

**SECTION I  
GENERAL**

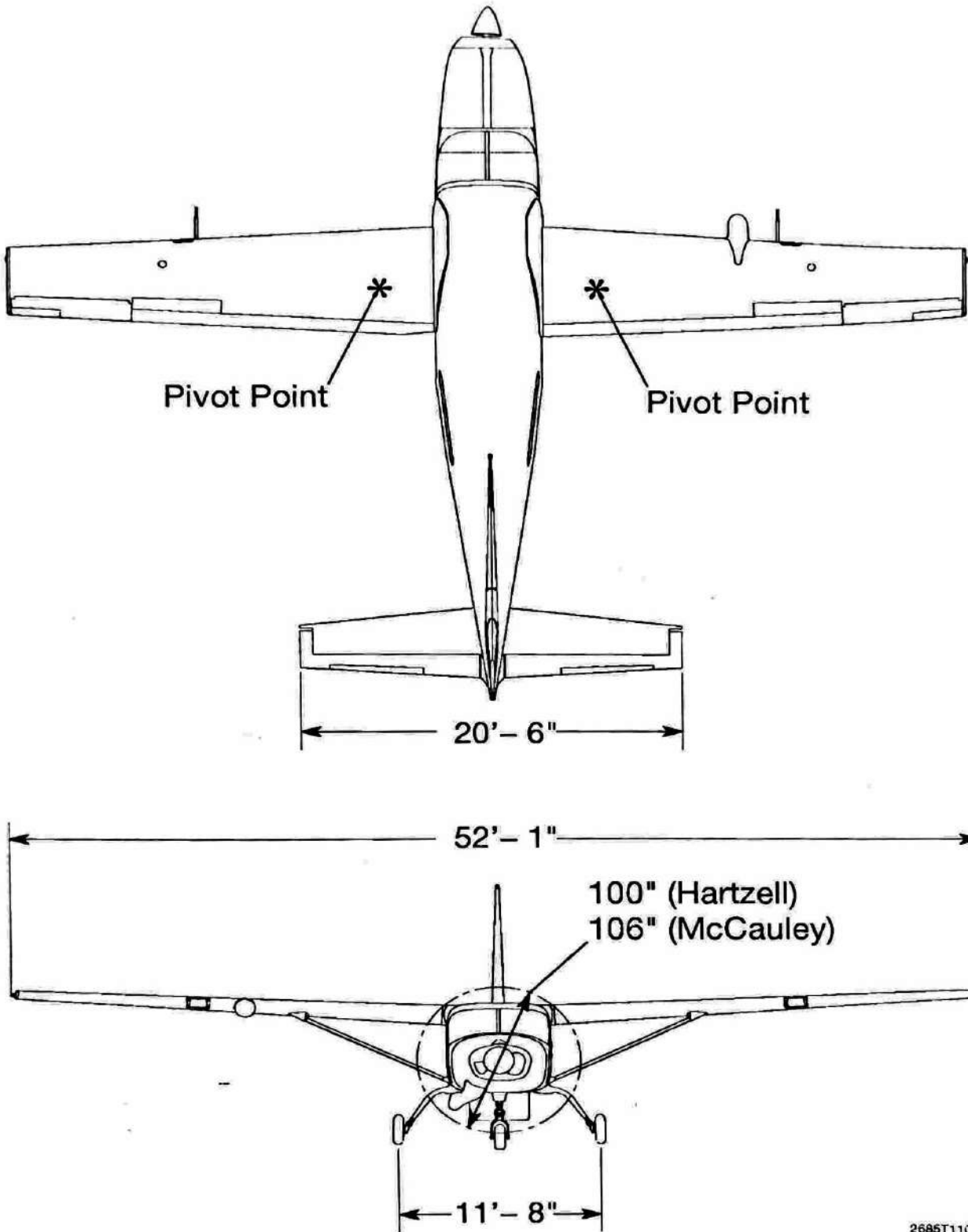
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SECTION 1  
GENERAL

CESSNA  
MODEL 208 (600 SHP)

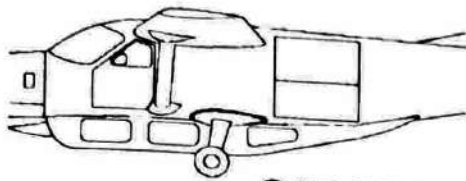
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Figure 1-1\*. Three View (Sheet 1 of 2)

