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## TOOLS YOU WILL NEED

### SPANNERS

2BA	Open ended		
7/16"	AF Open ended	7/16"	AF Ring
1/2"	AF Open ended	1/2"	AF Ring
5/8"	AF Open ended	11/16"	AF Ring
11/16"	AF Open ended	1 1/8"	AF Socket (for SEI only)
3/4"	AF Open ended (SEI only)	3/4"	AF Ring (SEI only)

Spanners to suit non-kit components

### OTHERS

Hacksaw	Metal cutters
Set of Screwdrivers	Pop rivet gun
5/16" Round file	1" Flat file
Electric drill	3/16", 1/4", & 5/16" drill bits
Tape measure	

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## WESTFIELD SE - GUIDE TO COMPONENT SELECTION

### ENGINE

Any Ford "Kent" unit may be used, the 1600cc G.T. versions being ideal. Mountings are Ford Cortina MkII 1600cc, '67-'70, right hand only, part number EM1363. The engine sump is the lowest part of the car and its depth therefore directly affects ground clearance. A 6½" deep sump and suitable oil pick-up pipe is available from a number of Ford models, and we recommend this or, better still, our Westfield 5½" Baffled Sump and Pipe. Please consult us if you intend to install more than 200 B.H.P. or other engine types.

### GEARBOX AND PROPSHAFT

The Westfield SE is designed to take any of the Ford "single rail" gearboxes. However, the Escort version places the gearlever inconveniently far forward and is best avoided. Ford's G.T. models provide the most suitable gear ratios whilst gearboxes used with the 2 Litre engines are stronger and best considered for power in excess of 130 B.H.P. The preferred clutch is cable-operated and may require a change of bell-housing to suit. The gearbox mounting is Ford Cortina MkII or MkIII, '67-'76, part number EM569. The propshaft is 23¼" long between universal joint centres, with a 3¾" flange at the axle end. We stock suitable shafts at Westfield, or it can be made by any reputable propshaft specialist.

### AXLE AND REAR BRAKES - WESTFIELD SE

Use an axle from Ford's Escort Mk.I or MkII, or Cortina MkII, all identified by a welded differential rear cover plate. The Cortina axle provides a wider track, and may cause bodywork clearance problems with wheels wider than 5" unless special offsets are used. The Mk II Cortina 1600E and high-performance Escorts used the best combination of brakes and axle ratios, the later being 3.77:1 and 3.54:1 (RS2000) respectively. The only suitable propshaft flange has an overall diameter of 3¾". Flanges from different units vary and can be interchanged as required.

### FINAL DRIVE PARTS AND REAR BRAKES - WESTFIELD SEI (Option)

Differential/ final drive unit, oil filler plug, brakes, and half shafts from any of the above axles are required. Half shafts are used at Westfield in the manufacture of drive shafts, and will be exchanged at the factory.

### FRONT UPRIGHTS, BALL JOINTS, BRAKES AND HUB ASSEMBLIES

The complete upright assemblies from a Ford Cortina Mk III, IV or V are suitable. Pay careful attention to the condition of brake callipers and discs when buying second hand. Ball joints are; top- 2 Quinton Hazel part no: QD1117RHT, Right hand thread only. Bottom- 2 Ford Cortina Mk III, IV, or V, lower ball joints, Quinton Hazel part no: QSJ663S. All ball joints are available from Westfield.

### STEERING RACK, TRACK ROD ENDS, STEERING COLUMN AND CONNECTING SHAFT.

Use Ford Cortina MkIII, IV or V track rod ends (available from Westfield) with Ford Escort MkII Steering rack, mountings, inner steering column and column bushes. The universal jointed connecting shaft is Austin Allegro, to be delivered to Westfield for modification.

### PEDAL BOX, BRAKE MASTER CYLINDER AND HANDBRAKE

The Westfield SE is equipped to accept the Ford Escort Mk I pedal box and handbrake, the former to be delivered to Westfield for modification. Use a dual circuit master cylinder with angled tank, as fitted to the Ford Cortina MkIII O.H.V. (ie: Kent engine), non-servo.

### RADIATOR

A large number of Ford radiators will fit with varying degrees of convenience, some Ford Cortina MkIII versions being ideal. The use of a combined thermostat and filler cap housing eliminates the need to remove the nose cone for topping up. A radiator with blanked-off filler neck and a suitable thermostat housing are available from Westfield.

### INSTRUMENTS AND SWITCHES

Any equipment, to suit the associated senders and fittings, may be used. Remember that speedometer, indicators, hazard warning lights and low brake fluid warning light are legal requirements. The Allegro, Marina and Mini ranges provide the best dip / indicator stalk. A complete set of instruments, switches and wiring loom is available from Westfield.

### WINDSCREEN WIPERS AND WASHERS

Use a Lucas wiper motor as fitted to the Mini and Marina ranges. Windscreen washers are a legal requirement and most types will fit. A suitable kit is available from Westfield, as are wiper arms and blades.

### FUEL TANK AND GAUGE SENDER

For the Westfield SE a Mini Van tank can be shortened to fit between the rear chassis tubes, and a new filler pipe fitted. This item is available from Westfield. For the Westfield SEI we can supply a fabricated aluminium tank, ready to fit, which is also an option (not interchangeable) for the Westfield SE.

## CHASSIS PREPARATION

### PAINTING OF BARE STEEL COMPONENTS

Careful attention at this stage is essential to good appearance and chassis life. Thoroughly clean and degrease chassis, and all steel parts, before priming and painting. In our experience, the very best results are achieved by a fine bead blast and powder coating process. Ensure that tapped and precision holes are clean before assembly. Note; We can bead blast and powder coat your chassis for you as an option.

### ALUMINIUM PANELS

Refer to the illustration to identify the panels and where they fit the chassis.

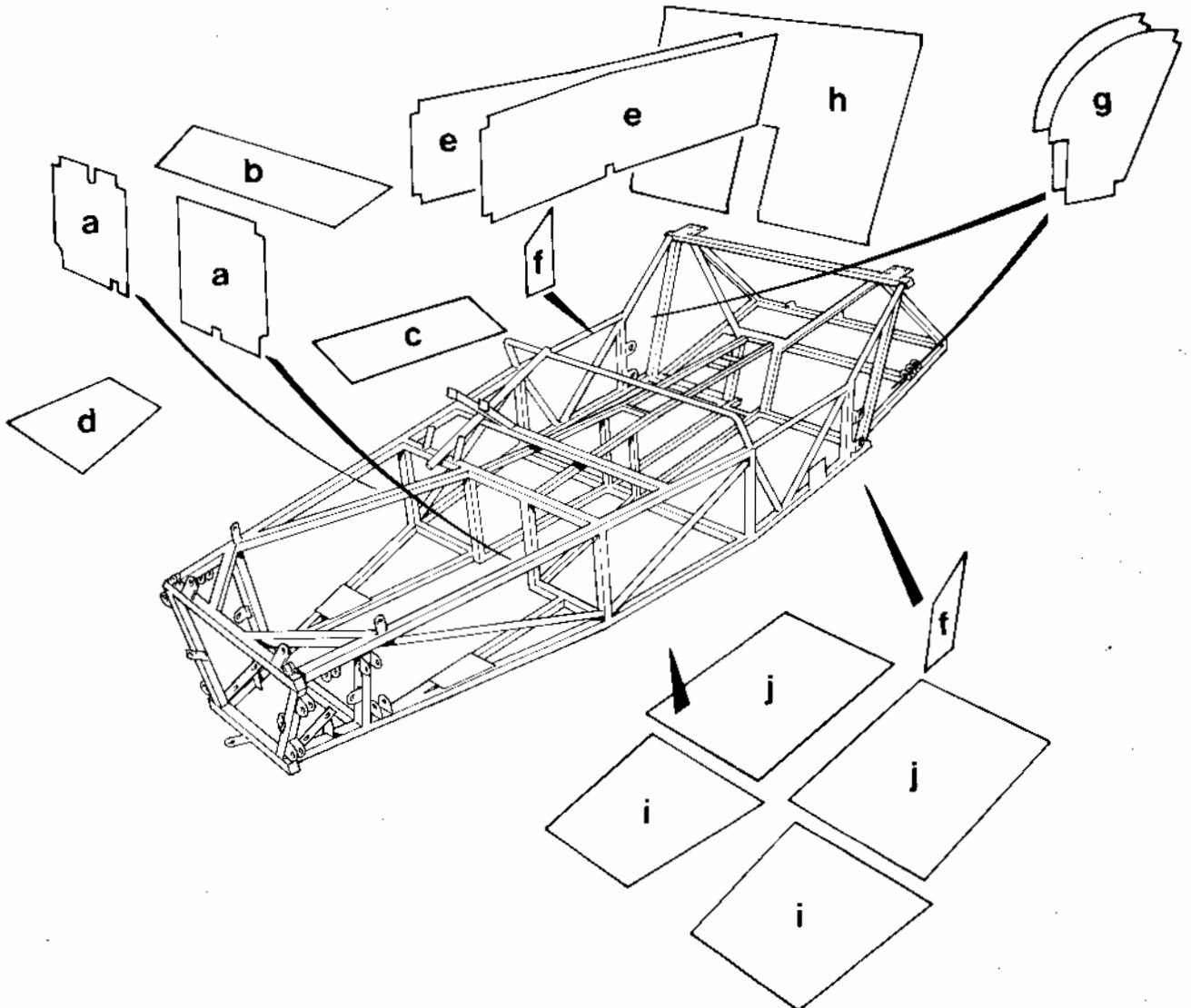
For S.E. only:- Place the cockpit rear quarter panels (g) in position and mark it for the four trailing arm bolt holes, using the trailing arm brackets as a guide. Drill to clear the trailing arm bolt heads, and put the panels to one side for future use.

All panels except the front transmission tunnel top (c) are fixed using a one-part silicone sealant and pop rivets. The sealant serves as an adhesive which deters water leaks, vibration and electrolytic action between steel and aluminium components. The recommended distance between rivets is shown in the instructions bracketed thus; [ 1 ].

Fit the tunnel sides (e) [ 2" ], seat back (h) [ 3" ], and foot well panels (a) [ 1½" ]. Turn the chassis over and fit the floor panels (i & j) [ 2" ]; lap front (i) over rear (j) and drill the overlap in one action. Don't forget the sealant.

Note; We can carry out the above processes for you as an option..

The wheel arch deflector plates (f), scuttle top (b) and tunnel tops (c & d) will be fitted later.



## PEDAL BOX, SCUTTLE TOP AND BRAKE PIPES

### PEDAL BOX

The Ford Escort Mk1 pedal box requires modification before fitting. We carry out this service at the factory free of charge.

Align the pedal box in the chassis brackets, such that the pedal pads are at a comfortable angle for the driver and there is adequate clearance for full pedal travel. It may prove necessary to relieve the brake light switch bracket to clear the steering column.

Using the chassis brackets as a guide, mark and drill four 5/16" mounting holes in the pedal box and attach to the chassis brackets using 5/16" U.N.F. bolts, plain washers and Nyloc nuts.

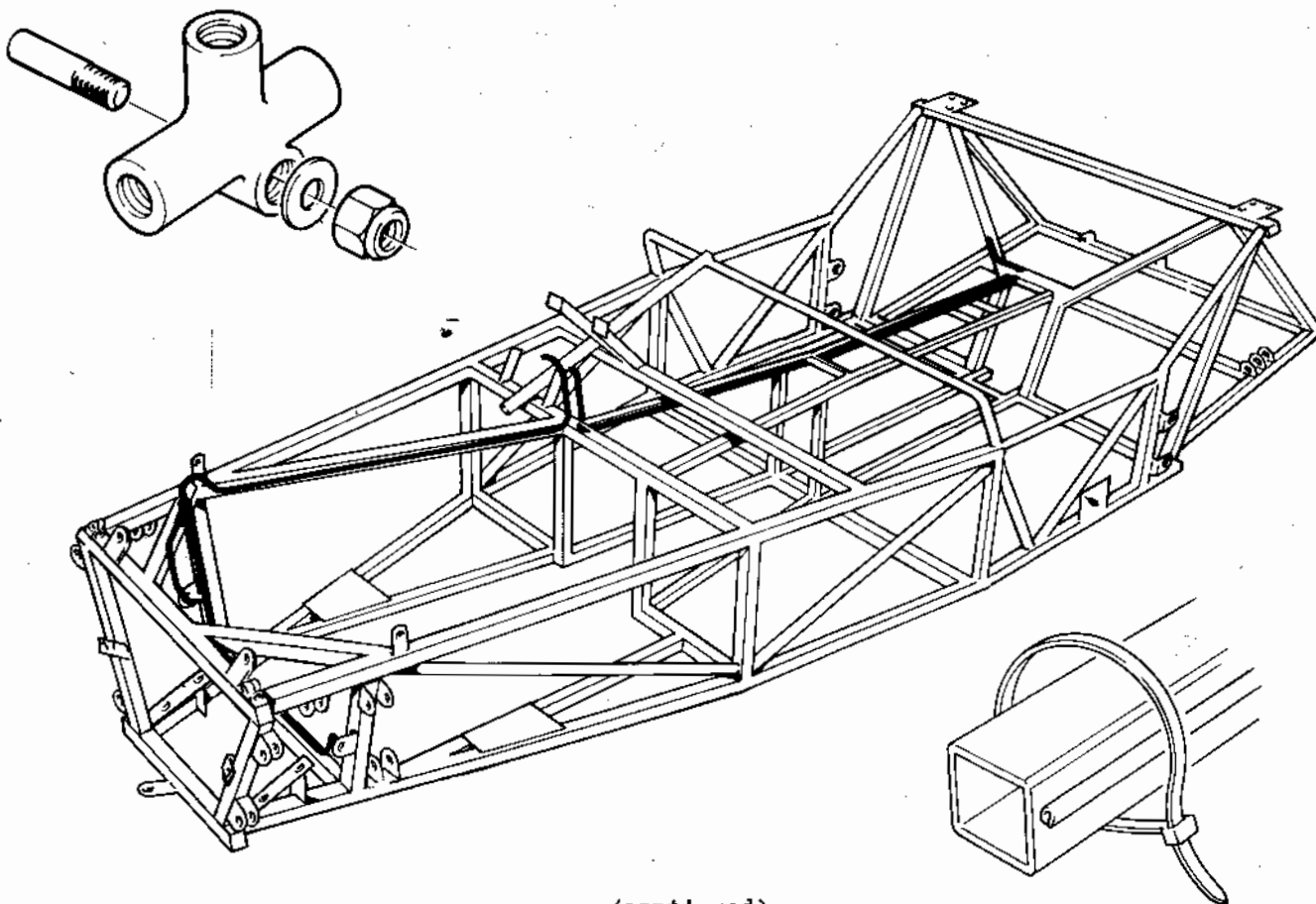
### SCUTTLE TOP

Cut the smaller part of the scuttle top to fit around the pedals, allowing for full pedal movement. Fit both parts, riveting at 3"-4" centres along the cross tubes only. Do not rivet into the chassis side rails. Rivet the overlap at 2" centres, and to the chassis. Don't forget the sealant.

### FRONT BRAKE PIPES

Attach a three-way brake pipe junction to the stud provided on the chassis brace in the right-hand side of the engine bay. Make 3 brake pipes as follows:-

- 1) From the master cylinder, along the engine bay brace to the three-way junction.
- 2) From the junction, down the front of the nearest chassis upright to the hose bracket on the upright.
- 3) From the junction, down the front of the nearest chassis upright, across the chassis and up the left-hand chassis upright to the hose bracket.

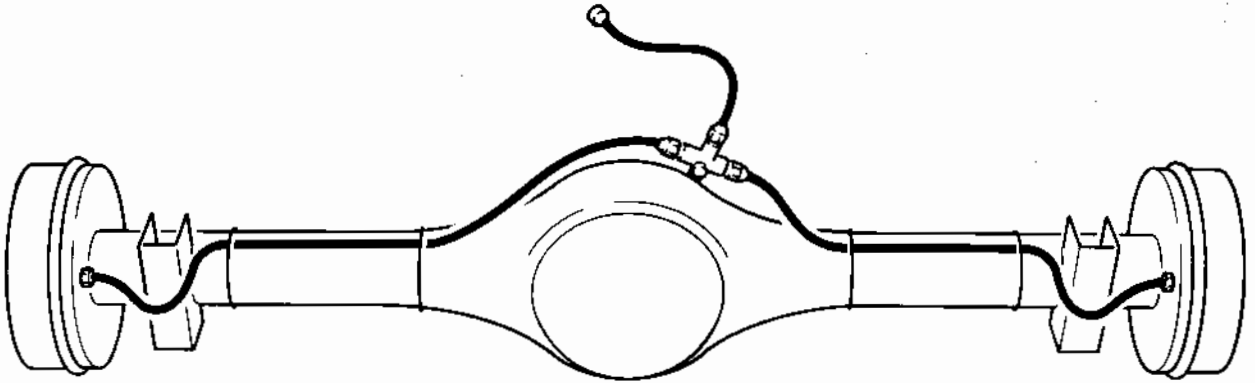


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**REAR BRAKE PIPES WESTFIELD SE ONLY**

Attach a three-way brake pipe junction to a bracket fitted to the differential stud at the 10 O'Clock position, when viewed from the front. Make three brake pipes as follows:-

- 1) From the master cylinder, along the top right-hand corner of the transmission tunnel, to the hose bracket on the rear of the seat-back. Keep the pipe close to the corner to clear the propshaft flange during extreme axle movement.
- 2 & 3) From the three-way junction on the axle, behind the suspension brackets, to each brake cylinder. Secure to the axle with 2 plastic ratchet straps per side.

**REAR BRAKE PIPES WESTFIELD SEI (Independent Rear Suspension) ONLY**

Drill a 1/4" hole in the top right-hand differential mounting gusset and attach a 3-way brake pipe junction. Make three brake pipes as follows:-

- 1) From the master cylinder, along the top right-hand corner of the transmission tunnel, to the 3-way junction.
- 2) From the junction, along the top right-hand wishbone mounting rail, to the hose bracket which is to the rear of, and below the rail.
- 3) From the junction, along the transmission tunnel cross member and the top left-hand wishbone mounting rail, to the left-hand hose bracket.

Secure the brake pipes at regular intervals with plastic ratchet straps and/or 'P' clips.

**DASH PANEL AND WIRING**

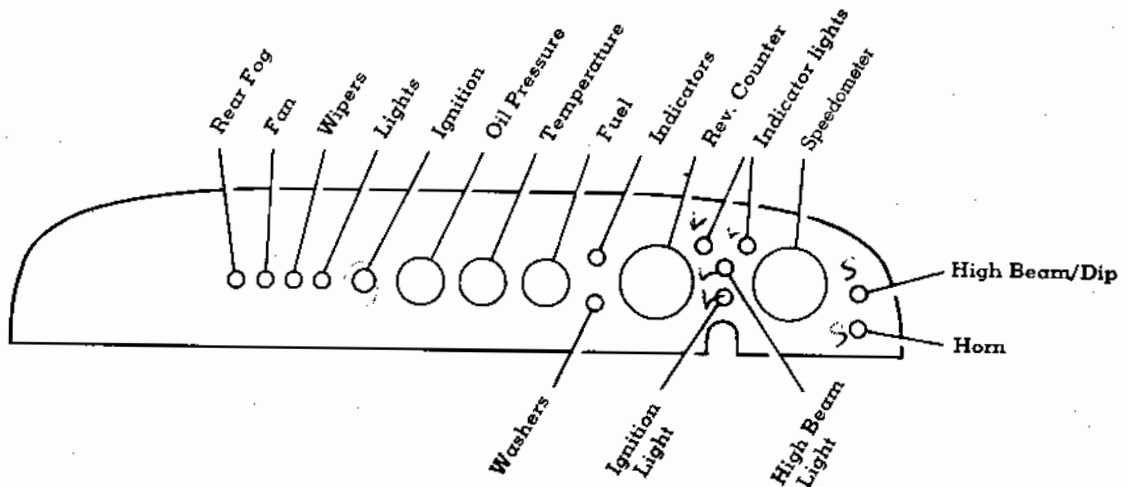
**DASH PANEL**

Mark out and drill the dash panel to suit your instruments and the steering column. Take care that there is sufficient clearance for the scuttle and dash hoop. The diagram below shows our own recommendation, and our optional wiring loom is designed to this layout.

To cover the panel with leathercloth or similar, mark out and cut the cloth to the dash shape with a 1/4" allowance all round. Use contact adhesive to glue the main surface first and then the 1/4" overlap to the rear.

When the adhesive has set, cut out the holes with a sharp knife and fit the instruments, switches and warning lights.

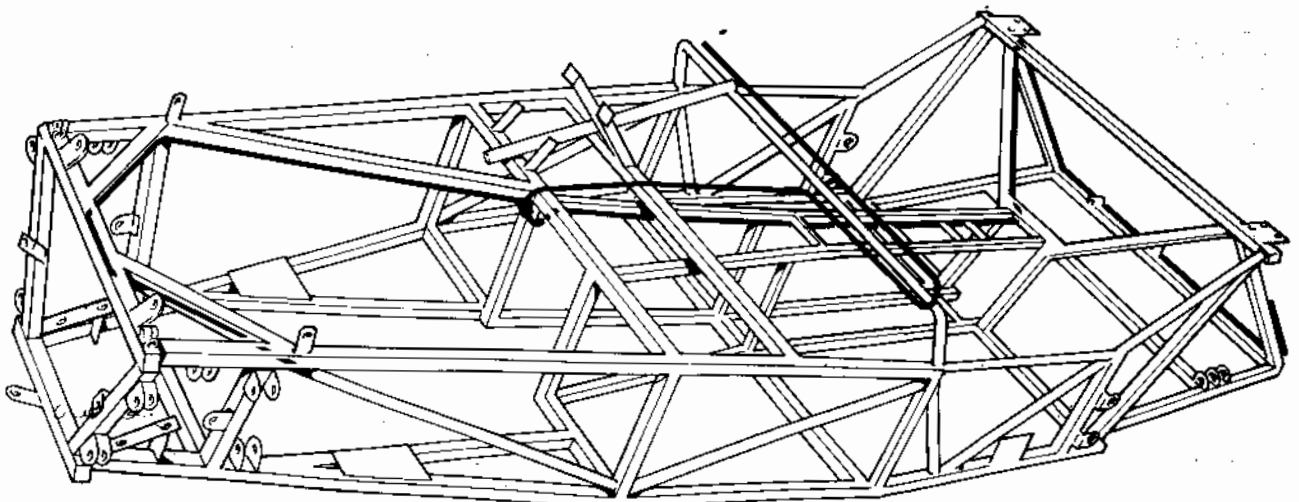
Use adhesive tape to hold the panel to the dash hoop in readiness for the wiring.



**MAIN WIRING**

Connect the instruments, switches and warning lights in accordance with the wiring diagram. Refer to section 5 for fitting of indicator/wiper stalks. The following guide applies to the optional Westfield wiring loom and may prove helpful for others.

Use the wiring diagram and wire colours to identify the final destination of each wire. From the dash panel, run the loom to a point opposite the engine bay cross brace, across the scuttle top and along the right-hand and two front engine bay braces to the left-hand chassis rail. Ensure that the headlamp wires emerge close to their brackets and secure the loom to the underside of the chassis rails with plastic ratchet straps.



(continued)

NOTE

(continued)

Section 4

Fix the fuse box (and regulator if required) to the scuttle top, in a convenient position for its wiring, and connect. Similarly, mount and connect the ignition coil (we recommend the left footwell end panel), washer bag (inside of the right-hand chassis side tube), starter solenoid (right footwell end panel), horn solenoid and compressor (plate in the top left corner of the chassis front). Connect the brake light switch on the pedal box.

The rear harness connects to the main wiring loom at the front of the transmission tunnel. Run it along the top right-hand corner of the tunnel, up the right-hand seat back brace, down the rear support tube, across the rearmost tube and up the left-hand rear support tube.

Attach all the black earthing wires to convenient points on the chassis, ensuring good electrical contact.

The battery can be fitted on the right hand side of the scuttle top or behind the passenger seat (Westfield SE only). Make and fix a tray to support the weight and provide holding-points for the battery. Make and fit leads for battery to earth and battery to starter solenoid.

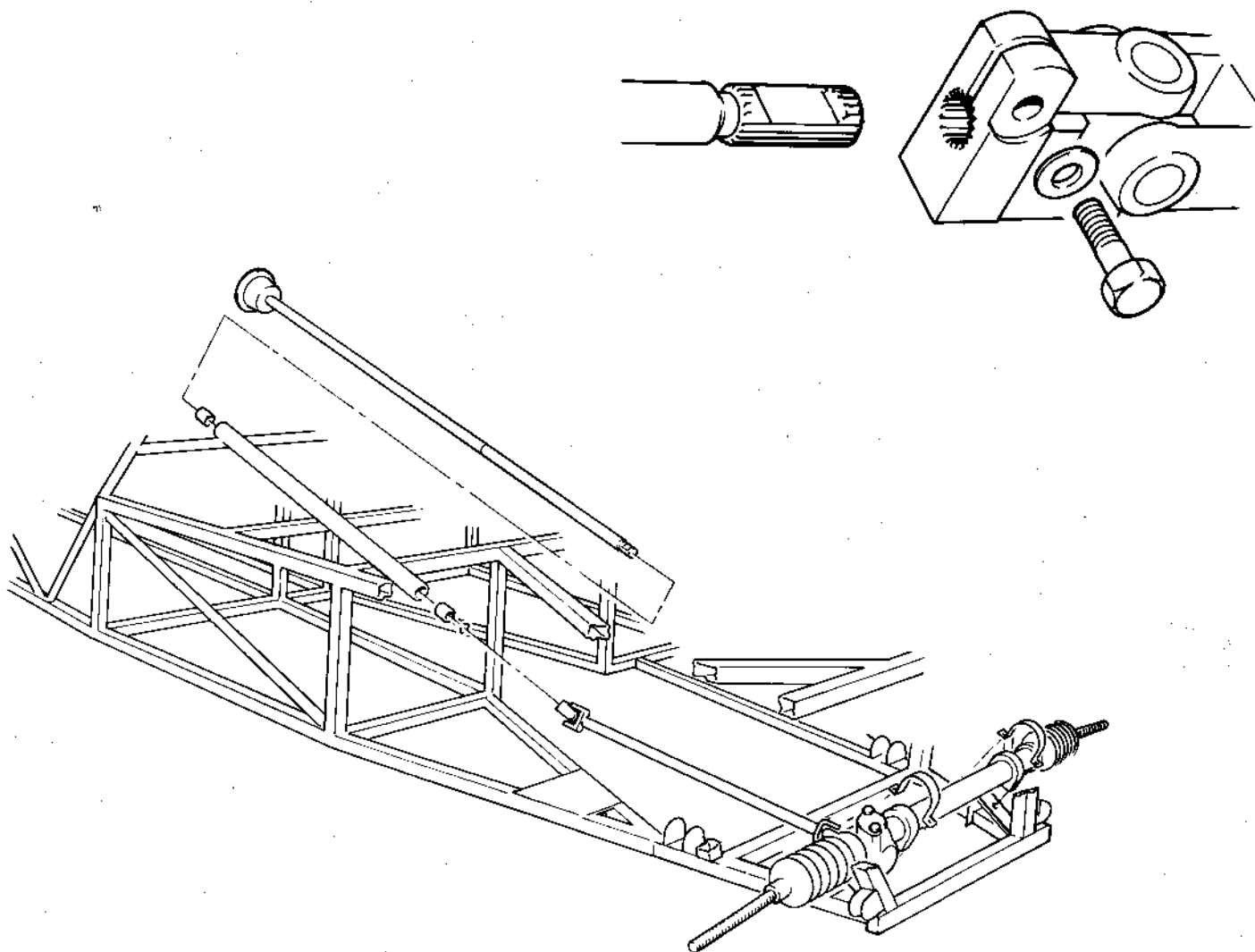
Finally, secure all wiring with plastic ratchet straps and use 'P' clips or similar for both wiring and brake pipes in the transmission tunnel.

## STEERING, FRONT SUSPENSION AND FRONT BRAKES

### STEERING

Fit the steering rack to the chassis brackets behind the front chassis tubes using the Ford rubbers and retainers with 5/16" bolts, plain washers and nyloc nuts. Slide the end of the universal joint shaft furthest from the extension tube onto the steering rack pinion, taking care to line up the unsplined segments on both. Attach with a bolt having a plain, unthreaded shank where it passes over the pinion; made by cutting down a long bolt if necessary. Screw on the track rod ends and locknuts, such that the track rods are of identical length and leaving about 1/2" of thread showing.

Press the top and bottom steering column bushes into place and introduce the inner column from the top. Fit the column thrust washer and slide the universal joint shaft into position, lining up the flat portion on the column end with the bolt hole in the universal joint. Fit the thrust-washer retaining pin, and adjust the column position in the universal joint to give .010" to .020" clearance between outer column and thrust washer. Fit and tighten the universal joint bolt and check that the steering turns freely, correcting as necessary. To fit **stalk type indicator/wiper controls**, file the plastic key from the bore of the unit and clamp to the column, inserting a strip of aluminium to ensure a good fit. Centralise the rack and fit the steering wheel in the 'straight ahead' position.



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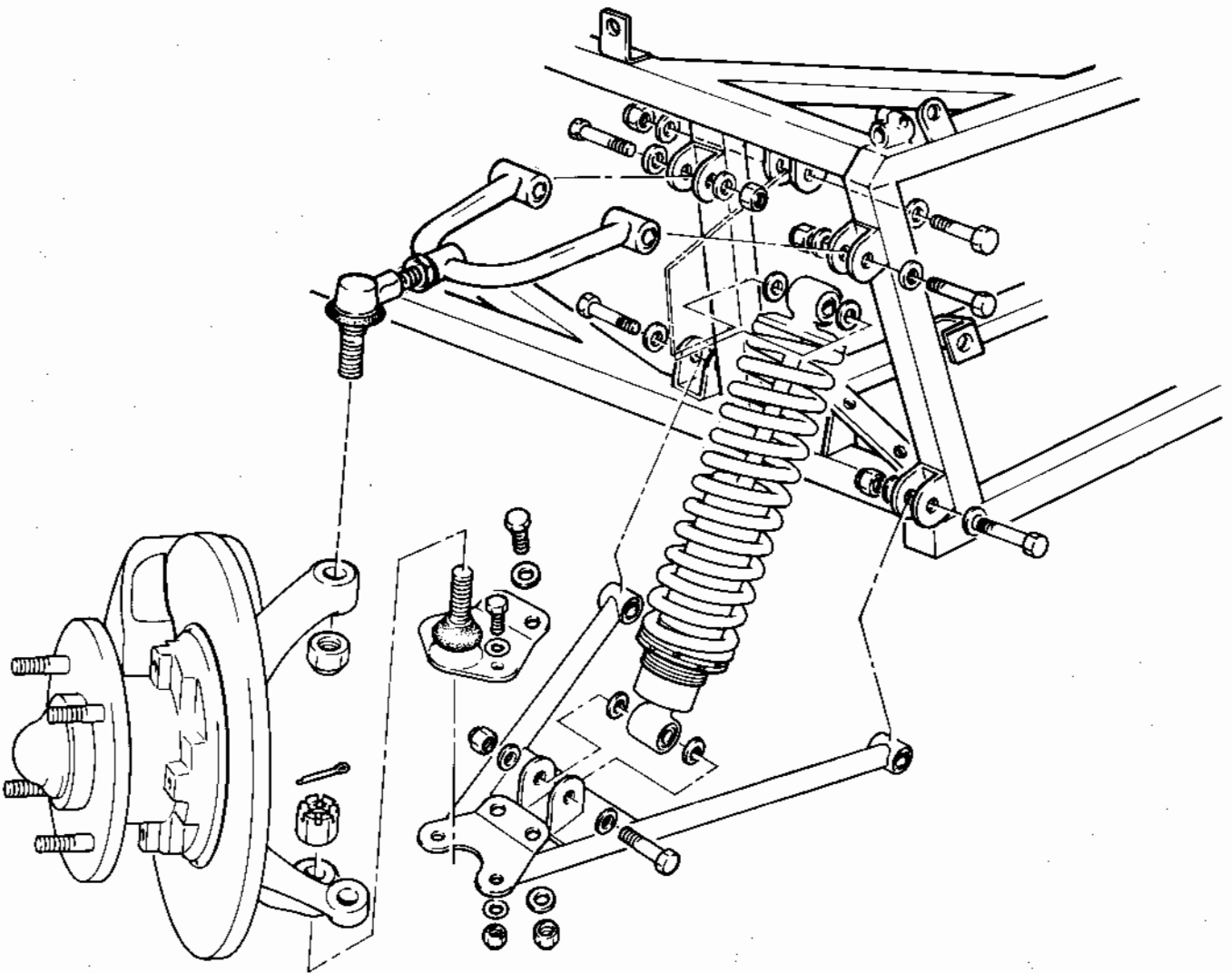
**FRONT SUSPENSION**

Press the rubber suspension bushes into all four wishbones, using spacers (eg. thick washers) to prevent any pressure on the inner sleeve. These are a precision press fit and will require a large machine vice or bench press to achieve sufficient force.

Fit the ball joints to the bottom wishbones and the locknuts and ball joints to the top wishbones. Fit all the wishbones to the chassis, using 2½" long bolts with plain washers and Nyloc nuts. The top wishbones are not symmetrical and must be fitted with the ball joint offset towards the rear. *Do not tighten at this stage.*

Fit the suspension units to the chassis using Nyloc nuts with 2½" long bolts and plain washers either side of the units: ie. *inside* the brackets. *Do not tighten at this stage.*

Fit the suspension uprights, hub and brake assemblies to the wishbones. Connect the track rod ends and suspension units, using washers either side of the latter: ie. *inside* the brackets.



*Do not tighten any suspension mountings until the car is standing on its own wheels.*

**FRONT BRAKES**

Tighten the front brake hoses into the calipers, using copper washers against the calipers. Use a shakeproof washer each side of the brake pipe bracket and prevent the pipe from turning, with a spanner on the pipe end fitting, whilst you fit and tighten a ½" UNF retaining nut. Fit and tighten the pipe nut, again preventing the pipe from turning with a spanner.

## REAR SUSPENSION AND HANDBRAKE (SE)

### REAR SUSPENSION

Mount the two rear suspension units to the chassis brackets, using 2 $\frac{1}{2}$ " bolts with washers on both the *inside* and outside of the brackets.

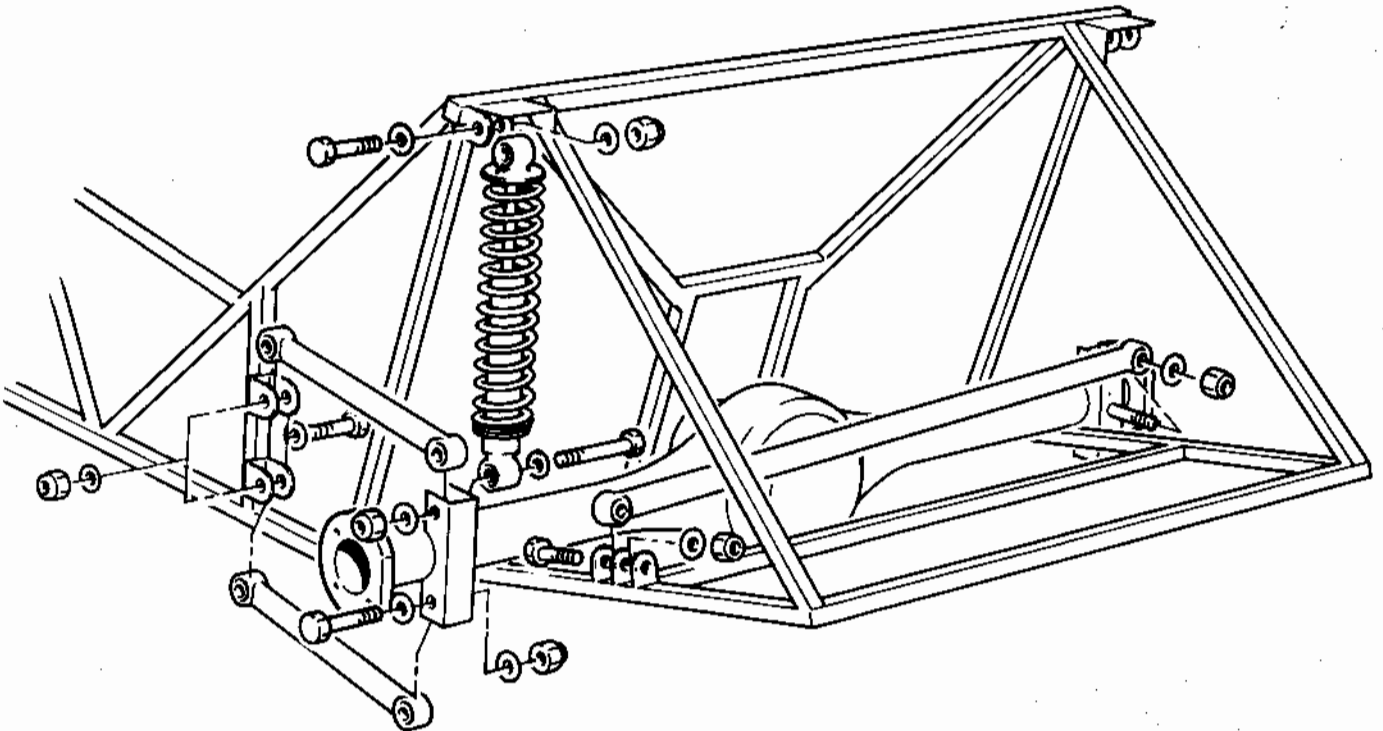
Press the rubber suspension bushes into the eight trailing arm and two panhard rod ends with a large machine vice or bench press. Use spacers to avoid pressure on the inner sleeves.

Place the axle in approximate position and fit the trailing arms to the chassis. The axle must now be lifted, both ends at once, to allow a bolt to pass through the suspension unit and axle bracket with the top trailing arm inside the bracket. This is best achieved by carefully chocking the axle in position or, better still, the help of an assistant. Repeat for the other side and swing the axle to the correct angle to fit the bottom trailing arms to the axle brackets.

Fit the panhard rod to the stud provided on the axle and then to the chassis bracket.

Check for clearance between the axle nose and chassis, relieving the webbing on the nose if necessary to provide adequate clearance.

*Do not tighten any suspension mountings until the car is on the ground, supporting its own weight.*



### HANDBRAKE

Position the Escort handbrake lever on the transmission tunnel cross pieces such that the cable attachment point lines up with the cable hole in the bracket behind. This will put the lever attachment points approximately central. Drill two 5/16" holes to suit and bolt the lever into position.

The Escort axle can be used with its standard handbrake linkage by bending the brake rod slightly to clear the panhard rod.

The Cortina axle will require the existing compensator arm and guide to be removed and replaced with a Marina compensator arm and bushes.

Use a Marina handbrake cable, shortened to suit. Measure the length with the handbrake off and brakes adjusted allowing sufficient length to braze or crimp a nipple in place.

✓ COMPLETE

## INDEPENDANT REAR SUSPENSION AND FINAL DRIVE

### FINAL DRIVE UNIT

Fit studs to the 8 x 5/16" U.N.C. tapped holes in the final drive housing face, using Loctite studlock or equivalent. Thoroughly clean housing, final drive and drive shaft ends. Stand the final drive unit with propshaft flange downwards and apply a 1/8" bead of Silicone gasket compound to the mating face, ensuring that the stud holes are sealed on their outside edges. Place the housing in position, with the filler plug boss towards the underside of the final drive unit and loosely fit plain washers and 5/16" U.N.F. Nyloc nuts to the 8 studs.

To correctly align the final drive unit and housing, lubricate the output shaft bearings, bearing surfaces and oil seals then carefully insert the drive shafts, avoiding contact between splines and seals. Give both shafts 2 or 3 turns before tightening the eight nuts evenly to a torque of 18 lb ft.

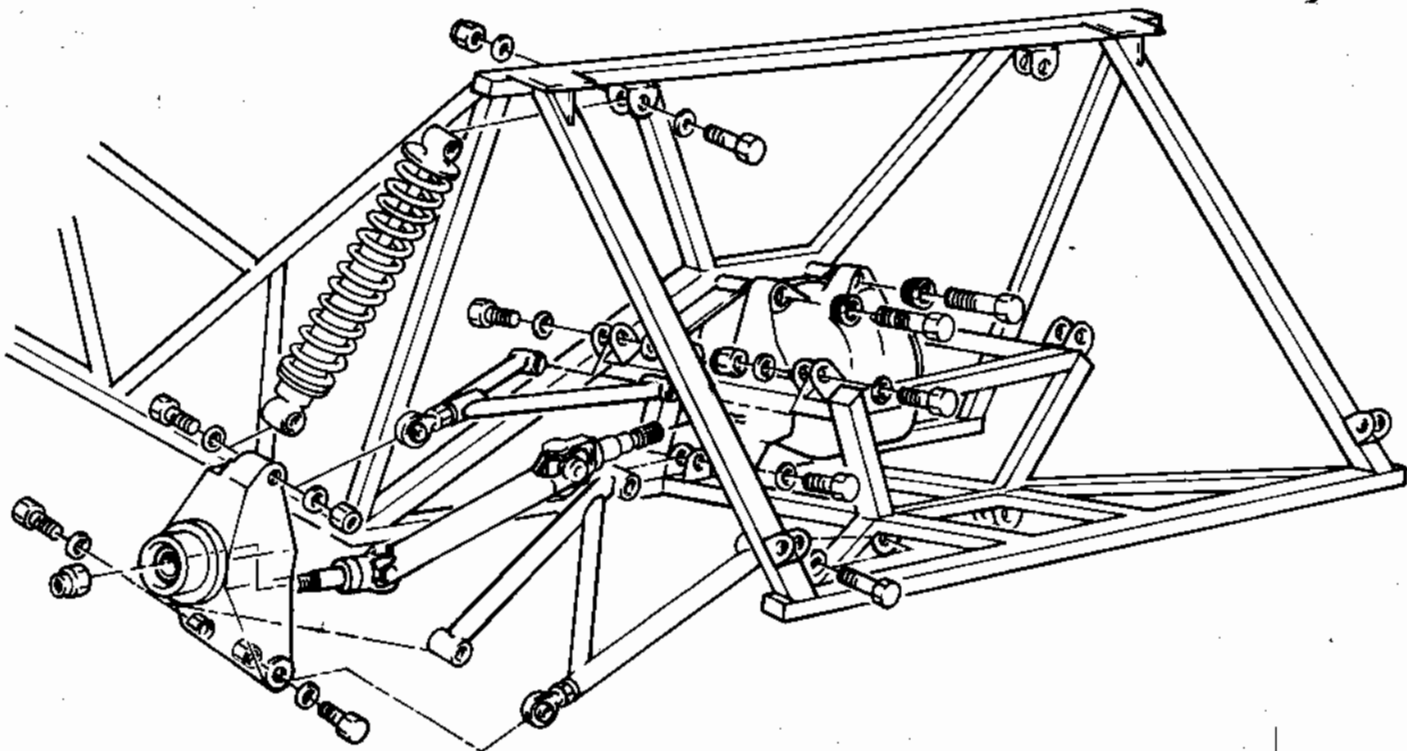
Check for free rotation, remove shafts and plug the bores to prevent dirt from entering.

### DRIVE LINE AND SUSPENSION

Fit 8 rubber mounting cones into the differential housing using rubber grease, copper slip, or other suitable lubricant to aid assembly. Locate the assembly in the chassis with 1/2" U.N.F. bolts and plain washers inserted from the rear. Use Loctite on the top and Nyloc nuts on the lower mounting bolts. Tighten to a torque of 35 lb ft.

Press ten rubber suspension bushes into the wishbone ends with a large vice or bench press, using spacers to prevent pressure on the inner sleeves.

Assemble all four wishbones to the chassis with the adjustable rod ends on the lower set towards the rear of the car. Attach the suspension units to their brackets on the top chassis member with a plain washer between the unit and bracket on each side. *Do not tighten any wishbone or suspension unit mounting bolts until the car is on the ground and supporting its own weight.*



Attach the handbrake cable brackets and brake backplates to the suspension uprights such that the handbrake operating lever will be on the same side as, and pointing approximately towards, the single boss on the upright. Fit hubs into the suspension uprights. Engage drive shaft and hub splines and, if necessary, support the hub on wooden blocks whilst using a soft mallet or equivalent to tap the drive shaft into place. Loosely fit hub nuts to retain the shafts.

Assemble suspension uprights to the lower wishbones with the single boss at the top and to the rear. Remove your plugs from the differential housing and guide one drive shaft into place whilst raising the upright to line up with the top wishbone. Insert a 3 3/4" long, 7/16" U.N.F. bolt from the rear through the rod end, upright and suspension unit with a plain washer between each item and at both ends. Loosely fit a Nyloc nut. Repeat for the other side.

#### **HANDBRAKE**

Position the Escort handbrake lever on the transmission tunnel cross pieces such that the cable attachment point is central. Drill two 5/16" holes to suit and bolt into position. Use an 8mm Nyloc nut and plain washer to attach the threaded trunnion of an Austin Allegro handbrake cable to the bracket on the upright. Fit clevis and split pins, and align cable and operating lever before tightening. Repeat for the other side. Run both cables between the top final drive mountings and attach the outer cables to the rail provided with 10mm Nyloc halfnuts. Clip inner cables to an Allegro handbrake compensator bar and attach to the handbrake lever with a clevis and adjuster bolt.

#### **FINAL TIGHTENING**

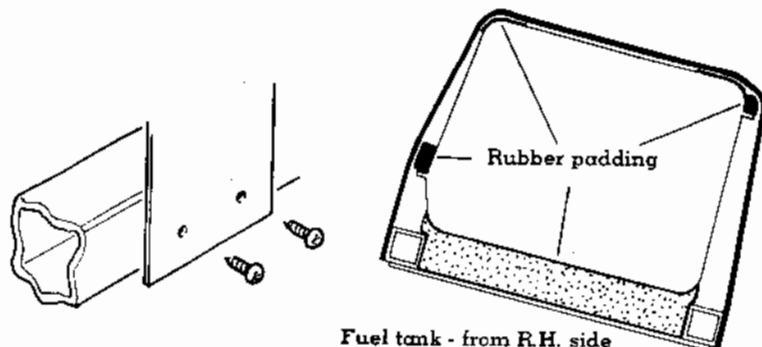
Fit the brake drums and wheels and lower the car to the ground. Adjust the ground clearance to 5"-6", using weight if necessary, and tighten all 16 suspension mounting bolts.

Whilst restraining the car, tighten the hub nuts to 180 lb ft. Raise the car from the ground and check for free play in the hub bearings. If necessary, continue to tighten the hub nuts until free play is nominal or just eliminated. Stake the nuts into the grooves provided.

## FUEL TANK AND PIPES

### FUEL TANK

Fit the fuel tank into the rear of the chassis using rubber strips to prevent direct contact with the chassis rails. The tank is retained using two aluminium straps, again with rubber strips. Attach the straps securely to the chassis with self-tapping screws.

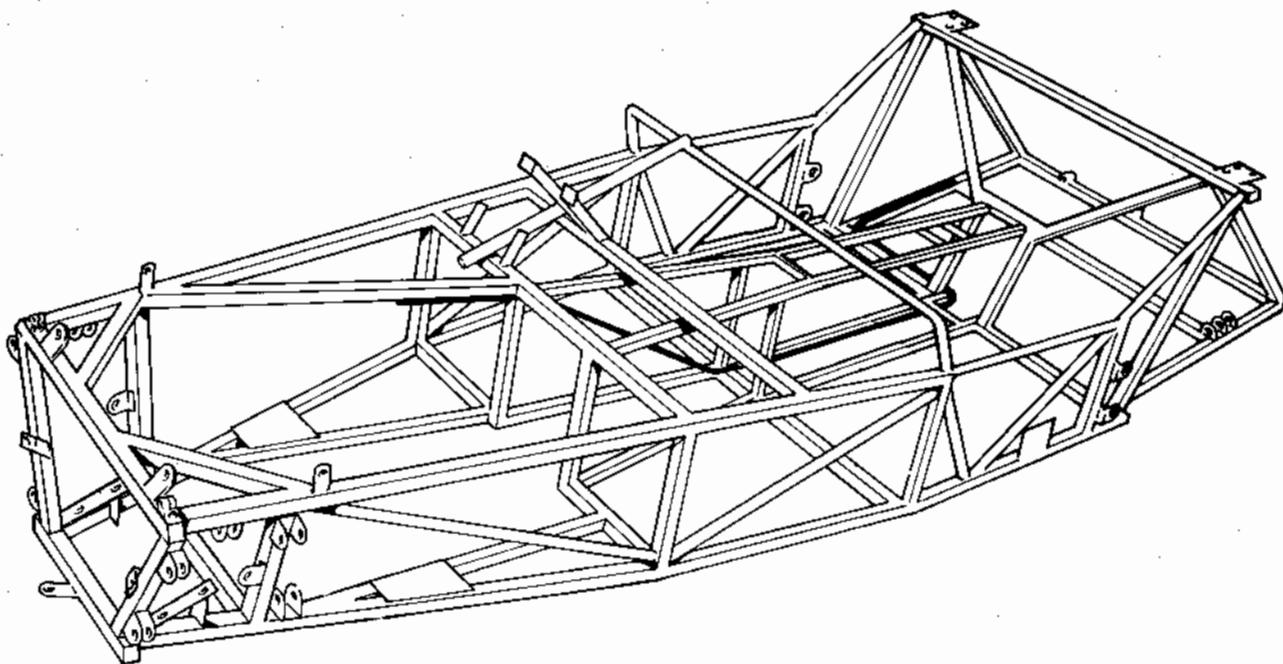


### FUEL PIPE

The correct fuel pipe diameter will depend on engine size and fuel pump type. We recommend as follows; Up to 90 BHP use 1/4": up to 140 BHP use 5/16": up to 200 BHP use 3/8". If in doubt, it is better for the pipe to be too large than too small.

Run the fuel line from a point near the tank outlet, along the lower rear chassis rail, the lower seat back rail, forward along the lower right transmission tunnel rail, diagonally up to the engine bay brace and along the brace for 10" at which point it ends. Secure the pipe along its length with ratchet straps and 'P' clips as appropriate. Cut a length of flexible fuel hose to connect the fuel line to the tank outlet, incorporating an in-line fuel filter if required (highly recommended).

Finally undo the front of the tank retaining straps and bend them back sufficiently to remove the tank. It will be refitted when the bodywork is in place.



## ENGINE GEARBOX, PROPSHAFT AND RADIATOR

### PREPARATION OF ENGINE AND GEARBOX

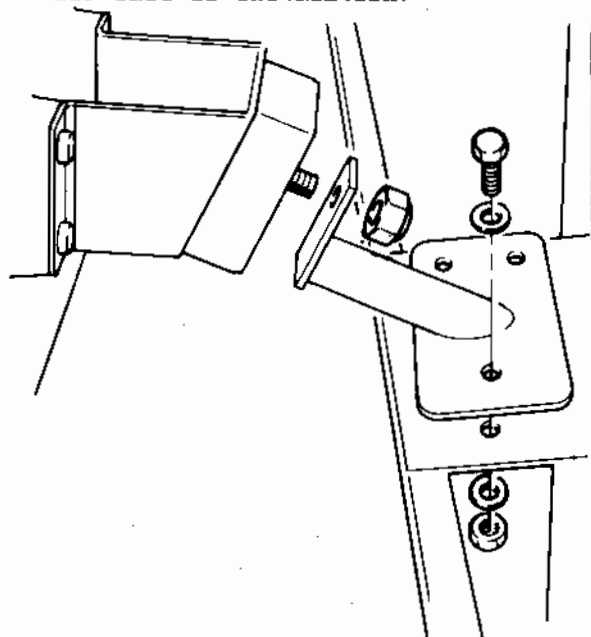
Since access to the gearbox is limited after installation, we advise that the speedometer drive is fitted and oil level checked first. Plug the propshaft bearing bore to prevent loss of oil during fitting. Attach the Ford gearbox and engine mountings. We advise that the engine and gearbox are mated first for ease of installation.

### FITTING ENGINE, GEARBOX AND PROPSHAFT

Place the engine and gearbox in the chassis and fit the propshaft using Nyloc nuts with plain shank bolts through the final drive unit flanges. Don't forget to remove your plug!

Attach the engine mounting legs (supplied with the kit) and lower the engine until they are in light contact with the chassis plates. Adjust the engine position to give adequate clearance around the bellhousing, gearbox tail housing and engine bay. The engine and gearbox are best fitted slightly to the left of centre to make room for the speedometer drive and offset the weight of right hand drive controls.

Clamp the engine mounting legs in place and drill, together with the chassis plate, for three 5/16" bolts; two behind the legs and one in front, taking care not to drill the chassis rails. Drill the gearbox mounting plate, to line up with the holes in the mounting. Attach with 5/16" bolts and Nyloc nuts.



### GEARLEVER

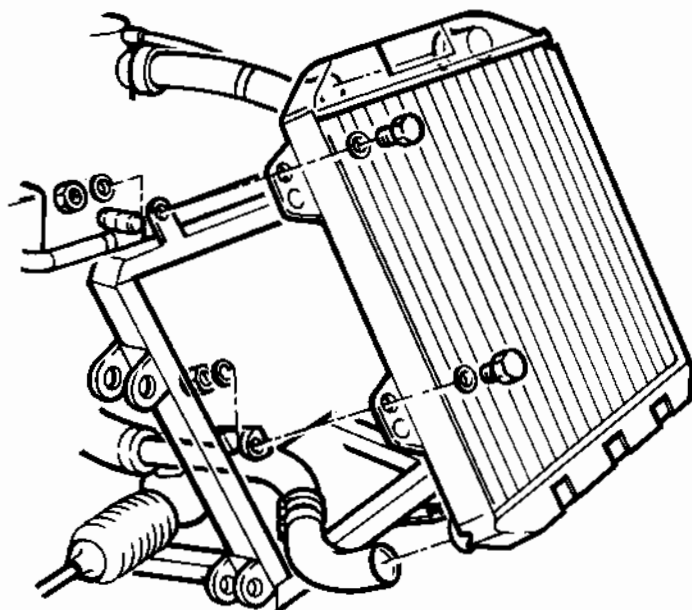
Cut the lever 1/4" above the circlip groove and 3" from the top. Weld the two parts together such that the lever leans 30° towards the rear. Ensure that the lever will clear the dash panel in its final position.

### RADIATOR

Attach the radiator to the four brackets provided at the front of the chassis, ensuring that it will clear the nose cone. Connect to the engine using proprietary hoses and 1/4" aluminium tube (available from Westfield). The radiator presents an ideal mounting place for air horns which can be fitted at this stage.

### CONNECTIONS

Allowing for engine movement, make and fit suitable leads to run from starter solenoid to motor and from an engine bolt to the earthing point at the rear of the engine bay. Cut and fit a flexible petrol hose to join the chassis-mounted pipe to the petrol pump. Bend the chassis-mounted pipe to give the hose a steady curve, allowing room for engine movement. Use suitable clips to secure. Connect the speedometer, clutch and throttle cables and complete all wiring.



## BODYWORK, COCKPIT PANELS AND EXHAUST SYSTEM

### REAR BODYWORK

Temporarily fit the exhaust manifold and measure the position for the exit hole in the bodywork; the footwell end and lower chassis rail make ideal reference points.

Fit a pair of rear wheels and lower the bodywork onto the chassis, ensuring that the bottom flange springs under the lower chassis rail. Refer to the wheels and wheel arches for the best looking position. Ensure that the body clears all suspension components and is a good, square fit on the chassis; trim if necessary. Use your previous measurements to mark out the exhaust pipe exit hole, allowing at least  $\frac{1}{2}$ " clearance all round for engine movement.

Use clamps at the rear to maintain the position during the next phase.

### SCUTTLE

Drill four equally spaced holes through the bottom flange of the scuttle; these will be used for mounting it to the chassis rail.

The rear bodywork has the scuttle position marked on the top flange. Align the lower rear corners of the scuttle with these marks and adjust the width of the rear bodywork to get the best fit. Temporarily fit the nose cone as a reference for the width of the bodywork at the front. Clamp the bodywork in place and mark through the scuttle mounting holes to establish their position.

### FIXING BODYWORK

The bodywork can be mounted with large headed  $\frac{5}{32}$ " pop rivets or with self tapping screws and large ('penny') washers; rivets are faster, whilst screws allow you to remove the bodywork more easily if required in the future.

Drill two holes, to suit your rivets or screws, through the bottom rear flange of the bodywork into each of the mounting brackets on the rear chassis rail and fasten.

