

OPERATING LIMITATIONS

TABLE OF CONTENTS

| | Page |
|--|------|
| Introduction | 2-3 |
| Airspeed Limitations | 2-4 |
| Airspeed Indicator Markings | 2-5 |
| Powerplant Limitations | 2-6 |
| Powerplant Instrument Markings | 2-7 |
| Weight Limits | 2-8 |
| Normal Category | 2-8 |
| Maximum Weight in Baggage Compartment - Normal Category | 2-8 |
| Utility Category | 2-8 |
| Maximum Weight in Baggage Compartment - Utility Category | 2-8 |
| Center Of Gravity Limits | 2-9 |
| Normal Category | 2-9 |
| Utility Category | 2-9 |
| Maneuver Limits | 2-10 |
| Normal Category | 2-10 |
| Utility Category | 2-10 |
| Flight Load Factor Limits | 2-11 |
| Normal Category | 2-11 |
| Utility Category | 2-11 |
| Kinds Of Operations Limits | 2-12 |
| Kinds Of Operations Equipment List | 2-13 |
| Fuel Limitations | 2-18 |
| Flap Limitations | 2-18 |
| System Limitations | 2-19 |
| Aux Audio System | 2-19 |
| 12V Power System | 2-19 |
| G1000 Limitations | 2-20 |
| Garmin GFC 700 AFCS (if installed) | 2-21 |
| Terrain Awareness and Warning System (TAWS-B) | 2-22 |
| Placards | 2-23 |

()

()

()

()

()

()

()

INTRODUCTION

Section 2 includes operating limitations, instrument markings, and basic placards necessary for the safe operation of the airplane, its engine, standard systems and standard equipment. The limitations included in this section and in Section 9 have been approved by the Federal Aviation Administration. Observance of these operating limitations is required by Federal Aviation Regulations.

NOTE

- Refer to Supplements, Section 9 of this Pilot's Operating Handbook for amended operating limitations, operating procedures, performance data and other necessary information for airplanes equipped with specific options.
- The airspeeds listed in Figure 2-1, Airspeed Limitations, and Figure 2-2, Airspeed Indicator Markings, are based on Airspeed Calibration data shown in Section 5 with the normal static source. If the alternate static source is being used, ample margins should be observed to allow for the airspeed calibration variations between the normal and alternate static sources as shown in Section 5.

The Cessna Model No. 172S is certificated under FAA Type Certificate No. 3A12.

AIRPEED LIMITATIONS

Airspeed limitations and their operational significance are shown in Figure 2-1. Maneuvering speeds shown apply to normal category operations. The utility category maneuvering speed is 98 KIAS at 2200 pounds.

AIRPEED LIMITATIONS

| SYMBOL | SPEED | KCAS | KIAS | REMARKS |
|----------|---|-----------------|-----------------|--|
| V_{NE} | Never Exceed Speed | 160 | 163 | Do not exceed this speed in any operation. |
| V_{NO} | Maximum Structural Cruising Speed | 126 | 129 | Do not exceed this speed except in smooth air, and then only with caution. |
| V_A | Maneuvering Speed: 2550 Pounds 2200 Pounds 1900 Pounds | 102 95 88 | 105 98 90 | Do not make full or abrupt control movements above this speed. |
| V_{FE} | Maximum Flap Extended Speed: FLAPS 10° FLAPS 10° to FULL | 107 85 | 110 85 | Do not exceed this speed with flaps down. |
| ----- | Maximum Window Open Speed | 160 | 163 | Do not exceed this speed with windows open. |

Figure 2-1

AIRSPED INDICATOR MARKINGS

Airspeed indicator markings and their color code significance are shown in Figure 2-2.

AIRSPED INDICATOR MARKINGS

| MARKING | KIAS VALUE OR RANGE | SIGNIFICANCE |
|------------|---------------------|---|
| Red Arc* | 20 - 40 | Low airspeed warning. |
| White Arc | 40 - 85 | Full Flap Operating Range. Lower limit is maximum weight V_{S0} in landing configuration. Upper limit is maximum speed permissible with flaps extended. |
| Green Arc | 48 - 129 | Normal Operating Range. Lower limit is maximum weight V_{S1} at most forward C.G. with flaps retracted. Upper limit is maximum structural cruising speed. |
| Yellow Arc | 129 - 163 | Operations must be conducted with caution and only in smooth air. |
| Red Line | 163 | Maximum speed for all operations. |

*G1000 airspeed indicator only.

