

SECTION I

LIMITATIONS

Airspeeds quoted in this section are Calibrated Airspeeds (CAS) unless otherwise noted.

Observance of the limitations listed is mandatory.

ENGINES

Take-off and Maximum Continuous Power 2900 rpm at 41.5 in. Hg

Airplane serials P-144 and after (and prior to P-144 when equipped with TIO-541-E1C4 Engines, one or both)

Cruise Power above 27,000 ft 2750 rpm and 31 in. Hg (Minimum)

Engine must be preheated before starting when ambient temperatures are below 10°F (-12°C).

Oil Cooler Baffles are to be removed when OAT exceeds 20°C.

PROPELLERS

Two Hartzell constant speed, full feathering, three-bladed propellers using; HC-F3YR-2 hubs with C7479-2R blades and C3273 spinner assemblies; Pitch setting at 30-inch station: Low, 14°; High, 81.7°. Diameter 74 inches, no cut-off permitted.

STARTERS

When restarting an engine in flight do not use the starter above 20,000 feet.

FUEL GRADE

100/130 (Green) Aviation Gasoline minimum grade

115/145 (Purple) Aviation Gasoline alternate grade.

FUEL CAPACITY

Baffled fuel cells installed in both wings

(207 gallon capacity)

. 204 gallons usable or
202 gallons usable after compliance with S.I. 0559-281

Unbaffled fuel cells in either or both wings

(207 gallon capacity)

. 204 gallons usable or
192 gallons usable after compliance with S.I. 0559-281

FUEL MANAGEMENT

Do not take-off if fuel quantity gages indicate in Yellow Arc or with less than 25 gallons of fuel in each main tank.

INSTRUMENT MARKINGS

Oil Temperature	
Minimum (Red Radial) Reference Service Instruction No. 0272-391	38°C
Normal Operating Range (Green Arc)	38 to 118°C
Maximum (Red Radial)	118°C
Oil Pressure	
Minimum Idle (Red Radial)	10 psi or 25 psi
Normal Operating Range (Green Arc)	60 to 90 psi
Maximum (Red Radial)	100 psi
Fuel Flow	
Green Arc	.60 to 330 pph
55%	.93 to 110 pph
65%	110 to 131 pph
75%	131 to 142 pph
Manifold Pressure	
Normal Operating Range (Green Arc)	14 to 41.5 in. Hg
Maximum (Red Radial)	41.5 in. Hg
Tachometer	
Normal Operating Range (Green Arc)	2350 to 2900 rpm
Maximum (Red Radial)	2900 rpm
Cylinder Head Temperature	
Normal Operating Range (Green Arc)	121 to 232°C
Maximum (Red Radial)	246°C
Turbine Inlet Temperature (Red Radial)	
	900°C
Instrument Air	
Caution Range (Yellow Arc)	2.5 to 3.5 in. Hg
Normal Operating Range (Green Arc)	3.5 to 5.5 in. Hg
Caution Range (Yellow Arc)	5.5 to 6.5 in. Hg
Red Button Source Failure Indicators	
Normal Operating Range (Green Arc)	.7 to 20 psi
(Red Radial)	20 psi
Cabin Differential	
Normal Operating Range (Green Arc)	0 to 4.7 psi
Maximum (Red Arc)	4.7 psi
Propeller Anti-Ice Normal	
Operating Range (Green Arc)	14 to 18 amps
Fuel Quantity Indicators	
No Take-off (Yellow Arc)	0 to 25 gals

AIRSPPEED LIMITATIONS (CAS)

Maximum Allowable (Red Radial) (Glide or Dive, Smooth Air)	. . . . .	270 mph/235 kts
Caution Range (Yellow Arc)	. . . . .	240 to 270 mph/208 to 235 kts
Normal Operating Range (Green Arc)	. . . . .	98 to 240 mph/85 to 208 kts
Flap Operating Range (White Arc)	. . . . .	88 to 156 mph/76 to 135 kts
Approach Position - 15°	. . . . .	202 mph/175 kts
Full Down Position - 30°	. . . . .	156 mph/135 kts
Single-Engine Best Rate-of-Climb (Blue Radial)	. . . . .	129 mph/112 kts
Minimum Single-Engine Control Speed (Red Radial)	. . . . .	101 mph/88 kts
Maximum Gear Operation Speed	. . . . .	202 mph/175 kts
Maximum Gear Extended Speed	. . . . .	202 mph/175 kts
Maximum Design Maneuvering	. . . . .	186 mph/161 kts
Maximum Demonstrated Crosswind	. . . . .	29 mph/25 kts

ALTITUDE LIMITATION 30,000 ft

MANEUVERS

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

Maximum slip duration 30 seconds

FLIGHT LOAD FACTORS

At design Gross Weight of 6775 lbs: Positive; Flaps Up 3.5 G, Flaps Down 2.0 G.