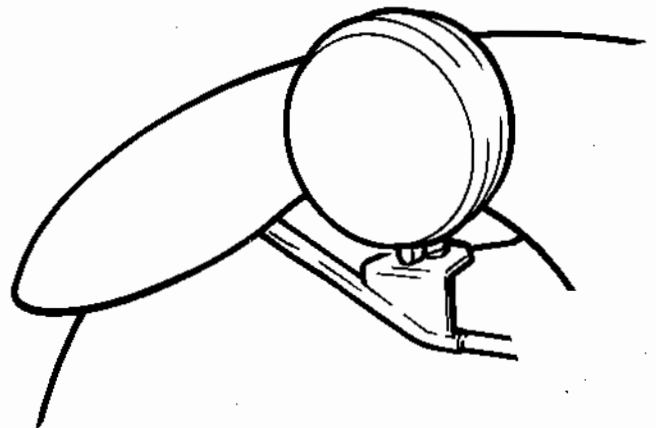
Drill the scuttle mounting holes in the body flange and chassis rail, using your markings as a guide and attach the scuttle. Drill and fix the bodywork, at 8" intervals, along the lower chassis rails and the top rails forward of the scuttle.

### FRONT MUDGUARDS AND HEADLAMP BRACKETS

Fit the mudguard / headlamp brackets into the clamps on the front outside corners of the chassis, with the headlamp plinths horizontal.

Full length mudguards require five equally spaced  $\frac{1}{4}$ " holes to be drilled in the mounting flanges before offering them up to the body. Adjust the mudguards and brackets to your satisfaction, ensuring that both sides are the same: the brackets are made long, to allow for differing requirements, and may need shortening. The wheels may be used as a guide, but ensure that there is sufficient room for suspension travel. The top front edge of the mounting flange is typically  $2\frac{1}{2}$ " below the top chassis tube and 7" behind the centreline of the suspension unit, with the top rear edge 8" above the bottom of the chassis.

Mark and drill the mounting holes in the bodywork and attach with  $\frac{1}{4}$ " bolts and 'penny' washers. Finally drill and fit the wing to the brackets, again using 'penny' washers.



Cycle mudguards are fitted to the suspension uprights using the special brackets provided. Adjust the headlamp brackets, shortening if necessary, to a satisfactory position.

**NOSE CONE**

Place the bonnet and nose cone in position, using a 'G' clamp on the front mounting bracket to retain the nose cone. Trim the front edge of the bonnet if required to obtain the best fit, ensuring that the Dzus fastener brackets on the chassis line up with the overlap between bonnet and nose cone.

Use the three mounting brackets to mark the position for the Dzus fasteners on the nose cone, drill to accept the Dzus fasteners and attach them with pop rivets. Remove the nose cone and drill pop rivet holes in the mounting brackets to attach the Dzus spring clips.

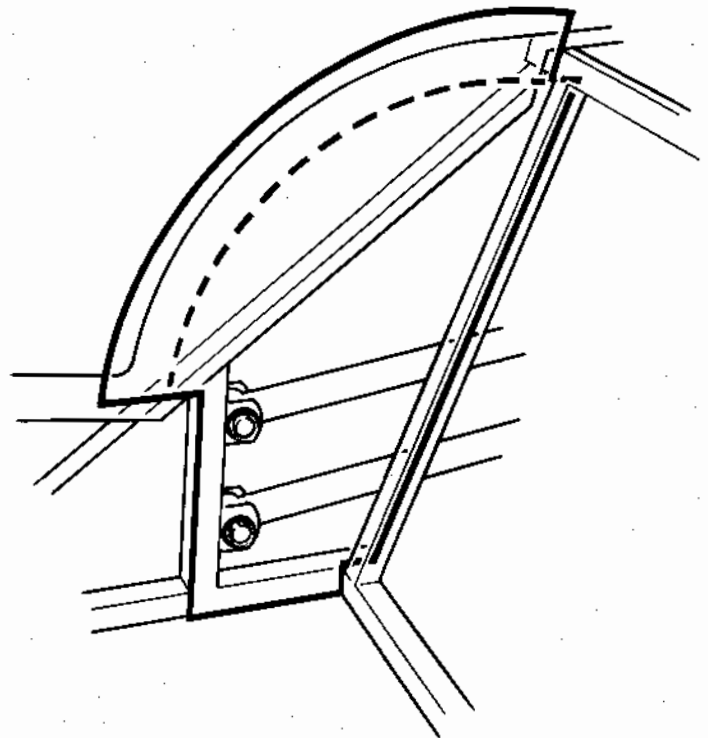
**BONNET**

Some carburettors may require a clearance hole to be cut in the bonnet. In that event we suggest that the position is measured by placing a straight edge over the problem area, marking scuttle and nose cone, and measuring the distance from the scuttle.

The bonnet can then be fitted and the position marked using straight edge and tape. Remove the bonnet and start with a small hole, replacing the bonnet to check for accuracy. Mark bonnet and bodywork with the position for the bonnet catch attachment holes, 2" from the front and rear of the bonnet, and at height to suit the catches when tensioned. When using full length mudguards the front catch is best fitted with its lever upwards to avoid fouling the mudguards. Drill the holes and attach the catches.

**COCKPIT REAR QUARTER PANELS**

Test the panels for fit and trim if required. Drill four equally spaced holes down the leading edge for the rear deflector panel rivets, and fix the quarter panels to the seatback and bodywork using rivets at 3" intervals. Position the deflector panels to give a close fit to the wheel arch, then mark, drill and fit them. *Don't forget the sealant.*

**TUNNEL TOP AND DASH PANEL**

Cut the rear panel to accept the handbrake gaitor. Fix with rivnuts or self tapping screws at 4" intervals, preferably using a thin foam rubber strip to seal the joint.

Cut the front panel to accept the gear lever gaitor, remembering to centralise the gear-lever when measuring the position. Fit as for the rear panel, including fasteners in the overlap between panels.

Fix the dash panel to the scuttle using at least 5 evenly spaced bolts, 2BA or similar.

**EXHAUST SYSTEM**

Fit the exhaust manifold and tighten to the engine. Check and, if necessary, correct the clearance where it passes through the bodywork.

Attach the rear pipe and silencer, using the tailpipe bracket to identify the correct position for a rubber 'cotton reel' type mounting. Drill the bodywork and chassis bracket accordingly and attach the mounting.



## WINDSCREEN AND WIPERS

### WINDSCREEN

The windscreen pillars can be used as cast, polished, or painted, according to personal preference.

Drill five  $\frac{1}{4}$ " holes in each of the windscreen pillars using the cast dimples as a guide and attach the pillars loosely to the windscreen using the countersunk screws provided. Carefully position the screen in the moulded groove on the scuttle, and centralise the pillar bases within the moulded outline on the scuttle.

If side screens are to be fitted, we recommend that these are used to check and obtain the best screen angle before the mounting holes are drilled.

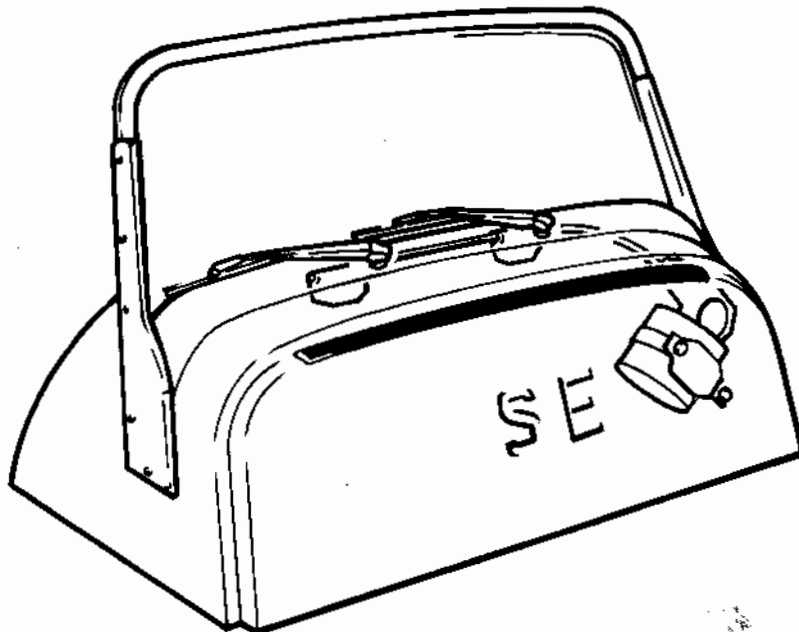
Drill two  $\frac{1}{4}$ " mounting holes in the bodywork on each side, using the screen pillars as a guide. Use bolts to temporarily retain the pillars in place.

Fit the fibreglass fillet piece under the lips in the pillars and drill holes to suit the windscreen wiper boxes using the moulded bosses on the fillet as a guide.

Remove the screen assembly and position the wiper wheel boxes using the standard angled distance pieces. Place the fibreglass fillet piece (trimmed to length if necessary) under the lips in the screen pillars, and fit the assembly to the scuttle using  $\frac{1}{4}$ " countersunk bolts and penny washers. Tighten the pillar to screen surround screws and extrude a small bead of sealant into the gap between pillar and surround. Wipe off any excess sealant before it cures.

### WINDSCREEN WIPERS

Fit the wheelboxes from the inside using angled spacers. Cut and flare the wheelbox connecting tube and a further 8" tube for connection to the motor. Gently curve the 8" motor tube until the motor can be bolted to the scuttle without strain. Fit and connect.



## SEATS, BELTS, LAMPS AND OTHER FITTINGS

### SEATS AND SEAT BELTS

The seat belts are mounted on three 7/16" threaded bushes for each side. They are located either side of the seat base, towards the rear, and on the roll over bar. Follow the belt manufacturer's instructions for fitting.

The optional *Westfield* seats may now be fitted. Other seats must be firmly located by means of an accurate fit or fasteners.

### SPARE WHEEL CARRIER

Drill the rear face of the bodywork, in line with the retainers on the rear chassis rail, to take the carrier. Fit the carrier, number plate mounting upwards, and adjust to suit the spare wheel width. Drill through the retainers and fix with 1/2" bolts and Nyloc nuts. The spare wheel is retained by the use of suitable straps passed through slots, to suit your wheels, cut in the rear bodywork. Reinforce with aluminium plates riveted in place.

### FUEL FILLER

Slide the connecting rubber into contact with the body and draw round it to mark the position of the filler neck hole. Adjust the size to suit the filler and cut out. Fit the filler using suitable hose clips.

### NUMBER PLATES

Make two small brackets to hold the front plate at the lower edge of the nose cone and attach with suitable rivets or bolts.

Cut an aluminium plate to carry the rear number plate and light. Mount them onto the spare wheel carrier with suitable rivets or bolts.

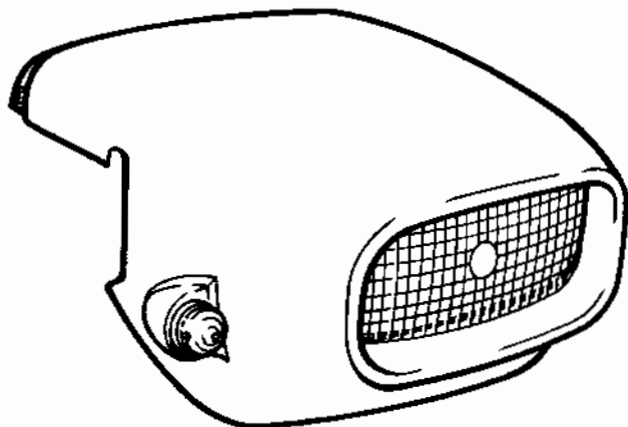
### LAMPS

Attach the headlamps to the pre-drilled holes in the brackets and refer to the wiring diagram for connections. Most types, including the optional *Westfield* headlamps, supply mounting nuts which also act to secure the adjustment.

Position the front indicator pods on either side of the nose cone, to cover the wiring outlet holes marked in the moulding. Adjust the position to your satisfaction and drill for at least 5 mounting rivets. Drill the wiring holes, then mount the pods and indicators, not forgetting to connect up first.

Drill the bodywork to accept the wiring and four 2BA screws which mount each rear light cluster to the moulded plinths. Fit and wire with reference to the diagram.

Drill the bodywork for wiring, then mount and connect the number plate light above the number plate.



### HOOD AND SIDE SCREENS

Slide the cover 2BA (female) male studs into the screen frame. Fit the middle female stud

## FINISHING, CHECKS, SETTING-UP AND DATA

### FINISHING AND CHECKING THE CAR

Lower the car to the ground, set shock absorbers to lowest rating (if adjustable) and adjust the ride height (see DATA). Tighten all suspension mountings and check that every fitting, hose, wire, pipe and cable is secure.

Fill and bleed the brake system, check rear brake, handbrake and clutch adjustment.

Ensure that brake hoses cannot foul wheels, tyres or chassis members at any suspension or wheel position.

Top up or fill all remaining oil and fluid points, start and warm up the engine and check for leaks throughout.

### SETTING-UP

The table below sets out the optimum figures and reasonable variations for setting-up the car. The caster angle is non-adjustable, and included for reference only. The expert may wish to reset camber and toe-in to suit personal preferences; we suggest that the figures below are used as a starting point. The ideal ride height will depend upon the proposed use of the vehicle, and the type of engine and/or sump fitted. Measure ride height to the lower chassis rails at the front and to the lower seatback rail at the rear. Adjustable shock absorbers are worth a little experimentation to suit your needs and expected road conditions. *We advise against extreme combinations of soft front and hard rear settings.*

Ensure that ball joints and rod ends are locked in a central position, ie. not rotated. Failure to observe this could result in high wear or even breakage.

For accurate results ballast or lower the car to the normal, loaded, ride height before setting camber and toe-in. Adjust toe-in equally on each side at the front and, on the SEI (independent rear suspension) model only, use string or a straight edge between front and rear wheels to equalise the toe-in on each side at the rear.

### DATA

SETTING	OPTIMUM	VARIATION	YOUR NOTES
<b>FRONT:</b>			
TYRE PRESSURES			
eg. 185 x 60 x 13 tyres	20 psi	+5psi to -3psi	-----
RIDE HEIGHT	5"	+1" to -2"	-----
CAMBER	0° 0'	+0' to -30'	-----
TOE IN	1/16"	+1/16" to 0"	-----
CASTER	5° 30'	+30' to -30'	-----
<b>REAR, ALL MODELS:</b>			
TYRE PRESSURES			
eg. 185 x 60 x 13 tyres	20 psi	+5psi to -3psi	-----
RIDE HEIGHT	5 1/4"	+1" to -2"	-----
<b>REAR, WESTFIELD SE Beam axle models ONLY:</b>			
NON-ADJUSTABLE			
<b>REAR WESTFIELD SEI Independent rear suspension models ONLY:</b>			
CAMBER	-0° 15'	+15' to -15'	-----
TOE IN	1/32"	+1/32" to -1/32"	-----

**YOUR WESTFIELD IS NOW READY FOR ACTION. IF OUR INSTRUCTIONS HAVE BEEN FOLLOWED, YOU HAVE A VERY SPECIAL MOTOR CAR. - PREPARE YOURSELF FOR AN EXPERIENCE OF QUALITY!.....**

# WESTFIELD

## SE-SEI

Instruction Manual



# CONTENTS

- 1 Guide to component selection.
- 2 Chassis preparation and panels.
- 3 Pedal box, scuttle top and brake pipes.
- 4 Dash panel and wiring.
- 5 Steering and front suspension.
- 6 Rear suspension and handbrake.
- 7 Fuel tank and fuel pipes.
- 8 Engine, gearbox, propshaft and radiator.
- 9 Bodywork, cockpit panels and exhaust system.
- 10 Windscreen and wipers.
- 11 Seats, belts, lamps and other fittings.
- 12 Finishing checks and set-up data.

## TOOLS YOU WILL NEED

### SPANNERS

2BA	Open ended	7/16"	AF Ring
7/16"	AF Open ended	1/2"	AF Ring
1/2"	AF Open ended	11/16	AF Ring
5/8"	AF Open ended	1 1/8"	AF Socket (for SEI only)
11/16"	AF Open ended	3/4"	AF Ring (SEI only)
3/4"	AF Open ended (SEI only)		
Spanners to suit non-kit components			

### OTHERS

Hacksaw	Metal cutters
Set of Screwdrivers	Pop rivet gun
5/16" Round file	1" Flat file
Electric drill	3/16", 1/4", & 5/16" drill bits
Tape measure	

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## WESTFIELD SE - Guide to component selection

### ENGINE

Any Ford "Kent" unit may be used, the 1600cc G.T. versions being ideal. Mountings are Ford Cortina MkII 1600cc, '67-'70, right hand only, part number EM1363. The engine sump is the lowest part of the car and its depth therefore directly affects ground clearance. A 6½" deep sump and suitable oil pick-up pipe is available from a number of Ford models, and we recommend this

Please consult us if you intend to install more than 200 B.H.P. or other engine types.

### GEARBOX AND PROPSHAFT

The *Westfield SE* will accept any Ford "single rail" gearbox. However, the Escort version places the gearlever inconveniently far forward and is best avoided. Gearboxes used with the 2 Litre engines are stronger and best considered for power in excess of 130 B.H.P. The gearbox mounting is Ford Cortina MkII or MkIII, '67-'76, part number EM569. The preferred clutch is cable-operated and may require a change of bell-housing to suit. The propshaft is 23¼" long between universal joint centres, with a 3¾" flange at the axle end. *Suitable shafts are available from Westfield.*

### AXLE AND REAR BRAKES - WESTFIELD SE

Use an axle and brake assemblies from Ford's Escort MkI or MkII, or Cortina MkII, all identified by a welded differential rear cover plate. The Cortina axle is wider and wheels more than 5" wide may foul the bodywork unless special offsets are used. Use the rear brakes from a donor car with at least two thirds of the expected power of your engine. The MkII Cortina 1600E and high-performance Escorts used the best combination of brakes and axle ratios, the later being 3.77:1 and 3.54:1 (RS2000) respectively.

The propshaft flange diameter must be 3¾", these vary and can be interchanged to suit. *New flanges are available from Westfield.*

### FINAL DRIVE PARTS AND REAR BRAKES - WESTFIELD SEI (Option)

Differential/final drive unit, oil filler plug, half shafts and brake assemblies (selected as recommended above) from any of the above axles are required. Half shafts are used at Westfield in the manufacture of drive shafts, and will be exchanged at the factory.

### FRONT UPRIGHTS, BALL JOINTS, BRAKES AND HUB ASSEMBLIES

The complete upright assemblies from a Ford Cortina Mk III, IV or V are suitable. Pay careful attention to the condition of brake callipers and discs when buying second hand. Ball joints are: top-2 Quinton Hazel part no: QD1117RHT, *Right hand thread only.* Bottom-2 Ford Cortina Mk III, IV, or V, lower ball joints, Quinton Hazel part no: QSJ663S. *All ball joints are available from Westfield.*

### STEERING RACK, TRACK ROD ENDS, STEERING COLUMN AND CONNECTING SHAFT

Use Ford Cortina MkIII, IV or V track rod ends (*available from Westfield*) with Ford Escort MkII Steering rack, mountings, inner steering column and column bushes. An Austin Allegro double jointed connecting shaft is used, after delivery to Westfield for modification.

### PEDAL BOX, BRAKE MASTER CYLINDER AND HANDBRAKE

The *Westfield SE* and *SEI* are equipped to accept the Ford Escort MkI pedal box and handbrake, the former to be delivered to Westfield for modification. Use a dual circuit master cylinder with angled tank, as fitted to the Ford Cortina MkIII O.H.V. (ie: Kent engine), non-servo. In addition the *SEI* requires an Austin Allegro handbrake compensator.

### RADIATOR

A large number of Ford radiators will fit with varying degrees of convenience, some Ford Cortina MkIII versions being ideal. The use of a combined thermostat and filler cap housing eliminates the need to remove the nose cone for topping up. *A radiator with blanked-off filler neck and a suitable thermostat housing are available from Westfield.*

### INSTRUMENTS AND SWITCHES

Any equipment, to suit the associated senders and fittings, may be used. Remember that speedometer, indicator, hazard warning lights and low brake fluid warning light are legal requirements. *The speedometer will require calibrating to your particular combination of tyres, gearbox and final drive unless they remain identical to the donor car.*

The Allegro, Marina and Mini ranges provide the best dip/indicator stalk.

*A complete set of instruments, switches and wiring loom is available from Westfield. Made by VDO.*

### WINDSCREEN WIPERS AND WASHERS

Use a Lucas wiper motor as fitted to the Mini and Marina ranges. Windscreen washers are a legal requirement and most types will fit. *A suitable kit is available from Westfield, as are wiper arms and blades.*

### FUEL TANK AND GAUGE SENDER

For the *Westfield SE* a Mini Van can be shortened to fit between the rear chassis tubes, and a new filler pipe fitted. *This item is available from Westfield.*

For the *Westfield SEI* we supply a fabricated aluminium tank, ready to fit, which is also an option (not interchangeable) for the *Westfield SE*.

**LIGHTING**

You will require 2 foot-mounted headlamps with integral sidelights, 2 each amber front indicators and reflective side repeaters, 2 rear lamp clusters each with side, stop and indicator lamps, 1 number plate light and 1 rear fog light, all bearing type approval.

Dim/dip unit is Lucas part No. 902746518 A.

*A complete set of the above is available from Westfield.*

**WHEELS AND TYRES**

We recommend 5½" or 6" wheels with 185/70 HR13 tyres for either model and, for the SEI only, 6x13" wheels with 185/60 HR13 tyres, or 6x14" wheels with 185/60 HR14 tyres. Use wheels for rear wheel drive cars.

**SPRINGS AND SHOCK ABSORBERS**

Use minimum 1⅝" diameter 'coil over' shock absorbers with adjustable spring platforms. Front shock absorber length must not be less than 8¾" with the bump rubber fully compressed, and not more than 12¾" when fully extended. A closed length of 10" when in contact with a 1½" bump rubber is ideal.

Ideal rear shock absorber lengths, both models, are; closed - 11" when in contact with a 1" bump rubber; fully open - 14".

Proven springs are; Front - 220 lb/inch x 9½" long. Rear SE - 90 lb/inch x 11" long.

Rear SEI - 170 lb/inch x 10½" long.

*A complete set of suitable shock absorbers and springs is available from Westfield.*

**LUBRICANTS AND FLUIDS**

Brake fluid; ..... To comply with SAE J 1703 or FMVSS 116 DOT 3

Thread locking; ..... Loctite 242

Anti seize for assembly; ..... 'Coppa-slip' or Loctite 'anti-seize'

Assembly of rubber components; ..... 'Rubber-Lube'

General greasing; ..... Castrol LM

**NUTS AND BOLTS**

All nuts and bolts must be to automotive quality, ie: bolts to 'S' or '8.8' grade. The following torque figures are for use where no specific figure is given in the manual.

1/4" = 5-7 lb ft. 5/16" = 12-15 lb ft. 3/8" = 20-25 lb ft. 7/16" = 40-45 lb ft.

***PLEASE NOTE THAT WESTFIELD SPORTS CARS WILL ACCEPT NO RESPONSIBILITY FOR EVENTS RESULTING FROM THE USE OF PARTS NOT RECOMMENDED BY THEM***

**REGISTRATION OF VEHICLE**

Insure the car, using the chassis number as temporary identity pending the issue of a registration number.

Obtain from V55/5 from any Local Vehicle Licensing Office and present the completed form together with insurance certificate, parts invoices and the cost of a tax disc to the Licensing office.

All being well you will be issued with a registration number and the tax disc.

On some occasions the Licensing Office will require an inspection of the car to confirm the documentation. In this event be prepared for some delay.

## CHASSIS PREPARATION

### PAINTING OF BARE STEEL COMPONENTS

*Careful attention at this stage is essential to good appearance and chassis life.*

Thoroughly clean and degrease chassis, and all steel parts, before priming and painting. In our experience, the very best results are achieved by a fine shot blast and powder coating process. Ensure that tapped and precision holes are clean before assembly.

*Note: We can shot blast and powder coat your chassis for you as an option.*

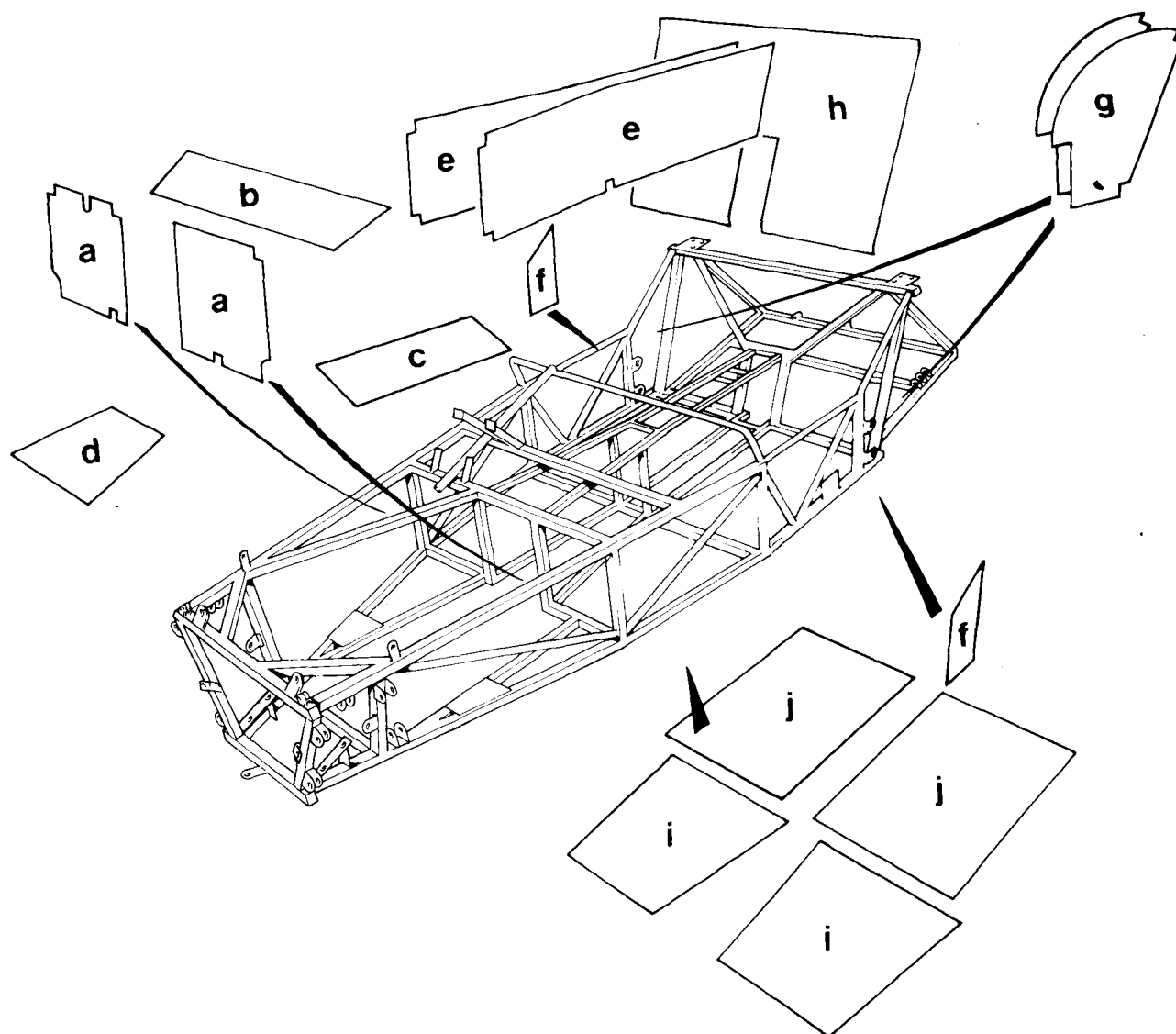
### ALUMINIUM PANELS

Refer to the illustration to identify the panels and where they fit the chassis.

*For S.E. only:-* Place the cockpit rear quarter panels (g) in position and mark it for the four trailing arm bolt holes, using the trailing arm brackets as a guide. Drill to clear the trailing arm bolt heads, and put the panels to one side for future use. All panels except the front transmission tunnel top (c) are fixed using a one-part silicone sealant and pop rivets. The sealant serves as an adhesive which deters water leaks, vibration and electrolytic action between steel and aluminium components. The recommended distance between rivets is shown in the instructions bracketed thus: (J). Fit the tunnel sides (e) (2"), seat back (h) (3"), and foot well panels (a) (1 1/2"). Turn the chassis over and fit the floor panels (i & j) (2"); lap front (i) over rear (j) and drill the overlap in one action. *Don't forget the sealant.*

*Note: We can carry out the above processes for you as an option.*

The wheel arch deflector plates (f), scuttle top (b) and tunnel tops (c & d) will be fitted later.





## PEDAL BOX, SCUTTLE TOP AND BRAKE PIPES

### PEDAL BOX

The Ford Escort Mk1 pedal box requires modification before fitting. We carry out his service at the factory free of charge. Align the pedal box in the bassis brackets, such that the pedal pads are at a comfortable angle for the driver and there is adequate clearance for full pedal travel. It may prove necessary to relieve the brake light switch bracket to clear the steering column.

Using the chassis brackets as a guide, mark and drill four 5/16" mounting holes in the pedal box and attach to the chassis brackets using 5/16" U.N.F. bolts, plain washers and Nyloc nuts.

### SCUTTLE TOP

Cut the smaller part of the scuttle top to fit around the pedals, allowing for full pedal movement. Fit both parts, riveting at 3"-4" centres along the cross tubes only. *Do not rivet into the chassis side rails.* Rivet the overlap at 2" centres, and to the chassis. *Don't forget the sealant.*

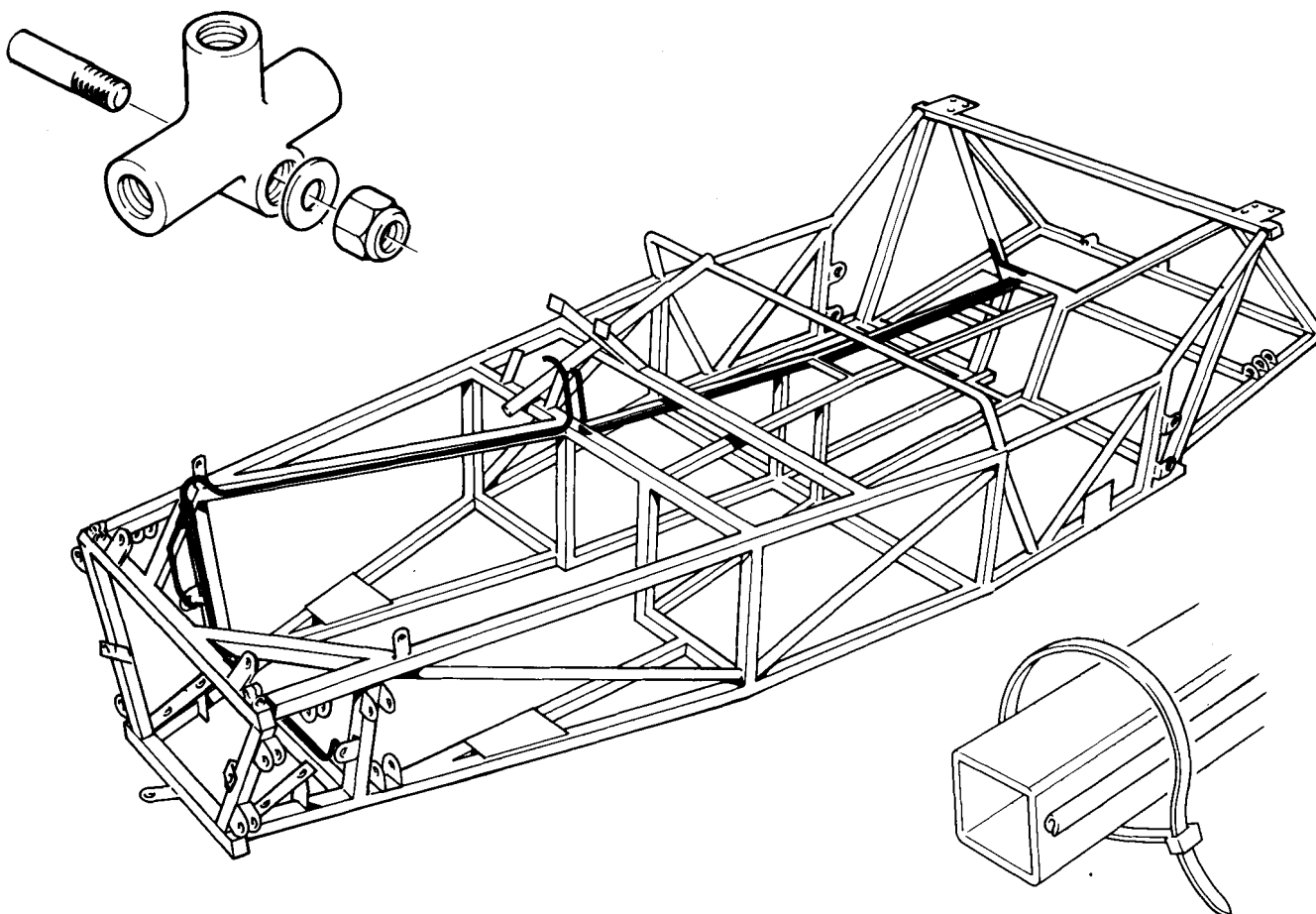
### BRAKE PIPES

All brake pipes must be made from new materials and fittings, flared correctly with quality equipment. We recommend that you have them made by a reputable dealer.

*A full set of ready made brake pipes is available from Westfield.*

**FRONT:** Attach a three-way brake pipe junction to the stud on the front right-hand chassis brace. Measure, obtain and carefully fit the following pipes:

- 1) From the master cylinder, along the engine bay brace to the three-way junction.
- 2) From the junction, down the front of the nearest chassis upright to the hose bracket on the upright.
- 3) From the junction, down the front of the nearest chassis upright, across the chassis and up the left-hand chassis upright to the hose bracket.

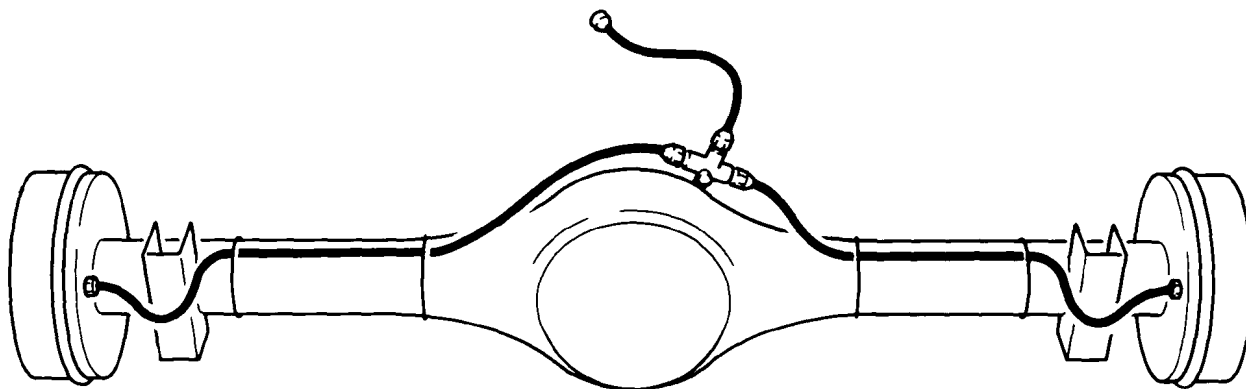


(continued)

**REAR BRAKE PIPES WESTFIELD SE ONLY**

Attach a three-way brake pipe junction to a bracket fitted to the differential stud at the 10 o'clock position, when viewed from the front. Measure, obtain and carefully fit the following pipes:

- 1) From the master cylinder, along the top right-hand corner of the transmission tunnel, to the hose bracket on the rear of the seat-back. Keep the pipe close to the corner to clear the propshaft flange during extreme axle movement.
- 2 & 3) From the three-way junction on the axle, behind the suspension brackets, to each brake cylinder. Secure to the axle with 2 plastic ratchet straps per side.

**REAR BRAKE PIPES WESTFIELD SEI (Independent Rear Suspension) ONLY**

Drill a  $\frac{1}{4}$ " hole in the top right-hand differential mounting gusset and attach a 3-way brake pipe junction. Measure, obtain and carefully fit the following pipes:

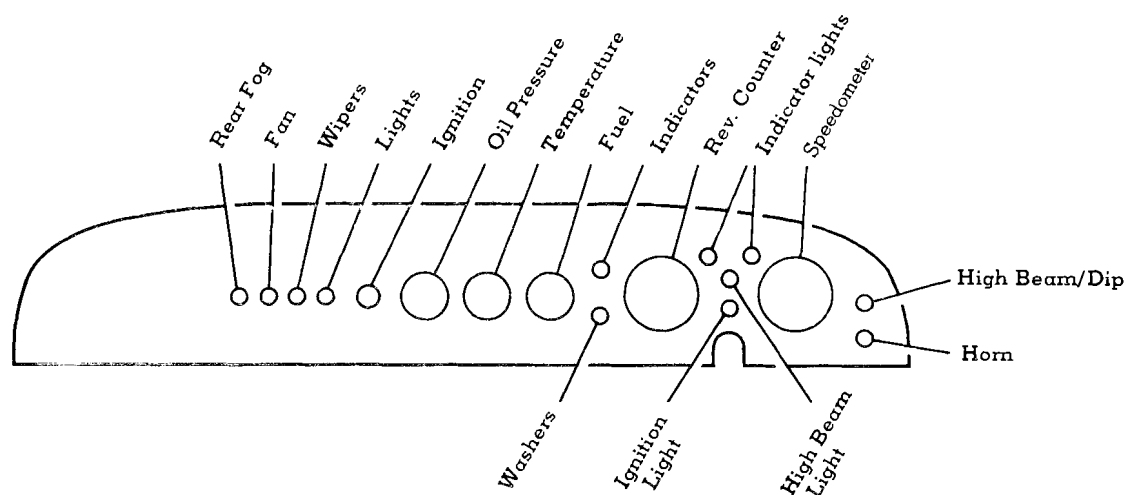
- 1) From the master cylinder, along the top right-hand corner of the transmission tunnel, to the 3-way junction.
- 2) From the junction, along the top right-hand wishbone mounting rail, to the hose bracket which is to the rear of, and below the rail.
- 3) From the junction, along the transmission tunnel cross member and the top left-hand wishbone mounting rail, to the left-hand hose bracket.

Secure the brake pipes at regular intervals with plastic ratchet straps and/or plastic 'P' clips. To avoid dangerous corrosion it is essential not to use metal clips or allow direct contact with metal components other than pipe fittings.

## DASH PANEL AND WIRING

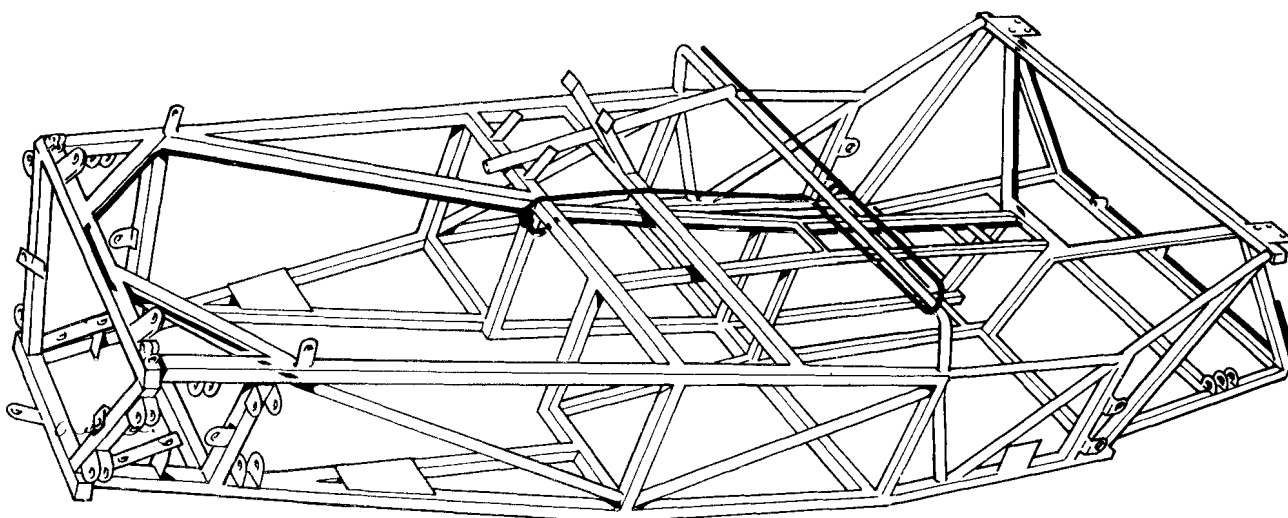
### DASH PANEL

Mark out and drill the dash panel to suit your instruments and the steering column, mounting the speedometer in the driver's field of vision to satisfy legal requirements. Take care that there is sufficient clearance for the scuttle and dash hoop. The diagram below shows our own recommendation, which accepts the optional *Westfield* wiring loom. To cover the panel with leathercloth or similar, mark out and cut the cloth to the dash shape with a  $\frac{1}{2}$ " allowance all round. Use contact adhesive to glue the main surface first and then the  $\frac{1}{2}$ " overlap to the rear. When the adhesive has set, cut out the holes with a sharp knife and fit the instruments, switches and warning lights. Use adhesive tape to hold the panel to the dash hoop in readiness for the wiring.



### MAIN WIRING

Connect the instruments, switches and warning lights in accordance with the wiring diagram. Refer to section 5 for fitting of indicator/wiper stalks. The following guide applies to the optional *Westfield* wiring loom and may prove helpful for others. Use the wiring diagram and wire colours to identify the final destination of each wire. From the dash panel, run the loom to a point opposite the engine bar cross brace, across the scuttle top and along the right-hand and two front engine bay braces to the left-hand chassis rail. Ensure that the headlamp wires emerge close to their brackets and secure the loom to the underside of the chassis rails with the plastic ratchet straps.



(continued)

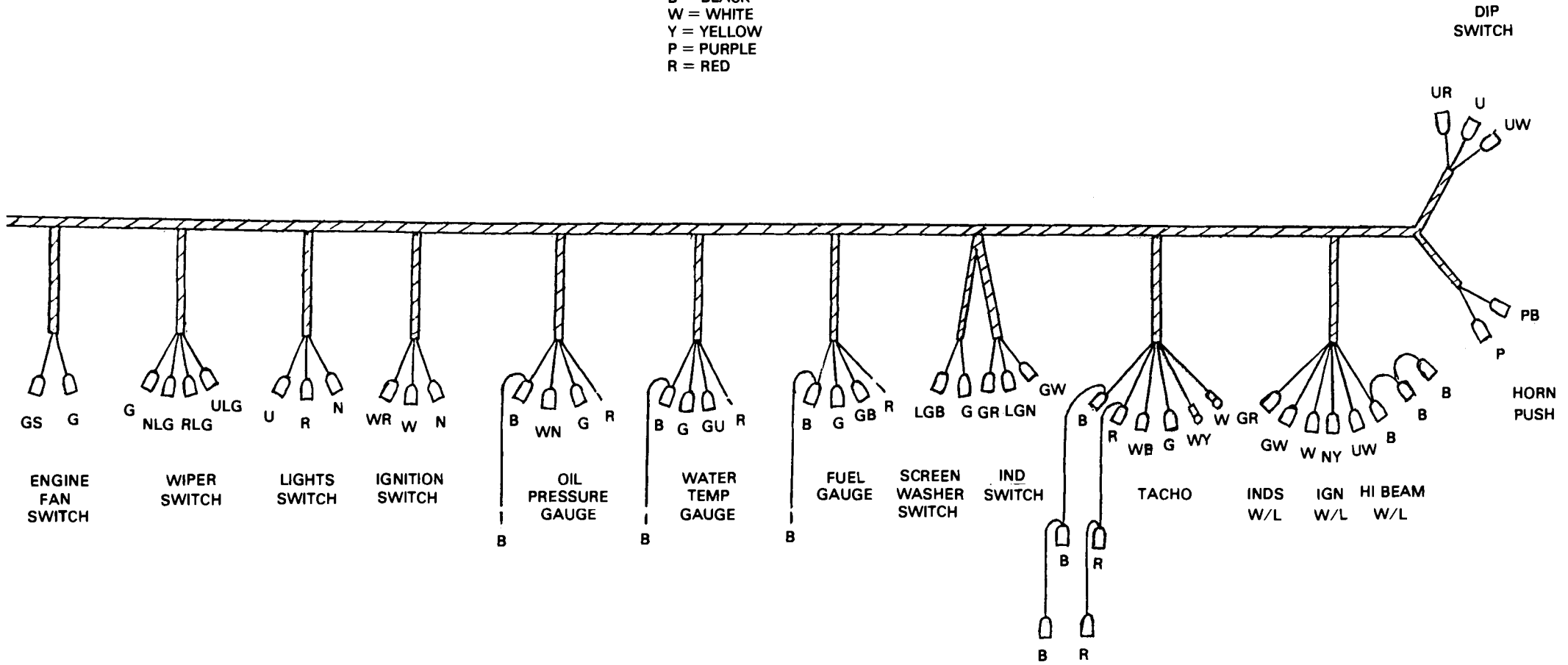
Fix the fuse box and dim/dip units to the scuttle top, in positions convenient for their wiring, and connect. Similarly, mount and connect the ignition coil (we recommend the left footwell end panel), washer bag (inside of the right-hand chassis side tube), starter solenoid (right footwell end panel), horn solenoid and compressor (plate in the top left corner of the chassis front). Connect the brake light switch on the pedal box. The rear harness connects to the main wiring loom at the front of the transmission tunnel. Run it along the top right-hand corner of the tunnel, up the right-hand seat back brace, down the rear support tube, across the rearmost tube and up the left-hand rear support tube.

Attach all the black earthing wires to convenient points on the chassis, ensuring good electrical contact.

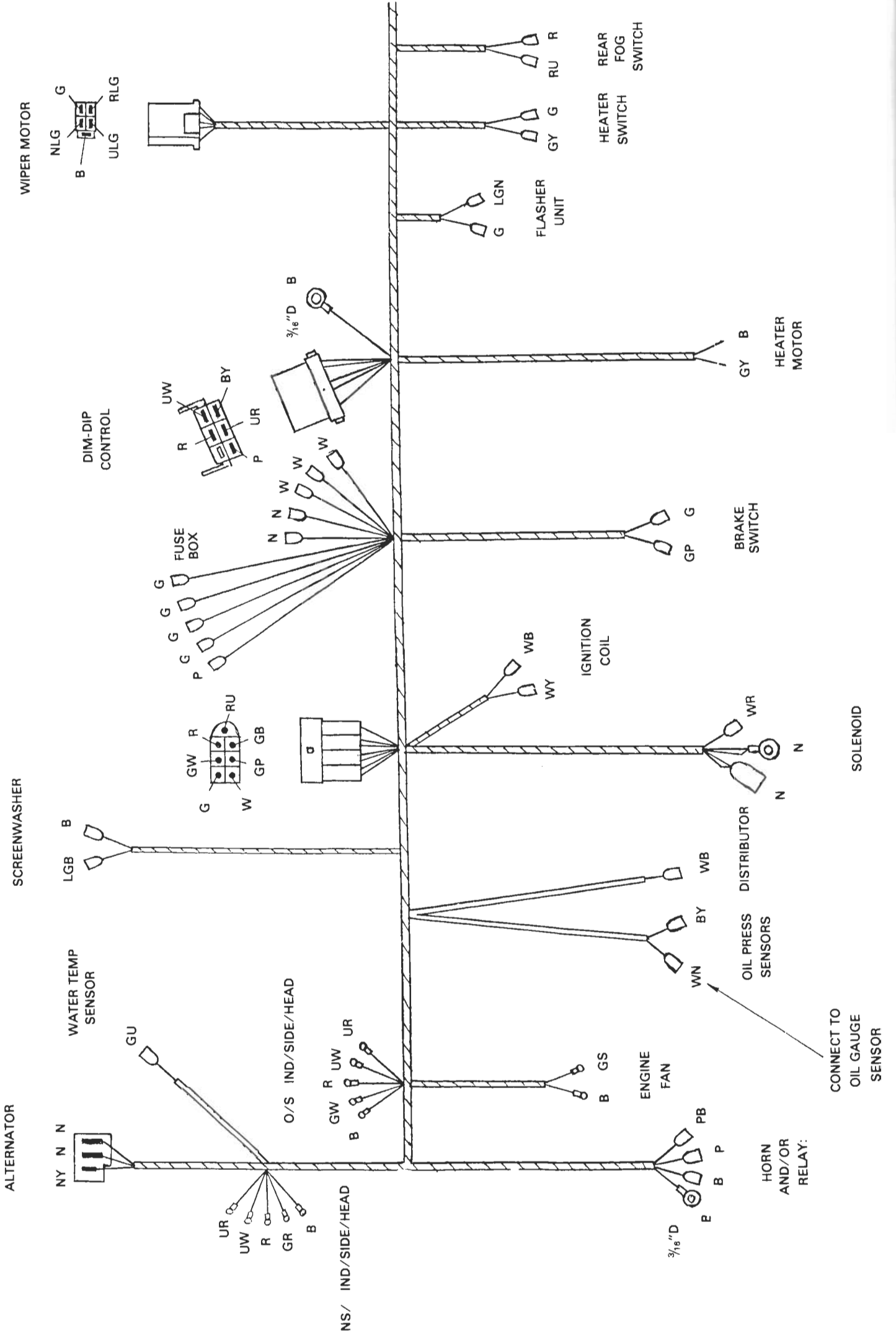
The battery can be fitted on the right hand side of the scuttle top or behind the passenger seat (Westfield SE only). Make and fix a tray to support the weight and provide holding-points for the battery. Make and fit leads for battery to earth and battery to starter solenoid.

Finally, secure all wiring with plastic ratchet straps and plastic 'P' clips or similar.

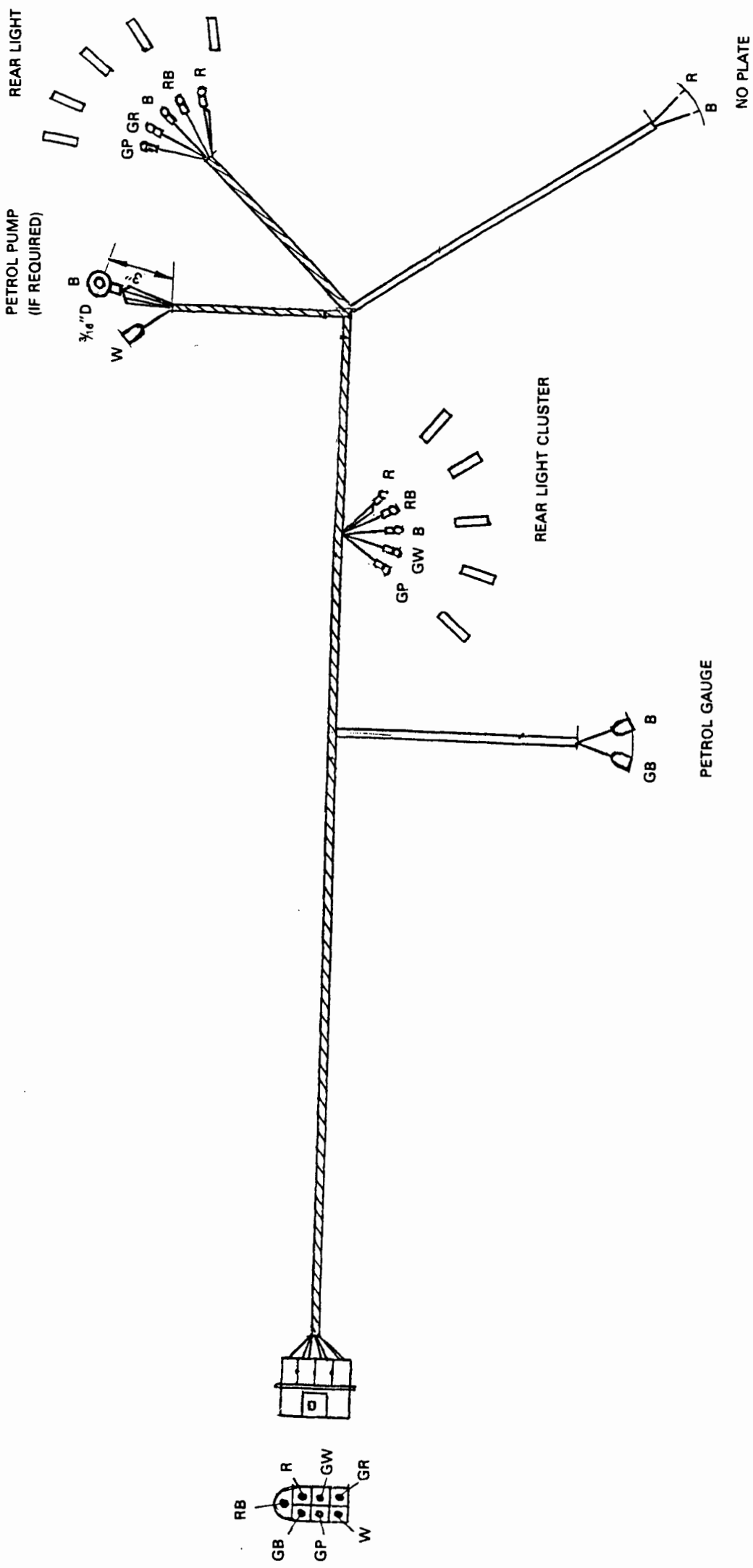
G = GREEN  
 N = BROWN  
 S = SLATE GREY  
 LG = LIGHT GREEN  
 U = BLUE  
 B = BLACK  
 W = WHITE  
 Y = YELLOW  
 P = PURPLE  
 R = RED



**MAIN HARNESS**  
**MODEL SE**  
**WESTFIELD SPORTS CARS**



CONNECT TO OIL GAUGE SENSOR



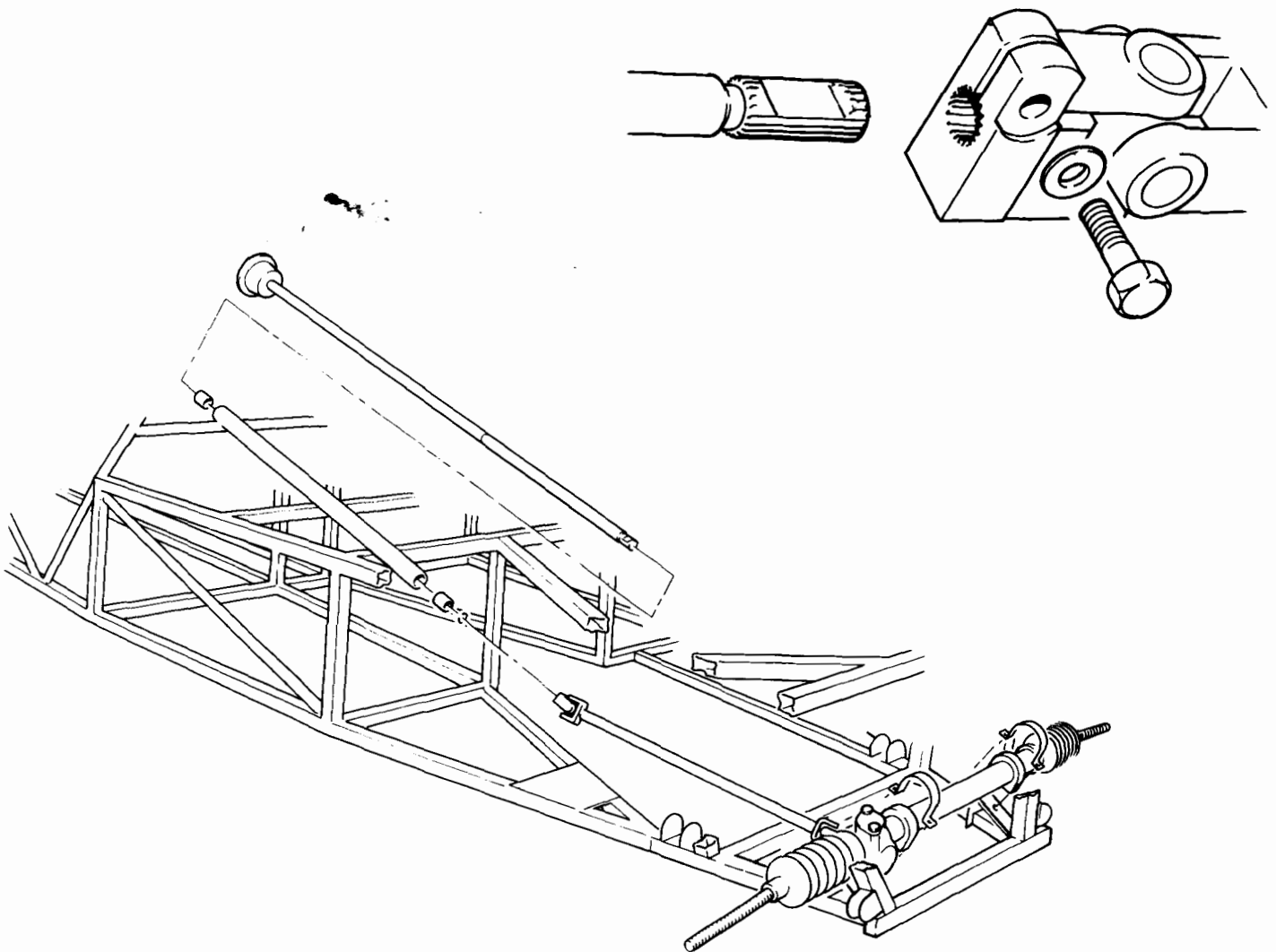
**REAR HARNESS**  
**MODEL SE**  
**WESTFIELD SPORTS CARS**

## STEERING, FRONT SUSPENSION AND FRONT BRAKES

### STEERING

Fit the steering rack to the chassis brackets behind the front chassis tubes using the Ford rubbers and retainers with 5/16" bolts, plain washers and nyloc nuts. Slide the end of the universal joint shaft furthest from the extension tube onto the steering rack pinion, taking care to line up the unsplined segments on both. Attach with a bolt having a plain, unthreaded shank where it passes over the pinion; made by cutting down a long bolt if necessary. Screw on the track rod ends and locknuts, such that the track rods are of identical length and leaving about 1/2" of thread showing.

