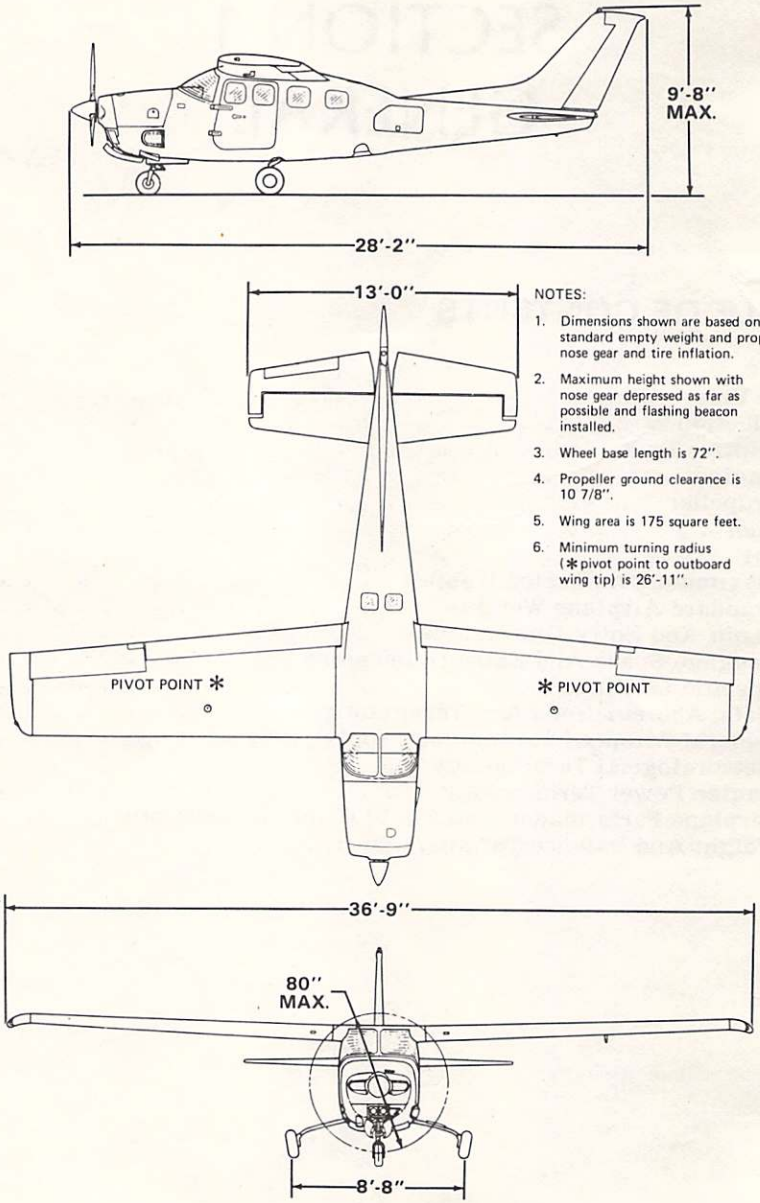
SECTION 1
GENERAL

TABLE OF CONTENTS

	Page
Three View	1-2
Introduction	1-3
Descriptive Data	1-3
Engine	1-3
Propeller	1-3
Fuel	1-3
Oil	1-4
Maximum Certificated Weights	1-4
Standard Airplane Weights	1-5
Cabin And Entry Dimensions	1-5
Baggage Space And Entry Dimensions	1-5
Specific Loadings	1-5
Symbols, Abbreviations And Terminology	1-5
General Airspeed Terminology And Symbols	1-5
Meteorological Terminology	1-6
Engine Power Terminology	1-7
Airplane Performance And Flight Planning Terminology	1-7
Weight And Balance Terminology	1-7



NOTES:

1. Dimensions shown are based on standard empty weight and proper nose gear and tire inflation.
2. Maximum height shown with nose gear depressed as far as possible and flashing beacon installed.
3. Wheel base length is 72".
4. Propeller ground clearance is 10 7/8".
5. Wing area is 175 square feet.
6. Minimum turning radius (* pivot point to outboard wing tip) is 26'-11".