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CARGO VERSION

**NOTE:** CABIN SIDE WINDOWS AND THE RIGHT HAND AFT PASSENGER DOOR ARE NOT INSTALLED ON THE CARGO VERSION.



STANDARD VERSION

1. Dimensions shown are based on standard empty weight and proper inflation of standard nose and main gear tires. Tail height may increase with oversize tires.
2. Wing span dimensions includes strobe lights.
3. Maximum height shown with nose gear depressed as far as possible.
4. Wheel base length is 11'-7 1/2".
5. Wing area is 279.4 square feet.
6. Minimum turning radius (\*pivot point to outboard wing tip strobe light) is 31'-10 1/2" for airplanes 20800001 thru 20800403 not incorporating SK208-164.

Minimum turning radius (\*pivot point to outboard wing tip strobe light) is 33'-8" for airplanes 20800001 thru 20800403 Incorporating SK208-164, and Airplanes 20800404 and On.

7. Hartzell propeller ground clearance with standard tires:  
Nose tire inflated and nose gear barrel extended 4 1/2": 19".  
Nose tire deflated and nose strut fully compressed: 12".
8. McCauley propeller ground clearance with standard tires:  
Nose tire inflated and nose gear barrel extended 4 1/2": 16".  
Nose tire deflated and nose strut fully compressed: 9".

Figure 1-1\*. Three View (Sheet 2)

## INTRODUCTION

This handbook contains 9 sections, and includes the material required to be furnished to the pilot by Federal Aviation Regulations and additional information provided by Cessna Aircraft Company. This handbook constitutes the FAA Approved Airplane Flight Manual.

### WARNING

**THIS HANDBOOK IS NOT INTENDED TO BE A GUIDE FOR BASIC FLIGHT INSTRUCTION OR A TRAINING MANUAL AND SHOULD NOT BE USED AS ONE. IT IS NOT A SUBSTITUTE FOR ADEQUATE AND COMPETENT FLIGHT INSTRUCTION, PILOT SKILL, AND PILOT KNOWLEDGE OF CURRENT AIRWORTHINESS DIRECTIVES, APPLICABLE FEDERAL AVIATION REGULATIONS AND/OR ADVISORY CIRCULARS.**

### WARNING

**ASSURING THE AIRWORTHINESS OF THE AIRPLANE IS THE RESPONSIBILITY OF THE AIRPLANE OWNER OR OPERATOR. DETERMINING IF THE AIRPLANE IS SAFE FOR FLIGHT IS THE RESPONSIBILITY OF THE PILOT IN COMMAND. THE PILOT IS ALSO RESPONSIBLE FOR ADHERING TO THE OPERATING LIMITATIONS SET FORTH BY INSTRUMENT MARKINGS, PLACARDS, AND THIS PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL.**

Generally, information in this handbook is applicable to both the Passenger and Cargo versions. Some equipment differences exist between the two configurations, and these are defined through the use of the terms "Standard 208" and "Cargomaster". When one of these terms appears in text or on an illustration, the information applies only to that group of airplanes. If neither term appears, the information is applicable to all airplanes.

Section 1 provides basic data and information of general interest. It also contains definitions or explanations of symbols, abbreviations, and terminology commonly used.

## DESCRIPTIVE DATA

### ENGINE

Number of Engines: 1  
Engine Manufacturer: Pratt & Whitney Canada, Inc.  
Engine Model Number: PT6A-114.

Engine Type: Free turbine, two-shaft engine utilizing a compressor section having three axial stages and one centrifugal stage, an annular reverse-flow combustion chamber, a one-stage compressor turbine, a one-stage power turbine, and a single exhaust. The power turbine drives the propeller through a two-stage planetary gearbox at the front of the engine.

■ Horsepower: Flat-rated at 600 shaft horsepower.

### PROPELLER (Hartzell)

Propeller Manufacturer: Hartzell Propeller Products.

Propeller Model Number: HC-B3MN-3/M10083.

Number of Blades: 3.

Propeller Diameter:

Maximum: 100 inches.

Minimum: 100 inches (No cutoff approved).

Propeller Type:

Constant-speed, full-feathering, reversible, hydraulically actuated composite-bladed propeller, with a feathered blade angle of 78.4°, a low pitch blade angle of 9°, and a maximum reverse blade angle of -18° (42-inch station).

### PROPELLER (McCauley)

Propeller Manufacturer: McCauley Accessory Division.

Propeller Model Number: 3GFR34C703/106GA-0.

Number of Blades: 3.