Press the top and bottom steering column bushes into place and introduce the inner column from the top. Fit the column thrust washer and slide the universal joint shaft into position, lining up the flat portion on the column end with the bolt hole in the universal joint. Fit the thrust-washer retaining pin, and adjust the column position in the universal joint to give .010" to .020" clearance between outer column and thrust washer. Fit and tighten the universal joint bolt and check that the steering turns freely, correcting as necessary. To fit stalk type indicator/wiper controls, file the plastic key from the bore of the unit and clamp to the column, inserting a strip of aluminium to ensure a good fit. Centralise the rack and fit the steering wheel in the 'straight ahead' position.



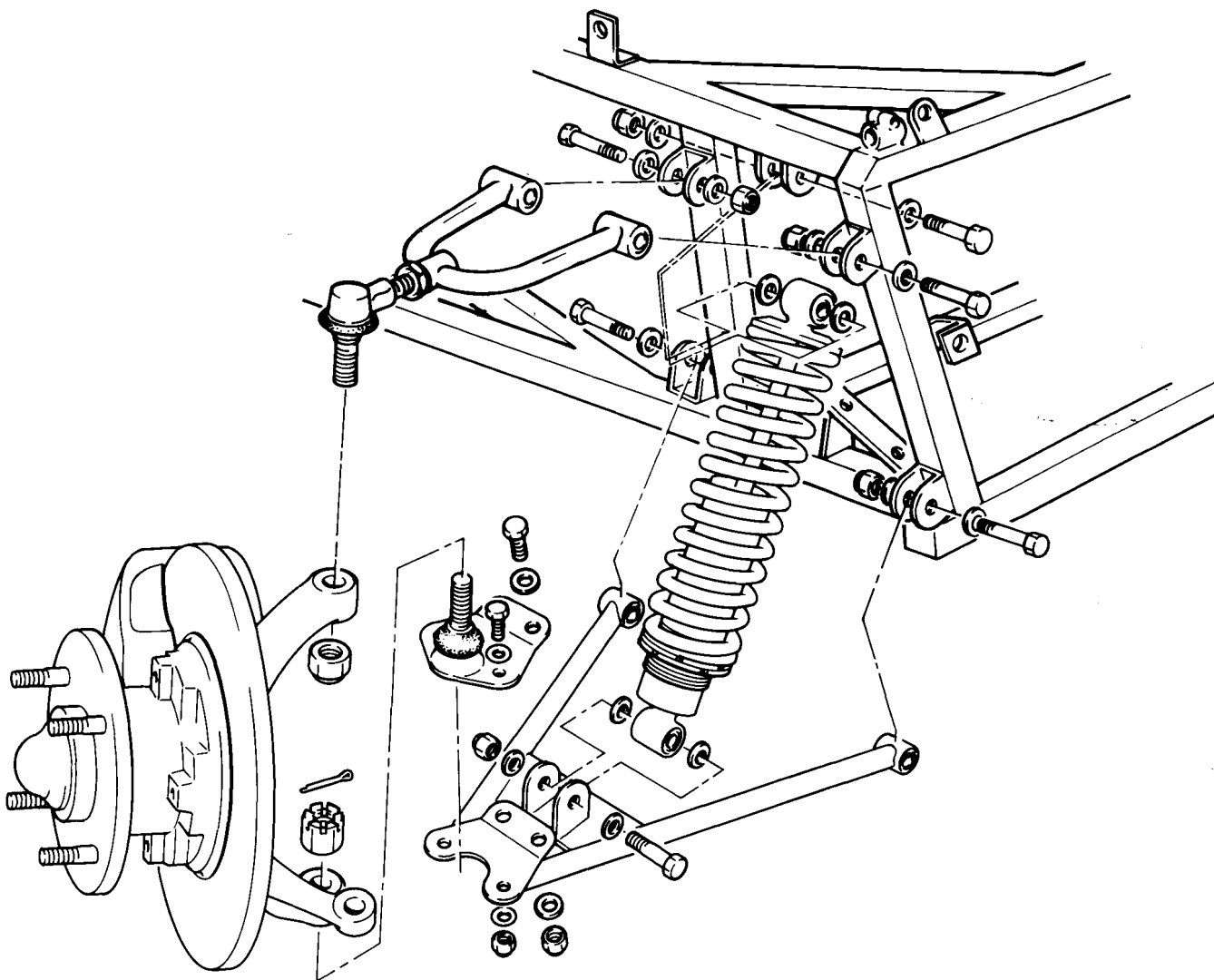


(continued)

## FRONT SUSPENSION

Press the rubber suspension bushes into all four wishbones, using spacers (eg. thick washers) to prevent any pressure on the inner sleeves. These are a precision press fit and will require a large machine vice or bench press to achieve sufficient force. Fit the ball joints to the bottom wishbones and the locknuts and ball joints to the top wishbones. Fit all the wishbones to the chassis, using  $2\frac{1}{2}$ " long bolts with plain washers and nyloc nuts. The top wishbones are not symmetrical and must be fitted with the ball joint offset towards the rear. *Do not tighten at this stage.*

Fit the suspension units to the chassis using Nyloc nuts with  $2\frac{1}{4}$ " long bolts and plain washers either side of the units: ie. *inside* the brackets. *Do not tighten at this stage.* Fit the suspension uprights, hub and brake assemblies to the wishbones. Connect the track rod ends and shock absorbers, using washers either side of the latter: ie. *inside* the brackets.



*Do not tighten any suspension mountings until the car is standing on its own wheels.*

## FRONT BRAKES

Tighten the front brake hoses into the calipers, using copper washers against the calipers. Use a shakeproof washer each side of the brake pipe bracket and prevent the pipe from turning, with a spanner on the pipe end fitting, whilst you fit and tighten a  $\frac{3}{8}$ " UNF retaining nut. Fit and tighten the pipe nut, again preventing the pipe from turning with a spanner.

## REAR SUSPENSION AND HANDBRAKE (SE)

### REAR SUSPENSION

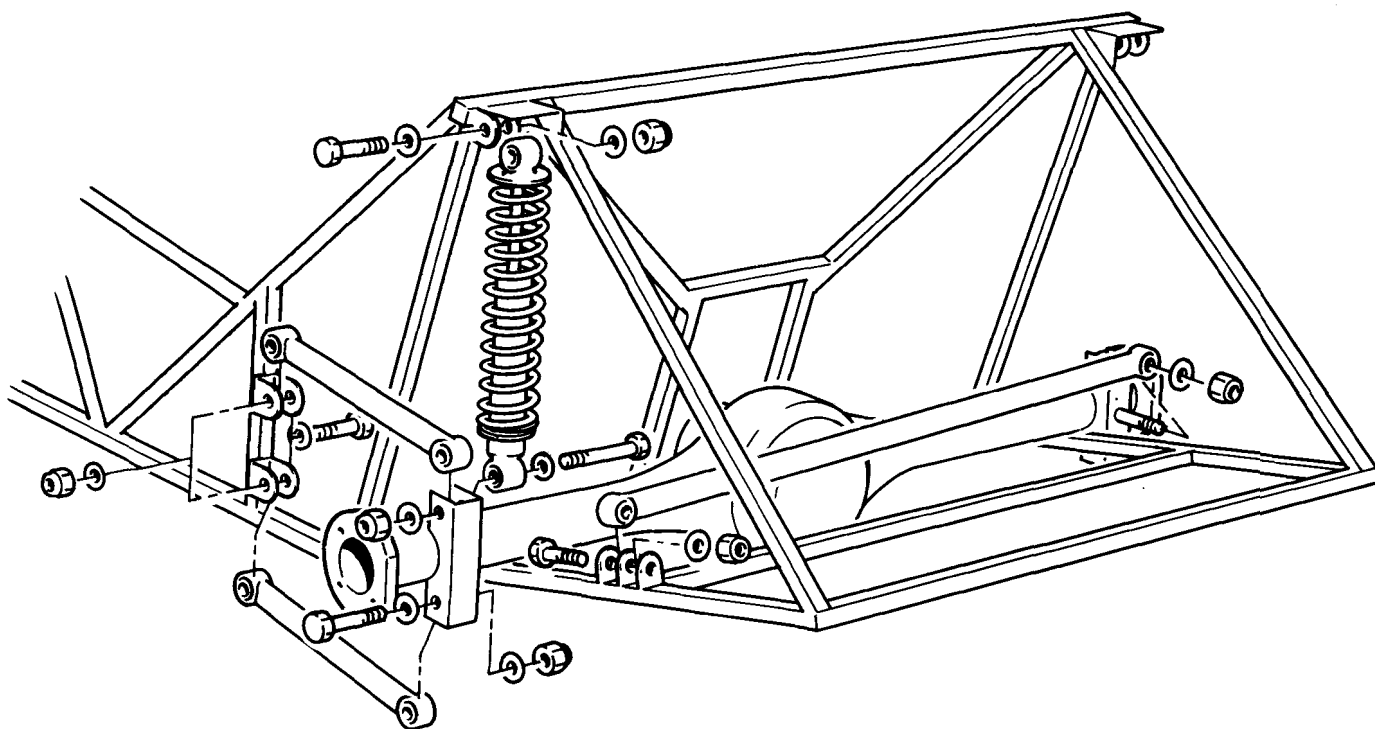
Mount the two rear shock absorbers to the chassis brackets, using 2½" bolts with washers on both the *inside* and outside of the brackets.

Press the rubber suspension bushes into the eight trailing arm and two panhard rod ends with a large machine vice or bench press. Use spacers to avoid pressure on the inner sleeves.

Place the axle in approximate position and fit the trailing arms to the chassis. The axle must now be lifted, both ends at once, to allow a bolt to pass through the suspension unit and axle bracket with the top trailing arm inside the bracket. This is best achieved by carefully clocking the axle in position or, better still, the help of an assistant. Repeat for the other side and swing the axle to the correct angle to fit the bottom trailing arms to the axle brackets.

Fit the panhard rod to the stud provided on the axle and then to the chassis bracket. Check for clearance between the axle nose and chassis, relieving the webbing on the nose if necessary to provide adequate clearance.

*Do not tighten any suspension mountings until the car is on the ground, supporting its own weight.*



### HANDBRAKE

Position the Escort handbrake lever on the transmission tunnel cross pieces such that the cable attachment point lines up with the cable hole in the bracket behind. This will put the lever attachment points approximately central. Drill two 5/16" holes to suit and bolt the lever into position.

The Escort axle can be used with its standard handbrake linkage by bending the brake rod slightly to clear the panhard rod. The Cortina axle will require the existing compensator arm and guide to be removed and replaced with a Marina compensator arm and bushes.

Use a Marina handbrake cable, shortened to suit. Measure the length with the handbrake off and brakes adjusted allowing sufficient length to braze or crimp a nipple in place.

## INDEPENDENT REAR SUSPENSION AND FINAL DRIVE

### FINAL DRIVE UNIT

It studs are used, fit them to the 8 x 5/16" U.N.C. tapped holes in the final drive housing with Loctite studlock. Thoroughly clean housing, final drive and drive shaft ends. Stand the final drive unit with propshaft flange downwards and apply a 1/8" bead of Silicone gasket compound to the mating face. Place the housing in position, with the filler hole towards the underside of the final drive unit and loosely fit the 8 x 5/16" UNC bolts with spring washers or, for studs, 5/16" U.N.F. Nyloc nuts with plain washers. To correctly align the final drive unit and housing, lubricate the output shaft bearings, bearing surfaces and oil seals then carefully insert the drive shafts, avoiding contact between splines and seals. Give both shafts 2 or 3 turns before tightening evenly to a torque of 15 lb ft.

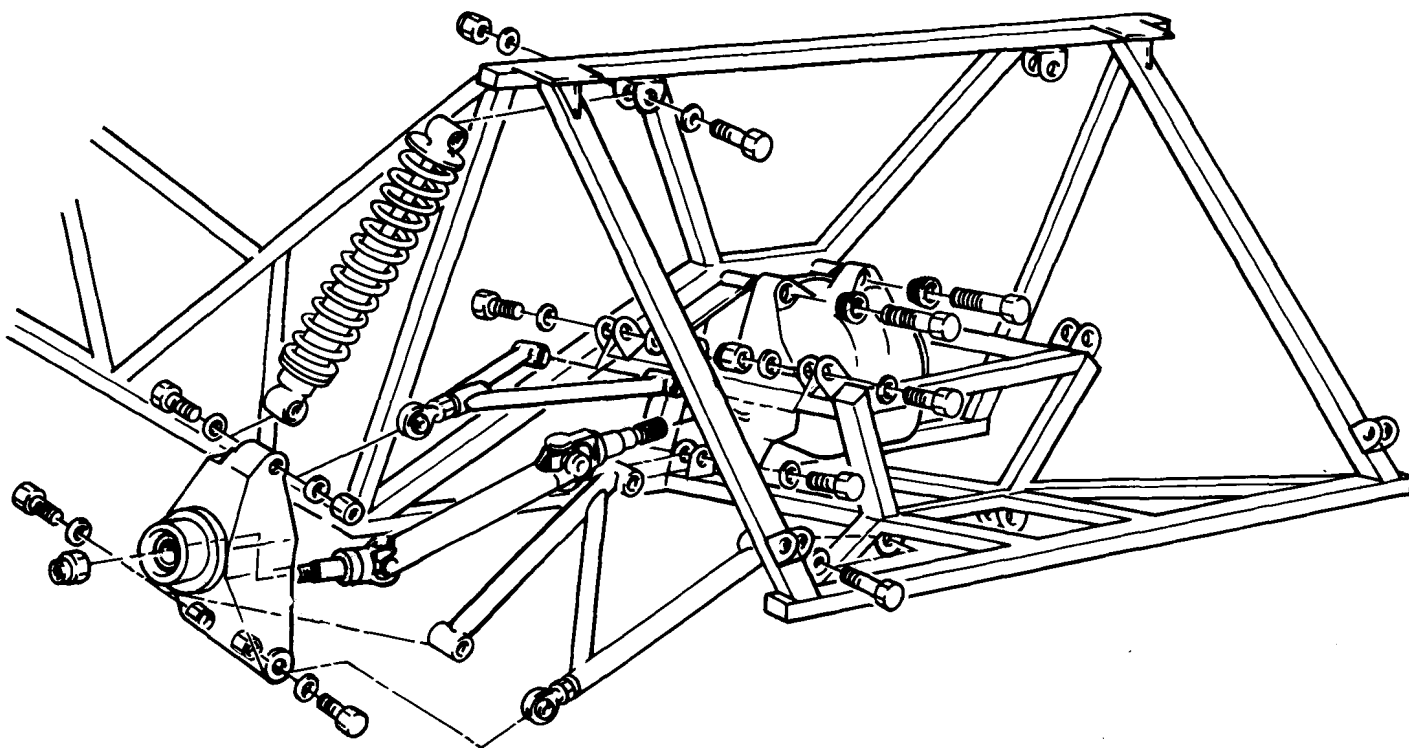
Check for free rotation, remove shafts and plug the bores to prevent dirt from entering.

### DRIVE LINE AND SUSPENSION

Fit 8 rubber mounting cones into the differential housing using rubber grease, copper slip, or other suitable lubricant to aid assembly. Locate the assembly in the chassis with 1/2" U.N.F. bolts and plain washers inserted from the rear. Use Loctite on the top and Nyloc nuts on the lower mounting bolts. Tighten to a torque of 35 lb ft.

Press ten rubber suspension bushes into the wishbone ends with a large vice or bench press, using spacers to prevent pressure on the inner sleeves.

Assemble all four wishbones to the chassis with the adjustable rod ends on the lower set towards the rear of the car. Attach the suspension units to their brackets on the top chassis member with a plain washer between the unit and bracket on each side. *Do not tighten any wishbone or suspension unit mounting bolts until the car is on the ground and supporting its own weight.*



(continued)

Attach the brake backplates and handbrake cable brackets to the suspension uprights such that the handbrake operating lever will be on the same side as, and pointing approximately towards, the single boss on the upright. Fit hubs into the suspension uprights. Engage drive shaft and hub splines and, if necessary, support the hub on wooden blocks whilst using a soft mallet or equivalent to tap the drive shaft into place.

Loosely fit hub nuts to retain the shafts.

If your kit is supplied with 1/2" bore rod ends and 7/16" bore bushing tubes, ensure that the tubes are inserted at this stage. Assemble suspension uprights to the lower wishbones with the single boss at the top and to the rear. Remove your plugs from the differential housing and guide one drive shaft into place whilst raising the upright to line up with the top wishbone. Insert a 3 3/4" long, 7/16" U.N.F. bolt from the rear through the rod end (or bush if appropriate), upright and suspension unit with a plain washer between each item and at both ends. Loosely fit a Nyloc nut. Repeat for the other side.

## HANDBRAKE

Position the Escort handbrake lever on the transmission tunnel cross pieces such that the cable attachment point is central. Drill two 5/16" holes to suit and bolt into position. Use an 8mm Nyloc nut and plain washer to attach the threaded trunion of an Austin Allegro handbrake cable to the bracket on the upright. Fit clevis and split pins, and align cable and operating lever before tightening. Repeat for the other side.

Run both cables between the top final drive mountings and attach the outer cables to the rail provided with 10mm Nyloc halfnuts. Clip inner cables to an Allegro handbrake compensator bar and attach to the handbrake lever with a clevis and adjuster bolt.

## FINAL TIGHTENING

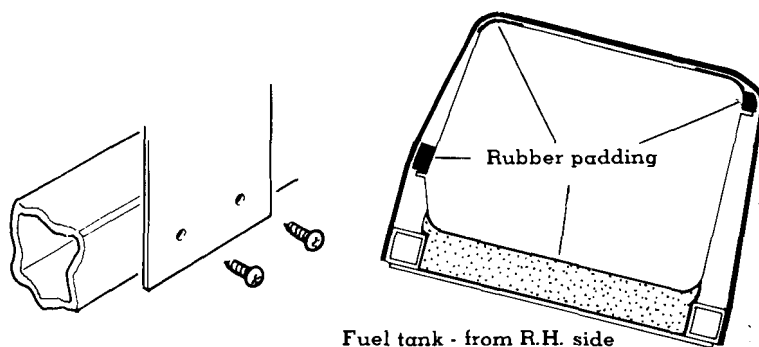
Fit the brake drums and wheels and lower the car to the ground. Adjust the ground clearance to 5"-6", using weight if necessary, and tighten all 16 suspension mounting bolts.

Whilst restraining the car, tighten the hub nuts to 180 lb ft. Raise the car from the ground and check for free play in the hub bearings. If necessary, continue to tighten the hub nuts until free play is nominal or just eliminated. Stake the nuts into the grooves provided.

## FUEL TANK AND PIPES

### FUEL TANK

Fit the fuel tank into the rear of the chassis using rubber strips to prevent direct contact with the chassis rails. The tank is retained using two aluminium straps, again with rubber strips. Attach the straps securely to the chassis with self-tapping screws. If a hole for fuel gauge sender is required, mark the tank for the best position.

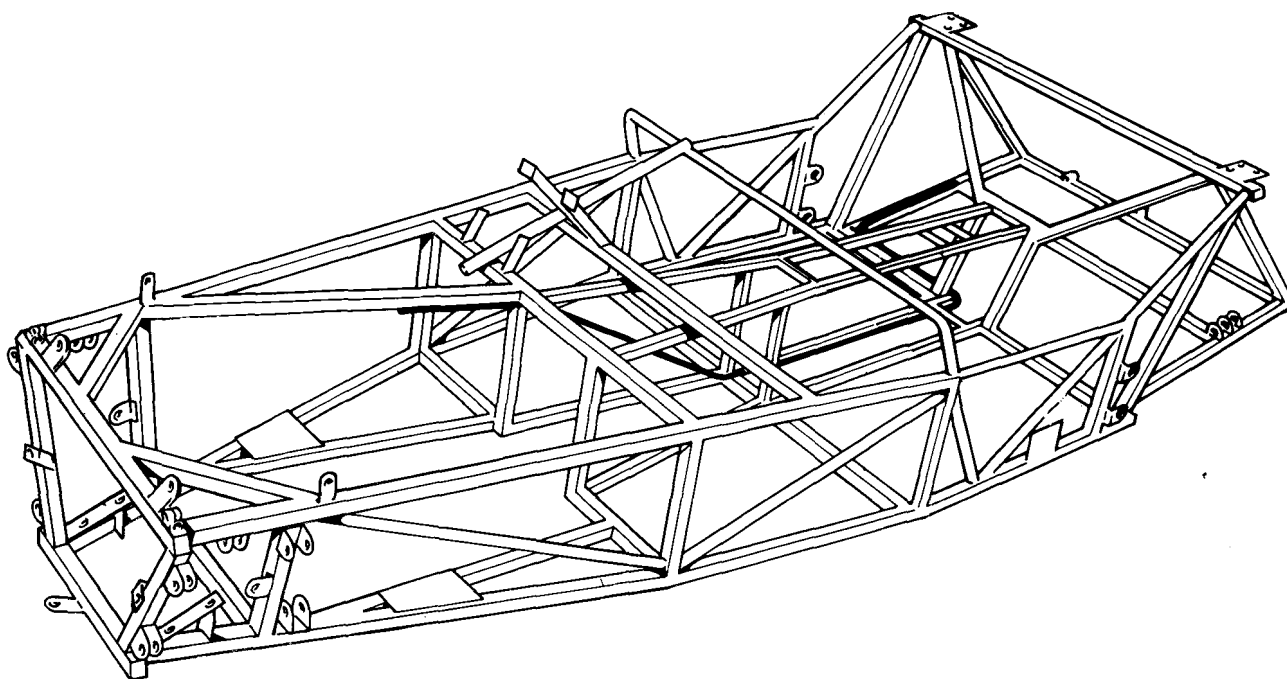


### FUEL PIPE

The correct fuel pipe diameter will depend on engine size and fuel pump type. We recommend as follows; Up to 90 BHP use 1/4": up to 140 BHP use 5/16": up to 200 BHP use 3/8". If in doubt, it is better for the pipe to be too large than too small. Run the fuel line from a point near the tank outlet, along the lower rear chassis rail, the lower seat back rail, forward along the lower right transmission tunnel rail, diagonally up to the engine bay brace and along the brace to end after 10". Secure the pipe along its length with plastic ratchet straps and plastic 'P' clips. To prevent corrosion do not use metal clips or allow direct contact with other metal components.

Cut a length of flexible fuel hose to connect the fuel line to the tank outlet, incorporating an in-line fuel filter if required (highly recommended).

Finally undo the front of the tank retaining straps and bend them back sufficiently to remove the tank. Fit the fuel gauge sender, and put the tank to one side, it will be refitted when the bodywork is in place.



## ENGINE GEARBOX, PROPSHAFT AND RADIATOR

### PREPARATION OF ENGINE AND GEARBOX

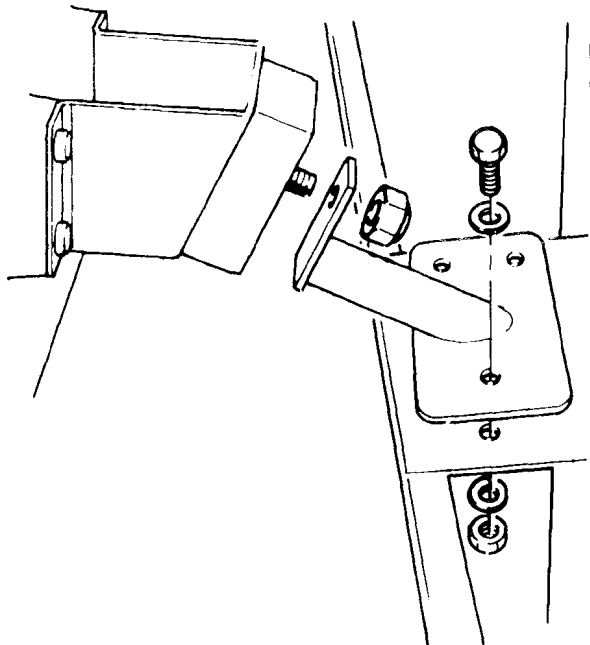
Since access to the gearbox is limited after installation, we advise that the speedometer drive is fitted and oil level checked first. Plug the propshaft bearing bore to prevent loss of oil during fitting. Attach the Ford gearbox and engine mountings. We advise that the engine and gearbox are mated first for ease of installation.

### FITTING ENGINE, GEARBOX AND PROPSHAFT

Place the engine and gearbox in the chassis and fit the propshaft using Nyloc nuts with plain shank bolts through the final drive unit flanges. Don't forget to remove your plug!

Attach the engine mounting legs (supplied with the kit) and lower the engine until they are in light contact with the chassis plates. Adjust the engine position to give adequate clearance around the bellhousing, gearbox tail housing and engine bay. The engine and gearbox are best fitted slightly to the left of centre to make room for the speedometer drive and offset the weight of right hand drive controls.

Clamp the engine mounting legs in place and drill, together with the chassis plate, for three 5/16" bolts: two behind the legs and one in front, taking care not to drill the chassis rails. Drill the gearbox mounting plate, to line up with the holes in the mounting. Attach with 5/16" bolts and Nyloc nuts.

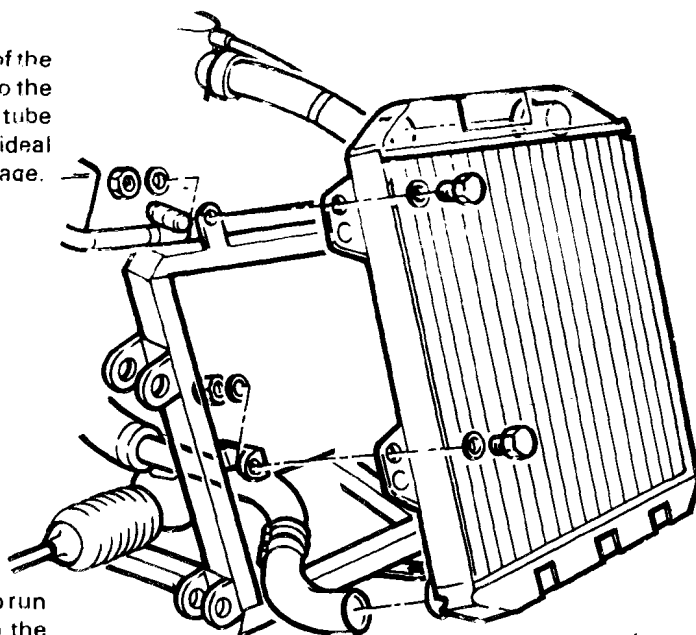


### GEARLEVER

Cut the lever 1/4" above the circlip groove and 3" from the top. Weld the two parts together such that the lever leans 30° towards the rear. Ensure that the lever will clear the dash panel in its final position.

### RADIATOR

Attach the radiator to the four brackets provided at the front of the chassis, ensuring that it will clear the nose cone. Connect to the engine using proprietary hoses and 1 1/4" aluminium tube (available from Westfield). The radiator presents an ideal mounting place for air horns which can be fitted at this stage.



### CONNECTIONS

Allowing for engine movement, make and fit suitable leads to run from starter solenoid to motor and from an engine bolt to the earthing point at the rear of the engine bay. Cut and fit a flexible petrol hose to join the chassis-mounted pipe to the petrol pump. Bend the chassis-mounted pipe to give the hose a steady curve, allowing room for engine movement. Use suitable clips to secure. Connect the speedometer, clutch and throttle cables and complete all wiring.

A  
QUIN ON HORN  
RH 1145 - HORN

## BODYWORK, COCKPIT PANELS AND EXHAUST SYSTEM

### REAR BODYWORK

Temporarily fit the exhaust manifold and measure the position for the exit hole in the bodywork; the footwell end and lower chassis rail make ideal reference points. Fit a pair of rear wheels and lower the bodywork onto the chassis, ensuring that the bottom flange springs under the lower chassis rail. Refer to the wheels and wheel arches for the best looking position. Ensure that the body clears all suspension components and is a good, square fit on the chassis; trim if necessary. Use your previous measurements to mark out the exhaust pipe exit hole, allowing at least  $\frac{3}{4}$ " clearance all round for engine movement.

Use clamps at the rear to maintain the position during the next phase.

### SCUTTLE

Drill four equally spaced holes through the bottom flange of the scuttle; these will be used for mounting it to the chassis rail.

The rear bodywork has the scuttle position marked on the top flange. Align the lower rear corners of the scuttle with these marks and adjust the width of the rear bodywork to get the best fit. Temporarily fit the nose cone as a reference for the width of the bodywork at the front. Clamp the bodywork in place and mark through the scuttle mounting holes to establish their position.

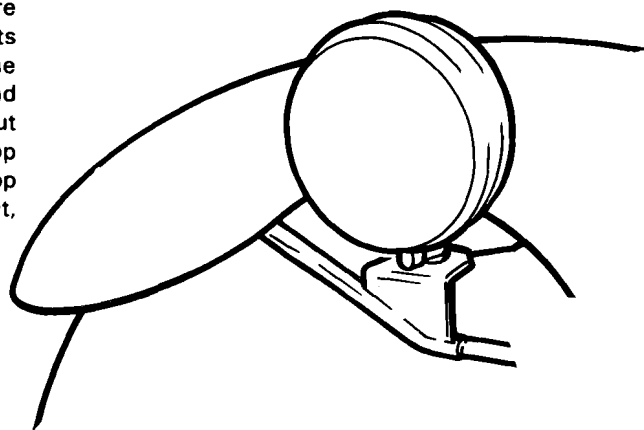
### FIXING BODYWORK

The bodywork can be mounted with large headed  $\frac{5}{32}$ " pop rivets or with self tapping screws and large ('penny') washers; rivets are faster, whilst screws allow you to remove the bodywork more easily if required in the future.

Drill two holes, to suit your rivets or screws, through the bottom rear flange of the bodywork into each of the mounting brackets on the rear chassis rail and fasten. Drill the scuttle mounting holes in the body flange and chassis rail, using your markings as a guide and attach the scuttle. Drill and fix the bodywork, at 8" intervals, along the lower chassis rails and the top rails forward of the scuttle.

### FRONT MUDGUARDS AND HEADLAMP BRACKETS

Fit the mudguard/headlamp brackets into the clamps on the front outside corners of the chassis, with the headlamp plinths horizontal. Full length mudguards require five equally spaced  $\frac{1}{4}$ " holes to be drilled in the mounting flanges before offering them up to the body. Adjust the mudguards and brackets to your satisfaction, ensuring that both sides are the same: the brackets are made long, to allow for differing requirements, and may need shortening. The wheels may be used as a guide, but ensure that there is sufficient room for suspension travel. The top front edge of the mounting flange is typically  $2\frac{1}{2}$ " below the top chassis tube and 7" behind the centreline of the suspension unit, with the top rear edge 8" above the bottom of the chassis.



Mark and drill the mounting holes in the bodywork and attach with  $\frac{1}{4}$ " bolts and 'penny' washers. Finally drill and fit the wing to the brackets, again using 'penny' washers.

Cycle mudguards are fitted to the suspension uprights using the special brackets provided. Adjust the headlamp brackets, shortening if necessary, to a satisfactory position.

(continued)

## NOSE CONE

Place the bonnet and nose cone in position, using a 'G' clamp on the front mounting bracket to retain the nose cone. Trim the front edge of the bonnet if required to obtain the best fit, ensuring that the Dzus fastener brackets on the chassis line up with the overlap between bonnet and nose cone.

Use the three mounting brackets to mark the position for the Dzus fasteners on the nose cone, drill to accept the Dzus fasteners and attach them with pop rivets. Remove the nose cone and drill pop rivet holes in the mounting brackets to attach the Dzus spring clips.

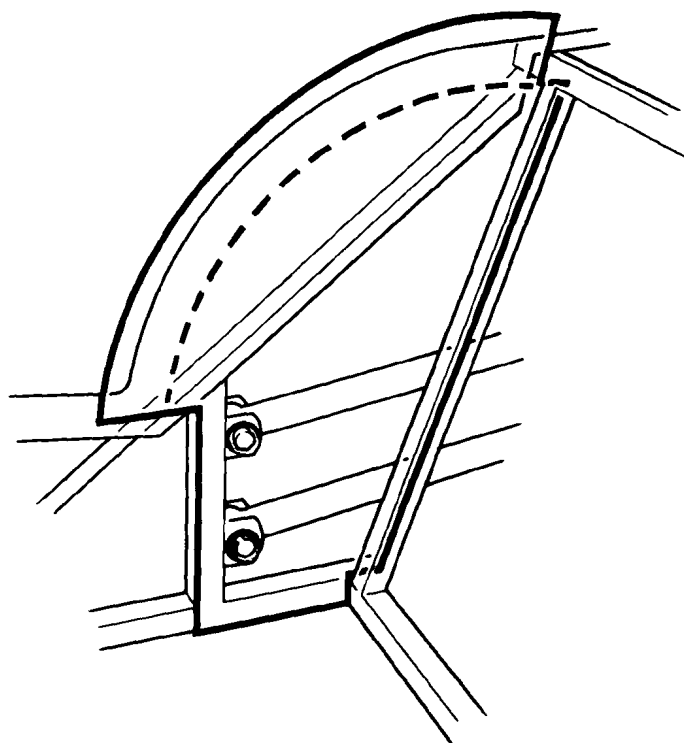
## BONNET

Some carburettors may require a clearance hole to be cut in the bonnet. In that event we suggest that the position is measured by placing a straight edge over the problem area, marking scuttle and nose cone, and measuring the distance from the scuttle.

The bonnet can then be fitted and the position marked using straight edge and tape. Remove the bonnet and start with a small hole, replacing the bonnet to check for accuracy. Mark bonnet and bodywork with the position for the bonnet catch attachment holes, 2" from the front and rear of the bonnet, and at height to suit the catches when tensioned. When using full length mudguards the front catch is best fitted with its lever upwards to avoid fouling the mudguards. Drill the holes and attach the catches.

## IMPORTANT

All bodypanels MUST NOT be stored, wrapped in polythene or similar substance, in a warm or damp environment.



## COCKPIT REAR QUARTER PANELS

Test the panels for fit and trim if required. Drill four equally spaced holes down the leading edge for the rear deflector panel rivets, and fix the quarter panels to the seatback and bodywork using rivets at 3" intervals. Position the deflector panels to give a close fit to the wheel arch, then mark, drill and fit them. *Don't forget the sealant.*

## TUNNEL TOP AND DASH PANEL

Cut the rear panel to accept the handbrake gaitor. Fix with rivnuts or self tapping screws at 4" intervals, preferably using a thin foam rubber strip to seal the joint.

Cut the front panel to accept the gear lever gaitor, remembering to centralise the gear-lever when measuring the position. Fit as for the rear panel, including fasteners in the overlap between panels.

Fix the dash panel to the scuttle using at least 5 evenly spaced bolts, 2BA or similar.

## EXHAUST SYSTEM

Fit the exhaust manifold and tighten to the engine. Check and, if necessary, correct the clearance where it passes through the bodywork.

Fit a perforated metal shield over the silencer and assemble to the manifold with a suitable exhaust clamp. Use the tailpipe bracket to identify the correct position for a rubber 'cotton reel' type mounting. Drill the bodywork and chassis bracket accordingly and attach the mounting.



## WINDSCREEN AND WIPERS

### WINDSCREEN

The windscreen pillars can be used as cast, polished, or painted, according to personal preference.

Use the dimples cast into the windscreen pillars as a guide to drill and countersink  $\frac{1}{4}$ " holes to suit the  $2 \times \frac{1}{4}$ " body mounting and  $3 \times \frac{3}{16}$ " screen mounting screws.

Attach the pillars loosely to the windscreen and carefully position the screen in the moulded groove, with the pillar bases parallel to the styling line, on the scuttle.

If side screens are to be fitted, we recommend that these are used to check and obtain the best screen angle before the mounting holes are drilled.

Drill two  $\frac{1}{4}$ " mounting holes in the bodywork on each side, using the screen pillars as a guide. Use bolts to temporarily retain the pillars in place.

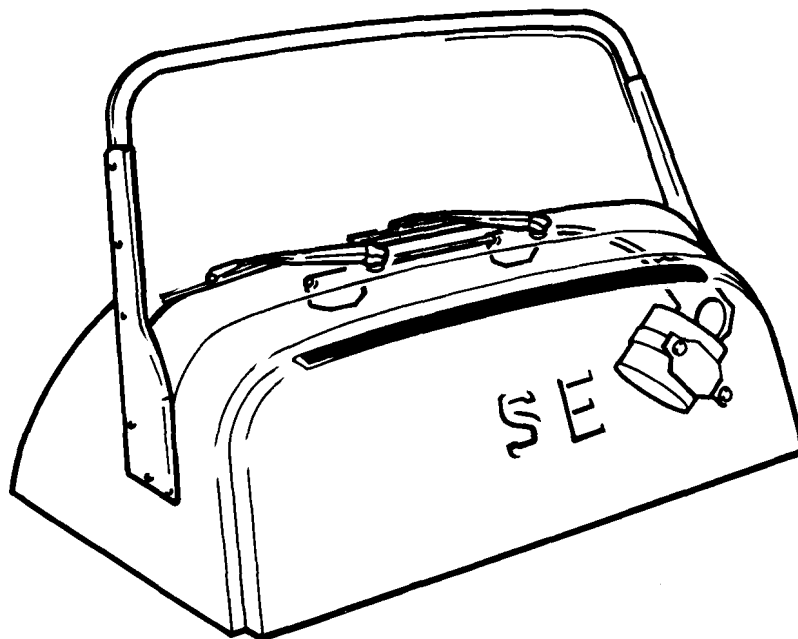
Fit the fibreglass fillet piece under the lips in the pillars and drill holes to suit the windscreen wiper boxes using the moulded bosses on the fillet as a guide.

Remove the screen assembly and position the wiper wheel boxes using the standard angled distance pieces. Place the fibreglass fillet piece (trimmed to length if necessary) under the lips in the screen pillars, and fit the assembly to the scuttle using  $\frac{1}{4}$ " countersunk bolts and penny washers. Tighten the pillar to screen surround screws and extrude a small bead of sealant into the gap between pillar and surround. Wipe off any excess sealant before it cures.

Fit the supplied "D" section edge protection trim to the top of the screen surround, between the screen pillars, using good quality contact adhesive.

### WINDSCREEN WIPERS

Fit the wheelboxes from the inside using angled spacers. Cut and flare the wheelbox connecting tube and a further 8" tube for connection to the motor. Gently curve the 8" motor tube until the motor can be bolted to the scuttle without strain. Fit and connect.



# SEATS, BELTS, LAMPS AND OTHER FITTINGS

## SEATS AND SEAT BELTS

## REAR VIEW MIRROR

fitted on the

## SPARE WHEEL CARRIER

a rear chassis rail, to take the carrier width. Drill through the retainers or raps passed through slots, to suit your

## FUEL FILLER

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neck hole.  
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## PLATES

number  
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## HOOD AND SIDE SCREENS

Secure the seven 2BA 'Tenax' male stud

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## LAMPS

iring diagram for connecti  
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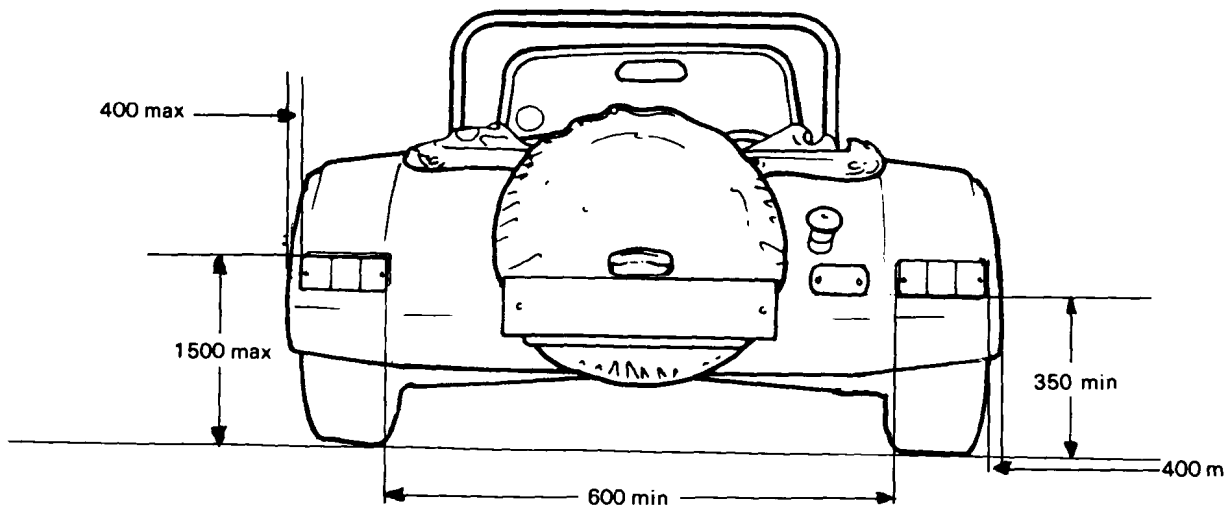
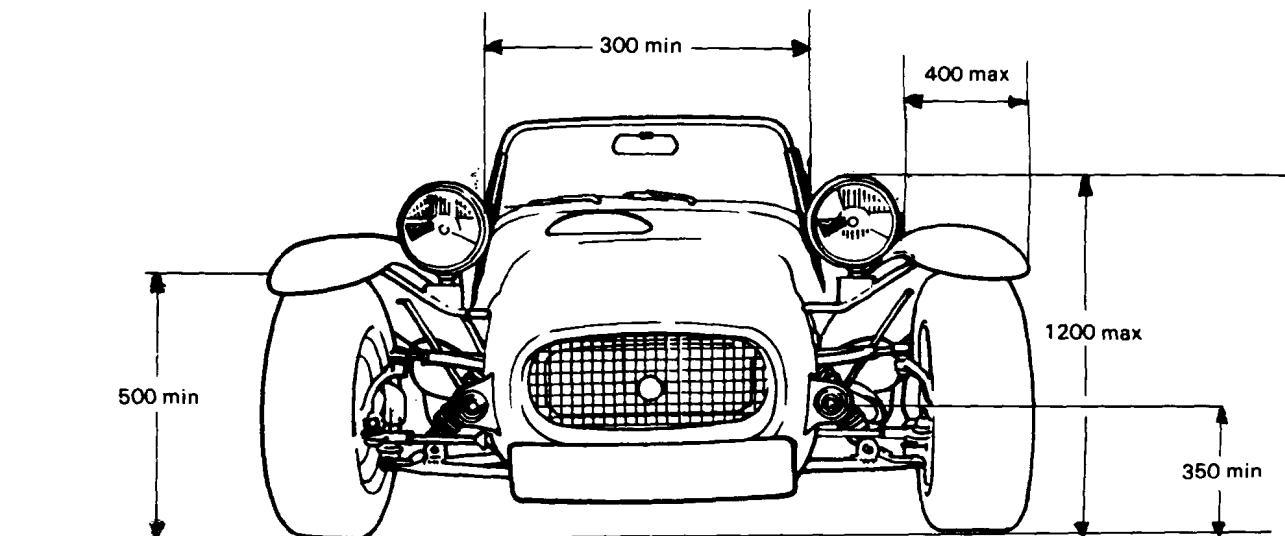
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**EXTRACTS FROM LIGHTING REGULATIONS**

Lamp	Colour	Inwards or forwards	Field of view		
			Outwards or backwards	up	down
Front sidelight	white	45°	80°	15°	15°
Headlight	white or yellow	N/A	N/A	N/A	N/A
Rear sidelight	red	80°	45°	15°	5°
Rear fog	red	25°	25°	5°	5°
Rear reflectors	red	30°	30°	15°	5°
Side reflectors	amber	45°	45°	15°	5°
Side indicators	amber	N/A	5° to 60°	15°	5°
Indicators	amber	45°	80°	15°	5°
Stop	red	45°	45°	15°	5°

**DIAGRAM OF ALLOWABLE LAMP POSITIONS**

All dimensions in millimetres



## FINISHING, CHECKS, SETTING-UP AND DATA

### FINISHING AND CHECKING THE CAR

Lower the car to the ground, set shock absorbers to lowest rating (if adjustable) and adjust the ride height (see DATA)

Tighten all suspension mountings and check that every fitting, hose, wire, pipe and cable is secure.

Fill and bleed the brake system, check rear brake, handbrake and clutch adjustment.

Ensure that brake hoses cannot foul wheels, tyres or chassis members at any suspension or wheel position.

Top up or fill all remaining oil and fluid points, start and warm up the engine and check for leaks throughout.

### SETTING-UP

The table below sets out the optimum figures and reasonable variations for setting up the car. The caster angle is non-adjustable, and included for reference only. The expert may wish to reset camber and toe-in to suit personal preferences; we suggest that the figures below are used as a starting point. The ideal ride height will depend upon the proposed use of the vehicle, and the type of engine and/or sump fitted. Measure ride height to the lower chassis rails at the front and to the lower seatback rail at the rear. Adjustable shock absorbers are worth a little experimentation to suit your needs and expected road conditions. *We advise against extreme combinations of soft front and hard rear settings.* Ensure that ball joints and rod ends are locked in a central position, ie. not rotated. Failure to observe this could result in high wear or even breakage.

For accurate results ballast or lower the car to the normal, loaded, ride height before setting camber and toe-in. Adjust toe-in equally on each side at the front and, on the *SEI* (independent rear suspension) model only, use string or a straight edge between front and rear wheels to equalise the toe-in on each side at the rear.

### DATA

SETTING	OPTIMUM	VARIATION	YOUR NOTES
<b>FRONT:</b>			
<b>TYRE PRESSURES</b>			
eg. 185 x 60 x 13 tyres	20 psi	+5psi to -3psi	.....
RIDE HEIGHT	5"	+1" to -2"	.....
CAMBER	0° 0'	+0' to -30'	.....
TOE IN	1/16"	+1/16" to 0"	.....
CASTER	5° 30'	+30' to -30'	.....
<b>REAR, ALL MODELS:</b>			
<b>TYRE PRESSURES</b>			
eg. 185 x 60 x 13 tyres	20 psi	+5psi to -3psi	.....
RIDE HEIGHT	5 1/4"	+1" to -2"	.....
<b>REAR, WESTFIELD SE Beam axle models ONLY:</b>			
<b>NON-ADJUSTABLE</b>			
<b>REAR WESTFIELD SEI Independent rear suspension models ONLY:</b>			
CAMBER	-0° 15'	+15' to -15'	.....
TOE IN	1/32"	+1/32" to -1/32"	.....

**YOUR WESTFIELD IS NOW READY FOR ACTION. IF OUR INSTRUCTIONS HAVE BEEN FOLLOWED, YOU HAVE A VERY SPECIAL MOTOR CAR - PREPARE YOURSELF FOR AN EXPERIENCE OF QUALITY!...**

# VDO Service Information

## RATIO TEST FORM

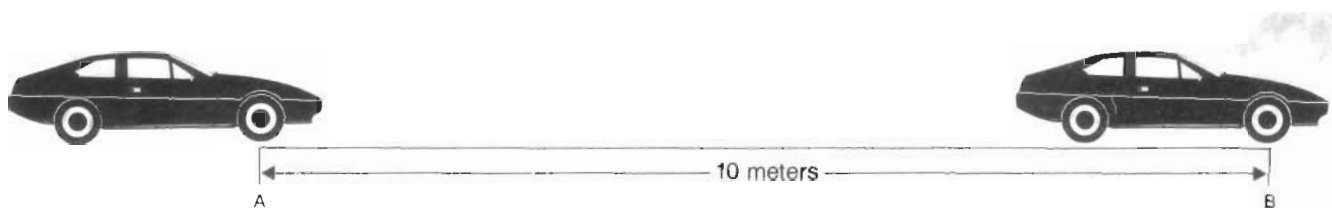
In most cars the speedometer calibration is based on a certain tyre and rear axle ratio. These factors were used by the speedometer manufacturer to establish the proper combination of gears and worms inside the speedometer head.

Some car manufacturers are using different tyres and/or rear axle ratios as optional equipment. If this is the case, the proper speedometer ratio has also been established by the car manufacturer and in many cases is known to us. If the tyres or rear axle of your car have been or will be altered by you, or if any other changes have been made that are not listed as original or factory approved equipment, the ratio has to be adjusted.

## TEST

To determine the new ratio, please follow the test outlined below:

1. Check if the tyre pressure is the same as advised by the factory.
2. Measure a distance of 10m (32'9 $\frac{3}{4}$ ").
3. Unscrew the speedometer cable at the speedometer head.
4. Mark the inner core with a paper flag or paper clip.
5. Push or drive the vehicle over the entire distance, counting the full and partial turns of the cable.
6. Before you start counting, mark the part of the vehicle that is exactly over the beginning of the line. Stop counting, when the marked portion of the vehicle is exactly over the end of the line.



7. Repeat this procedure three times and jot down the results.

1. Test \_\_\_\_\_ full \_\_\_\_\_ partial turns
2. Test \_\_\_\_\_ full \_\_\_\_\_ partial turns
3. Test \_\_\_\_\_ full \_\_\_\_\_ partial turns

**RATIO**

# CONSTRUCTION MANUAL



**Westfield Sports Cars Limited**

Unit 1, Gibbons Industrial Park, Dudley Road, Kingswinford, West Midlands, DY6 8XF  
Telephone: (0384) 400077 Fax: (0384) 288781

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		Wheels and tyres.	94

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Written by: J.F. Grosvenor, Technical Manager, Westfield Sports Cars Limited.

## TOOLS YOU WILL NEED

2BA Open ended.  
7/16" AF Open ended.  
1/2" AF Open ended.  
5/8" AF Open ended.  
11/16" AF Open ended.  
3/4" AF Open ended (SEi only).  
7/16" AF Ring.  
1/2" AF Ring.  
11/16" AF Ring.  
1/8" AF Socket (SEi only).  
3/4" AF Ring (SEi only).  
Torque wrench 1/2 SQ Drive.  
30mm Socket  
5/16" Socket  
3/4" Socket

## OTHERS

Hacksaw.  
Machine vice.  
Rivnut fixing kit.  
2 'G' clamps.  
Hide hammer.  
Circlip pliers.  
Drift 15/16" x 2".  
1 3/4" Hole cutter.  
2" Hole cutter.  
Set of screwdrivers.  
5/16" Round file.  
1" Flat file.  
Electric drill.  
Tape measure.  
Metal cutters.  
Pop rivet gun.  
6 Rivet clamps.  
5/32", 3/16", 1/4", and 5/16 drill bits.



## COMPONENT LIST SE BASIC KIT

Space frame chassis.  
Spare wheel carrier.  
Adjustable top wishbones.  
Lower wishbones.  
Engine mounts.  
Pedal box, mastercylinder and clutch cable. accelerator cable and pedals.  
Brake pipe kit.  
Aluminium panels. (including floor pan, seat back tunnel, scuttle, and dash).  
Nut and bolts. (Nuts and bolts supplied are for fitment of suspension parts only).  
Washers, pop rivets  
Chassis plate.  
Wing brackets.  
Trailing arms.  
Panard rod.  
Rear body section.  
Front wings.  
Nose cone.  
Indicator pods.  
Bonnet.  
Scuttle.  
Screen fillet.  
Splash guards.  
Wing piping.  
Boot box.  
Badges.

The SE is suitable to accept Ford engines.

- a) 1100, 1300, 1600, Crossflow "Kent".
- b) 1600 and 2000, Overhead Cam Pinto.
- c) 1600 CVH, XR2 and Mk 3-4 Escort.

## COMPONENT LIST SEi BASIC KIT

Space frame chassis.  
Spare wheel carrier.  
Adjustable top wishbones.  
Lower wishbones.  
Engine mounts.  
Pedal box, mastercylinder, clutch cable, accelerator cable and pedals  
Brake pipe kit.  
Aluminium panels (including floor pan, seat back, tunnel top, scuttle and dash).  
Nuts and bolts. (Nuts and bolts supplied are for fitment of suspension parts only).  
Chassis plate.  
Wing brackets.  
Differential carrier. (Bearings fitted)  
Rear uprights. (Bearing fitted)  
Drive shafts.  
Outer splines .  
Inner splines.  
Hubs.  
Hand brake cables.  
Universal joints.  
Top rear wishbones. } Nuts & bolts, bushes Ampeps included  
Lower rear wishbones. }  
Gear lever extension kit. (SEi Wide only)  
Rear body section.  
Front wings.  
Nose cone.  
Indicator pods.  
Bonnet.  
Scuttle.  
Screen fillet.  
Splash guards.  
Wing piping.  
Boot box.  
Badges.

The SEi / SEi Wide is suitable to accept Ford engines.

- a) 1100, 1300, 1600, Crossflow "Kent"
- b) 1600 and 2000 OHC "Pinto"
- c) 1600 CVH, XR2 and Mk 3-4 Escort.

# WIDE BODIED SEiGHT

The SEiGHT is only available as a complete rolling chassis using all new components.

Powder coated chassis / suspension.

Aluminium panels fitted.

Pedal box, mastercylinder.

Brake pipes fitted.

Aeroquip flexible hoses.

Wiring loom installed.

Rack fitted with brackets.

Front suspension i.e. front uprights, disc, calipers,  
front wishbones, ball joints, track rod  
ends, shock absorbers, springs.

Rear suspension i.e. New Sierra differential fitted, CV driveshafts,  
rear uprights, disc brakes, calipers,  
wishbones.

Disc brakes rear supplied and fitted.

Handbrake and cable fitted.

Tubular exhaust and silencers.

Bodywork in place, not fitted but ready for fitting.

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## CHASSIS INFORMATION

The chassis can be purchased in bare metal or epoxy powder coated. It is advisable to have the chassis epoxy coated as this finish is far superior to painting, it is far more durable and corrosion resistant. It is also advisable to purchase a pair of chassis stands as these make working on the chassis easier.

## PAINTING THE BARE METAL CHASSIS

Pre preparation is very important at this time, as it affects the overall appearance and chassis life. Prior to priming and painting the chassis, make sure it is de greased and keyed using 80 grit emery cloth or a fine shot blast.

## FITTING ALUMINIUM PANELS

Place the aluminium panels on the chassis and secure using 2 'G' clamps. Drill a 4.1 mm hole through the aluminium and chassis, secure using a rivet clamp. Repeat this at approximately 15" intervals, working from the centre of the panel outwards. Drill the panel at 2" centres, remove the panel, de-burr drill holes and put to one side, making a note of where they fit

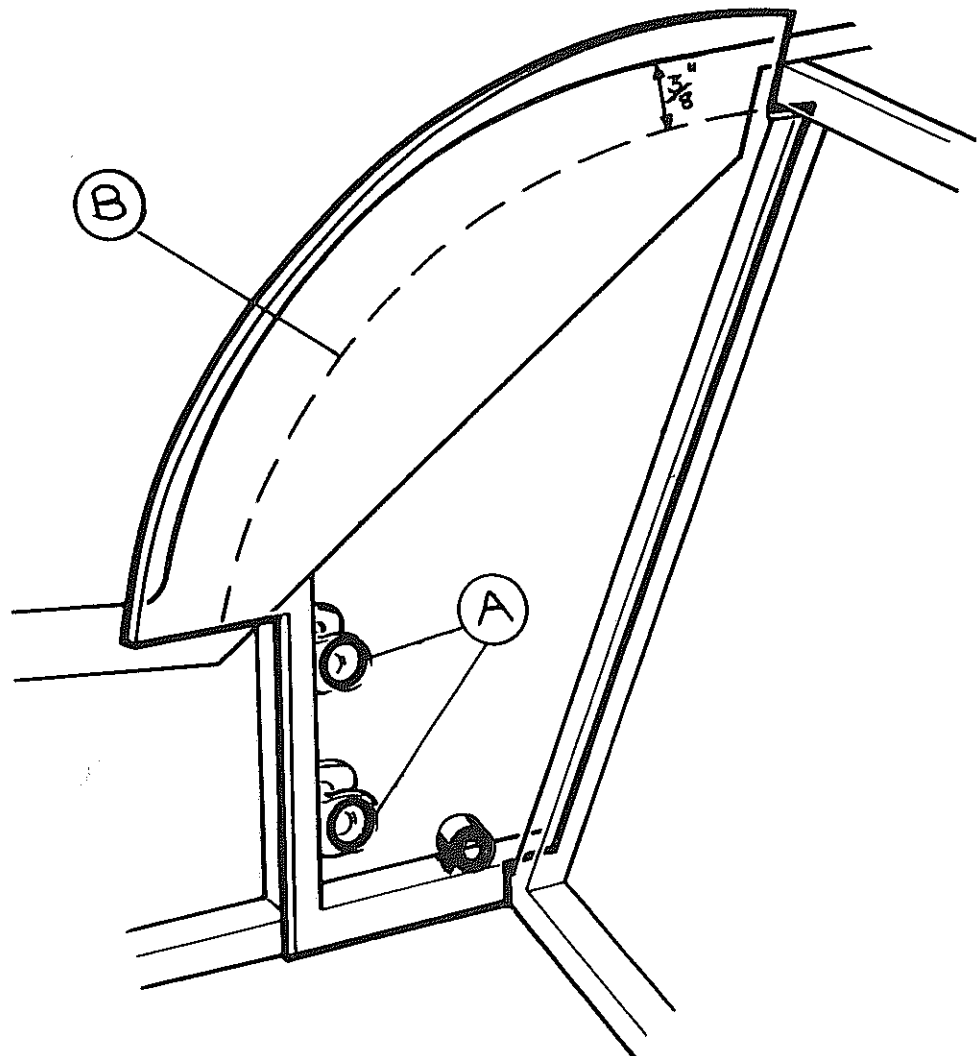
## SE QUARTER PANEL FITTING

Place rear quarter panel in the cockpit and mark out the holes (A) for trailing arms, drill with  $\frac{7}{16}$  clearance drill as shown in diagram 1 below. Drill a clearance hole for the seat belt anchor point, put to one side so that the radius (B) can be marked out when the body is fitted later.

