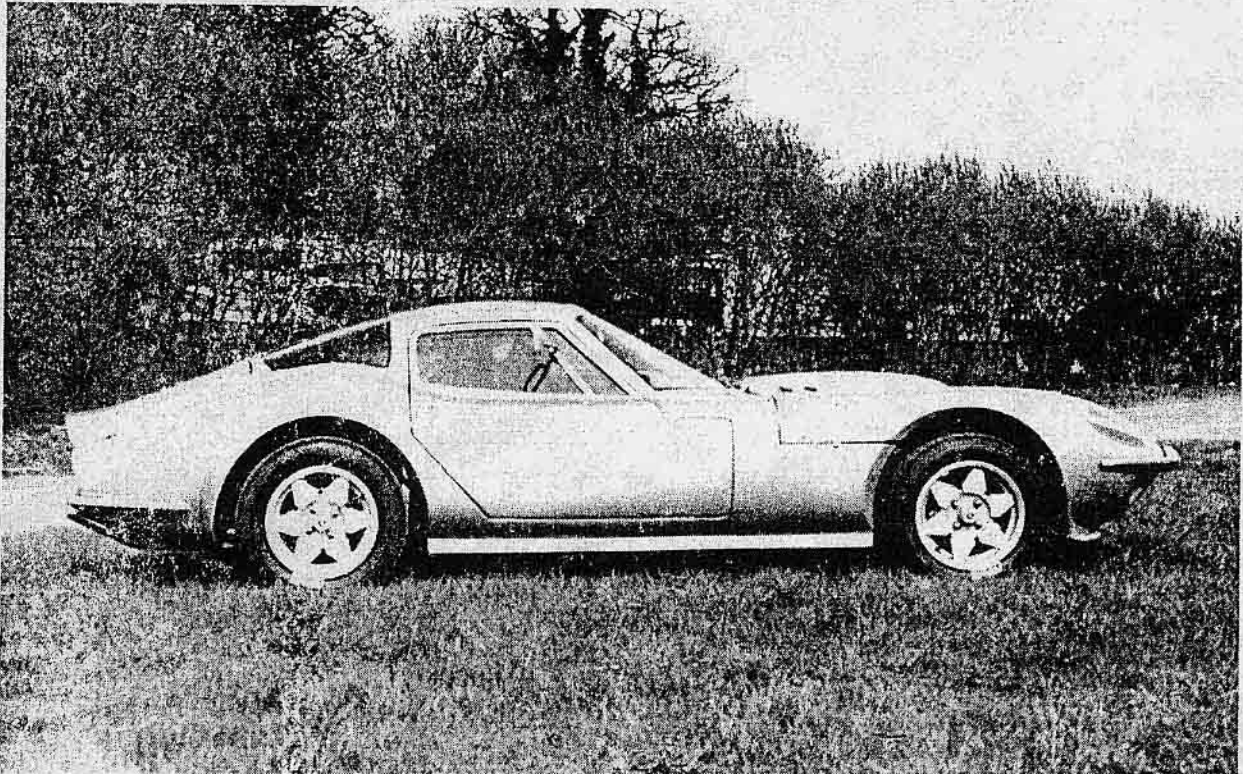


# MARCOS

153, West Wilts Trading Estate, Westbury, Wilts. BA13 4JN  
Tel: Westbury 864097 (STD Code 0373)      Telex: 444883



## BUILD MANUAL

Mantula V8, 3 litre, 2 litre, 1600.

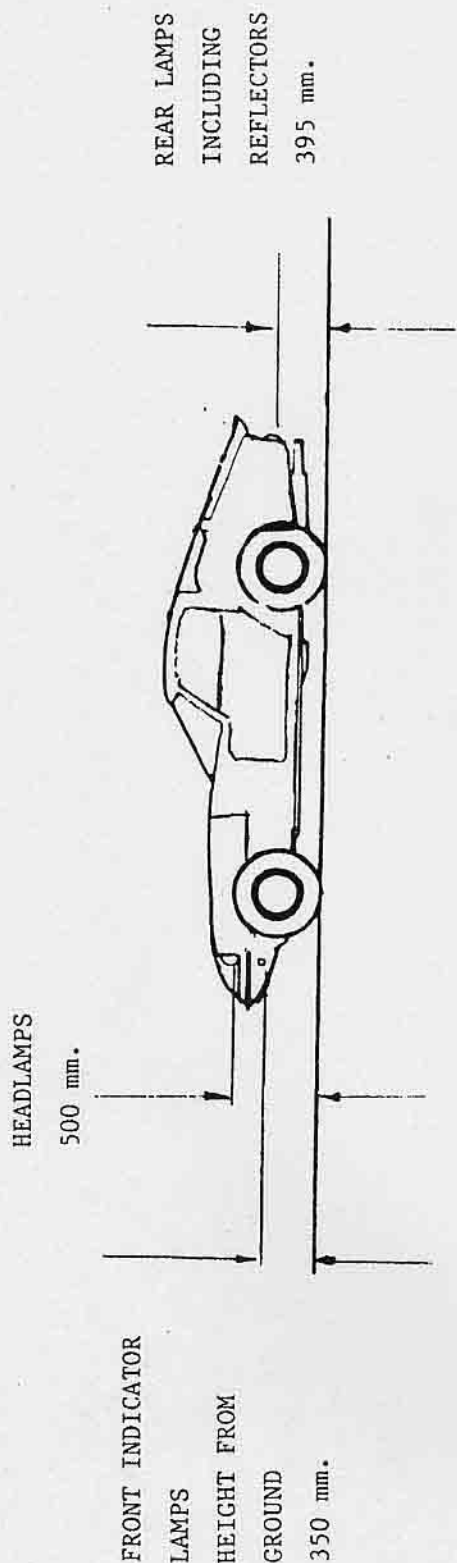
CONFORMS TO THE SOCIETY OF MOTOR MANUFACTURERS AND TRADERS  
CODE OF PRACTICE.

