

**CHAPTER 16**

**DIMENSIONS AND DESCRIPTIONS**

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## CHAPTER 16

## DIMENSIONS AND DESCRIPTIONS

16-10 Version Description

Refer to § 3.200 for Type Certificate Data Sheet.

**WARNING**

**Refer to R22 Illustrated Parts Catalog (IPC) for specific part number differences between versions.**

- R22 Standard: Approved March 16, 1979. Serial numbers 0002 thru 0199, except 0175. Lycoming O-320-A2B or Lycoming O-320-A2C engine normally rated at 150 horsepower and derated to 124 horsepower. 80/87 minimum grade aviation gasoline. Gross weight 1300 pounds. Stabilizer angle 1.8–2.3 degrees nose up.
- R22 HP: Serial numbers 0175, 0200 thru 0255, 0257 thru 0300, 0302 thru 0349, 0352 thru 0356. Lycoming O-320-B2C engine normally rated at 160 horsepower and derated to 124 horsepower. 100LL or 91/96 minimum grade aviation gasoline. Gross weight 1300 pounds. Stabilizer angle 1.8–2.3 degrees nose up.
- R22 Alpha: Approved October 12, 1983. Serial numbers 0256, 0301, 0350, 0351, 0357 thru 0500. Lycoming O-320-B2C engine derated to 124 horsepower. Extended lower steel frames. Tailcone higher than Standard/HP. Aft battery installation. Gross weight 1370 pounds. Stabilizer angle 2.8–3.3 degrees nose down. Auxiliary fuel tank optional for serial numbers 0457 and subsequent.
- R22 Beta: Approved August 12, 1985. Serial numbers 0501 thru 2570. Lycoming O-320-B2C engine derated to 124 horsepower. 131 horsepower five-minute take off rating. Extended lower steel frames. Higher tailcone than Standard/HP. Aft battery installation. Seven-hole instrument panel. Larger oil cooler. 1370 pounds gross weight. Stabilizer angle 2.8–3.3 degrees nose down. Auxiliary fuel tank optional. A569-5 low-rpm warning unit with starter lockout feature installed in serial number 2115 and subsequent. Starter lockout prevents starter activation at less than 62% rotor rpm when actuator is not fully disengaged; starter may be activated above 69% rotor rpm to allow an in-flight engine start.

16-10 Version Description (continued)

- R22 Mariner: Approved September 12, 1985. Serial numbers 0364, 0501 thru 2570 eligible (suffix "M" added to ship serial number). Similar to Beta configuration except includes utility floats and additional corrosion protection. Different tailcone with 1.8–2.3 degrees nose-up horizontal stabilizer angle. Battery in nose when floats installed. Float stabilizer on lower vertical stabilizer in place of tail skid. May be flown without floats VFR day or night. Day VFR flight only with floats installed. Auxiliary fuel tank optional. Marine radio package optional.
- Instrument Trainer: Alpha, Beta, or Beta II configuration with 10-hole instrument panel. VMC operations only.
- Police Helicopter: Alpha, Beta, or Beta II configuration with searchlight, police radio package, and 70 amp alternator.
- R22 Beta II: Approved January 31, 1996. Serial numbers 2571 and subsequent. Lycoming O-360-J2A engine derated to 124 horsepower maximum continuous power. 131 horsepower 5-minute take-off rating. Carburetor heat assist. 1370 pounds gross weight. Stabilizer angle 2.8–3.3 degrees nose down. Throttle only engine governor standard. A569-5 low-rpm warning unit with starter lockout feature standard. Auxiliary fuel system optional.
- R22 Mariner II: Approved January 31, 1996. Serial numbers 2571 thru 3414 eligible (suffix "M" added to ship serial number). Similar to Beta II configuration except includes utility floats and additional corrosion protection. Battery in nose when floats installed. Different tailcone with 1.8–2.3 degrees nose-up horizontal stabilizer angle. Float stabilizer on lower vertical stabilizer in place of tail skid. May be flown without floats VFR day or night. Day VFR flight only with floats installed. Marine radio package optional.

16-20 Datum

The datum is located 100 inches forward of main rotor centerline.

16-30 Method of Measurement

Fuselage station, tailcone station, water line station, and butt line station values are measured in inches, rounded to the nearest hundredth.