### SEi / SEi WIDE

Fit the rear quarter panel as for the SE, noting that there are no trailing arms fitted to the SEi / SEi Wide.

Diagram 1



When fitting the aluminium panels to the chassis use the recommended silicone sealant, except on the top of the transmission tunnel. When applying the silicone, care should be taken to cover the drill holes, to ensure a good seal. N.B. Fit panels while the silicone is still wet.

## FITTING TRANSMISSION TUNNEL SIDE PANELS

Before fitting the transmission tunnel side panels N.B. the hole sizes and dimensions as shown in Diagram 2.

### Dimensions for transmission tunnel, speedometer and filler plug holes.

4 speed gearbox - 2 Litre	A=9" , B=2 1/4" , C=2 1/4" , D=4"
5 speed gearbox - Type 9 Sierra	A=17" , B=2 1/4" , C=2 1/2" , D=3 1/2"
5 speed gearbox - MT75.	A=18" , B=2 1/4" , C=2 1/2" , D=3 1/2"

Diagram 2

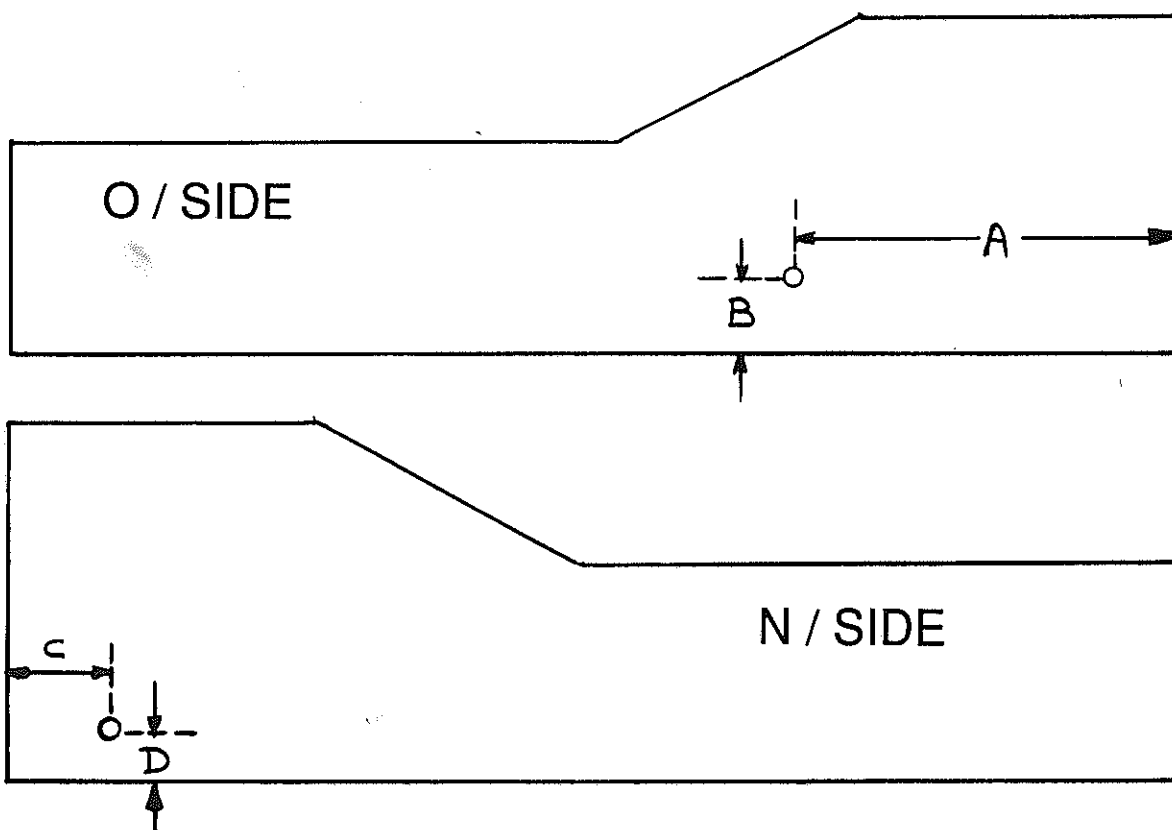
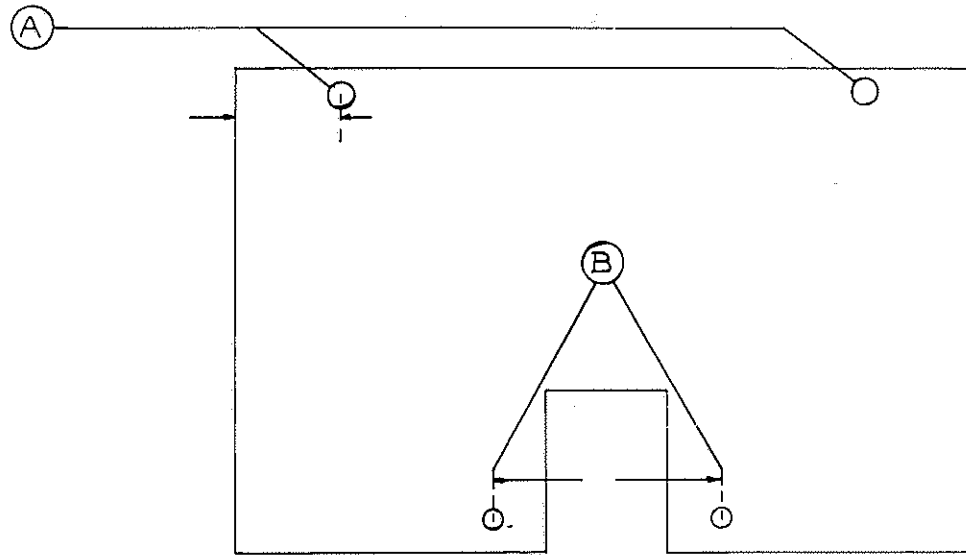


Diagram 3



**Dimensions (A) for shock absorber mounting holes**

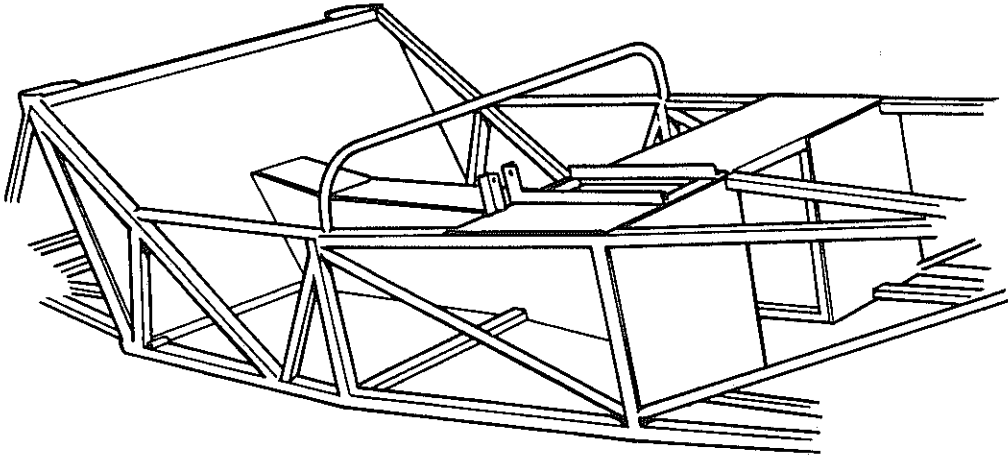
Standard	SEi	Escort diff	= 6 <sup>3</sup> / <sub>4</sub> ".
Wide	SEi	Escort diff	= 8 <sup>1</sup> / <sub>4</sub> ".

Dimensions (B) for lower wishbone holes: All models 10<sup>1</sup>/<sub>2</sub>".

Fit the transmission tunnel sides first as shown in diagram 4, figure (A), making sure you cut a hole 2" diameter for the gearbox filler plug on the near side panel and a 1<sup>1</sup>/<sub>2</sub>" diameter hole for the speedometer cable on the offside panel, as shown on page 7, diagram 2. Next fit the seat back, figure (B), please note, the SEi and SEi wide have to have four holes cut out as dimensioned in diagram 3 above. On the SEi rear panel, flex slightly in the middle to fit in the chassis, fit the bulkhead front panels, figure (C). Bend the panel, fitted to the same side as the engine bay diagonal, to enable it to be fitted. These panels should be fitted before the floor panels to allow easy access for pop rivet gun. Fit scuttle panels, figure (D). Now turn the chassis over on the stands, making sure that it is protected from damage. Fit the floor panels, figure (E). N.B. Fit the two rear floor panels (E) first, remembering to omit the rivet holes from the front edge. Then fit the front floor panels, overlapping the rear panels.

# CHASSIS WITH PANELS FITTED

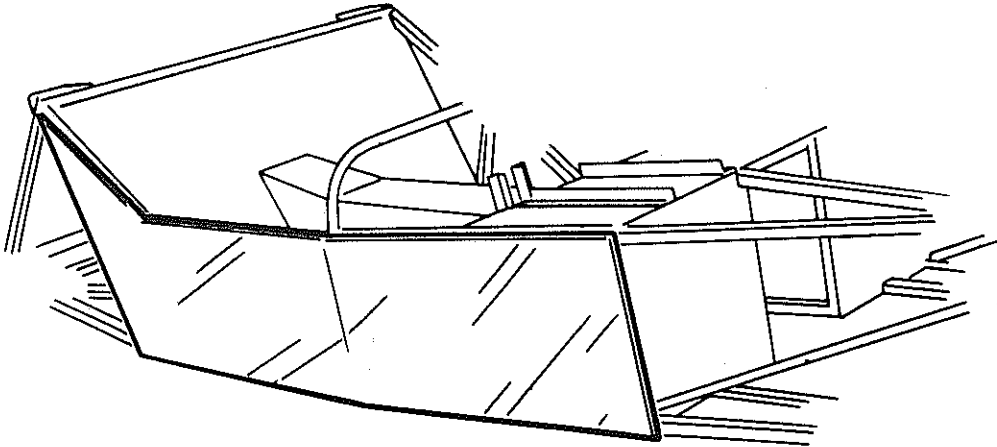
Diagram 5



## OPTIONAL CHASSIS EXTERIOR PANELS

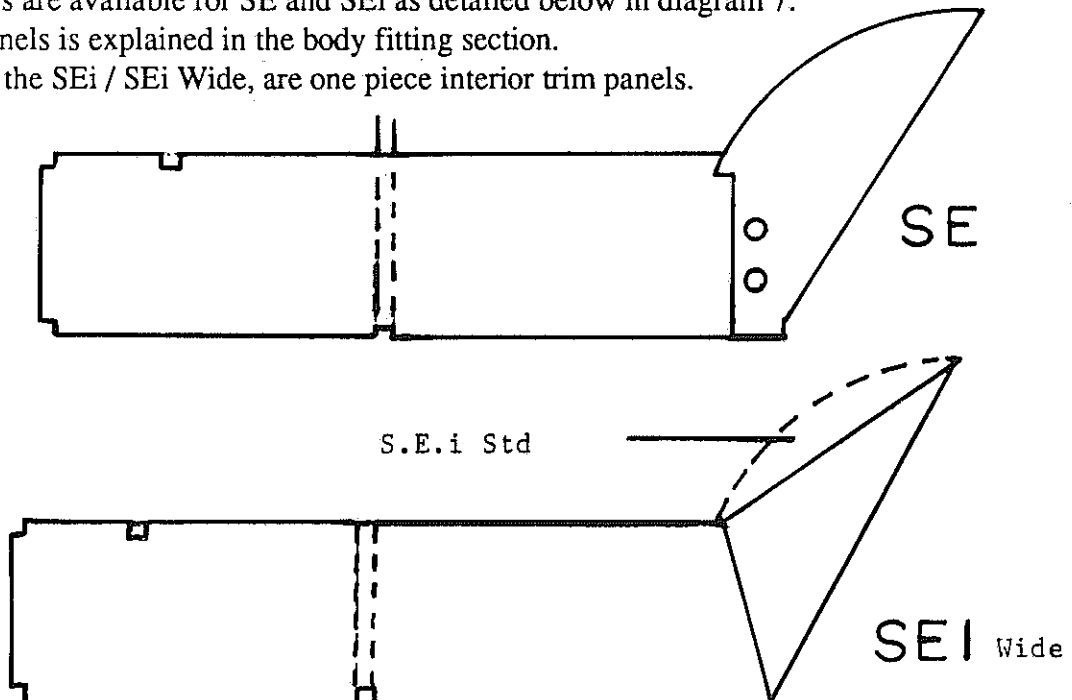
Exterior chassis panels are available as an optional extra to fully enclose the side of the chassis, as shown in diagram 6.

Diagram 6



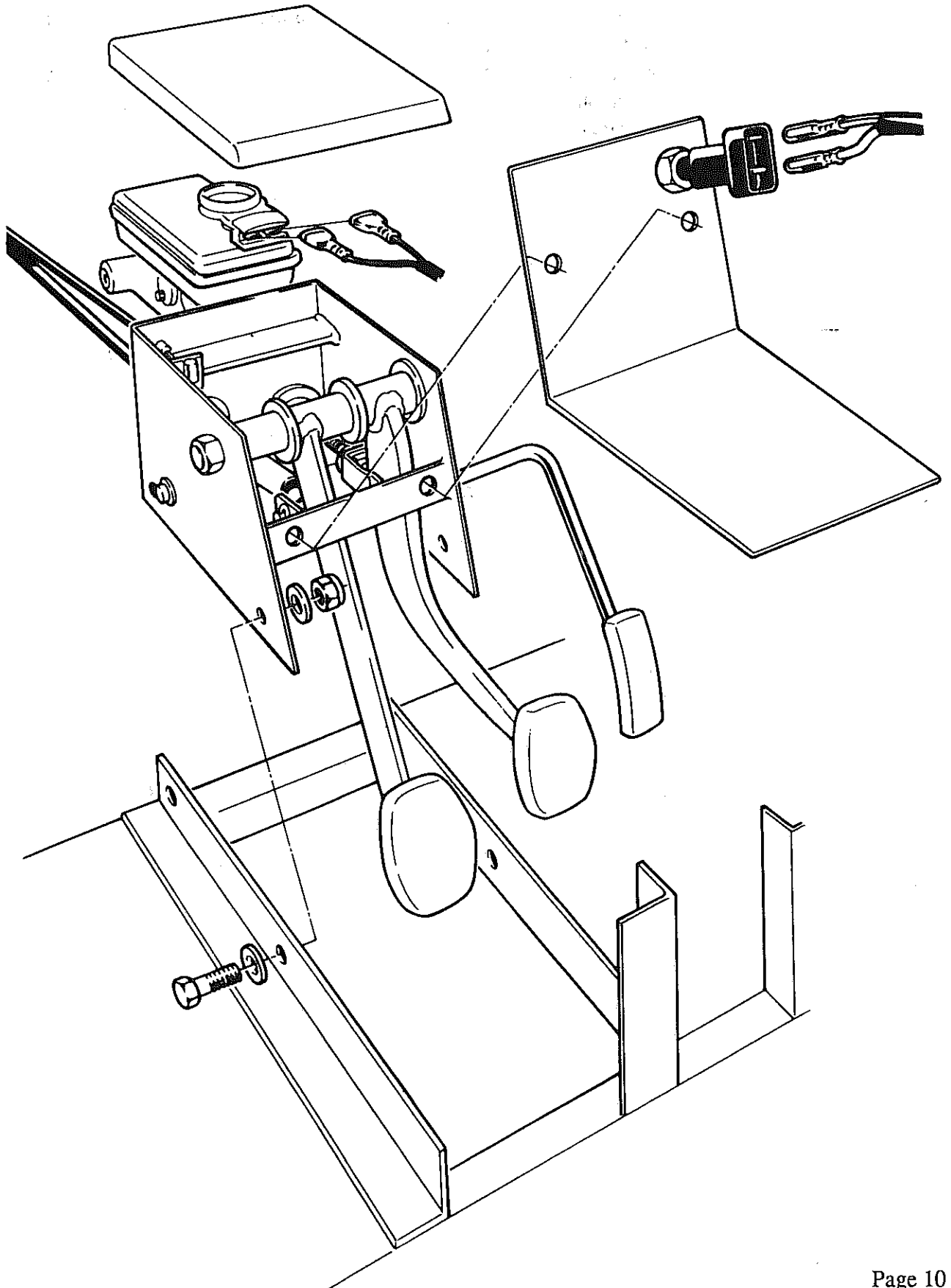
Interior trim panels are available for SE and SEi as detailed below in diagram 7.  
Fitting of these panels is explained in the body fitting section.  
Also available for the SEi / SEi Wide, are one piece interior trim panels.

Diagram 7



# FITTING THE PEDAL BOX, BRAKE MASTERCYLINDER AND BRAKE PIPES

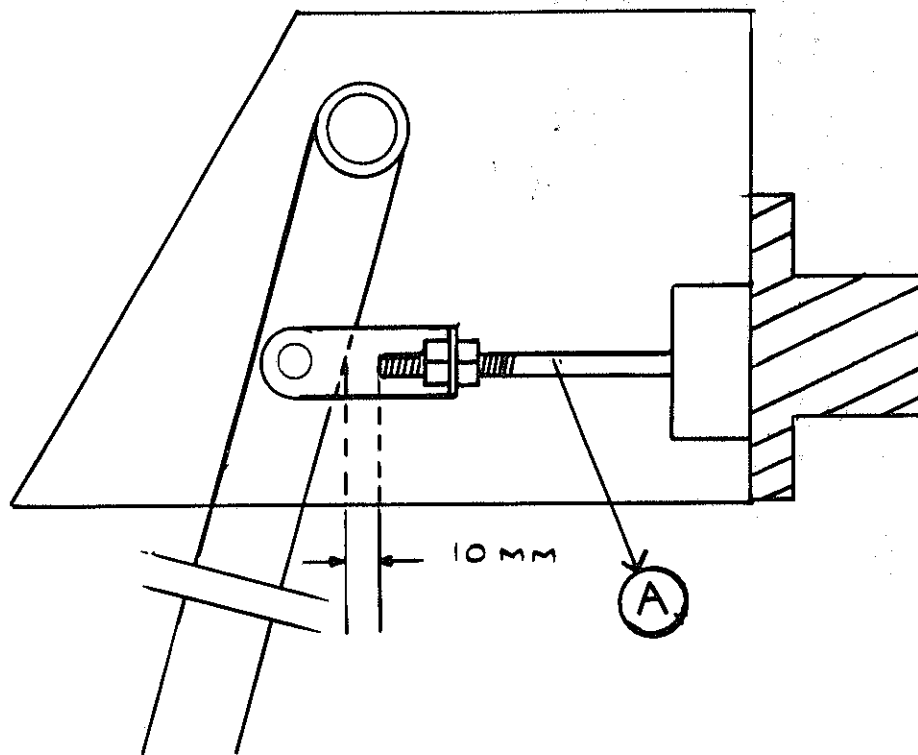
Diagram 8.





Position the pedal box in the chassis between the pedal box guides, line up the front edge of the pedal box with the bulkhead face. Drill 4 holes, 2 at the front and 2 at the rear of the pedal box, 5" apart using  $\frac{5}{16}$ " diameter clearance drill. Secure using M8 x 20mm or  $\frac{5}{16}$ " x  $\frac{3}{4}$ " bolts with nyloc nuts, taking care not to foul the throttle linkage on the front bolts. With the pedal box in place adjust the brake pedal to the distance required N.B. the minimum dimension between the brake pushrod and the brake pedal is 10mm as shown in diagram 9. To do this you adjust the mastercylinder pushrod nuts to get the position required. Ensure the threaded pushrod does not foul the brake pedal, when fully depressed. Shorten pushrod if necessary. To set the clutch pedal to the required height, adjust the outer cable at the bellhousing, using two 17mm open ending spanners. The standard throttle pedal lever should be suitable for most application. If a shorter throttle pedal travel is required a special pedal box top and throttle pedal lever is available from Westfield.

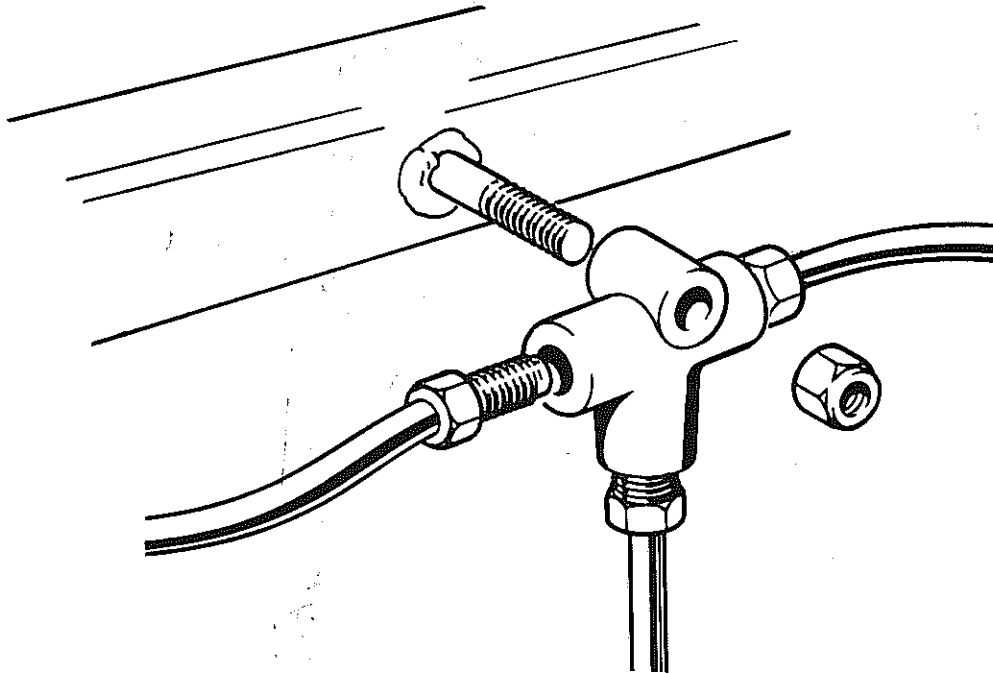
Diagram 9



## FITTING BRAKE PIPES.

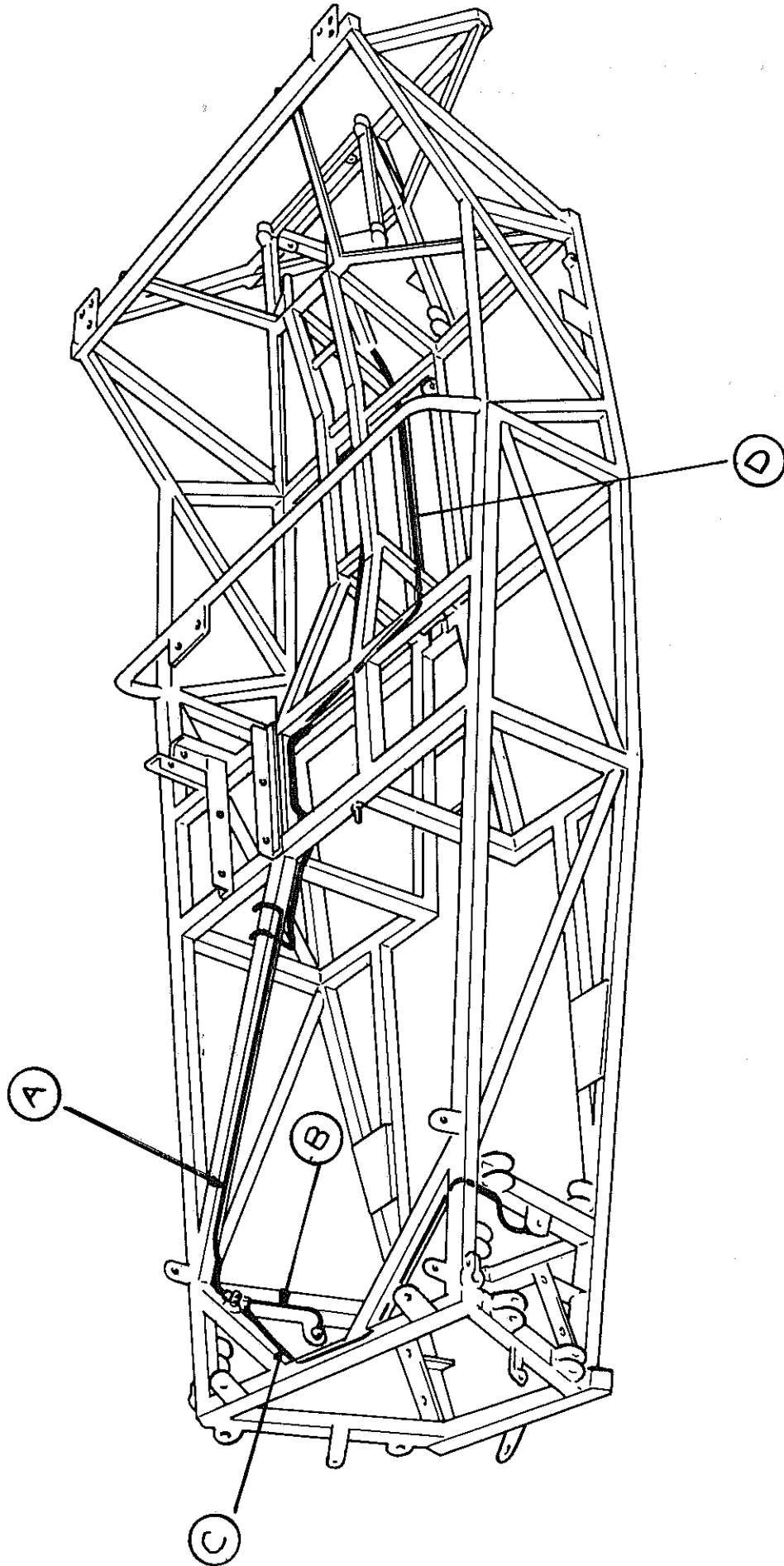
Now that the brake pedal has been adjusted attach the three-way brake pipe junction to the stud in the engine bay making sure that the thread is free from damage, as shown in diagram 10. Secure with  $\frac{1}{4}$ " UNF nyloc nut.

Diagram 10.



Following diagram 11, page 13 fit brake pipe (A) from the mastercylinder outlet marked P (primary) to the three way junction taking the brake pipe along the engine bay brace. Fit brake pipe (B) from the junction down the nearest chassis upright to the hose bracket on the offside. Fit brake pipe (C) around the chassis brace to the near side chassis upright hose bracket. On the Pinto chassis the three-way brake pipe junction is situated in the centre of the front top chassis rail. Secure the brake pipes to the chassis using  $\frac{3}{16}$ " "P-Clips" at approximately 10" intervals as shown in diagram 12, page 14. Now fit the rear brake pipe (D) to the mastercylinder outlet marked S (secondary), taking it into the transmission tunnel down the diagonal tunnel bracing member and along the lower chassis member and fit to rear junction or union as appropriate.

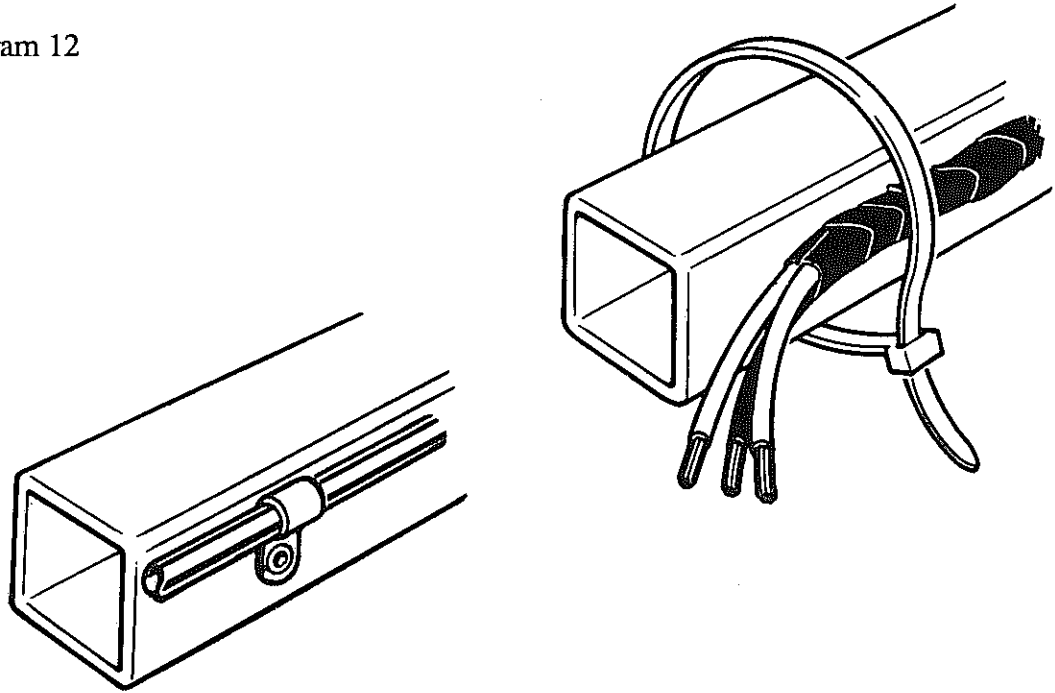
Diagram 11



## BRAKE PIPE AND LOOM METHOD OF ATTACHMENT

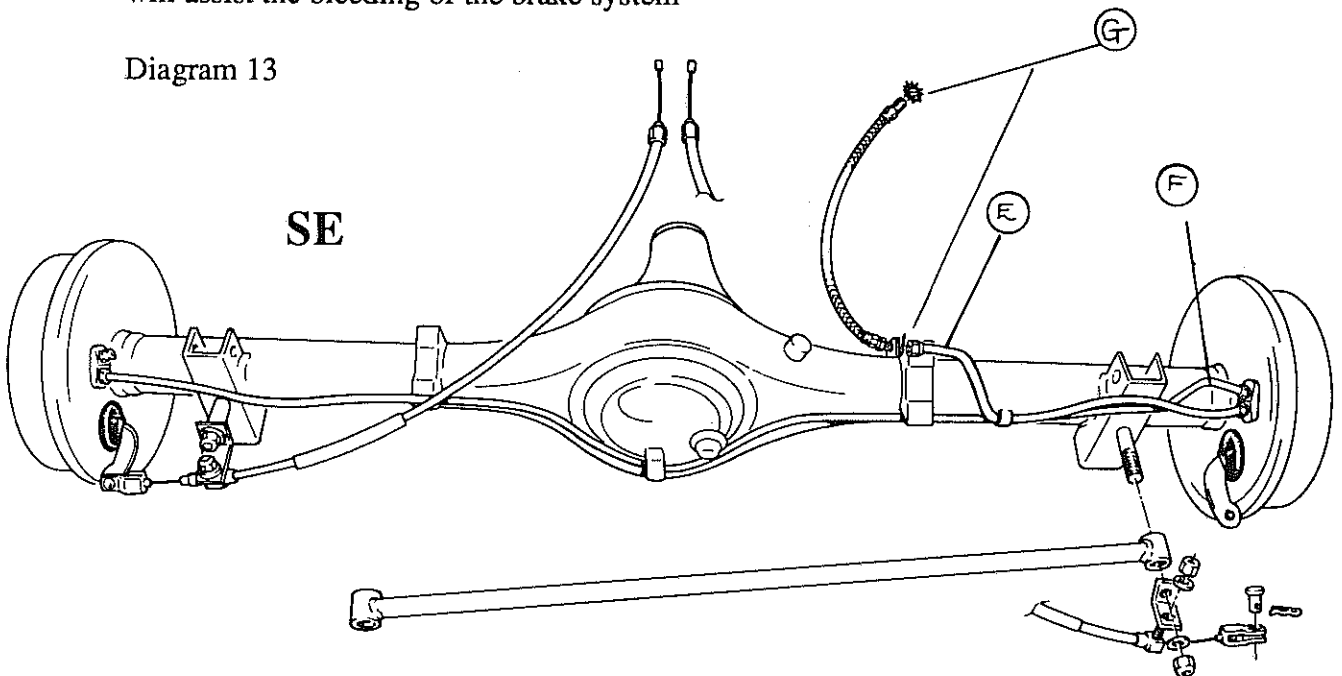
Shown below in diagram 12 are two methods of attaching the brake pipes and wiring loom. The P-clip is secured with a 1/8" pop rivet. The wiring loom is secured using tie raps, care must be taken not to trap the brake pipes with the tie raps.

Diagram 12



When fitting the rear brake pipe to the SE chassis as shown in diagram 13, connect the brake pipe to the brake hose using a shake proof washer (G), which needs to be attached to the brake hose bracket. Now fit brake pipe to rear axle, making sure that the brake pipe (E) into the offside wheel cylinder is lower than the brake pipe (F) which goes across the axle to the near side wheel cylinder again going into the lower connector with the bleed nipple above it, this will assist the bleeding of the brake system

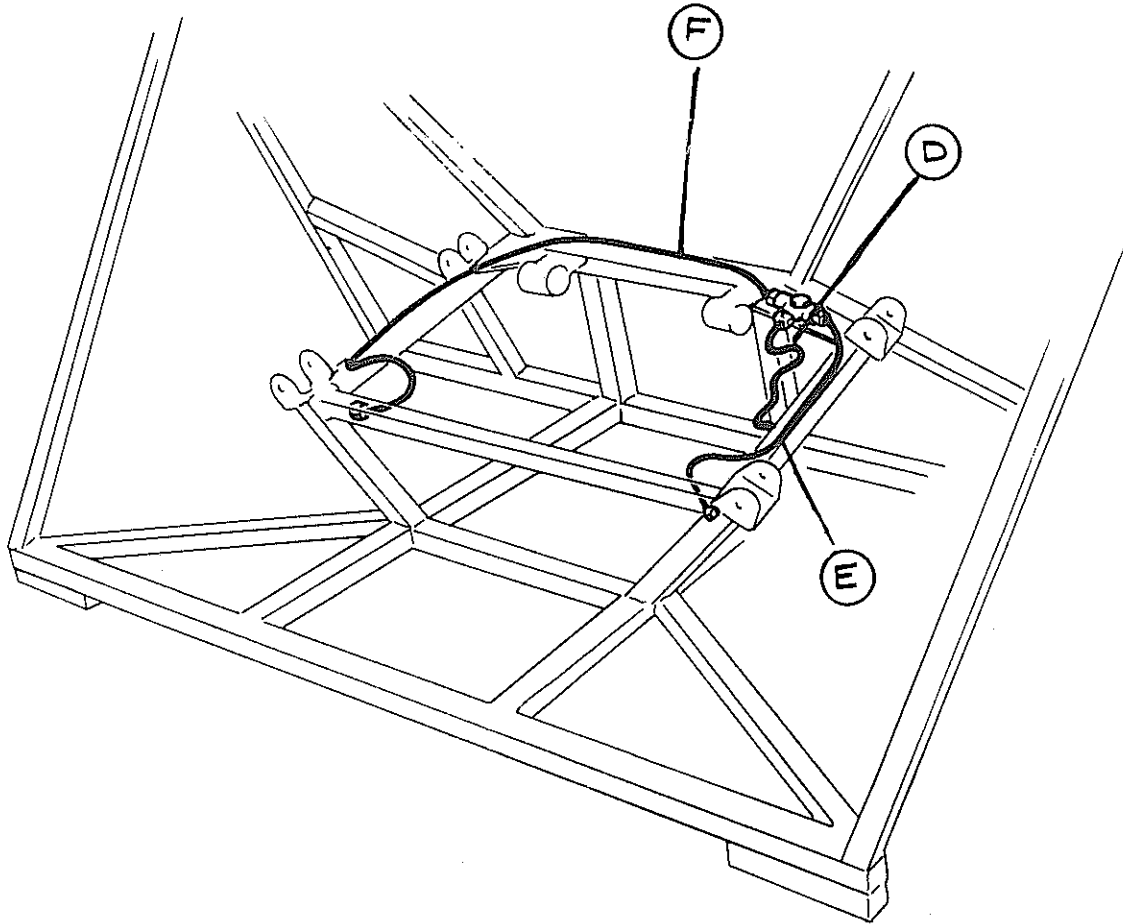
Diagram 13



## BRAKE PIPE FITTING REAR SEi / SEi WIDE

Attach brake pipe (D) to three-way junction as shown in diagram 14 below. Attach brake pipe (E) from the junction along the top right hand wishbone mounting rail to the hose bracket which is to the rear of and below the rail, attach brake pipe (F) from the junction along the transmission tunnel cross member and the top left hand wishbone mounting rail to the left hand hose bracket. Secure brake pipes at regular intervals as described previously with plastic "P-clips", page 14, diagram 12.

Diagram 14



When making the bends in the brake pipes make sure you have a smooth radius and the brake pipes do not foul any nuts, bolts or steering mechanism.

It is advisable to purchase brake bending tool.

To prevent corrosion do not use metal clips or allow direct contact with other metal components.

## FITTING FUEL PIPE

Using  $\frac{5}{16}$ " bore fuel pipe, run the fuel line from a point near the tank outlet or electric fuel pump, along the chassis rails as in the relevant diagram below, securing it to the chassis with plastic "P-clips" at regular intervals as shown on page 14, diagram 12. To prevent corrosion do not use metal clips or allow direct contact with other metal components.

If using the mechanical fuel pump run the fuel line from the tank to the fuel pump securing with "P-clips".

Connect the  $\frac{5}{16}$ " bore fuel pipe using an approved fuel hose as supplied by Westfield.

The fuel pipe is available from Westfield.

Diagram 15 (Crossflow C.V.H.).

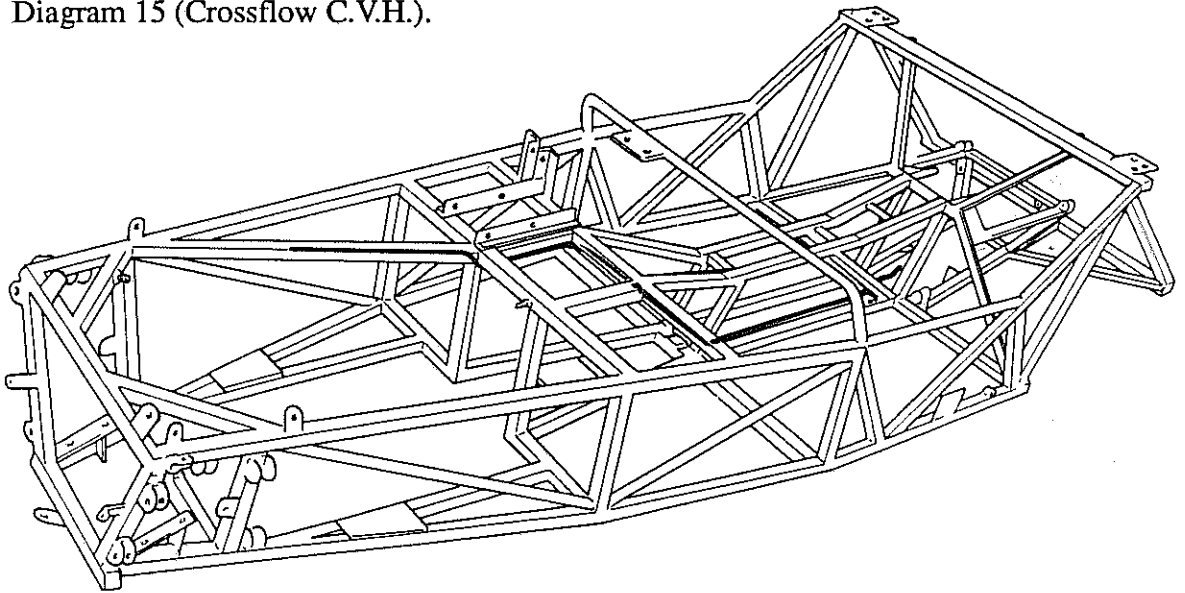
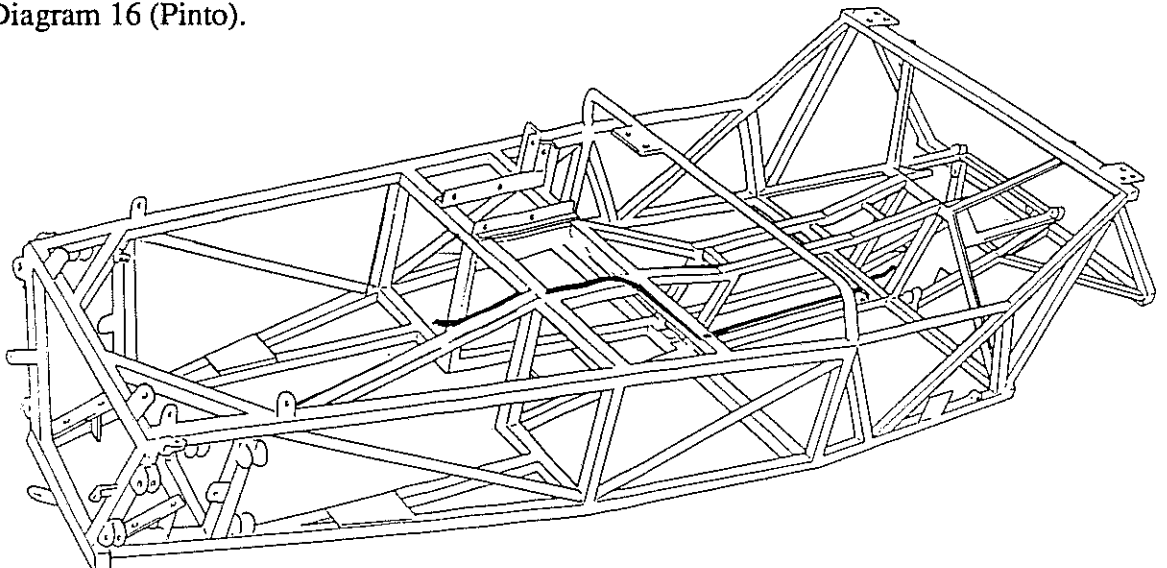


Diagram 16 (Pinto).



## FITTING THE WIRING LOOM

The Westfield wiring loom is a one piece wiring loom with an integral fuse box, hazard warning switch and relays. The connection to the fuel gauge, oil pressure gauge, temperature gauge and ignition switch are block connectors.

Lay the wiring loom out and roughly position it around the chassis as shown in relevant diagram, using nylon tie raps. When securing, make sure not to foul the brake pipes with the tie raps, as shown on page 14 diagram 12.

Diagram 17 (Crossflow)

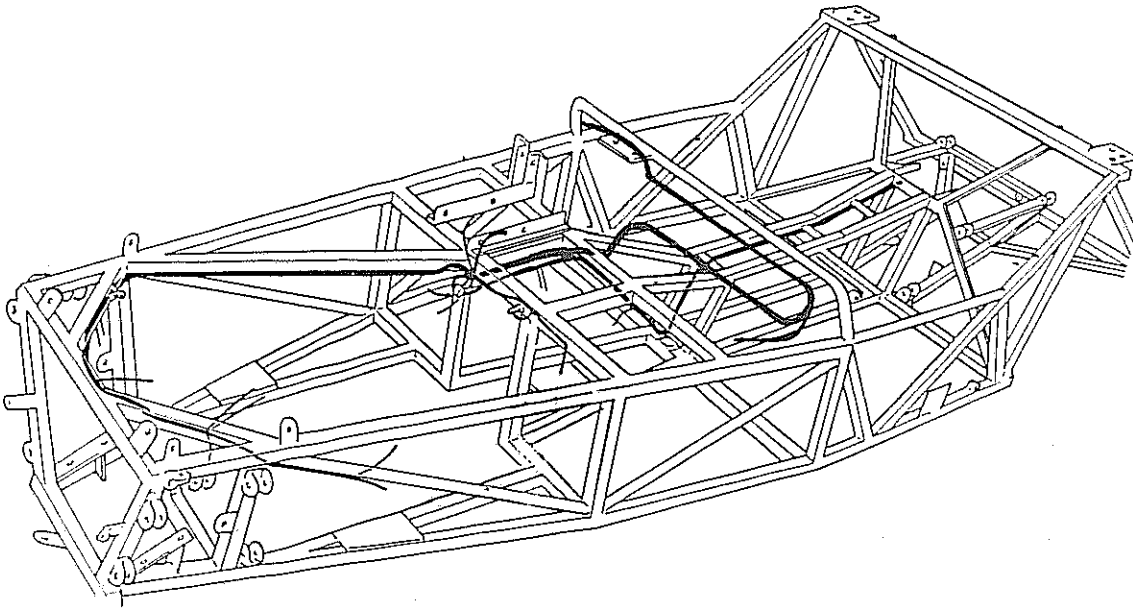


Diagram 18 (PINTO).

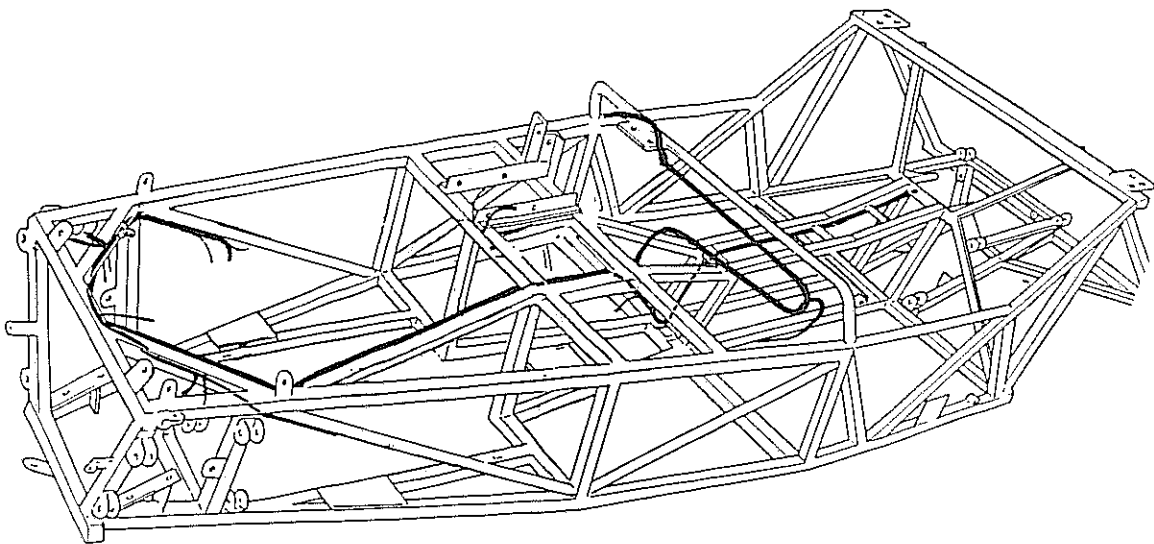
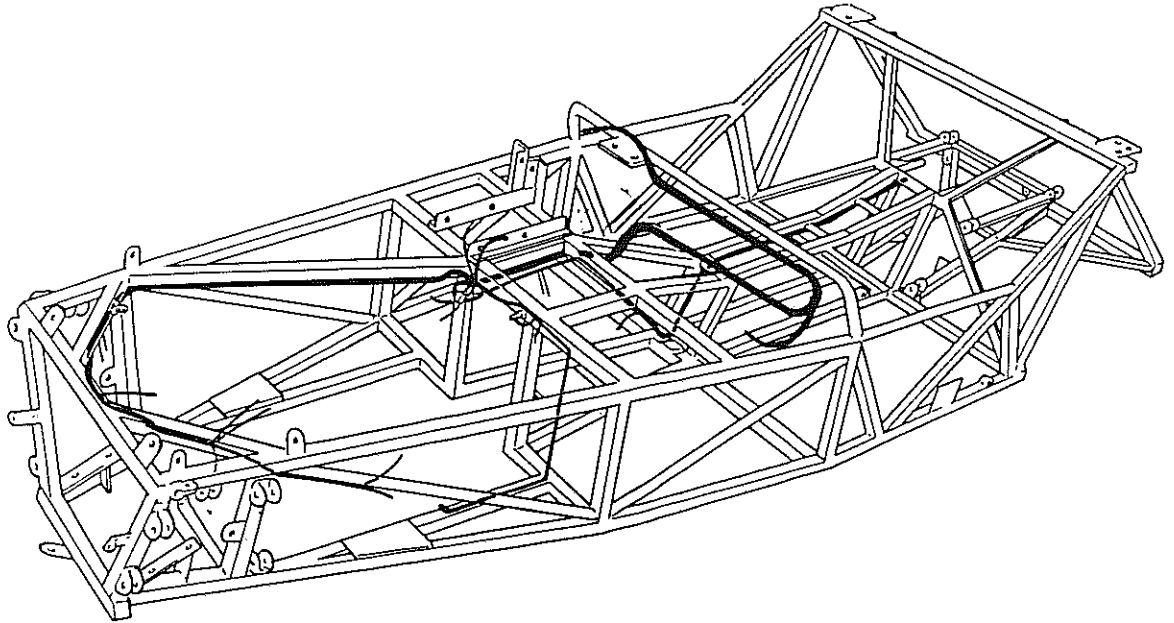


Diagram 19 (CVH)



Using the wiring diagram and wiring colours to identify the final destination of each wire, place them into position and tie rap. Mount the fuse box on top of the scuttle in the centre of the tunnel. To do this cut a 2" diameter hole in the aluminium plate. This needs to be 3 1/2" from the centre of the hole to the front of the bulkhead. Now disconnect the wires from the fuse boxes. Pass the wires through from the tunnel and reconnect to the fuse boxes following diagram 20 below, using the grommet to seal the hole. It is advisable to number the wires to assist in the re-connection.

Diagram 20.

DETAILS OF WIRE COLOURS

W	G
10 AMP	
W	G
15 AMP	
W	G
10 AMP	
W	G
10 AMP	
W	G
10 AMP	
W	G
7.5 AMP	

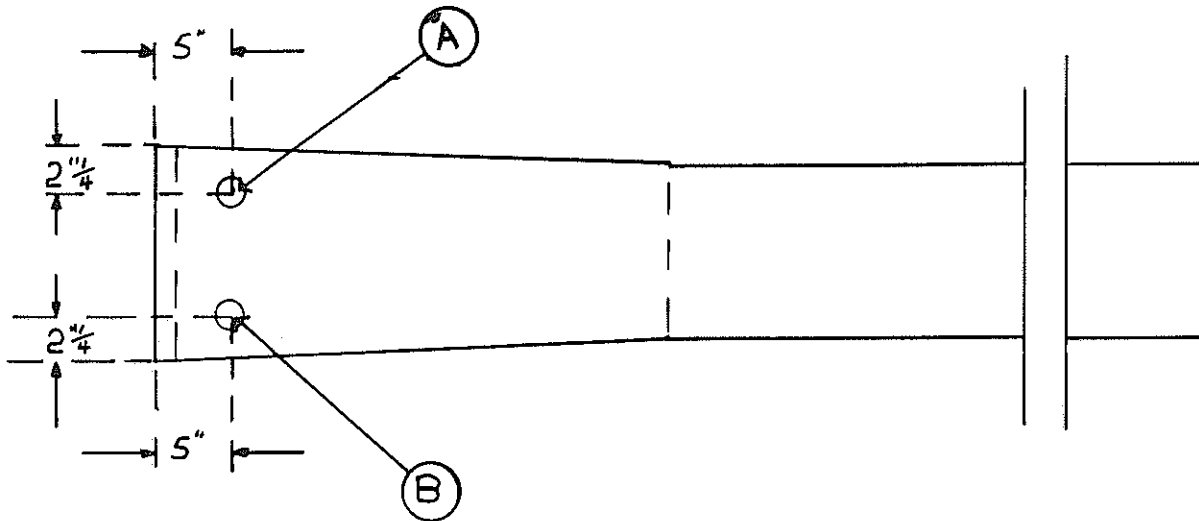
R	R
10 AMP	
R	R
10 AMP	
UR	UP
15 AMP	
UW	US
15 AMP	
N	P
10 AMP	
N	
FREE	



Now cut a hole  $1\frac{3}{4}$ " in diameter in the tunnel top as shown in diagram 21. To enable you to feed the loom through the hole to the instruments etc.

Diagram 21.

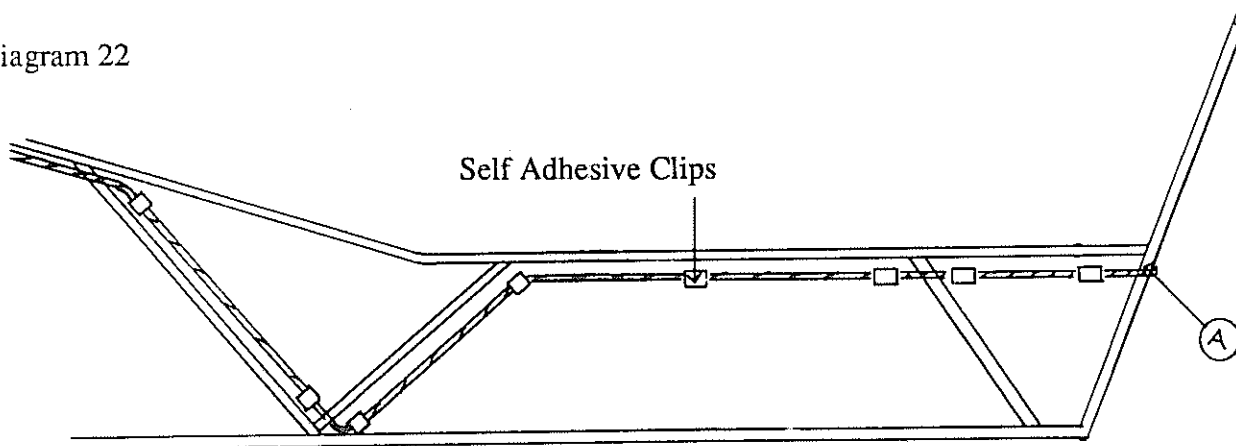
Figure (A) shows dimensions for Crossflow and CVH.  
Figure (B) shows dimensions for Pinto.



Do not fix this panel in at the moment. Pass the interior part of the loom through this hole and fit the grommet into place.

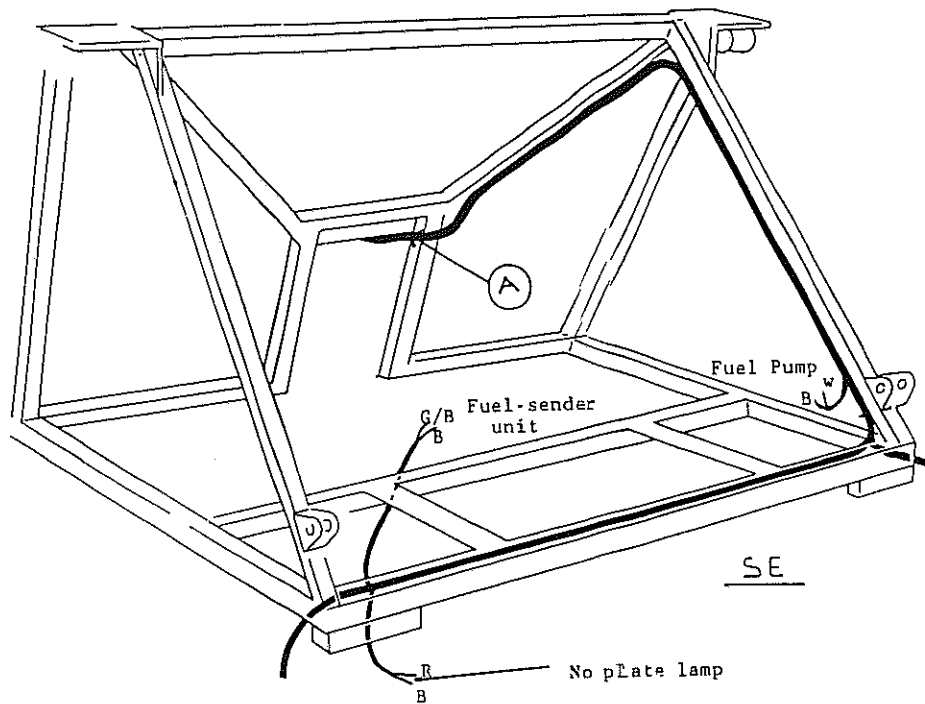
Proceed to fit the rear part of the wiring loom. To do this you must clean the aluminium with a cleaning solvent on the area where you have to fit the self adhesive clips, that hold the wiring loom to the side of the aluminium tunnel, as shown in diagram 22. Put 1" foam tape between chassis and wiring loom to protect the loom figure (A).

