SECTION I

GENERAL

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THANK YOU . . . for displaying confidence in us by selecting a BEECHCRAFT airplane. Our design engineers, assemblers and inspectors have utilized their skills and years of experience to ensure that the BEECHCRAFT meets the high standards of quality and performance for which BEECHCRAFT airplanes have become famous throughout the world.

IMPORTANT NOTICE

This handbook must be read carefully by the owner and operator in order to become familiar with the operation of the airplane. Suggestions and recommendations have been made within it to aid in obtaining maximum performance without sacrificing economy. Be familiar with, and operate the airplane in accordance with the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual, and/or placards which are located in the airplane.

As a further reminder, the owner and operator of this airplane should also be familiar with the Federal Aviation Regulations applicable to the operation and maintenance of the airplane and FAR Part 91 General Operating and Flight Rules. Further, the airplane must be operated and maintained in accordance with FAA Airworthiness Directives which may be issued against it.

The Federal Aviation Regulations place the responsibility for the maintenance of this airplane on the owner and the operator who should ensure that all maintenance is done by qualified mechanics in conformity with all airworthiness requirements established for this airplane.

All limits, procedures, safety practices, time limits, servicing, and maintenance requirements contained in

this handbook are considered mandatory for the continued airworthiness of this airplane, in a condition equal to that of its original manufacture.

Authorized BEECHCRAFT Aero or Aviation Centers and International Distributors or Dealers can provide recommended modification, service, and operating procedures issued by both FAA and Beech Aircraft Corporation, which are designed to get maximum utility and safety from this airplane.

USE OF THE HANDBOOK

The Pilot's Operating Handbook is designed so that necessary documents may be maintained for the safe and efficient operation of the airplane. The handbook has been prepared in loose leaf form for ease in maintenance and in a convenient size for storage. The handbook has been arranged with quick reference tabs imprinted with the title of each section and contains ten basic divisions:

Section I General
Section II Limitations
Section III Emergency Procedures
Section IV Normal Procedures
Section V Performance
Section VI Weight and Balance/Equipment List
Section VII Systems Description
Section VIII Handling, Servicing and Maintenance
Section IX Supplements
Section X Safety Information

NOTES

Except as noted, all airspeeds quoted in this handbook are Indicated Airspeeds (IAS) and assume zero instrument error.

Due to the large variety of airplane configurations available through optional equipment, it should be noted that in describing and illustrating the handbook, optional equipment may not be designated as such in every case. Through variations provided by custom designing, the illustrations in this handbook will not be typical of every airplane.

Neither Service Publications, Reissues, nor Revisions are automatically provided to the holder of this handbook. For information on how to obtain "Revision Service" applicable to this handbook, consult any BEECHCRAFT Aero or Aviation Center or International Distributor or Dealer or refer to the latest revision of BEECHCRAFT Service Instructions No. 0250-010.

Beech Aircraft Corporation expressly reserves the right to supersede, cancel and/or declare obsolete any part, part numbers, kits or publication that may be referenced in this handbook without prior notice.

The owner/operator should always refer to all supplements, whether STC Supplements or Beech Supplements, for possible placards, limitations, normal, emergency and other operational procedures for proper operation of the airplane with optional equipment installed.

REVISING THE HANDBOOK

Immediately following the title page is the "Log of Revisions" page(s). The Log of Revisions pages are used for maintaining a listing of all effective pages in the handbook (except the SUPPLEMENTS section), and as a record of revisions to these pages. In the lower right corner of the

outlined portion of the Log of Revisions is a box containing a capital letter which denotes the issue or reissue of the handbook. This letter may be suffixed by a number which indicates the numerical revision. When a revision to any information in the handbook is made, a new Log of Revisions will be issued. All Logs of Revisions must be retained in the handbook to provide a current record of material status until a reissue is made.

WARNING

When this handbook is used for airplane operational purpose it is the pilot's responsibility to maintain it in current status.