16-40 External Dimensions

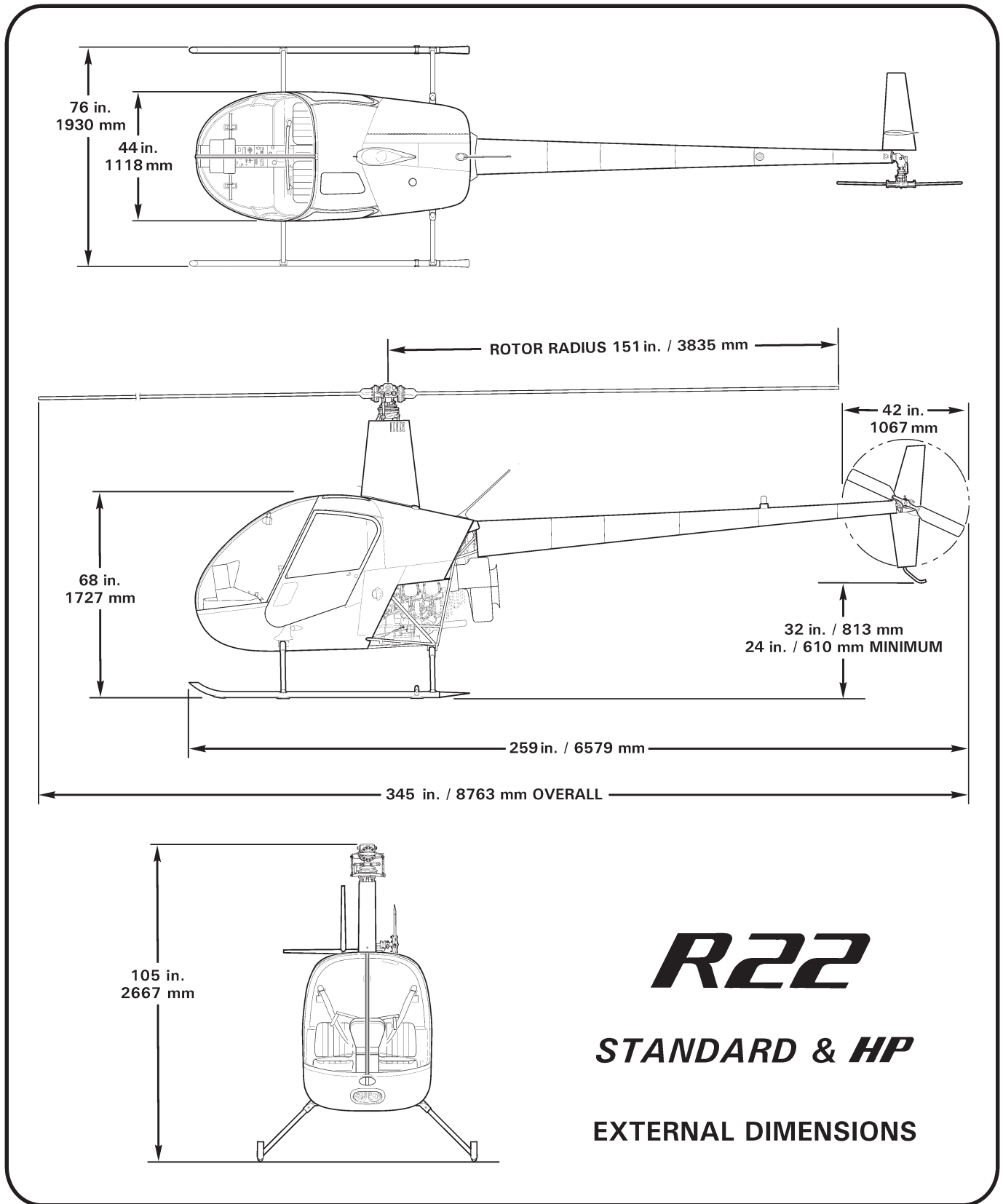


FIGURE 16-1 EXTERNAL DIMENSIONS

16-40 External Dimensions (continued)