Diagram 22



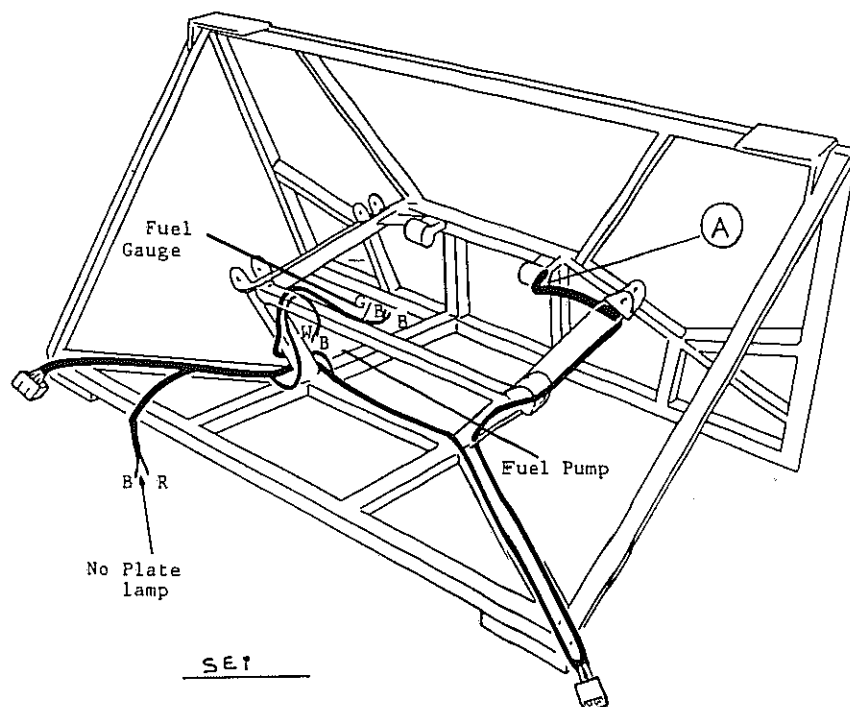
Fit the wiring loom to the rear section of the SE chassis following diagram 23.  
Connections shown below are detailed in the wiring loom section.

Diagram 23.



Fit the wiring loom to the rear section of the SEi and SEi wide following diagram 24.

Diagram 24.

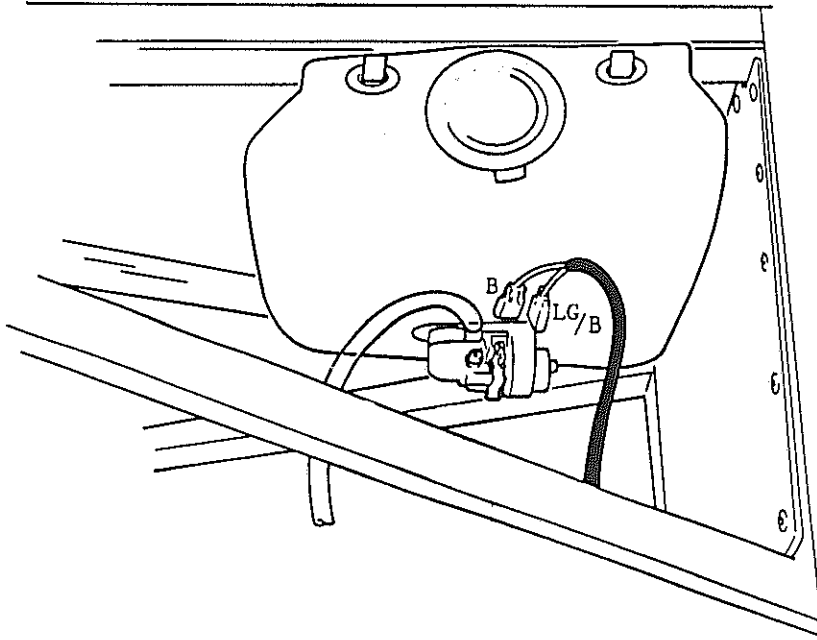


## FITTING WASHER BAG.

Fit the washer bag using "P" clips to the chassis and connect the two lucar spade connectors to the washer motor as shown in diagram 25 below. N.B. Pinto washer bag is fitted to the near side to avoid heat from the exhaust.

The washer pipe will be connected when fitting the body work at a later date.

Diagram 25



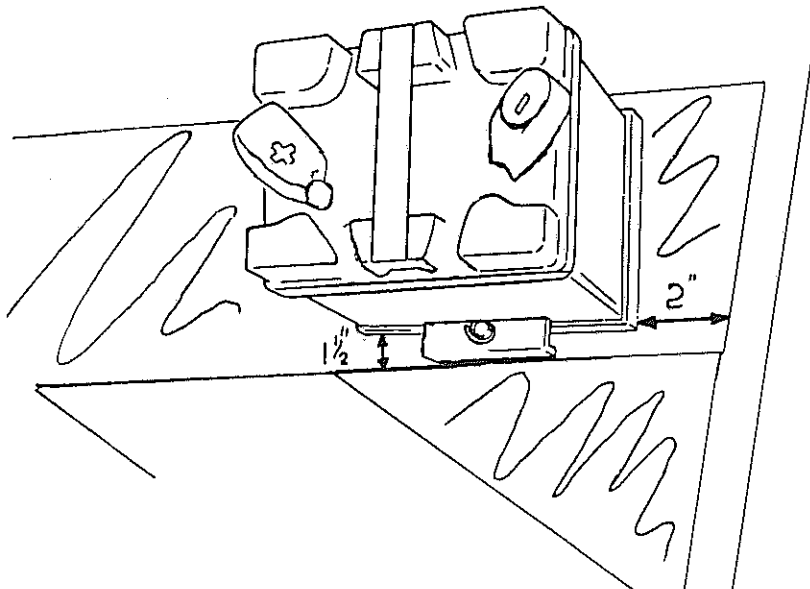
## FITTING THE BATTERY

Westfield Sports Cars Ltd recommend the use of a Exide Torque Starter battery as these are fully sealed and do not suffer from acid leakage which could affect the aluminium panels.

When purchasing the battery, it is supplied with a battery mounting tray and clamp.

When fitting the battery, mount battery tray onto the bulkhead using the dimensions given below on diagram 26. Drill hole through the battery clamp and aluminium top bulkhead, securing with  $\frac{5}{16}$ " x  $1\frac{1}{2}$ " bolt and washer with nyloc nut.

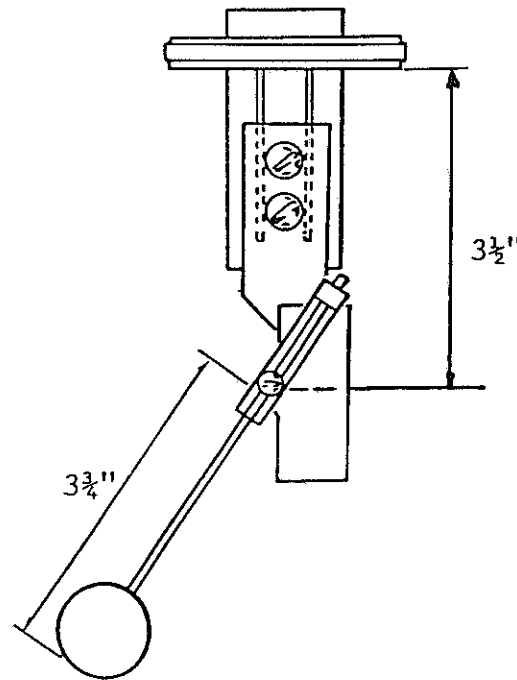
Diagram 26



## FITTING THE FUEL TANK SENDER UNIT

When fitting the VDO fuel tank sender unit it has to be shortened to the dimensions shown in diagram 27 below, using a hacksaw to cut through the plastic strip.

Diagram 27



Using diagram 30 page 24 measure  $4\frac{3}{4}$ " from the front edge of the fuel tank to the centre of the sender unit hole. Measure  $14\frac{1}{8}$ " SE and 16" SEi - SEi wide, from the near side of the fuel tank to the centre of the fuel sender unit hole and cut a hole 60mm diameter as shown in diagram 30.

When fitting the VDO fuel tank sender unit you must make sure that the lower clamping ring is in line with the two rubber sealing rings and the top clamping ring, so that all the holes are in line. To do this the lower clamping ring cut out must line up with the groove on the peripheral edge of the rubber rings and the centre punch mark on the top clamping ring, as shown in diagram 28 and 29, page 23.

Now proceed to fit the tank unit into the fuel tank. NB. One of the fixing screws is longer than the other four screws. This screw is used for the initial fitment of the fuel tank unit. To do this you assemble the unit and locate the long screw in the hole as shown in diagram 28 and 29, page 23. All screws must be fitted with the fibre washers provided.

Diagram 28

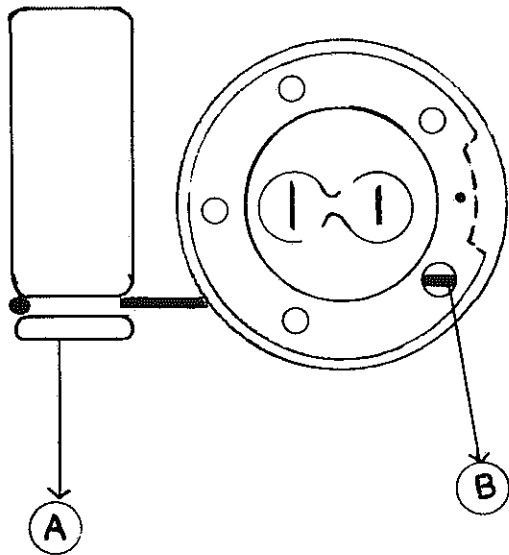
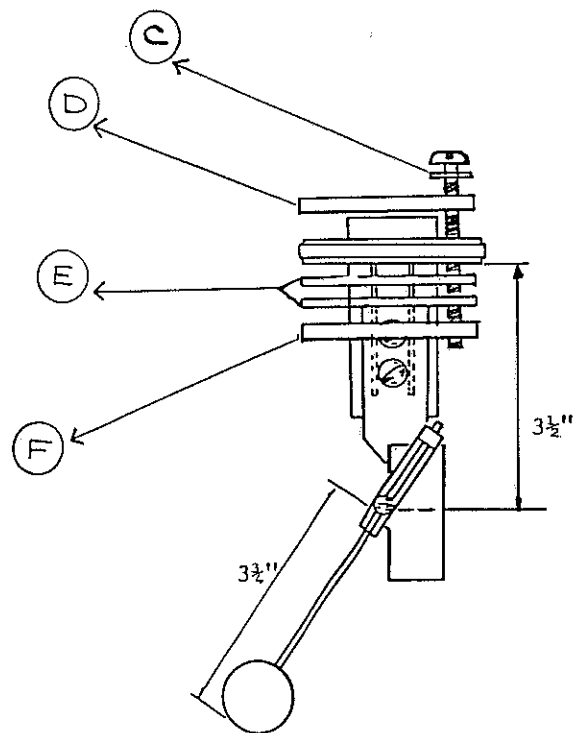


Diagram 29



A- Tank unit float.

B- Long locating screw.

C- Fibre washer.

D- Top clamping plate.

E- Rubber sealing ring

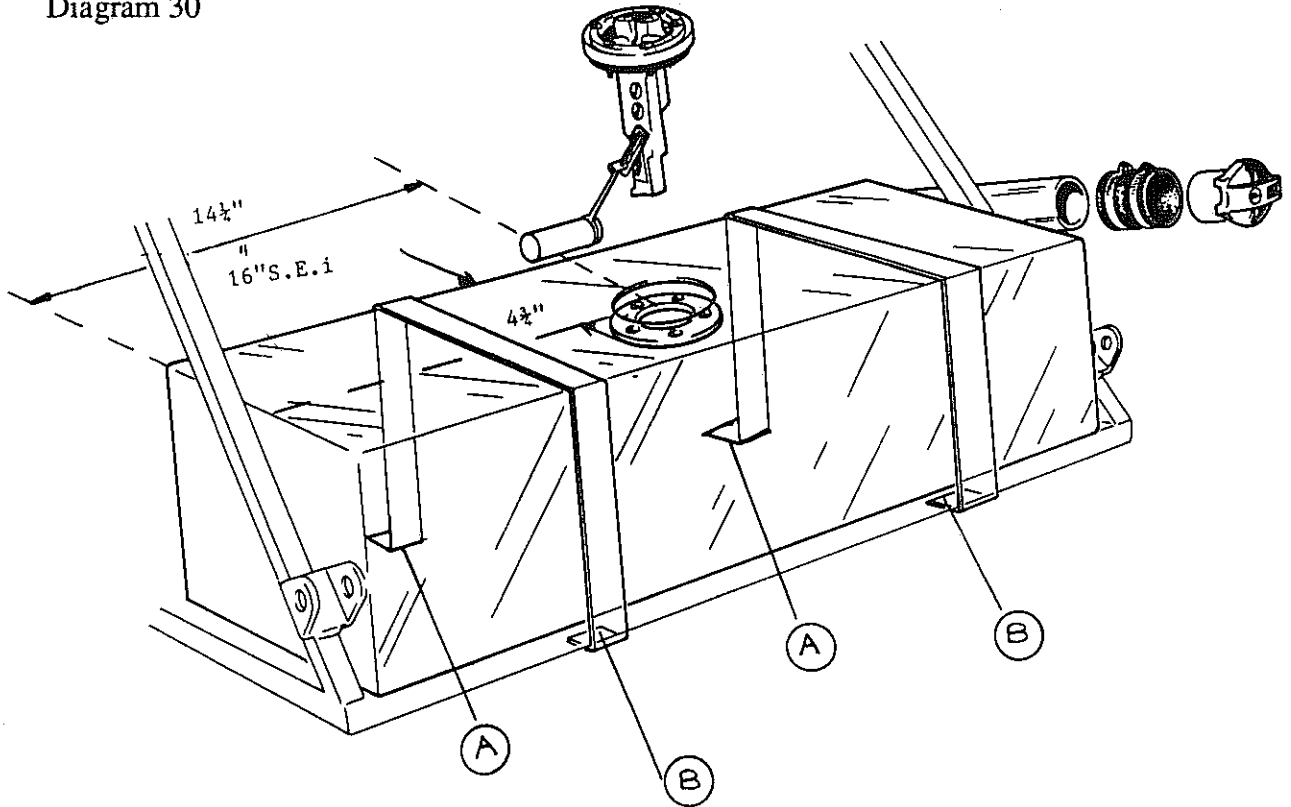
F- Lower clamping plate

Insert the lower clamping ring and lower rubber ring into the tank by using the cut out in the lower ring to enable it to enter the fuel tank. Clamp the fuel tank between the two rubber sealing rings, tighten the long screw until the lower ring is close enough to enable you to fit the four remaining screws, taking care that the float of the tank sender unit is facing towards the front of the fuel tank. i.e. in the deepest part of the tank. Tighten all screws to secure sender unit.

## FITTING THE FUEL TANK

Place the Westfield aluminium tank onto the rear of the chassis and position as shown in diagram 30, equalizing the distance between the chassis tubes and the tank sides.

Diagram 30



Take the tank straps and put a 90 degree bend 1" from the end, figure (A) diagram 30. Secure to the chassis with two pop rivets or  $\frac{7}{16}$ " x 1  $\frac{1}{2}$ " bolt with washer and nyloc nuts. Bend the tank straps firmly over the petrol tank to obtain shape.

Lift up tank straps, remove fuel tank and fix self adhesive foam tape to the chassis rails that support the fuel tank, also to the inside of the tank straps. Refit fuel tank and straps and secure to chassis using pop rivets as shown in diagram 30 figure (B) taking care not to drill through the chassis tube into the petrol tank.

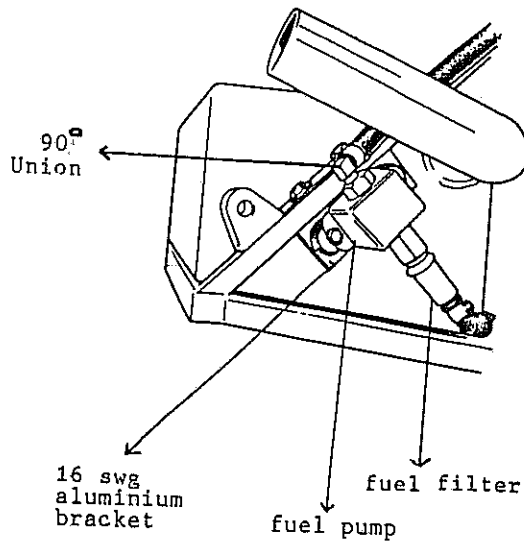
The reason for the foam tape being fitted last is to increase the tightness of the tank straps

## FITTING THE FUEL PUMP (ELECTRIC)

### SE.

If you decide to use an electric fuel pump it is recommended that you fit a Facet fuel pump and fitting kit obtainable from Westfield. To fit the fuel pump, first bend a supporting bracket made from 16 SWG aluminium, mount to the chassis frame with pop rivets or rivnuts, then fit the fuel pump using the fitting kit as shown in diagram 31 below.

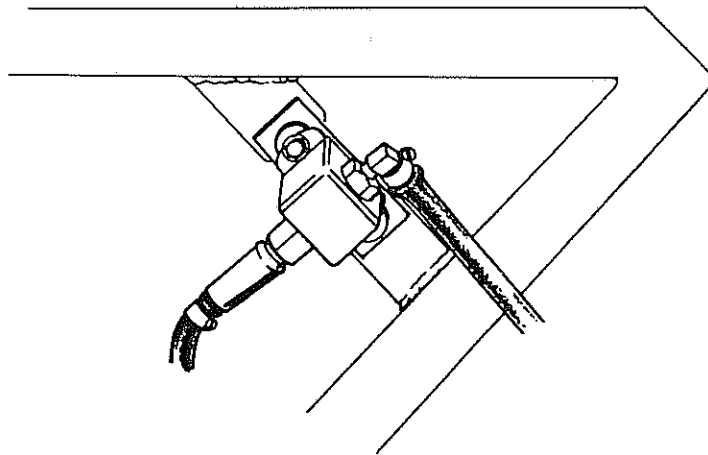
Diagram 31



### SEi / SEi WIDE

Mount the fuel pump to the chassis frame with the fitting kit as shown in diagram 32 below, to the brackets welded in place in the near side of the rear frame.

Diagram 32.



Connect approved fuel hose from fuel tank to filter side of the fuel pump, and then from the 90 degree union to the fuel pipe, securing the hoses with jubilee clips.

# FITTING THE FRONT SUSPENSION

## FRONT UPRIGHTS.

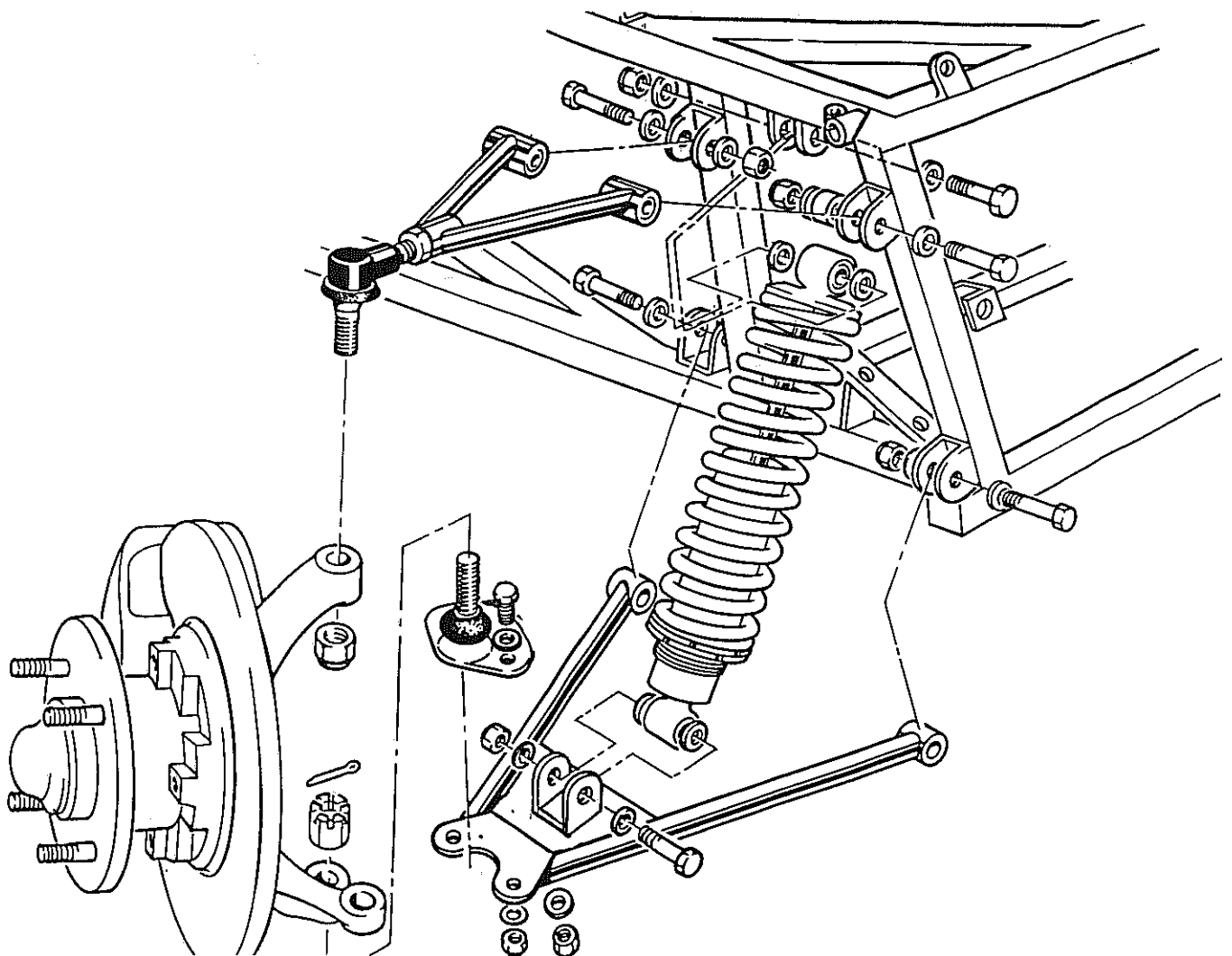
The complete front upright assemblies are taken from Ford Cortina Mk 3, Mk 4 or Mk 5. Pay careful attention to the condition of the brake calipers and discs if you purchase second hand parts. These uprights are available from Westfield as a re-manufactured item. The top ball joints are part number QD 1117 RHT. The bottom ball joints are part number QSJ 602. All ball joints are available from Westfield.

N.B. From May 1st the Cortina bottom ball joint was replaced by the Maxi ball joint.

As an optional extra it is possible to purchase Westfield aluminium uprights and hubs, which offer a substantial reduction in the unsprung weight of the assembly.

## FRONT SUSPENSION

Diagram 33.





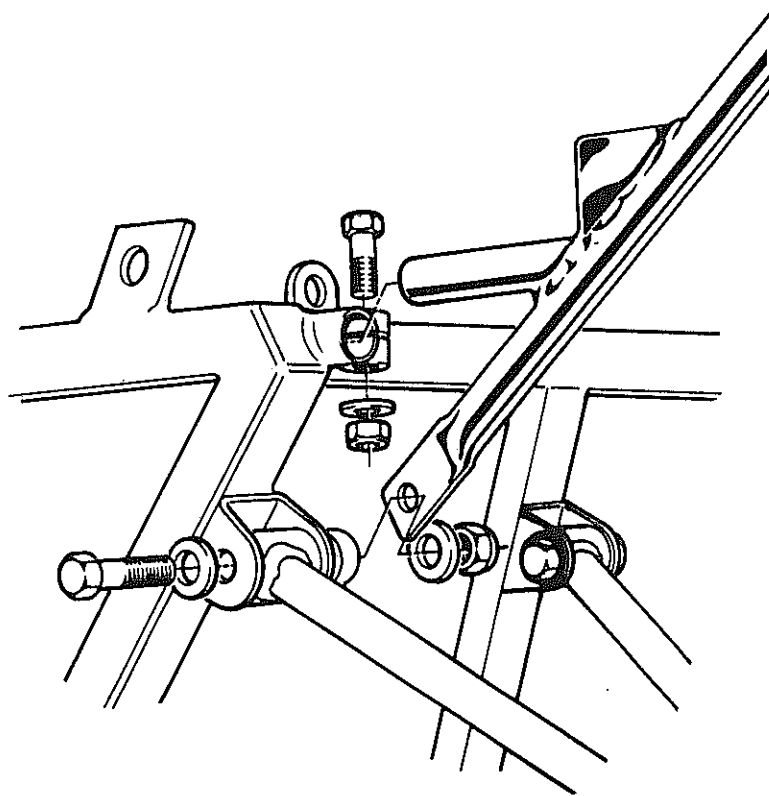
## FRONT SUSPENSION.

Press the rubber suspension bushes into all four wishbones using a spacer e.g. (thick washer), to prevent any pressure on the inner sleeves. These bushes are a precision press fit and will require a large machine vice or bench press to achieve sufficient force to fit them.

Fit the QSJ 602 (Maxi) lower ball joints to the lower wishbones using the bolts supplied, and fit the QD 1117 RHT top ball joint and lock nut to top wishbone. Fit the lower wishbone to the chassis using  $7/16''$  x  $2 1/4''$  long bolts with plain washer and nyloc nuts. **THE TOP WISHBONE MUST BE FITTED WITH THE BALL JOINT OFFSET TOWARDS THE REAR, AS THEY ARE NOT SYMMETRICAL.** Use  $7/16''$  x  $2 1/2''$  bolts, plain washers and nyloc nuts to the rear of the wishbone, and  $7/16''$  x  $3 1/4''$  bolts, washer and nyloc nuts to the front, to facilitate the fitting of the of the spacer for the headlamp brackets, as shown in diagram 34, figure (A). Do not tighten the bolts at this stage.

If your front suspension wishbones are not epoxy coated or chrome plated, it is advisable to protect with a good quality paint.

Diagram 34

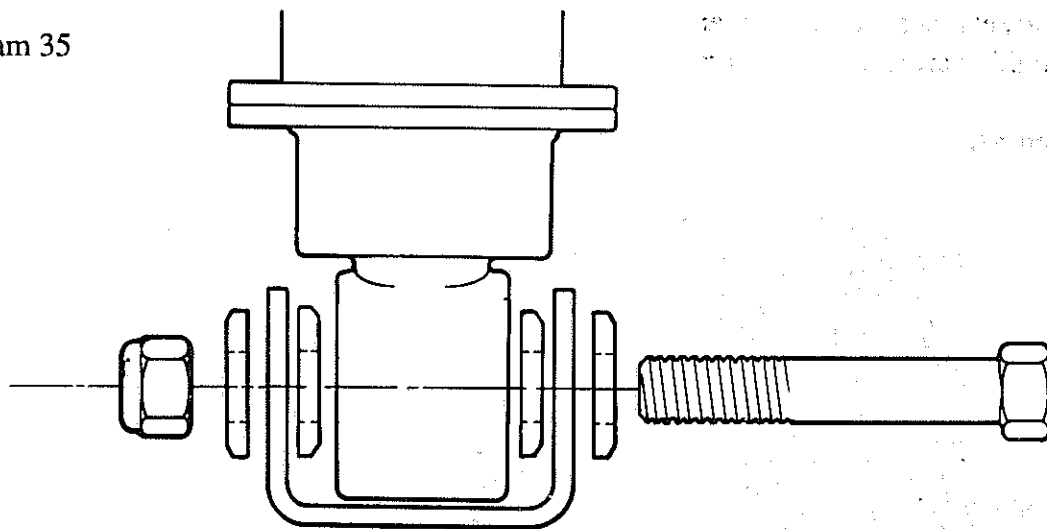


Fit the suspension uprights, hub brake assemblies to the wishbones by placing the upright assembly over the taper of the lower ball joint and fit the nyloc nut. Now insert the top ball joint into the upright and fit nyloc nut. Repeat this operation on the opposite side

## FITTING FRONT SHOCK ABSORBERS.

Fit the spring to the front shock absorber by rotating the adjusting platforms to the lowest point, then slide the front spring over the shock absorber and fit the aluminium location collar. Mount the two front shock absorbers onto the chassis and wishbone brackets using  $\frac{7}{16}$ " x  $2\frac{1}{2}$ " bolts with washers on both the inside and outside of the brackets and secure with nyloc nuts, as shown in diagram 35.

Diagram 35



## **FITTING THE STEERING RACK**

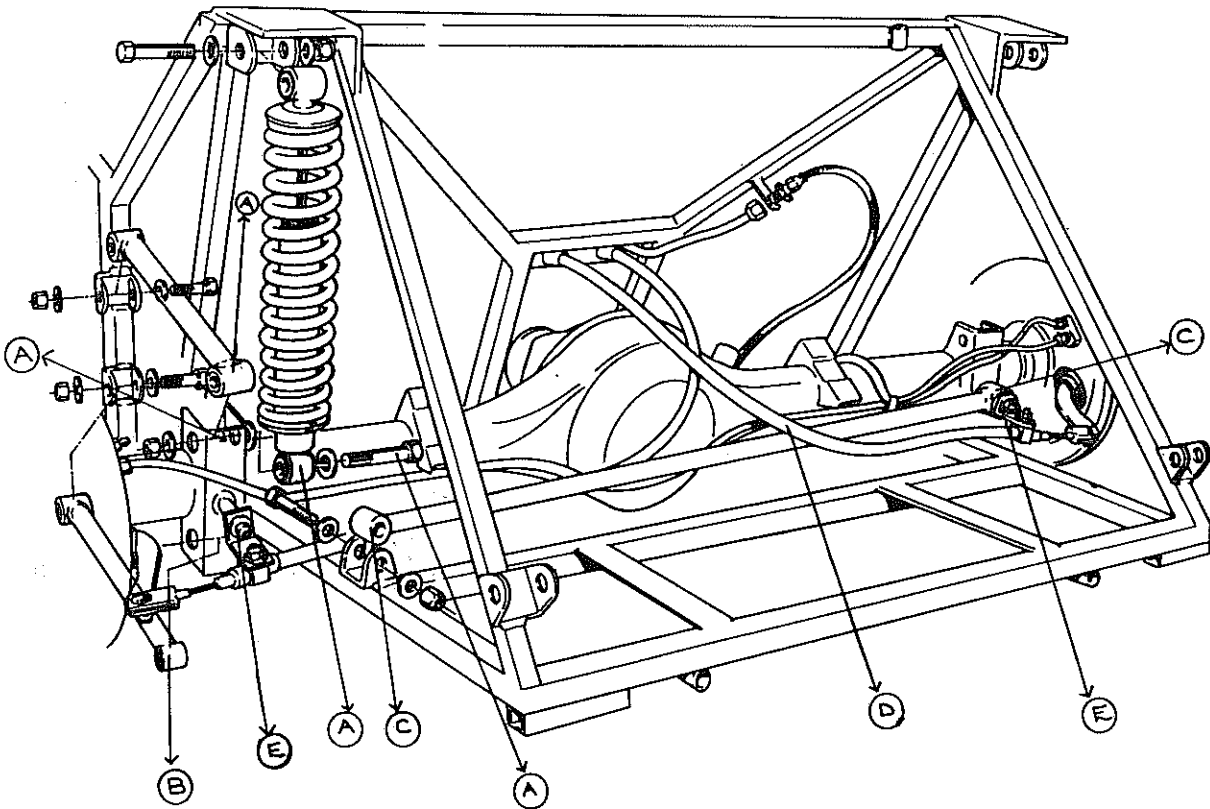
Fit the steering rack to the chassis brackets behind the front chassis tubes using the Ford rubbers and retainers, with four  $\frac{5}{16}$ " x 1" bolts, washers and nyloc nuts. Screw on the track rod ends and lock nuts so that the track rod ends are identical length leaving about  $\frac{1}{2}$ " of thread showing on the steering rack, loosely assemble the track rod ends to the front upright steering arms.

Fit the Allegro steering column assembly after engine installation

## FITTING THE REAR AXLE (SE).

Press the ten rubber suspension bushes into the four trailing arms and panard rod with a large machine vice or bench press, using spacers to avoid pressure on the inner sleeves. Place the rear axle in the approximate position with the propshaft bolted onto the 3 <sup>3</sup>/<sub>8</sub>" flange with the correct <sup>5</sup>/<sub>16</sub>" shouldered bolts and fit the trailing arms to the chassis. The axle must now be lifted at both ends to allow the bolts to pass through both the suspension unit, the top of the axle brackets, and top trailing arms as shown in diagram 37. figure (A). Now connect both lower trailing arms to the axle bracket figure (B).

Diagram 37.



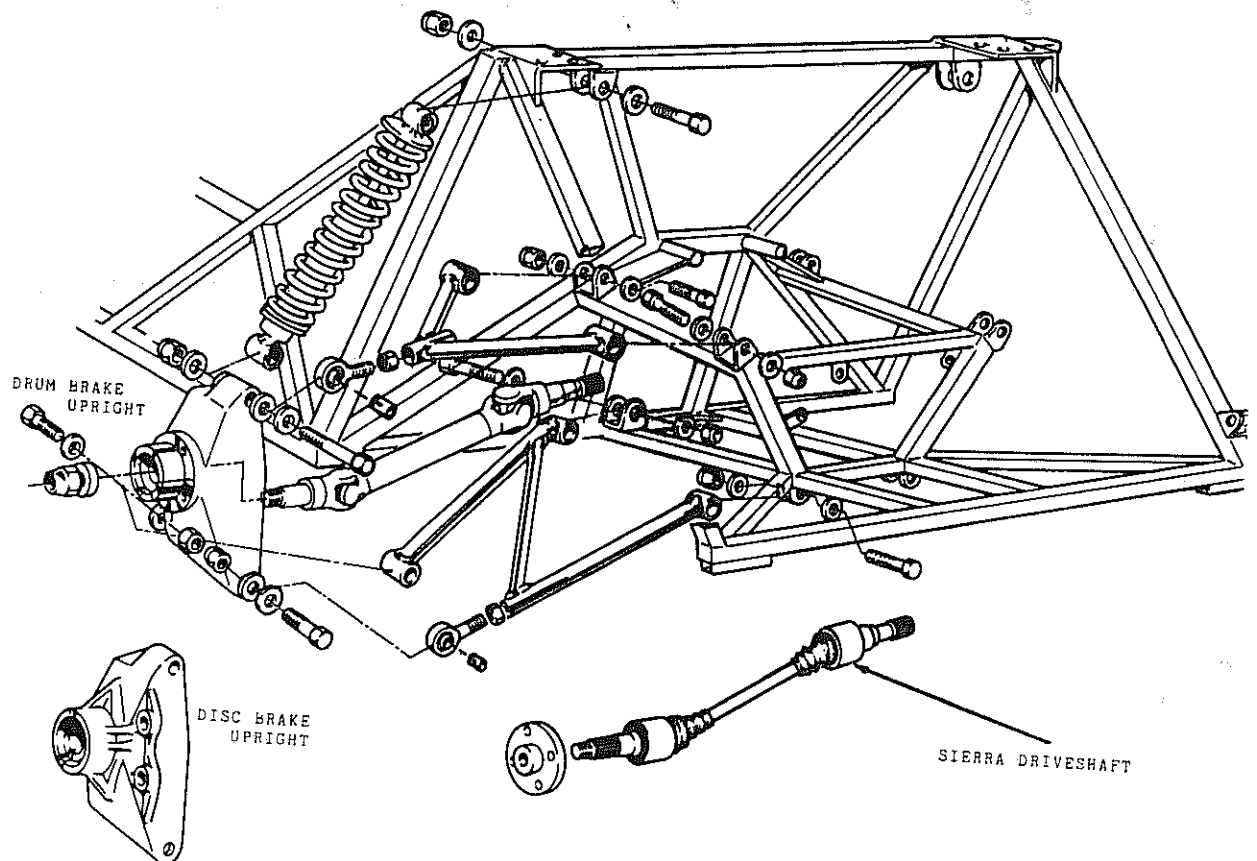
Fit the panard rod to the stud provided on the axle bracket figure (C) and then to the chassis bracket figure (C). Check the clearance between the axle nose and chassis, relieve the webbing on the nose with a file or electric hand grinder to provide adequate clearance between the differential and the chassis. Do not tighten any of the suspension mounting until the car is on the ground and supporting it's own weight.

## FITTING THE REAR SUSPENSION SEi / SEi WIDE

Fit the ten wishbone bushes into the rear wishbone with the use of a large machine vice or bench press, using spacers to avoid pressure on the inner sleeves. ASSEMBLE ALL FOUR WISHBONES TO THE CHASSIS WITH THE ADJUSTABLE ROD ENDS ON THE LOWER WISHBONES SET TOWARDS THE REAR OF THE CAR NOTING THAT YOU MUST FIT A REDUCING SLEEVE TO REDUCE THE HOLE DIAMETER OF THE ROD ENDS FROM  $\frac{1}{2}$ " TO  $\frac{7}{16}$ ". Attach the suspension units to their brackets on the top of the chassis member with plain washers on each side of the bracket as shown in diagram 35, page 28. Now fit the top wishbones and install the spherical joints with the lock nuts.

As a guide for suspension set up leave four threads showing behind the lock nut on the top spherical joint and three threads showing at the bottom spherical joint. The car will require setting up with tracking and camber gauges on completion.

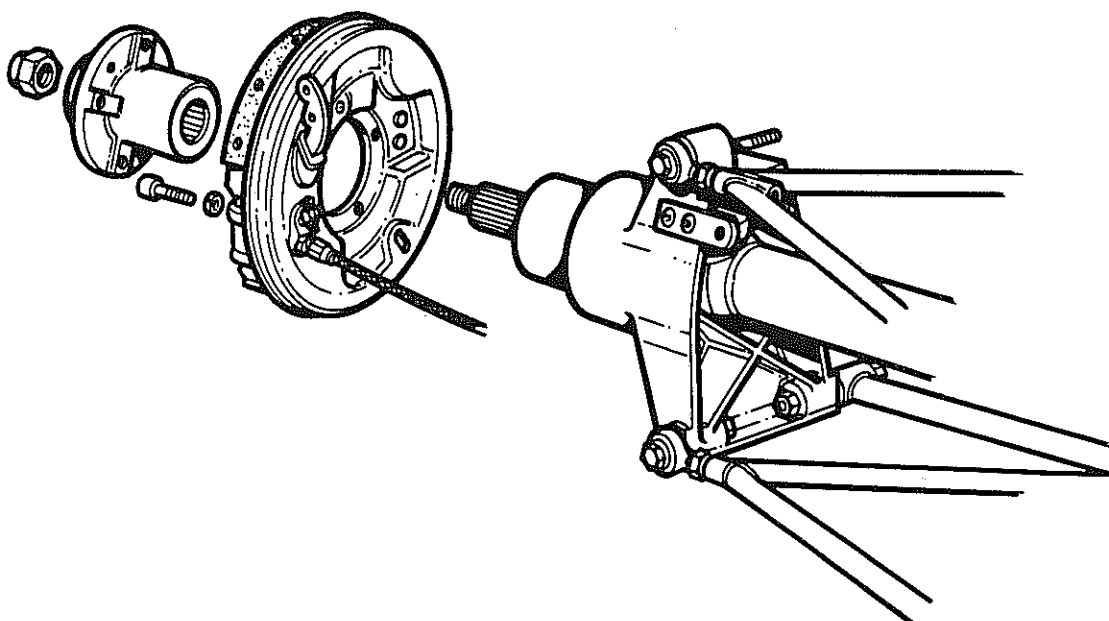
Diagram 38



## FITTING THE DRUM BRAKE UPRIGHTS WITH BACK PLATE

In order to fit the modified back plate, make a pattern template using thin cardboard. Cut hole in the cardboard 80mm diameter, place over the hub to make an impression of the four drill holes in the upright. Place the back plate onto the near side upright, positioning the handbrake lever at approximately 10 O'Clock position, so the handbrake lever boot does not foul the upright. Using the cardboard template transfer the hole positions from the upright to the back plate, drill 5/16 clearance holes and bolt in place. Now place the offside back plate with the handbrake lever at approximately 2 O'Clock position and repeat procedure as stated above.

Diagram 39



## FITTING THE DISC BRAKES

When fitting the disc brakes to the hub, use a M6 x 10mm countersunk socket screw supplied by Westfield, to secure the disc to the hub, then fit the caliper using M10 x 40mm socket bolts with spring washers. Fit handbrake cable as described on page 37, diagram 47

## FITTING THE SEi DIFFERENTIAL UNIT.

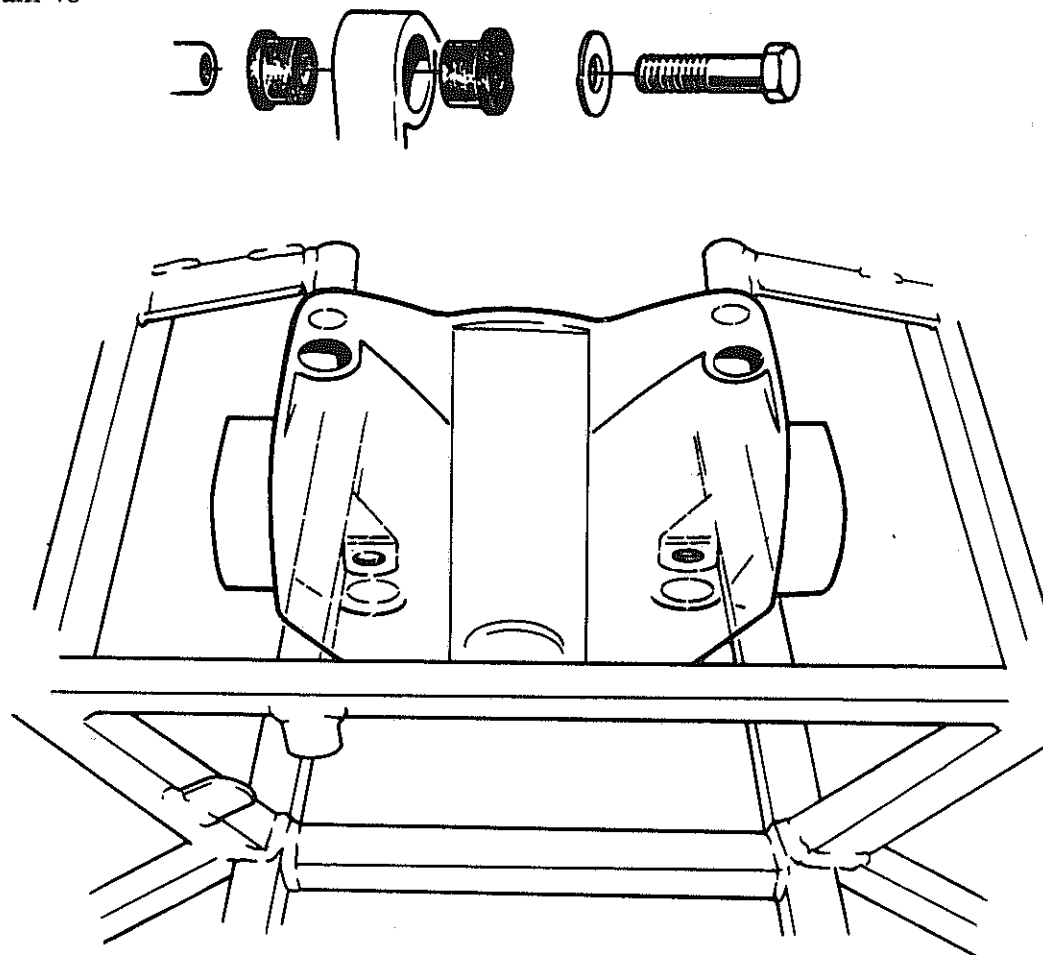
### ESCORT and CORTINA Mk 2.

Thoroughly clean housing, final drive and drive shaft ends. Stand the final drive unit with propshaft flange downwards and apply a  $\frac{1}{8}$ " bead of silicone gasket compound to the mating face. Place the housing in position, with the filler hole towards the bottom of the final drive unit and loosely fit the 8 securing bolts using spring washers. To correctly align the final drive unit and housing, lubricate the output shaft bearing, bearing surfaces and oil seals then carefully insert the drive shafts, avoiding contact between splines and seals. Give both shafts two or three turns before tightening evenly to a torque of 15 LB FT. Check for free rotation, remove shafts and plug the bores to prevent dirt from entering. Now fit the propshaft with  $\frac{5}{16}$ " shouldered bolt with nyloc nut to the  $3\frac{3}{8}$ " differential flange.

Fit 8 rubber mounting cones into the differential housing using rubber grease, copper slip, or other suitable lubricant to aid assembly. Locate the assembly in the chassis with  $\frac{1}{2}$ " UNF bolts and plain washers inserted from the rear. Use Loctite on the top and nyloc nuts on the lower mounting bolts. Tighten to a torque of 35 LB FT.

NB. Check diagram 47, page 37 before fitting differential unit in place as you may have to modify handbrake cable retaining bracket if you are fitting the rear disc conversion.

Diagram 40

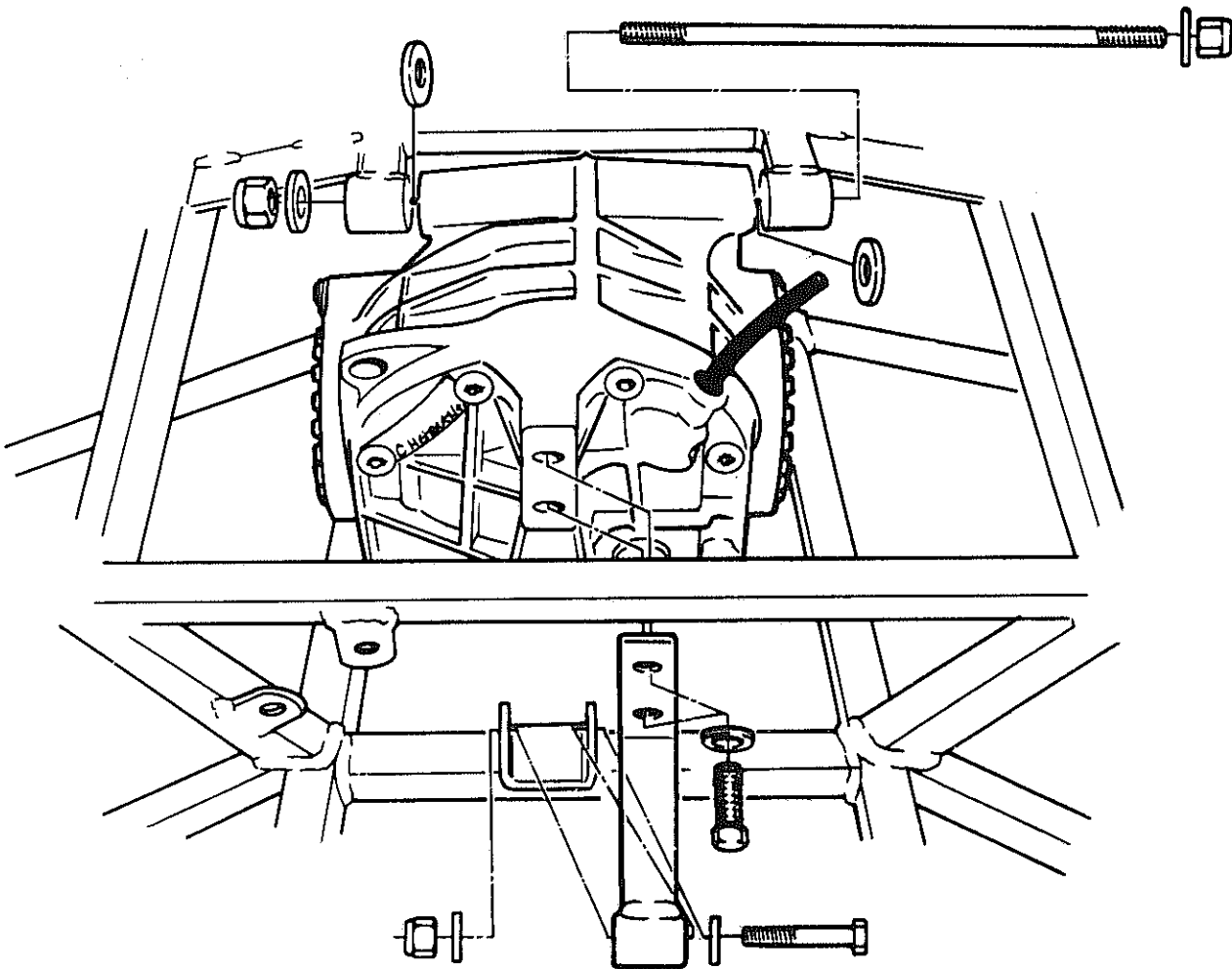


## DIFFERENTIAL UNIT SIERRA (Available only on complete Cars)

Fit the propshaft to the differential flange using 15mm special bolts with Loctite. Press four metallastic bushes into the differential mounting sleeves and place the differential unit between the mountings using the two clamping studs with plain washers on the inside and outside of the bushes, as shown in diagram 41 below. Tighten the securing nuts to a torque of 40 LB FT.

Fit rear stabilising bracket using  $\frac{7}{16}$ " x  $2\frac{3}{4}$ " bolt, washers and nyloc nuts. Secure brackets to differential housing using two M10 set screws and spring washers.

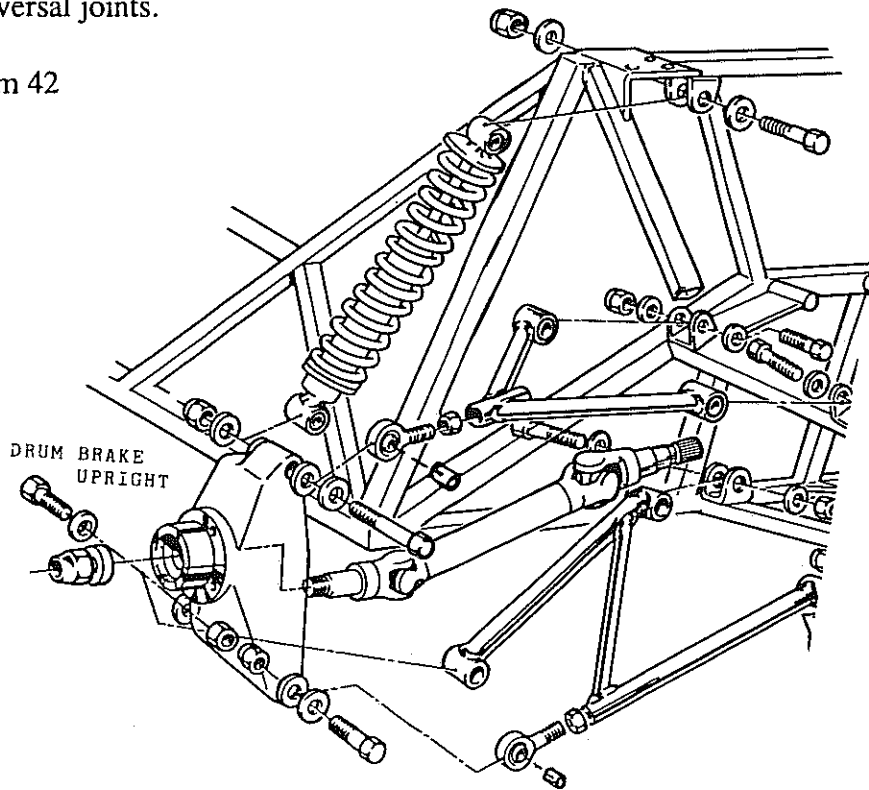
Diagram 41



## DRIVE SHAFT ASSEMBLY (ESCORT / CORTINA. DIFF)

To fit the driveshaft universal joints you have to use a machine vice, a pair of internal circlip pliers, and a  $\frac{15}{16}$ " drift. Take the centre section of the driveshaft and fit one of the bearing cups into the yoke pressing it in with the vice, so the rubber seal just protrudes out of the inside of the yoke. Fit the cross joint into the bearing cup checking that the needle rollers are located neatly round the inside of the cup. Using the  $\frac{15}{16}$ " drift, press the cup in further the circlip into the groove. Make sure it is properly seated. Fit the bearing to the opposite side of the yoke using  $\frac{15}{16}$ " drift, again making sure not to disturb any of the needle rollers in the cup, then press it in until it goes against the opposite circlip. Remove assembly from vice and fit the circlip to the cup that you have just pressed in. Repeat this process to all the other joints. If you have difficulty pressing the cups together you may have trapped the needle rollers, so you will have to remove the cup and inspect their position. After assembly of both driveshafts you may need to hit the universal joint yokes with a hide or nylon hammer to enable the cups to go back against the circlips. After carrying out this operation check for freedom of movement of the universal joints.

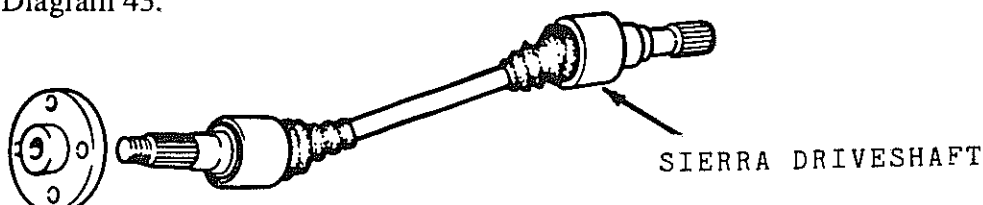
Diagram 42



## DRIVESHAFT SIERRA

Driveshafts for the Sierra differential unit are supplied as a complete unit. Fitting is described on page 35.

Diagram 43.





## **FITTING REAR UPRIGHTS AND DRIVESHAFTS.**

Assemble the driveshafts to the uprights by pushing the driveshafts through the hub bearing. Then engage the driveshaft and hub splines and if necessary support the hub on wooden blocks whilst using a hide or nylon hammer to tap the driveshafts into place. Fit the hub nut and washer to the driveshaft but do not tighten until the car is on the ground supported by its own weight, then torque the nut to 180 LB/FT. Fit upright and driveshaft assembly to the wishbones, making sure that the bushing sleeves are fitted to the spherical joints. Insert driveshaft into the differential unit taking care not to damage the oil seal. Put  $\frac{7}{16}$ " x 4" bolt through the shock absorber into the upright and through the spherical joint making sure to fit the plain washers both sides of the shock absorber and on the other side of the upright. Then fit a  $\frac{1}{8}$ " thick special washer on the outside of the spherical joint, this is to prevent collapse of the suspension if the joint centre fails.

Now fit the  $\frac{7}{16}$ " x  $3\frac{1}{2}$ " bolt through the front of the lower wishbone fitting the plain washer against the upright and nyloc nut. Fit a  $\frac{7}{16}$ " x  $2\frac{3}{4}$ " bolt to the rear of the lower wishbone, fitting the plain washer against the upright and nyloc nut. Do not tighten until the car is supported by its own weight and suspension is set up.

## **FITTING AEROQUIP BRAKE HOSES SE.**

Attach Aeroquip to the axle bracket and tighten the lock nut, then fit to the brake pipe union. Secure the opposite end to the brake hose bracket which is fitted onto the chassis, and tighten the lock nut, ensuring that you do not twist or kink the Aeroquip hose as this will damage.

## **FITTING AEROQUIP BRAKE HOSES SEi / SEi WIDE.**

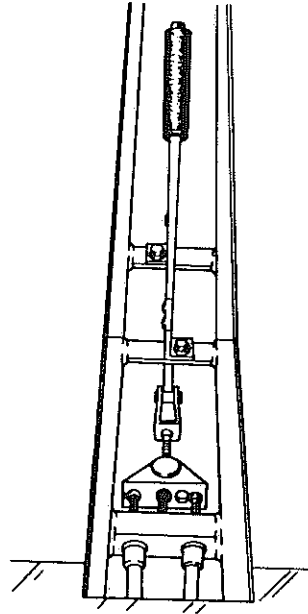
NB. When fitting Aeroquip on the drum brake application, you may have imperial or metric wheel cylinders, this depends on the type of donor vehicle you have used. Ensure that the Aeroquip hose threads match the wheel cylinders.