Figure 2-2

POWERPLANT LIMITATIONS

Engine Manufacturer: Textron Lycoming

Engine Model Number: IO-360-L2A

Maximum Power: 180 BHP Rating

Engine Operating Limits for Takeoff and Continuous Operations:

Maximum Engine Speed: 2700 RPM

NOTE

The static RPM range at full throttle is 2300 - 2400 RPM.

Maximum Oil Temperature: 245°F (118°C)

Oil Pressure, Minimum: 20 PSI

Oil Pressure, Maximum: 115 PSI

CAUTION

ENGINE OPERATION WITH INDICATED OIL PRESSURE BELOW THE GREEN BAND RANGE WHILE IN CRUISE OR CLIMB CONFIGURATION IS CONSIDERED ABNORMAL AND SHOULD BE INSPECTED BY QUALIFIED MAINTENANCE PERSONNEL BEFORE NEXT FLIGHT.

Fuel Grade: Refer to Fuel Limitations

Oil Grade (Specification):

MIL-L-6082 or SAE J1966 Aviation Grade Straight Mineral Oil or MIL-L-22851 or SAE J1899 Ashless Dispersant Oil. Oil must comply with the latest revision and/or supplement for Textron Lycoming Service Instruction No. 1014, **must be used**.

Propeller Manufacturer: McCauley Propeller Systems

Propeller Model Number: 1A170E/JHA7660

Propeller Diameter:

Maximum 76 INCHES

Minimum 75 INCHES

POWERPLANT INSTRUMENT MARKINGS

Powerplant instrument markings and their color code significance are shown in Figure 2-3. Operation with indications in the red range is prohibited. Avoid operating with indicators in the yellow range.

POWERPLANT INSTRUMENT MARKINGS

| INSTRUMENT | RED LINE (MIN) | RED ARC (LWR) | YELLOW ARC | GREEN ARC (NORMAL OPERATING RANGE) | RED ARC (UPR) |
|---|------------------------------------|---------------|----------------|---|----------------------|
| Tachometer Sea Level 5000 Feet 10,000 Feet | ---- | ---- | ---- | 2100 to 2500 2100 to 2600 2100 to 2700 RPM | 2700* to 3000 RPM |
| Cylinder Head Temperature | ---- | ---- | ---- | 200 to 500°F | ---- |
| Oil Temperature | ---- | ---- | ---- | 100 to 245°F | 245* to 250°F |
| Oil Pressure | ---- | 0 to 20 PSI | ---- | 50 to 90 PSI | 115* to 120 PSI |
| Fuel Quantity | 0 (1.5 Gallons Unusable Each Tank) | ---- | 0 to 5 Gallons | 5 to 24 Gallons | ---- |
| Fuel Flow | ---- | ---- | ---- | 0 to 12 GPH | ---- |
| Vacuum Indicator | ---- | ---- | ---- | 4.5 to 5.5 in.hg. | ---- |

*Maximum operating limit is lower end of red arc.

Figure 2-3

WEIGHT LIMITS

NORMAL CATEGORY

Maximum Ramp Weight: 2558 POUNDS
Maximum Takeoff Weight: 2550 POUNDS
Maximum Landing Weight: 2550 POUNDS

MAXIMUM WEIGHT IN BAGGAGE COMPARTMENT - NORMAL CATEGORY:

Baggage Area A - Station 82 to 108: 120 POUNDS
..... Refer to note below.
Baggage Area B - Station 108 to 142: 50 POUNDS
..... Refer to note below.

NOTE

The maximum allowable combined weight capacity for baggage in areas A and B is 120 pounds.

UTILITY CATEGORY

Maximum Ramp Weight: 2208 POUNDS
Maximum Takeoff Weight: 2200 POUNDS
Maximum Landing Weight: 2200 POUNDS

MAXIMUM WEIGHT IN BAGGAGE COMPARTMENT - UTILITY CATEGORY:

The baggage compartment must be empty and rear seat must not be occupied.

