

INSTALLATION OF ITEMS COMPRISED IN THE MISCELLANEOUS KIT

The miscellaneous kit consists of all the items necessary to finish off your car which are not included in the other kits. As such, it is not assembled as a unit and needs to be fitted in conjunction with other areas of the car.

Not having acquired this kit, however, will not prevent you from fitting the other kits first, although it will not be possible to install the engine and gearbox without it.

Items not specific to engine and gearbox installation are as follows:-

- 9.1. Brake Hoses
- 9.2. Handbrake mechanism - De Dion
- 9.3. Handbrake mechanism - live axle
- 9.4. General items
- 9.5. Trim Items

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9.1. Braking System

1.1 Feed the brake hose protector coils over each front brake hose. This is most easily done by winding the pipe into the coil.

1.2 Attach the inner end of each brake hose through the hole provided in the aluminium body side. Secure this in place with the 3/8 UNF nut provided with the lock washer between the nut and the inner body side. Do NOT tighten yet.

Particular attention should be paid to the Right Hand hose which screws into a 3 way union fitted to the chassis adjacent to the hole in the body side. Tighten this connection fully before securing the lock nut attaching the hose to the body side.(9.1.5)

1.3 The outer end should be attached to the brake caliper using the special banjo bolt provided with a copper washer between the bolt head and the hose union, and the hose union and the caliper body. Be careful not to over tighten this.

1.4 Turn the steering from lock to lock and watch carefully that the hoses do not foul on the suspension. If they do, a small amount of twist can be put into the hoses by adjusting the inner fixing onto the body side.

Please note that if Stainless Steel braided "Aeroquip" hoses are

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being used this problem is more likely to occur and it may help to undo the connection into the caliper and twist the hose through 180°.

1.5 Once positioned, the Left Hand locking nut can be tightened securing the hose to the body side and the inner male union connected to the matching female union on the end of the steel brake pipe.

1.6 The rear hose can now be fitted. On De Dion cars the hose should first be screwed into the 'T' union on the De Dion tube and tightened before attaching to the bracket mounted on the chassis with nut and lock washer. On live axle cars the hose is attached to the bracket on the axle with nut and lock washer, then connected to the union on the metal pipe to the wheel cylinder.

Lastly, the hose should be connected to the steel pipe under the rear bulkhead which may need a little careful realignment in order to do up properly. Note that if steel hoses have to be bent, sharp kinks must not be created since if pipes are overstretched in this way, failure in service is possible.

Note also that all brake connections should be kept spotlessly clean and contamination with oil, water or petrol must be avoided. Connections should also be finger tight initially. If a spanner is needed then there is a real chance of damaging threads which will prevent a safe joint being made.

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1.7 Finally, before filling with fluid, recheck all brake connections, including ours, from master cylinder through to each caliper or wheel cylinder and ensure they are properly tightened.

Brake fluid used should comply with SA3J 1703 DOT 3 specification and must be fresh. Once a container has been opened it is rapidly contaminated by moisture in the air. We recommend the use of Castrol/Girling brake fluid and use it in production at Crayford.

The master cylinder should be filled first, with all bleed nipples closed. Carefully bleed the system using slow strokes of the brake pedal starting at the nearside rear, then the nearside front and, lastly, the offside front until a firm high pedal is achieved. It will probably be necessary to repeat this exercise a couple of times before all the air is bled away.

De Dion cars will also need bleeding from the offside rear and this should be done immediately after the nearside rear.

DISC BRAKED DE DION CARS are supplied with an Easibleed brake bleeding device, separate instructions for which are included with it. Great care must be taken to ensure that the Easibleed cap attached to the top of the master cylinder is firmly and correctly seated. Brake fluid under pressure can be dangerous to eyes and can damage paintwork if it escapes.

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As a check on the system's integrity, get someone to hold the brake pedal down for about a minute whilst you check all connections and bleed nipples for any sign of leakage. The pedal should remain solid. If it slowly sinks, there is a leak somewhere in the system.