Screw the Aeroquip into the wheel cylinder / caliper making sure that the copper washer is fitted and tightened. Secure the opposite end of the Aeroquip into the brake hose bracket and tighten the lock nut, ensuring that you do not twist the Aeroquip hose. Tie rap the hoses to the top wishbone.

## FITTING THE HANDBRAKE AND HANDBRAKE CABLE (SE)

Position the Escort or Sierra handbrake lever as required, on the transmission tunnel and drill two  $\frac{5}{16}$ " clearance holes. Bolt the handbrake lever in place using two  $\frac{5}{16}$ " x 1" bolts, washers and nyloc nuts as shown in diagram 44.

Diagram 44 Drum brake application.



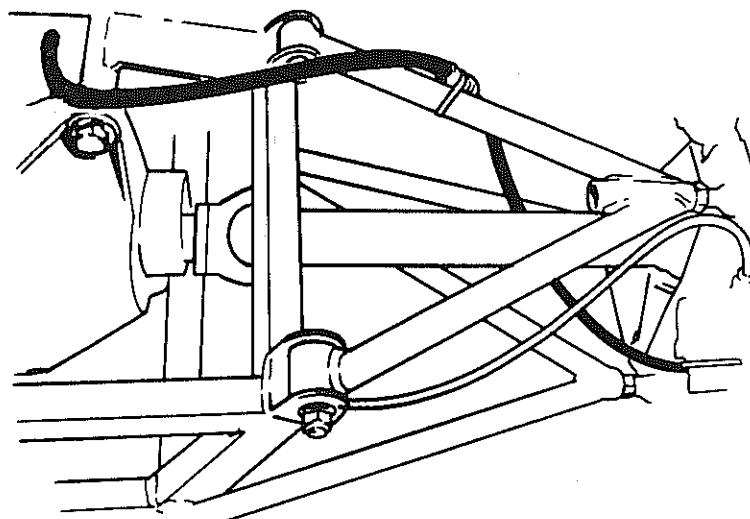
To modify the Allegro compensator. Cut off the wire cable where it is joined to the threaded adjuster, enlarge the hole in the cable yoke to accept the threaded adjuster, push the adjuster through the yoke and screw into the compensator.

Connect modified Allegro handbrake compensator to handbrake lever using a clevis pin. Fit two Allegro handbrake cables into compensator and route as shown in diagram 37, page 29 figure (D), using Westfield assembly brackets, diagram 37, page 29, figure (E). Adjust brake shoes before carrying out adjustment to the handbrake cables.

## FITTING THE HANDBRAKE AND HANDBRAKE CABLES SEi/SEi WIDE DRUM BRAKE

Fit the handbrake lever as described above for drum brake SE application and route handbrake cable as shown in diagram 45.

Diagram 45.



# FITTING THE HANDBRAKE AND HANDBRAKE CABLE SEI/SEI WIDE DISC BRAKES

When fitting the disc brakes you have a choice of using Escort or Sierra handbrake levers. This option must be specified when ordering the chassis.

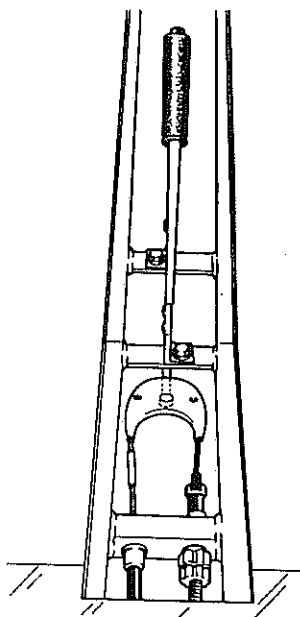
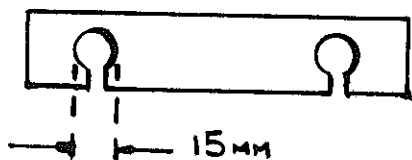
Fit the handbrake lever as described on page 36.

You must modify the handbrake cable mounting brackets to the dimensions shown in diagram 46. (15mm hole with key hole for cable access)

If you fit the disc brakes you must use the Sierra handbrake cable, modified by Westfield, (this item is included in the disc brake kit).

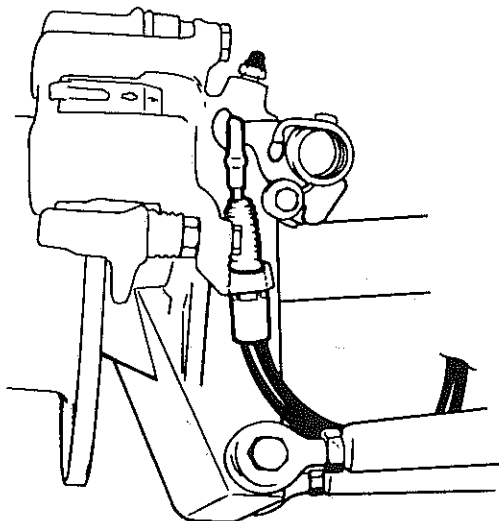
When using an Escort handbrake lever you have to use a linkage which can be purchased from Westfield, to connect the handbrake to the horseshoe compensator.

Diagram 46.



Route handbrake cable as shown page 36, diagram 45 and connect to the rear calipers as shown in diagram 47

Diagram 47

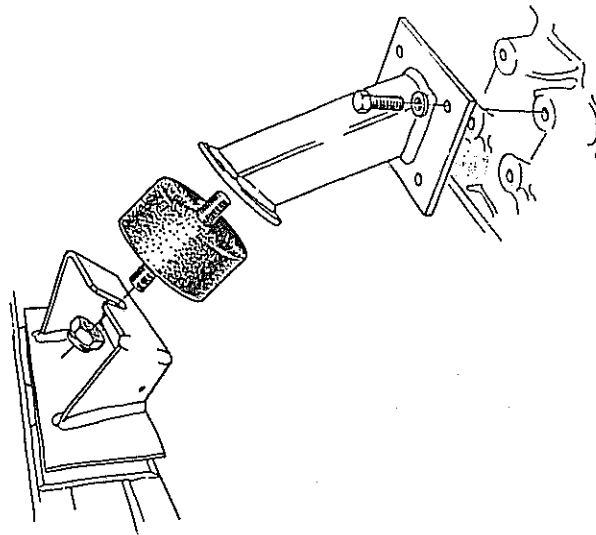


# FITTING THE ENGINE

## Ford Kent Engine - Crossflow - 1100, 1300, 1600.

Any Ford engine may be used preferably a 711 M. block. An inertia starter motor must be fitted when using the Westfield 4 into 1 manifold. It is recommended that either a 4 speed 1600, 2000 Cortina or 5 speed Sierra gearbox is used. If the 2000 Cortina or Sierra gearbox is used it has to have a 1600 GT driven plate fitted, available from Westfield parts department. After fitting the gearbox to the engine check the operation of the clutch fork to make sure that you have the correct thrust bearing and fork combination. Fit the engine, gearbox unit into the chassis as described on page 41. The Westfield engine mounting rubbers as shown in diagram 48 are available from Westfield parts department

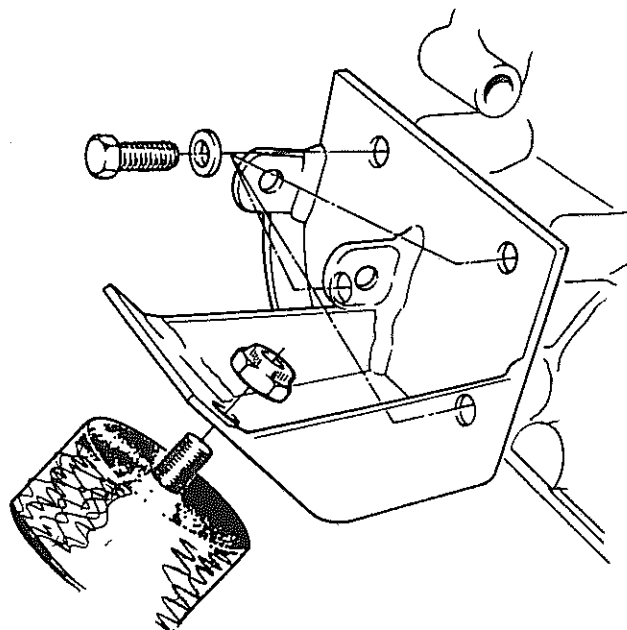
Diagram 48.



## Ford CVH Engine - 1300, 1600.

Fit the Westfield engine mountings to the engine as shown in diagram 49 using engine mounting rubbers available from Westfield parts department

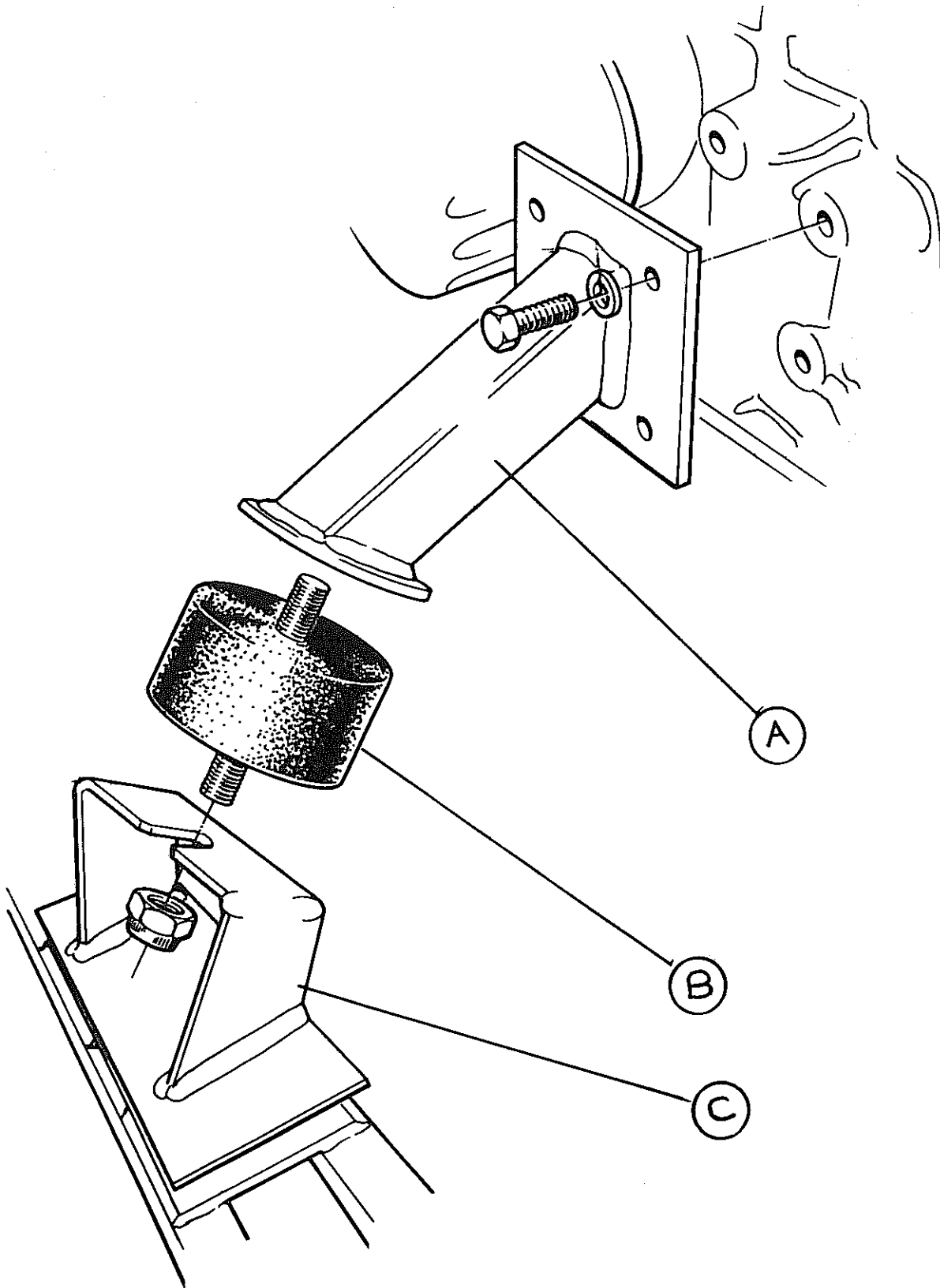
Diagram 49



Ford Pinto Engine 1600, 2000.

Fit the Westfield engines mountings to the engine as shown in diagram 50 using engine mounting rubbers part number QH EM670.

Diagram 50.



## Rover V8

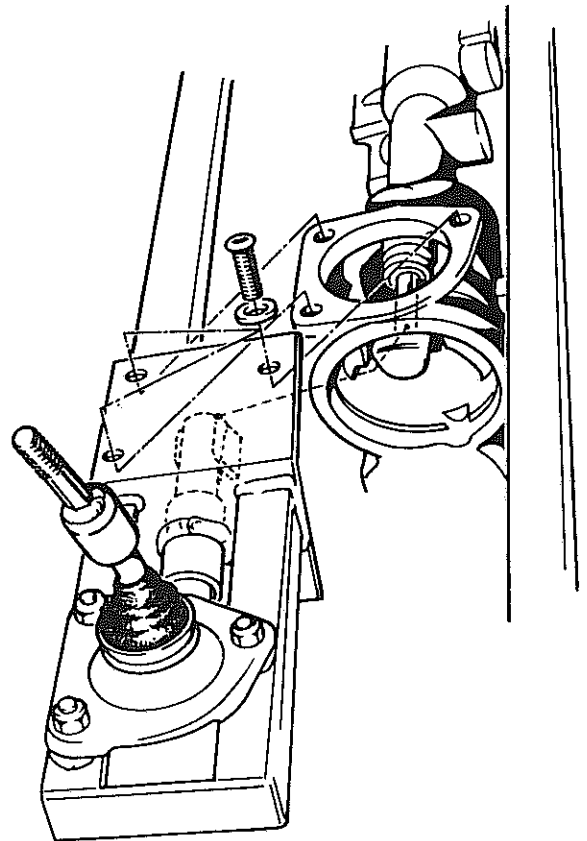
When fitting the Rover V8 engine you must use a P6 water pump and pulley, crankshaft pulley, engine mounting brackets are Westfield manufacture and the mounting rubbers are Rover SDI.

When the engine mounting brackets and rubbers are in place the engine bolts directly onto the chassis, diagram 51.

## DETAILS OF 5 SPEED GEARBOX EXTENSION

Diagram 51.

The 5 speed extension moves the gear stick back 5", it is fitted by removing the rear extension blanking plate and drifting out the reverse detent situated on the offside of the gearbox extension. Transfer the plastic anti rattle bush from the gearbox to the extension. Bolt the extension to the gearbox as shown in diagram 51. NB; Incline the remote approx 45° degrees to enable you to engage the remote selector in the gearbox toggle. Tighten all bolts and test for ease of gear selection.



With all Ford engine combinations it is advisable to fit the gearbox to the engine before installation, using a gearbox mounting rubber, available from Westfield parts department. It is advisable to fully dress the engine and gearbox with the exception of the exhaust manifold, before installation into the chassis.

### CROSSFLOW

As the engine sump is the lowest part of the car and its depth therefore directly affects ground clearance, it is advisable to fit a shallow sump and oil pick up pipe. Recalibrate the dip stick to suit the shallow sump. (A Capri sump gives a greater ground clearance than the standard Escort sump)

### PINTO

It is advisable to shorten the sump by 2" and modify the oil pick-up pipe to suit. To increase the oil capacity extend the sump or fit an oil cooler

## Kent Engine

When using a Westfield/VDO instrument set fit to the water temperature sender and oil pressure sender to the engine.

If you decide to use a down draught carburettor you will require a Westfield bonnet scoop.

When twin side draught carburettors are used a short manifold (approximately 3" wide), is required to enable the use of air filters to be kept within the bonnet line.

**SPECIAL ATTENTION MUST BE GIVEN TO THE FLOAT LEVEL AND THE CONDITION OF THE "O" RINGS, TO PREVENT THE CARBURETTORS LEAKING PETROL ONTO THE DISTRIBUTOR AND CAUSING A FIRE.**

Lower engine and gearbox into chassis using a suitable hoist and sling, being careful not to damage the paint work or epoxy coating on the chassis. Position the gearbox bellhousing  $\frac{1}{2}$ " from the bulkhead, making sure that the gearbox is central in the transmission tunnel. Drill two,  $\frac{5}{16}$ " clearance holes in the gearbox mounting plate to line up with the gearbox mounting rubbers. Secure with two,  $\frac{5}{16}$ " bolts and nyloc nuts.

Now fit the engine mounting brackets (A) onto the engine. Fit mounting rubbers (B) to bracket (A) place chassis mounting (C) onto chassis frame and lower engine onto mounting (C) making sure that the engine is central in the engine bay. Now drill three  $\frac{5}{16}$ " clearance holes in mounting plate (C) and secure with  $\frac{5}{16}$ " x 1" bolts and nyloc nuts, as shown in diagram 48, Page 38.

## CVH Standard / CVH Wide Engine.

When using Westfield/VDO instrument set, fit to the engine, the water temperature sender and the oil pressure sender.

If you decide to use a down draught carburettor you will require a Westfield bonnet scoop to suit.

When twin side draught carburettors are used a short swan neck manifold is required available from Westfield.

Lower engine and gearbox into the chassis using a suitable hoist and sling, making sure not to damage the paint work or epoxy coating. Locate the front engine mounting rubbers into the chassis mounting brackets. Make sure that the gearbox is central in the transmission tunnel. Drill two,  $\frac{5}{16}$ " clearance holes in the gearbox mounting plate to line up with the gearbox mounting rubber. Secure with two  $\frac{5}{16}$ " bolts and nyloc nuts.

### Pinto Engine

When using a Westfield/VDO instrument set fit the water temperature sender and oil pressure sender to the engine.

When using a Pinto engine, fit twin side draught carburettors, with a short swan neck manifold, available from Westfield.

Lower engine and gearbox into the chassis using a suitable hoist and sling, making sure not to damage the paint work or epoxy coating. Position the gearbox bellhousing  $\frac{1}{2}$ " from the bulkhead. Now fit the engine mounting bracket (A) onto the engine. Fit engine mounting rubber (B) to engine bracket (A) place chassis mounting (C) onto chassis frame and lower engine onto mounting (C). Now drill three,  $\frac{5}{16}$ " clearance holes through mounting plate (C) and bolt into position with  $\frac{5}{16}$ " x 1" bolts and nyloc nuts, as shown in diagram 50, page 39. NB Fit the engine offset at the front by 1" to the nearside.

### Rover V8

When using a Westfield/VDO instrument set fit the water temperature and oil pressure senders to the engine.

The Rover engine may be used with Holley carburettor with Offenhauser manifold or Quad Dellorto down draughts and manifolds.

The Rover engine has to be fitted with Westfield exhaust manifolds and silencers.

The gearbox (gear stick, gearbox mounting modified by Westfield), and starter motor is taken from a Rover SDI.

The engine mountings are of Westfield manufacture. The water pump, water pump pulley, crankshaft pulley are taken from Rover P6.

The alternator bracket is Westfield manufacture and uses a Lucas 15 ACR alternator.

When fitting the engine and gearbox to the chassis first fit the gearbox, position gearbox in transmission tunnel with the front of the gearbox 2,  $\frac{5}{8}$ " from the bulkhead. Drill gearbox mounting plate  $\frac{5}{16}$ " clearance holes and bolt using  $\frac{5}{16}$ " x 1" bolts and nyloc nuts. Fit clutch slave cylinder and pushrod assembly to gearbox. Lift engine with a suitable hoist and sling taking care not to damage the paint work or epoxy coating of the chassis. Lower engine into engine bay, fit to gearbox and engine mountings.

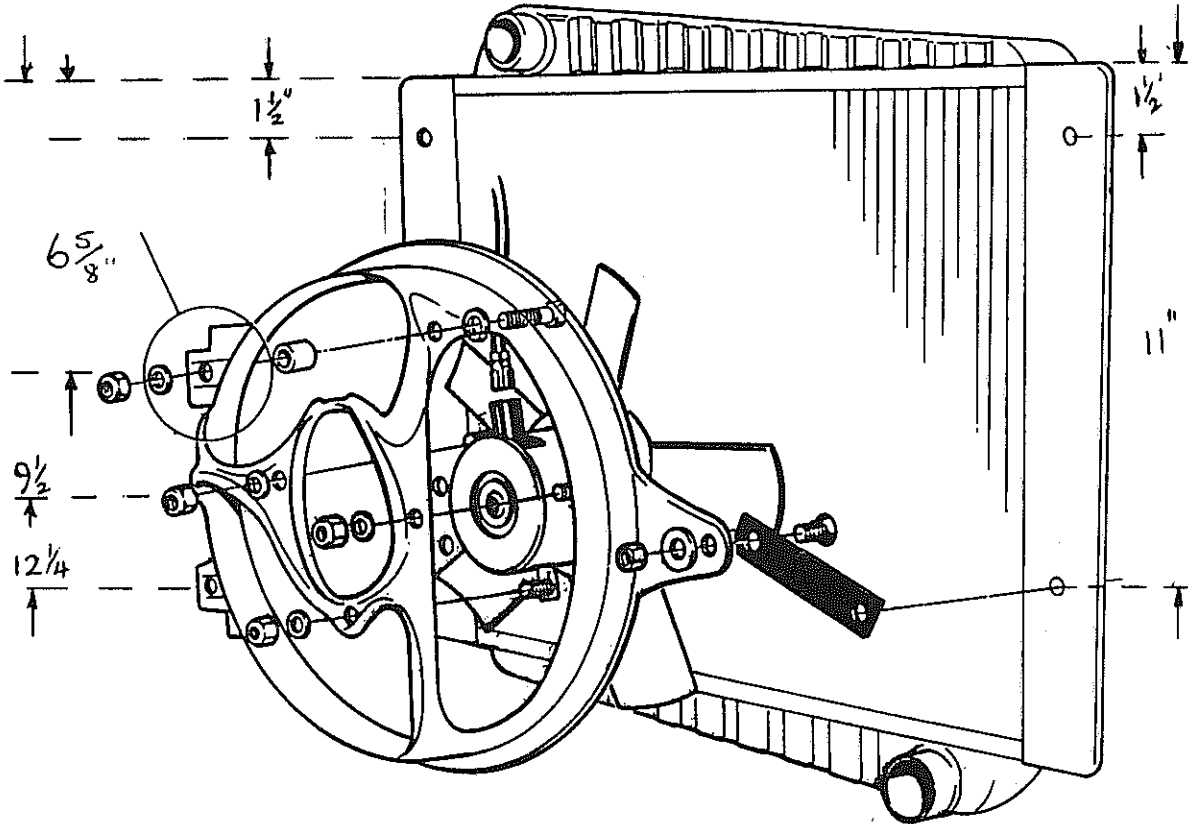


# FITTING RADIATOR FAN

The radiator fan fitted is a five blade 11" diameter, which is available from Westfield as a complete kit which comprises of 1 mounting bracket, 4 nuts and bolts and two 10mm spacers.

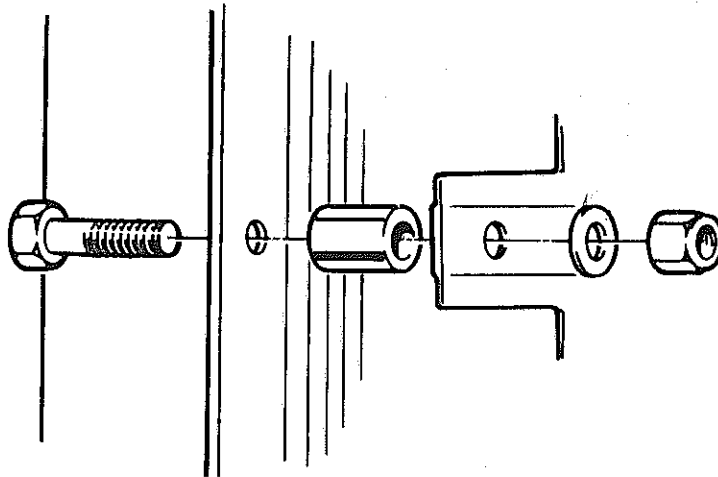
Mount the fan onto the radiator as shown in diagram 52 below.

Diagram 52.



Drill two  $\frac{5}{16}$ " clearance holes in the fan frame, as shown in diagram 53, and secure the fan to the radiator using the brackets and spacers at the dimension shown in the above diagram.

Diagram 53.



## RADIATOR OPTIONS.

Westfield supply three options of radiators, they are as follows:-

- 1) Two row low height dense block radiator.
- 2) Four row low height dense block radiator.
- 3) Aluminium high cooling capacity radiator.

- 1) Two row low height dense block radiator.

This radiator is suitable for the Crossflow, Pinto, and CVH, in unmodified form.

- 2) Four row low height dense block radiator.

This radiator is suitable for the Crossflow, Pinto, CVH and Rover V8, in modified form.

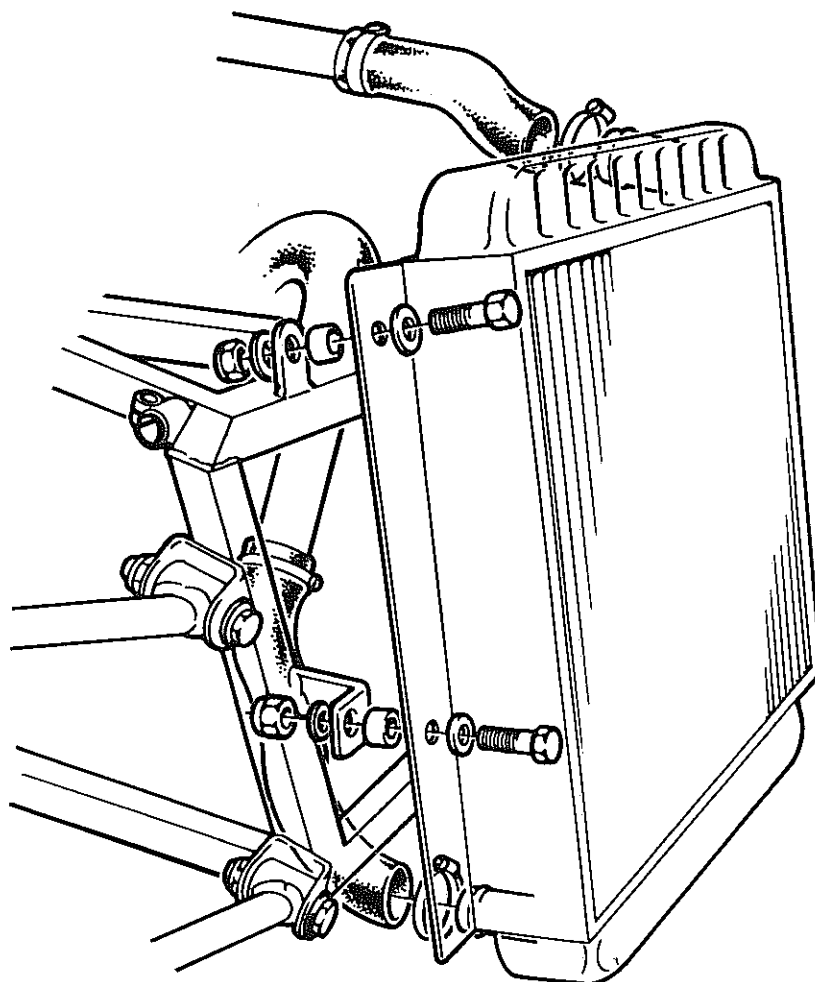
- 3) Aluminium high cooling capacity radiator.

This radiator is suitable for the Crossflow, Pinto, CVH, and V8 in standard and modified form, and is mounted into a special nose cone, which should be requested when ordering

## FITTING RADIATOR

Mount the radiator onto the four radiator mounting brackets using  $5/16"$  x  $1\frac{1}{2}"$  bolts, washers and nyloc nuts as shown in diagram 54 below.

Diagram 54



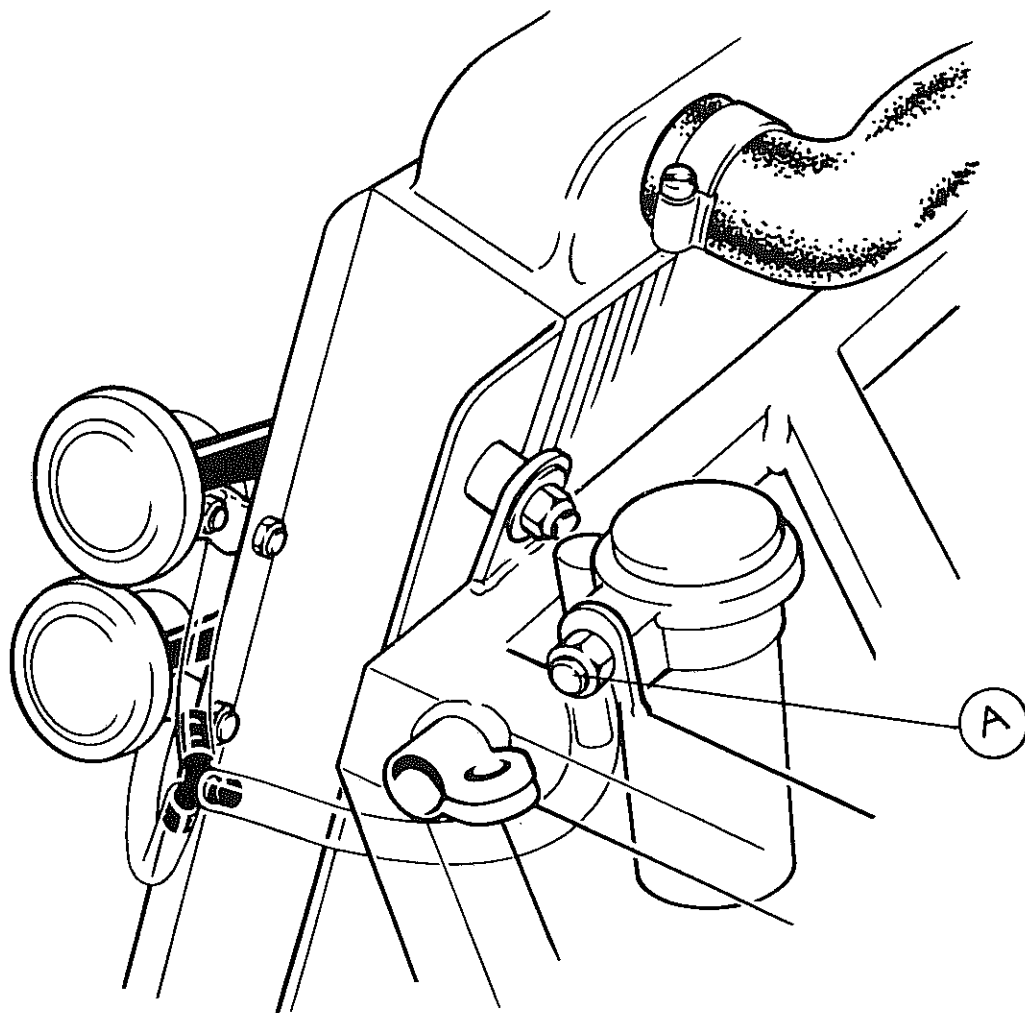
## FITTING HORN

You may use a normal electric horn or you can use a air horn as supplied by Westfield.

Mount the electric horn or air horn compressor onto bracket (A) as shown in diagram 55.

Mount the air horn trumpets onto the radiator side frame, or to the brackets provided next to the vehicle chassis plate. Using nyloc nuts and plain washers to secure.

Diagram 55

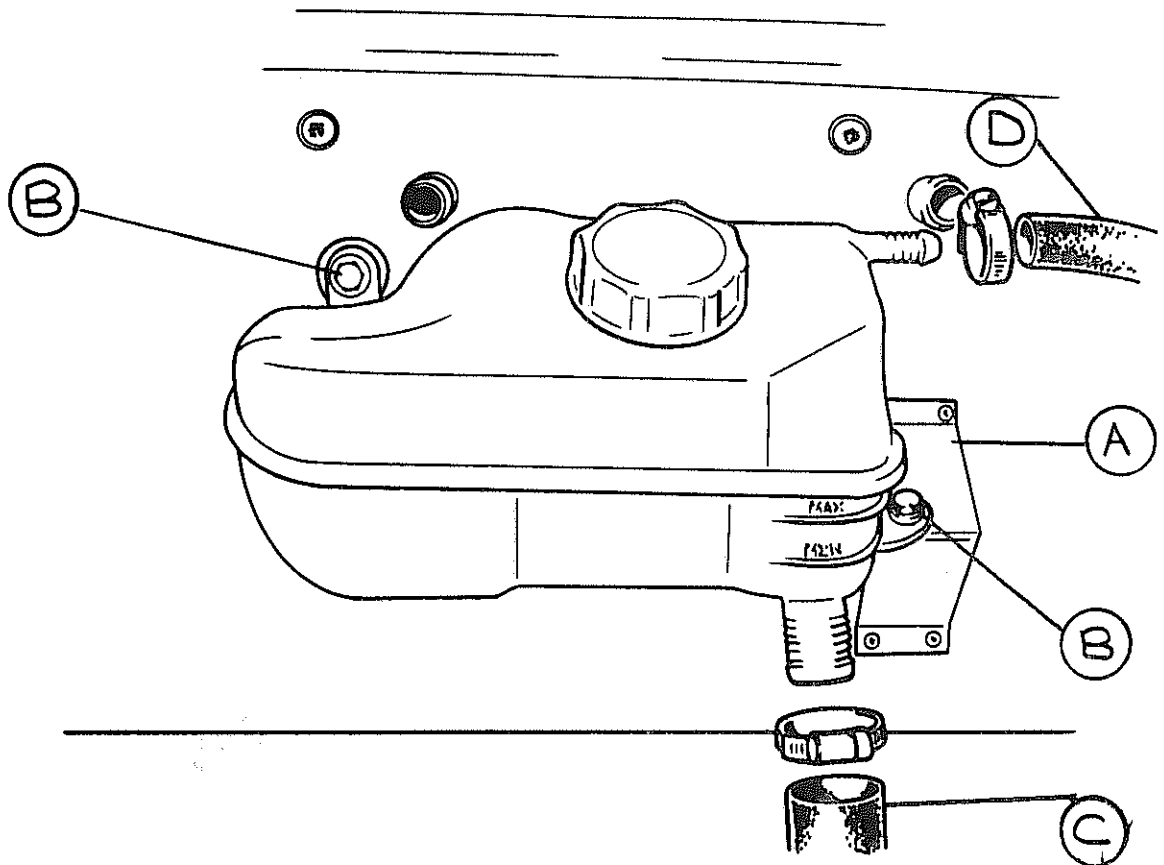


## FITTING HEADER TANK

Position the header tank in the centre of the scuttle taking care not to obscure the heater outlets if used.

Fit the aluminium bracket (A) to the scuttle and bolt the header tank in place as shown in figure (B), diagram 56.

Diagram 56



## FITTING RADIATOR HOSES.

### CROSSFLOW.

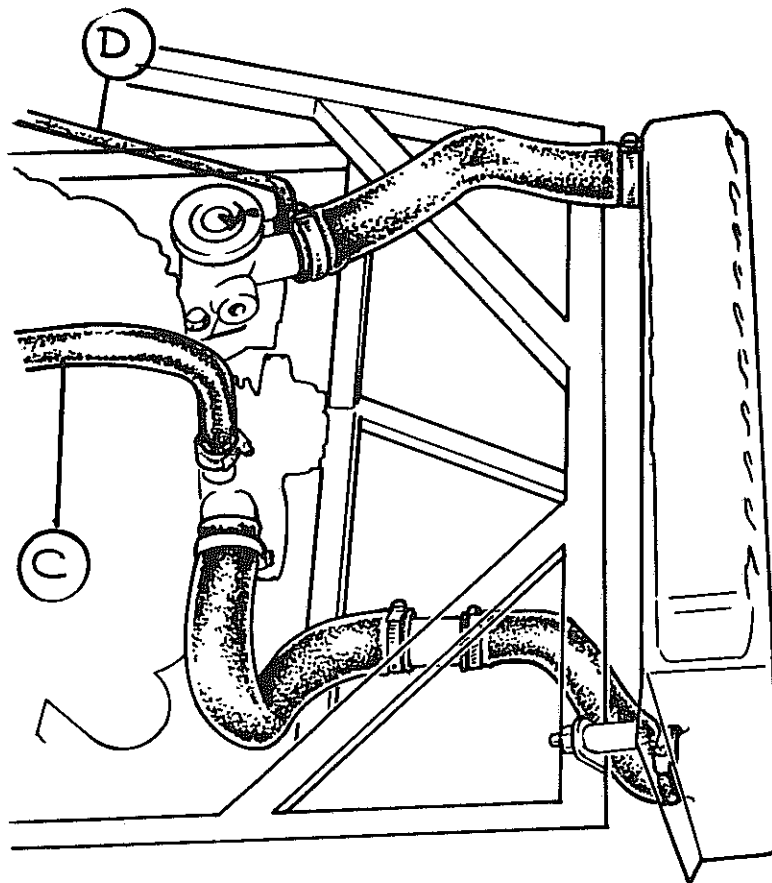
When fitting radiator hoses to the crossflow engine you should fit a Ford Fiesta thermostate housing available from Westfield. This allows the fitting of a fan switch.

Fit the water pump top hose and radiator bottom hoses using the aluminium tube to connect the hoses together, as shown in diagram 57.

Attach the hose from the water pump figure (C) to the header tank diagram 56 figure (C) attach the overflow pipe figure (D) diagram 57 to the header tank figure (D), diagram 56.

If you are using a heater unit you will need to fit a Y piece connector as shown in diagram 58, figure (C). Fit this into the hose figure (C), diagram 57 between the water pump and header tank, at a convenient position.

Diagram 57.



## CVH

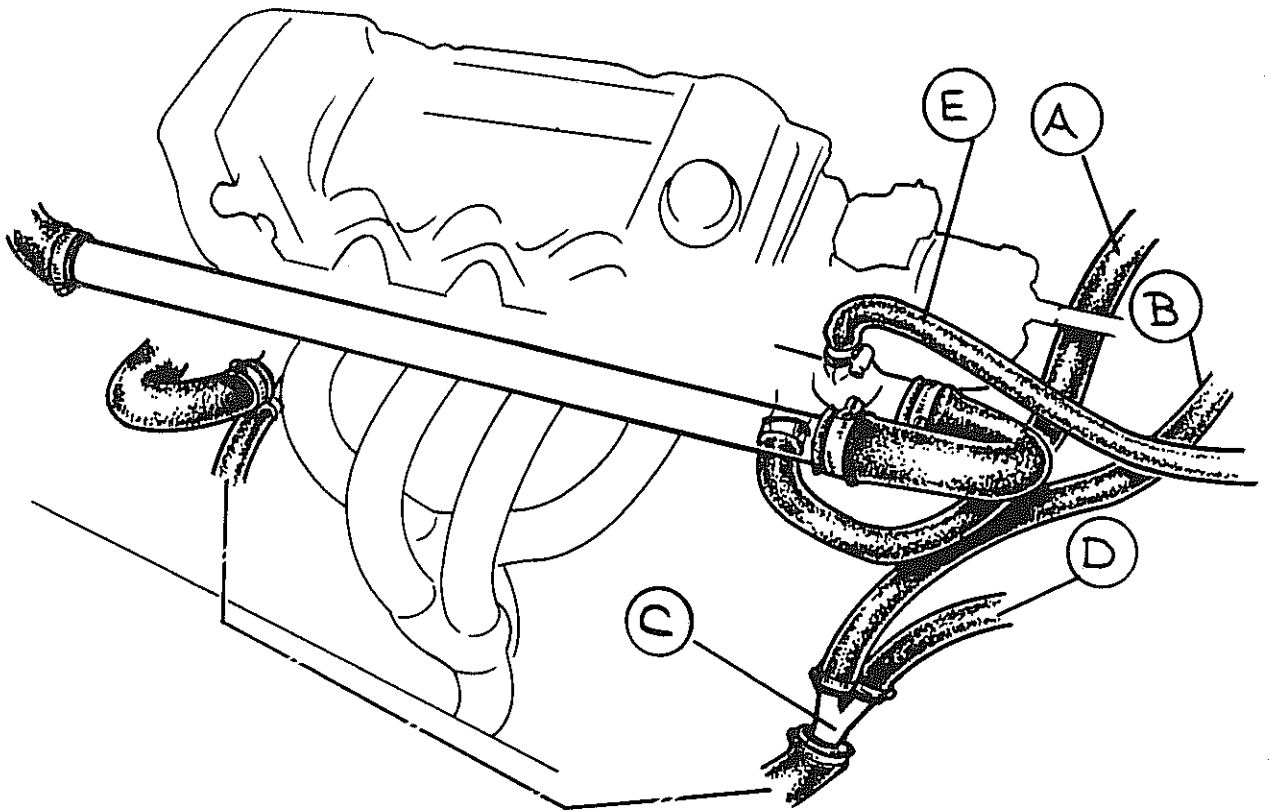
Fitting the radiator hoses to the CVH engine you require four hoses and 3 foot of aluminium tube which is available from Westfield

If you decide to fit the heater unit you will need to connect hose figure (A), to the heater and hose figure (B) heater return to the Y piece figure (C).

If you decide not to fit the heater you must make sure that you connect hose figure (A) to Y piece figure (C) as failure to do this will seriously affect the cooling of the engine.

Connect hose figure (D) to the header tank figure (C), diagram 56, page 46 and connect overflow hose figure (E), to header tank figure (D), diagram 56 page 46.

Diagram 58.



## PINTO

Fit the radiator hoses to the Pinto engine which are available from Westfield. To enable you to use the header tank you need to fit a Westfield breather adaptor which fits into the top hose, enabling the fitting of the header tank breather hose, figure (A) as shown in diagram 59, 60.

Diagram 59.

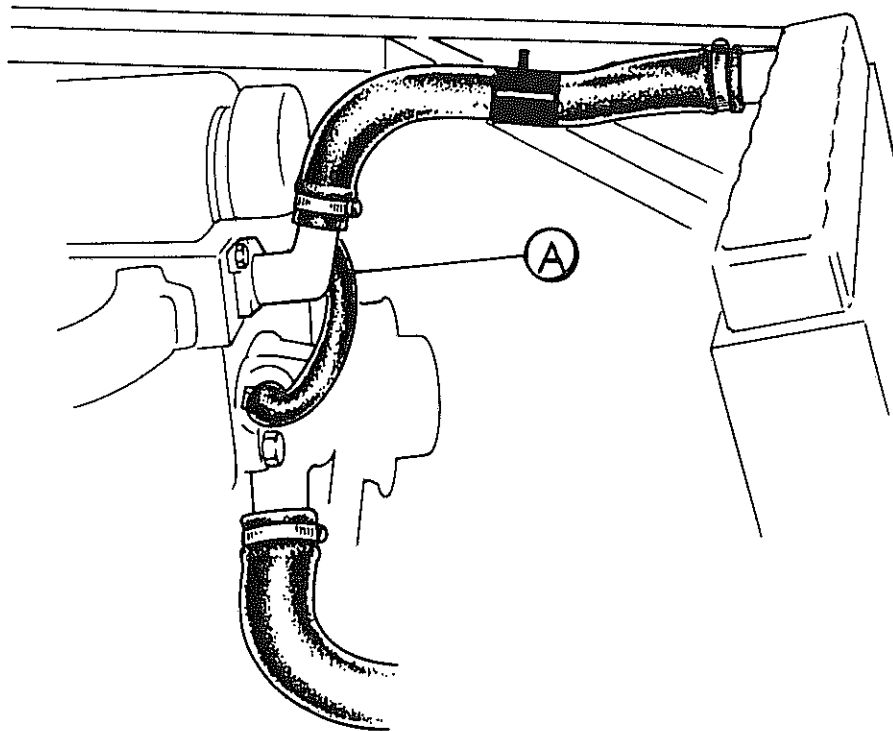
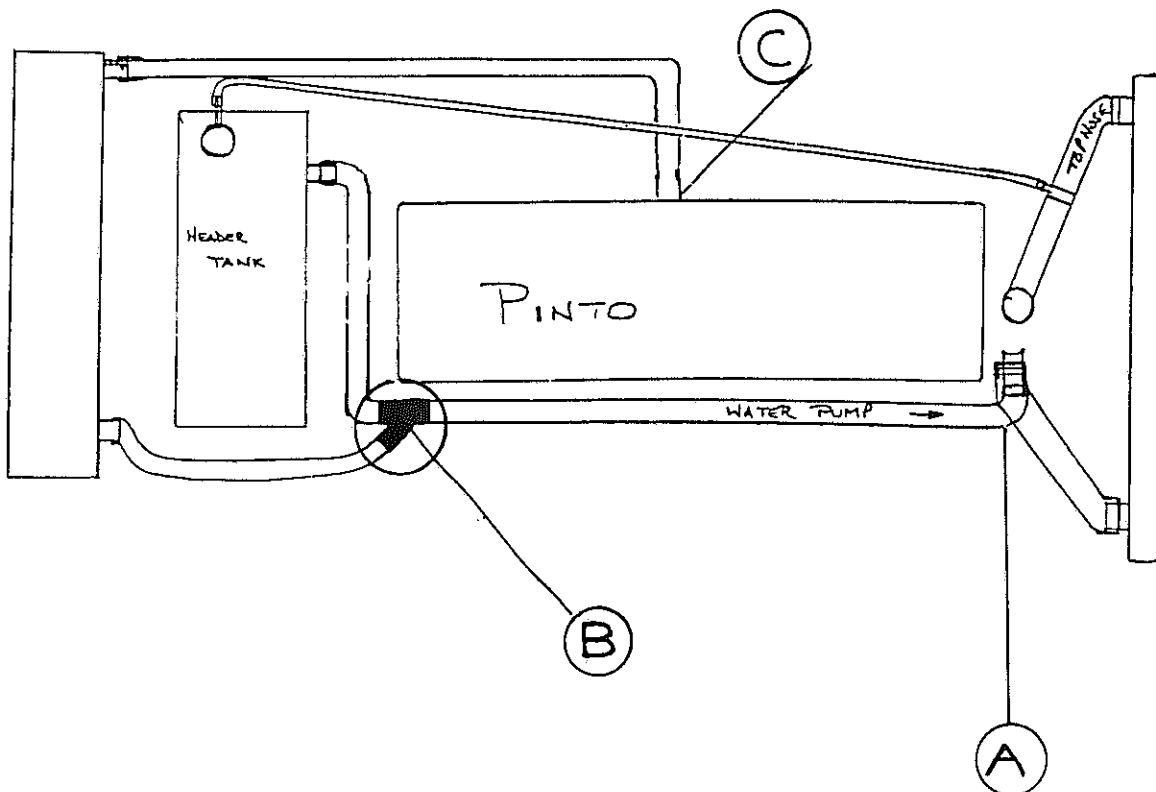


Diagram 60

For use without heater unit blank off manifold at point (C) and omit the (Y) piece at point (B).



## Rover V8

When fitting the Rover V8, make sure you fit a four row radiator or the special nose cone mounted aluminium radiator. It is advisable to fit an adaptor into the top hose to accept a breather pipe and radiator fan switch, this is available from Westfield.

The position and mounting of the four row radiator and fan assembly is the same as for the crossflow engine.

When fitting the header tank to the scuttle it is necessary to connect the hose to the water pump connection, if a heater is installed it will be necessary to fit a "Y" connector into the hose, as shown for the Pinto engine, page 49, diagram 60, figure (B).

It is advisable to fit a Westfield breather and fan switch adaptor, This fits into the top hose and is secured by 2 jubilee clips, page 49, diagram 59.

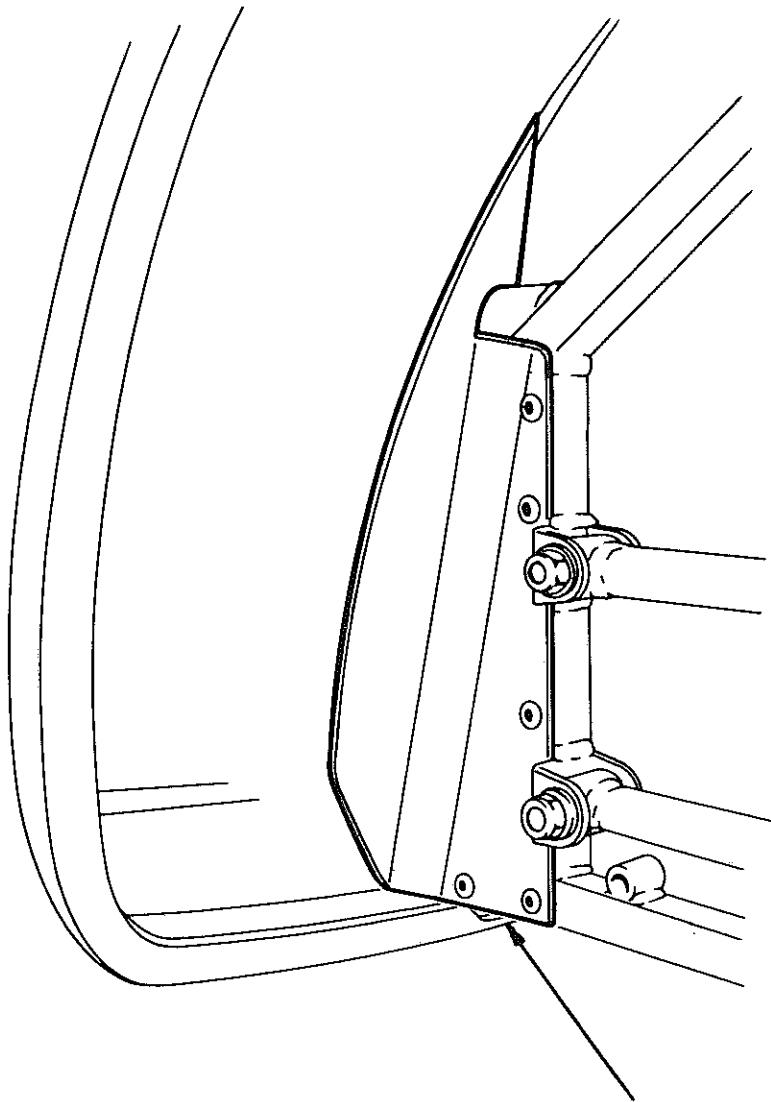


## FITTING BODY WORK

When fitting the rear body section first fit the rear lamp units, rear fog lamps and reversing light unit. To do this make a cardboard template of the bolt holes and transfer them onto the fibreglass body making sure the lamps are square and have equal clearance around them, taking note of the legal height requirements as shown on page 87, With the help of an assistant, lift the body to an angle of 45 degrees with the front of the body section higher than the rear. Slide the rear body work underneath the lower chassis rail, then lower the front of the body work onto the chassis.

NB: File the fibreglass return level in the rear wheel arch as shown in diagram 61, to enable the body to fit smoothly against the chassis.

Diagram 61



With the wheels centrally positioned in the wheel arches G-Clamp the body to the  $\frac{3}{4}$ " square mounting bracket, and the rollover bar mounting brackets, secure the fibreglass with four large head  $\frac{3}{16}$ " pop rivets to the  $\frac{3}{4}$ " square mounting brackets and fit the rollover bar in place. Remove the G-Clamps.

# FITTING WINDSCREEN

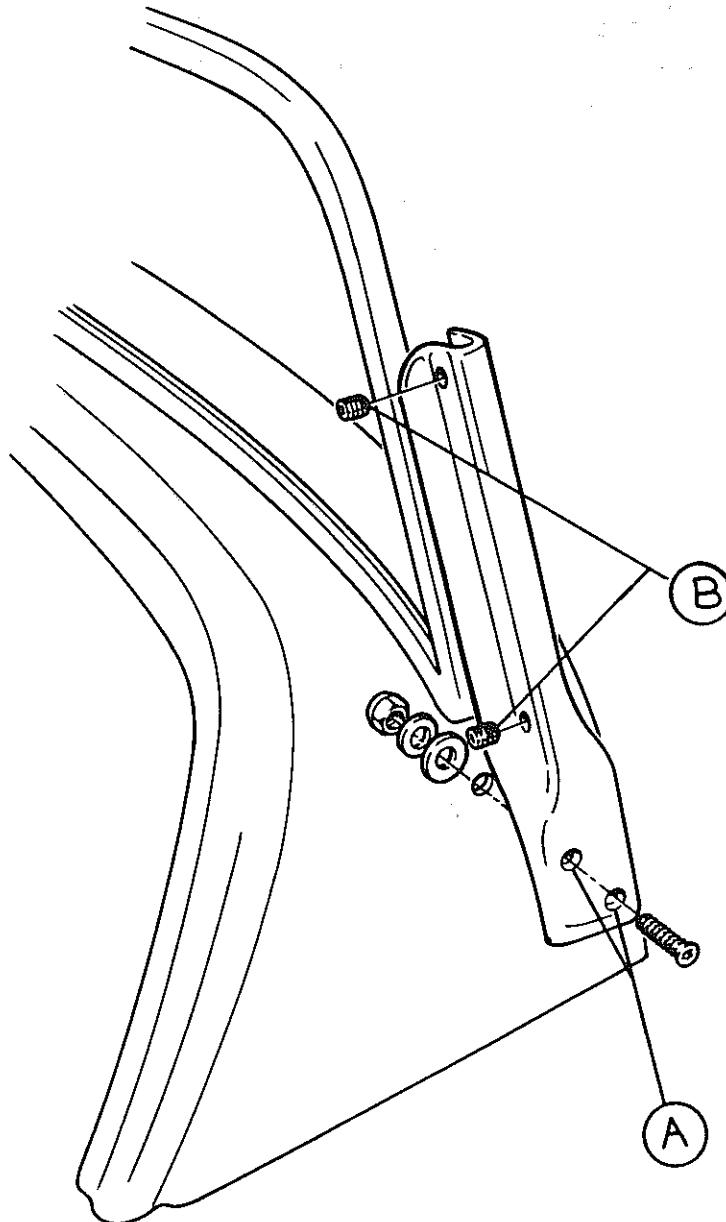
SE / SEi / SEi Wide.

Drill two 6mm clearance holes through the screen pillar and countersink at 90 degree, as shown in diagram 62, figure (A).

Drill and tap the screen pillar to accept the 5mm grub screw, this is used to secure the windscreen in place, diagram 62, figure (B).

The scuttle has two markings on each side this will enable you to drill a 6mm clearance hole to mount the screen pillars. Drill a 6mm clearance hole through the lower markings in the figreglass. Place the offside screen pillar against the scuttle and secure with the 6mm stainless steel countersunk bolt, plain washers and nyloc nuts. Insert the windscreen into the offside screen pillar, then fit the nearside screen pillar using the lower mounting hole.

Diagram 62.



Measure from the seat back to the top of the screen, as shown in diagram 63, 64, (which can only be measured after fitting the scuttle as described on page 57, diagram 68, 69), then tighten the countersunk screws to secure the pillars. Drill out the top mounting holes and fit and tighten the countersunk screws followed by the 5mm grub screws to secure the windscreen. DO NOT OVER TIGHTEN THE GRUB SCREWS, AS THIS WILL BREAK THE WINDSCREEN.