Certificate Number: 001/95/1154

M O D E L   S P E C I F I C A T I O N   C H A R T

MODEL	ENGINE	GEAR BOX	REAR AXLE	FRONT SUSPENSION	STEERING RACK	FRONT BRAKES	REAR BRAKES	FRONT WHEEL TYRE ASSY.	REAR WHEEL TYRE ASSY.
IARCOS IANTULA	Rover SDI 3500 - 1977 On  Rover 3500 S 1969-76	5-speed  Rover  SDI	Ford Capri 3-litre Mark I II III 1969-on	Triumph Vitesse Mark II GT6 1968-on	Triumph Spitfire Vitesse GT6 1965-on	Marcos Ventilated  Triumph Vitesse Mark II GT6	Ford Capri 3-litre Mark I II III 1969-on	195 x 60 VR 14 tyre. Max. load 1136 lb. @ 44 PSI. 6" wide rim.	205 x 60 VR 14 tyre. Max. load 1230 lb. @ 36 PSI 6" wide rim.
IARCOS 3-LITRE	Ford Capri 3-litre 1969 ON Mark I II III	Ford Capri 3-litre 1969-on (Single rail box preferred)	Ford Capri 3-litre Mark I	Triumph Vitesse Mark II GT6 1968-on	Triumph Spitfire Vitesse GT6 1965-on	Triumph Vitesse Mark II GT6	Ford Capri 3-litre Mark I	185 x 70 HR 13 tyre. Max. load 1140 lb. @ 36 PSI. 6" wide rim.	185 x 70 HR 13 tyre. Max. load 1140 lb. @ 36 PSI. 6" wide rim.
IARCOS 3-LITRE	Ford Cortina 3-litre OHC Ford Capri 2-litre OHC	Ford Cortina 2-litre Ford Capri 2-litre	Ford Capri 3-litre Mark I	Triumph Spitfire Vitesse GT6	Triumph Spitfire Vitesse GT6	Triumph Spitfire Vitesse GT6	Ford Capri 3-litre Mark I	185 x 70 HR 13 tyre. Max. load 1140 lb. @ 36 SPI. 6" wide rim.	185 x 70 HR 13 tyre. Max. load 1140 lb. @ 36 PSI. 6" wide rim.
IARCOS 600	Ford Cortina 1600 OHN  Ford Capri 1600 OHC	Ford Cortina 1600 OHC Ford Capri 1600 OHC	Ford Capri 3-litre Mark I	Triumph Spitfire Vitesse GT6	Triumph Spitfire Vitesse GT6	Triumph Spitfire Vitesse GT6	Ford Capri 3-litre Mark I	185 x 70 HR 13 tyre. Max. load 1140 lb. @ 36 PSI. 6" wide rim.	185 x 70 HR 13 tyre. Max. load 1140 lb. @ 36 PSI. 6" wide rim.

ENSURE THAT ALL LAMPS FITTED ARE TYPE APPROVED  
(BSI 'e' 'E' marked). THESE CAN BE SUPPLIED POA.



FRONT INDICATOR  
LAMPS  
HEIGHT FROM  
GROUND  
350 mm.

HEADLAMPS  
500 mm.

REAR LAMPS  
INCLUDING  
REFLECTORS  
395 mm.

MAIN BEAM TO MAIN BEAM	710 mm	INDICATOR LAMP TO INDICATOR LAMP	915 mm
DIP BEAM TO DIP BEAM	1020 mm	INDICATOR LAMP TO BODY OUTER	88 mm
MAIN BEAM TO BODY OUTER	240 mm	SIDE TAIL LAMP TO SIDE TAIL LAMP	710 mm
DIP BEAM TO BODY OUTER	90 mm	SIDE TAIL LAMP TO BODY OUTER	170 mm
SIDE LAMP TO SIDE LAMP	1020 mm	STOP LAMP TO STOP LAMP	710 mm
SIDE LAMP TO BODY OUTER	90 mm	STOP LAMP TO BODY OUTER	170 mm
INDICATOR LAMP TO INDICATOR LAMP	950 mm	REFLECTOR TO REFLECTOR	560 mm
INDICATOR LAMP TO BODY OUTER	30 mm	REFLECTOR TO BODY OUTER	275 mm
		REAR FOG TO REAR FOG	300 mm
		REAR FOG TO BODY OUTER	370 mm

I N T R O D U C T I O N

This manual is to assist purchasers of Marcos body chassis units in the completion of their vehicles to the correct standards as laid down by the Code of Practice of the Society of Motor Manufacturers and Traders Ltd.

FORD DONOR VEHICLE - It has been found that quite a few of our customers have been building their cars up by buying bits and pieces all over the place. The best way to carry out the operation of building a Marcos in component form is to buy a donor vehicle. Assuming that you are going to start off with a Ford base, you can use the Capri mark I, 1600 or 3 litre. Use only engines with a clutch cable. Using the complete vehicle from either a car dismantlers or from a car that has failed the MOT ensures that you can obtain a tremendous number of parts which otherwise you would have to go out and purchase separately. Take a Ford 3 litre Capri mark I for example, the radiator, engine, gearbox, propshaft and back axle, wheels and tyres will all fit the Marcos. This then only leaves you with the front suspension and steering column to be obtained from the Triumph range.

ROVER DONOR VEHICLE - The most suitable vehicle to use when building a Marcos Mantula is the Rover SDI 3500 5 speed manual. From this vehicle the engine and gearbox assembly can be used complete. Simply discard the engine mountings and the exhaust manifolds. Also the power steering if fitted. The rear axle for the Mantula is a mark I 3 litre Capri or a mark II. The front suspension is as per the Ford models ie:- Triumph. Should you be unable to find a Rover SDI the 3500 S Rover can be used, but this entails changing the water pump, front pulleys etc. The engine is basically the same.

TRIUMPH DONOR VEHICLE - The Vitesse can also be used as a donor vehicle as you then have the front suspension, rack and pinion, steering column, engine and gearbox. The rear suspension of the Triumph will not fit and we do not advise anybody to try this. The best axle to fit with this engine and gearbox would be the Capri 3 litre mark I. The GT6 could also be used as a donor vehicle and would infact be the same as the Vitesse. The other items on the Triumph that can be used on the Marcos are the switches, headlamps, windscreen wipers, motor clamp and rack, battery and of course with both donor vehicles there are all sorts of things like horns, windscreen washer kits, batteries, various nuts and bolts etc. The other advice we like to give is not to spend money on the engine itself because usually the engines on donor vehicles are alright to get you on the road.

C H E C K S   T O   B E   M A D E   O N   U S E D   P A R T S

Obviously if you are going to use secondhand, used parts, you must check every item very carefully and ensure that everything is cleaned and oiled, repacked with grease in the case of the front hubs.

STEERING COLUMN - Triumph Vitesse, Herald or GT6. This must be the latter type with the 3 position lighting switch. This must be complete with top mounting brackets and all clamps and fittings.

RACK AND PINION - This can be taken off any Herald, Spitfire or GT6. The rack and pionion should be carefully checked for any tight spots. These normally give very little trouble. It is advisable to strip the rack and clean it out and repack with HMP grease. The steering ball joints on the end of the rack should be checked and renewed if necessary. Rack stops must be fitted as per drawing in back of manual to ensure the wheels do not foul the bedwork



HANDBRAKE - From a Cortina mark I or Mark II.

FRONT SUSPENSION - Vitesse mark II and all GT6 and later Spitfires. This includes the wishbones, uprights, steering arms, brake discs, calipers and hubs. Bottom trunnions are very often worn due entirely to lack of maintenance. These are shown on a drawing further on in the manual. The calipers should very carefully be checked for leaks. New rubber seals for these are easily obtainable if need be. Wishbone bushes are normally satisfactory but should be checked, also discs should not be too badly corroded. The vertical link on the front suspension, in conjunction with the trunnion should also be checked for any undue wear.

NB:- SPITFIRE SUSPENSION (SMALL BRAKES) ONLY TO BE USED ON THE 2 LITRE AND SMALLER ENGINED MARCOS'.

#### REAR AXLES

FORD MODELS - Mark I 3 litre Capri either 3.22 : 1 or 3.09 : 1. Approximate year of manufacture 1968-1974. This is the most suitable axle for all Ford engined models. The only check to be made on the axle is to ensure there is no oil leaking onto the new brake shoes; the cure for this is bearing replacement and also new shoes if necessary. Special brackets must be fitted to the rear axle to accept the Marcos rear suspension, this must be done in a special jig at the factory, we would prefer all the old Ford brackets removed prior to delivery. POA.

