 60° and 200 feet altitude loss.
   b. An autopilot malfunction during an approach with a 1 second delay in recovery initiation could result in as much as 20° and 100 feet altitude loss.
   Maximum altitude loss measured in approach configuration gear down and operating either coupled or uncoupled, single or multi-engine.

5. Single Engine Operations:
   a. Engine failure during an autopilot approach operation: Disengage autopilot conduct remainder of approach manually.
   b. Engine failure during normal Climb, Cruise, Descent: Retrim aircraft, perform normal aircraft engine out procedures.
   c. Maintain aircraft yaw trim throughout all single engine operations.

SECTION 4 - PERFORMANCE

No change.

SUPPLEMENT E — HEATING, VENTILATING AND DEFROSTING SYSTEM JANITROL MODEL B-2030 COMBUSTION HEATER

SECTION 1 - GENERAL

Heated air for cabin heat and windshield defrosting is provided by a Janitrol (Aero Division, Model B-2030) combustion heater located in the aft fuselage behind the cabin baggage compartment.

Air enters the system through an inlet located at the root of the tail vertical fin and after being heated is ducted forward along the cabin floor to outlets at each seat and to the windshield area.

A ceiling switch immersed in the heated air and set to operate at 250°F regulates the temperature according to the request. An overheat switch set to operate at 350°F automatically cuts off the heater should a malfunction occur.

The system may also be used for ventilation both in flight, by utilizang ram air, and on the ground by utilizing the air of the ventilating blower which is part of the combustion heater. Microswitches at the air inlet valve do not permit the operation of the heater unless the air valve is fully open, which is obtained by pulling the CABIN AIR handle all the way.

SECTION 2 - OPERATION

HEATING MODE

To activate the combustion heater

a) CABIN AIR handle: OPEN (completely)
b) CABIN TEMP. handle: INCREASE
c) HEATER Switch: HEATER
d) CABIN TEMP. handle: adjust as desired when cabin temperature rises

To disactivate the combustion heater

In Flight

a) HEATER Switch: OFF
b) CABIN AIR handle: As desired

On the ground

a) HEATER Switch: FAN for at least two minutes and then OFF
b) CABIN AIR handle: CLOSE only after swtiching heater OFF

WARNING: If the HEATER OVERHEAT light illuminates, switch the heater off and do not attempt to restart it until the cause of the mal function has been determined and corrected.

NOTE: To increase windshield defrosting close all individual air outlets

VENTILATION MODE

On the ground
a) CABIN AIR handle: OPEN (completely)
b) HEATER switch: FAN

In flight
a) CABIN AIR handle: OPEN

SECTION 3 - PLACARDS

ON INSTRUMENT PANEL

Near the heater switch: FAN - OFF - HEATER
Near the cabin air control handle: CABIN AIR - PULL TO OPEN
Near the cabin temperature control handle: CABIN TEMP. - PULL TO INCREASE
Near the red warning light of the heater overheat: HEATER OVER HEAT.

R.A.I. Approval No. 130566/
Date 14-4-19

SUPPLEMENT E/1 — HEATING AND VENTILATING SYSTEM JANITROL MODEL B-4050 COMBUSTION HEATER

SECTION 1 - GENERAL

Heated Air for Cabin heat is provided by a Janitrol (Aero Division, Model B-4050) combustion heater located in the aft fuselage behind the cabin baggage compartment.

Air enters the systems through an inlet located at the root of the tail vertical fin and after being heated is ducted forward along the cabin floor to outlets at each seat.

A cycling switch immersed in the heated air and set to operate at 250°F regulates the temperature according to the request. An overheat switch set to operate at 350°F automatically cuts off the heater should a malfunctior occur.

The system may also be used for ventilation both in flight by utilizing ram air and on the ground by utilizing the air of the ventilating blower which is part of the combustion heater.

Microswitches at the air inlet valve do not permit the operation of the heater unless the air valve is fully open, which is obtained by pulling the CABIN AIR handle all the way.

