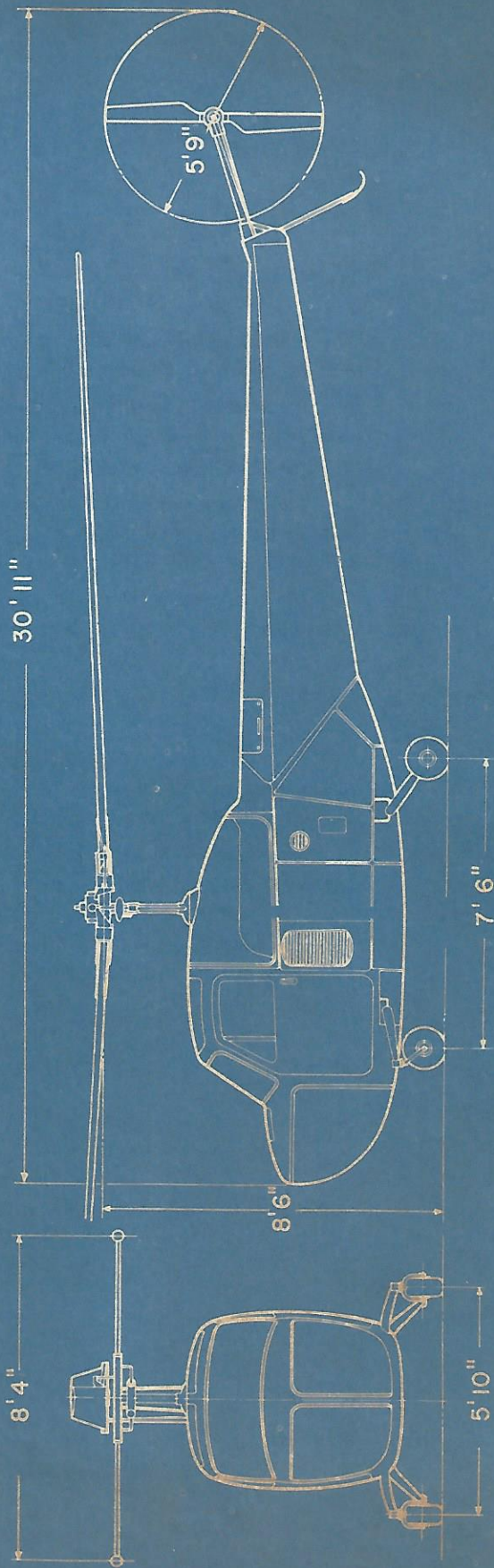
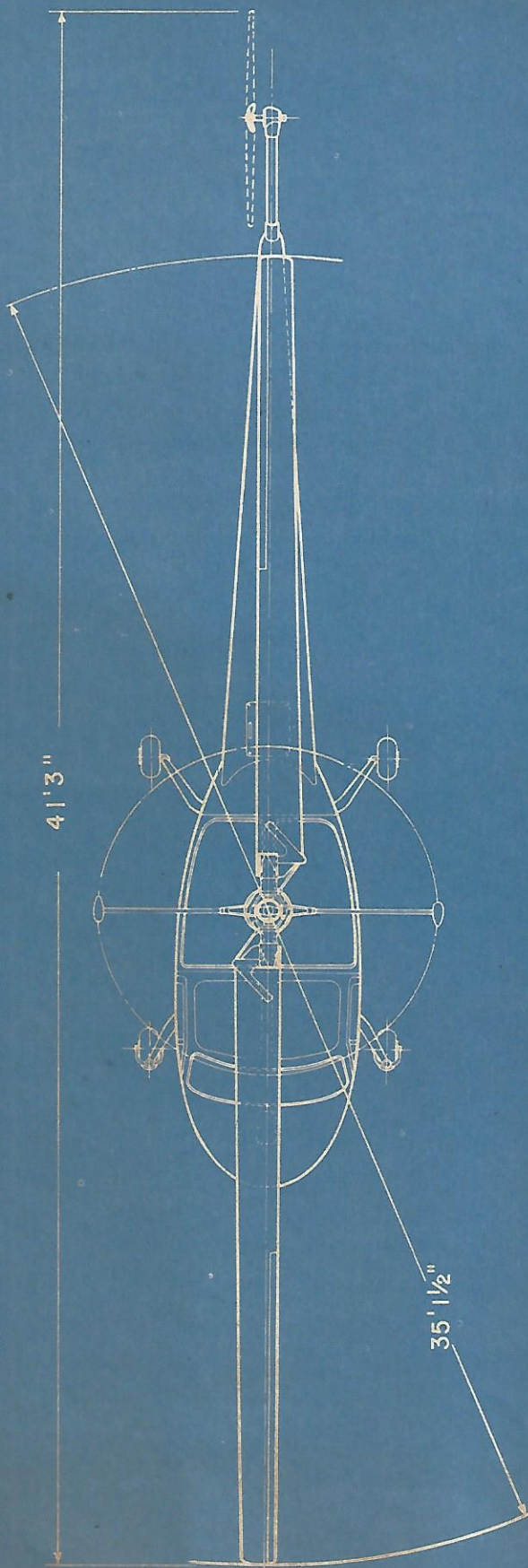


