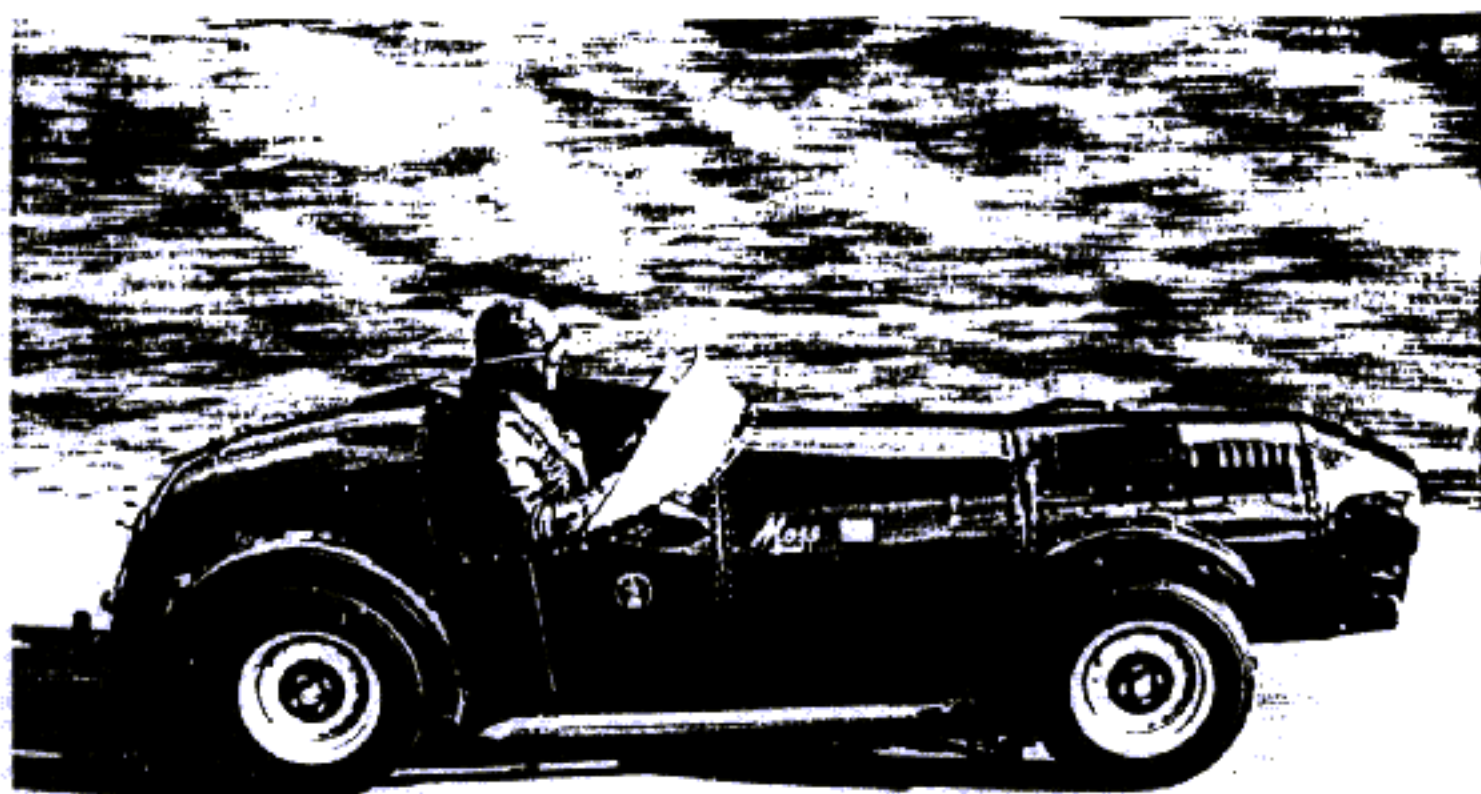


BUILD MANUAL FOR TRIUMPH BASED MOSS MONACO



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PREPARATIONS FOR THE MONACO USING TRIUMPH HERALD/VITESSE

Wiring loom

N.B. If a replacement loom is to be used more detailed instructions are supplied with the loom.

Removing the old loom

Starting from the front, disconnect the loom from the headlights and sidelights. Insulated connectors will be located behind the nearside headlight. Unclipping the loom as you go, work backwards disconnecting in turn the water temperature connection from the thermostat housing, the dynamo and coil connections, the oil pressure warning and starter solenoid. Disconnect and carefully label the leads to the fuse box (Vitesse only) and then enlarge the hole in the car bulkhead through which the loom passes and pull the loom through into the car as far as the voltage control box, which should be removed from its mounting but may remain connected.

Now starting at the bootlid with the number plate light, work forwards, again labelling as you go, disconnecting in turn the rear lights, indicators and petrol tank gauge sender (located on the petrol tank). The two wires disappearing up the nearside roof pillar connect the interior light only and may be disconnected, appropriately insulated and disregarded. Continue to work forwards until you reach the area of the dashboard. The dashboard complete with instruments still connected may be removed intact. These can be disconnected, appropriately labelled etc. at your leisure but, it might be a good idea not to disconnect them until you are ready to re-install the instruments. This way mistakes are less likely to occur.

Body removal

Firstly remove all the heavy items from the car body i.e. boot, doors, window glass, seats and even the roof, which may be sawn off through the pillars for speed. The seat runners should be saved as these may be re-used. Also the upper half of the steering column, the heater unit, the brake and clutch assemblies including the master cylinders, the wiper motor with wheel boxes and the handbrake lever.

The seats themselves are too big and may be discarded. The bonnet arms/hinge may also be sawn through to remove the bonnet and the whole front bumper assembly may be removed by sawing through the front chassis legs just in front of the anti-roll bar. The radiator and engine splash guards should next be removed. The only useful lights are the sealed beam headlight units including the back covers (from the Triumph Herald only).

Remove the petrol tank and discard (save the sender unit and filler neck). The location of the body securing bolts are shown in sketch 1. Don't forget the seat belt mountings near the propshaft tunnel and the handbrake yoke connection which is bolted up under the rear floor.

Chassis preparation

N.B. If a replacement chassis is used, no modifications are required except to transfer all the running gear etc.