SECTION 2 - OPERATION

HEATING MODE

To activate the combustion heater

a) CABIN AIR handle: OPEN (immediately)
b) CABIN TEMP. handle: INCREASE
c) HEATER Switch: HEATER
d) CABIN TEMP. handle: adjust as desired when cabin temperature rises.

To disactivate the combustion heater

In Flight

a) HEATER Switch: OFF
b) CABIN AIR handle: As desired

On the ground

a) HEATER Switch: FAN for at least two minutes and then OF

b) CABIN AIR handle: CLOSE only after switching heater OFF

WARNING: If the HEATER OVERHEAT light illuminates, switch heater off and do not attempt to restart it until the cause of the malfunction has been determined and corrected.

VENTILATION MODE

On the ground

a) CABIN AIR handle: OPEN (completely)
b) HEATER Switch: FAN

In Flight

a) CABIN AIR handle: OPEN

SECTION 3 - PLACARDS

ON INSTRUMENT PANEL

Near the heater switch: FAN - OFF - HEATER
Near the cabin air control handle: CABIN AIR - PULL TO OPEN
Near the cabin temperature control handle: CABIN TEMP. - PULL TO INCREASE
Near the red warning light of the heater overheat: HEATER OVERHEAT.

SUPPLEMENT L — OPTIONAL AUXILIARY FUEL WING TANKS

SECTION 1 - DESCRIPTION

Optional auxiliary fuel tanks of integral type are contained in the wings outboard of the main tanks.
There are no separate fuel selector controls for these tanks. Fuel is pumped from the auxiliary fuel tank directly into the same side main tank with a fuel transfer pump through a switch located in the overhead fuel panel.
Indicator lights mounted near the main tanks fuel quantity indicator are illuminated by pressure switches when all usable fuel has been transferred.
To prevent overflow of the main tank fuel should not be transferred until the remaining fuel in the main tank is half full or less.

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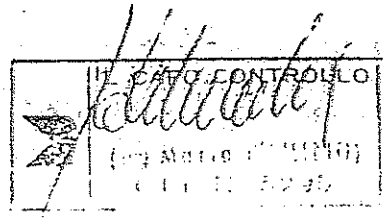
SECTION 2 - OPERATING LIMITATIONS & PLACARDS

Total fuel per aux. tank: 22.5 U.S.G. (85 lt)
Usable fuel per aux. tank: 21.5 U.S.G. (81 lt)
Near transfer pump switches:
« TRANSFER AUX. TANK FUEL WHILE IN LEVEL FLIGHT AND WITH THE MAIN TANK HALF FULL OR LESS ».
Near transfer pump lights:
« TURN TRANSFER PUMPS OFF WHEN LIGHTS ILLUMINATE ».
Near Auxiliary Fuel Tank Filler
« AUX. FUEL - 100/130 AVIATION GRADE MINIMUM - USABLE 21.5 U.S.G. ».
Near Auxiliary Fuel Tank Drain
« AUX. TANK DRAIN ».

SECTION 3 - OPERATING PROCEDURE

1) To transfer fuel from the Auxiliary Tank to the same side main tank:
   — Fuel transfer pump switch: ON

2) When fuel transfer has been completed the fuel pump transfer light will illuminate, at that time:
   — Fuel transfer pump switch: OFF



NOTE 1

To avoid overflow of main tank do not start transfer with main tank more than half full.

NOTE 2

The transfer of all usable fuel is ensured only with the airplane in level flight.

NOTE 3

If fuel is transferred from only one auxiliary tank, to equalize fuel in main tank use crossfeed.

WARNING

Fuel transfer pumps use fuel for lubrication; there in order not to shorten their lives they should be turned off when the transfer lights illuminate.