CENTER OF GRAVITY (Landing Gear Extended)

Forward Limits: 128.0 inches aft of datum at 5100 lbs and under, then straight line variation to 134.6 inches aft of datum at gross weight of 6775 lbs.

Aft Limits: 139.2 inches aft of datum at all weights.

WEIGHTS

Maximum Take-off Weight 6775 lbs

Maximum Landing Weight (Serials P-190, P-192 and after) 6775 lbs

Maximum Landing Weight (Serials P-4 through P-189 and P-191)
Reference Service Instruction No. 0536-202

8-ply Tires with original unmodified shock strut orifice
P/N 60-810012-13 LH, 60-810012-14 RH, or lower dash numbers 6600 lbs

10-ply Tires with original unmodified shock strut orifice
P/N 60-810012-13 LH, 60-810012-14 RH, or lower dash numbers 6450 lbs

10-ply Tires with modified or replacement shock strut orifice
P/N 60-810012-15 LH, 60-810012-16 RH, or higher dash numbers 6775 lbs

8-Ply Tires with modified or replacement shock strut orifice
P/N 60-810012-15 LH, 60-810012-16 RH, or higher dash numbers 6600 lbs

Maximum Ramp Weight 6819 lbs

CABIN PRESSURIZATION

Maximum operating cabin pressure differential is 4.7 psi.
Fuselage pressure vessel structural life limit - 15,000 hrs.

AFT FACING CHAIRS

Only aft facing seats are authorized in the aft facing position.
The headrest and seat back of the aft facing seat must be in the fully raised position for take-off and landing.

PLACARDS

On the right side wall:

AIRSPEED LIMITATIONS

GEAR	FLAP	
MAX. EXTEND 174 KTS IAS MAX. OPERATION 174 KTS IAS	MAX. APPROACH 174 KTS IAS MAX. FULL 134 KTS IAS	

MIN SINGLE ENGINE CONTROL 85 KTS IAS - MAX. MANEUVERING 160 KTS IAS
TWIN ENGINE CLIMBS, BEST ANGLE 99 KTS IAS, BEST RATE 120 KTS IAS

RECOMMENDED APPROACH
98 KTS IAS

DEMONSTRATED CROSSWIND
25 KTS

CAUTION
DO NOT LAND WHILE
PRESSURIZED

OPERATION LIMITATIONS

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 ARE APPROVED

THIS AIRPLANE IS APPROVED FOR VFR, IFR, DAY & NIGHT OPERATIONS
THIS AIRPLANE IS NOT APPROVED FOR FLIGHT IN KNOWN ICING CONDITIONS

Airplanes equipped in accordance with Airplane Flight Manual Supplement FLIGHT IN KNOWN ICING CONDITIONS, P/N 60-590001-17 are approved for flight in known icing conditions and the following placard will be placed on the Operation Limitation panel:

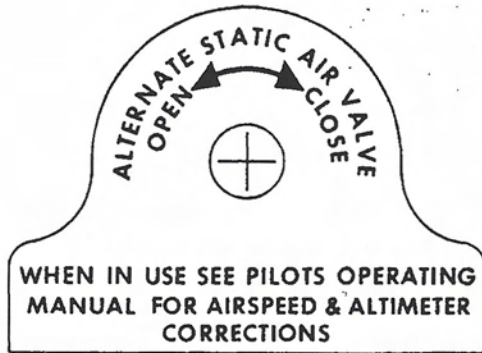
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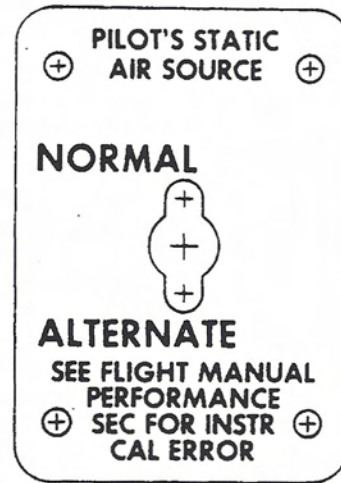
PLACARDS (Continued)

*On these airplanes having
Kit 60-5019-1 installed*

*On the copilot's sidewall:
(P-4 through P-246)*



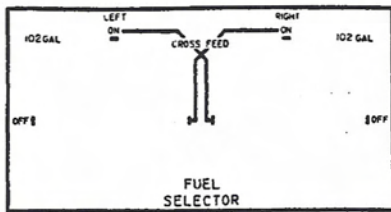
OR



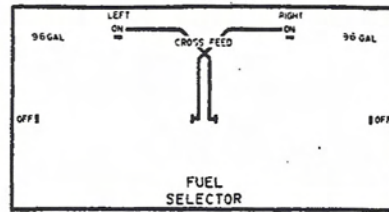
On Fuel Selector Panel on Floor Between Seats:

P-4 through P-195

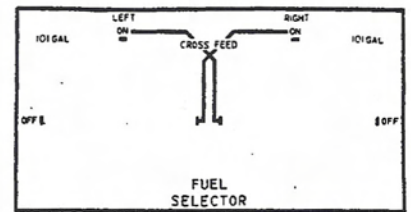
Unbaffled Fuel Cells



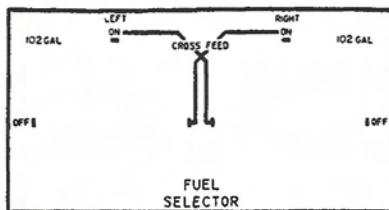
*Unbaffled Fuel Cells after
compliance with S.I. 0559-281*



*Baffled Fuel Cells both sides
per S.I. 0559-281*

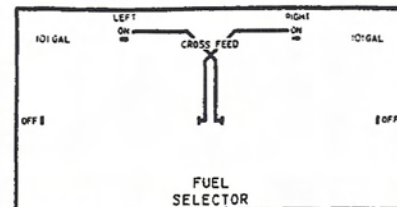


P-196 through P-219

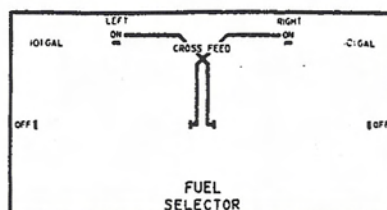


OR

*After compliance
with S.I. 0559-281*

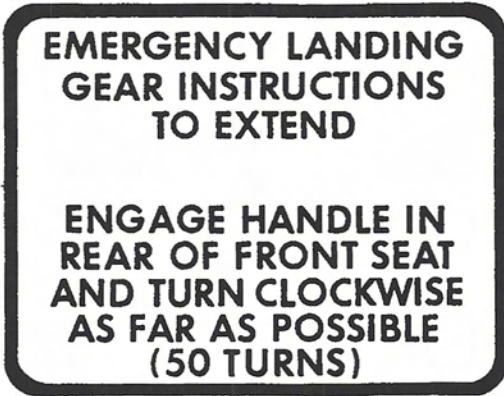


P-220 and after



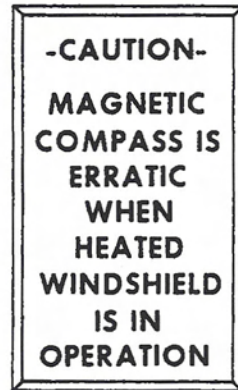
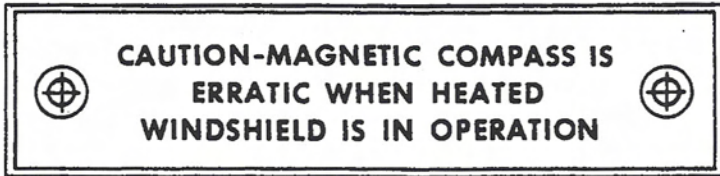
PLACARDS (Continued)

On the main spar cover between the pilot and copilot seats:



Above magnetic compass (Duke 60):

Above magnetic compass (Duke A60):