Having removed the body proceed as follows:-

Remove by hacksaw, the rear chassis legs (i.e. those under the boot floor). Refer to sketch 1. Remove by chisel or hacksaw, the seat belt mounting points on the centre chassis. The remainder of the chassis including the outriggers should be checked for sound condition and be prepared/repared accordingly. Remove by hacksaw the front chassis legs immediately in front of the anti-roll bar if this has not yet been done. The side rails will need to be narrowed to suit the width of the car body which is less than that of the original Triumph. This is achieved by cutting through the chassis and then welding back the siderails as shown in sketch 5. The front should be 26" total width and the rear 36".

Spring modification

The following advice is given as a guide only, the modification having been tried and used successfully - but do please remember that any non-standard modification remains the responsibility of the builder. It is sufficient to remove the spring leaves as described and bolt together using shorter studs.

The transverse rear leaf spring normally consists of eleven (11) leaves. Starting from the top, remove leaves 2, 4, 6, and 8. If your donor vehicle was fitted with the less common seven leaf spring, it is suggested that you remove leaves 2, 4 and 6.

When the car is rolled with full body weight, the wheels will now assume a decambered position. The spring centre bolt, which locates in the differential top will need to be replaced. A replacement may easily be made by grinding or filing the head of a bolt of suitable length and diameter. If further softening of the suspension is desired, further leaves may also be removed. The final result is largely trial and error due to loading variations and the condition and age of the springs. Don't forget to anticipate the final loading when estimating the eventual camber of the wheels which will not assume their proper position until the car is rolled under full load. Re-pipe fuel and brake lines as necessary.

N.B. It is recommended that only alternate leaves are removed to prevent possible high stress areas in the remaining leaves but, other variations may be tried at your discretion. Should the combination chosen not prove successful it is a simple task to remove or replace further leaves.

Moving the engine back Option only for better weight distribution

Remove the propshaft. Unbolt the engine mountings from the chassis and gearbox mountings from the gearbox, chassis and rear exhaust mounting. Drill two 3/8" holes in both suspension leg rear flanges to re-mount the engine approximately 5 1/4" rearwards using the triangular plates provided. Ensure that the newly drilled holes are at the same centres and the same distance apart across the chassis and at the same height from the chassis as the original engine mounting bolt holes (see sketch 2).

Remove the chassis mounting plate from under the gearbox mounting 'bridge' and replace it with the square tube spacer provided (5½" x 1½" square tubing with 4 drilled holes).

Drill chassis flanges to suit and secure. The propshaft must now be shortened by the required amount and refitted. Remove the air filters from the carburettors and discard as these are too large for re-use. Proprietary air filters will not fit due to lack of space and alternatives should be made up (if required) from fine wire gauze. Acquire a Herald/Spitfire dynamo mounting assembly including a fan belt with fan belt tensioner bracket and substitute these for the existing mountings in order to re-mount the dynamo closer to the engine block. The dynamo mounting bolts will need spacing washers to re-align the fan belt pulleys. Also acquire the later (narrow) type of Herald radiator. This should be mounted on the brackets provided using the holes giving the lowest mounting position. The radiator top hose outlet may need shortening to prevent the top hose fouling the dynamo pulley.

Mounting the radiator

The radiator mounting brackets should be bolted up (as shown in sketch 3) to the front engine mounting bolt holes, then drilled and bolted up through the flange on the chassis leg. Some spacing washers may be needed here to compensate for the slight variation in radiator widths. In the case of the Herald, the radiator should be mounted in the highest of the available positions on these brackets. The thermostat housing should be replaced with a Triumph 1500 type which comes complete with a separate filler neck. The part numbers are as follows:-
Housing 215753 Neck 152438

This assembly should be piped back into the system (as shown in sketch 4) using 28mm plumbers copper 'T' piece. A Quinton-Hazel RH1210 hose is suitable for adaption here and is also useful as a top hose on the Vitesse cooling system. Alternatively any suitable hose may be adapted and if none can be found, lengths of convoluted hose may be purchased from most accessory shops which can be cut and curved as desired. Make sure that the radiator cap is of a higher pressure than the thermostat filler cap as it is intended that the top cap be the one to 'blow' under pressure.

VITESSE ONLY

Cooling must be further aided by the addition of a B.L. 1800 type reservoir syphon bottle to allow for expansion. This may be piped from the thermostat neck overflow outlet.

Points to note:-

1. The filler neck cap on the thermostat housing should be a blanking cap of the no pressure type.
2. The syphon bottle cap should have a pressure of 12/13 lbs.
3. The radiator itself should have a higher cap pressure of approx. 15lbs.

Mounting the wing stays

Mount the wing stays as shown in sketch 3. As the chassis geometry varies on each side of the Triumph chassis, it will be necessary to adjust these by bending up or down to suit. The flat outer ends should be formed 'round' to suit the underside of the wing.

Rear body mounting point

It will be found necessary to place a piece of timber measuring approximately 2'0" x 2" x 1", across the rear suspension bridge (old rear body mounting point marked * on sketch 1) to form a packing piece between body and chassis at this point. Any irregularities or unevenness in the chassis platform may make it necessary to vary the thickness of this packing to obtain best fitting. If using a new chassis, the size and thickness of the packing may vary slightly according to the source of manufacture.

In all cases, lowering the completed body onto the chassis will give the best indication of the thickness required. Packing of the correct thickness can then be inserted as required.

Body packing

Now cut the body packing provided into suitable lengths and Evostick to the chassis along the areas of body contact (see sketch 5). This will prevent chaffing and minimise transmitted vibrations.

Modifying the steering column - Bottom half

The steering column will need lengthening by a total of 15". This is best done by cutting the solid bar that makes up the lower column and extending it by sleeving same with a piece of close fitting steel tube. This should overlap at each end by two or three inches and be professionally welded in position. Take care to mark the column before cutting so that it can be re-aligned before welding, otherwise the self-cancelling indicator mechanism will be affected.

Body fitting.

Having built your rolling chassis the time has come to fit the main bodyshell of your car. This can be the most traumatic for the kit car builder as it means moving around the expensive piece and care should be taken not to damage it. It may be wise to make up two long strips of hardboard, (about 14 feet long) mark and cut it to the axles and then mark where the wheels will be positioned. These hardboard strips can then be used as a template for the body. The best position for the body will vary slightly, depending on which engine option you have chosen (four or six cylinder). You will want to reach most of the engine and the radiator through the bonnet opening and this should be borne in mind when positioning the body and prior to removing any of the G.R.P. for the wheel cutouts. It should also be noted that the body is quite wide at the seat back point and if placed too far rearwards the back wheels could touch the body. Additional brackets may be required to give sufficient rigidity to the front of the car body.