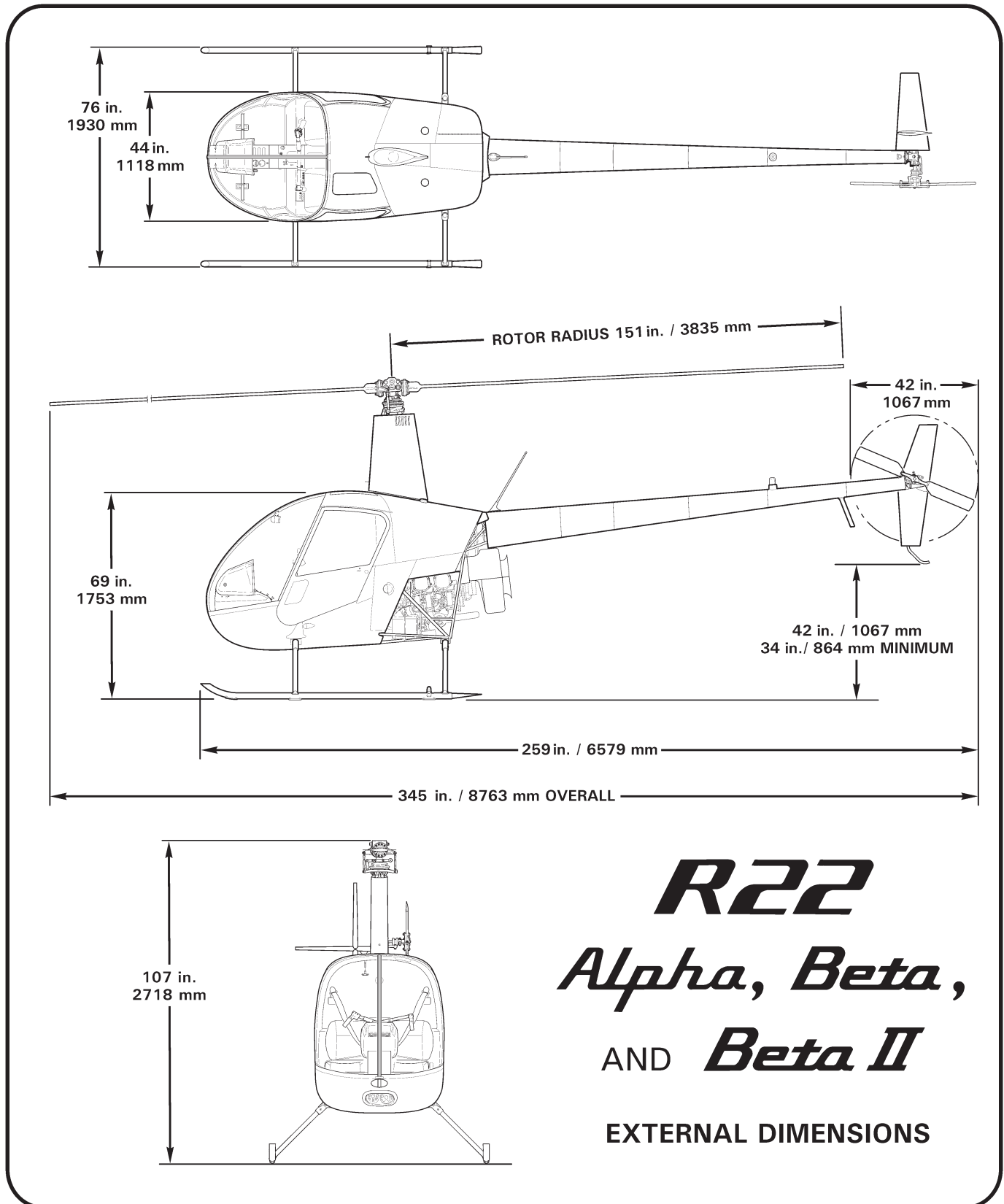


FIGURE 16-2 EXTERNAL DIMENSIONS

16-40 External Dimensions (continued)