Figure 1-1. Three View

INTRODUCTION

This handbook contains 9 sections, and includes the material required to be furnished to the pilot by CAR Part 3 and FAR Part 23. It also contains supplemental data supplied by Cessna Aircraft Company.

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: Teledyne Continental.
Engine Model Number: TSIO-520-AF.
Engine Type: Turbocharged, direct-drive, air-cooled, horizontally-opposed, fuel-injected, six-cylinder engine with 520 cu. in. displacement.
Horsepower Rating and Engine Speed:
Maximum Power (5 minutes - takeoff): 310 rated BHP at 35.5 inches Hg and 2700 RPM.
Maximum Continuous Power: 285 rated BHP at 34.5 inches Hg and 2600 RPM.

PROPELLER

Propeller Manufacturer: McCauley Accessory Division.
Propeller Model Number: D3A34C402/90DFA-10.
Number of Blades: 3.
Propeller Diameter, Maximum: 80 inches.
Minimum: 78.5 inches.
Propeller Type: Constant speed and hydraulically actuated, with a low pitch setting of 12.4° and a high pitch setting of 28.5° (30 inch station).

FUEL

Approved Fuel Grades (and Colors):
100LL Grade Aviation Fuel (Blue).
100 (Formerly 100/130) Grade Aviation Fuel (Green).

NOTE

Isopropyl alcohol or ethylene glycol monomethyl ether may be added to the fuel supply. Additive concentrations shall not exceed 1% for isopropyl alcohol or .15% for ethylene glycol monomethyl ether. Refer to Section 8 for additional information.

Total Capacity: 90 gallons.
Total Capacity Each Tank: 45 gallons.
Total Usable: 87 gallons.

NOTE

Before refueling or when the airplane is parked on a slope, place the fuel selector handle in the LEFT ON or RIGHT ON position, whichever corresponds to the low wing. This action minimizes cross-feeding from the fuller tank and reduces fuel seepage from the wing tank vents.

OIL

Oil Grade (Specification):

MIL-L-6082 Aviation Grade Straight Mineral Oil: Use to replenish supply during first 25 hours and at the first 25-hour oil change. Continue to use until a total of 50 hours has accumulated or oil consumption has stabilized.

NOTE

The airplane was delivered from the factory with a corrosion preventive aircraft engine oil. This oil should be drained after the first 25 hours of operation.

Continental Motors Specification MHS-24 (and all revisions thereto), Ashless Dispersant Oil: This oil **must be used** after first 50 hours or oil consumption has stabilized.

Recommended Viscosity for Temperature Range:

All temperatures, use SAE 20W-50 or
Above 4°C (40°F), use SAE 50
Below 4°C (40°F), use SAE 30

NOTE

Multi-viscosity oil with a range of SAE 20W-50 is recommended for improved starting and turbocharger controller operation in cold weather.

Oil Capacity:

Sump: 10 Quarts.
Total: 11 Quarts.

MAXIMUM CERTIFICATED WEIGHTS

Ramp: 4016 lbs.
Takeoff: 4000 lbs.
Landing: 3800 lbs.

Weight in Baggage Compartment:
Baggage Area "A" - Station 124 to 152: 200 lbs.
Baggage Area "B" - Station 152 to 166: 80 lbs.

NOTE

The maximum allowable combined weight capacity for baggage areas A and B is 200 pounds.

STANDARD AIRPLANE WEIGHTS

Standard Empty Weight, Pressurized Centurion: 2426 lbs.
Pressurized Centurion II: 2481 lbs.
Maximum Useful Load, Pressurized Centurion: 1590 lbs.
Pressurized Centurion II: 1535 lbs.

CABIN AND ENTRY DIMENSIONS

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

BAGGAGE SPACE AND ENTRY DIMENSIONS

Dimensions of the baggage area and baggage door opening are illustrated in detail in Section 6.

