

Pre-Paint>Fuselage>Pre-fit wheel spats

Objectives of this task:

To pre-fit the spats to the main wheels and the nose wheel. This is a task that will require several trial fits, and it should be done in the stages described below.

Main wheel spats

The main wheel spats are held in place by a single bolt on the outside that fits into the axle extension and 4 screws on the inside that fit to the spat mounting plate. The inside holes (arrowed at centre right) should all be countersunk to accommodate Tinneman washers.



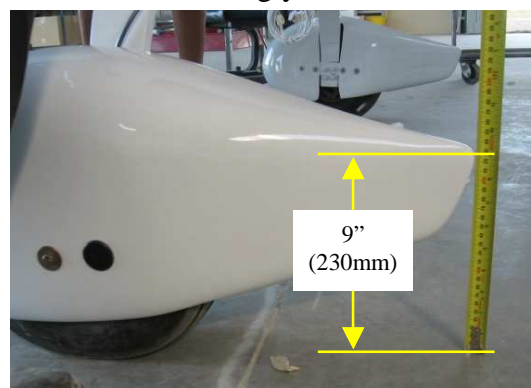
Prepare the spats by trimming out the bottom of the wheel opening as shown above – once the bottom opening is correct the spat can be test fitted and the gear leg opening shaped to suit.



Mark back 55mm from the axle bolt hole and drill a 1 1/8" hole for access to the valve as shown above left. Slip the spat down over the wheel until the outside axle bolt hole lines up with the axle extension: you will probably have to trim the main gear leg opening slightly to get the spat fully down over the wheel. A typical inside cut is shown marked above right, but check your own spat to main gear leg fitting then mark and trim accordingly.

Fit the spat into position with the axle bolt and the inside screws and make sure that there is a gap between the main gear leg and the top of the spat that will allow the hydraulic brake line to pass through without any risk of chafing on the spat.

Loosen the 2 top bolts that hold the spat mounting plate – one hole is slotted to allow adjustment – and rotate the spat until the top rear is 9" (230mm) above the ground, then tighten the bolts.



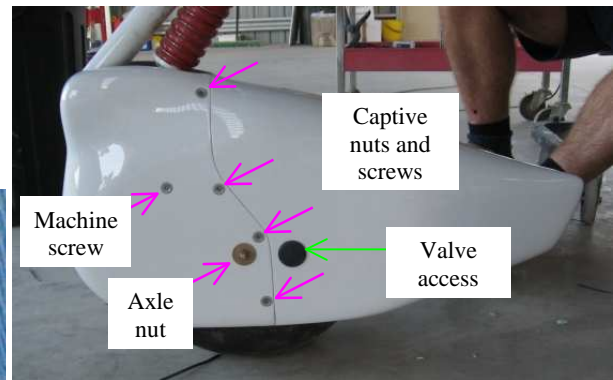
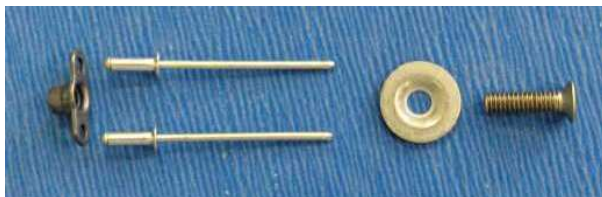


Check that the tire has about 5mm clearance all round the bottom of each spat, then remove the spats and set aside for painting. Completed main wheel spats are shown above.

Nose wheel spat

The nose wheel spat is in 2 sections, front and back. The front section is fitted to the nose wheel with the axle bolt and a single threaded screw into each side of the nose leg yoke, while the rear section is attached to the front section with 8 x 3/32" screws into captive nuts.

Start by fitting both sections together and taping them to each other, then drill 3/32" holes around the join, 4 on each side, for the captive nuts that will hold the 2 halves together as shown at right.



Countersink the screw holes in the front section and fit captive nuts (shown above) to the rear joggle – use countersunk 3/32" rivets to hold the captive nuts in place.

Screw both halves of the spat together and check the fit around the gear leg opening in the top of the spat. Trim the gear leg opening so that it is even on both sides. The opening should look like the example shown at right: note that the rear of the opening (arrowed in green) is slightly *behind* the join line.



While the spat halves are screwed together, measure back 55mm from the axle bolt on the left-hand side only and drill a 1 1/8" hole for access to the tire valve.

Grind out a gentle notch in the joggle of the rear section of the spat (as circled at right) to allow clearance for the front axle spacers.