MANTULA - The Mantula can also use the mark I Capri axle as above. We also recommend using the mark II 3 litre Capri axle which is wider than the mark I, also using the same ratio of 3.09. The same bracket arrangement as the Ford applies to this axle.

#### AXLE DIMENSIONS -

Mark I Capri - overall width brake drum face to brake drum face - 54"

Mark II Capri - overall width brake drum face to brake drum face - 57"

When fitting the rear axle, one brake drum and back plate will have to be removed to allow the axle to fit through the aperture in the chassis.

IT IS MOST IMPORTANT, WHEN BUILDING THE FORD MODEL, THAT YOU DO OBTAIN THE MARK I AXLE. THE MARK II AXLE IS NOT SUITABLE.

ALLOY FRONT HUBS - Can be supplied to accept Ford wheels. As Ford and Triumph have different wheel centres we advise the use of alloy hubs to accept Ford wheels and cut down unsprung weight.

THESE FIRST PAGES EXPLAIN WHERE THE MAIN ITEMS COME FROM. ALL THE SMALLER ITEMS ARE MENTIONED FURTHER ON IN THE MANUAL.

## ASSEMBLY INSTRUCTIONS

The front suspension fits straight onto the Marcos frame using the nuts and bolts as listed in our nut and bolt sheet.

The rack and pinion steering is bolted onto the chassis using the standard Triumph brackets and rubbers.

The rear axle is fitted with the four radius rods. The adjustable radius rod should be fitted last and adjusted to suit. The panhard rod can then be fitted; fit it to the chassis first and then on the axle. The panhard rod must be adjusted to ensure that the back plates of the axle on both sides are the same distance away from the main chassis tubes. The spring and damper units are fitted with the adjusting screws to the bottom. Ensure that the lock nuts on the adjustable radius rod and panhard rod are done up. 50 - 60 lb ft.

Fit the master cylinders to the pedal carriage. These are Girling 3/4" bore with adjustable rod and vertical reservoirs. Fit flexible hoses to suit onto cylinders and to steel pipes, via the bracket shown on the drawing. The brakes can now be bled. It is best to bleed them once and leave them overnight; then bleed them again to ensure that there is no air in the system.

To conform with current construction and use regulations it is necessary to fit a brake fluid level indicator; the sender unit for this is a simple float indicator and is fitted into the master cylinder. This can be supplied by Marcos (POA).

ENGINE - It is always better to hear the engine you have chosen running before you buy it. If possible drive the car to ensure that it has good oil pressure and does not smoke from the oil filler cap. Thoroughly check and clean all ancillaries to minimise any failure at future dates.

The engine can be fitted to the Marcos with the ancillaries fitted, with the exception of the exhaust manifolds which should be left off.

MANTULA V8 - The engine having been taken straight from a Rover V8 will fit straight into the Marcos chassis using the engine mounting plates and rubbers from the Rover 3500 S 1971-1976. (SDI mountings will not fit). The rear gearbox mountings, including tensioner bolt, are from the SDI. Exhaust manifolds are from the 3500 S and must be fitted in conjunction with the special Marcos spacer plates. These are fitted to the offside only. Injection manifolds and carburettors should be the SU arrangement standard to SDI. These are used in conjunction with special induction tubes available from Marcos which enable you to use remote air cleaners as the standard Rover cleaner will not fit. (POA). A high performance induction manifold, coupled with 4 barrel Carter or Holley carburettor, can also be used. (POA).

EXHAUST MANIFOLDS V6 FORD ENGINE - These are reversed and must come from a mark IV Zodiac. Mark IV Zodiacs are now becoming difficult to find and Ford have taken their manifolds off their computer. If you are unable to find the Ford mark IV Zodiac castings we can supply a tubular manifold to pick up with the existing Marcos system.

Manifolds and exhaust systems for other engines are as follows:-

1600 - original cast iron manifolds can be fitted but not tubular, however, Marcos can supply a special four branch manifold to couple up with the remainder of the Marcos tail pipe system. The 2 litre and 2.5 Triumph engine utilises the Triumph cast iron manifolds and the front down pipe coupled to one of our righthand tail pipes. 2.8 carburettor engine utilises the Marcos tubular exhaust manifold each side coupled to the Marcos tail pipes. The Mantula uses special Marcos systems which are currently being made in stainless steel. The factory can also supply a four branch manifold to fit the Rover engine.

On the purchase of your Marcos, if you are fitting a 3 litre engine from a Capri you will be supplied with two metal brackets, one left hand and one right hand which bolt onto the engine. Existing Ford Capri mark I engine mounting rubbers will then line up with the special mounting on the Marcos chassis.

WIRING - Connect up the wiring of the car, thoroughly studying the wiring diagram. The wiring harness being fitted to the latest Marcos is fitted with the new modern block type system which connects to the Marcos illuminated switches. The wiring harness, you will find, has all the various wires for extras that you might need to fit. However, you may have to do one or two minor alterations to accept whatever engine you are fitting.

With Rover V8 engines use BL alternator part no:- DRC 2602 as fitted to the late Rover SDI. This must be the top mounted version and not as per early vehicles which had the alternator hung beneath the bracket. Marcos supply and alternator bracket to suit. (POA). A battery clamp is recommended which we can supply. (POA)

PROPSHAFTS - Taking the propshaft off your donor vehicle (Ford) and offering it up to your axle and your engine, you will find that the back section of the propshaft can be used. This piece bolts onto the axle with the existing bolts. The splined nose piece must be removed from the propshaft by carefully grinding the weld away and knocking it out. You can then cut the back half of your propshaft to the correct length, tap the splined nose piece in gently, making sure that the universal joints are lined up and have it electrically welded. If you feel that this is too much of a problem for you to do, send your propshaft to us and we will modify it by return. Ensure that you give us the measurements from the companion flange on the axle to the oil seal on the tailshaft of the gearbox. Some of the later Ford Capri 3 litre propshafts are fusion welded. It will be necessary to send the propshaft to the works or get a competent engineering shop to shorten it for you.

With the Rover installation a propshaft adaptor plate can be supplied to enable the cut down Rover 3500 not SDI propshaft to be coupled to the Capri rear axle. New propshafts can be supplied by Marcos. (POA)

GEAR LEVERS - The gear lever on the 3 litre gearbox requires bending to suit the driver. Using the V8 (Rover) a special gearshift assembly to mate up with the 5 speed gearbox can be supplied. (POA).

DOORS AND WINDOW FRAMES - We recommend fitting, then removing the window frames before painting the car. This minimises damage to the paintwork. Trim the door to ensure that the frame fits into the back edge of the door. Close the door and adjust the frame top edge either in or out by moving the bottom of the frame. When an even gap is obtained secure the bottom of the frame to the door. The frame should now be removed and the doors painted. Refit the frames as detailed above and proceed. Fit the window motor and regulator, ensuring that the wires are on the motor - these are fairly inaccessible with the motor fitted. The wires from main harness to the window motors should run through the 2 rubber sheaths supplied. (Wg dia). Fit the door lock as shown further on in the manual. Fit the locks and striker plates using bolts as listed.

BOOT LID - fit boot push button to back panel. Fit interior lock assembly to back panel and the bracket to the boot lid. Adjust to suit.