THREE-VIEW DRAWING OF BELL HELICOPTER • MODEL 47B





CUSTOMER'S SPECIFICATIONS FOR MODEL 47B

GENERAL DESCRIPTION

The Bell Model 47B is a two-place, single-engine helicopter featuring the Bell-patented two-blade rotor and an exclusive stabilizer bar. A small tail rotor compensates torque, offers precise directional control.

Comfortable seats are placed side by side within a two-door cabin forward of the engine. Large glassed-in areas assure both pilot and passenger unusual visibility. Aft of the engine section, there is a generous luggage compartment.

Standard equipment includes complete dual controls. For maximum convenience, a main rotor pitch control lever is mounted at the left of each seat. Otherwise, all instruments and engine controls are placed on a central column readily accessible to either occupant.

On the ground, the helicopter sits level on a quadracycle landing gear. Front wheels turn a full 360° and greatly facilitate ground handling.

PERFORMANCE DATA

The performance figures listed below are those for operation with the maximum gross load, in still air (0 miles per hour) under NACA standard atmospheric conditions. With normal wind velocity and average temperatures, increased performance is available.

High speed at sea-level	92 mph	Time to climb to 5000 feet	6.9 min.
Maximum rate of climb at sea-level	925 ft./min.	Operating speed, sea-level, 75% power	85 mph
Vertical rate of climb at sea-level	150 ft./min.	Range, sea-level, 75% power	212 miles
Service ceiling	11,600 ft.	Endurance, sea-level, 75% power	2.5 hrs.
Hovering ceiling (in ground effect)	3800 ft.	Maximum endurance, 60% power	3.0 hrs.

WEIGHT

Gross weight (normal load)	2200 lbs.
Empty weight	1523 lbs.
Useful load	677 lbs.
Pilot	170 lbs.
Payload	290 lbs.
Fuel (32 gals. plus 1/4 gal. trapped)	193 lbs.
Oil (2 gals. plus 1.16 gal. trapped)	24 lbs.

STRUCTURE AND DESIGN

DIMENSIONS — MAIN ROTOR

Diameter	35.125 ft.	Disc area	965 sq. ft.
Number of blades	2	Disc loading (normal gross weight)	2.28 lbs./sq. ft.
Blade area (total)	35.34 sq. ft.	Power loading (normal gross weight)	12.35 lbs./hp.

STABILIZER BAR

The stabilizer bar is a Bell exclusive. It is responsible in large measure for the Bell Helicopter's unusual flight steadiness at all speeds and altitudes.

