

Pre-Paint>Fuselage>Undercarriage>Fit main gear

Objectives of this task:

In this task you will permanently fit the main undercarriage to the fuselage. Both main gear legs will be fitted to the fuselage at the same time and the mounting bolt reinforcing plates will be flocked to the cabin floor as part of the fitting process.

At this point in the build the fuselage should be upright and firmly mounted on 2 trestles that place the underside of the fuselage at 650mm high under the cabin.

A standard builders sawhorse placed in front of the main gear recess would provide adequate clearance.

Materials required:

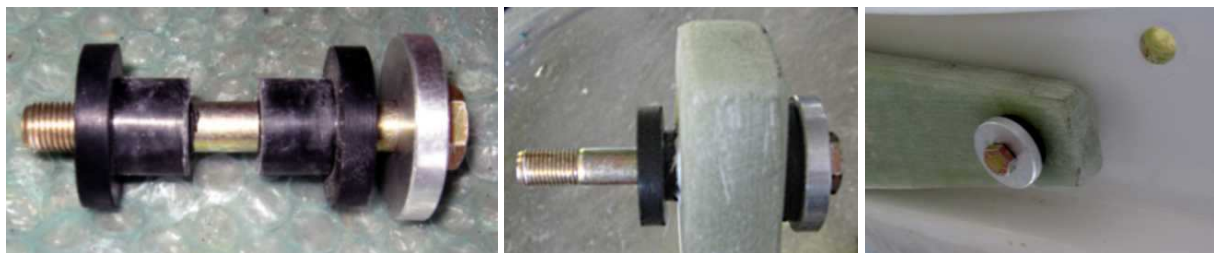
Card # J7 'Undercarriage'

Epoxy resin and flock

10mm / 3/8" ID reinforced hose approximately 80mm long:

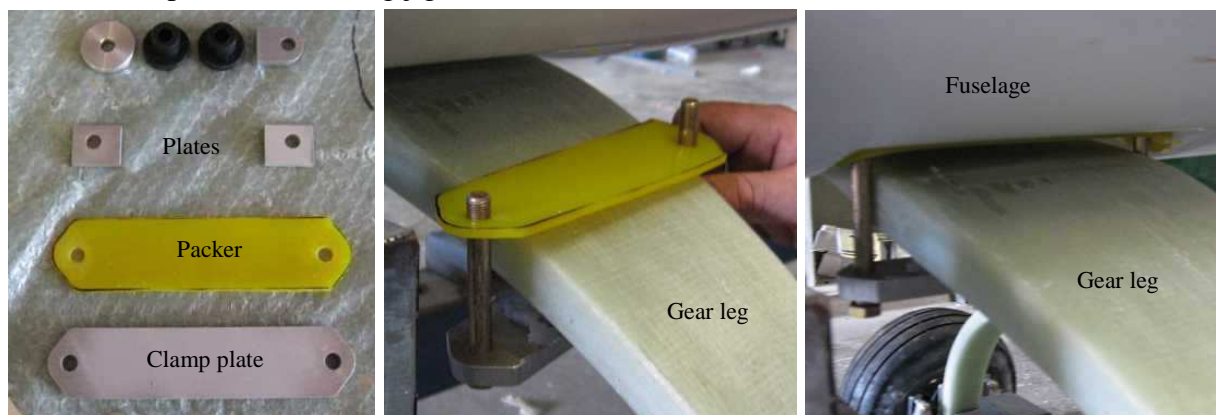


Prepare and pre-fit the main gear legs



Fit the centre bolt to the inboard end of each leg: the AN6-24A bolt (the shortest 3/8" bolt on the Card) goes through a flat washer, a machined aluminium washer and 2 rubber bushes, with the rubber bushes fitting into the gear leg as shown above left and centre.

Fit the gear leg into the recess in the fuselage and fit the bolt up through the inner hole in the gear leg recess as shown above right. Place a Nyloc nut loosely on the thread for the moment. Cut out the yellow packers for the clamp plate and drill 3/8" holes in each end as marked – use the clamp plate as a drilling jig.



Assemble the clamp plates: fit 2 x AN6-26A bolts and washers to the clamp plate then fit the yellow clamp plate packer to one bolt only.

Fit the assembly around the gear leg then fit the yellow clamp plate packer to the other bolt and test fit by fitting the bolts up through the holes in the fuselage.

Use a pencil to mark the position of the clamp plate on the top and bottom of the gear leg – the clamp plate will be flocked onto the gear leg and the marks indicate where you will need to roughen the gear leg in order to provide a key for the flock.

Remove the clamp plate; roughen the top of the plate and the marked areas on the top and bottom of the gear leg.



On each side of the front seats are the centre and forward outer clamp holes for the main gear, while the rear outer clamp hole is on the floor behind the main beam, and each hole will have a reinforcing plate flocked over it. (The plates are on the Card, part numbers 6036094 and 6037094, and can be seen the lower left-hand photo on the previous page.)

