

# Product Comparison

F28F vs.  
Robinson  
R44



**ENSTROM**  
HELICOPTER CORPORATION





**ENSTROM**  
HELICOPTER CORPORATION

## F28F vs. R44 Specs

	ENSTROM F28F <sup>②</sup>	ROBINSON R44 II
Seats	3	4
Continuous Engine Power (To Drivetrain) (hp)	225	205
Turbo-Charged?	YES	NO
Empty Weight (As Configured <sup>①</sup> ) (lbs)	1660	1511
Payload (As Configured <sup>①</sup> ) (lbs)	940	989
Maximum Cruise Speed (mph)	112	135
Range with Internal Fuel (miles)	277	~400 <sup>③</sup>
Maximum Takeoff Weight (lbs)	2600	2500
Hover Ceiling IGE (ft)	13,200 (2350 lbs)	8950 (2500 lbs)
Hover Ceiling OGE (ft)	8700 (2350 lbs)	4500 (2500 lbs)
Rate Of Climb at 6000 feet (ft/min)	>1250 (2350 lbs)	~1000 (2500 lbs)
Main Rotor System		
Number Of Rotor Blades	3	2
Inertia	High	Moderate
Cabin Width (inches)	62	50

- ① Typical options/avionics configuration
- ② The Enstrom 280FX has comparable performance to the 280FX
- ③ This range is with auxiliary fuel



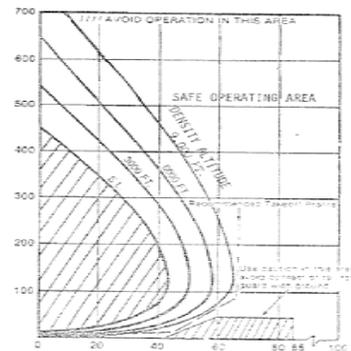
**ENSTROM**  
HELICOPTER CORPORATION

## F28F vs. R44 Performance and Flying Qualities

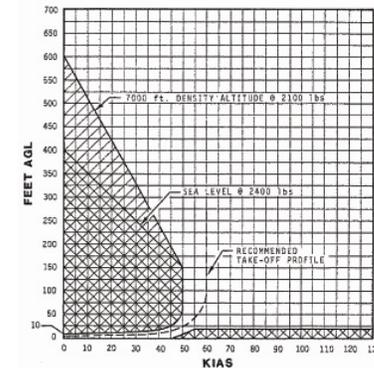
Performance and flight characteristics are two of the most important issues when looking at any helicopter. The F28F has a heavy, fully articulated, three-bladed rotor system, while the R44 only has a lightweight, two-bladed, teetering rotor system. The F28F rotor system is very high inertia, providing much better performance during an autorotation than the lighter weight R44. In the F28F reaction time to a loss of power is less critical than in a R44. The 3-bladed rotor also has a lower disc loading, meaning it can recover more easily from a loss of energy. A 3-bladed rotor generally will perform better in low-G maneuvers, or in high load situations such as high density altitude, wind gusts, or high airspeed. The R44's 2-bladed rotor head has a potential for mast bumping, while the F28F's 3-bladed fully articulated design will not mast bump. Because of the different styles of rotor system, the aircraft must be flown different. The R44's low inertia rotor system and resultant H/V chart require that approaches start from a high altitude and/or be made at a high airspeed. Conversely, with its high inertia rotor system, the F28F has a relatively forgiving H/V chart and approaches can be made at lower speeds. Finally, the R44 has been known to suffer from loss of tail rotor effectiveness (LTE). With its large, unblocked tail rotor the F28F has no LTE issues and can perform hot, high, and heavy out of ground effect hovers, as well as take off, taxi, and fly in high winds from any direction.



The R44 uses hydraulic controls, mainly in order to reduce stick force requirements and damp out unwanted vibrations. The F28F uses direct mechanical controls with electric trim. The mechanical controls are simpler than hydraulics, are less failure prone, and require less maintenance. In addition they provide more feedback and response to the pilot, making the aircraft easier and more enjoyable to fly. The F28F has matched/tabbed blades and balanced rotating components to eliminate unwanted vibrations. Finally, the R44 uses a unique T-bar cyclic that shares a single control between two pilots. Many pilots find this disconcerting. The F28F uses two much more standard floor mounted cyclics that are familiar and comfortable to a majority of pilots.



F28F H/V Chart



R44 H/V Chart



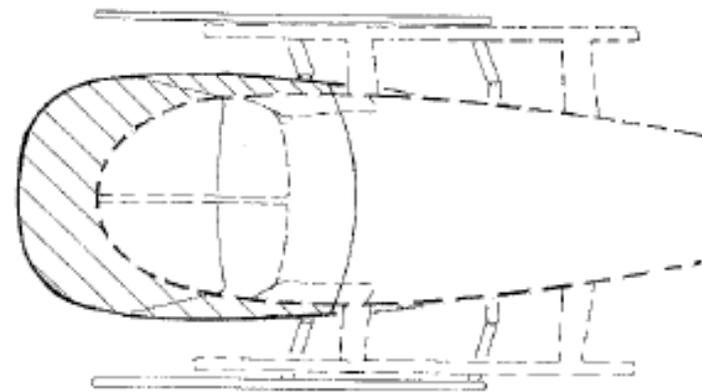
**ENSTROM**  
HELICOPTER CORPORATION

## F28F and R44 Cockpit Comparison

The most notable difference between the F28F and the R44 is in the cabin configuration and size. The F28F is a 3 person aircraft, with 3-abreast seating. The R44 is a four person aircraft with 2+2 seating. As can be seen in the specifications, both aircraft have similar gross weights. This means that the R44 is effectively a 3 person aircraft when baggage or cargo is taken along. The F28F can carry its full passenger load plus baggage. Since most flights occur with two or less occupants onboard, this is generally not an issue. It should be noted that since the cabin of the F28F has 3-abreast seating, when only two people are present it is much more spacious than the R44, and it provides more room for charts, equipment, and personal items.



— Solid Line      Enstrom F28F  
- - - Dashed Line      Robinson R44



— Solid Line      Enstrom F28F  
- - - Dashed Line      Robinson R44



**ENSTROM**  
HELICOPTER CORPORATION

## F28F vs. R44 Maintenance and Servicing

A major difference between the F28F and the R44 is in maintenance philosophy. The R44 life limits each component and the entire helicopter to 12 years or 2200 hours, whichever comes first. Once one of those limits is reached, the aircraft must be returned (at the owner's expense) to one of a small number of overhaul centers or the Robinson factory for a comprehensive overhaul. This overhaul is often more than 50% of the purchase price of the original helicopter.

Enstrom has an almost exact opposite maintenance philosophy. There are only 9 life limited parts on the F28F. Everything else, including rotor blades, is replaced on an on-condition basis. Transmission overhauls are available on an exchange basis so that the parts can be changed out in the field with a minimum of downtime. There is no life limit on the F28F airframe. The F28F can be almost fully serviced by any competent maintenance organization or licensed mechanic. Additionally, each aircraft sold comes with a free maintenance course for the owner's mechanic taught at the factory.

Finally, the F28F uses a lightweight, turbocharged four cylinder Lycoming engine. The R44 uses a heavy, naturally aspirated six cylinder Lycoming engine. In addition to being more powerful (especially at high altitude), the F28F's four cylinder engine is less expensive to overhaul. This helps contribute to the F28F's lower direct operating costs.



Enstrom F28F  
Lycoming IO-360



Robinson R44  
Lycoming IO-540