On disc braked De Dion cars fitted with new pads, pedal travel may seem excessive despite being fully and properly bled. In use however the system will improve dramatically with normal use (500-1000 miles).

9.2. Handbrake Mechanism - De Dion

2.1 Before assembly can commence the handbrake lever needs to be bent at an angle of between 15° and 30° to clear the transmission tunnel. (see diagram 9.2.1.)

First dismantle the ratchet mechanism by undoing the 1/4" UNF pivot bolt and nyloc and then, after unscrewing the handbrake knob, withdrawing the locking rod. Bend the handbrake using a bench vice (and similarly the locking rod separately) to an angle sufficient to clear the transmission tunnel.

2.2 Fit a rubber grommet into the hole at the top front of the transmission tunnel and feed the handbrake cable through this into the passenger compartment locating the end of the inner cable into the lug under the front bulkhead.

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The handbrake lever can now be assembled onto the cable with the handbrake barrel to locate the cable outer and bolted into place under the bulkhead using the 7/16" x 2³/₄" bolt and nyloc as the handbrake pivot and the 1/4" x 2³/₄" bolt and nyloc to locate the handbrake ratchet.

You will be working against the spring at the other end of the cable as this is installed under tension.

2.3 The longer handbrake cable will have been installed into the rear brake drums or discs as part of the rear suspension assembly and this should now be connected to the front cable. The clevis pin is slid downward through the twin eyes of the front cable capturing the nyloc pulley around which the cable should be fitted. This clevis is secured by a small 'R' pin.

2.4 The handbrake can now be adjusted using the nylon knurled nuts threaded onto the rear cable from underneath the car. Take care to ensure that it is not adjusted too tightly and that the rear shoes or pads are not binding. Ideally the handbrake should lock the rear wheels on about three clicks of the ratchet mechanism.

When correctly adjusted the forward nut is locked into place with the second knurled nut fitted to the cable.

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9.3. Handbrake Mechanism - Live Axle

3.1 The handbrake lever must be modified as described in 2.1

3.2 The cable is attached to the lever and the lever is mounted in the car in exactly the same way as described in 2.2, except that instead of there being a two part cable, it is supplied in one piece.

3.3 The handbrake can be adjusted in two places; where the cable outer meets the strap on the rear axle, and where the handbrake rod crosses from the same strap to the offside brake lever.

Firstly adjust the rod until there is an even amount of slack at both brake levers and then adjust the cable itself until the handbrake locks both back wheels after about three clicks of its ratchet.

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9.4. General Items

4.1 Screen Washer Kit

This is fitted on the front bulkhead to the offside of the brake master cylinder (RHD cars) where holes are pre-drilled to take the mounting bracket which is riveted or bolted in place. Attach the clear plastic tubing to the plastic washer jet after first removing the securing nut. Slide the tubing down through the hole in the centre of the scuttle and secure with the nut which is fed back over the tubing. Note that there should be a rubber washer between the jet and the top of the bodywork.

Route the tubing through the wiring loom behind the dashboard to prevent it falling down into view and pass it through the large rubber grommet above the steering column and attach to the washer motor, trimming to length as necessary.

The motor is connected with the green/black wire to the (+) terminal and the black to the (-) terminal.

4.2 Horns

The twin electric horns are fitted to a stud attached to the main front lower chassis crossmember below the steering rack. Use the spacers provided to raise the horns as high as possible from the ground without touching the underside of the rack mounting. (For air horns see options section)

Note that the horns are handed and should be positioned with

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their electrical contacts facing each other in order that the wires can reach.

The horns are connected using one black and one purple wire to each horn.

4.3 Battery

The battery is located at the bottom offside rear of the engine compartment and its base hooks under the lip provided in the tray and is secured using the spring clip.

The battery should be positioned with its earth (-) connection forward and this black lead connects to the engine block where the mounting is attached. The live red lead is connected to the positive (+) terminal and should be routed down to the lower offside diagonal bracing tube, around the tubular crossmember under the gearbox and back along the nearside diagonal where it is connected to the starter solenoid.