CENTER OF GRAVITY LIMITS

NORMAL CATEGORY

Center Of Gravity Range:

Forward: 35.0 inches aft of datum at 1950 pounds or less, with straight line variation to 41.0 inches aft of datum at 2550 pounds.

Aft: 47.3 inches aft of datum at all weights.

Reference Datum: Lower portion of front face of firewall.

UTILITY CATEGORY

Center of Gravity Range:

Forward: 35.0 inches aft of datum at 1950 pounds or less, with straight line variation to 37.5 inches aft of datum at 2200 pounds.

Aft: 40.5 inches aft of datum at all weights.

Reference Datum: Lower portion of front face of firewall.

MANEUVER LIMITS

NORMAL CATEGORY

This airplane is certificated in both the normal and utility category. The normal category is applicable to aircraft intended for non aerobatic operations. These include any maneuvers incidental to normal flying, stalls (except whip stalls), lazy eights, chandelles, and turns in which the angle of bank is not more than 60°.

NORMAL CATEGORY MANEUVERS AND RECOMMENDED ENTRY SPEED*

| | |
|---------------------------------------|-------------------|
| Chandelles | 105 KNOTS |
| Lazy Eights | 105 KNOTS |
| Steep Turns | 95 KNOTS |
| Stalls (Except Whip Stalls) | Slow Deceleration |

*** Abrupt use of the controls is prohibited above 105 KNOTS.**

UTILITY CATEGORY

This airplane is not designed for purely aerobatic flight. However, in the acquisition of various certificates such as commercial pilot and flight instructor, certain maneuvers are required by the FAA. All of these maneuvers are permitted in this airplane when operated in the utility category.

In the utility category, the rear seat must not be occupied and the baggage compartment must be empty.

UTILITY CATEGORY MANEUVERS AND RECOMMENDED ENTRY SPEED*

| | |
|---------------------------------------|-------------------|
| Chandelles | 105 KNOTS |
| Lazy Eights | 105 KNOTS |
| Steep Turns | 95 KNOTS |
| Spins | Slow Deceleration |
| Stalls (Except Whip Stalls) | Slow Deceleration |

*** Abrupt use of the controls is prohibited above 98 KNOTS.**

(Continued Next Page)

MANEUVER LIMITS (Continued)

UTILITY CATEGORY (Continued)

Aerobatics that may impose high loads should not be attempted. The important thing to bear in mind in flight maneuvers is that the airplane is clean in aerodynamic design and will build up speed quickly with the nose down. Proper speed control is an essential requirement for execution of any maneuver, and care should always be exercised to avoid excessive speed which in turn can impose excessive loads. In the execution of all maneuvers, avoid abrupt use of controls.

FLIGHT LOAD FACTOR LIMITS

NORMAL CATEGORY

Flight Load Factors (Maximum Takeoff Weight - 2550 POUNDS):

| | |
|--------------------|---------------|
| *Flaps UP: | +3.8g, -1.52g |
| *Flaps FULL: | +3.0g |

* The design load factors are 150% of the above, and in all cases, the structure meets or exceeds design loads.

UTILITY CATEGORY

Flight Load Factors (Maximum Takeoff Weight - 2200 POUNDS):

| | |
|--------------------|---------------|
| *Flaps UP: | +4.4g, -1.76g |
| *Flaps FULL: | +3.0g |

* The design load factors are 150% of the above, and in all cases, the structure meets or exceeds design loads.

KINDS OF OPERATIONS LIMITS

The Cessna 172S Nav III airplane is approved for day and night, VFR and IFR operations. Flight into known icing conditions is prohibited.

The minimum equipment for approved operations required under the Operating Rules are defined by 14 CFR 91 and 14 CFR 135, as applicable.

The following Kinds of Operations Equipment List (KOEL) identifies the equipment required to be operational for airplane airworthiness in the listed kind of operations.