Propeller Diameter:

Maximum: 106 inches.

Minimum: 104 inches.

Propeller Type:

Constant-speed, full-feathering, reversible, hydraulically actuated aluminum-bladed propeller, with a feathered blade angle of 88°, a low pitch blade angle of 15.6°, and a maximum reverse blade angle of -14° (30-inch station).

## DESCRIPTIVE DATA (Continued)

### FUEL

Approved Fuel Grade (Specification):

JET A (ASTM-D1655).  
JET A-1 (ASTM-D1655).  
JET B (ASTM-D1655).  
JP-1 (MIL-L-5616).  
JP-4 (MIL-T-5624).  
JP-5 (MIL-T-5624).  
JP-8 (MIL-T-83133A).

Alternate/Emergency Fuels:

Aviation Fuel (All grades of military and commercial aviation gasoline).

### CAUTION

AVIATION GASOLINE IS RESTRICTED TO EMERGENCY USE AND SHALL NOT BE USED FOR MORE THAN 150 HOURS IN ONE OVERHAUL PERIOD; A MIXTURE OF ONE PART AVIATION GASOLINE AND THREE PARTS OF JET A, JET A-1, JP-1, OR JP-5 MAY BE USED FOR EMERGENCY PURPOSES FOR A MAXIMUM OF 450 HOURS PER OVERHAUL PERIOD.

Approved Fuel Additives:

One of the following additives is required for anti-icing protection:  
Ethylene Glycol Monomethyl Ether.  
Diethylene Glycol Monomethyl Ether.

### CAUTION

JP-4 AND JP-5 FUEL PER MIL-T-5624 AND JP-8 FUEL PER MIL-T-83133A CONTAIN THE CORRECT PREMIXED QUANTITY OF AN APPROVED TYPE OF ANTI-ICING FUEL ADDITIVE AND NO ADDITIONAL ANTI-ICE COMPOUNDS SHOULD BE ADDED.

If additional anti-static protection is desired, the following additive is approved for use:

Dupont Stadis 450

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## DESCRIPTIVE DATA (Continued)

### FUEL (Continued)

If additional biocidal protection is desired, the following additives are permitted for use in certain conditions:  
Sohio Biobor JF  
Kathon FP 1.5

### NOTE

Refer to Section 8 for allowable concentrations of the above additives and additional information.

#### Fuel Capacity:

1. S/N 20800001 thru 20800130 not modified with SK208-52:
  - a. Total Capacity: 335.0 U.S. gallons.
  - b. Total Capacity Each Tank: 167.5 U.S. gallons.
  - c. Total Usable: 332.0 U.S. gallons.
2. S/N 20800001 thru 20800130 modified with SK208-52, and 20800131 and on:
  - a. Total Capacity: 335.6 U.S. gallons.
  - b. Total Capacity Each Tank: 167.8 U.S. gallons.
  - c. Total Usable: 332.0 U.S. gallons.

### OIL

#### Oil Grade (Specification):

Oil conforming to Pratt & Whitney Engine Service Bulletin No. 1001, and all revisions or supplements thereto, **must be used**. Refer to Section 8 for a listing of approved oils.

Total Oil Capacity: 14 U.S. quarts (including oil in filter, cooler and hoses).

Drain and Refill Quantity: Approximately 9.5 U.S. quarts.

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## DESCRIPTIVE DATA (Continued)

### OIL (Continued)

Oil Quantity Operating Range:

Fill to within 1 1/2 quarts of MAX HOT or MAX COLD (as appropriate) on dipstick. Quart markings indicate U.S. quarts low if oil is hot. For example, a dipstick reading of 3 indicates the system is within 2 quarts of MAX if the oil is cold and within 3 quarts of MAX if the oil is hot.

#### WARNING

**MAKE SURE OIL DIPSTICK CAP IS SECURELY LATCHED DOWN. OPERATING THE ENGINE WITH LESS THAN THE RECOMMENDED OIL LEVEL AND WITH THE DIPSTICK CAP UNLATCHED WILL RESULT IN EXCESSIVE OIL LOSS AND EVENTUAL ENGINE STOPPAGE.**

#### NOTE

To obtain an accurate oil level reading, it is recommended the oil level be checked within 10 minutes after engine shutdown while the oil is hot (MAX HOT marking) or prior to the first flight of the day while the oil is cold (MAX COLD marking). If more than 10 minutes has elapsed since engine shutdown and engine oil is still warm, perform an engine dry motoring run before checking oil level.