REAR SCREEN - To fit this, cut 4 x 3" lengths of rear screen rubber supplied and fit onto aperture: 2 forward, 2 rear. Fit the screen into the rear rubbers and mark around the aperture. Then grind the screen down to size using a grinding disc on a drill. Periodically check the screen in the aperture until there is an even gap all the way around. Then, fit the complete rubber into the aperture. Fit the back of the screen first, then the front edge, leaving the sides until last. When fitted, you then fit the filler strip. The tool used for this is called a "Clayton Wright" filler strip tool, which we can supply. (POA).

Ensure that any aperture between the engine compartment and the interior are effectively sealed with dum dum. Before fitting any upholstery fit 2½" sound deadening felt everywhere except the arm rest panel, adjacent to the door shut. Felt glued to the inner face of the door skin will considerably reduce noise.

WHEELS AND TYRES - After extensive testing we are able to offer a package deal in the form of a carefully selected wheel and tyre assembly. With the correct offset - fully fitted.

For Ford engine models - we recommend 185/70 x 13

For Mantula models - we recommend: Fronts - 195/60  
Rears - 205/60 x 14

It is most important that the correct specification wheel and tyre assemblies are used with the correct speed rating and loading. See specification sheet.

We do not recommend rims wider than 6" for normal road use.

RADIATORS - The majority of Ford radiators will fit the Marcos but we have put brackets on to accept the 3 litre mark I and mark II Capri radiators. We can supply a fan which bolts onto the radiator. The fan that you fit can either be coupled up with a thermostat on the radiator or with a simple switch on the dashboard so that you can switch it on when required.



(6)

MARCOS MANTULA - Use the radiator from a Rover 3500 S 1971-1976 pre SDI; the brackets fitted to the chassis are designed to accept this radiator. Use Rover hoses also. The Mantula should use twin cooling fans, which we can supply. These fans should be thermostatically controlled. A thermostatic switch for this can be supplied. The radiator from the 3500 S automatic version can also be used. Simply blank off the heater exchanger unions. Rover SDI is not suitable.

OPTIONAL EXTRAS - Various heaters will fit but we have developed a heater system especially for the Marcos. This contains every item that you need including the ducting controls.

A complete carpet set can be provided for the Marcos to match the trim that you have ordered with your Stage II.

As we all know, seat belts are compulsory and it is essential that the proper seat belts are fitted to the Marcos. We have modified our trim to accept a stalk type bolt to enable a single hand operation after getting into the car. These belts are available and are specially made for the Marcos application. They conform to Regulation 14 EEC. Marcos have had their chassis tested to the stringent seatbelt pull test.

SCREEN WIPER - The wiper motor is a Lucas 14W model with a sweep of 120°. The wheel boxes are again Lucas - Part No. 72879; the drive rack is standard (Lucas). The wiper tubes to use are made up with the ends flared to the following lengths:- 20", 10½" with the nut. End piece 2½" long. It is most important that you fit the correct gear wheel and wheelboxes to ensure that you obtain the correct swept area.

We strongly advise using a bonnet lock for security and safety reasons. This we can supply. (POA).

The glove locker can be made up to your own requirements from "pressboard" obtainable through any good coach trimmer. Alternatively use 1/8" ply and trim with Ambla PVC.

#### SPEEDOMETER GEARING

The speedometer supplied is geared to a factor of 1.000. Should any alteration be made to either the rear axle or the gearbox ratio/tyre sizes other than recommended it will affect the speedometer reading.

RADIO SUPPRESSION - It must be pointed out that cheaper radios are always difficult to suppress. The aerial must be at the back of the car and not on the roof by the engine compartment. A large IMCF suppressor should be fitted to the coil and this must be the feed through type, so that the current feeding the coil runs through it. A smaller one should be fitted to the Dynamo/alternator. In some cases it may be necessary to put one on the feed wire to the wiper motor as well. Also ensure the plug heads are of the suppressed type.

NUT AND BOLT LIST

<u>Front suspension</u>	<u>Qty</u>	<u>Sizes</u>
Wishbone to chassis (top and bottom)	8	2½" x 3/8" UNF nut & bolt
Shock absorber (top and bottom)	4	2½" x 7/16 UNF nut & bolt
<u>Rear Axle</u>		
Radius Rod to chassis	4	3" x ½" UNF nut & bolt
Shock absorber top mounting	2	2½" x 7/16" UNF nut & bolt
Radius rod to axle	4	2½" x ½" UNF nut & bolt
<u>Propshaft</u>		
Propshaft to gearbox flange (V8)	4	1½" x 3/8" UNF nut & bolt
Propshaft to axle adaptor V8 only	4	½" x 3/8" UNF bolt
<u>Engine Mounts</u>		
V6 Ford engine mounting rubber to chassis	2	10 mm nut
1600/2L mounting rubber to chassis	2	10 mm nut
V6 mounting plate to engine	4	1" x 3/8" UNC bolt
1600/2L mounting plate to engine	4	3/4" x 5/16" UNC bolt
V8 engine mounting to engine & chassis	4	10 mm nut
<u>Gearbox mount</u>		
Crossmember to chassis all models	4	1" x 5/16" UNF nut & bolt
V6 gearbox mount to crossmember	2	1" x 5/16" UNF Nut & bolt
V6 mount to gearbox	1	1" x ½" UNC bolt
Handbrake lever to bracket	2	1½" x 5/16" UNF nut & bolt
Handbrake compensator & pad to axle bracket	2	3/4" x 1/4" UNF nut & bolt
Steering column top bracket to inner dashwood	2	1½" x 3/8" UNF nut & Bolt
<u>Doors</u>		
Door frame to door top & bottom	10	1" x 2 ba nut & bolt
Door lock to door	8	1½" x 1/4" UNF csk screws
Door lock catch plate to body	4	1½" x 1/4" UNF csk screws
Window regulator to frame	8	6mm x ½" bolts
Door frame to door back edge	4	Self tapping screws & spire nuts
Window steady bracket	2	6mm x 1" nut and bolt
<u>Boot</u>		
Boot lock mech upper to lid	3	½" x 2 ba nut & bolt
Boot lock mech to body	3	½" csk 2 ba screws & nuts
Boot stay to hinge o/s	1	1" x 1/4" UNF nut & bolt
Boot stay to body	1	1" x 1/4" UNF nut & bolt
Fuel tank securing bracket to body	3	1" x 1/4" UNF nut & bolt
Mudguards are secured	10	Self tapping screws