Petrol tank

THE BODY

may be bolted down lightly at this stage using four bolts (see sketch 6) to check for space to fit the petrol tank. Many types of tank may be fitted but by experience we have found the the most acceptable are those from the Herald, Viva or Datsun 160. Do make the petrol tank very secure because when full it could weigh as much as 100lbs. and it would be very unpleasant to have that swinging around behind you!

Gearbox

The gearbox extension is quite straightforward providing the instructions given in sketch 8 are followed. It is necessary to extend the gear linkage due to the altered driving position. First saw through the shoulder of the casting where indicated, leaving the front half of the casting bolted to the gearbox.

Vitesse - using old chassis only


Re-mount the back portion of the casting onto the propshaft tunnel in such a position as to 'butt up' to the gearbox cover. When this is in place use 3" of 2" x 2" square section tube for mounting. The bottom face of this tube needs to be beaten concave to suit the corresponding contour of the tunnel and a steel plate must be made to bolt on the underside of the tunnel to sandwich same, otherwise the modification will lack rigidity.

Herald - using old or new chassis

Vitesse - using new chassis only

Re-mount the back portion of the casting up through the tunnel from the underside, cutting a hole to suit at the distance from the gearbox dictated by the extension bar provided. Bolt this part of the casting to the underside of the tunnel.

Handbrake

The handbrake mounting plates are supplied in two parts and bolts down to form a sandwich of the G.R.P. as far backwards as possible. It is very simple to fit following sketch 7. Slotting the holes in the G.R.P. would enable the whole handbrake mechanism to be moved forward if necessary, thus providing a further method of compensating for cable length. Some of the more macho builders may feel the need to fit a strengthening bracket between the bottom plate and the floor, shaped thus  to resist any upward movement.

Brake and clutch pedals

When fitting the brake and clutch pedal assemblies refer to sketch 9 which makes the method of fitting self-evident. Some builders have found that when the pedals and their associated brackets are mounted, they may be closer to the floor than would be comfortable. If this is the case in your car it can be easily remedied by altering the shape of the pedals themselves. By cutting V shaped slots into the arms they can be bent and then welded to lift them higher. See sketch 7B. The best (and easiest) type of accelerator pedal is the floor mounted flap type.

Dashboard Cowl

When fitting the dashboard cowl, starting from the centre, drill and bolt sequentially round to the sides (bolting left and right alternately) about every five inches for a careful pull down to shape. Use mastic sealer between cowl and body.

Modifying the steering column

The steering column will need lengthening by between 10" and 15" depending on the positioning of the body and the needs of the builder. This is best done by cutting the solid bar that makes up the lower column and extending it by sleeving same with a piece of close fitting steel tube or a solid bar drilled to suit. This should overlap by two or three inches and be professionally welded in position. Take care to mark the column before cutting so that it can be re-aligned before welding, otherwise the self-cancelling mechanism will be affected. Bracket outer column tube to dashboard and pedal assembly for rigidity.

Mudguards

When fitting the mudguards they must be securely fitted using brackets because of the substantial weight and quality of the moulding and the inherent lack of aerodynamics.

HERALD/VITESSE BODY REMOVAL

2'6" X 2" X 1" timber rests across rear body mounts
(Behind back seat)

Two bolts through
each leg. Heads in
back corners of boot

Side rail bolts
(Under sills)

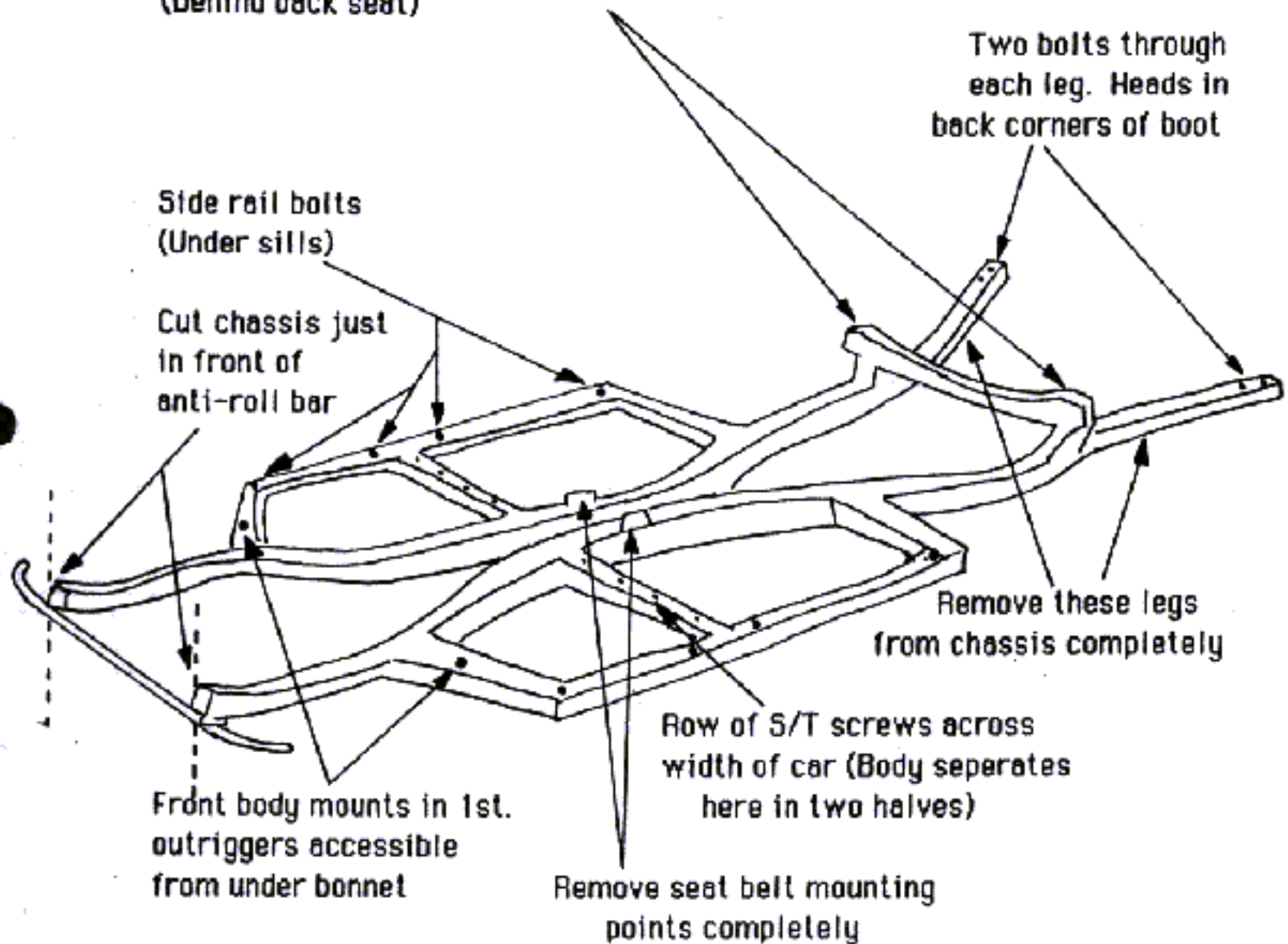
Cut chassis just
in front of
anti-roll bar

