



Information Manual

1982
152

Model 152

NOTICE

AT THE TIME OF ISSUANCE, THIS INFORMATION MANUAL WAS AN EXACT DUPLICATE OF THE OFFICIAL PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL AND IS TO BE USED FOR GENERAL PURPOSES ONLY.

IT WILL NOT BE KEPT CURRENT AND, THEREFORE, CANNOT BE USED AS A SUBSTITUTE FOR THE OFFICIAL PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL INTENDED FOR OPERATION OF THE AIRPLANE.

**CESSNA AIRCRAFT COMPANY
20 APRIL 1981**

PERFORMANCE - SPECIFICATIONS

***SPEED:**

Maximum at Sea Level	110 KNOTS
Cruise, 75% Power at 8000 Ft	107 KNOTS

CRUISE: Recommended lean mixture with fuel allowance for engine start, taxi, takeoff, climb and 45 minutes reserve.

75% Power at 8000 Ft	Range	320 NM
24.5 Gallons Usable Fuel	Time	3.1 HRS
75% Power at 8000 Ft	Range	545 NM
37.5 Gallons Usable Fuel	Time	5.2 HRS
Maximum Range at 10,000 Ft	Range	415 NM
24.5 Gallons Usable Fuel	Time	5.2 HRS
Maximum Range at 10,000 Ft	Range	690 NM
37.5 Gallons Usable Fuel	Time	8.7 HRS

RATE OF CLIMB AT SEA LEVEL	715 FPM
SERVICE CEILING	14,700 FT

TAKEOFF PERFORMANCE:

Ground Roll	725 FT
Total Distance Over 50-Ft Obstacle	1340 FT

LANDING PERFORMANCE:

Ground Roll	475 FT
Total Distance Over 50-Ft Obstacle	1200 FT

STALL SPEED (KCAS):

Flaps Up, Power Off	48 KNOTS
Flaps Down, Power Off	43 KNOTS

MAXIMUM WEIGHT:

Ramp	1675 LBS
Takeoff or Landing	1670 LBS

STANDARD EMPTY WEIGHT:

152	1112 LBS
152 II	1145 LBS
152 Trainer	1155 LBS

MAXIMUM USEFUL LOAD:

152	563 LBS
152 II	530 LBS
152 Trainer	520 LBS

BAGGAGE ALLOWANCE

WING LOADING: Pounds/Sq Ft	120 LBS
POWER LOADING: Pounds/HP	15.2

FUEL CAPACITY: Total

Standard Tanks	26 GAL.
Long Range Tanks	39 GAL.

OIL CAPACITY

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ENGINE: Avco Lycoming

110 BHP at 2550 RPM	O-235-L2C
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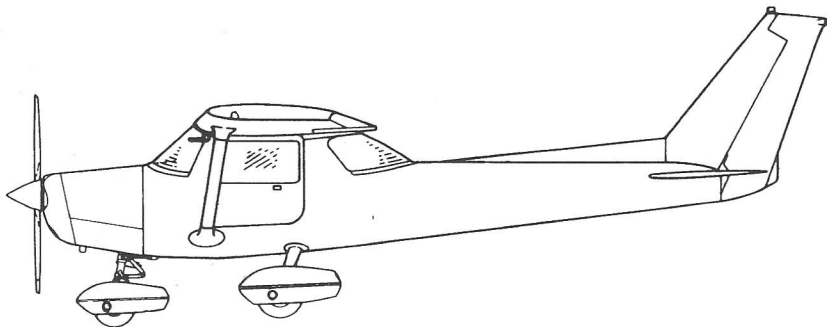
PROPELLER: Fixed Pitch, Diameter

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*Speed performance is shown for an airplane equipped with optional speed fairings, which increase the speeds by approximately 2 knots. There is a corresponding difference in range, while all other performance figures are unchanged when speed fairings are installed.

The above performance figures are based on indicated weights, standard atmospheric conditions, level hard-surface dry runways, and no wind. They are calculated values derived from flight tests conducted by the Cessna Aircraft Company under carefully documented conditions and will vary with individual airplanes and numerous factors affecting flight performance.

INFORMATION MANUAL



CESSNA AIRCRAFT COMPANY

1982 MODEL 152

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CESSNA AIRCRAFT COMPANY
WICHITA, KANSAS, USA

THE REPRINTING OF THIS MANUAL INCORPORATES INFORMATION ISSUED IN REVISION 1 DATED 31 MARCH 1983 FROM THE PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL.