ALL NUTS AND BOLTS TO BE FITTED WITH WASHERS

NB:- Metric Nyloc nuts have blue inserts

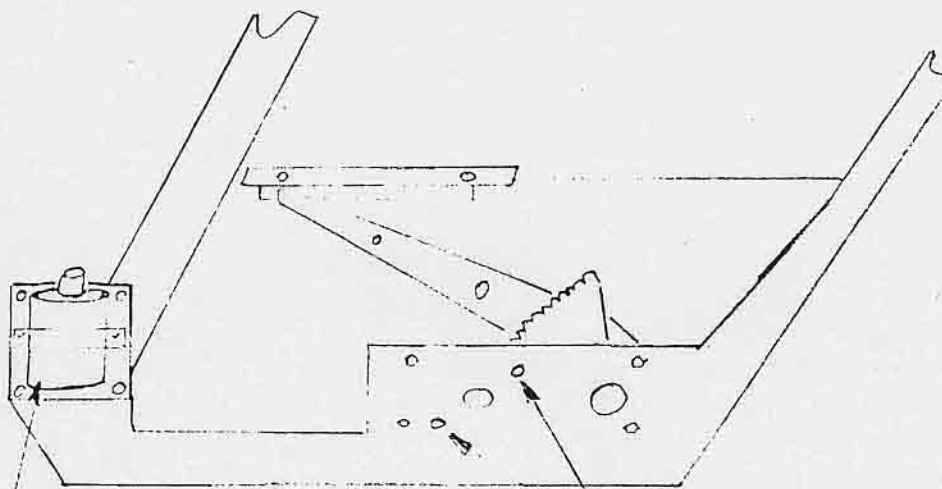
U N F Nyloc nuts have white inserts

SPARE WHEEL - We advise using a 165 x 13 wheel and tyre assembly from a mark II or III Cortina for use as a spare, to be used as a "Get you home" only and not to be used for any length of time or at a speed greater than 30-40 pmh.

FUSE BLOCK & RELAY PLUG PROTECTION - We have, under extremem conditions noticed a slight build up of corrosion in both the fuse block and some of the relay connectors exposed to the elements, as a precaution against this occuring under normal conditions we recommend smearing all plug blocks with petroleum jelly to minimise this.

HOOD FITTING DETAILS (SPYDER ONLY)- The hood supplied is ready fitted at the front c/w securing clips. After the car has been painted the hood bar should be installed using the brackets supplied. The rear fixing plate should be loosely fitted to the body, but not bolted down at this stage. Position the hood onto the car and attach the clips onto the front screen rail. The flap of material inside will coincide with the hood bar and this should overhang either side of the bar. Pull the hood towards the back of the car and mark where the rear fixing plate is, the hood can then be removed and the rear fixing plate glued to the hood. Re-fit the hood to the car and tension as required before securing the rear fixing plate to the body with 2BA nuts supplied. Once the tension is correct the flap of material inside should be glued to the hood bar and any excess removed.

STOWAGE - The hood fits into the rear parcel shelf and the hood cover fits on top utilising the velcro side fixings. When stowing the hood take great care not to damage the rear window, and fold the material carefully to minimise damage and undue wear.



Mount window motor onto plate using the clamp supplied.

Fit gearbox onto hexagon drive and secure onto 2 fixing lugs either using self-tapper or 2BA screw

Ensure the drive cable is routed correctly forming a gentle curve from the motor to the gearbox. Secure to the door frame to minimise rattles.