Remove these legs
from chassis completely

Row of 5/T screws across
width of car (Body separates
here in two halves)

Front body mounts in 1st.
outriggers accessible
from under bonnet

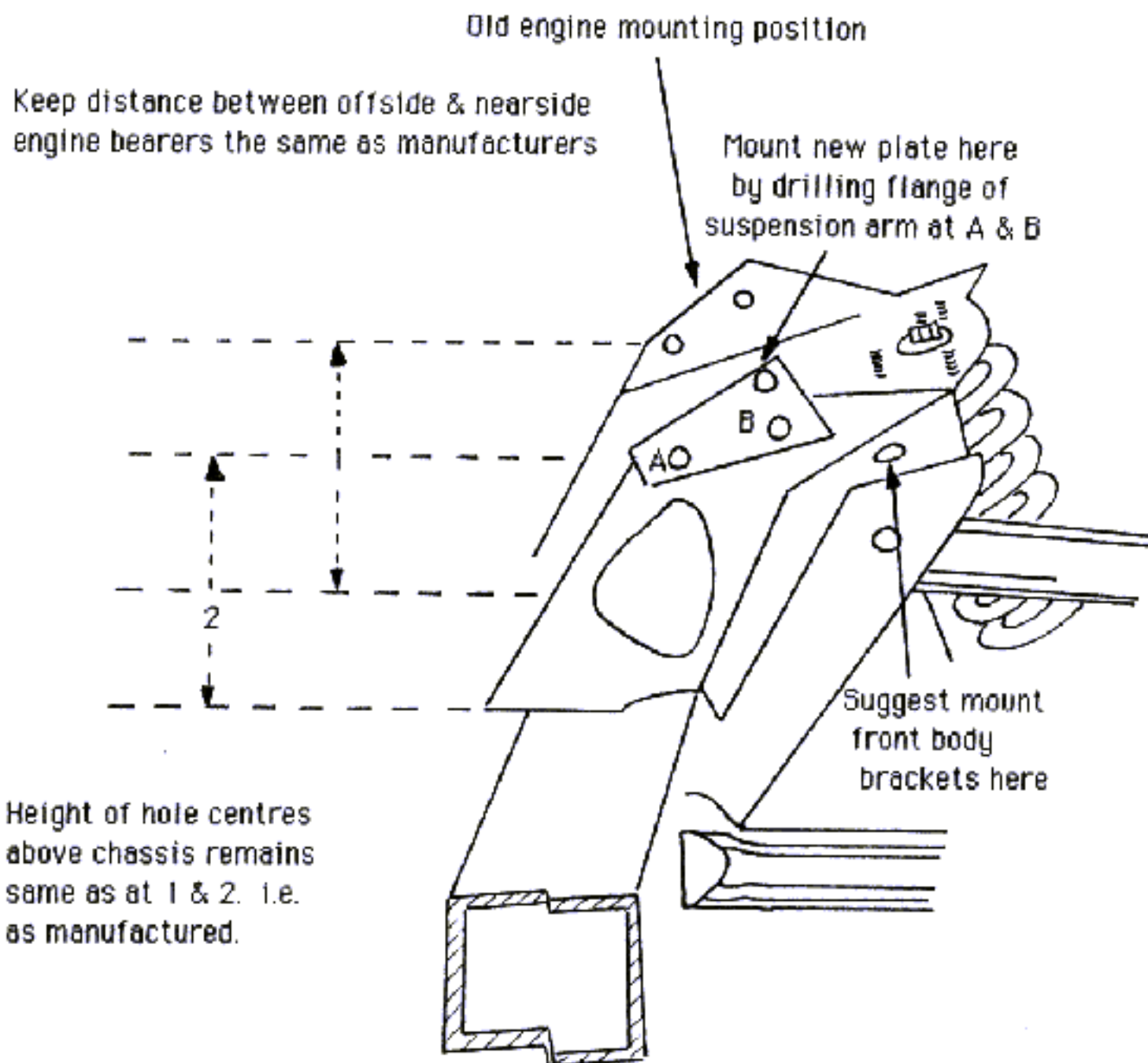
Remove seat belt mounting
points completely



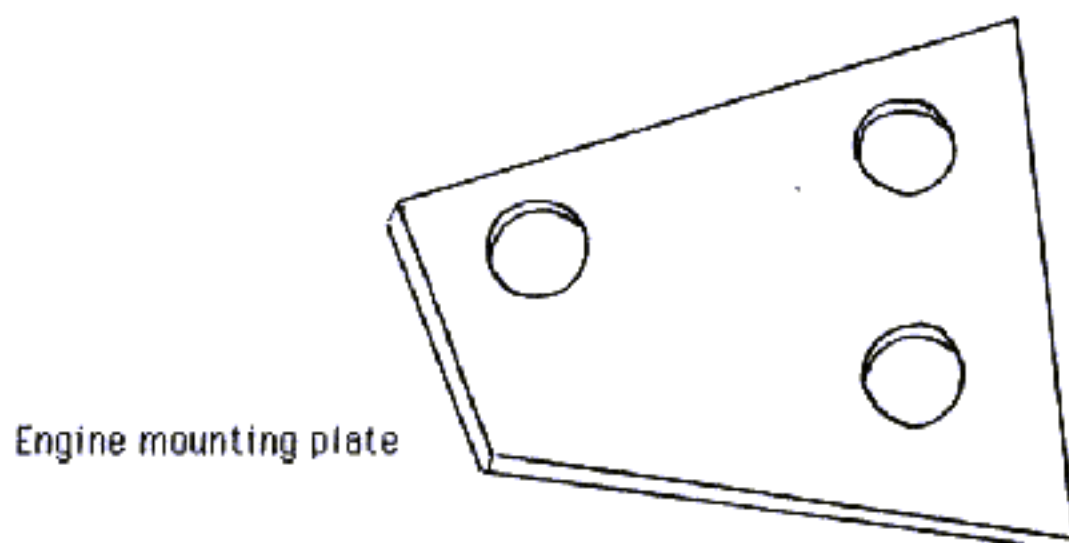
N.B. Remember to disconnect handbrake cable at relay lever
(under car) before lifting body.