Roughen the area around each hole and the back of each reinforcing plate to provide a key for the flock. The surface around each hole is not absolutely flat, and no attempt should be made to make it flat because doing so would require removal of glass fibre from the floor which could weaken the area.

Fit the main gear legs

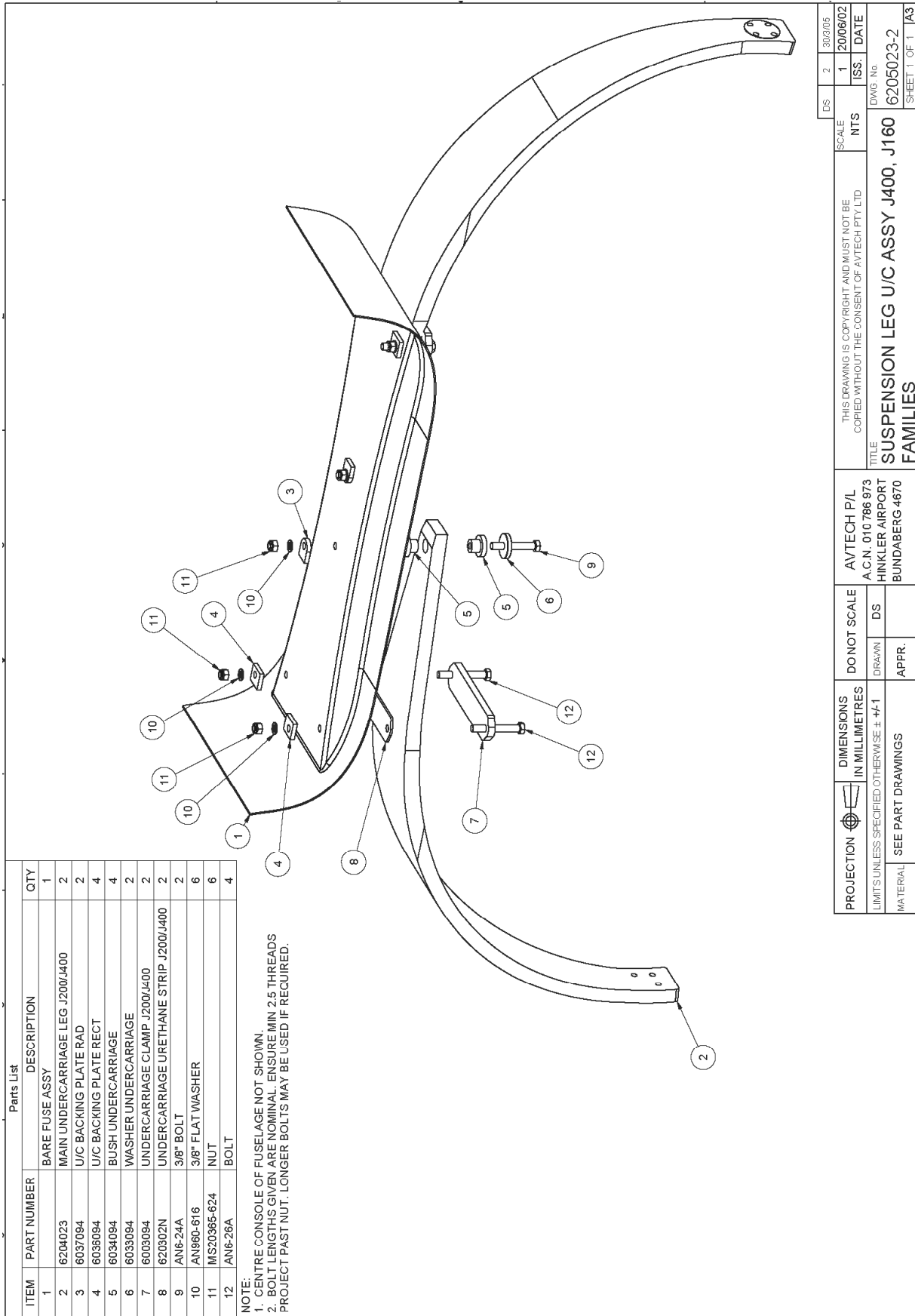
Mix a batch of resin, keep a small amount aside and add flock to the remainder.



Apply a 2mm layer of flock to the top of the clamp plate and reassemble the clamp plates: fit 2 x AN6-26A bolts and washers to the clamp plate then fit the yellow clamp plate packer to one bolt only.

Fit the assembly around the gear leg then fit the yellow clamp plate packer to the other bolt and fit the bolts up through the holes in the fuselage.

Push the gear leg firmly up against the fuselage and use a soft-headed hammer to drive the clamp bolts and centre bolt fully home.