WINDOW MOTOR INSTALLATION

FORD 3L CAPRI OR CORTINA AXLE MODIFIED BY MARCOS

SPRING / DAMPER UNIT

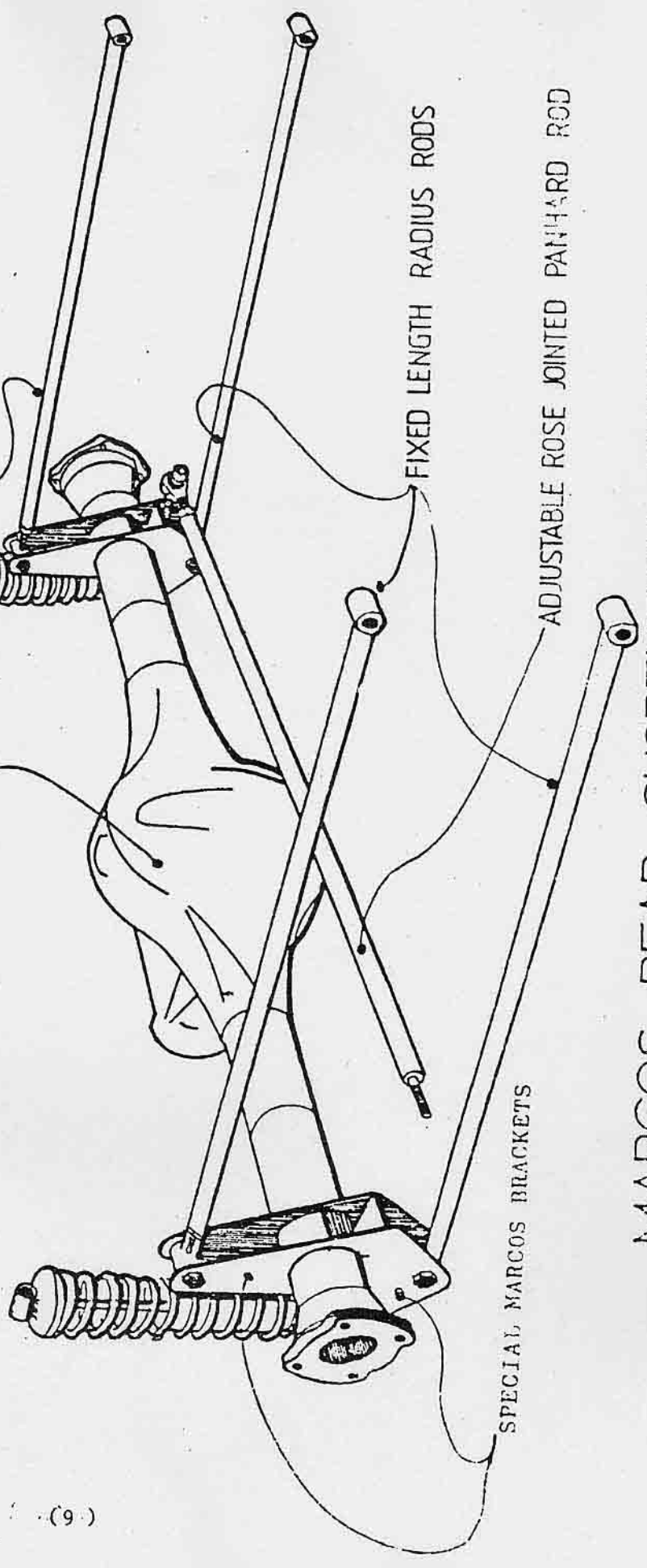
ADJUSTABLE RADIUS ROD

FIXED LENGTH RADIUS RODS

ADJUSTABLE ROSE JOINTED PANHARD ROD

SPECIAL MARCOS BRACKETS

# MARCOS REAR SUSPENSION SYSTEM





WARRANTY HOLE FOR FUTURE USE

BOLT HOLES FOR LOCATION OF RADIUS RODS FOR AXLE

SPRING/DAMPER MOUNTING

DOOR LOCK LATCH PLATE SUPPORT

FIVE WAY HYDRAULIC COUPLING & SWITCH

GEARBOX MOUNTING

SEAT BELT FIXINGS

ENGINE MOUNT POSITION

HANDBRAKE BRACKETS