RE-MOUNTING ENGINE 5¼" (APPROX) REARWARDS

OPTIONAL



Front off-side suspension viewed from driving position



MOUNTING WING STAYS AND RADIATOR BRACKETS

Packing may be required to seat wings

Curve to suit

Position of wing stay
Bend to adjust

Drill and bolt

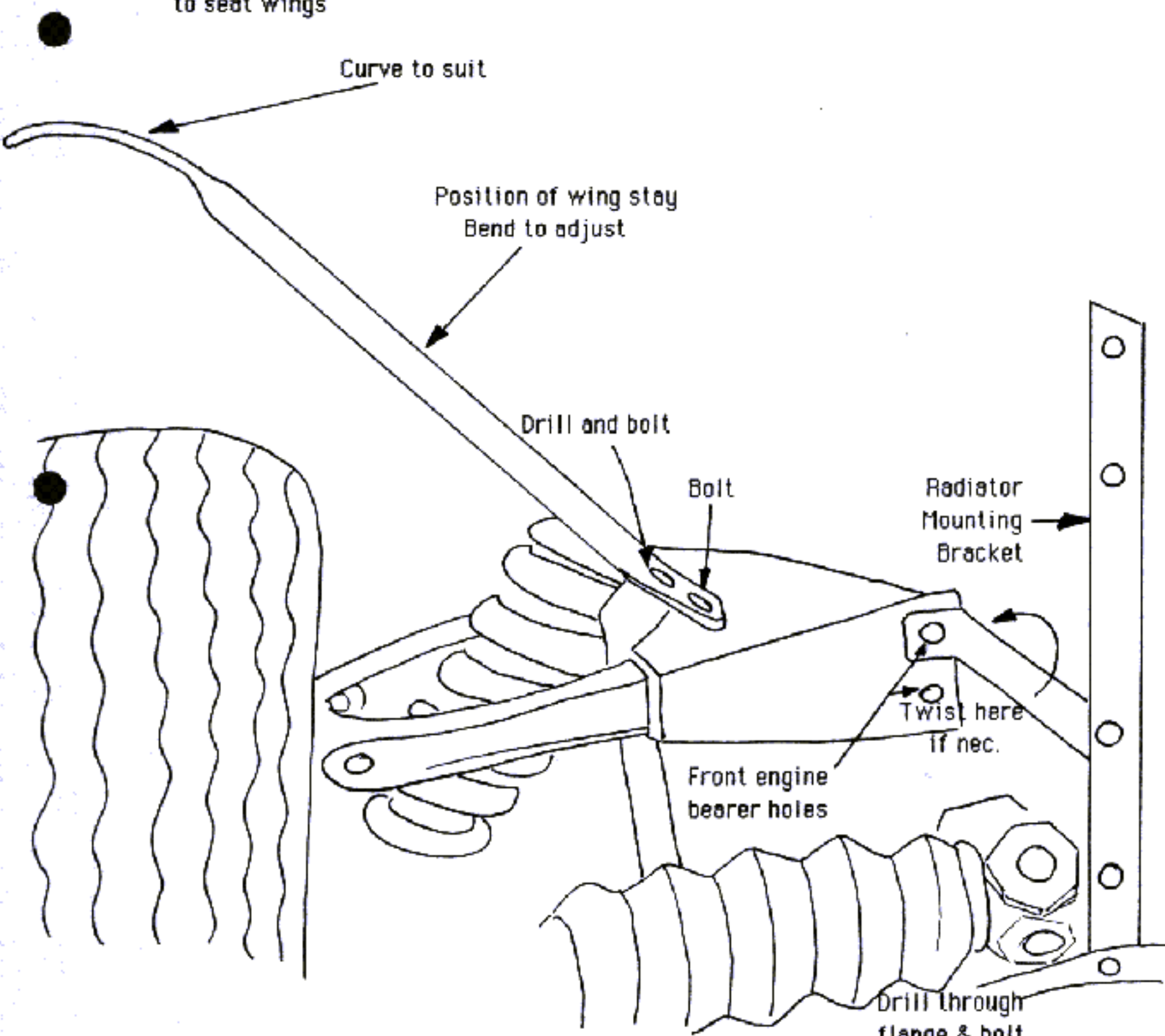
Bolt