### MAXIMUM CERTIFICATED WEIGHTS

Ramp: 8035 lbs  
Takeoff: 8000 lbs  
Landing: 7800 lbs

#### NOTE

Refer to Section 6 of this handbook for recommended loading arrangements in the Passenger Version and Cargo Version.

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## DESCRIPTIVE DATA (Continued)

### STANDARD AIRPLANE WEIGHTS

#### Standard Empty Weight-

S/N 20800001 thru 20800060 modified with SK208-12 and S/N  
20800061 thru 20800145:

Passenger Version ..... 3850 lbs  
Cargo Version ..... 4230 lbs

S/N 20800146 thru 20800236:

Passenger Version ..... 3855 lbs  
Cargo Version ..... 4235 lbs

S/N 20800237 and On:

Passenger Version ..... 3925 lbs  
Cargo Version ..... 4305 lbs

#### Maximum Useful Load-

S/N 20800001 thru 20800060 modified with SK208-12 and S/N  
20800061 thru 20800145:

Passenger Version ..... 4185 lbs  
Cargo Version ..... 3805 lbs

S/N 20800146 thru 20800236:

Passenger Version ..... 4180 lbs  
Cargo Version ..... 3800 lbs

S/N 20800237 and On:

Passenger Version ..... 4110 lbs  
Cargo Version ..... 3730 lbs

### CABIN AND ENTRY DOOR DIMENSIONS

Detailed dimensions of the cabin interior and entry door openings are illustrated in Section 6.

### BAGGAGE/CARGO COMPARTMENT AND CARGO DOOR ENTRY DIMENSIONS

Dimensions of the baggage/cargo area and cargo door openings are illustrated in detail in Section 6 of this handbook.

### SPECIFIC LOADINGS

Wing Loading: 28.6 lbs/sq.ft.

Power Loading: 13.3 lbs/shp.

## SYMBOLS, ABBREVIATIONS AND TERMINOLOGY

### GENERAL AIRSPEED TERMINOLOGY AND SYMBOLS

KCAS	<b>Knots Calibrated Airspeed</b> is indicated airspeed corrected for position and instrument error and expressed in knots. Knots calibrated airspeed is equal to KTAS in standard atmosphere at sea level.
KIAS	<b>Knots Indicated Airspeed</b> is the speed shown on the airspeed indicator and expressed in knots.
KTAS	<b>Knots True Airspeed</b> is the airspeed expressed in knots relative to undisturbed air which is KCAS corrected for altitude and temperature.
$V_A$	<b>Maneuvering Speed</b> is the maximum speed at which full or abrupt control movements may be used without overstressing the airframe.
$V_{FE}$	<b>Maximum Flap Extended Speed</b> is the highest speed permissible with wing flaps in a prescribed extended position.
$V_{MO}$	<b>Maximum Operating Speed</b> is the speed that may not be deliberately exceeded at any time.
$V_S$	<b>Stalling Speed or the minimum steady flight speed</b> is the minimum speed at which the airplane is controllable.
$V_{SO}$	<b>Stalling Speed or the minimum steady flight speed</b> is the minimum speed at which the airplane is controllable in the landing configuration at the most forward center of gravity.
$V_X$	<b>Best Angle-of-Climb Speed</b> is the speed which results in the greatest gain of altitude in a given horizontal distance.
$V_Y$	<b>Best Rate-of-Climb Speed</b> is the speed which results in the greatest gain in altitude in a given time.

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## SYMBOLS, ABBREVIATIONS AND TERMINOLOGY (Continued)

### METEOROLOGICAL TERMINOLOGY

OAT	<b>Outside Air Temperature</b> is the free air static temperature. It may be expressed in either degrees Celsius ( $^{\circ}\text{C}$ ) or degrees Fahrenheit ( $^{\circ}\text{F}$ ).
Pressure Altitude	<b>Pressure Altitude</b> is the altitude read from an altimeter when the altimeter's barometric scale has been set to 29.92 inches of mercury (inHg) (1013.2 mb).
ISA	<b>International Standard Atmosphere</b> is an atmosphere in which: <ol style="list-style-type: none"><li>1. The air is a perfect dry gas;</li><li>2. The temperature at sea level is <math>15^{\circ}\text{C}</math>;</li><li>3. The pressure at sea level is 29.92 inches of mercury (inHg) (1013.2 mb);</li><li>4. The temperature gradient from sea level to the altitude at which the temperature is <math>-56.5^{\circ}\text{C}</math> is <math>-1.98^{\circ}\text{C}</math> per 1000 feet.</li></ol>