Attach the cable with plenty of tyrap and take care to prevent it from hanging down below the car.

IMPORTANT: The battery must be disconnected until the engine is installed and all electrical equipment properly connected.

When reconnected, ALWAYS attach the live lead before the earth to prevent a short circuit should a spanner contact part of the car while the connection is being tightened.

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Although at first sight it would appear difficult to remove the battery with the engine in place, it is actually straight forward to slide it on its edge backwards and downwards past the front of the footbox and out from underneath the car.

4.4 Fuel Filler

This should be fitted in conjunction with the boot floor contained in the interior kit. With the boot floor in place, attach the rubber filler pipe to the tank filler and check that its upper end aligns with the hole in the rear panel, trimming as necessary. Secure with one of the large jubilee clips. Insert the large rubber grommet into the filler hole and attach the filler neck with its locking cap through into the pipe, securing with the second large jubilee.

4.5 Coil

This attaches to the top front face of the driver's footwell (RHD cars) by two 1/4" x 3/4" bolts. Attach the white/black wires to the negative connection and the white wire to the positive.

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9.5. Trim Items

5.1 Scuttle Edge Trim

This strip is designed both to finish off the edge of the scuttle around the dashboard tidily and to protect occupants from the hard aluminium edge. It will need to be trimmed to length.

5.2 Radiator Grille

This is attached to the front of the nosecone which, having established the correct alignment, should be drilled as appropriate. The grille is secured from behind by four metal spire clips which are a tight force fit.

5.3 Badges

Factory built cars normally have their badges fitted to the rear wings, below the rear lights and above the reversing lights, 'Caterham Cars' on the nearside and 'Super Seven' on the offside.

5.4 Mirror

This is stuck by its self adhesive pad to the windscreen as high up as possible on the centreline of the car.

5.5 Seat Belts

Mountings are fitted which comply with all Construction and Use regulations (including German TUV) and static lap and diagonal

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belts designed specially for the Seven are available from Caterham Cars. The law in the UK states that an occupant must be able to do up or undo a seat belt with one hand, hence full harness belts, despite their obvious safety benefits, are not strictly legal for road use. In practice, however, a large number of Seven owners use harnesses and their mountings are now standardised in the chassis.

Due to the size and design of the Seven, Saloon car type harnesses are not suitable and specially made belts produced by LUKE are available from Caterham Cars.

5.6 Front and Rear Wings

Front: Attach to the chassis the front and rear wing stays, the fronts also incorporating the headlamp mountings, not tightening at this stage. Please note that these are handed and once in place the rear stays should face backward and the headlamp brackets forward. Chassis manufactured from mid 1988 will not be fitted with rear stays and the side panel mountings are strengthened.

The wings are pre-drilled to line up with the riv-nuts fitted to the side panels and are attached with 5mm x 20mm bolts and 3/4" plain washers. The rubber piping supplied should be cut to length and cut in a series of "V"s in order to allow for the wing bolts.

With piping in place attach with the 5mm bolts and drill down

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through both the wings and their stays and secure with the 1/4" galvanised bolts and square nuts provided. It is important to ensure that the front stays are vertical.

Rear: The rear wings are secured using 5mm x 20mm bolts into riv-nuts at the front and nyloc nuts into the rear six mounting holes again using 3/4" plain washers and are pre-drilled accordingly.

As with the fronts rubber beading is provided and this should be trimmed as appropriate.

Cycle Wings: These are bolted onto the tubular brackets fitted to the front uprights using 4 bolts on each side. It is important that they are fitted in the correct position and this is achieved by drilling the front pair of holes 3 1/2" apart and 2 1/2" back from the front of the wing. With the wing correctly located drill down through the bracket and secure. The rear holes should also be drilled 3 1/2" apart and positioned to line up with the rear bracket.