Radiator Mounting Bracket

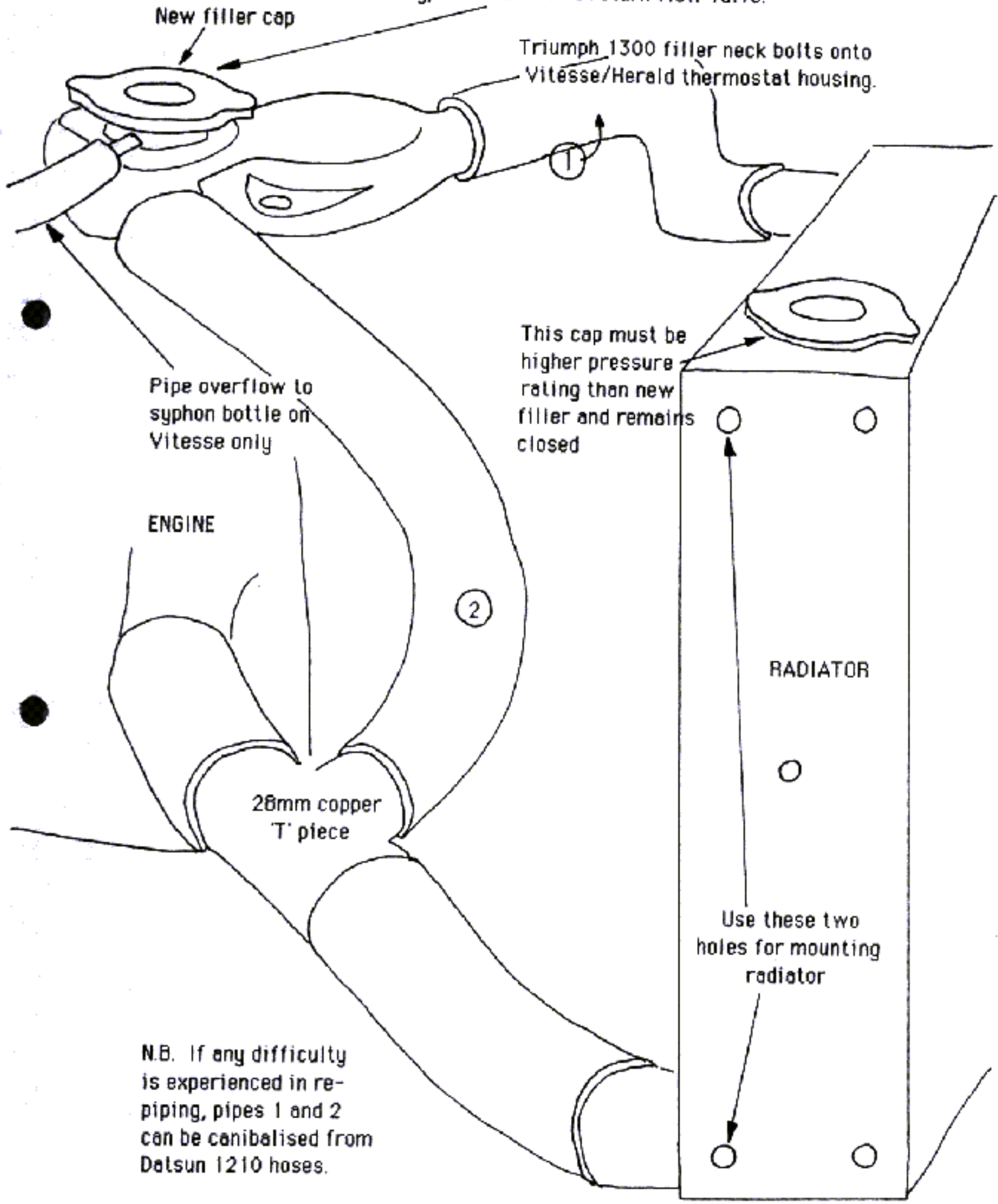
Twist here if nec.

Front engine bearer holes

Drill through flange & bolt



On Vitesse only this cap should be the type fitted with a return flow valve.



New filler cap

Triumph 1300 filler neck bolts onto Vitesse/Herald thermostat housing.