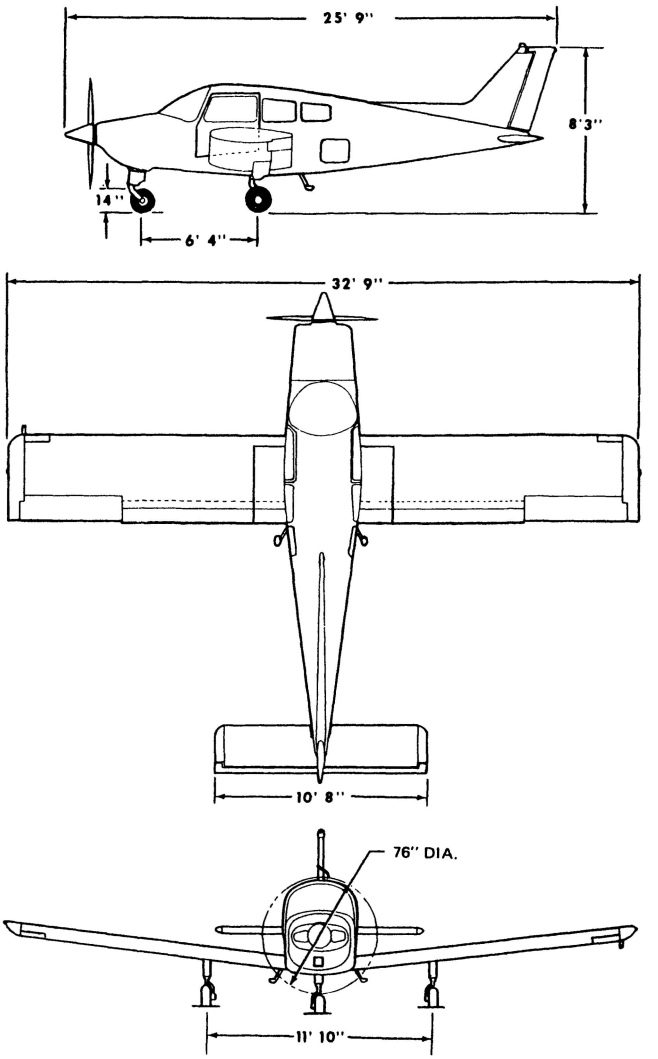
SUPPLEMENTS REVISION RECORD

Section IX contains supplements and a Log of Supplements page. On the "Log" page is a listing of the supplemental equipment available for installation on the BEECHCRAFT airplane.

Upon receipt of a new or revised supplement, compare the "Log" page just received with the existing "Log" page in the manual. Retain the "Log" page with the latest date on the bottom of the page (this log will usually have the greater number of entries) and discard the other log.

VENDOR-ISSUED STC SUPPLEMENTS

When a new airplane is delivered from the factory, the handbook delivered with it contains either an STC (Supplemental Type Certificate) Supplement or a Beech Flight Manual Supplement for every installed item requiring a supplement. If a new handbook for operation of the airplane is obtained at a later date, it is the responsibility of the owner/operator to ensure that all required STC Supplements (as well as weight and balance and other pertinent data) are transferred into the new handbook.



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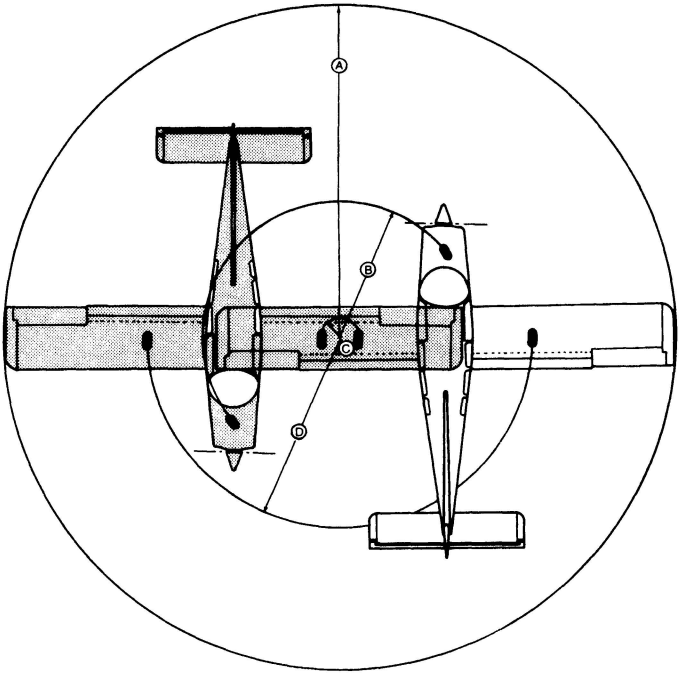
THREE VIEW



GROUND TURNING CLEARANCE

Ⓐ Radius for Wing Tip	23 ft. 11 in.
Ⓑ Radius for Nose Wheel	9 ft. 10 in.
Ⓒ Radius for Inside Gear	2 ft. 0 in.
Ⓓ Radius for Outside Gear	13 ft. 0 in.

TURNING RADII ARE CALCULATED USING FULL STEERING, ONE BRAKE AND PARTIAL POWER.