Diagram 63, SE/SEi

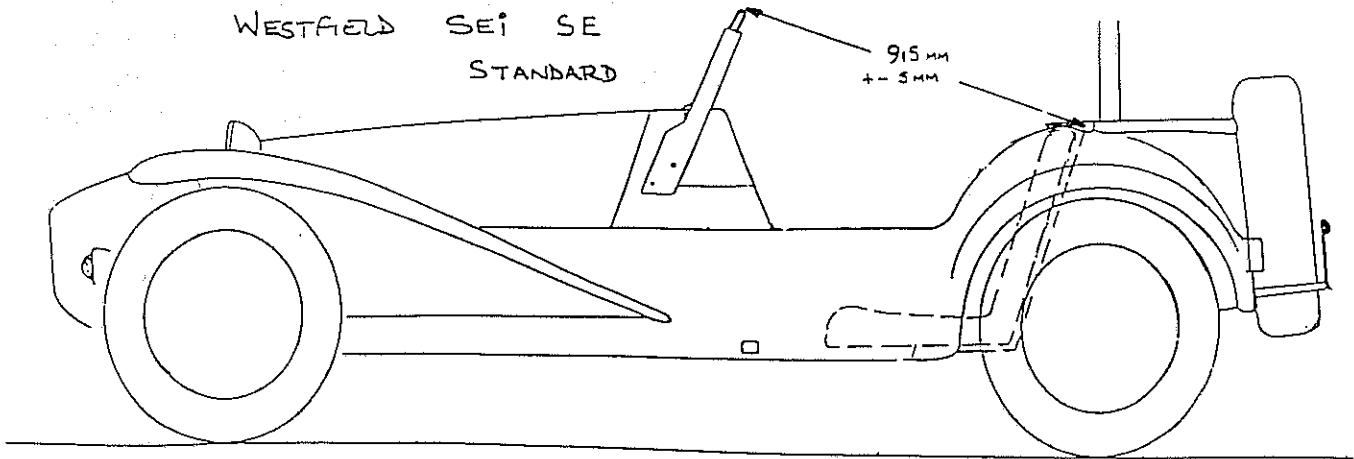
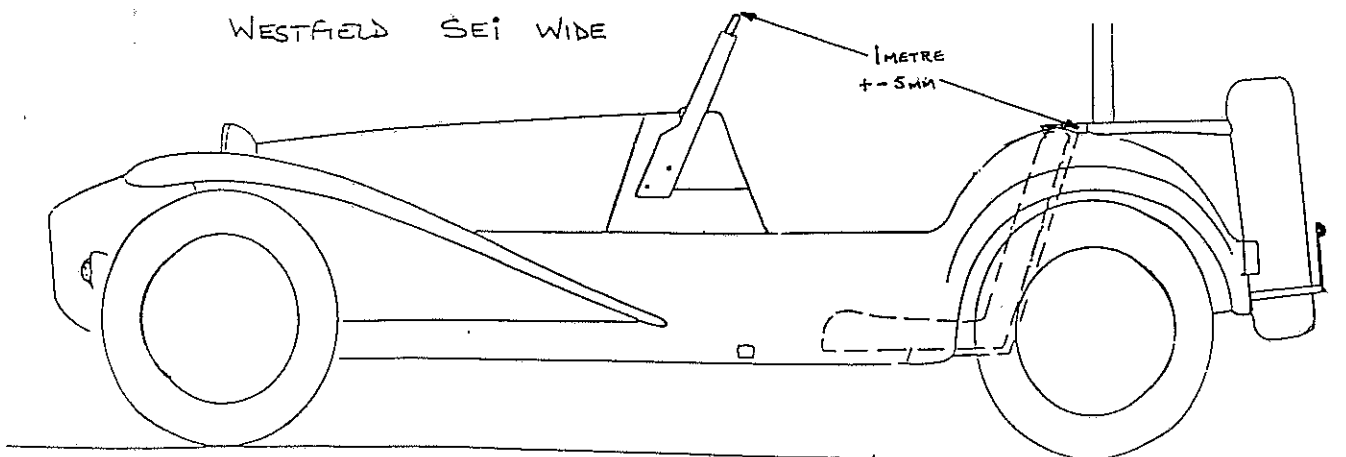


Diagram 64, SEi Wide



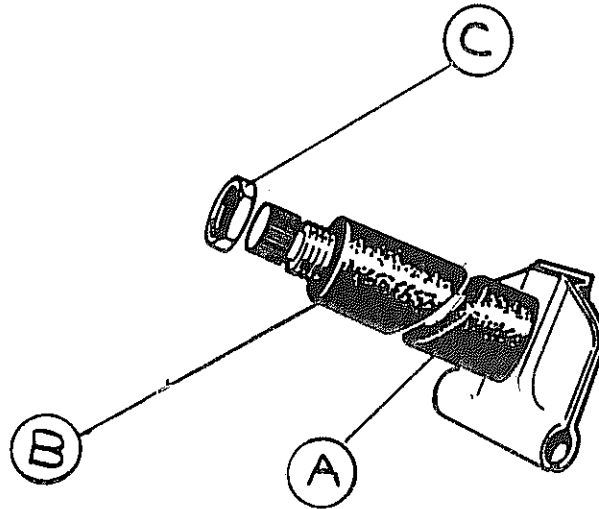
## FITTING WIPER ASSEMBLY.

Insert fibreglass windscreen fillet between windscreen pillars. Using a  $\frac{1}{8}$ " drill make a hole through the fillet into the scuttle, through the centre of the wheelbox mounting indentations.

Remove screen fillet, enlarge the  $\frac{1}{8}$ " hole to 17mm x 25 (radius the corners) to give clearance on the wheelbox shaft.

Take the rubber bushing and cut to an angle of 35 degrees, as shown in diagram 65.

Diagram 65.



Take the scuttle and elongate the  $\frac{1}{8}$ " holes to take the wheelboxes, making sure that the rubber bushing figure (A) fits exactly flush against the scuttle. Cut rubber bushing figure (B) to enable it to fit between the scuttle and the screen fillet, then loosely fit the nut, figure (C) onto the wheelbox.

Measure the wiper rack tubing into three lengths.

D - 12 $\frac{1}{2}$ "

E - SE / SEi - 9 $\frac{3}{4}$ "

E - SEi Wide - 10 $\frac{1}{4}$ "

F - 3"

Bend wiper rack tubing as shown in figure (D), taking special care not to deform the tube as this will affect the smoothness of operation. Use a flaring tool, flare the end of the tube concave, allowing it to fit into the wheelbox. Take care not to forget to fit the wiper motor nut to the tube before flaring. This operation can be completed by Westfield Sportscars.

Using the flaring tool again concave both ends of the tube, making sure the dimension figure (E) is exactly the correct measurement, so as to enable it to fit between the wheelboxes without any misalignment.

Finally flare the end of tube figure (F).

Remove wheelboxes from the scuttle.

Assemble the wiper rack tubes to the wheelboxes, insert the wiper rack into the tubing engaging the gear in the wheelboxes NB. you may have to turn the spindle to help, feed the wiper rack through the wheelboxes.

Tighten the wiper rack tubing nut onto the wiper motor, figure (G).

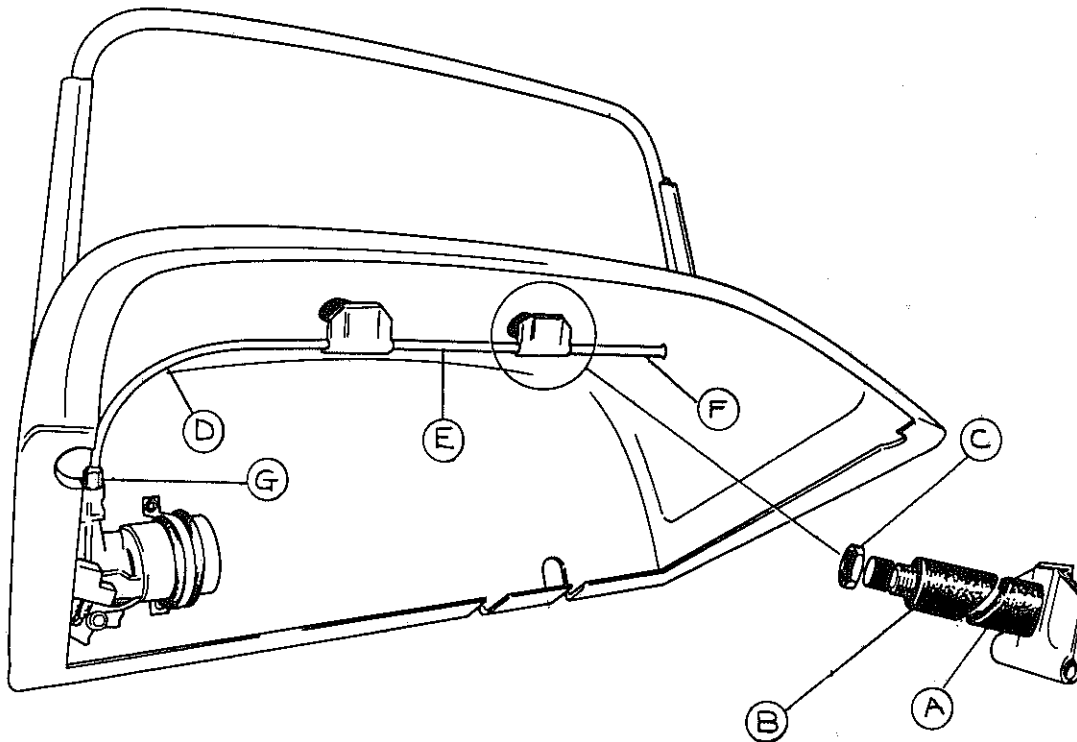
Cut off surplus wiper rack which protrudes out of tube, figure (F).

Refit wheelboxes onto scuttle, sealing the rubber bushing against the scuttle using silicone sealant. Using the wiper motor fixing strap, rubber insulator, and rubber saddle, mount the wiper motor to the scuttle, making sure not to strain the wiper rack tube, figure (D).

Finally check all nuts for tightness.

Drill a hole in the centre of the scuttle so that the washer jet can be fitted.

Diagram 66



## FITTING HEATER UNIT TO SCUTTLE

Using template shown in supplement, mark out the scuttle and drill to dimensions shown.

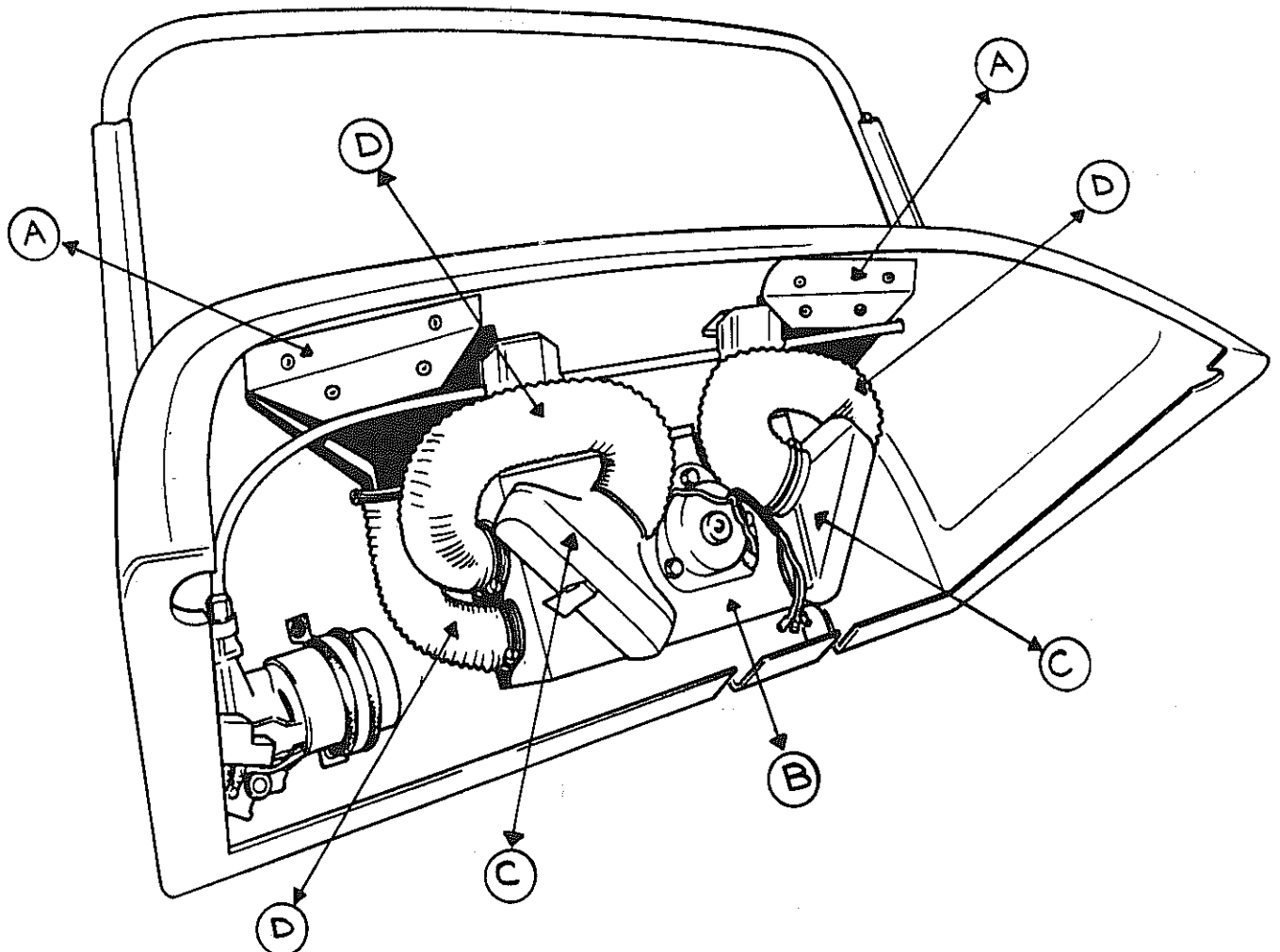
Cut out the apertures for the demister vents (scribe marked in the fibreglass).

Attach the aluminium mounting plates figure (A), to the demister vents using two  $\frac{3}{16}$ " pop rivets. Fit the demister vents to the scuttle using large head  $\frac{3}{16}$ " pop rivets inserted from the top of the scuttle.

Remove the heater cover figure (B) and fit the interior heater vents, figure (C) using the two 90 degree aluminium brackets, securing with  $\frac{1}{8}$ " x  $\frac{1}{4}$ " pop rivets. Refit the cover, figure (B) and mount the heater unit into the scuttle using M6 x 20mm bolts, washers and nyloc nuts.

Finally connect vents to the heater using the vent pipes figure (D) as supplied with the heater kit.

Diagram 67



Positioning the SE, SEi, SEi Wide Scuttle.

Place the scuttle onto the top of the body, measuring figure (A), diagram 68, from the seat back rail for SE, SEi and measure figure (A) diagram 68 for SEi Wide, to the base of the scuttle. It is advisable to mark the body using a marker pen, this will enable it to be fitted in the correct position.

Diagram 68. SE, SEi.

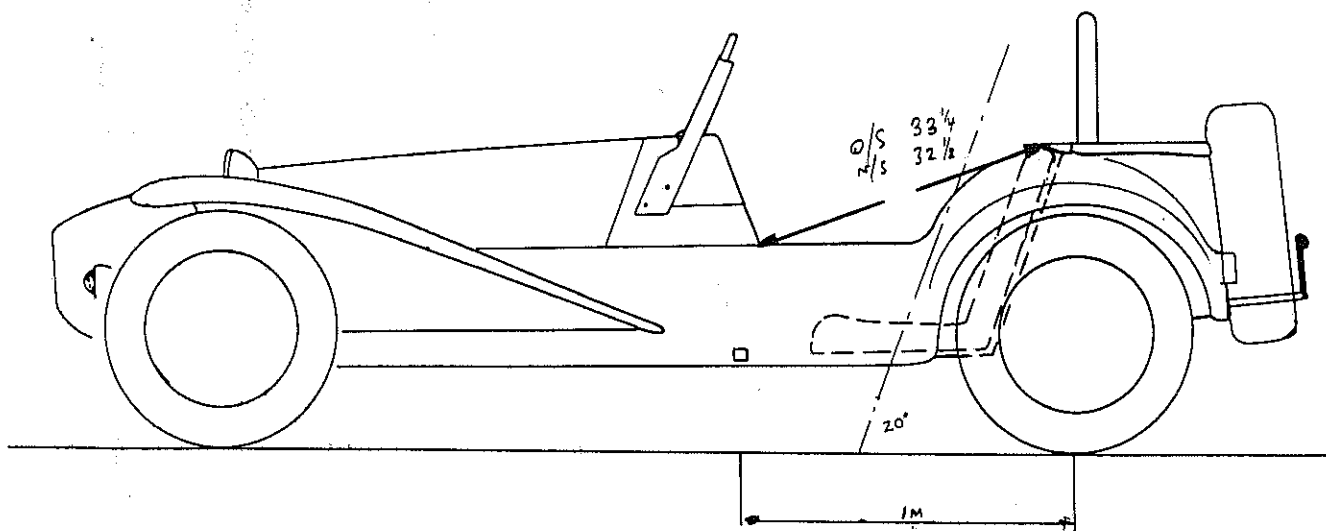
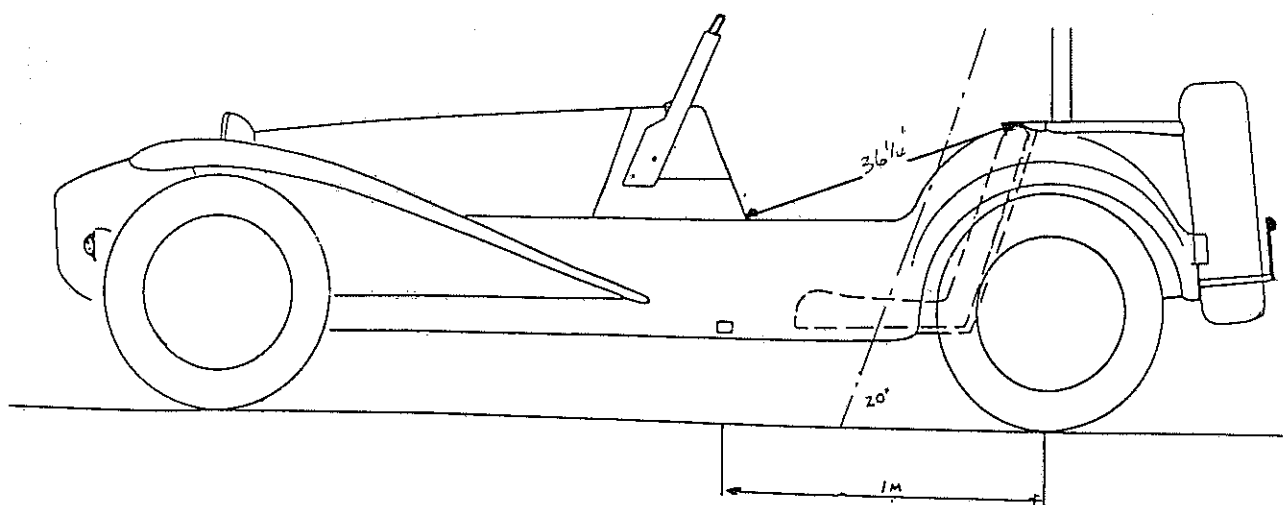
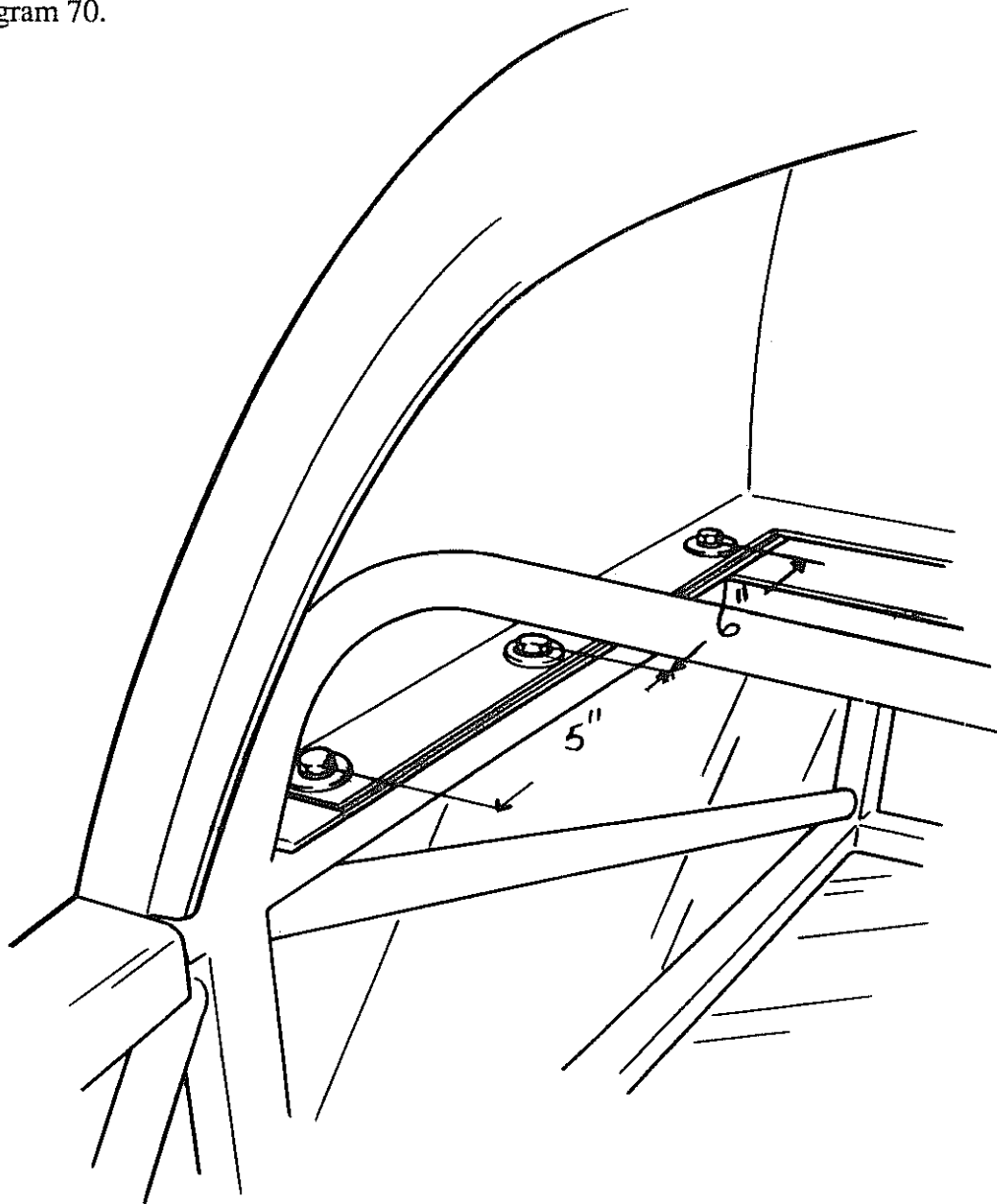


Diagram 69. SEi Wide.



To secure the scuttle use either 8mm steel rivnuts, or 1/4" x 1 1/2" bolts and washers. If you decide to use bolts you **MUST** insert a spacer into the chassis tube to prevent it from deforming. **DO NOT SECURE WITH POP RIVETS OR SELF TAPPING SCREWS** as they will pull out when under tension from the windscreen and hood. Drill three holes either side of the chassis, to the dimensions shown in diagram 70, to accept the rivnut or 1/4" bolts.

Diagram 70.



Reposition the scuttle onto the alignment marks. Using masking tape ensure that the outside edge of the scuttle and body are flush with each other.

Transfer the hole dimension from the chassis tube to the fibreglass body and scuttle. NB When using the rivnut a recess is required in the body fibreglass, for the head of the rivnut.

Bolt scuttle to chassis using the M8 x 20mm for rivnut or 1/4" x 1 1/2" bolts with spacers, Sealing around the base of the scuttle with silicon sealant.

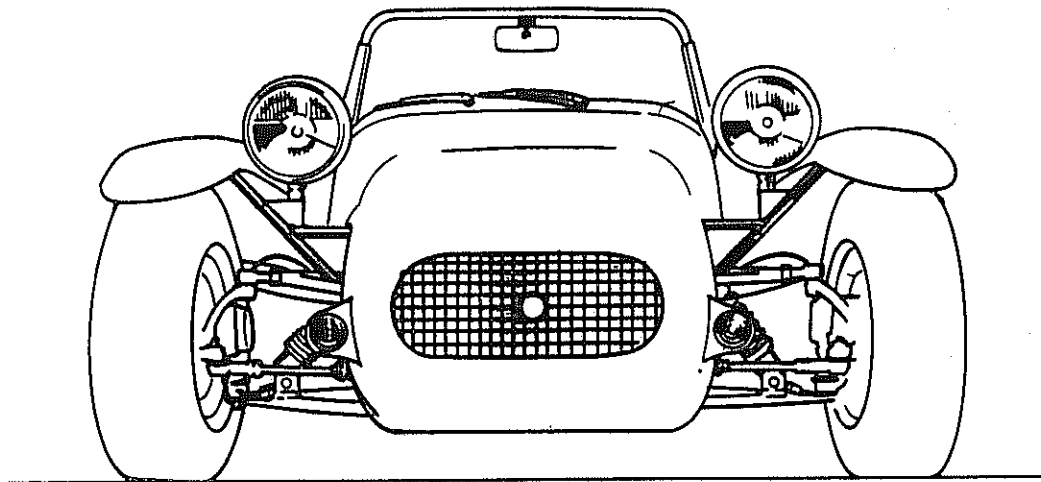
Check dimensions before finally tightening the bolts.



## FITTING BONNET AND NOSE CONE.

Using a 1 1/4" hole cutter, cut a hole centrally in the indicator pods and fit the indicator lamps. Position the pods equally onto the nose cone as shown in diagram 71, secure using 1/8" pop rivets or M5 x 16mm capheads and nyloc nuts.

Diagram 71.

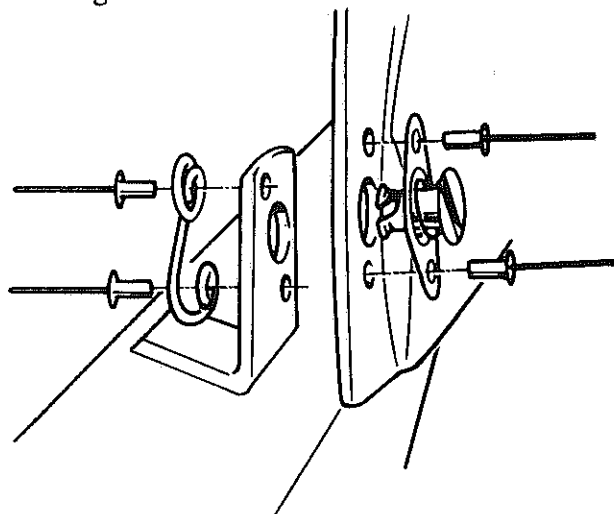


Place the bonnet and nose cone on the body aligning them with the scuttle and the main body section, using masking tape to hold them together.

Using 3 G-clamps, clamp the nose cone to the lower Dzus bracket with one G-clamp and onto the chassis sides with the other two clamps.

Remove the bonnet and drill through the nose cone into the mounting bracket holes and fit the Dzus fasteners as shown in diagram 72.

Diagram 72.



Secure the grill to the nose cone aperture using small "P" clips secured with 1/8" pop rivets.

Refit the nose cone with the Dzus fasteners, place bonnet in position and fit the bonnet catches, as shown in diagram 73. Remembering to ensure adequate tension on the bonnet catches.

Diagram 73



## FITTING SWEEP WINGS.

To fit the swept wings you will notice two scribe marks in the sides of the fibreglass body, and two scribe marks in the swept wings.

Drill the two scribe marks in the wings and the front scribe mark in the fibreglass body with a  $\frac{5}{16}$ " clearance drill.

Loosely fit a  $\frac{5}{16}$ " x 1" bolt with 1" flat washers and nyloc nut to the front hole. Lift up the rear of the wing and drill into the scribe mark on the fibreglass body, using a  $\frac{5}{16}$ " bolt with 1" flat washers and nyloc nut. Repeat this operation on the opposite side. Drill six  $\frac{5}{16}$ " clearance holes equally spaced between the two bolts previously fitted.

Measure 50" of wing piping. Fit wing piping between the body and the wing using a  $\frac{5}{16}$ " clearance drill. Drill through the wing piping and secure with  $\frac{5}{16}$  x 1" bolts, flat washers and nyloc nuts. Tighten all nuts and bolts.

Secure the wing to the headlamp bracket using two M5 x 25mm dome head stainless steel cap screws, washers and nyloc nuts.

It is advisable to drill the holes to secure the wing through the wing bracket first, then into the wing. Care must be taken to ensure that the holes are positioned equally in the wing, it is essential to use a sharp drill so you do not cause damage to the gelcoat finish.

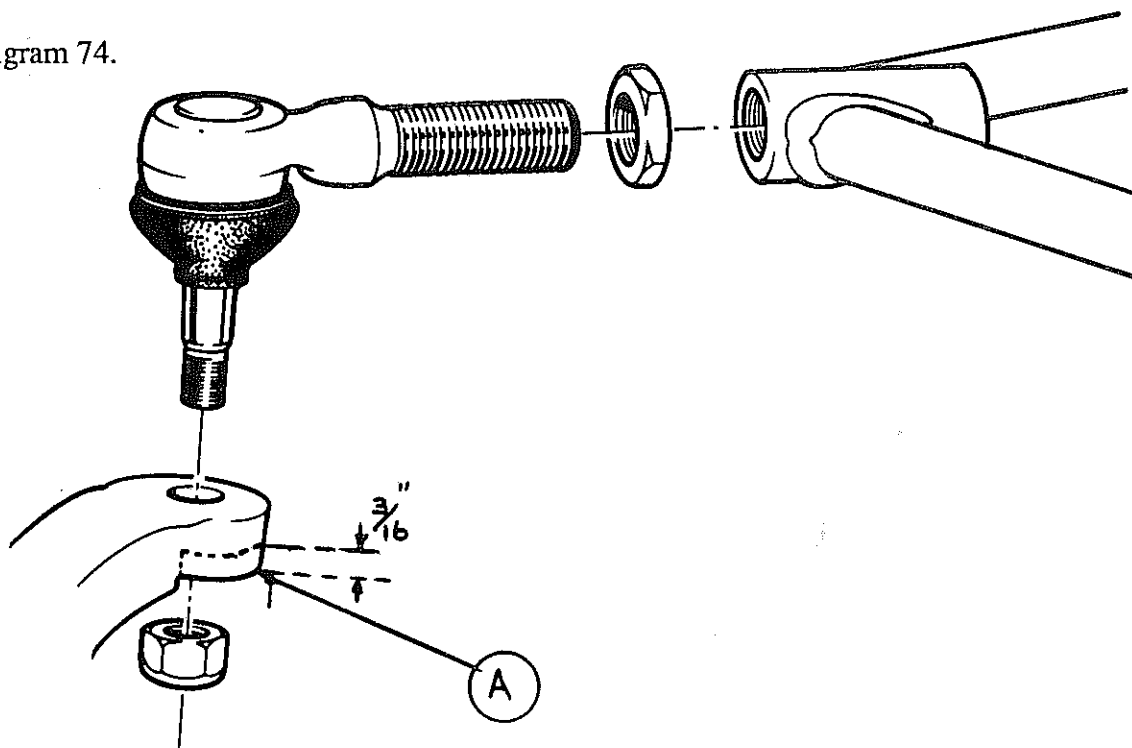
Cut a length of 1" self adhesive foam and attach it onto the top of the wing bracket (this acts as a installer between the bracket and the wing). Fit M5 dome head cap screws with plain washers, underneath the head of the cap screw and tighten.

## FITTING CYCLE WINGS.

There are two widths of cycle wings available, standard width and German spec wings will accommodate 205 section tyres

To fit the cycle wings mount the wing brackets onto the front upright. To do this you must cut away  $\frac{3}{16}$ " from the under side of the upright as shown in diagram 74, figure (A). This is essential as the nyloc nut will not fit correctly on the ball joint. i.e. not enough thread protruding through the nut.

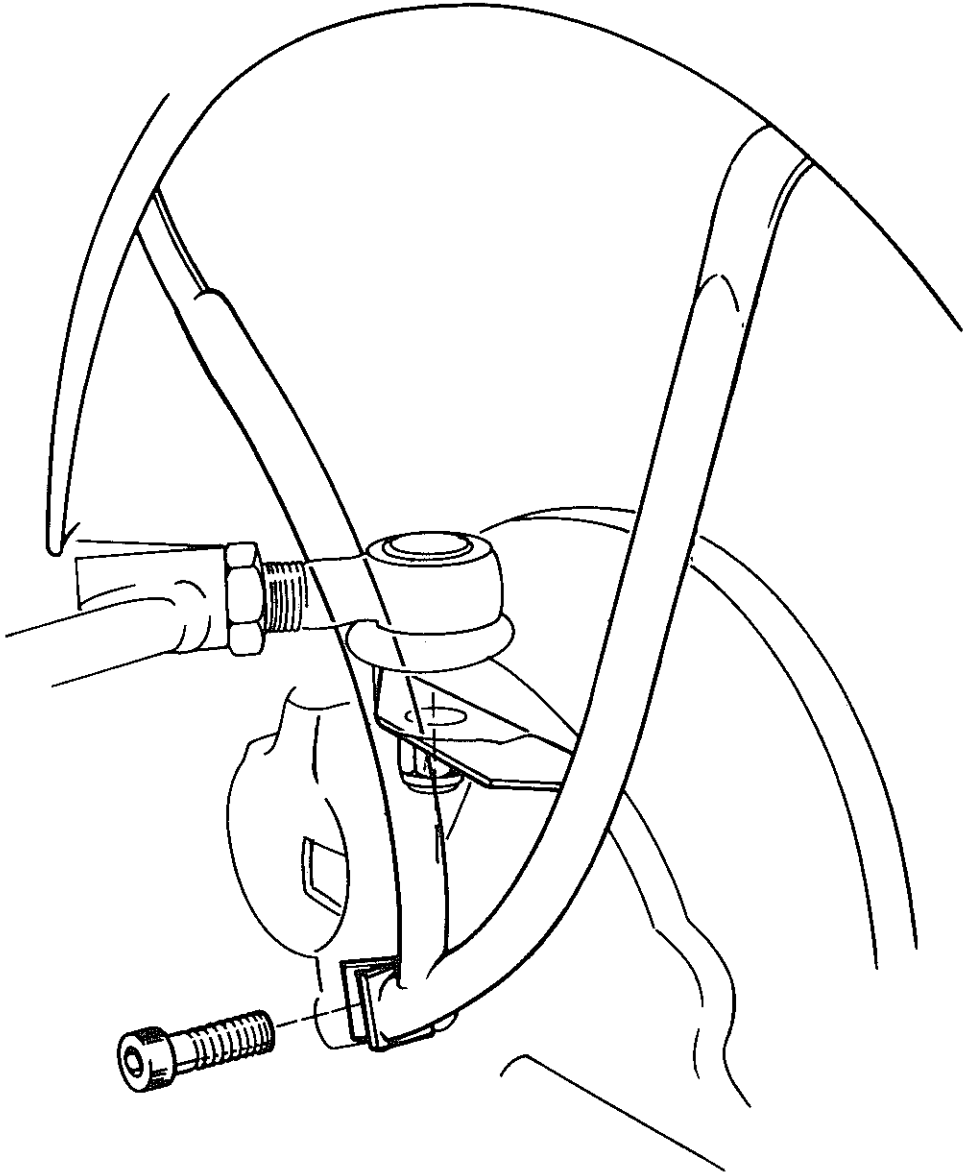
Diagram 74.



There are two mounting points on the wing brackets. Attach mounting point (B), diagram 75, to the top ball joint (A) securing it with a nyloc nut. Attach mounting point (C), diagram 75, to the brake caliper bolt, securing with loctite thread lock.

Fit wheels and tyres ensuring that the tyre does not foul the wing bracket. Place the cycle wing onto the bracket so as to enable you to mark the correct position. Remove the wheel and tyre, cut a length of 1" self adhesive foam and attach it onto the wing bracket forming a installator to the cycle wing. Drill the wing using a 5mm clearance drill and secure with M5 x 20mm stainless steel dome head cap screws, washers and nyloc nuts.

Diagram 75.

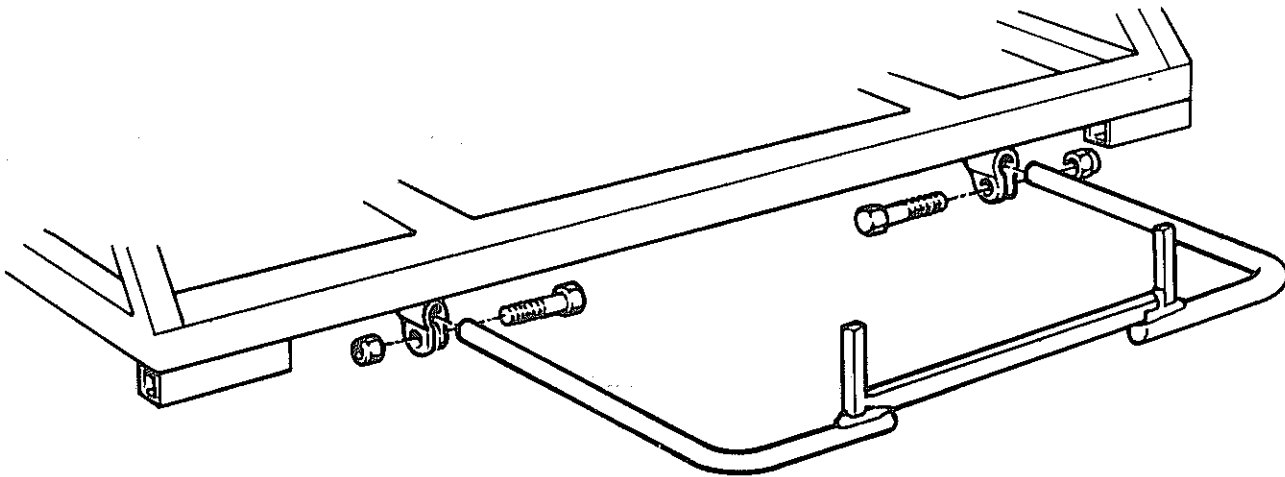


## FITTING SPARE WHEEL CARRIER

Mark out the position that the spare wheel carrier goes through the rear body section and drill a clearance hole or file out a hole to accept the spare wheel carrier. Insert the carrier into the clamps. Place the wheel and tyre onto the carrier to enable you to adjust it to the correct position.

Clamp carrier using two M8 x 35mm bolts, washers and nyloc nuts.

Diagram 76.



## FITTING BOOT BOX

Use a large piece of cardboard, to make a template of the boot box aperture

Put the template onto the boot box and mark around the edge. Bias the boot box towards the rear of the car, leaving about a 1" lip on the fibreglass, this allows clearance for the shock absorbers.

Trim the boot box to the mark leaving 1/8" excess, trial fit and remove excess fibreglass where necessary

Secure with M5 rivnuts or self tapping screws.

## FITTING EXHAUST MANIFOLD

To enable the hole to be positioned in the fibreglass body you have to take the exhaust and measure the depth from the exhaust ports to the centre line of the exhaust pipes where they pass through the body. Make a 2" hole in the fibreglass body at the required depth and position at which the exhaust will exit through the body. Enlarge the hole until the exhaust will pass through the body leaving roughly 1" clearance around the exhaust pipes.

## FITTING SILENCER.

Fit the silencer to the mounting boss figure (A), using the Westfield silencer mounting kit as shown in diagram 77, 78.

Drill a 1/8" hole through the fibreglass from the inside of the car using the mounting boss figure (A) to align the hole with the boss. Open out the 1/8" hole to fit spacer figure (B). Bolt bracket figure (C) to spacer figure (B), securing it with socket bolt figure (D). Fit cotton reel mounting figure (E) to bracket figure (C), and bracket figure (F). Fit the silencer to the manifold using a 2" exhaust clamp. Also fit a 2" exhaust clamp to the rear of the silencer attaching it to bracket figure (F).

Diagram 77.

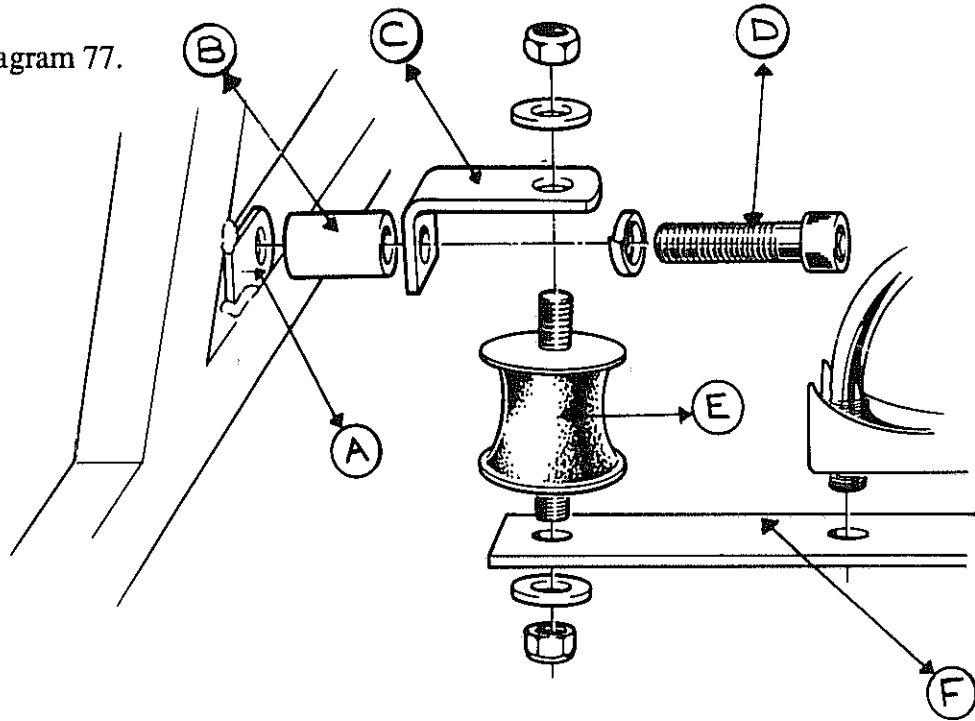
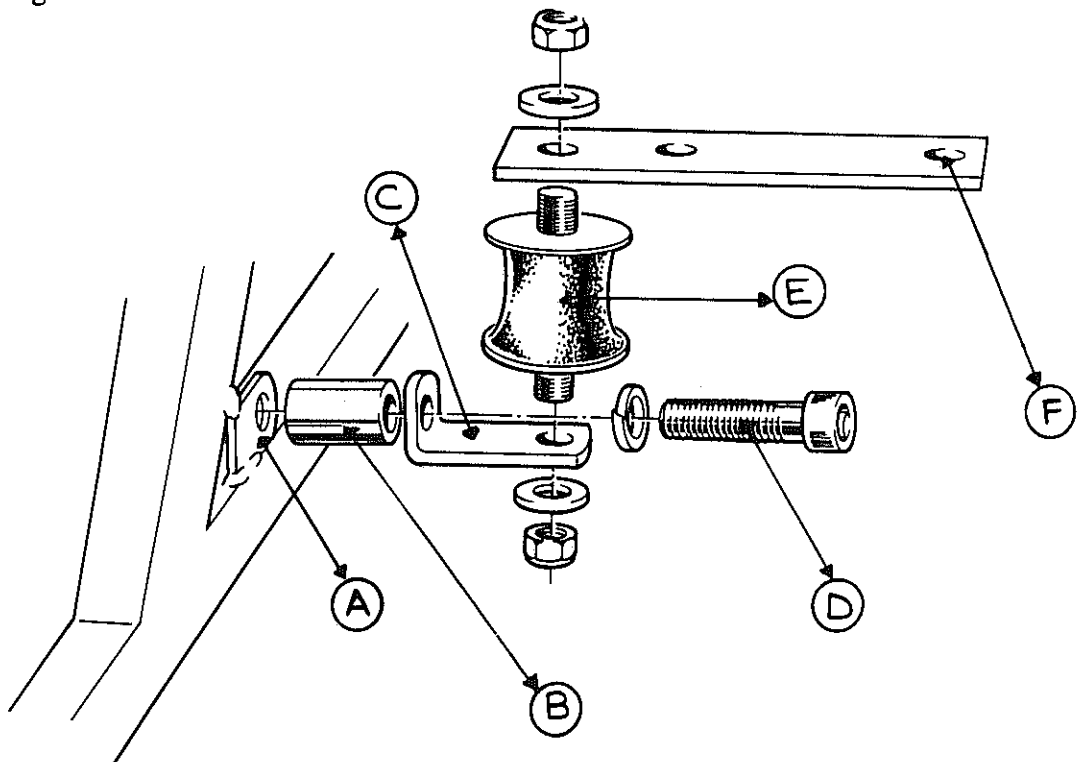


Diagram 78.



## FITTING STEERING COLUMN

To fit the Allegro steering column to bracket figure (A), diagram 79, Cut a 1½" diameter hole in the scuttle, where the column shaft passes through.

Mount the column to the brackets a 1¼" exhaust clamp and attach the lower steering column coupling figure (B). Fill the gap which remains between the steering column and the scuttle hole with a grommet or silicone sealant. Make sure all nuts and bolts are tightened.

Care must be taken not to overtighten the top column clamp, checking the resistance of the column in the bush whilst tightening making sure it turns freely.

Diagram 79.

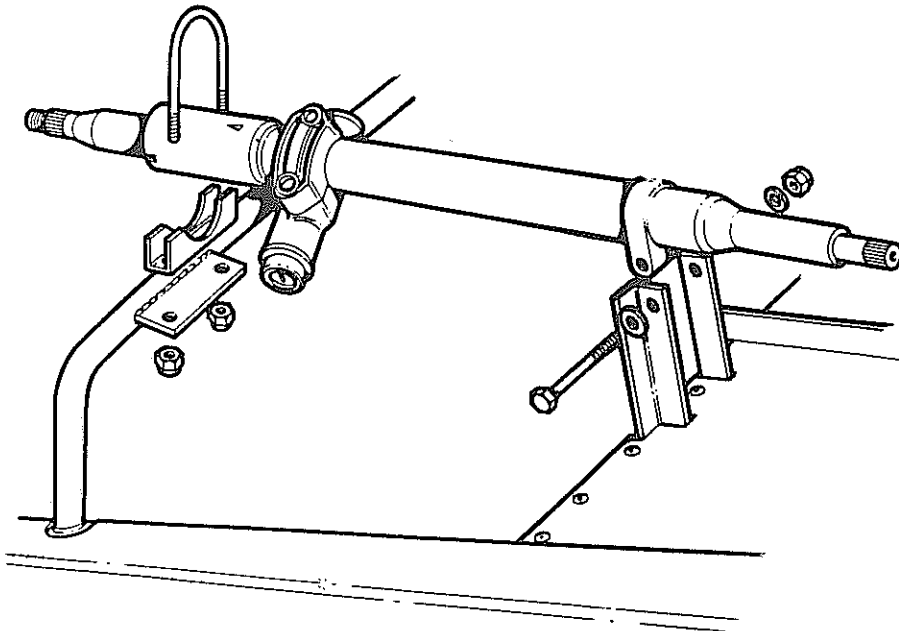
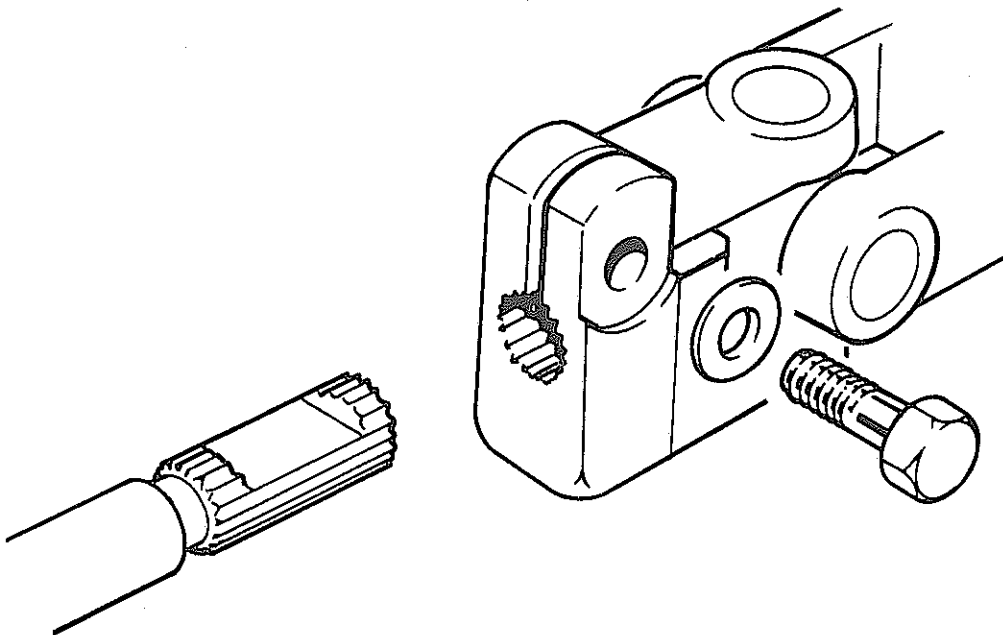


Diagram 80.



# CONNECTING WIRING LOOM

## Wiring Colours

### Offside / nearside headlamp connections.

Main beam	=	Blue and White.
Dip beam	=	Blue and Red.
Side light	=	Red.
Earth	=	Black.

Nearside indicator lamp	=	Green and Red.
Earth	=	Black.

Offside indicator lamp	=	Green and White.
Earth	=	Black.

### Nearside rear lamp connections.

Side light	=	Red and Orange.
Brake light	=	Green and Purple.
Indicator light	=	Green and Red.
Reversing light	=	Green and Brown.
Fog light	=	Red and Blue.
Earth	=	Black.

### Offside rear lamp connections.

Side light	=	Red and Orange.
Brake light	=	Green and Purple.
Indicator light	=	Green and White.
Reversing light	=	Green and Brown.
Fog light	=	Red and Blue.
Earth	=	Black.

**NB: When connecting the indicator to the lamp units you connect the green and white/green and red to the green on the rear lamp units.**

Nearside indicator repeater lamps	=	Green and Red.
Earth	=	Black.

Offside indicator repeater lamps	=	Green and White.
Earth	=	Black.

Horn	=	Switch number SPB 200.
	=	Purple and Black.
Earth	=	Black.

Engine fan	=	Black and Green.
Earth	=	Black.

Oil pressure sensor	=	White and Brown.
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Windscreen washer		=	Light Green and Black.
Earth		=	Black.
Brake fluid level		=	Black and White.
Earth		=	Black.
Radiator temperature switch		=	Black and Green.
Supply		=	Green.
Water temperature sensor		=	Green and Blue.
Ignition coil			
positive		=	White.
Low tension negative		=	White and Black.
Reversing lamp switch		=	Green.
		=	Green and Brown.
Handbrake switch		=	Black and White.
Earth		=	Black.
Fuel tank unit		=	Green and Black.
Earth		=	Black.
Fuel pump		=	Green.
Earth		=	Black.
Rear number plate lamp		=	Red and Black.
Earth		=	Black.
Brake switch		=	Green and Purple.
Supply		=	Green.
Heater motor			
1st speed		=	Green and Grey.
2nd speed		=	Green and Yellow.
Earth		=	Black.
Dip switch		=	Switch number: 34426.
	<u>Terminal No.</u>		
Supply	1	=	Blue.
Main beam	2	=	Blue and white.
Dip beam	4	=	Blue and Red.
Brake fluid warning lamp.			
Supply		=	Green.
Return		=	Black and White.
Tachometer			
Supply		=	Green.
Sensor		=	White and Black.
Earth		=	Black.
Instrument lamp		=	Red and Orange.

Heater switch  
 Supply to the switch = Green.  
 1st speed = Green and Grey.  
 2nd speed = Green and Yellow.

Rear fog switch  
 Supply to the switch = Red and Black.  
 Return to the fog lamp = Red and Blue.

Instrument Gauges

Fuel gauge  
 Supply = Green.  
 Sensor = Green and Black.  
 Instrument lamp = Red and Orange.  
 Earth = Black.

Water temperature gauge  
 Supply = Green.  
 Sensor = Green and Blue.  
 Instrument lamp = Red and Orange.  
 Earth = Black.

Oil pressure gauge  
 Supply = Green.  
 Sensor = White and Brown.  
 Instrument lamp = Red and Orange.  
 Earth = Black.

Ignition switch  
 Main supply = Brown.  
 Ignition feed = White.  
 Starter supply to solenoid = White and Red.

Details of the fuse box.

WIRE COLOUR	FUSE NO	FUSE VALUE	CIRCUITS FUSED
R RO	1A	10A	N/S side, tail, instrument illumination.
R RB	2A	10A	O/S side, tail, number plate, rear fog.
UR UK	3A	15A	Dip beam.
UW US	4A	15A	Main beam.
N P	5A		Horn and hazards.
N	6A		Spare.
W G	1B	10A	Fuel pump.
W G	2B	15A	Radiator fan.
W G	3B	10A	Washer and wipers.
W G	4B	10A	Brake and reverse lights.
W G	5B	10A	Heater.
W G	6B	7.5A	Warning lamps.

Wiring colour codes.

R	=	Red.
B	=	Black.
G	=	Green.
U	=	Blue.
W	=	White.
N	=	Brown.
LG	=	Light Green.
P	=	Purple.
DG	=	Dark Green.
Y	=	Yellow.
S	=	Grey (Slate).
O	=	Orange.
K	=	Pink.

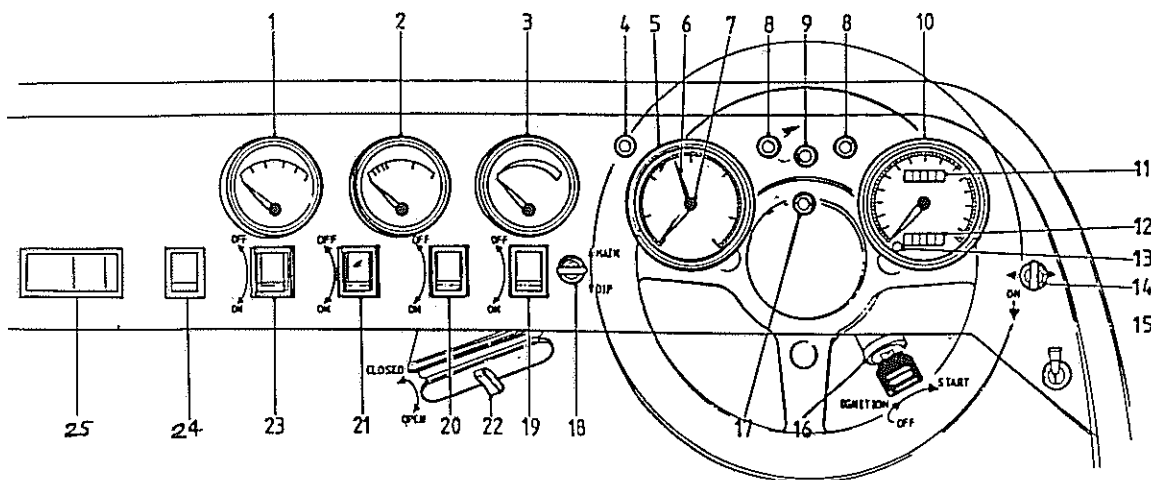
**DASH PANEL AND WIRING.**

**Shown on pullout overleaf**

## Dash Panel Layout.

- 1) Engine oil pressure gauge.
- 2) Engine water temperature gauge.
- 3) Fuel gauge.
- 4) Brake fluid level warning light (Red).
- 5) Tachometer.
- 6) Rev limit indicator.
- 7) Setting button for rev limit indicator.
- 8) Indicator warning lamps (Green).
- 9) Headlamp main beam indicator (Blue).
- 10) Speedometer.
- 11) Total distance recorder.
- 12) Trip distance recorder.
- 13) Reset button for trip recorder.
- 14) Direction indicator switch.
- 15) Horn switch.
- 16) Ignition switch and steering lock.
- 17) Ignition warning light (Red).
- 18) Headlamp dip switch.
- 19) Windscreen washer kit.
- 20) Lighting switch.
- 21) Windscreen wiper switch (2 Speed).
- 22) Heater duct.
- 23) Heater fan switch.
- 24) Rear fog switch.
- 25) Hazard switch.

Diagram 82.



There are three different types of dash available from Westfield.

### Aluminium Dash.

This dash is available in plain aluminium, allowing the holes to be cut out to the specification required. This dash is supplied with the kit

### Pre-Cut Dash.

This dash is available with laser cut holes, allowing the switches to be directly fitted into the dash.

### Covered Dash.

This dash is available with laser cut holes as above, padded with 3mm foam and covered to the colour of your choice in vinyl or leather.

## WIRING CONNECTORS.

The wiring loom contains the nylon block connectors which connects to the headlamp units, indicator lamps, rear lamps, reversing light and rear fog lamp as shown in diagram 82. The front indicator lamp units may require the wires to be extended by 6", to assist the fitting to the main loom. When wiring up the number plate lamp **DO NOT CONNECT THE RED FEED WIRE TO THE EARTH SIDE OF THE LAMP.**

Diagram 83.