Pipe overflow to syphon bottle on Vitesse only

This cap must be higher pressure rating than new filler and remains closed

ENGINE

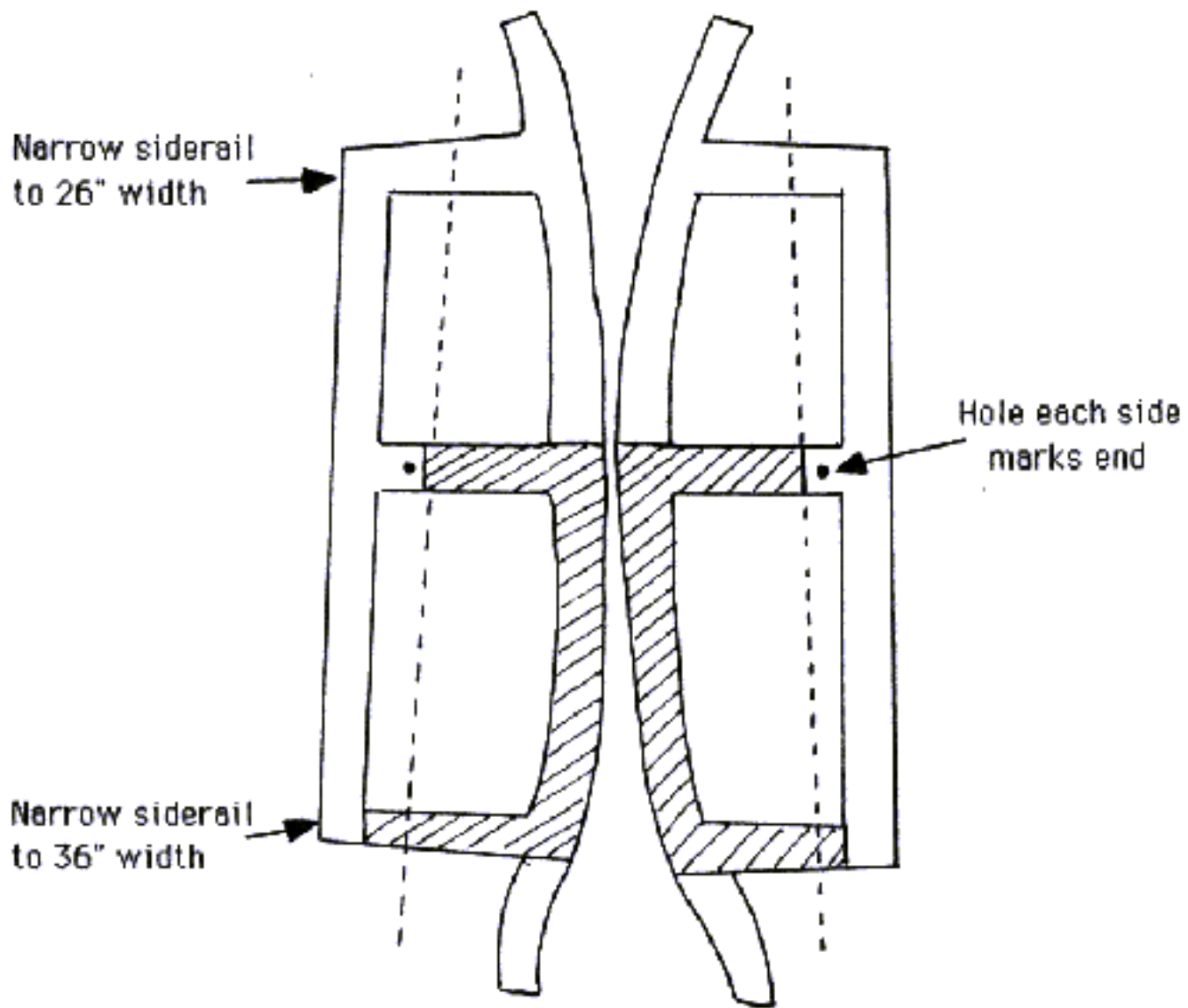
RADIATOR

28mm copper T' piece

Use these two holes for mounting radiator

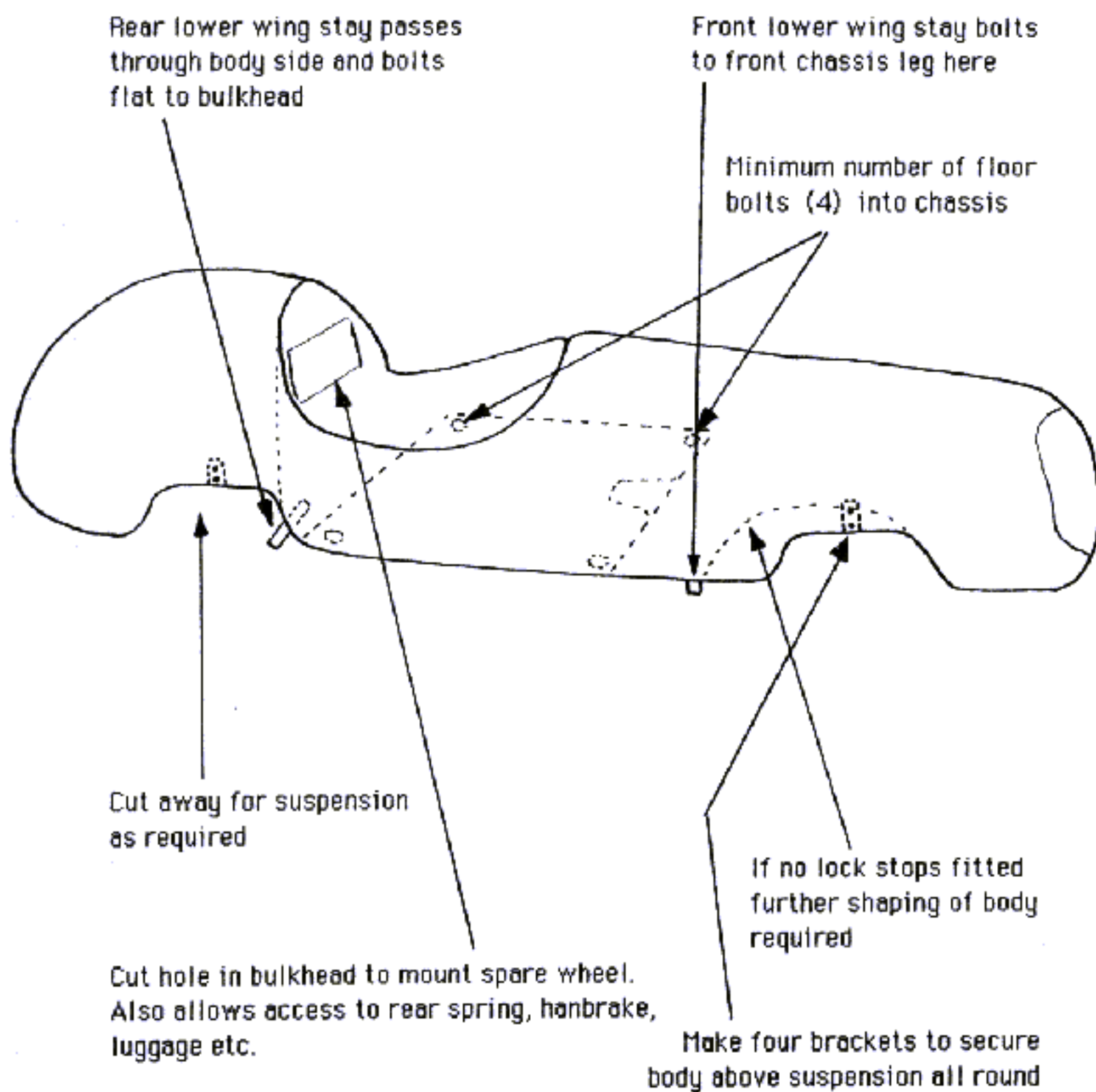
N.B. If any difficulty is experienced in re-piping, pipes 1 and 2 can be cannibalised from Datsun 1210 hoses.