DESCRIPTIVE DATA

NOTE

M-1285 thru M-2178 are 14-volt systems. The battery switch is placarded BATTERY & ALT and the alternator switch is placarded ALT (or ALT FIELD). 28-volt systems, M-2179 and after, are placarded BATTERY for the battery switch and ALT FIELD for the alternator switch. All items throughout this handbook that refer to battery switch refer to either BATTERY & ALT switch or BATTERY switch depending upon configuration.

ENGINE

Airplane is equipped with an Avco Lycoming O-360-A2G, O-360-A4G, O-360-A4J or O-360-A4K engine rated at 180 horsepower.

Take-off and maximum continuous operation (sea level): 2700 rpm, full throttle.

Engine cooling has been demonstrated for a 100° F day.

PROPELLER

Sensenich M76EMMS-0-60 or 76EM8S5-0-60 fixed pitch, two blade propeller. Static rpm at maximum permissible throttle settings: Not over 2350 rpm and not under 2250 rpm. No additional tolerance permitted.

FUEL

Aviation Gasoline 91/96 (blue) minimum grade or 100 (green) or 100LL (blue).

M-1285 thru M-1516:

*59.8-gallon system

(29.9 gallons each tank) ..... *58 gallons usable

Each tank has provisions for partial filling to:

20 gallons each tank ..... 38.2 gallons usable

15 gallons each tank ..... 28.2 gallons usable

M-1517 thru M-1879 except M-1875 and prior airplanes after compliance with Service Instructions No. 0624-281:

*59.8-gallon system
(29.9 gallons each tank) ..... *52 gallons usable

Each tank has provisions for partial filling to:

20 gallons each tank ..... 32.2 gallons usable
15 gallons each tank ..... 22.2 gallons usable

M-1875, M-1880 and after:

*59.8-gallon system
(29.9 gallons each tank) ..... *57.2 gallons usable

Each tank has provisions for partial filling to:

20 gallons each tank ..... 37.4 gallons usable
15 gallons each tank ..... 27.4 gallons usable

*Value given is nominal. Tank capacity will vary with temperature and manufacturing tolerances.

OIL CAPACITY

The oil capacity is 8 quarts.

APPROVED OIL TYPES

Avco Lycoming Specification Number 301E approves for use lubricating oils which conform to both MIL-L-6082B straight mineral type and MIL-L-22851 ashless dispersant lubricants for airplane engines. Refer to the Approved Engine Oils table in the HANDLING, SERVICING AND MAINTENANCE section for a list of approved products.

MAXIMUM CERTIFICATED WEIGHTS

NORMAL CATEGORY

Maximum Ramp Weight	2455 lbs
Maximum Take-Off Weight	2450 lbs
Maximum Landing Weight	2450 lbs

UTILITY/ACROBATIC CATEGORY

Maximum Ramp Weight	2035 lbs
Maximum Take-Off Weight	2030 lbs
Maximum Landing Weight	2030 lbs

ALL CONFIGURATIONS

Maximum Zero Fuel Weight	No Structural Limit
Maximum Weight in Baggage Compartment	270 lbs.

CABIN AND ENTRY DIMENSIONS

Length (maximum)	7 ft 11 in.
Height (maximum)	4 ft 0 in.
Width (maximum)	3 ft 8 in.
Cabin Door	36 in. wide by 38 in. high

BAGGAGE SPACE AND ENTRY DIMENSIONS

Compartment Volume	19.5 cu ft
Door Width (Minimum)	23.6 in.
Door Height (Minimum)	18.5 in.

SPECIFIC LOADINGS (2450 lbs.)

Wing Loading	16.78 lbs/sq ft
Power Loading	13.61 lbs/hp

SYMBOLS, ABBREVIATIONS AND TERMINOLOGY

The following Abbreviations and Terminologies have been listed for convenience and ready interpretation where used within this handbook. Whenever possible, they have been categorized for ready reference.

GENERAL AIRSPEED TERMINOLOGY AND SYMBOLS

CAS Calibrated Airspeed is the indicated speed of an airplane, corrected for position and instrument error. Calibrated airspeed is equal to true airspeed in standard atmosphere at sea level.

GS Ground Speed is the speed of an airplane relative to the ground.

IAS Indicated Airspeed is the speed of an airplane as shown on the airspeed indicator when corrected for instrument error. IAS values published in this handbook assume zero instrument error.

KCAS Calibrated Airspeed expressed in "knots".

KIAS Indicated Airspeed expressed in "knots".

TAS True Airspeed is the airspeed of an airplane relative to undisturbed air which is the CAS corrected for altitude, temperature, and compressibility.

V_A Maneuvering Speed is the maximum speed at which application of full available aerodynamic control will not overstress the airplane.

V_{FE} Maximum Flap Extended Speed is the highest speed permissible with wing flaps in a prescribed extended position.