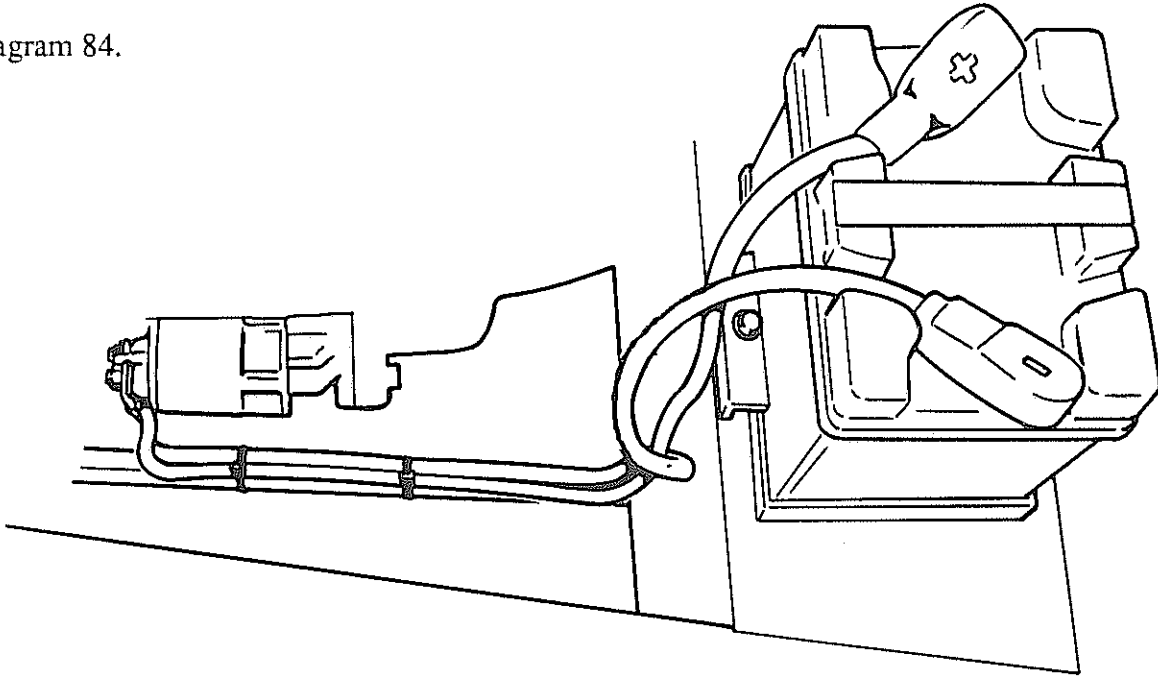


# BATTERY CONNECTIONS.

## CVH Engine.

The C.V.H. engine uses a special pre-engaged starter motor. When wiring the battery to the CVH engine, connect the negative to the chassis earth point positioned over the transmission tunnel. Take the positive battery lead and position it vertically to the bulkhead, fitting it along the lower engine bay rail securing it with tie raps as shown in diagram 84

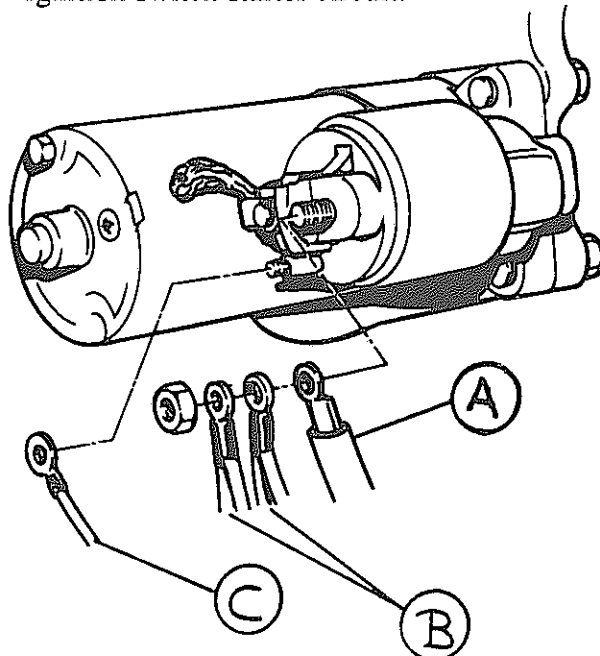
Diagram 84.



Connect the wires to the pre-engaged solenoid following diagram 85.

Diagram 85

- |                   |                                    |
|-------------------|------------------------------------|
| A = Red           | = Positive battery lead.           |
| B = Brown         | = Wiring loom main power feed.     |
| C = White and Red | = Ignition switch starter circuit. |



## Pinto Engine.

There are two types of starter motors fitted to the Pinto engine. They are a pre-engaged starter motor and an inertia starter motor.

The starter motor on the Pinto engine is fitted to the drivers side of the engine, The CVH and Crossflow are fitted to the passengers side.

The connections are the same for the respective type of starter motor i.e. pre-engaged, inertia. The only difference is in the positioning of the wiring to the starter motor which is located on the drivers side.

For details of the wiring of the two different types of starter motor refer to the respective diagrams shown for CVH, diagram 85 or Crossflow, diagram 86.

## KEY TO WIRING DIAGRAM

### Colour Code:-

UK .....	Blue / Pink.	U .....	Blue.
US .....	Blue / Slate.	RU.....	Red / Blue.
UW .....	Blue / White.	GW.....	Green / White.
UR .....	Blue / Red.	BW.....	Black / White.
RO .....	Red / Orange.	PB .....	Purple / Black.
RB .....	Red / Black.	P.....	Purple.
B .....	Black.	GP .....	Green / Purple.
LGN.....	Light Green / Brown.	GU.....	Green / Blue.
N .....	Brown.	GB.....	Green / Black.
NY.....	Brown / Yellow.	WB.....	White / Black.
GY.....	Green / Yellow.	WN.....	White / Brown.
GS .....	Green / Slate.	WR.....	White / Red.
BG .....	Black / Green.	RLG.....	Red / Light Green.
LGB .....	Light Green / Black.	ULG.....	Blue / Light Green.
LGK .....	Light Green / Pink.	NLG .....	Brown / Light Green.
G .....	Green.	W.....	White.
GR .....	Green / Red.	GN.....	Green / Brown.
R .....	Red.		

## **CVH WIRING LOOM DIAGRAM**

Diagram 87.

## **CROSSFLOW WIRING LOOM DIAGRAM**

Diagram 88.

## **PINTO WIRING LOOM DIAGRAM**

Diagram 89.

**Diagram 87, 88 and 89 are all combined on the pullout overleaf.**



# INTERIOR TRIM.

## Assembly and Fitting of Dash.

Assemble the dash panel with the switches and gauges as shown in diagram 82, page 71.

Connect the wiring loom to the dash panel assembly following diagram 81, page 70.

It is important that when connecting the illumination lamps to all the gauges, that you do not connect the red feed wire to the earth side of the bulb holder, as this will cause a direct short circuit and will burn the wiring loom out.

Offer the dash panel up to the scuttle, centralise it and hold in place with masking tape, drill through the fibreglass return using the fixing holes, that are pre-drilled in the dash panel as a guide, secure with M5 x 16mm stainless dome head socket screws.

## Fitting Side Panels.

There are two types of interior panels available.

The standard interior panels are available in two pieces as shown in diagram 90.

The export interior panels are available in one-piece for the SE, SEi standard and SEi Wide Bodied, as shown in diagram 91.

Diagram 90

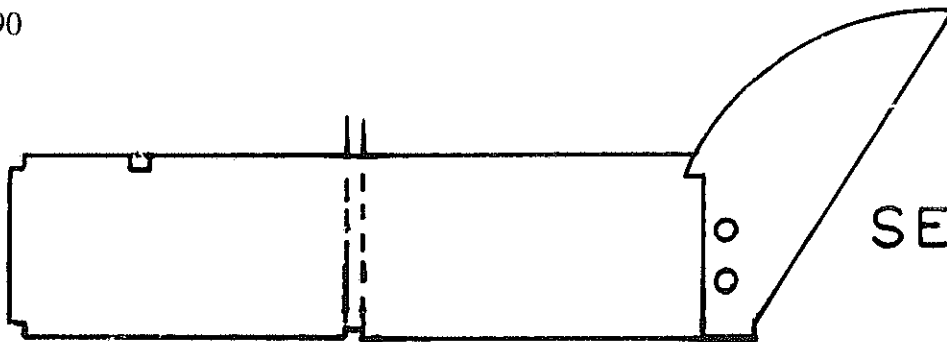
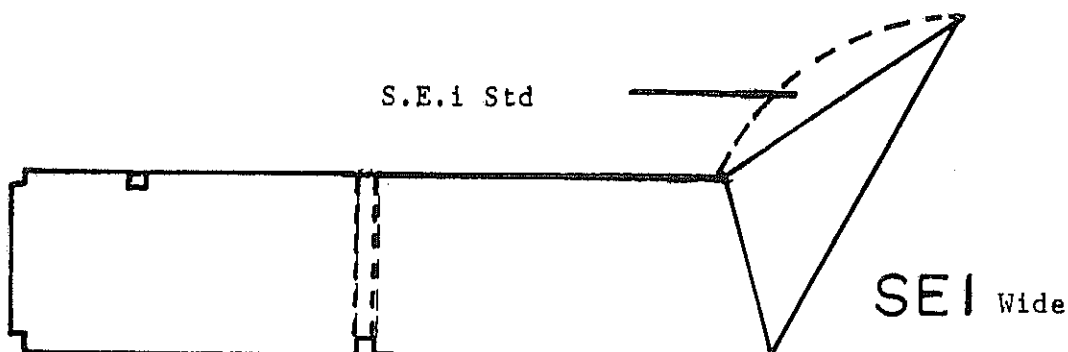


Diagram 91



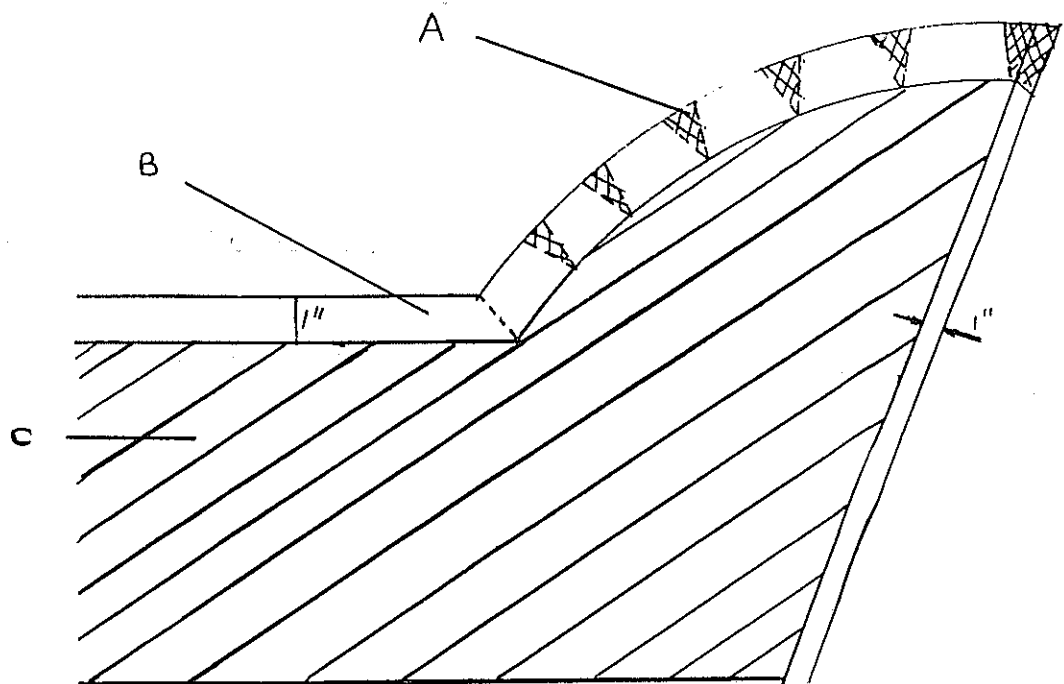
### Fitting SE / SEi / SEi Wide Two-Piece Interior Panels.

Trial fit the aluminium interior panels. The rear  $\frac{1}{4}$  panel has to follow the radius of the rear wheel arch leaving a gap of approximately  $\frac{1}{2}$ " from the edge of the wheel arch.

Cover the interior panels in the colour and material of your choice using a good quality contact adhesive, ensuring that it fits smoothly into place avoiding creases and air bubbles. Fold the material underneath the panels and cut each edge as shown in diagram 92 to enable the material to fit neatly onto the interior panels.

Diagram 92.

Cut out and discard the cross shaded vinyl fig "A" cut along the dotted lines and fold the vinyl fig "B" over onto the aluminium interior panel fig "C".



After covering the interior panels allow the adhesive to dry.

It is important that you use silicone sealant between the chassis and the interior panels. You must fit the panels into place immediately after applying the sealant to prevent it from setting. Fit the panels into place using  $\frac{1}{8}$ " x  $\frac{1}{2}$ " aluminium pop rivets. Pop rivet approximately every 9" around the edge of the panel overlapping the rear quarter panel with the front panel, pop riveting down the chassis tube where they overlap.

### Fitting SEi Wide One-Piece Interior Panels.

Trial fit the aluminium interior panels and cover and fit as described on page 80. NB Do not forget to drill a hole for the anchor point of the seat belt which is located on the bottom chassis rail 3" from the seat back base.

## **FITTING CARPETS**

Carpet sets are available from Westfield in a choice of colours.

Place the tunnel carpet over the tunnel and cut out the position of the handbrake lever, gearlever and wiring loom. Reposition the carpet and secure to the tunnel using either press studs or velcro. Fit the handbrake boot and securing frame to the tunnel using self tapping screws or pop rivets. Fit the gearlever boot to the tunnel using the plastic sleeve.

Position the seat back carpet on the seat back and secure with press stud or velcro.

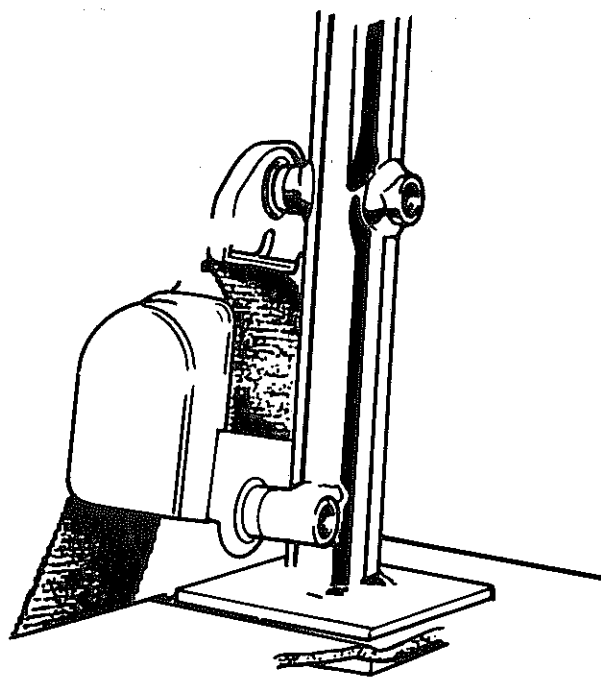
Place the floor carpet in the foot well and secure with press studs.

## **FITTING SEAT BELTS.**

Attach the inertia seat belt mechanism to the rollover bar as shown in diagram 93, ensuring that it is vertical, with the seat belt guide is directly above

Bolt the seat belt to the lower seat belt mounting boss, then bolt the seat belt buckle to the mounting boss.

Diagram 93.



# FITTING SEATS

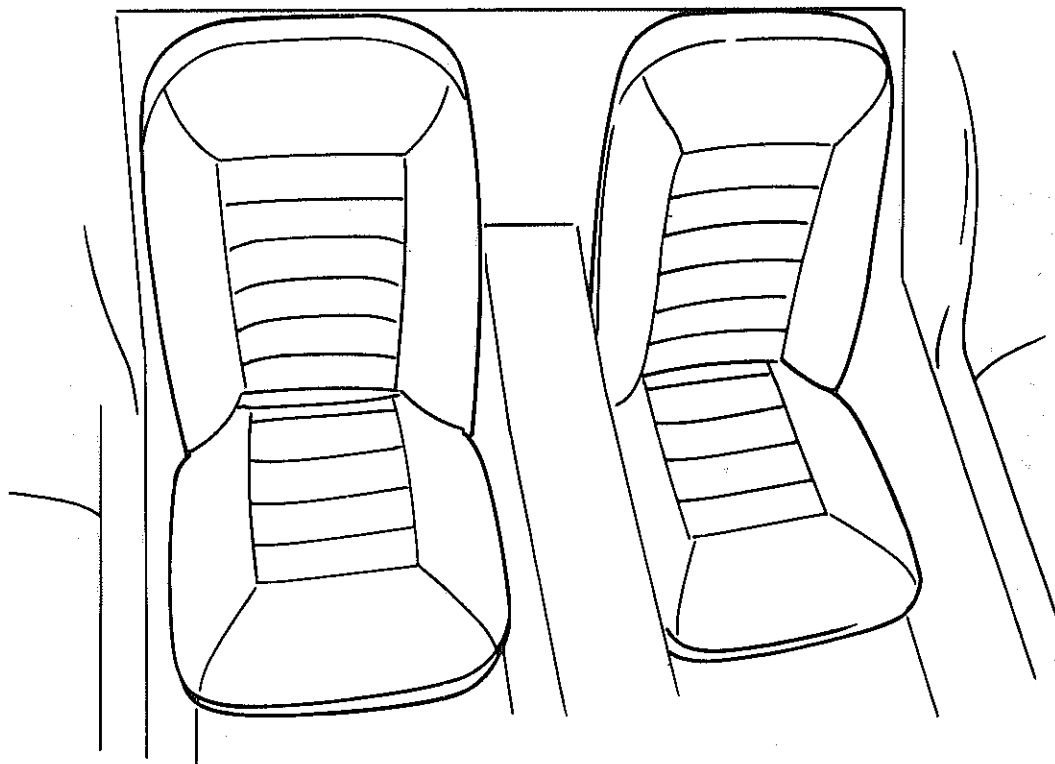
## Fixed Seats

The fixed seats are just placed onto the floor and the seat back. To stop the seat base moving forward, a 1" x 1" 12" aluminium angle plate can be fitted to the floor against the front edge of the seat base.

## Adjustable Seats.

Place the seat at the rear most position on the runners. Place the seat onto the floor and mark out the positions of the seat fixing bolts. Remove seat and drill 8mm clearance hole to accept the seat bolts. Fix the seats using eight special large diameter washers per seat, repeat on the opposite side.

Diagram 94.



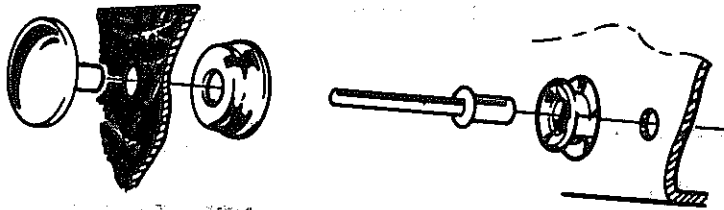
# FITTING TONNEAU, HOOD AND SIDESCREENS.

When fitting the tonneau and hood it is recommended that you fit them when they are warm as this will enable you to get a better fit.

## Details of press stud fixing.

The press studs are comprised three parts. The stud base, the press and the press head as shown in diagram 95. The press studs are normally fitted with a special tool, although a soft wood anvil and a centre punch to flare the tube rivet can be equally effective.

Diagram 95.

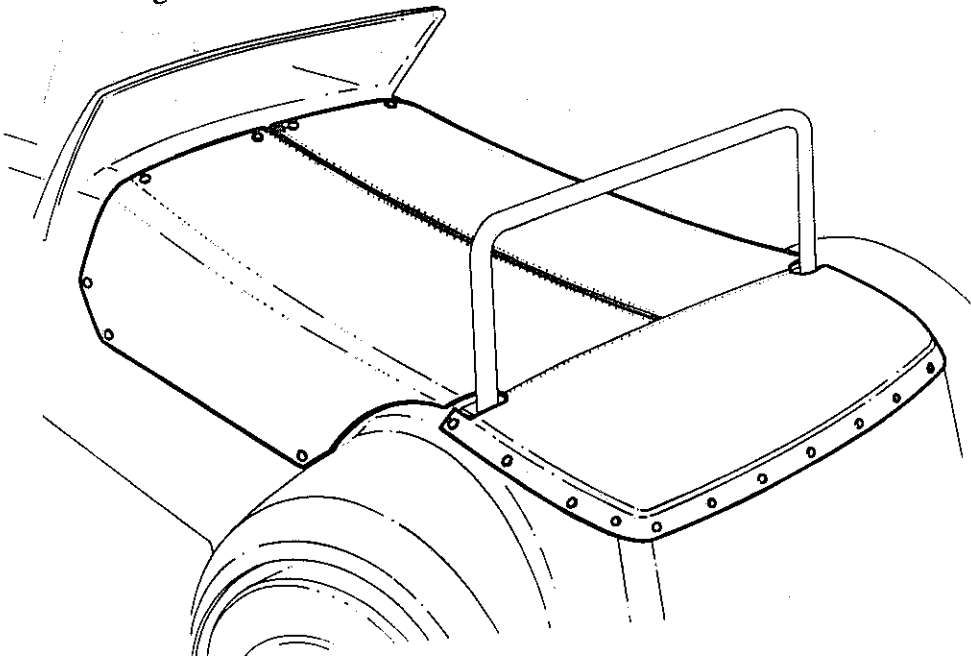


## Tonneau.

To fit the tonneau place it over the cockpit in a central position, making sure that the hood frame is in place. Drill four  $\frac{1}{8}$ " holes through the tonneau and the body figure (A) making sure that the rollover bar is central in the holes provided on the tonneau, and fix the press stud bases to the body using  $\frac{1}{8}$ " x  $\frac{3}{8}$ " aluminium pop rivets. Fix the press studs to the tonneau as described above. Drill two  $\frac{1}{8}$ " holes figure (B) through the tonneau and scuttle either side of the zip approx 2" apart and 1" in from the front of the tonneau remembering to tension the tonneau when drilling and fix press studs and bases. Drill one  $\frac{1}{8}$ " hole figure (C) again remembering to tension the tonneau and fix press stud and base.

Working from the centre line of the tonneau drill and fix press stud evenly around the edge of the tonneau, as shown in diagram 96.

Diagram 96

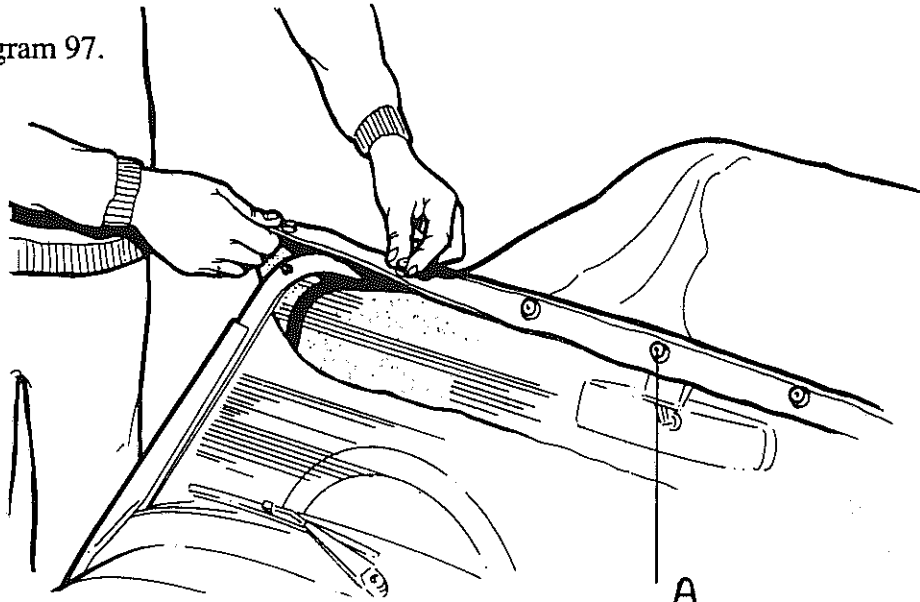


## Hood.

Fit the seven Tennax windscreen studs to the windscreen, place the hood centrally onto the windscreen, make a  $\frac{3}{16}$ " hole in the centre of the hood and enlarge the hole to except the Tennax fastener, as shown in diagram 97, figure (A), then working from the centre fasteners outwards fit the remaining six.

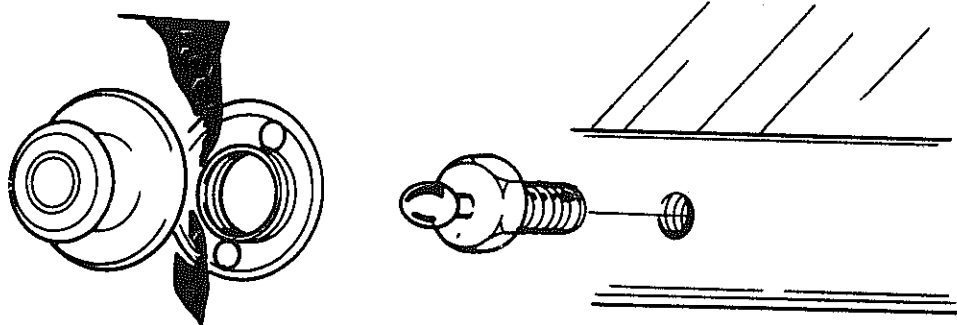
Tension the hood over the hood frame and drill or punch a  $\frac{1}{8}$ " hole through the hood, fit the rear centre press stud fastening onto the hood, then working from the centre fastening outwards repeat the operation around the hood, fit the remaining press studs using the bases already fitted for the tonneau.

Diagram 97.



A  
Lay the hood over the frame and locate the press-on fasteners to the windscreen frame.

Diagram 98.



## Sidescreens.

When fitting the sidescreens it is recommended to fit the hinge bases to the screen pillar positioning them 6" apart. Secure with M5 x 16mm stainless steel dome head socket screws with washers and nyloc nuts. Slide the sidescreen hinges into the base, position the sidescreen against the hinge into the base, position the sidescreen against the hinges paying careful attention to the positioning over the wheel arch and mark with a suitable marker pen. Drill the sidescreen using M5 clearance drill and fit the hinges with M5 x 16mm stainless steel dome head socket screw, with washers and nyloc nuts.

Diagram 99.

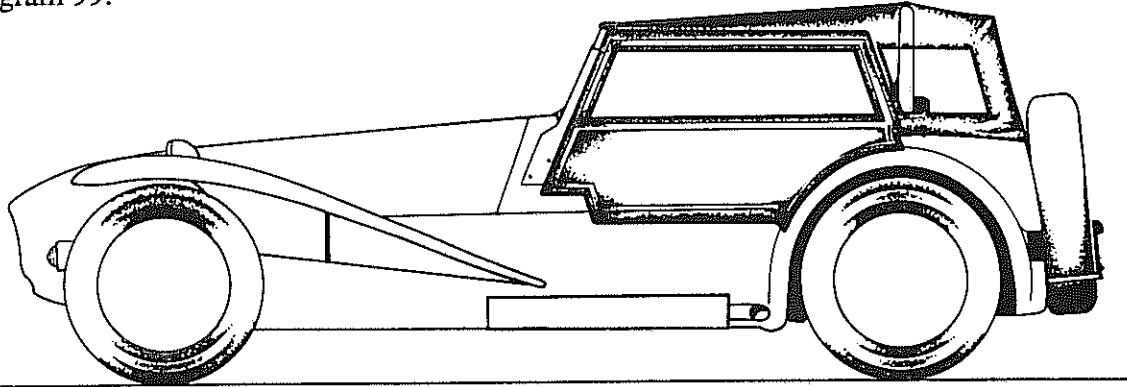
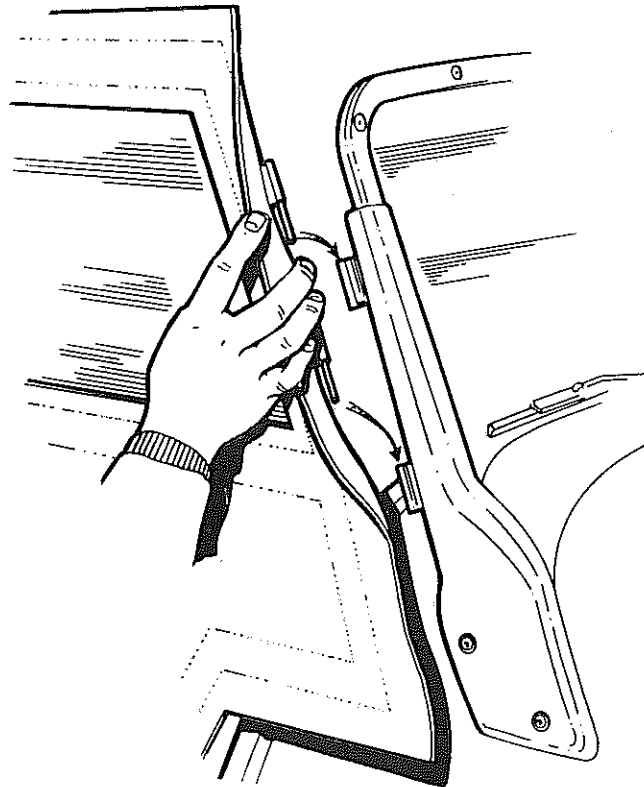


Diagram 100.



The sidescreens may be used with or without the hood.

The door is held shut by means of a short strap and press-on fastener which is retained by corresponding stud inside the car. This is fitted by drilling a  $\frac{1}{8}$ " hole and secured with a  $\frac{1}{8}$ " x  $\frac{3}{8}$ " aluminium pop rivet. Remember to tension the strap when positioning the stud base.

# FINISHING, CHECKS, SETTING-UP AND DATA.

## Finishing and Checking The Car.

Lower the car to the ground, set shock absorbers to their lowest damping rate. The damping rate is adjusted by means of a screw in the bottom of the shock absorber. Using a blade screw driver turn the screw anti clockwise to decrease the damping rate to its lowest setting, care must be taken to ensure that the adjusting screw is located at the correct position i.e. in the detent. It is advisable to run the vehicle for approximately 500 miles before increasing the damping rate, as this will give the suspension time to stabilise. After initial 500 miles you can adjust the damping rate to suit your own preference. This can be achieved by turning the screw clockwise again making sure to locate the correct position.

Adjust the ride height (see DATA), using a "C" spanner. Tighten all suspension mountings and check that every fitting, hose, wire, pipe and cable is secure.

Fill and bleed the brake system, check rear brake, handbrake and clutch adjustment. Ensure that brake hoses cannot foul wheels, tyres or chassis members at any suspension or wheel position.

Top up or fill all remaining oil and fluid points, start and warm up the engine and check for leaks throughout.

## Setting-up.

The table on page 85 sets out the optimum figures and reasonable variations for setting up the car. The castor angle is non-adjustable, and is included for reference only. The expert may wish to reset camber and toe-in to suit personal preferences; we suggest that the figures stated are used as a starter point. The ideal ride height will depend upon the proposed use of the vehicle, and the type of engine and or / sump fitted. Measure ride height to the lower chassis rails at the front and to the lower seatback rail at the rear. Adjustable shock absorbers are worth a little experimentation to suit your needs and expected road conditions. We advise against extreme combination of soft front and hard rear settings. Ensure that ball joints and rod ends are locked in a central position. i.e. not rotated. Failure to observe this could result in high wear or even breakage.



For accurate results ballast or lower the car to the normal ride height before setting camber and toe-in. Adjust toe-in equally on each side at the front and, on the SEi / SEi Wide (independent rear suspension) models only, use string or a straight edge between front and rear wheels to equalise the toe-in for the wheel on each side at the rear.

DATA

SETTING	OPTIMUM	VARIATION	YOUR NOTES.
---------	---------	-----------	-------------

FRONT:

TYRE PRESSURES e.g. 185/60/14 tyres	20 psi	+3 psi to -3 psi	.....
RIDE HEIGHT	5"	+1" to -2"	.....
CAMBER	Zero	+0' to -30' neg	.....
TOE IN	0 10'	+10' to -10'	.....
CASTOR	5 30'	+30' to -30'	.....

REAR, ALL MODELS:

TYRE PRESSURES e.g. 185/60/14 tyres	20 psi	+3 psi to -3 psi	.....
RIDE HEIGHT	5 1/4"	+1" to -2"	.....

REAR WESTFIELD SEi / SEi Wide (Independent rear suspension models only):

CAMBER	-0 15'	+10' to -10'	.....
TOE IN	0 20' neg	+5' to -5'	.....

REAR, WESTFIELD SE (beam axle models only) NON-ADJUSTABLE.

# VDO SERVICE INFORMATION.

## Ratio Test Form.

In most cars the speedometer calibration is based on a certain tyre, rear axle ratio and speedometer drive gear. These factors were used by the speedometer manufacturer to establish the proper combination of gears and worms inside the speedometer head.

## Test.

To enable you to calibrate your speedometer please follow the test instructions below.

1. Check if the tyre pressure is the same as advised by the factory.
2. Measure a distance of 10m (32' 9 3/4").
3. Unscrew the speedometer cable at the speedometer head.
4. Mark the speedometer inner cable with a paper flag or paper clip.
5. Push or drive the vehicle over the entire distance, counting the full and partial turns of the cable.
6. Before you start counting, mark the part of the vehicle that is exactly over the beginning of the line. Stop counting, when the marked position of the vehicle is exactly over the end of the line.
7. Repeat this procedure three times and jot down the results.

Test 1. .... full.....partial turns.

Test 2. .... full.....partial turns.

Test 3. .... full.....partial turns.

The standard speedometer supplied by Westfield Sports Cars is 6 1/2 turns

## **FOR USE WITH V.D.O INSTRUMENTS.**

Return the speedometer to: V.D.O. INSTRUMENTS LTD,  
HOLFORD WAY,  
HOLFORD,  
BIRMINGHAM,  
B6 7AX.

with the above test results to enable them to calibrate your speedometer correctly. Please telephone V.D.O. before returning the speedometer as there is a calibration charge. Telephone Number: 021 356 2266

# LIGHTING REGULATIONS.

DIAGRAM OF RECOMMENDED LAMP POSITIONS.

Diagram 101



# WIRING LOOM SUPPLEMENT.

This supplement is to cover the pre 1991 wiring looms.

The difference between this loom and the current wiring looms is that on the current wiring looms all the wiring circuits are protected by separate fuses and have moulded switch and gauge connectors.

## Colour Coding.

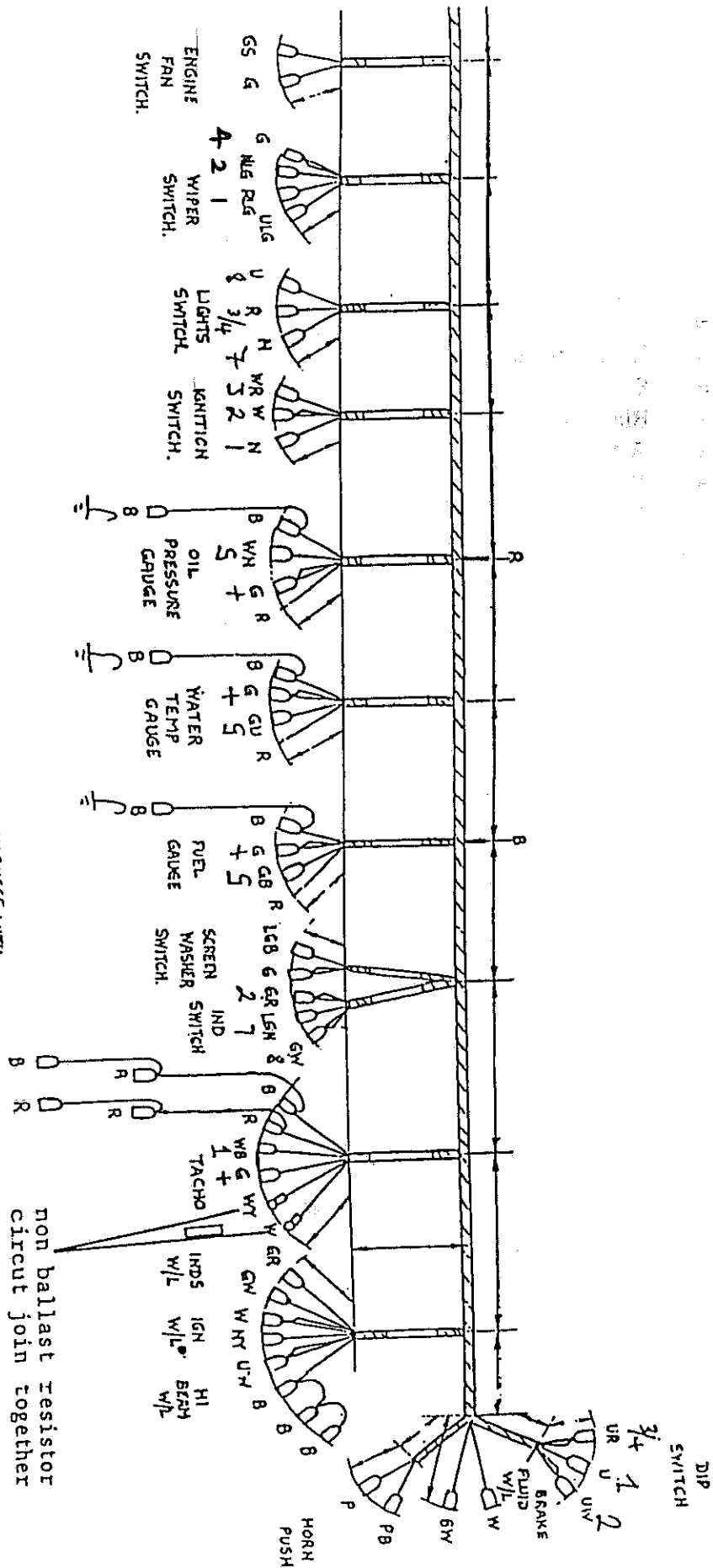
G	=	Green.
N	=	Brown.
S	=	Slate Grey.
LG	=	Light Green.
U	=	Blue.
B	=	Black.
W	=	White.
Y	=	Yellow.
P	=	Purple.
R	=	Red.

Wiring Diagram 102. / 103 / 103A Overleaf

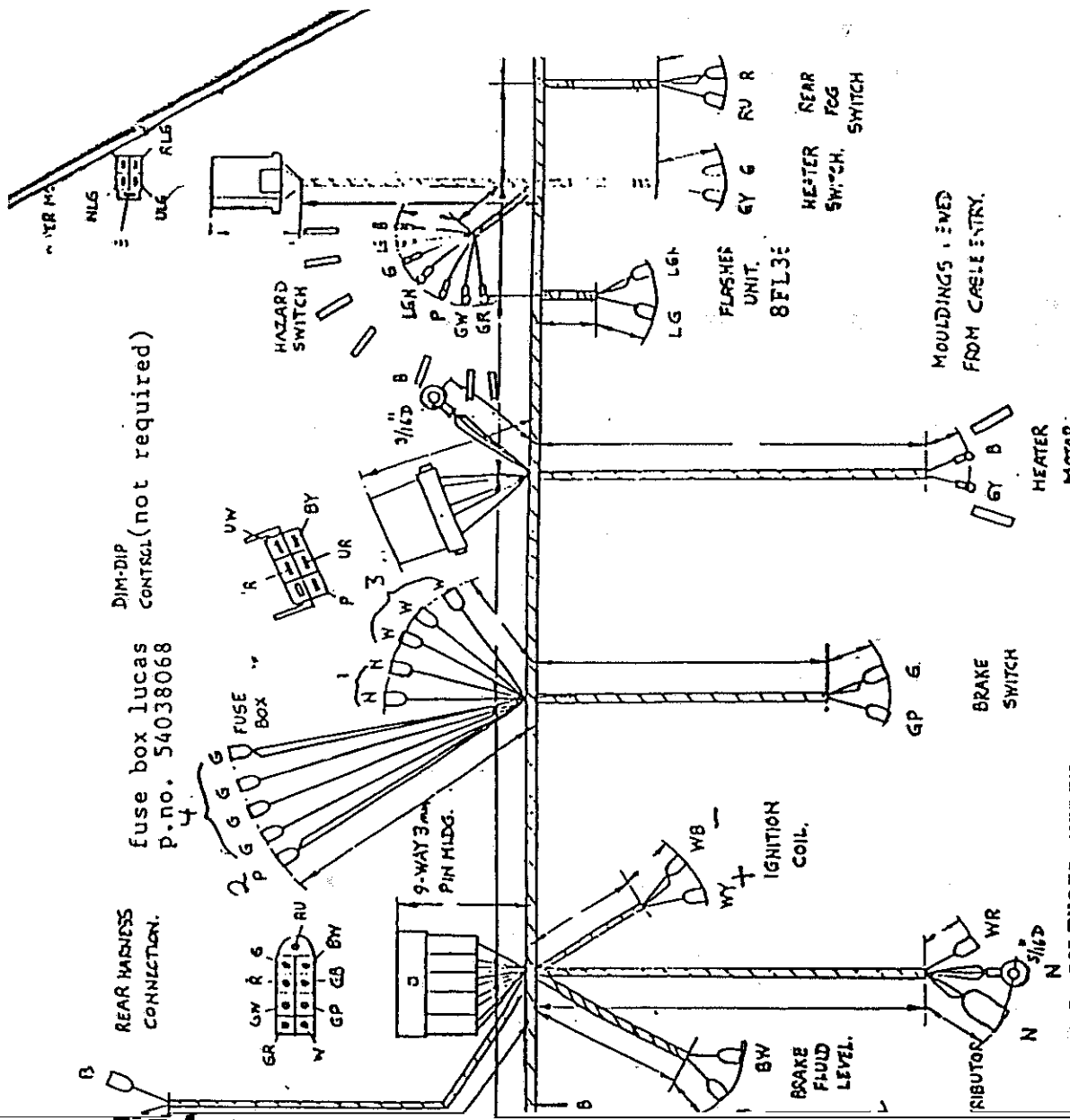
**Diagrams are all on sheets overleaf.**

Other diagrams are on leaves overleaf.

MAIN HARNESS,  
MODEL SE AND SEL,  
WESTFIELD SPORTS CARS



RNG EXCH HARNESS WITH  
DISCERN W 3519 .2-OFF  
2-WAT 3mm PH PLUGS AND  
4-OFF 3mm PWS.



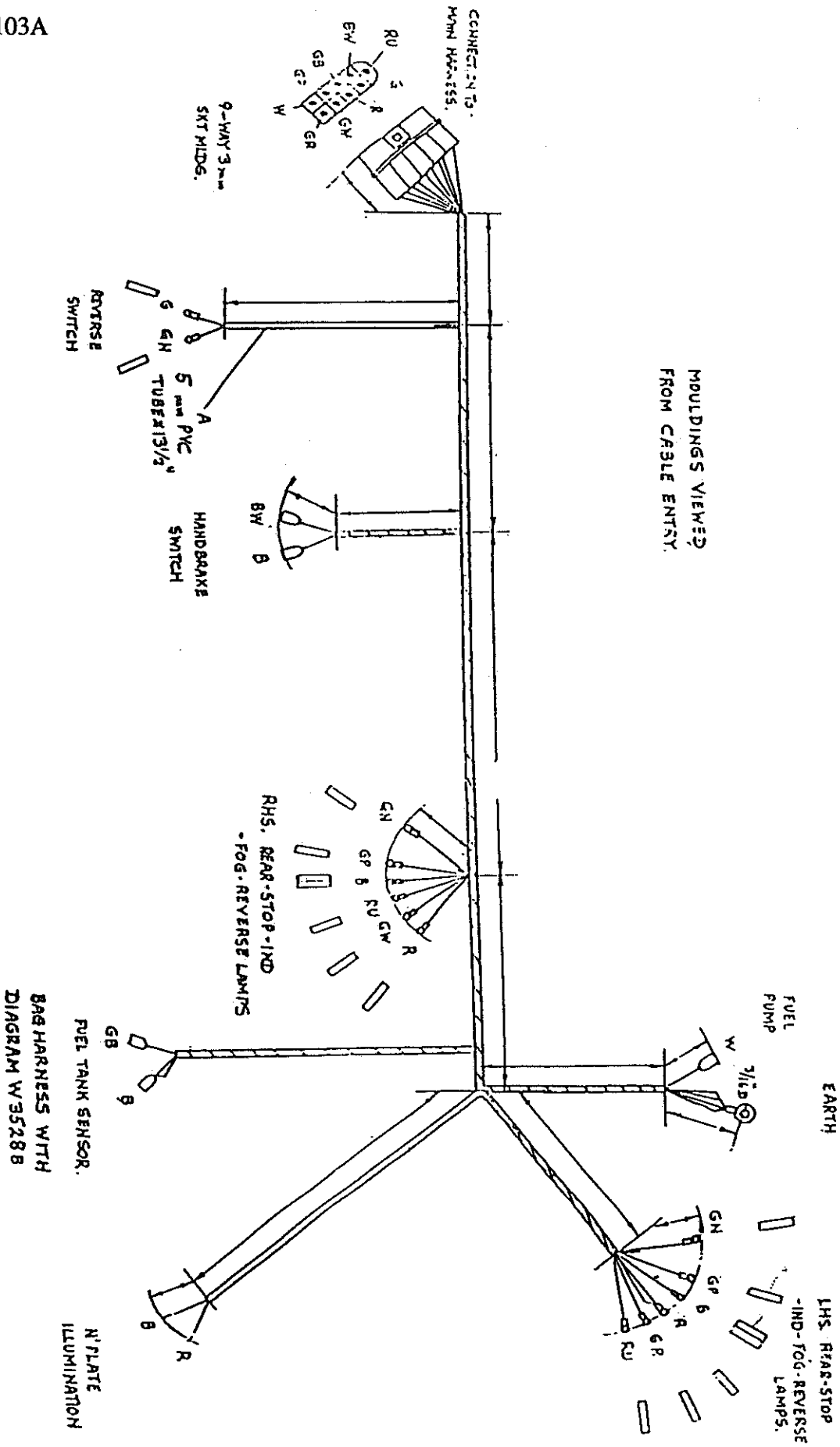
REAR HARNESS CONNECTION.

fuse box lucas p.no. 54038068

DIM-DIP CONTROL (not required)

FOR SOLENOID WIRING SEE ATTACHED SHEET SOLENOID.

Diagram 103A

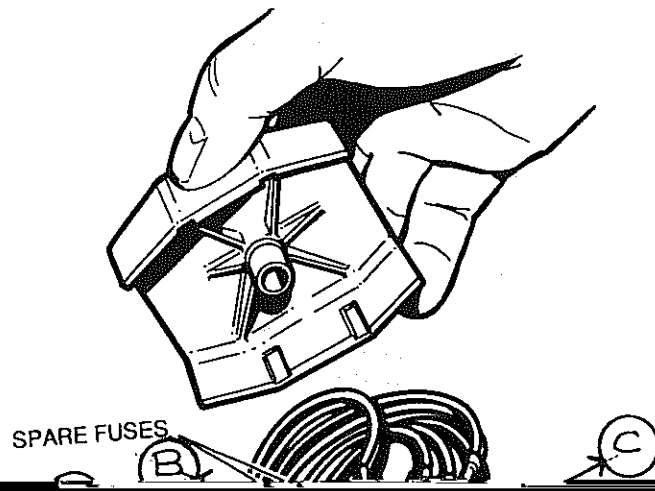


REAR HARNESS,  
 MODEL SE AND SE1  
 WESTFIELD SPORTS CARS.

Details of Fuse Box.

Connect the wires to the fuse box as shown in diagram 104.

Diagram 104.



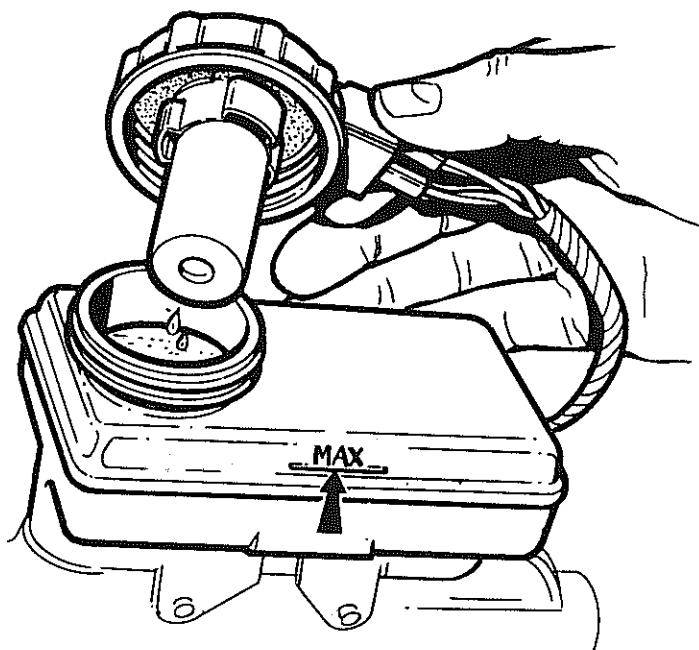


### Description Of The Brake Warning Light Circuit.

The brake warning light circuit is fitted to enable you to detect a low brake fluid level and to detect that the handbrake lever is on.

Connections to the brake mastercylinder are situated in the brake reservoir cap, the wire colours are: Black, Black and White, the connections can be fitted to either terminal, as shown in diagram 105.

Diagram 105.



### Horn Connections.

The horn can be fitted with or without a relay. If you use the Westfield horn and switch kit, the switch will take the load imposed by the horn compressor

Diagram 106, Horn with Relay.

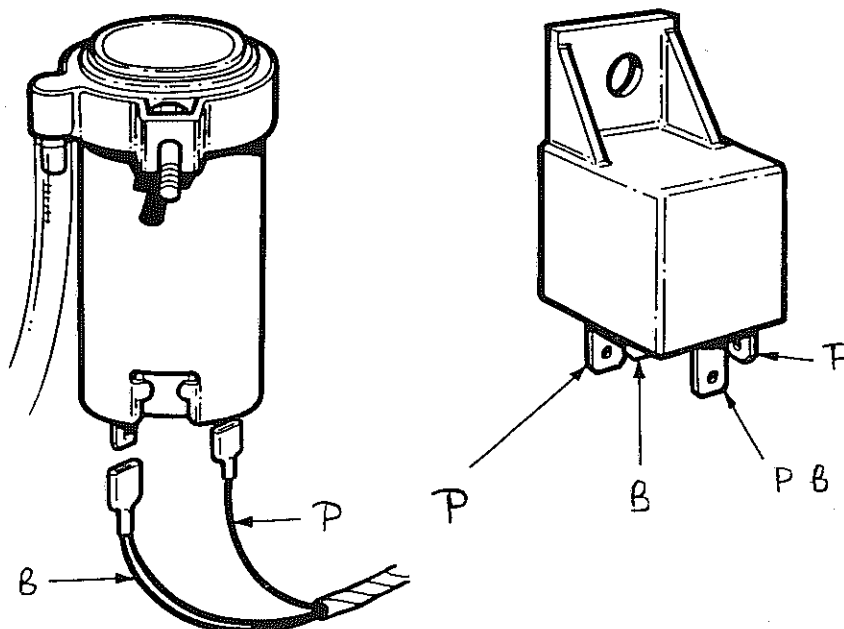
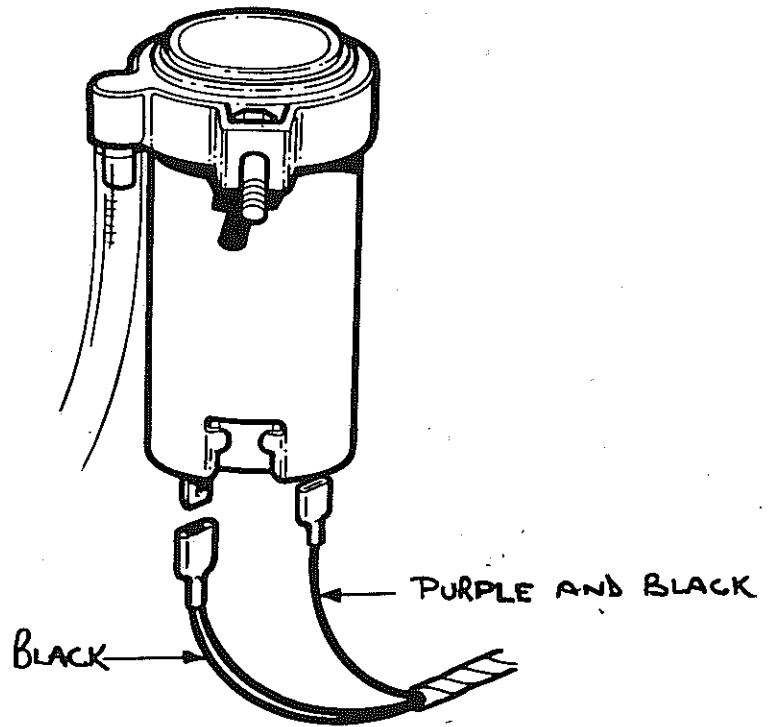


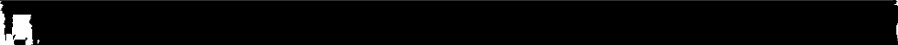
Diagram 107, Horn Compressor Without Relay.



Hazard Switch.

Use the hazard switch which is standard fitment on Triumph Dolomites. Shown below are the wiring details.

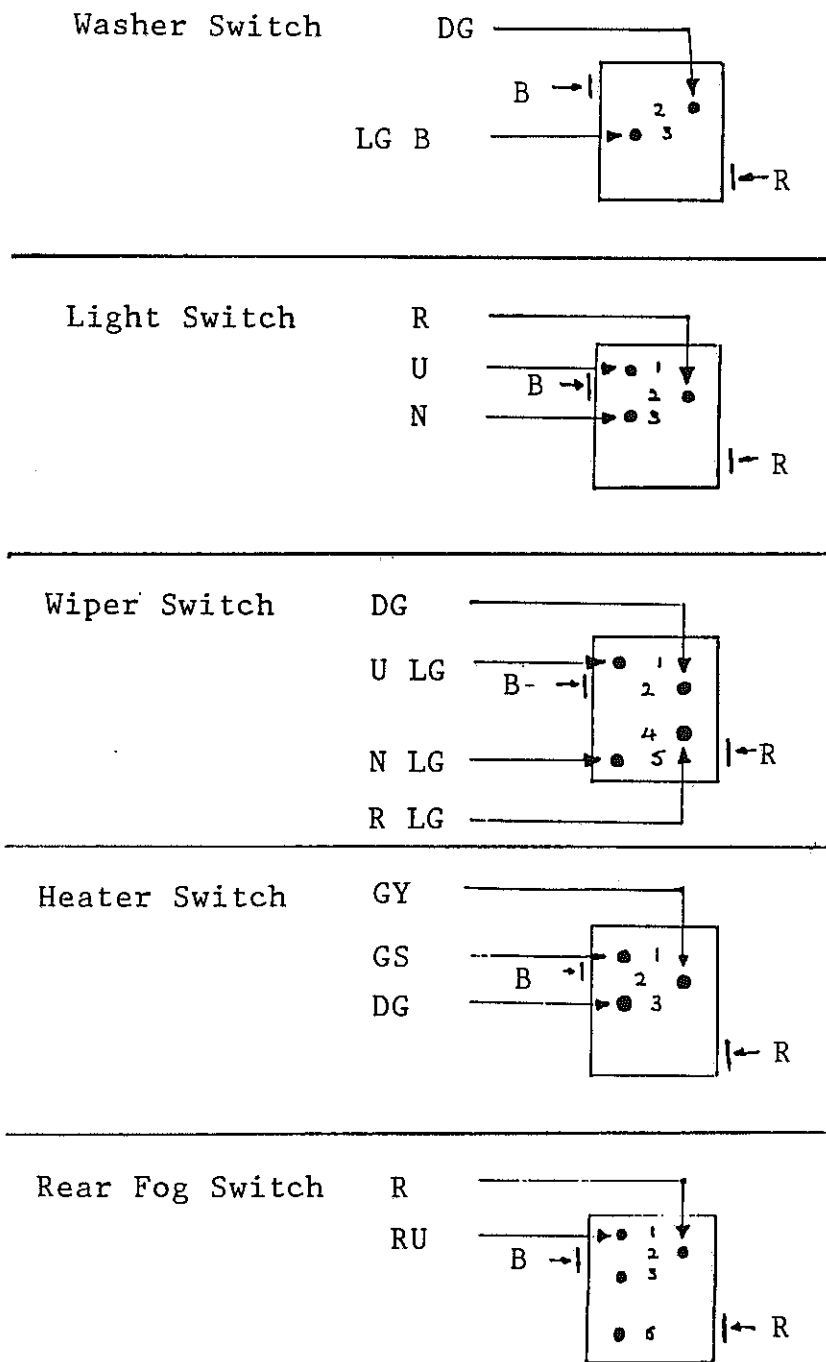
If you do not intend using hazard warning switch you have to join the green and the Light



Details of Fitting Rocker Switches.

To fit the rocker switches you have to remove the Lucar connections from the switch terminals on the wiring loom, and fit with the new terminals and block connectors, as shown in diagram 109 below.

Diagram 109



## WHEELS AND TYRES

It is possible to fit wheels of 13" 14" or 15" diameter.

SE. with Escort axle Maximum width is 7" with an inset of 5"

SEi. Maximum width is 7" with an inset of 5"

SEi. Wide Maximum width of 6" with an inset of 4"

SEiGHT detachable Maximum width of 7" with an inset of 5"  
rear wings

Tyres recommended are AVON CR 28 or GOODYEAR NCT EAGLE

DIAMETER RECOMMENDED FOR THE SE, SEi./SEi Wide are 185 - 60 x 14"

Diameter recommended for the SEiGHT are:-  
Front 205 - 50 VR 15 Rear 225 - 50 VR 15.

## OPTIONAL SCREEN PILLARS WITH MIRRORS

Diagram 110.