FRONT

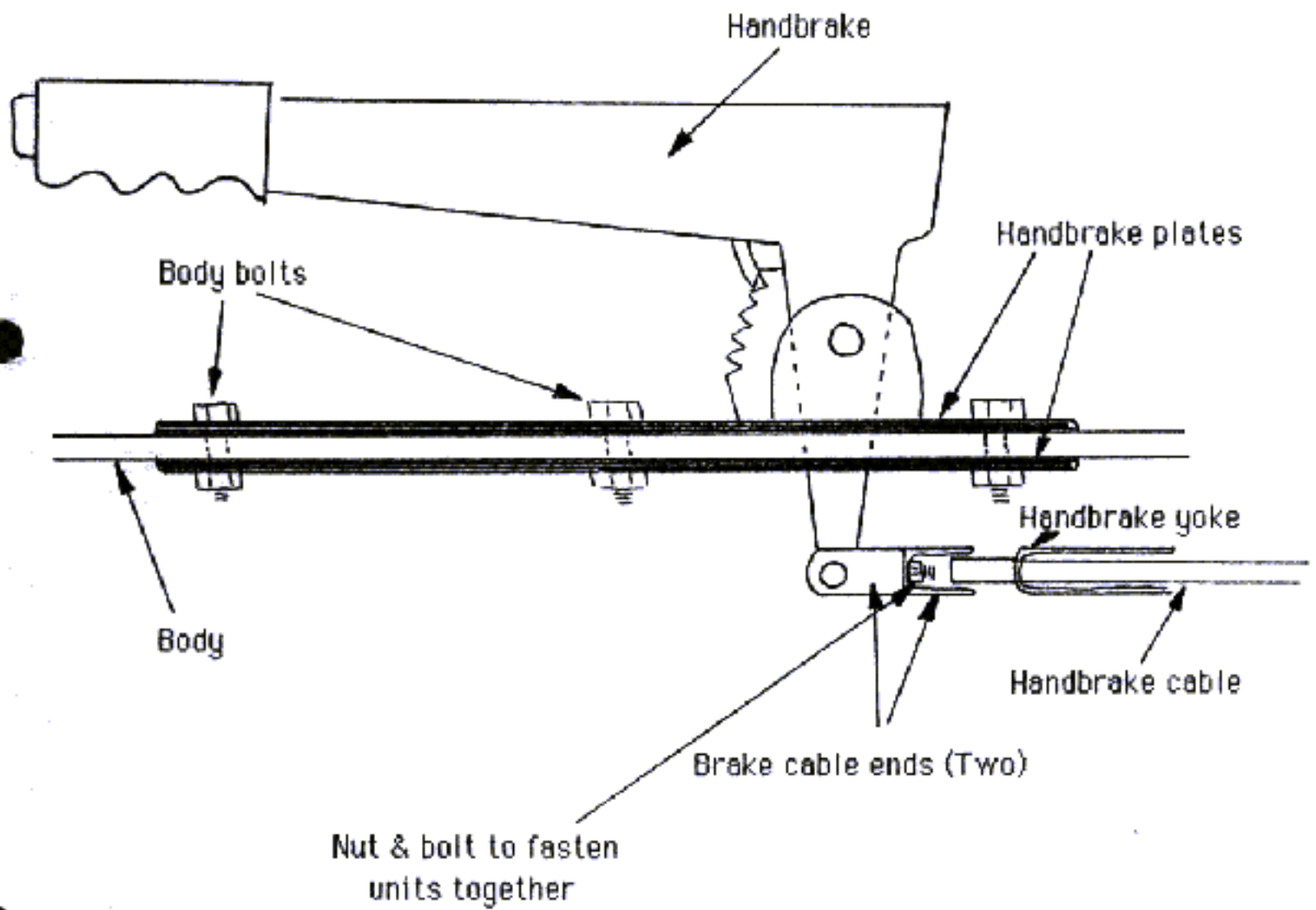


Stick body packing to area shown shaded

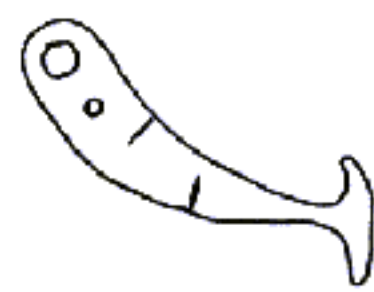
MOUNTING BODY TO CHASSIS



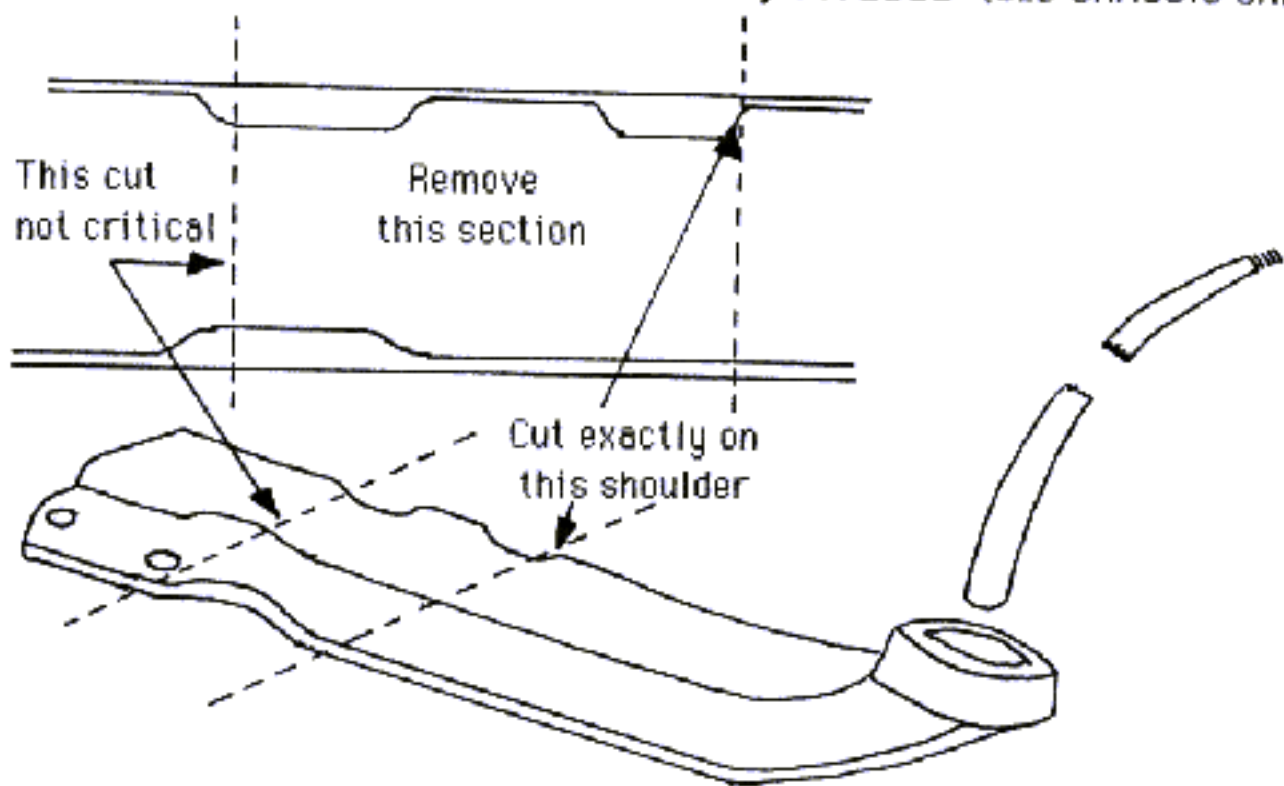
MONACO HANDBRAKE



7B



MODIFYING GEAR LINKAGE TO EXTEND, VITESSE (OLD CHASSIS ONLY)



VITESSE New chassis only
HERALD New or old chassis