Parts List

ITEM	PART NUMBER	DESCRIPTION	QTY
1		BARE FUSE ASSY	1
2	6204023	MAIN UNDERCARRIAGE LEG J200/J400	2
3	6037094	U/C BACKING PLATE RAD	2
4	6036094	U/C BACKING PLATE RECT	4
5	6034094	BUSH UNDERCARRIAGE	4
6	6033094	WASHER UNDERCARRIAGE	2
7	6030094	UNDERCARRIAGE CLAMP J200/J400	2
8	620302N	UNDERCARRIAGE URETHANE STRIP J200/J400	2
9	AN6-24A	3/8" BOLT	2
10	AN680-616	3/8" FLAT WASHER	6
11	MS20365-624	NUT	6
12	AN6-26A	BOLT	4

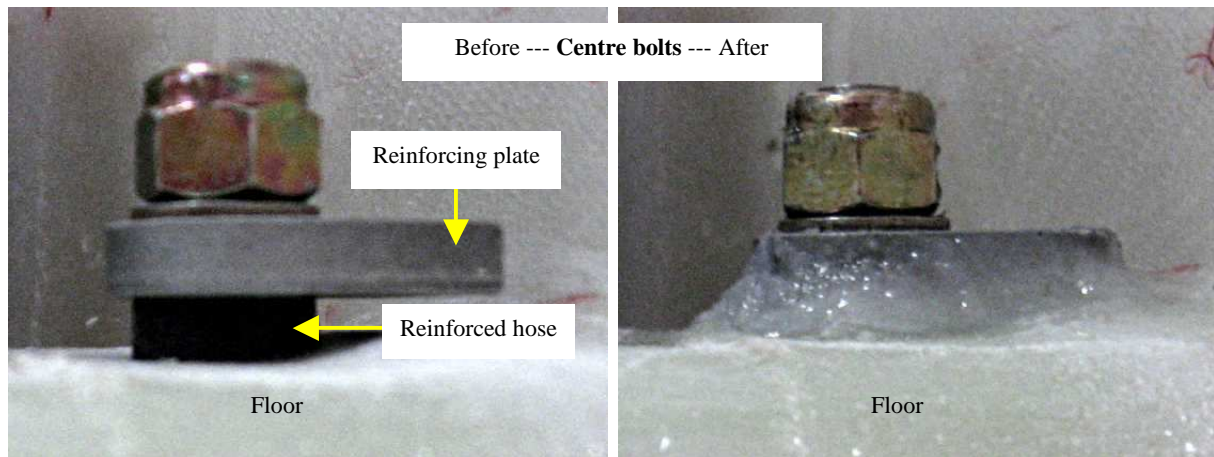
NOTE:
 1. CENTRE CONSOLE OF FUSELAGE NOT SHOWN.
 2. BOLT LENGTHS GIVEN ARE NOMINAL. ENSURE MIN 2.5 THREADS PROJECT PAST NUT. LONGER BOLTS MAY BE USED IF REQUIRED.

PROJECTION		DIMENSIONS IN MILLIMETRES	DO NOT SCALE	AVTECH P/L A.C.N. 010 786 973 HINKLER AIRPORT BUNDABERG 4670	THIS DRAWING IS COPYRIGHT AND MUST NOT BE COPIED WITHOUT THE CONSENT OF AVTECH PTY LTD	SCALE NTS	DS 1	30/3/05
LIMITS UNLESS SPECIFIED OTHERWISE ± +1	SEE PART DRAWINGS		DRAWN DS			ISS. DATE	2	20/06/02
MATERIAL			APPR.			DWG No.		6205023-2
						TITLE		SUSPENSION LEG U/C ASSY J400, J160
								FAMILIES
								SHEET 1 OF 1
								A3

Fit the reinforcing plates

Cut 4 x short lengths (~7mm) of reinforced hose (cut square) and slip one over each centre bolt, then fit the curved reinforcing plates, roughened side down with the curved side facing outwards, followed by a flat washer and a Nyloc nut.

Fit the other short lengths to the forward outer clamp bolts and then cut 2 x 12mm lengths of reinforced hose and slip one over each rear outer clamp bolt, then fit each square reinforcing plate, roughened side down, followed by a flat washer and a Nyloc nut.



Tighten each nut until the first thread on the bolt is just visible above the top of the nut – at this point the bottom of the reinforcing plate will be very close to the cabin floor and the reinforced hose will be compressed to roughly half of its original thickness and will have formed to suit the shape of the floor so it will completely seal the bolt from any flock.

Tap each plate around until it is squarely aligned in relation to the console or the sides of the fuselage as appropriate.

The clamp bolt reinforcing plates have the holes drilled off-centre: the widest part of the plate should be closest to the higher part of the floor.

Brush some resin on the floor under each reinforcing plate and then pack flock in and around each plate until all voids are filled.

Use a clean mixing stick dipped in resin to smooth any excess flock from around the plates and also from around the clamp plates under the gear leg.

Leave overnight to cure.

Next day the clamp bolts can be tightened until $2\frac{1}{2}$ threads protrude beyond the nut, which in turn will provide the required tension.

Tighten the centre bolts until the rubber bush between the gear leg and the aluminium washer has been compressed to half its original height.

The main gear is now permanently fitted to the fuselage and the saw stool or trestle can be removed from beneath the cabin, however the trestle that is supporting the tail of the aircraft will need to remain in place until the nose wheel and engine have been fitted.

This completes the *Pre-Paint>Fuselage>Undercarriage>Fit main gear* task.