KINDS OF OPERATIONS EQUIPMENT LIST

| System, Instrument, Equipment and/or Function | KIND OF OPERATION | | | | COMMENTS |
|---|-------------------|-----------|---------|-----------|--------------------------------|
| | VFR DAY | VFR NIGHT | IFR DAY | IFR NIGHT | |
| PLACARDS AND MARKINGS | | | | | |
| 1 - 172S Nav III - GFC 700 AFCS POH/AFM | 1 | 1 | 1 | 1 | Accessible to pilot in flight. |
| 2 - Garmin G1000 Cockpit Reference Guide | 1 | 1 | 1 | 1 | Accessible to pilot in flight. |
| AIR CONDITIONING | | | | | |
| 1 - Forward Avionics Fan | 1 | 1 | 1 | 1 | |
| 2 - PFD Fan | 0 | 0 | 0 | 0 | |
| 3 - MFD Fan | 0 | 0 | 0 | 0 | |
| 4 - Aft Avionics Fan | 1 | 1 | 1 | 1 | |
| COMMUNICATIONS | | | | | |
| 1 - VHF COM | 0 | 0 | 1 | 1 | |
| ELECTRICAL POWER | | | | | |
| 1 - 24V Main Battery | 1 | 1 | 1 | 1 | |
| 2 - 28V Alternator | 1 | 1 | 1 | 1 | |
| 3 - 24V Standby Battery | 0 | * | * | * | * Refer to Note 1. |
| 4 - Main Ammeter | 1 | 1 | 1 | 1 | |
| 5 - Standby Ammeter | 0 | * | * | * | * Refer to Note 1. |

NOTE

1. The European Aviation Safety Agency (EASA) requires the 24V Standby Battery and Standby Ammeter to successfully complete the pre-flight check before operating the airplane in VFR night, IFR day, or IFR night conditions in Europe. Correct operation of the 24V Standby Battery and Standby Ammeter is recommended for all other operations.

(Continued Next Page)

KINDS OF OPERATIONS EQUIPMENT LIST (Continued)

| System, Instrument, Equipment and/or Function | KIND OF OPERATION | | | | COMMENTS |
|---|--------------------------------|--|--------------------------------|--|----------------------|
| | V F R D A Y | V F R N I G H T | I F R D A Y | I F R N I G H T | |
| EQUIPMENT AND FURNISHINGS | | | | | |
| 1 - Seat Belt Assembly | 1 | 1 | 1 | 1 | Each Seat Occupant |
| 2 - Shoulder Harness | 1 | 1 | 1 | 1 | Front Seat Occupants |
| FLIGHT CONTROLS | | | | | |
| 1 - Flap Position Indicator | 1 | 1 | 1 | 1 | |
| 2 - Flap Motor | 1 | 1 | 1 | 1 | |
| 3 - Elevator Trim System | 1 | 1 | 1 | 1 | |
| 4 - Elevator Trim Indicator | 1 | 1 | 1 | 1 | |
| FUEL SYSTEM | | | | | |
| 1 - Electric Fuel Pump | 1 | 1 | 1 | 1 | |
| 2 - Fuel Quantity Indicator - L Tank | 1 | 1 | 1 | 1 | |
| 3 - Fuel Quantity Indicator - R Tank | 1 | 1 | 1 | 1 | |
| ICE AND RAIN PROTECTION | | | | | |
| 1 - Alternate Static Air Source | 0 | 0 | 1 | 1 | |
| 2 - Alternate Induction Air System | 0 | 0 | 1 | 1 | |
| INDICATING/RECORDING SYSTEM | | | | | |
| 1 - Stall Warning System | 1 | 1 | 1 | 1 | |
| 2 - System Annunciator and Warning Displays | 1 | 1 | 1 | 1 | |
| LANDING GEAR | | | | | |
| 1 - Wheel Fairings | 0 | 0 | 0 | 0 | Removable |

(Continued Next Page)

