

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

SECTION 1
GENERAL

CESSNA
MODEL 182Q

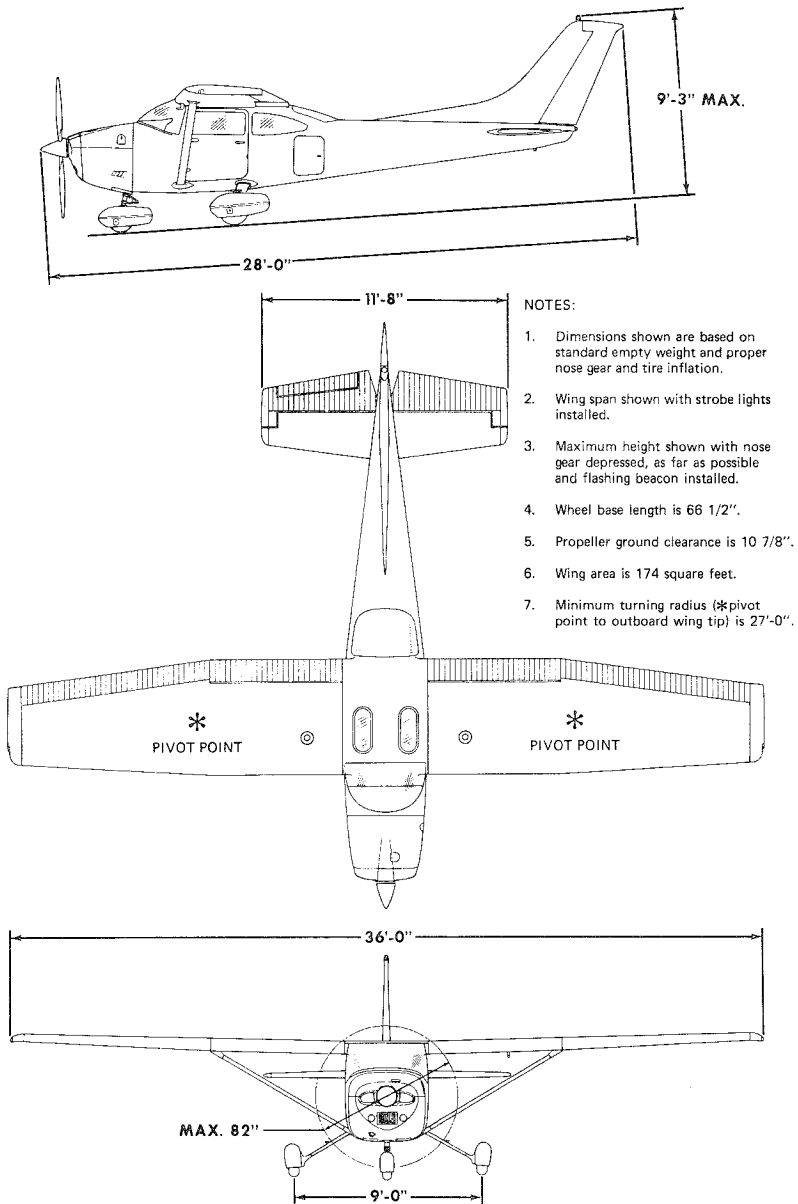


Figure 1-1. Three View

INTRODUCTION

This handbook contains 9 sections, and includes the material required to be furnished to the pilot by CAR Part 3. 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: O-470-U.

Engine Type: Normally-aspirated, direct-drive, air-cooled, horizontally-opposed, carburetor-equipped, six-cylinder engine with 470 cu. in. displacement.

Horsepower Rating and Engine Speed: 230 rated BHP at 2400 RPM.

PROPELLER

Propeller Manufacturer: McCauley Accessory Division.

Propeller Model Number: C2A34C204/90DCB-8.

Number of Blades: 2.

Propeller Diameter, Maximum: 82 inches.

Minimum: 80.5 inches.

Propeller Type: Constant speed and hydraulically actuated, with a low pitch setting of 15.0° and a high pitch setting of 29.4° (30 inch station).

FUEL

Approved Fuel Grades (and Colors):

100LL Grade Aviation Fuel (Blue).

100 (Formerly 100/130) Grade Aviation Fuel (Green).

Total Capacity: 92 gallons.

Total Capacity Each Tank: 46 gallons.

Total Usable: 88 gallons.

NOTE

To ensure maximum fuel capacity when refueling and minimize cross-feeding when parked on a sloping surface, place the fuel selector valve in either LEFT or RIGHT position.

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:

SAE 50 above 4°C (40°F).

SAE 10W30 or SAE 30 below 4°C (40°F).

NOTE

Multi-viscosity oil with a range of SAE 10W30 is recommended for improved starting in cold weather.

Oil Capacity:

Sump: 12 Quarts.

Total: 13 Quarts (if oil filter installed).

MAXIMUM CERTIFICATED WEIGHTS

Ramp: 2960 lbs.

Takeoff: 2950 lbs.

Landing: 2950 lbs.

Weight in Baggage Compartment:

Baggage Area "A" (or passenger on child's seat) - Station 82 to 108: 120 lbs. See note below.

Baggage Area "B" and Hatshelf-Station 108 to 136: 80 lbs. See note below.

NOTE

The maximum combined weight capacity for baggage areas A and B, including the hatshelf, is 200 lbs. The maximum hatshelf load is 25 lbs.

STANDARD AIRPLANE WEIGHTS

Standard Empty Weight, Skylane: 1700 lbs.

Skylane II: 1754 lbs.

Maximum Useful Load, Skylane: 1260 lbs.

Skylane II: 1206 lbs.

CABIN AND ENTRY DIMENSIONS

Detailed dimensions of the cabin interior and entry door openings 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: 16.9 lbs./sq. ft.

Power Loading: 12.8 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.

SECTION 1
GENERAL

CESSNA
MODEL 182Q

- 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 you may use abrupt control travel.
- V_{FE}** **Maximum Flap Extended Speed** is the highest speed permissible with wing flaps in a prescribed extended position.
- 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_{So}** **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.
- 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.
- GPH** **Gallons Per Hour** is the amount of fuel (in gallons) consumed per hour.
- NMPG** **Nautical Miles Per Gallon** is the distance (in nautical miles) 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

SECTION 1
GENERAL

CESSNA
MODEL 182Q

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 run.
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.