Radiator Mounts

PEDAL CARRIAGE BRACKETS

Cooling fan brackets

LOCATION OF TOP ROSE JOINT FOR STEERING COLUMN

SPRING/DAMPER MOUNTING

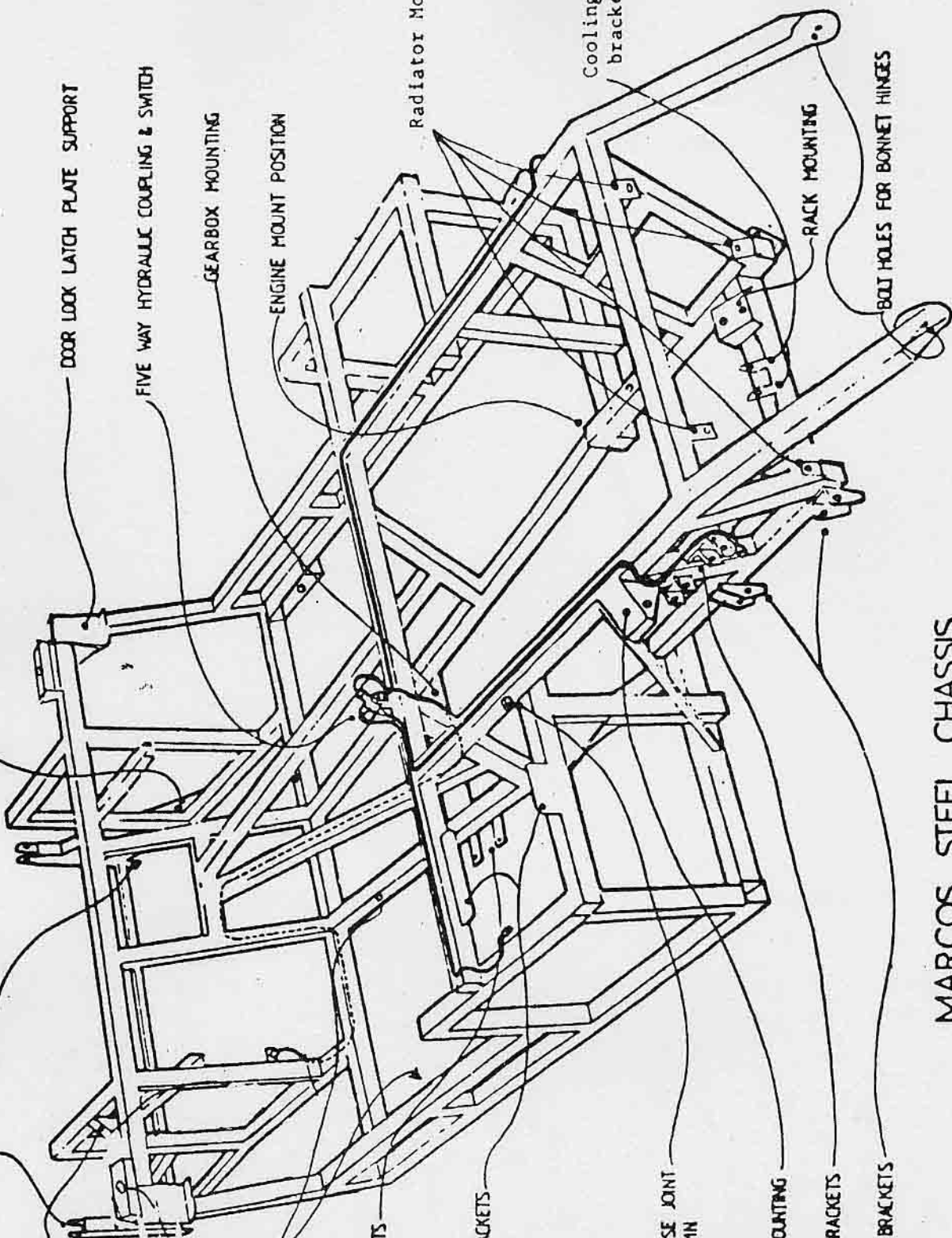
RACK MOUNTING

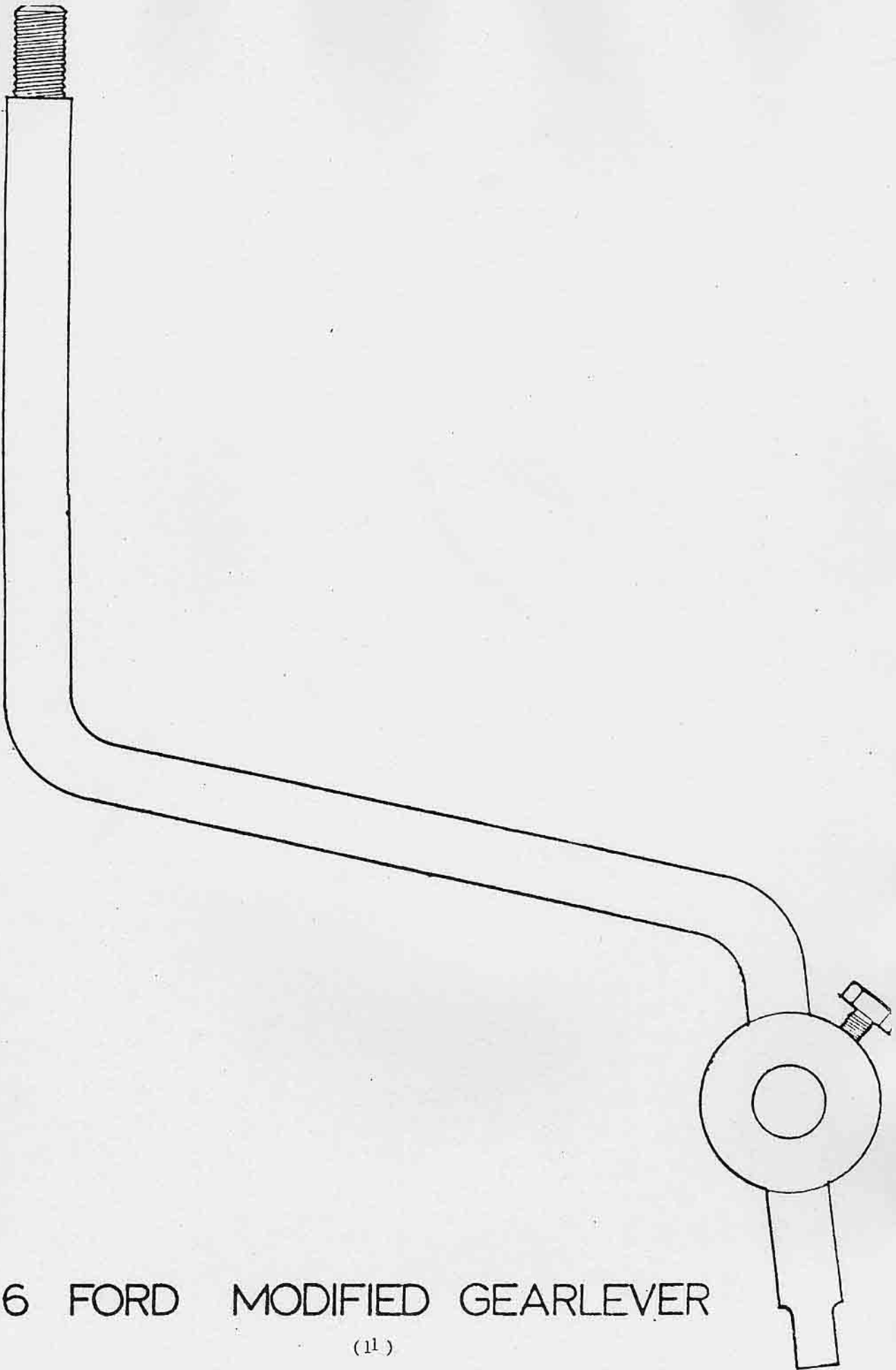
UPPER WISHBONE BRACKETS

LOWER WISHBONE BRACKETS

BOLT HOLES FOR BONNET HINGES

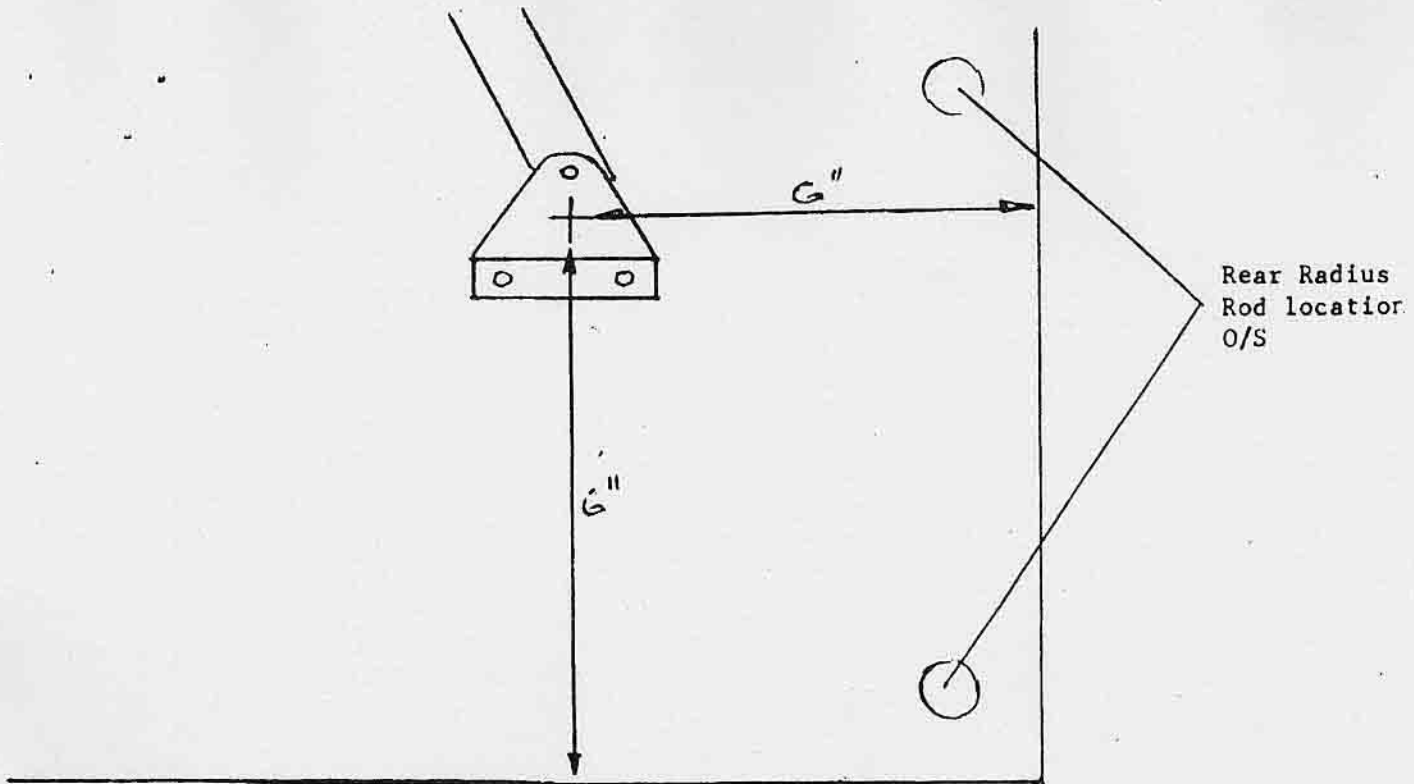
# MARCOS STEEL CHASSIS



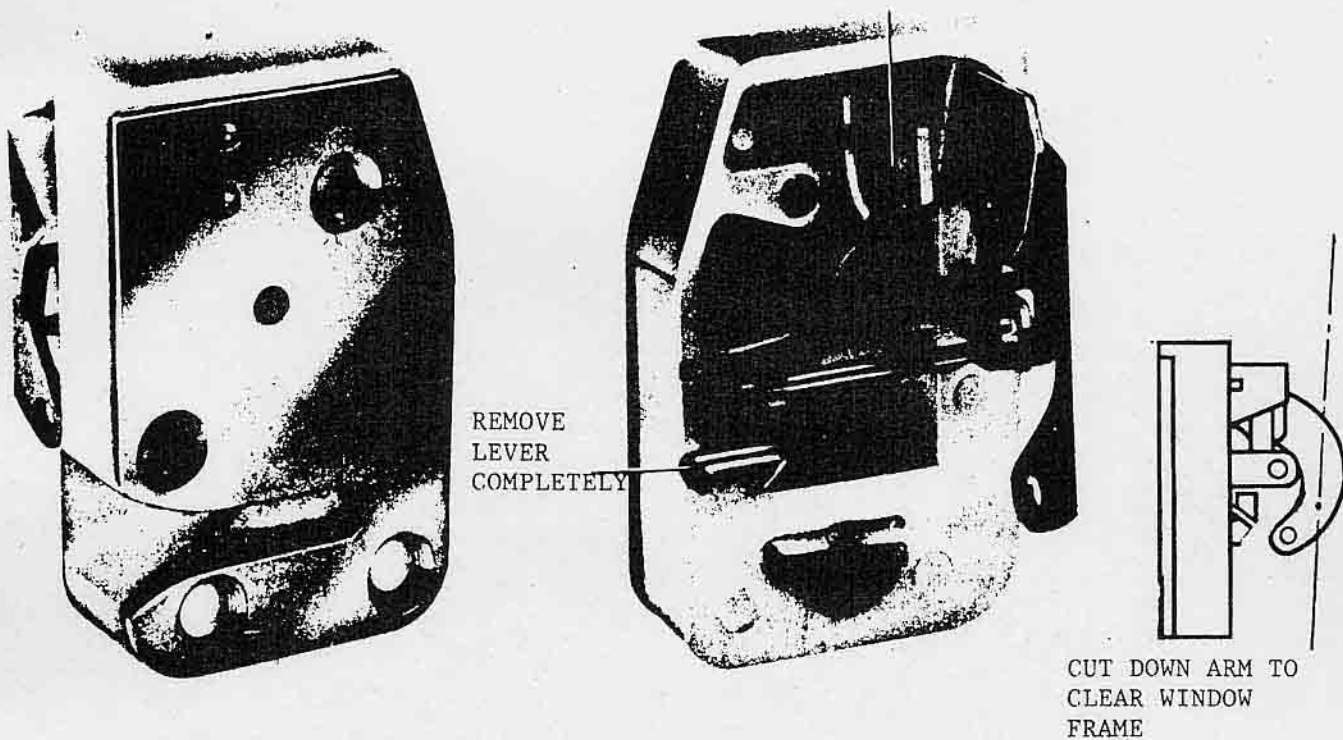


V 6 FORD MODIFIED GEARLEVER

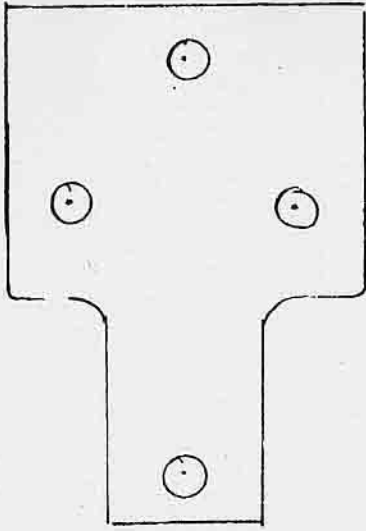