V_{NE} Never Exceed Speed is the speed limit that may not be exceeded at any time.

V_{NO} or V_C Maximum Structural Cruising Speed is the speed that should not be exceeded except in smooth air and then only with caution.

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.

V_X Best Angle-of-Climb Speed is the airspeed which delivers the greatest gain of altitude in the shortest possible horizontal distance.

V_Y Best Rate-of-Climb Speed is the airspeed which delivers the greatest gain in altitude in the shortest possible time.

Cruise Climb Recommended Climb Speed for enroute climb.

METEOROLOGICAL TERMINOLOGY

ISA	International Standard Atmosphere in which (1) The air is a dry perfect gas; (2) The temperature at sea level is 15° Celsius (59° Fahrenheit); (3) The pressure at sea level is 29.92 in Hg. (1013.2 millibars); (4) The temperature gradient from sea level to the altitude at which the temperature is -56.5° C (-69.7° F) is -0.00198° C (-0.003566° F) per foot and zero above that altitude.
OAT	Outside Air Temperature is the free air static temperature, obtained either from inflight temperature indications adjusted for instrument error and compressibility effects, or ground meteorological sources.
Indicated Pressure Altitude	The number actually read from an altimeter when the barometric subscale has been set to 29.92 in Hg. (1013.2 millibars).
Pressure Altitude	Altitude measured from standard sea-level pressure (29.92 in. Hg) by a pressure or barometric altimeter. It is the indicated pressure altitude corrected for position and instrument error. In this Handbook, altimeter instrument errors are assumed to be zero. Position errors may be obtained from the Altimeter Correction Graph.

Station Pressure	Actual atmospheric pressure at field elevation.
Wind	The wind velocities recorded as variables on the charts of this handbook are to be understood as the headwind or tailwind components of the reported winds.

POWER TERMINOLOGY

Take off and Maximum Continuous	Highest power rating not limited by time.

ENGINE CONTROLS AND INSTRUMENTS

Throttle Control	Used to control power by introducing fuel-air mixture into the intake passages of the engine.
Mixture Control	This control is used to set fuel flow in all modes of operation and cuts off fuel completely for engine shut down.
EGT (Exhaust Gas Temperature) Indicator	This indicator is used to identify the lean and best power fuel flow for various power settings during cruise.
Tachometer	Indicates the rpm of the engine/propeller.

AIRPLANE PERFORMANCE AND
FLIGHT PLANNING TERMINOLOGY

Climb Gradient	The ratio of the change in height during a portion of a climb, to the horizontal distance traversed in the same time interval.
Demonstrated Crosswind Velocity	The demonstrated crosswind velocity is the velocity of the crosswind component for which adequate control of the airplane during take-off and landing was actually demonstrated during certification tests. The value shown is considered to be limiting.
MEA	Minimum enroute IFR altitude.
Route Segment	A part of a route. Each end of that part is identified by: (1) a geographical location; or (2) a point at which a definite radio fix can be established.
GPH	U.S. Gallons per hour.
PPH	Pounds per hour.

WEIGHT AND BALANCE TERMINOLOGY

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

Arm	The horizontal distance from the reference datum to the center of gravity (C.G.) of an item.
Moment	The product of the weight of an item multiplied by its arm. (Moment divided by a constant is used to simplify balance calculations by reducing the number of digits.)
Airplane Center of Gravity (C.G.)	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	The arm obtained by adding the airplane's individual moments and dividing the sum by the total weight.
C.G. Limits	The extreme center of gravity locations within which the airplane must be operated at a given weight.
Usable Fuel	Fuel available for flight planning.
Unusable Fuel	Fuel remaining after a runout test has been completed in accordance with governmental regulations.
Standard Empty Weight	Weight of a standard airplane including unusable fuel, full operating fluids and full oil.
Basic Empty Weight	Standard empty weight plus optional equipment.

Payload	Weight of occupants, cargo and baggage.
Useful Load	Difference between take-off weight, or ramp weight if applicable, and basic empty weight.
Maximum Ramp Weight	Maximum weight approved for ground maneuvering. (It includes weight of start, taxi, and run-up fuel).
Maximum Take-off Weight	Maximum weight approved for the start of the take-off run.
Maximum Landing Weight	Maximum weight approved for the landing touchdown.
Zero Fuel Weight	Weight exclusive of usable fuel.
Tare	The weight of chocks, blocks, stands, etc., used on the scales when weighing an airplane.
Leveling Points	Those points which are used during the weighing process to level the airplane.
Jack Points	Points on the airplane identified by the manufacturer as suitable for supporting the airplane for weighing or other purposes.