### ENGINE POWER TERMINOLOGY

Beta Mode	<b>Beta Mode</b> is the engine operational mode in which propeller blade pitch is controlled by the power lever. The beta mode may be used during ground operations only.
Flameout	<b>Flameout</b> is the unintentional loss of combustion chamber flame during operation.
Flat Rated	<b>Flat Rated</b> denotes constant horsepower over a specific altitude and/or temperature.
Gas Generator	<b>Gas Generator RPM</b> indicates the percent of gas generator RPM based on a figure of 100% being 37,500 RPM.
GCU	<b>GCU</b> is the generator control unit.
Hot Start	<b>Hot Start</b> is an engine start, or attempted start, which results in an ITT exceeding $1090^{\circ}\text{C}$ .
ITT	<b>ITT</b> signifies inter-turbine temperature.

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## SYMBOLS, ABBREVIATIONS AND TERMINOLOGY (Continued)

### ENGINE POWER TERMINOLOGY (Continued)

**Maximum Climb Power** **Maximum Climb Power** is the maximum power approved for normal climb. Use of this power setting is limited to climb operations. This power corresponds to that developed at the maximum torque limit, ITT of 765°C (740°C is recommended) or  $N_g$  limit (101.6%), whichever is less.

**Maximum Rated Power** **Maximum Rated Power** is the maximum power rating not limited by time. Use of this power should be limited to those abnormal circumstances which require maximum aircraft performance (i.e., extreme icing conditions or windshear downdrafts). This power corresponds to that developed at the maximum torque limit, ITT of 805°C or  $N_g$  limit (101.6%), whichever is less.

**Maximum Cruise Power** **Maximum Cruise Power** is the maximum power approved for cruise and is not time limited. This power corresponds to that developed at the maximum specified cruise torque (Section 5), ITT of 740°C or  $N_g$  limit (101.6%), whichever is less.

$N_g$   **$N_g$**  signifies gas generator RPM.

**Propeller RPM** **Propeller RPM** indicates propeller speed in RPM.

**Reverse Thrust** **Reverse Thrust** is the thrust produced when the propeller blades are rotated past flat pitch into the reverse range.

**RPM** **RPM** is revolutions per minute.

**SHP** **SHP** is shaft horsepower and is the power delivered at the propeller shaft.

$$\text{SHP} = \frac{\text{Propeller RPM} \times \text{Torque (foot-pounds)}}{5252}$$

**Takeoff Power** **Takeoff Power** is the maximum power rating and is limited to a maximum of 5 minutes under normal operation. Use of this power should be limited to normal takeoff operations. This power corresponds to that shown in the Engine Torque For Takeoff figure of Section 5.

**Torque** **Torque** is a measurement of rotational force exerted by the engine on the propeller.

**Windmill** **Windmill** is propeller rotation from airstream inputs.

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## SYMBOLS, ABBREVIATIONS AND TERMINOLOGY (Continued)

### AIRPLANE PERFORMANCE AND FLIGHT PLANNING TERMINOLOGY

- Demonstrated Crosswind Velocity** **Demonstrated Crosswind Velocity** is the velocity of the crosswind component for which adequate control of the airplane during takeoff and landing was actually demonstrated during certification tests. The value shown is not considered to be limiting.
- g** **g** is acceleration due to gravity.
- NMPG** **Nautical Miles Per Gallon** is the distance which can be expected per gallon of fuel consumed at a specific engine power setting and/or flight configuration.
- GPH** **Gallons Per Hour** is the amount of fuel consumed per hour.
- Usable Fuel** **Usable Fuel** is the fuel available for flight planning.
- Unusable Fuel** **Unusable Fuel** is the quantity of fuel that can not be safely used in flight.

### WEIGHT AND BALANCE TERMINOLOGY

- Arm** **Arm** is the horizontal distance from the reference datum to the center of gravity (C.G.) of an item.
- Basic Empty Weight** **Basic Empty Weight** is the standard empty weight plus the weight of optional equipment.
- Center of Gravity** **Center of Gravity** is the point at which an airplane would balance if suspended. Its distance from the reference datum is found by dividing the total moment by the total weight of the airplane.
- C.G. Arm** **Center of Gravity Arm** is the arm obtained by adding the airplane's individual moments and dividing the sum by the total weight.
- C.G. Limits** **Center of Gravity Limits** are the extreme center of gravity locations within which the airplane must be operated at a given weight.
- MAC** **MAC (Mean Aerodynamic Chord)** of a wing is the chord of an imaginary airfoil which throughout the flight range will have the same force vectors as those of the wing.

