

I. Model R44 (Normal Category Rotorcraft), Approved December 10,1992, (cont'd)

Center of Gravity (C.G.) Range	Longitudinal C.G. Range			Lateral C.G. Range		
	Gross Weight (lbs.)	Forward (in.)	Aft (in.)	Long. C. G. (in.)	Left (in.)	Right (in.)
	1550	92.0	102.5	92.0	-3.0	+3.0
	2000	92.0	102.5	100.0	-3.0	+3.0
	2200	92.0	100.25	102.5	-1.5	+1.5
	2400	93.0	98.0			

Note: Straight line variation between points shown.

Empty Weight C.G. Range	Calculated C.G. with 150 lb. pilot and full fuel must be STA 102.5 or forward.																						
Maximum Weight	2400 lb.																						
Minimum Crew	1 pilot in forward right seat.																						
Number of Seats	4 (3 for Police and ENG Version) Seat Locations: Pilot and Forward Passenger at STA 49.5 Aft Passengers at STA 79.5																						
Maximum Baggage	50 pounds of baggage and installed equipment in any baggage compartment. For any seat location, the maximum combined weight of the seat load, baggage, and installed equipment is 300 lbs.																						
Fuel Capacity	<table border="1"> <thead> <tr> <th rowspan="2">Tank</th> <th colspan="2">Tanks Without Bladders</th> <th colspan="2">Tanks With Bladders</th> <th rowspan="2">Location (STA)</th> </tr> <tr> <th>Capacity (gal.)</th> <th>Usable (gal.)</th> <th>Capacity (gal.)</th> <th>Usable (gal.)</th> </tr> </thead> <tbody> <tr> <td>Main</td> <td>31.6</td> <td>30.6</td> <td>30.5</td> <td>29.5</td> <td>106.0</td> </tr> <tr> <td>Auxiliary</td> <td>18.5</td> <td>18.3</td> <td>17.2</td> <td>17.0</td> <td>102.0</td> </tr> </tbody> </table>	Tank	Tanks Without Bladders		Tanks With Bladders		Location (STA)	Capacity (gal.)	Usable (gal.)	Capacity (gal.)	Usable (gal.)	Main	31.6	30.6	30.5	29.5	106.0	Auxiliary	18.5	18.3	17.2	17.0	102.0
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Hydraulic Reservoir (if installed)	0.65	117.0																					
Maximum Operation Altitude	Density Altitude Limit 14,000 ft. Maximum altitude above ground level is 9000 ft. to allow landing within 5 minutes in case of fire.																						
Manufacturer's Serial Numbers	0002, 0004 thru 9999, except 1140																						
Certification Basis	14 CFR Part 27, dated February 1, 1965, including Amendments 27-1 through 27-24, Exemption No. 5473 dated July 2, 1992, to §27.955(a)(7) and 27.1305(q), and Exemption No. 6692 dated October 17, 1997 to §27.695. 14 CFR Part 36 Amendment 36-20. <u>Equivalent Safety Finding:</u> Number TD10352LA-R/S-1 14CFR Part 27.1401(d), Anticollision Light System																						

I. Model R44 (Normal Category Rotorcraft), Approved December 10,1992, (cont'd)

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following FAA-approved Rotorcraft Flight Manual is required:

R44 Rotorcraft Flight Manual (RTR 461) dated December 10, 1992, or later revision (See NOTES 4, 5, & 6).

II. Model R44 II (Normal Category Rotorcraft), Approved October 3, 2002

The R44 II helicopter includes a fuel injected engine with a 245 hp takeoff rating and a maximum weight of 2500 lb.

Engine One Lycoming IO-540-AE1A5, Type Certificate number 1E4

Fuel 100 LL minimum grade aviation gasoline
100/130 minimum grade aviation gasoline

Engine Limits Maximum continuous: 205 hp at 2718 rpm (102%)
Takeoff (5 minute): 245 hp at 2718 rpm (102%)

See R44 II Rotorcraft Flight Manual (RTR 462), dated October 3, 2002 or later FAA approved revision, for maximum manifold pressure corresponding to horsepower rating.

Rotor Speed Limits

Power Off (Rotor Tach)	Power On (Rotor Tach)
Maximum: 432 rpm (108%)	Maximum: 408 rpm (102%)
Minimum: 360 rpm (90%)	Minimum: 404 rpm (101%)

Airspeed Limits

V_{NE} (never exceed speed) at sea level is 130 KIAS (120 KIAS with fixed floats) for takeoff gross weights of 2200 lbs. or less. V_{NE} at sea level is 120 KIAS (110 KIAS with fixed floats) for takeoff gross weights over 2200 lbs.

Power Off (Autorotation) V_{NE} at sea level is 100 KIAS.

For reduction of V_{NE} with altitude and temperature, see R44 II Rotorcraft Flight Manual (RTR 462) dated October 3, 2002, or later FAA approved revision.

Airspeed limit at power settings above Maximum Continuous Power is 100 KIAS.

Airspeed limit with inflated pop-out floats is 80 KIAS.

Airspeed limit for any combination of Doors Off is 100 KIAS.

Center of Gravity (C.G.) Range

Gross Weight (lbs.)	Longitudinal C.G. Range		Lateral C.G. Range		
	Forward (in.)	Aft (in.)	Long. C. G. (in.)	Left (in.)	Right (in.)
1600	92.0	102.5	92.0	-3.0	+3.0
2100	92.0	102.5	100.0	-3.0	+3.0
2300	92.0	100.25	102.5	-1.5	+1.5
2500	93.0	98.0			

Note: Straight line variation between points shown

Empty Weight C.G. Range

Calculated C.G. with 150 lb. pilot and full fuel must be STA 102.5 or forward.

