

Engine Mount

Some customers choose to fabricate their engine mount themselves. All Rotec Radial engine purchases without an engine mount are provided Rotec specific hardware to make this process easier (see *Figure 1 & 2*).



Figure 1: Rotec R2800 engine mount Rotec specific parts



Figure 2: Rotec R3600 engine mount Rotec specific parts

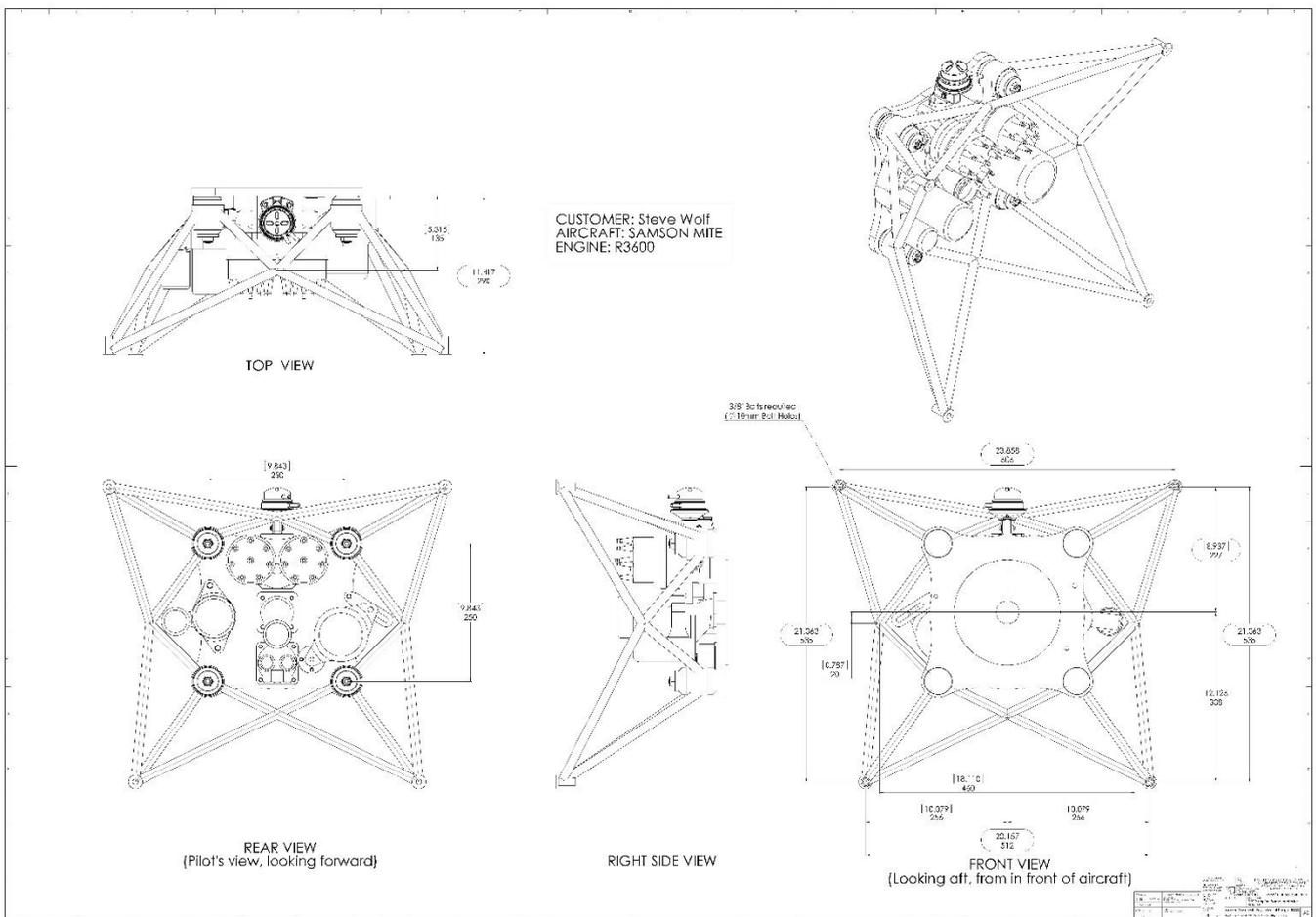


Figure 3: Example Rotec R3600 engine mount dimensions

The following specifications are to be considered when fabricating a Rotec Radial engine mount:

- **Engine Position:** A radial engine has a central thrust line 10 – 15 cm (4 – 6") lower than a typical flat engine. Installations replacing a flat engine will look odd if mounted in the same position. Mount the radial engine more centrally on the firewall.
- **Propeller Ground Clearance:** As some installations, will mount the engine closer to the centre of the airframe than usual, the landing gear will be lengthen to add more clearance from the ground from the propeller.
- **Mount Points:** Typically four connection points to the airframe firewall. Three or five points mounts can be used if desired.
- **Engine Mount to Airframe Bolt Size:**
 - Standard – AN6 (3/8"-24 Thread)
 - Recommended minimum (for a 4 point mount) – M6 or AN4 (1/4"-28)
- **Material:** 4130 series steel seamless tube – 5/8" (16 mm) outer diameter x 1/16" (1.6 mm) wall thickness
- **Cross Bracing:** Each connection to the firewall requires a cross brace to increase the rigidity of the mount.
- **Top and Bottom Cross Braces:** The propeller rotates counter-clockwise (viewing from in front of the engine), resulting in an opposing torque on the engine mount. If possible, the members that experience the highest loads should be made from single straight uncut pieces of material so that they experience the compressive forces. These braces are:
 - Top left of the firewall to the top right of the engine, viewed from the front of the engine
 - Bottom right of the firewall to the bottom left of the engine, viewed from the front of the engine
- **Side Cross Braces:** The side cross braces intersection point must be pushed out to a minimum distance of 440 mm and 20mm below the engine thrust line (see *Figure 2*). This is to ensure clearance of the starter motor and alternator.
- **Length:** Distance from the rear of the engine to the firewall is recommended to be greater than 254 mm (10", see *Figure 3*).
- The greater the distance from the firewall, the greater accessibility to the engine accessories. Any less will make it difficult to remove the distributor caps without removing the engine from the airframe. It may also be difficult to install some induction components, unless the firewall recedes inward at that location.
- Swing mounts and custom made upward draft carburettor manifolds can be used to have the engine mount even closer to the firewall than the recommended distance.