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SECTION 1 GENERAL

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SECTION 1
GENERAL

CESSNA
MODEL 152

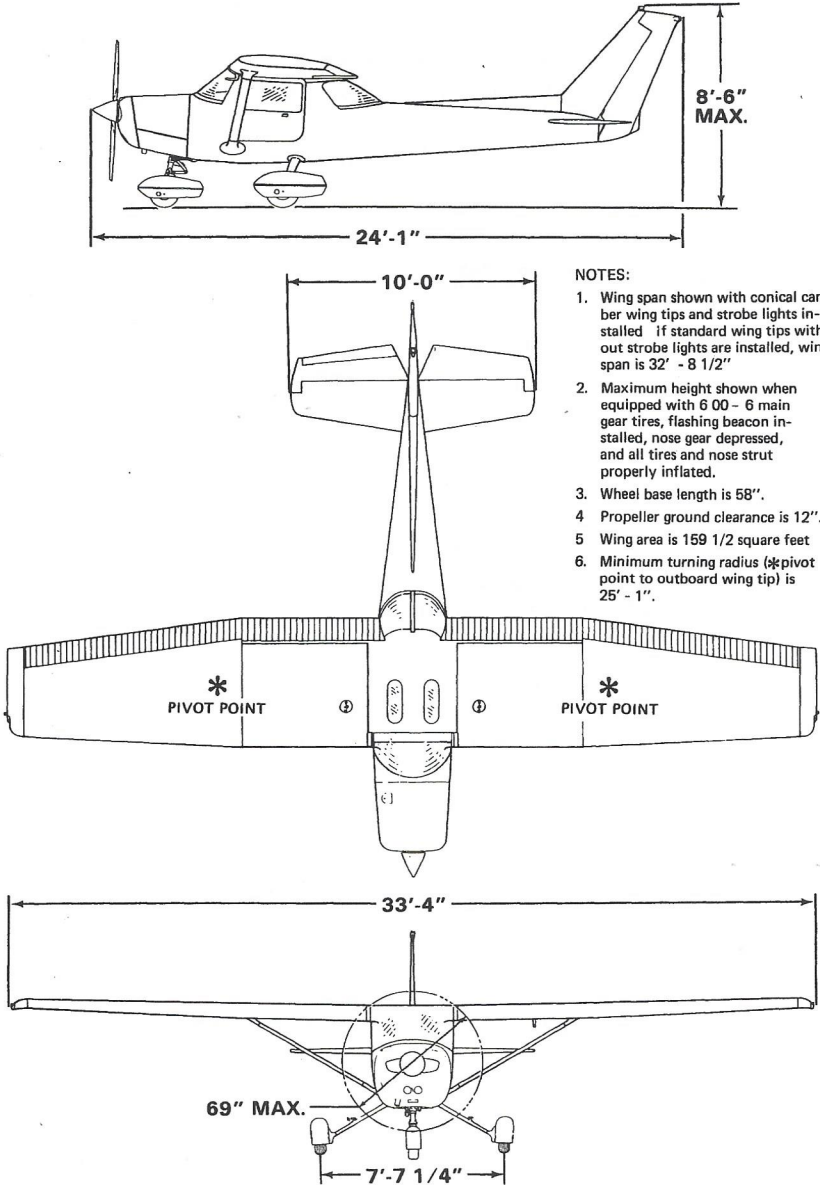


Figure 1-1. Three View

**CESSNA
MODEL 152**

**SECTION 1
GENERAL**

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: Avco Lycoming.

Engine Model Number: O-235-L2C.

Engine Type: Normally-aspirated, direct-drive, air-cooled, horizontally-opposed, carburetor equipped, four-cylinder engine with 233.3 cu. in. displacement.

Horsepower Rating and Engine Speed: 110 rated BHP at 2550 RPM.

PROPELLER

Propeller Manufacturer: McCauley Accessory Division.

Propeller Model Number: 1A103/TCM6958.

Number of Blades: 2.

Propeller Diameter, Maximum: 69 inches.

Minimum: 67.5 inches.

Propeller Type: Fixed pitch.

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.

20 April 1981

Revision 1 - 31 March 1983

**SECTION 1
GENERAL**

**CESSNA
MODEL 152**

Fuel Capacity:

Standard Tanks:

Total Capacity: 26 gallons.
Total Capacity Each Tank: 13 gallons.
Total Usable: 24.5 gallons.

Long Range Tanks:

Total Capacity: 39 gallons.
Total Capacity Each Tank: 19.5 gallons.
Total Usable: 37.5 gallons.

NOTE

Due to cross-feeding between fuel tanks, the tanks should be re-topped after each refueling to assure maximum capacity.

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.

MIL-L-22851 Ashless Dispersant Oil: This oil **must be used** after first 50 hours or oil consumption has stabilized.

Recommended Viscosity for Temperature Range:

MIL-L-6082 Aviation Grade Straight Mineral Oil:

All temperatures, use SAE 20W-50 or
Above 16°C (60°F), use SAE 50
-1°C (30°F) to 32°C (90°F), use SAE 40
-18°C (0°F) to 21°C (70°F), use SAE 30
Below -12°C (10°F), use SAE 20

MIL-L-22851 Ashless Dispersant Oil:

All temperatures, use SAE 20W-50 or
Above 16°C (60°F), use SAE 40 or SAE 50
-1°C (30°F) to 32°C (90°F), use SAE 40
-18°C (0°F) to 21°C (70°F), use SAE 40 or SAE 30
Below -12°C (10°F), use SAE 30

Oil Capacity:

Sump: 6 Quarts.
Total: 7 Quarts (with oil filter).

MAXIMUM CERTIFICATED WEIGHTS

Ramp: 1675 lbs.

Takeoff: 1670 lbs.

Landing: 1670 lbs.

Weight in Baggage Compartment:

Baggage Area 1 (or passenger on child's seat) - Station 50 to 76: 120 lbs.
See note below.

Baggage Area 2 - Station 76 to 94: 40 lbs. See note below.

NOTE

The maximum combined weight capacity for baggage areas 1 and 2 is 120 lbs.

STANDARD AIRPLANE WEIGHTS

Standard Empty Weight, 152: 1112 lbs.

152 II: 1145 lbs.

152 Trainer: 1155 lbs.

Maximum Useful Load, 152: 563 lbs.

152 II: 530 lbs.

152 Trainer: 520 lbs.

CABIN AND ENTRY DIMENSIONS

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

BAGGAGE SPACE DIMENSIONS

Baggage area dimensions are illustrated in detail in Section 6.

SPECIFIC LOADINGS

Wing Loading: 10.5 lbs./sq. ft.

Power Loading: 15.2 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_{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** 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.
Static RPM	Static RPM is engine speed attained during a full-throttle engine runup when the airplane is on the ground and stationary.

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 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.