Captive nuts fitted to the joggle can be seen in the photo at right.



Now both halves of the spat can be fitted to the nose wheel and held in place with the axle bolt, then the spat can be aligned and the hole for the machine screw in the yoke can be marked.

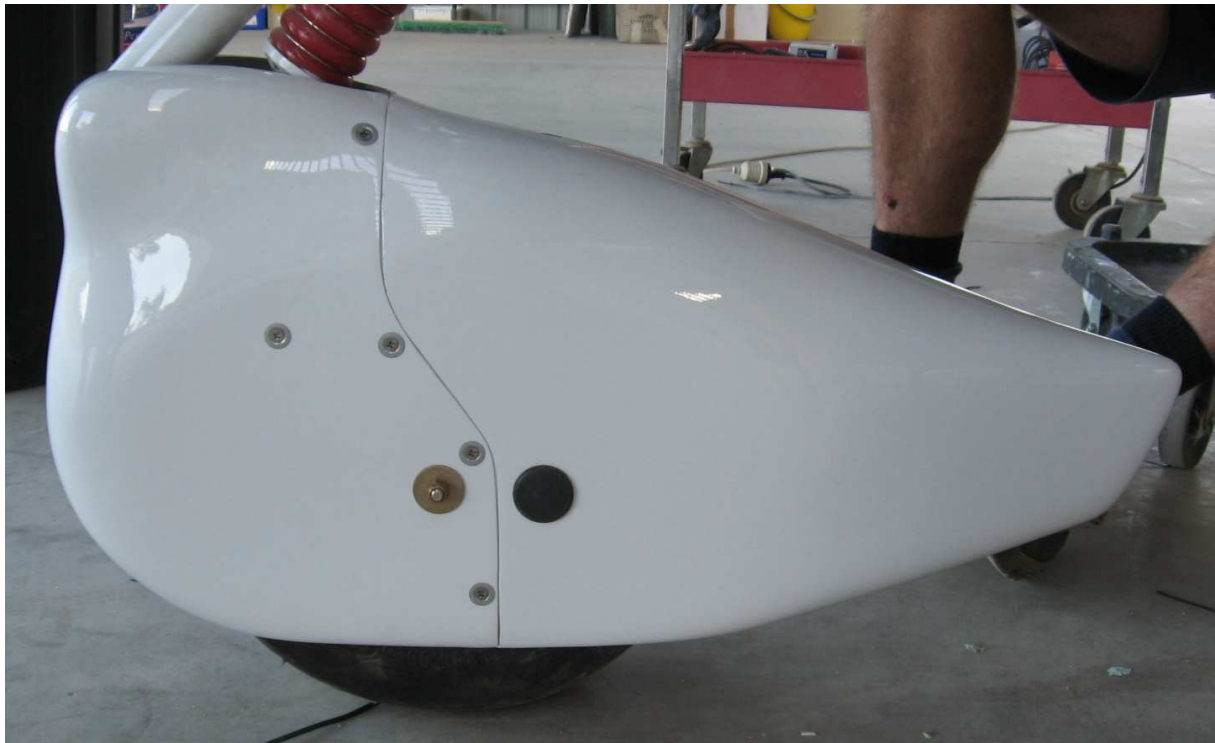
Support the front of the aircraft so that the nose wheel is off the ground and remove the front axle and wheel.

Fit the front of the spat over the yoke and refit the front wheel and the axle, passing the axle through the spat, yoke and wheel as shown at right.

Lower the nose wheel back onto the ground.



Fit the rear of the spat to the front section and move the back of the spat up or down until the whole spat sits level or slightly low at the back (the back will tend to move up as weight is added to the aircraft), then hold the spat in that position and mark the location of the holes for the machine screws on each side of the yoke. A completed nose wheel spat is shown below.



Support the front of the aircraft again so that the nose wheel is off the ground and remove both spat halves along with the front axle and wheel. Leave the wheel out of the yoke for the moment so that you will not accidentally drill through the yoke and into the tire.

Drill a 9/64" hole in each side of the yoke at the marked locations and thread to 3/32" UNF then refit the spat and wheel again, this time fitting the short 3/32" screws into the yoke.

Lower the nose wheel back onto the ground and check that the alignment is satisfactory and that the tire has about 5mm clearance around the bottom of the spat, then remove both halves of the spat, set them aside for painting and refit the nose wheel.

This completes the *Pre-Paint>Fuselage>Pre-fit wheel spats* task.