SPECIFIC LOADINGS

Wing Loading: 22.9 lbs./sq. ft.
Power Loading: 12.9 lbs./hp.

SYMBOLS, ABBREVIATIONS AND TERMINOLOGY

GENERAL AIRSPEED TERMINOLOGY AND SYMBOLS

KCAS — **Knots Calibrated Airspeed** 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 — **Knots Indicated Airspeed** is the speed shown on the airspeed indicator and expressed in knots.

KTAS — **Knots True Airspeed** is the airspeed expressed in knots relative to undisturbed air which is KCAS corrected for altitude and temperature.

V_A	**Maneuvering Speed** is the maximum speed at which full or abrupt control movements may be used.
V_{FE}	**Maximum Flap Extended Speed** is the highest speed permissible with wing flaps in a prescribed extended position.
V_{LE}	**Maximum Landing Gear Extended Speed** is the maximum speed at which an airplane can be safely flown with the landing gear extended.
V_{LO}	**Maximum Landing Gear Operating Speed** is the maximum speed at which the landing gear can be safely extended or retracted.
V_{NO}	**Maximum Structural Cruising Speed** is the speed that should not be exceeded except in smooth air, then only with caution.
V_{NE}	**Never Exceed Speed** is the speed limit that may not be exceeded at any time.
V_S	**Stalling Speed or the minimum steady flight speed** at which the airplane is controllable.
V_{S_0}	**Stalling Speed or the minimum steady flight speed** at which the airplane is controllable in the landing configuration at the most forward center of gravity.
V_X	**Best Angle-of-Climb Speed** is the speed which results in the greatest gain of altitude in a given horizontal distance.
V_Y	**Best Rate-of-Climb Speed** is the speed which results in the greatest gain in altitude in a given time.

METEOROLOGICAL TERMINOLOGY

OAT	**Outside Air Temperature** is the free air static temperature. It is expressed in either degrees Celsius or degrees Fahrenheit.
Standard Temperature	**Standard Temperature** is 15°C at sea level pressure altitude and decreases by 2°C for each 1000 feet of altitude.

Pressure Altitude	**Pressure Altitude** is the altitude read from an altimeter when the altimeter's barometric scale has been set to 29.92 inches of mercury (1013 mb).

ENGINE POWER TERMINOLOGY

BHP	**Brake Horsepower** is the power developed by the engine. Percent power values in this handbook are based on the maximum continuous power rating.
RPM	**Revolutions Per Minute** is engine speed.
MP	**Manifold Pressure** is a pressure measured in the engine's induction system and is expressed in inches of mercury (Hg).

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.
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.
PPH	**Pounds Per Hour** is the amount of fuel consumed per hour.
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.
g	**g** is acceleration due to gravity.

WEIGHT AND BALANCE TERMINOLOGY

Reference Datum	**Reference Datum** is an imaginary vertical plane from which all horizontal distances are measured for balance purposes.
Station	**Station** is a location along the airplane fuselage given in terms of the distance from the reference datum.

Arm	**Arm** is the horizontal distance from the reference datum to the center of gravity (C.G.) of an item.
Moment	**Moment** 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.)
Center of Gravity (C.G.)	**Center of Gravity** is the point at which an airplane, or equipment, 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.
Standard Empty Weight	**Standard Empty Weight** is the weight of a standard airplane, including unusable fuel, full operating fluids and full engine oil.
Basic Empty Weight	**Basic Empty Weight** is the standard empty weight plus the weight of optional equipment.
Useful Load	**Useful Load** is the difference between ramp weight and the basic empty weight.
Maximum Ramp Weight	**Maximum Ramp Weight** is the maximum weight approved for ground maneuver. (It includes the weight of start, taxi and runup fuel.)
Maximum Takeoff Weight	**Maximum Takeoff Weight** is the maximum weight approved for the start of the takeoff roll.
Maximum Landing Weight	**Maximum Landing Weight** is the maximum weight approved for the landing touchdown.
Tare	**Tare** 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.