This bar is mounted on a seesaw pivot immediately beneath the main rotor. It rotates with the mast . . . at right angles to rotor blades. However, because it is a large rotating weight, the bar tends to hold a given plane of rotation independent of either mast or rotor.

Linked mechanically to the rotor, the stabilizer bar prevents sudden changes of rotor-blade angle (hence tilting of the rotor disc) which can be caused by inadvertent swinging of the fuselage and mast by gusts or other disturbances.

DIMENSIONS — TAIL ROTOR

Diameter	5 ft. 9 in.	Blade area (total)	2.40 sq. ft.
Number of blades	2	Disc area	25.31 sq. ft.

CONTROL SYSTEM

MAIN ROTOR

A conventional control stick is provided for tilting the main rotor by means of cyclic rotor blade angle change. One such stick is located in front of each seat. Either stick is removable on the ground should additional space be desired. The tilt of the rotor plane, and hence direction of flight, follows the corresponding motion of the stick. An adjustable friction device on the stick is employed to regulate control sensitivity.

A main rotor pitch control lever, operation of which causes each rotor blade to increase or decrease its geometric angle a like amount, is located at the left of each seat. Upward motion of this lever produces more lift; downward motion, less lift.

TAIL ROTOR

A pair of rudder pedals, conventionally located ahead of each seat, are connected to a pitch-changing mechanism on the tail rotor. Operation of these pedals permits both proper torque compensation and also directional control.

EQUIPMENT

POWER-PLANT

ENGINE Air-cooled motors, Model 6V4-178-B3, six cylinders opposed, unsupercharged, rated 178 horsepower at 3000 rpm. at sea-level.

TRANSMISSION This unit incorporates the following components:

- (1) 9:1 engine-to-rotor gear-reduction ratio.
- (2) Centrifugal clutch to permit starting of engine without engaging rotor.
- (3) Free-wheeling unit so that rotor may turn independent of the engine.
- (4) Auxiliary drive for cooling fan.
- (5) Auxiliary drive for tail rotor extension drive shaft.

COOLING FAN Adequate air-flow for both engine and oil cooler is provided by the fan. It is vee-belt driven from a power take-off pulley on the transmission.

ENGINE CONTROLS These include throttle, carburetor hot air, and carburetor mixture control. The throttle is located on the main rotor pitch control lever.

INSTRUMENTS

FLIGHT:

Air-speed Altimeter Compass

ENGINE:

Dual Tachometer (engine and rotor)	Manifold Pressure
Oil Pressure (engine and transmission)	Cylinder-head Temperature
Oil Temperature	Fuel Gauge
Fuel Pressure	

ELECTRICAL INSTALLATION

Starter
Generator
Ammeter
12-volt, 55-ampere-hour battery
Red (port), green (starboard) and white (tail) position lights
Instrument panel light
Radio — Hallicrafter Model CA-2 transmitter and receiver
Auxiliary Fuel Pump

LANDING GEAR

Non-retractable four-wheel landing gear equipped with shimmy-dampened 360° swiveling front wheels

MISCELLANEOUS EQUIPMENT

Main rotor tie-down boot	Glove compartment
Back and removable seat cushions	Throat Microphone with extension cord
Safety belts	Parts catalog
Tool kit	Erection and Maintenance Manual
Log book	Pilot's operating handbook
Rudder pedal locking bar	Hole cover (for removable stick)

COLOR AND UPHOLSTERY

The following exterior color combinations may be selected at the customer's option:

Principal Color	Trim Color
Vermilion	Cream
Salt Lake green	Cream
Honolulu blue	Cream

The standard model will be upholstered as follows:

Side-wall	Tan Vinyl-coated fabric
Trim	Beige lacquer
Seats	Grey-green Bedford cord
Carpet	Burnt umber Avtrim

The customer will be charged on a time-and-material basis for deviations from the standard helicopter.

NOTE: These specifications are tentative and subject to change without notice.