KINDS OF OPERATIONS EQUIPMENT LIST (Continued)

| System, Instrument, Equipment and/or Function | KIND OF OPERATION | | | | COMMENTS |
|---|-------------------|-----------------------|-------------|-----------------------|---------------------------|
| | V F R | V F R | I F R | I F R | |
| | D A Y | N I G H T | D A Y | N I G H T | |
| LIGHTING | | | | | |
| 1 - PFD Bezel Lighting | 0 | 0 | 0 | 1 | |
| 2 - PFD Backlighting | * | 1 | 1 | 1 | *Refer to Note 2. |
| 3 - MFD Bezel Lighting | 0 | 0 | 0 | 1 | |
| 4 - MFD Backlighting | * | 1 | 1 | 1 | *Refer to Note 3. |
| 5 - Switch and Circuit Breaker Panel Lighting | 0 | 1 | 0 | 1 | |
| 6 - Standby Airspeed Indicator Internal Lighting | 0 | 1 | 0 | 1 | |
| 7 - Standby Altimeter Internal Lighting | 0 | 1 | 0 | 1 | |
| 8 - Non-stabilized Magnetic Compass Internal Lighting | 0 | 1 | 0 | 1 | |
| 9 - Standby Attitude Indicator Internal Lighting | 0 | 1 | 0 | 1 | |
| 10 - Cockpit Flood Light | 0 | 1 | 0 | 1 | |
| 11 - Aircraft Position (NAV) Lights | 0 | 1 | 1 | 1 | |
| 12 - STROBE Light System | 1 | 1 | 1 | 1 | |
| 13 - BEACON Light | 0 | 0 | 0 | 0 | |
| 14 - TAXI Light | 0 | 0 | 0 | 0 | |
| 15 - LAND (Landing) Light | 0 | 1 | 0 | 1 | Operations for hire only. |

NOTE

2. PFD backlighting is required for day VFR flight if MFD backlighting has failed. Display backup mode must be active so engine indicators are shown.
3. MFD backlighting is required for day VFR flight if PFD backlighting has failed. Display backup mode must be active so flight instruments are shown.

(Continued Next Page)

KINDS OF OPERATIONS EQUIPMENT LIST (Continued)

| System, Instrument, Equipment and/or Function | KIND OF OPERATION | | | | COMMENTS |
|---|-------------------|-----------------------|-------------|-----------------------|----------------------------|
| | V F R | V F R | I F R | I F R | |
| | D A Y | N I G H T | D A Y | N I G H T | |
| NAVIGATION AND PITOT-STATIC SYSTEM | | | | | |
| 1 - G1000 Airspeed Indicator | 1 | 1 | 1 | 1 | |
| 2 - Standby Airspeed Indicator | 0 | 0 | 1 | 1 | |
| 3 - G1000 Altimeter | 1 | 1 | 1 | 1 | |
| 4 - Standby Altimeter | 0 | 0 | 1 | 1 | |
| 5 - G1000 Vertical Speed Indicator | 0 | 0 | 0 | 0 | |
| 6 - G1000 Attitude Indicator | 0 | 0 | 1 | 1 | |
| 7 - Standby Attitude Indicator | 0 | 0 | 1 | 1 | |
| 8 - G1000 Directional Indicator (HSI) | 0 | 0 | 1 | 1 | |
| 9 - G1000 Turn Coordinator | 0 | 0 | 1 | 1 | |
| 10 - Non-stabilized Magnetic Compass | 1 | 1 | 1 | 1 | |
| 11 - VHF Navigation Radio (VOR/LOC/GS) | 0 | 0 | A/R | A/R | As Required Per Procedure. |
| 12 - GPS Receiver/Navigator | 0 | 0 | A/R | A/R | As Required Per Procedure. |
| 13 - Marker Beacon Receiver | 0 | 0 | A/R | A/R | As Required Per Procedure. |
| 14 - Blind Altitude Encoder | A/R | A/R | 1 | 1 | As Required Per Procedure. |
| 15 - Clock | 0 | 0 | 1 | 1 | |
| 16 - GFC 700 AFCS (if installed) | 0 | 0 | 0 | 0 | |

(Continued Next Page)