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## SYMBOLS, ABBREVIATIONS AND TERMINOLOGY (Continued)

### AIRPLANE PERFORMANCE AND FLIGHT PLANNING TERMINOLOGY

Maximum Landing Weight	<b>Maximum Landing Weight</b> is the maximum Landing weight approved for the landing touchdown.
Maximum Ramp Weight	<b>Maximum Ramp Weight</b> is the maximum weight approved for ground maneuver. (It includes the weight of start, taxi and runup fuel).
Maximum Takeoff Weight	<b>Maximum Takeoff Weight</b> is the maximum weight approved for the start of the takeoff roll.
Moment	<b>Moment</b> is the product of the weight of an item multiplied by its arm. (Moment divided by the constant 1000 is used in this handbook to simplify balance calculations by reducing the number of digits.)
Reference Datum	<b>Reference Datum</b> is an imaginary vertical plane 100 inches forward of the front face of the firewall.
Residual Fuel	<b>Residual Fuel</b> is the fuel remaining when the airplane is defueled in a specific attitude by the normal means and procedures specified for draining the tanks.
Scale Drift	<b>Scale Drift</b> may occur on some types of electronic scales because of the inability of the scale to return to a true zero reading after weighing. If present, this deviation from zero should be accounted for when calculating the net weight of the airplane.
Standard Empty Weight	<b>Standard Empty Weight</b> is the weight of a standard airplane, including unusable fuel, full operating fluids and full engine oil.
Station	<b>Station</b> is a location along the airplane fuselage given in terms of the distance from the reference datum.
Tare	<b>Tare</b> is the weight of chocks, blocks, stands, etc. used when weighing an airplane, and is included in the scale readings. Tare is deducted from the scale reading to obtain the actual (net) airplane weight.
Useful Load	<b>Useful Load</b> is the difference between ramp weight and the basic empty weight.

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## **SYMBOLS, ABBREVIATIONS AND TERMINOLOGY**

(Continued)

### **AUTOPILOT/FLIGHT DIRECTOR AND IFCS TERMINOLOGY**

#### **WARNING**

**A THOROUGH UNDERSTANDING OF THE DIFFERENCE BETWEEN AN AUTOPILOT, A FLIGHT DIRECTOR, AND AN IFCS IS REQUIRED BEFORE OPERATING ANY OF THE COMPONENTS OF THE KFC-150 FLIGHT CONTROL SYSTEM. REFER TO SECTION 9, SUPPLEMENTS FOR COMPLETE OPERATING DETAILS.**

Autopilot	<b>Autopilot</b> is a system which automatically controls attitude and/or flight path of the airplane as directed by the pilot through the system's computer.
Flight Director	<b>Flight Director</b> is a system which provides visual recommendations to the pilot to allow him to manually control the airplane attitude and/or flight path in response to his desires as selected through the system's computer.
Integrated Flight Control System (IFCS)	<b>IFCS</b> applies to the union of autopilot and flight director systems which allows the pilot to manage his flight by observing computed visual recommendations while the autopilot automatically follows these recommendations as selected by the pilot using the system's controls.

## **SYMBOLS, ABBREVIATIONS AND TERMINOLOGY**

(Continued)

### **WARNINGS, CAUTIONS, AND NOTES**

#### **WARNING**

**AN OPERATING PROCEDURE, TECHNIQUE, OR MAINTENANCE PRACTICE WHICH CAN RESULT IN PERSONAL INJURY OR LOSS OF LIFE IF NOT CAREFULLY FOLLOWED.**

#### **CAUTION**

**AN OPERATING PROCEDURE, TECHNIQUE, OR MAINTENANCE PRACTICE WHICH CAN RESULT IN DAMAGE TO EQUIPMENT IF NOT CAREFULLY FOLLOWED.**

#### **NOTE**

An operating procedure, technique, or maintenance condition which is considered essential to emphasize.

### **GROUND OPERATIONS STALL WARNING DISABLE SWITCH**

The following procedure applies to airplane serials modified with Accessory Kit AK208-22:

To preclude or disable nuisance stall warnings during ground operations, push the control yoke forward to the stop. This will engage the ground stall warning disable switch.