II. Model R44 II (Normal Category Rotorcraft), Approved October 3, 2002, (cont'd)

Maximum Weight 2500 lb.
2400 lb. for intentional water landings with fixed or pop-out floats.

Minimum Crew 1 pilot in forward right seat.

Number of Seats 4 (3 for Police and ENG Versions)
Seat Locations: Pilot and Forward Passenger at STA 49.5
Aft Passengers at STA 79.5

Maximum Baggage 50 pounds of baggage and installed equipment in any baggage compartment. For any seat location, the maximum combined weight of the seat load, baggage, and installed equipment is 300 lbs.

Tank	Tanks Without Bladders		Tanks With Bladders		Location (STA)
	Capacity (gal.)	Usable (gal.)	Capacity (gal.)	Usable (gal.)	
Main	31.6	30.6	30.5	29.5	106.0
Auxiliary	18.5	18.3	17.2	17.0	102.0

Component	Capacity (qt.)	Location (STA)
Engine	9	110.0
Main Rotor Transmission	2	100.0
Tail Rotor Transmission	0.11	327.0
Hydraulic Reservoir	0.65	117.0

Maximum Operation Altitude Density Altitude Limit - 14,000 ft.
Maximum altitude above ground level is 9000 ft. to allow landing within 5 minutes in case of fire.

Manufacturer's Serial Numbers 1140, 10001 and subsequent

Certification Basis 14 CFR Part 27, dated February 1, 1965, including Amendments 27-1 through 27-24, and Exemption No. 6692 dated October 17, 1997 to §27.695.

14 CFR Part 36 Amendment 36-24.

Equivalent Safety Finding:

Number TD10352LA-R/S-1

14CFR Part 27.1401(d), Anticollision Light System

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following FAA-approved Rotorcraft Flight Manual is required:

R44 II Rotorcraft Flight Manual (RTR 462) dated October 3, 2002, or later revision (See NOTES 7 & 8).

DATA PERTINENT TO BOTH MODELS

Datum 100 in. forward of main rotor centerline.

Leveling Means Refer to the R44 Maintenance Manual and Instructions for Continued Airworthiness (RTR 460).

Rotor Blade and
Control MovementsMain Rotor blade angles at 75% radius:

Collective Pitch: 12.5° ±1.0° total travel

Note: Collective low pitch to be established in accordance with the Maintenance Manual and Instructions for Continued Airworthiness (RTR 460) procedures to obtain proper autorotation RPM.

Cyclic Pitch:	Forward	13.50° to 14.25°
	Aft	13.50° to 14.25°
	Left	7.5° to 8.5°
	Right	6.0° to 7.0°

Tail Rotor blade angles at 75% radius:

Collective Pitch:	Thrust to left	15.5° to 16.5°
	Thrust to right	18.5° to 19.0°

Production Basis

Production Certificate No. 424WE dated February 11, 1993.

GENERAL NOTES

- NOTE 1. A current weight and balance report, including a list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original airworthiness certification and at all times thereafter, except in the case of operators having an approved weight control system.
- NOTE 2. The following placard must be installed in clear view of the pilot:
"THIS ROTORCRAFT APPROVED FOR DAY AND NIGHT VFR OPERATIONS"
- For additional placards, see the Rotorcraft Flight Manual. All placards required in the FAA-approved Rotorcraft Flight Manual must be installed in the appropriate locations.
- NOTE 3. Information essential to the proper maintenance of the helicopter, including retirement time of critical components, is contained in the Robinson R44 Maintenance Manual and Instructions For Continued Airworthiness (RTR 460). Retirement times are listed in the FAA-approved "AIRWORTHINESS LIMITATIONS" section. The values of retirement or service life and inspection intervals cannot be changed without FAA Engineering approval.
- NOTE 4. R44 Rotorcraft Flight Manual Supplement 5 dated July 17, 1996, or later FAA-approved revision is required when float landing gear is installed.
- NOTE 5. R44 Rotorcraft Flight Manual Supplement 10 dated June 10, 1999, or later FAA-approved revision is required when emergency (pop-out) floats are installed.
- NOTE 6. R44 Rotorcraft Flight Manual with FAA-approved revisions through November 5, 1999, or later FAA-approved revision is required when hydraulically-boostered main rotor flight controls are installed.
- NOTE 7. R44 II Rotorcraft Flight Manual Fixed Floats Supplement dated October 3, 2002, or later FAA-approved revision is required when fixed-float landing gear is installed.
- NOTE 8. R44 II Rotorcraft Flight Manual Pop-Out Floats Supplement dated October 3, 2002, or later FAA-approved revision is required when pop-out floats are installed.

NOTE 9.

Any changes to the type design of this helicopter by means of an amended type certificate (TC), supplemental type certificate (STC), or amended STC, requiring instructions for continued airworthiness (ICA's) must be submitted through the project aircraft certification office (ACO) for review and acceptance by the Fort Worth-Aircraft Evaluation Group (FTW-AEG) Flight Standards District Office (FSDO) prior to the aircraft delivery, or upon issuance of the first standard airworthiness certificate for the affected aircraft, whichever occurs later as prescribed by Title 14 CFR 21.50. Type design changes (major repairs or alterations) by means of a FAA Form 337 (field approval) that require ICA's must have those ICA's reviewed by the field approving FSDO.

END