KINDS OF OPERATIONS EQUIPMENT LIST (Continued)

| System, Instrument, Equipment and/or Function | KIND OF OPERATION | | | | COMMENTS |
|---|--------------------------------|--|--------------------------------|--|----------|
| | V F R D A Y | V F R N I G H T | I F R D A Y | I F R N I G H T | |
| VACUUM | | | | | |
| 1 - Engine Driven Vacuum Pump | 0 | 0 | 1 | 1 | |
| 2 - Vacuum Indicator | 0 | 0 | 1 | 1 | |
| ENGINE FUEL AND CONTROL | | | | | |
| 1 - Fuel Flow Indicator | 1 | 1 | 1 | 1 | |
| ENGINE INDICATING | | | | | |
| 1 - Tachometer (RPM) | 1 | 1 | 1 | 1 | |
| 2 - Cylinder Head Temperature (CHT) Indicator | 0 | 0 | 0 | 0 | |
| 3 - Oil Pressure Indicator | 1 | 1 | 1 | 1 | |
| 4 - Oil Temperature Indicator | 1 | 1 | 1 | 1 | |
| ENGINE OIL | | | | | |
| 1 - Engine Crankcase Dipstick | 1 | 1 | 1 | 1 | |

FUEL LIMITATIONS

Total Fuel:56.0 U.S. GALLONS
(28.0 GALLONS per tank)
Usable Fuel (all flight conditions):53.0 U.S. GALLONS
(26.5 GALLONS per tank)
Unusable Fuel:3.0 U.S. GALLONS
(1.5 GALLONS per tank)

NOTE

To ensure maximum fuel capacity and minimize crossfeeding when refueling, always park the airplane in a wings level, normal ground attitude and place the fuel selector in the LEFT or RIGHT position. Refer to Figure 1-1 for normal ground attitude definition.

Takeoff and land with the fuel selector valve handle in the BOTH position.

Maximum slip or skid duration with one tank dry: 30 seconds

Operation on either LEFT or RIGHT tank limited to level flight only.

With 1/4 tank or less, prolonged uncoordinated flight is prohibited when operating on either left or right tank.

Fuel remaining in the tank after the fuel quantity indicator reads 0 (red line) cannot be safely used in flight.

Approved Fuel Grades (And Colors):

- 100LL Grade Aviation Fuel (Blue)
- 100 Grade Aviation Fuel (Green)

FLAP LIMITATIONS

Approved Takeoff Range: UP to 10°
Approved Landing Range:UP to FULL

SYSTEM LIMITATIONS

AUX AUDIO SYSTEM

Use of the AUX AUDIO IN entertainment input is prohibited during takeoff and landing.

Use of the AUX AUDIO IN entertainment audio input and portable electronic devices (PED), such as cellular telephones, games, cassette, CD or MP3 players, is prohibited under IFR unless the operator of the airplane has determined that the use of the Aux Audio System and the connected portable electronic device(s) will not cause interference with the navigation or communication system of the airplane.

12V POWER SYSTEM

The 12 Volt Power System (POWER OUTLET 12V - 10A) is not certified for supplying power to flight-critical communications or navigation devices.

Use of the 12 Volt Power System is prohibited during takeoff and landing.

Use of the 12 Volt Power System is prohibited under IFR unless the operator of the airplane has determined that the use of the 12 VDC power supply and connected portable electronic device(s) will not cause interference with the navigation or communication systems of the airplane.

G1000 LIMITATIONS

The current Garmin G1000 Cockpit Reference Guide (CRG) Part Number and System Software Version that must be available to the pilot during flight are displayed on the MFD AUX group, SYSTEM STATUS page.

GPS based IFR enroute, oceanic and terminal navigation is prohibited unless the pilot verifies the currency of the database or verifies each selected waypoint for accuracy by reference to current approved data.

RNAV/GPS instrument approaches must be accomplished in accordance with approved instrument approach procedures that are retrieved from the G1000 navigation database. The G1000 database must incorporate the current update cycle.

Use of the NAVIGATION MAP page for pilotage navigation is prohibited. The Navigation Map is intended only to enhance situational awareness. Navigation is to be conducted using only current charts, data and authorized navigation facilities.

Use of the TRAFFIC MAP to maneuver the airplane to avoid traffic is prohibited. The Traffic Information System (TIS) is intended for advisory use only. TIS is intended only to help the pilot to visually locate traffic. It is the responsibility of the pilot to see and maneuver to avoid traffic.