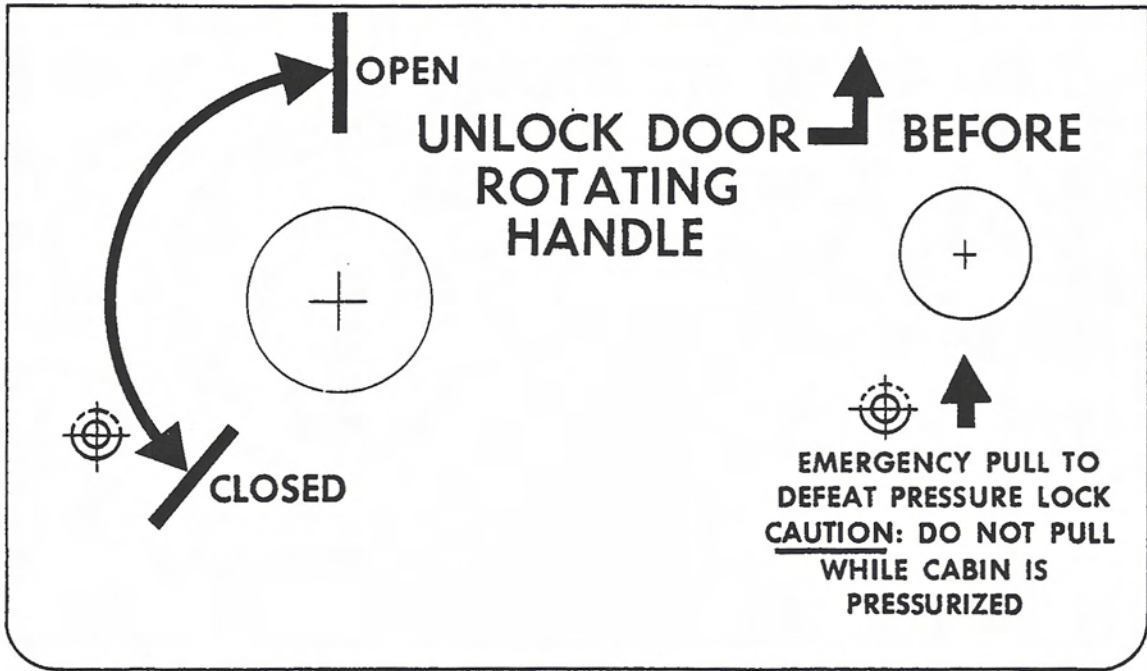


Around each oxygen outlet if installed:



PLACARDS (Continued)

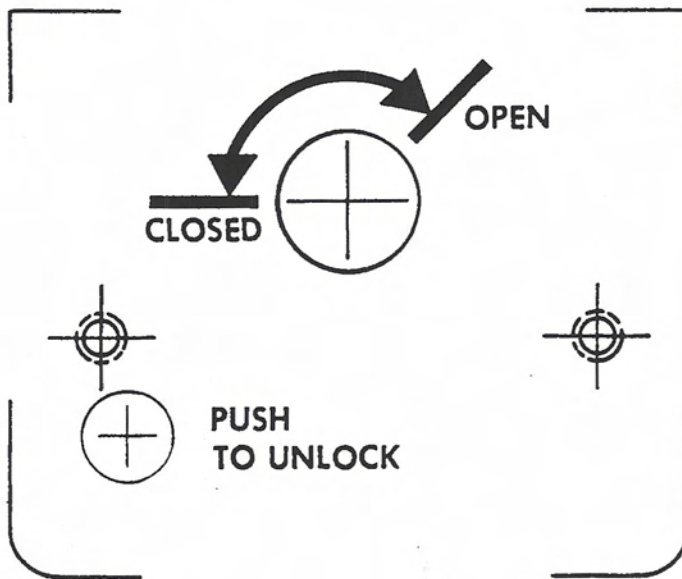
Adjacent to inside cabin door handle (Duke 60):



Adjacent to cabin door handle (Duke 60):



Adjacent to inside cabin door handle (Duke A60):

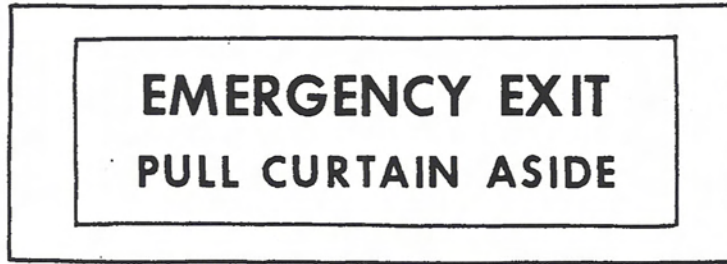


Near cabin door handle (Duke A60):



PLACARDS (Continued)

On headliner above emergency exit window:



On emergency exit:



On cabin sidewalls (Duke A60):



In nose baggage compartment:



**COMPARTMENT LOADING
WEIGHT LIMITATIONS**



STD LOADING 500 LBS MAX.



**SEE WEIGHT & BALANCE SECTION OF FLIGHT MANUAL
FOR ADD'L LIMITATIONS FROM OPTIONAL EQUIP.**



On aft cabin floor with optional fifth and sixth seats installed:



**MAX. BAGGAGE LOAD
ON FLOOR
70 LBS.**



PLACARDS (Continued)

On aft cabin bulkhead upholstery panel above baggage shelf (Duke 60);



**MAX. BAGGAGE LOADS
SHELF 135 LBS
FLOOR 315 LBS
SHELF PLUS FLOOR 315 LBS**



On aft cabin bulkhead upholstery panel (Duke A60):



**MAX. BAGGAGE LOAD
ON FLOOR
315 LBS.**



On aft cabin bulkhead (optional) panel above baggage shelf (Date 80)



MAX. BAGGAGE LOADS
SHELF 135 LBS
FLOOR 315 LBS
SHELF PLUS FLOOR 315 LBS



On aft cabin bulkhead (optional) panel (Date 40)



MAX. BAGGAGE LOAD
ON FLOOR
315 LBS