Hand Brake Cable Installation - Drum Brakes

De Dion

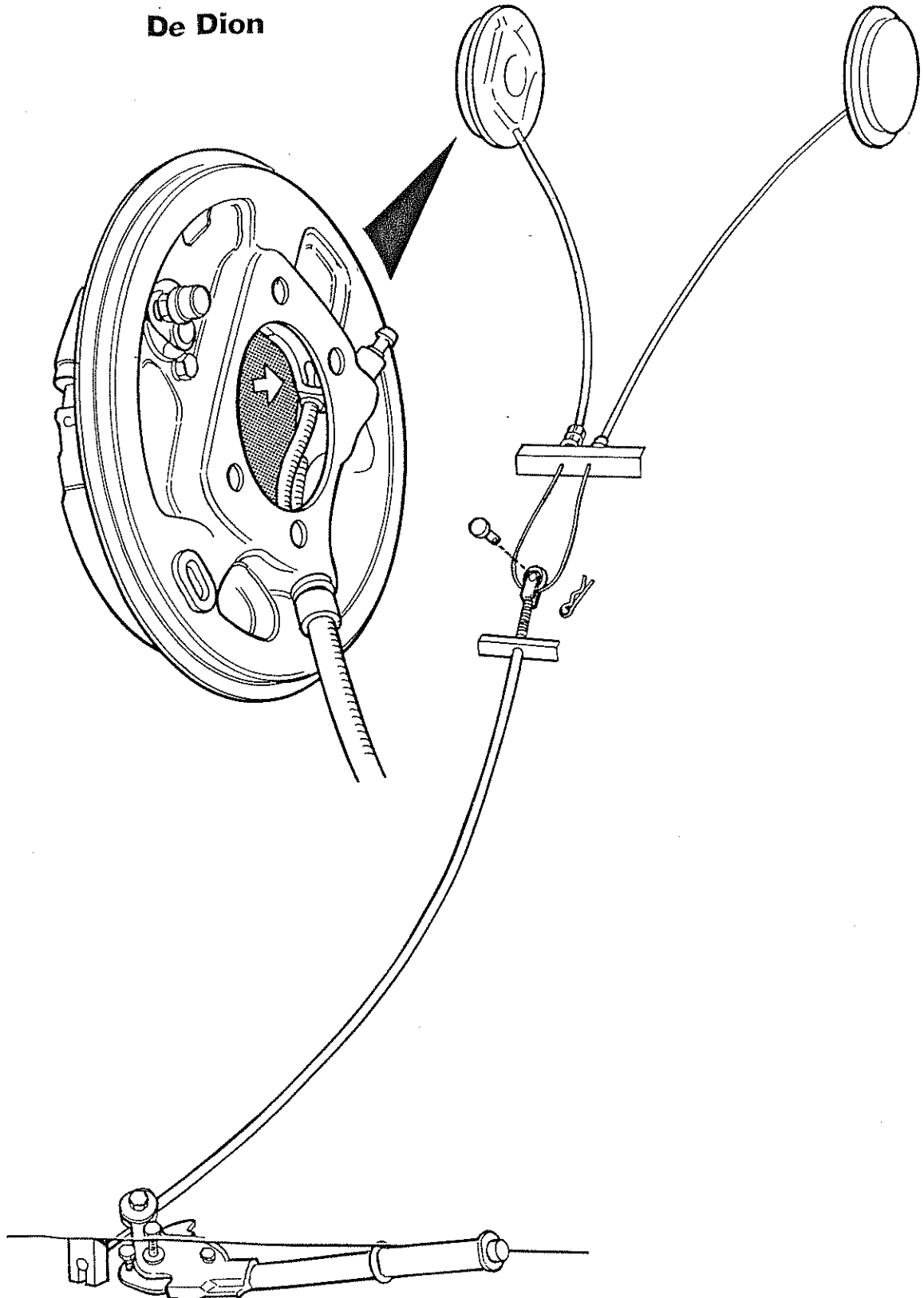


Fig 9.2.1