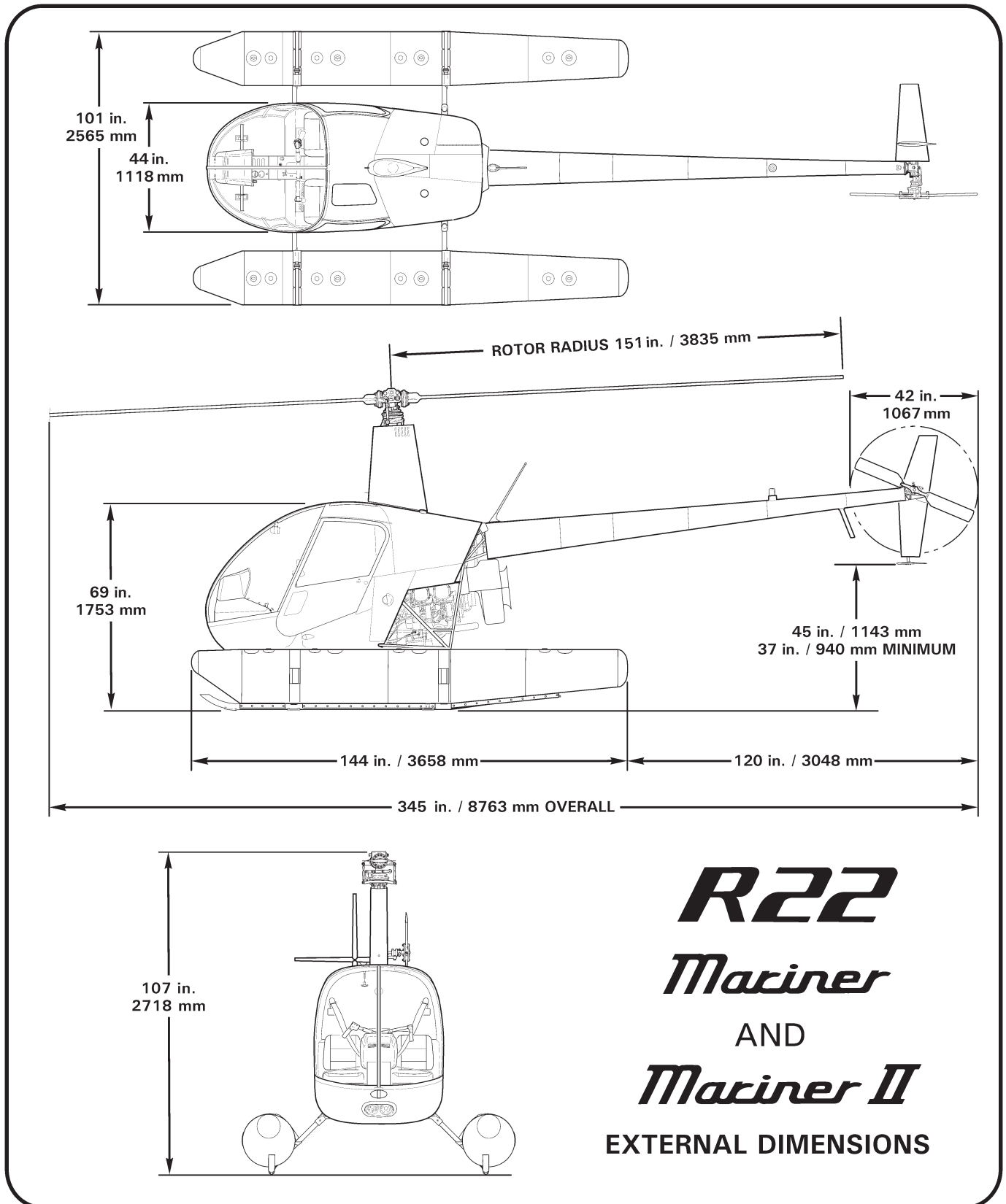


FIGURE 16-3 EXTERNAL DIMENSIONS

16-50 Station Locations

Reserved.

16-60 Access and Inspection Panels

Refer to R22 Illustrated Parts Catalog Chapter 6 for access and inspection panel locations.

16-61 B526 Screws and B527-08 Washers

B526 (TORX Plus®) truss head screws may be used to secure cowlings and access panels. A B527-08 nylon washer may be used under a B526 screw head to further protect thin or painted surfaces.

B526 screws are interchangeable with MS27039C080\_ screws used to secure cowlings and access panels as follows:

<u>PART:</u>	<u>INTERCHANGEABLE WITH:</u>
MS27039C0806 screw . . . . .	B526-6 screw
MS27039C0807 screw . . . . .	B526-8 screw
MS27039C0808 screw . . . . .	B526-8 screw

B526 screws are interchangeable with AN525-832R\_ & AN526C832R\_ screws as follows:

<u>PART:</u>	<u>INTERCHANGEABLE WITH:</u>
AN525-832R6 or AN526C832R6 screw . . . .	B526-6 screw
AN525-832R7 or AN526C832R7 screw . . . .	B526-8 screw
AN525-832R8 or AN526C832R8 screw . . . .	B526-8 screw

