

FRONT SUSPENSION

5.1. Please note that figures 5A and 5B are provided at the end of this section which show the general layout of the completed assembly. However before starting a small amount of preparation will be necessary.

1.1 If the front clamshell wings are removed, a simple task, access to the front suspension is considerably improved and indeed we suggest these are left off until after the engine is installed, both to ease access and to prevent any damage.

1.2 The two top suspension links are supplied unpainted and to avoid corrosion these will need to be degreased before painting with 'Hammerite' or something similar.

1.3 At the lower front of the chassis are found the spindles for locating the front wishbones. The stove enamelling should be removed from these and a light coating of grease will help with later maintenance.

1.4 The anti-roll bar is held onto the chassis with aluminium mounting blocks. The paint should be removed from the bar at the points where it passes through these so as to ensure free movement. In addition it is wise to trial fit the bar in its mounting blocks prior to fitment of any other suspension components to check that there is no binding when the fixing bolts are tight.

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1.5 When assembling the front suspension, there is a risk that the aluminium body skin can be damaged, especially when fitting the top mounting bolt. It is therefore advisable, particularly with painted cars, to protect the bodywork with masking tape in key areas.

5.2. Front Suspension Assembly - Upper

2.1 Press a 636 (steel/rubber/steel) bush into each top suspension link. These are an interference fit and the use of a press will be necessary, as a bench vice is not strong enough.

This unfortunately means that you will need to chat up your local garage who should have a suitable press.

2.2 Using a 1/2" x 4" bolt, washer and nyloc, assemble the coil spring damper unit and the top suspension link onto the upper mounting bracket on the chassis, noting that the damper rate adjusting screw is both at the bottom and faces inward towards the centre line of the car. The bolt head should face forwards with the plain washer between it and the damper and great care should be taken not to damage the body skin.

Note that unlike the spring damper assemblies, the top links are handed and when fitted should be angled forwards with the knuckle joint facing downwards. Do NOT tighten at this stage.

2.3 The anti-roll bar should be fitted next. Push two half

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bushes onto the threaded ends of the roll bar smearing well with rubberlube. The ends of the anti-roll bar locate through the holes provided in the top links and are held in place using the other halves of the bushes, 1/2" plain washers and 1/2" UNF nylon nuts which should not be tightened yet.

2.4 Assemble the aluminium blocks onto the front of the chassis (noting that these are machined as two pairs) capturing the anti-roll bar and bolt into place using the four 5/16" x 2³/₄" x bolts with the blocks drilled to take a grease nipple outwards. Insert the grease nipples, lightly tightening with a 9/32" AF spanner, and once the main locating bolts are tightened, fill with grease using a grease gun.

5.3. Front Suspension Assembly - Lower

3.1 Fit a lightly rubberlubed half bush over each of the lower wishbone mounting spindles at the front of the chassis, stripped of stove enamelling (as in 1.3).

3.2 The front lower wishbones are handed and you should note that the damper location should end up lower than the front upright as shown in the diagram.

3.3 Select the appropriate wishbone and position its open end over the spindle and bush and using gentle pressure backwards, ease its other end, with the bush already fitted, through the corresponding slot in the body skin and line up with the lower

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rear mounting point.

Great care must be taken to avoid damage to the bodywork at this point and protection with masking tape is advised.

Secure the rear lower wishbone mounting with $1/2"$ x $3\frac{1}{2}"$ bolt washer and nyloc, inserting the bolt from the rear with the washer against its head. Do NOT fully tighten at this stage.

3.4 Insert the other rubberlubed half bush into the forward end of the wishbone over the spindle and secure using a $5/16"$ x $1"$ bolt, springwasher and $5/16"$ x $1\frac{1}{4}"$ diameter plain washer. The spindles are threaded for this purpose, although care should be taken to ensure that excess stove enamelling does not cause cross threading and we suggest that the bolts are tested in these holes prior to actual assembly. Do NOT fully tighten at this stage.

5.4. Final Assembly

4.1 The coil spring damper units should now be attached to the lower wishbones securing with the $1/2"$ x $2\frac{1}{2}"$ bolts and $1/2"$ AF nyloc nuts, noting that the bolt head faces forwards so as any exposed thread is to the rear of the wishbone and thus relatively safe from dirt. Do not fully tighten at this stage.

4.2 Locate the front upright assemblies onto the lower wishbones securing through the trunnions with the $7/16"$ x $2\frac{3}{4}"$

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bolts with plain washers each end and 7/16" AF nyloc nuts. You should note that the steering arms must face horizontally forwards.