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SUPPLEMENT P — « AIRBORNE-KLEBER » WING/EMPENNAGE PNEUMATIC DE-ICING SYSTEM AND « GOODRICH » ELECTROTHERMAL PROPELLER DE-ICING

SECTION 1 - OPERATING LIMITATIONS

A. This aircraft is not approved for flight in known icing conditons.

B. PLACARDS

1. In full view on instrument panel: « THIS AIRCRAFT IS NOT APPROVED FOR FLIGHT IN KNOWN ICING CONDITIONS ».
2. Near the Wing/empennage de-icing warning light: « IF THE LIGHT REMAINS ON FOR MORE THAN 20 SECONDES, TURN THE SWITCH TO MANUAL-OFF ».

C. MARKING

1. Propeller anti-ice ammeter: Green Arc 8 to 12 Amps

SECTION 2 - OPERATING PROCEDURE

A. PRE-FLIGHT CHECK

1. Wing/Empennage de-icing switch « ON »
   — Warning light « ON »
   — De-icing boots INFLATED
2. Wing/Empennage de-icing switch « OFF »
   — Warning Light OFF
3. Propeller Anti-ice Switch « ON »: Check propeller anti-ice ammeter
4. Pitot Heat Switch « ON »: Check Voltammeter

NOTE

During the ground check avoid actuating the Wing/Empennage de-icing system at intervals of less than 1 minute.

B. IN FLIGHT (Accidental encounter with icing conditions)

1. Before operating in visible moisture conditions:
   a. PITOT Tube switch: ON
2. If icing conditions are inadvertently encountered
   a. Propeller Anti-ice switch: ON

3. If ice accumulates to approximately 1/2 inch thickness
   a. Surface de-icing switch: ACTUATE

NOTES

1. This airchaft is not approved for flight in icing conditions since the de-icing system does not provide adequate protection for the entire aircraft.
2. The de-icing system will operate satisfactorily on either or both engines. During single-engine operation, pressure to the gyros will drop momentarily during boot inflation cycle. Electrical output of one alternator may be insufficient for sustained flight, depending on flight conditions (IFR, night, icing). Check voltammeter.
3. Proper operation of propeller anti-ice system is indicated by periodic fluctuations of from 8 to 12 amps on propeller anti-ice ammeter. A reading below 8 ampères indicates that the blades of the propellers are not being deiced uniformly. Should this occur, it is imperative that the system be turned OFF. Do not operate when propellers are static.

Severe icing may result from environmental conditions outside of those for which the aircraft is certificated.

Flight in freezing rain, freezing drizzle, or mixed icing conditions (super cooled liquid water and ice crystals) may result in

- ice build-up on protected surfaces and exceed the capability of the ice protect system, or
- ice forming aft of the protected surfaces.

This ice may not be shed using the ice protection systems, and may seriously degrade the performance and controllability of the aircraft.

During flight, severe icing conditions that exceed those for which the aircraft is certificated shall be determined by the visual cues described below. If one or m of these visual cues exists, immediately request priority handling from Air Traff Control to facilitate a route or an altitude change to exit the icing conditions. cues are:

- unusually extensive ice accumulation on the airframe and windscreen in are normally observed to collect ice, and/or
- accumulation of ice on the lower surface of the wing aft of the protected ar and/or
- accumulation of ice on the engine nacelles and propeller spinners farther af normally observed.

If the visual cues which are specified in the Limitations Section of the AFM identifying severe icing conditions are observed, accomplish the following:

- Immediately request priority handling from Air Traffic Control to facilitat route or an altitude change to exit the severe icing conditions in order to extended exposure to flight conditions more severe than those for which aircraft has been certificated.
- Avoid abrupt and excessive manoeuvring that may exacerbate control difficulties.

- If the autopilot had previously been engaged, hold the control wheel firmly a disengage the autopilot
- If an unusual roll response or un-commanded roll control movement is obse reduce the angle-of-attack
- Do not extend flaps when holding in icing conditions. Operation with flaps extended can result in a reduced wing angle-of-attack, with the possibility o forming on the upper surface further aft on the wing than normal, possibly a the protected area.
- If the flaps are extended, do not retract them until the airframe is clear of ic
- Report these weather conditions to Air Traffic Control