Use of the TERRAIN PROXIMITY information for primary terrain avoidance is prohibited. The Terrain Proximity map is intended only to enhance situational awareness. It is the pilot's responsibility to provide terrain clearance at all times.

Navigation using the G1000 is not authorized north of 70° North latitude or south of 70° South latitude due to unsuitability of the magnetic fields near the Earth's poles. In addition, operations are not authorized in the following two regions:

1. North of 65° North latitude between longitude 75° W and 120° W (Northern Canada).
2. South of 55° South latitude between longitude 120° E and 165° E (region south of Australia and New Zealand).

(Continued Next Page)

G1000 LIMITATIONS (Continued)

The COM 1/2 (split COM) function of the Audio Panel is not approved for use. During COM 1/2 operation, transmission by one crew member inhibits reception by the other crew member.

The fuel quantity, fuel used and fuel remaining functions of the G1000 are supplemental information only and must be verified by the pilot.

GARMIN GFC 700 AFCS (if installed)

1. The GFC 700 AFCS preflight test must be successfully completed prior to use of the autopilot, flight director or manual electric trim.
2. A pilot, with the seat belt fastened, must occupy the left pilot's seat during all autopilot operations.
3. The autopilot must be off during all takeoff and landings.
4. Autopilot maximum engagement speed - 150 KIAS.
Autopilot minimum engagement speed - 70 KIAS.
Electric Trim maximum operating speed - 163 KIAS.
5. Maximum fuel imbalance with autopilot engaged - 90 pounds.
6. The autopilot must be disengaged below 200 feet AGL during approach operations and below 800 feet AGL during all other operations.
7. ILS approaches using the autopilot/flight director are limited to Category I approaches only.
8. Use of the autopilot is prohibited when the audio panel is inoperative (since the aural alert will not be provided when autopilot is disengaged).
9. Use of the autopilot is prohibited when conducting missed approach procedures until an established rate of climb that ensures all altitude requirements of the procedure will be met.

(Continued Next Page)

G1000 LIMITATIONS (Continued)

TERRAIN AWARENESS AND WARNING SYSTEM (TAWS-B)

Use of the Terrain Awareness and Warning System (TAWS-B) to navigate to avoid terrain or obstacles is prohibited. TAWS-B is only approved as an aid to help the pilot to see-and-avoid terrain or obstacles.

TAWS-B must be inhibited when landing at a location not included in the airport database.

Use of TAWS-B is prohibited when operating using the QFE altimeter setting (altimeter indicates 0 feet altitude when the airplane is on the runway).

The pilot is authorized to deviate from the current ATC clearance only to the extent necessary to comply with TAWS-B warnings.

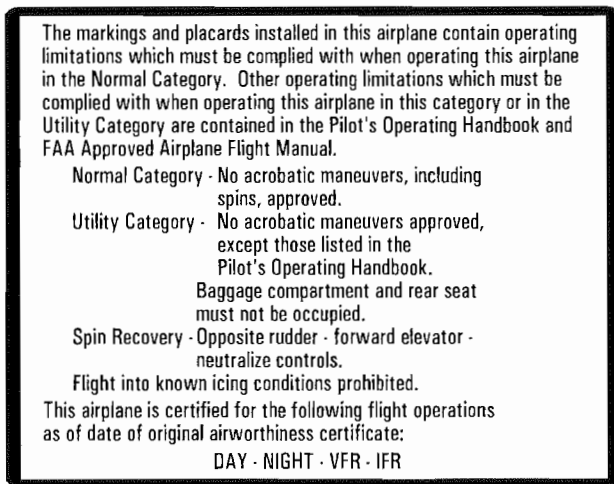
The geographic area of the TAWS-B database must match the geographic area in which the airplane is being operated.

PLACARDS

The following information must be displayed in the form of composite or individual placards.

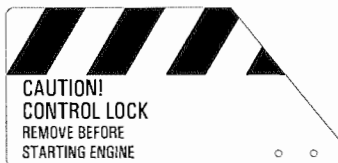
1. In full view of the pilot: (The "DAY-NIGHT-VFR-IFR" entry, shown on the example below, will vary with installed equipment).