Again, this should not be fully tightened at this stage. Note that when assembling both the uprights and damper units onto the wishbones the fit will be a little tight. Do not be tempted to use an ordinary hammer to help line up the mountings since this can cause damage, but use a soft copper/hide or plastic/rubber hammer instead. Final lining up can be carried out using a screwdriver. Avoid hammering the mounting bolts into place since this can damage the threads.

4.3 Finally attach the top of the uprights to the top links securing with the 7/16" AF nyloc nuts provided with the top link/knuckle joints, do up fully and tighten to 20-25 lb ft.

4.4 This completes assembly of the front suspension except for final tightening which should be done with the engine in the car and the wheels on the ground.

It is important to do it this way since the rubber bushes in the suspension should not be incorrectly preloaded by being stressed when not in the normal running position if premature wear and slight handling irregularities are to avoided. This point is especially important if the car is to be used for competition purposes.

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We recommend that when finally tightening the 5/16" x 1" bolts which hold the front of the lower wishbones to the chassis spindles Loctite be used to prevent these loosening in service.

Front Suspension - View from front

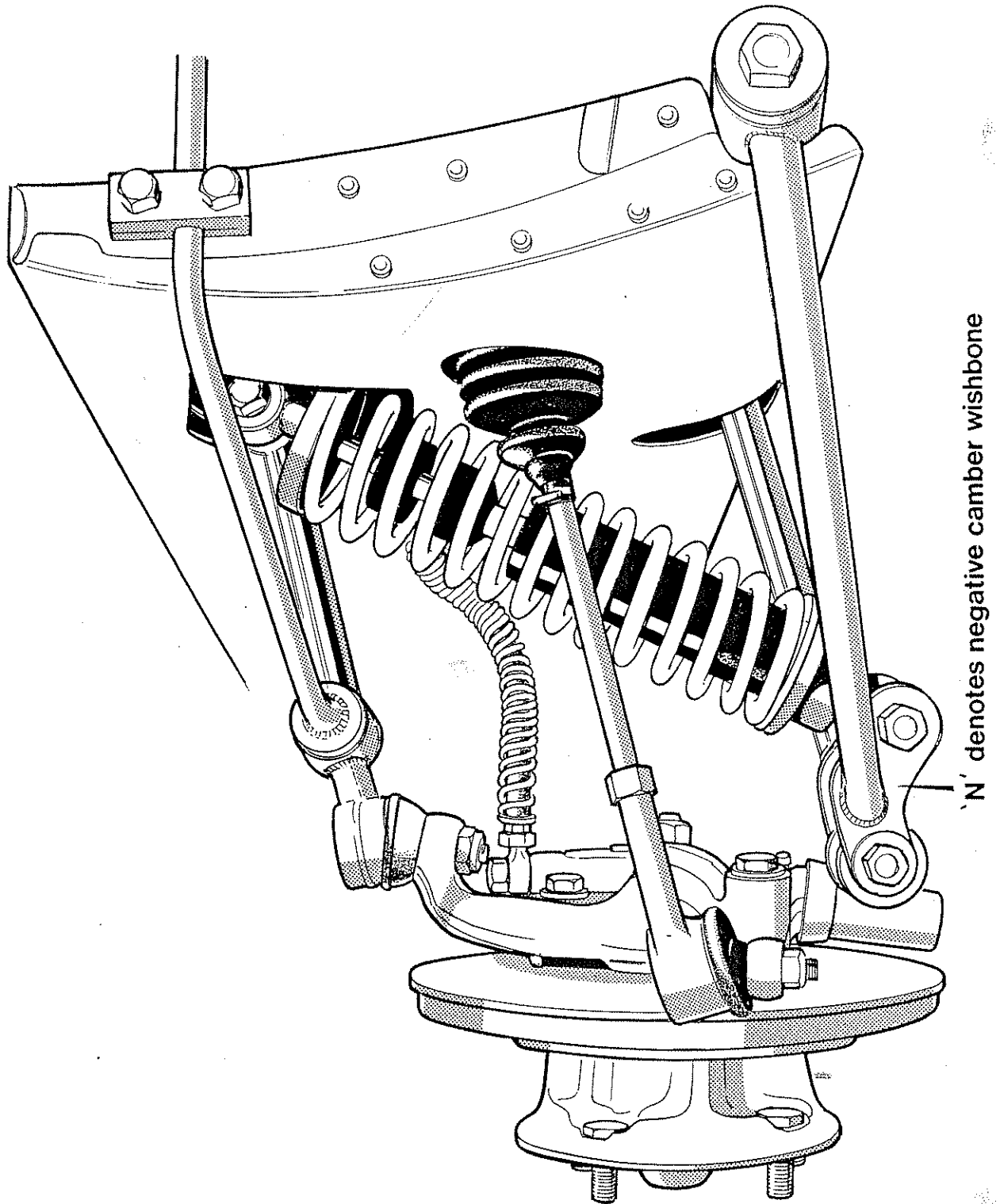


Fig. 5 A

Front Suspension - View from above

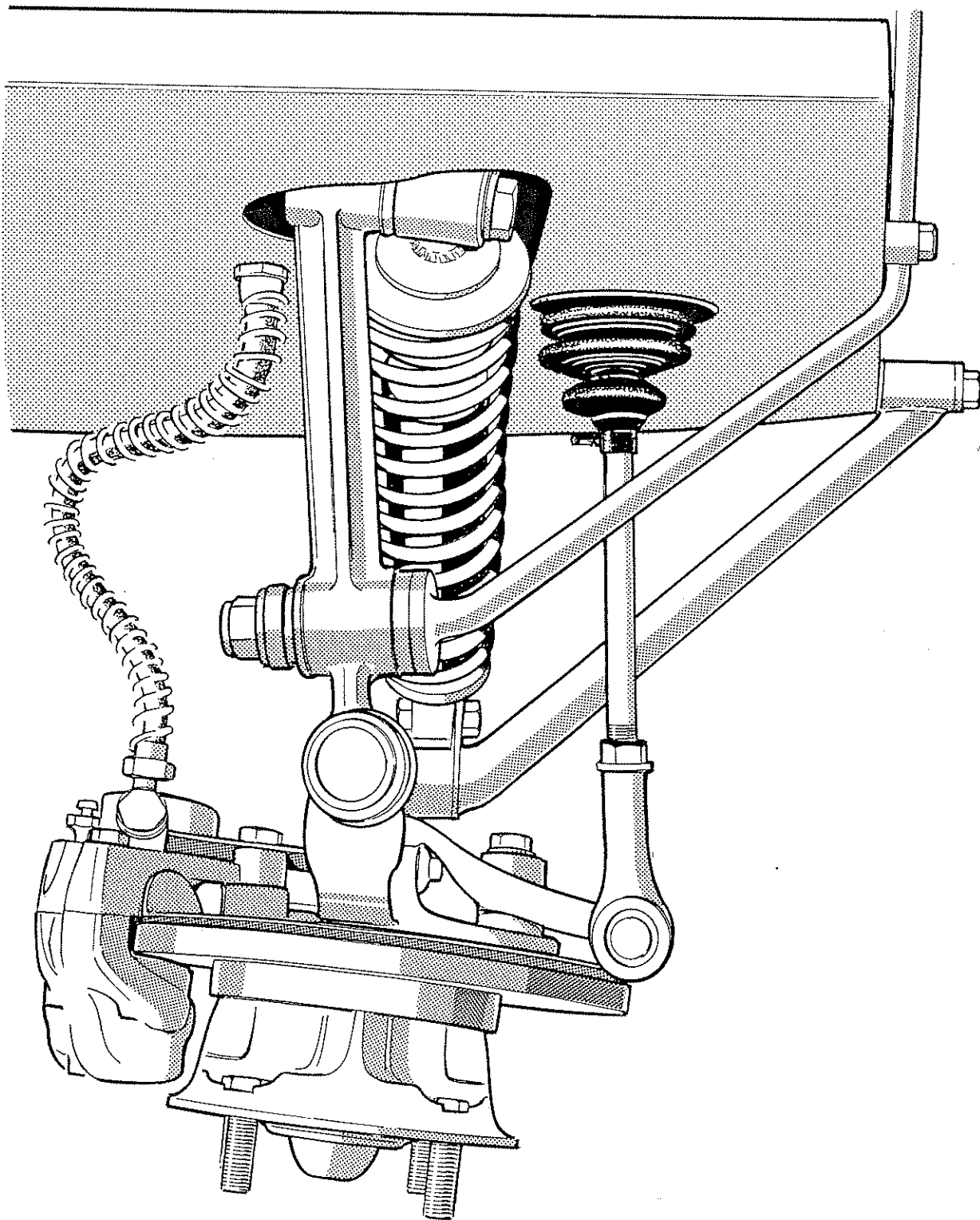


Fig. 5 B