**NOTE**  
B526 screws are compatible with T20 or 20IP drivers.



16-70 Antenna Locations

NO.	ANTENNA	PART NO.	NO.	ANTENNA	PART NO.
1	NAV .....	CI 259E	6	ADF .....	KA44B
	NAV .....	CI 259E (W/DIPLEXER)	7	Cowling GPS .....	GA 35
2	RH Belly FM .....	CI 292-3	8	Fwd Tailcone COM .....	CI 121 or CI 248-5
	RH Belly FM .....	CI 177-20		Fwd Tailcone COM/GPS .....	CI 2580-200
	RH Belly FM .....	CI 273 OR CI 271	9	RMS/GPS .....	921-00003-001
	RH Belly COM .....	CI 122	10	Aft Tailcone COM .....	CI 121 or CI 248-5
	RH Belly FM .....	CI 272-1		Aft Tailcone GPS/COM .....	CI 2580-200
3	LH Belly FM .....	CI 292-3			
	LH Belly FM .....	CI 177-20			
	LH Belly FM .....	CI 273 OR CI 271			
4	Marker Beacon .....	CI 102			
5	Transponder/UAT (ADS-B) ..	CI 105-16 OR KA60, FWD			
	Transponder .....	CI 105-16 OR KA60, AFT			
	DME .....	CI 105-16 OR KA60			

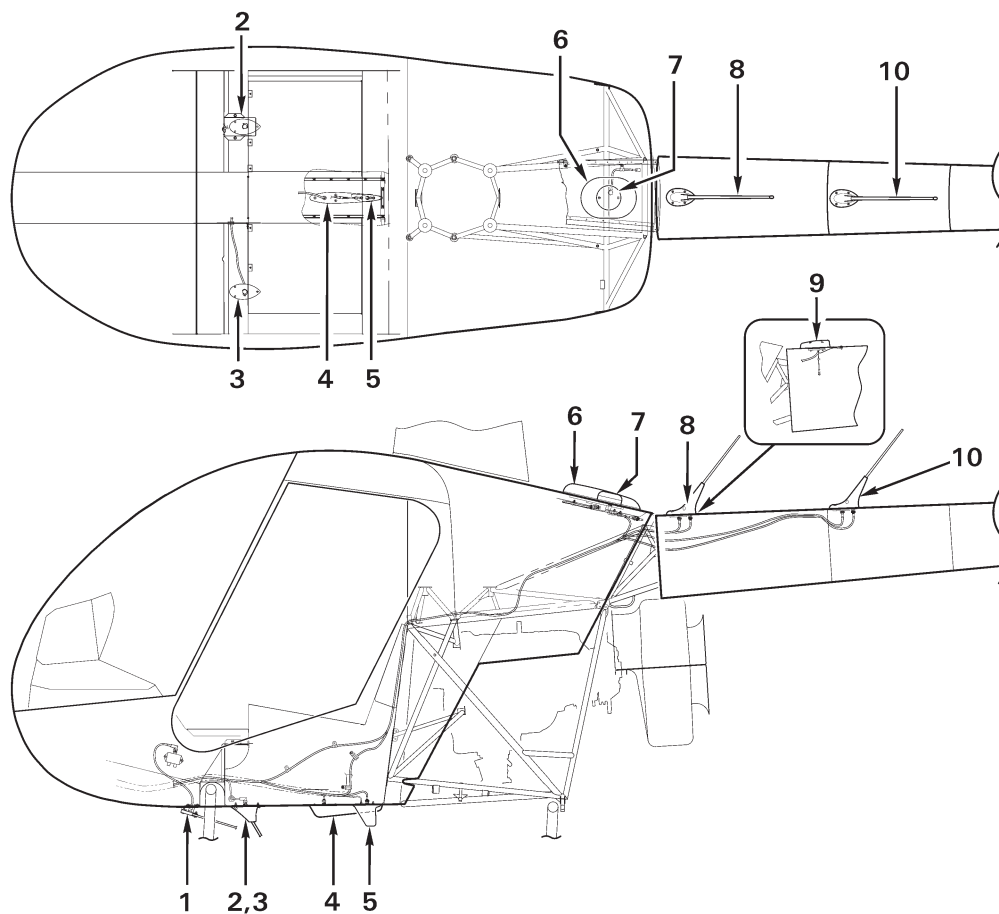


FIGURE 16-4 ANTENNA LOCATIONS

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