B7941



2. On control lock:

B6143

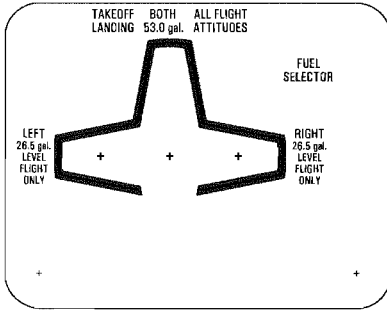


(Continued Next Page)

PLACARDS (Continued)

3. On the fuel selector valve:

B7652



4. Near both fuel tank filler cap:

B7645

FUEL
100LL / 100 MIN. GRADE AVIATION GASOLINE
CAP. 26.5 U.S. GAL. (100 LITRES) USABLE
CAP. 17.5 U.S. GAL. (66 LITRES) USABLE
TO BOTTOM OF FILLER INDICATOR TAB.

(Continued Next Page)

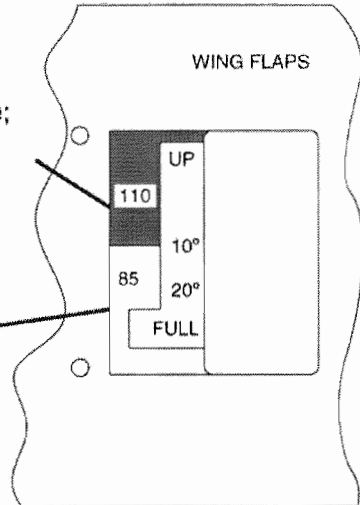
PLACARDS (Continued)

5. On flap control indicator:

B7546

UP to 10° 110 KIAS
(Partial flap range with blue color code;
mechanical detent at 10° position)

10° to FULL 85 KIAS
(White color code; mechanical
detent at 20° position)



6. In baggage compartment:

B7547

120 POUNDS MAXIMUM
BAGGAGE FORWARD OF BAGGAGE DOOR LATCH

50 POUNDS MAXIMUM
BAGGAGE AFT OF BAGGAGE DOOR LATCH

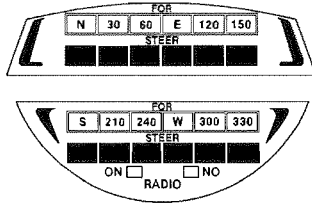
MAXIMUM 120 POUNDS COMBINED
FOR ADDITIONAL LOADING INSTRUCTIONS
SEE WEIGHT AND BALANCE DATA

(Continued Next Page)

PLACARDS (Continued)

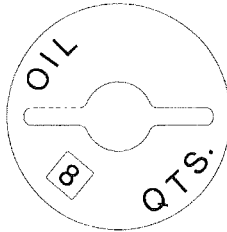
7. A calibration card must be provided to indicate the accuracy of the magnetic compass in 30° increments.

B6148



8. Molded on the oil filler cap/dipstick:

B7648



9. Silk-screened on the instrument panel directly above the PFD:

B7936

MANEUVERING SPEED: 105 KIAS

(Continued Next Page)

PLACARDS (Continued)

10. Silk-screened on the upper right instrument panel:

B6151

SMOKING PROHIBITED

11. On auxiliary power plug door and second placard on battery box:

B6152

CAUTION 24 VOLTS D.C.
THIS AIRCRAFT IS EQUIPPED WITH
ALTERNATOR AND A NEGATIVE
GROUND SYSTEM.
OBSERVE PROPER POLARITY
REVERSE POLARITY WILL DAMAGE
ELECTRICAL COMPONENTS.

12. On the upper right side of the aft cabin partition:

B6153

**EMERGENCY LOCATOR TRANSMITTER
INSTALLED AFT OF THIS PARTITION.
MUST BE SERVICED IN ACCORDANCE
WITH FAR PART 91.207**

or

B7651

**EMERGENCY LOCATOR TRANSMITTER
INSTALLED AFT OF THIS PARTITION.
MUST BE SERVICED IN ACCORDANCE
WITH 14 CFR 91.207**

(Continued Next Page)

PLACARDS (Continued)

13. On the center overhead flood light control switch:

B6154