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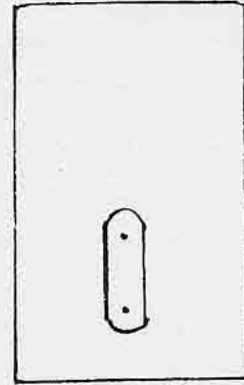
BOOT STAY TO UNDERTRAY



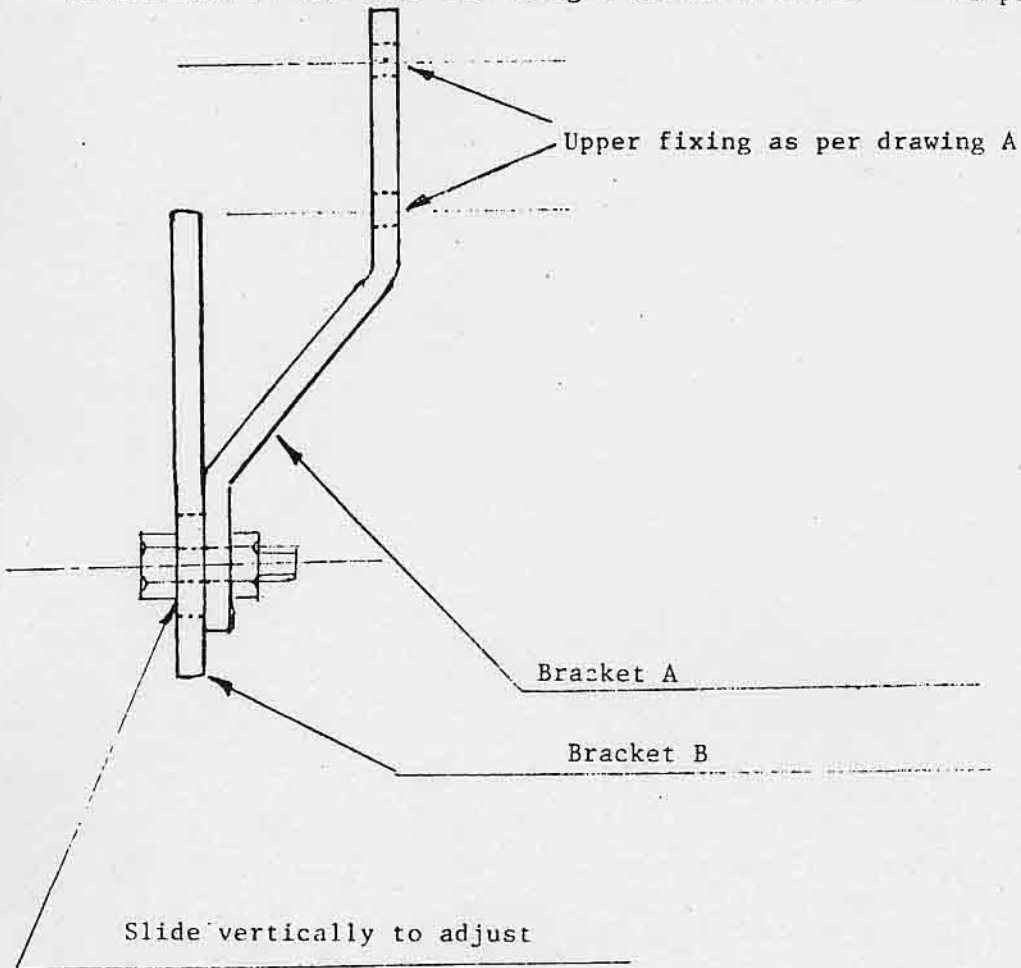
DOOR LOCK MODIFICATIONS



Boot lid bracket A  
To be fitted to the boot lid using 2 BA nut & bolts.

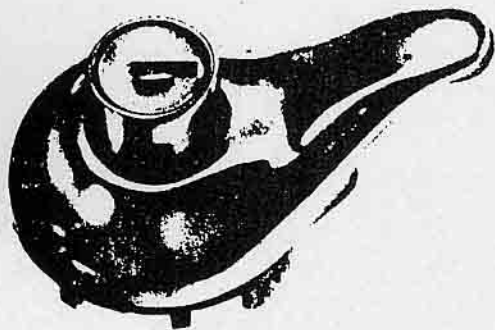


Boot lid bracket B  
To be fitted to boot lid bracket A  
as per drawing below

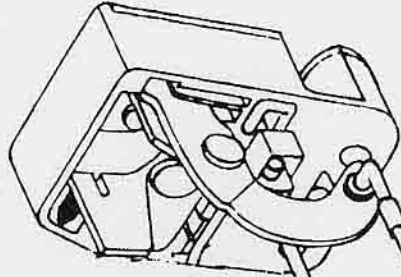
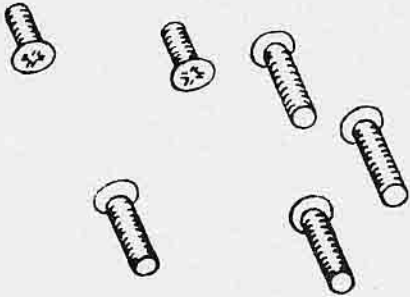
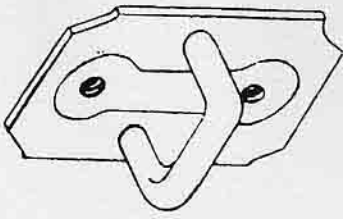


BOOT LOCK MECHANISM



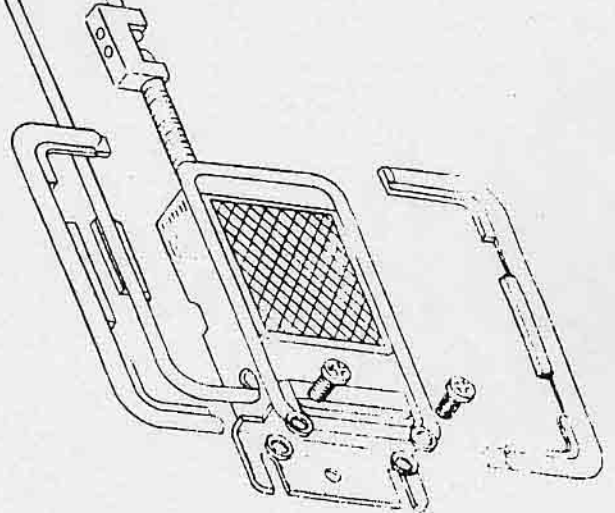


DOOR PUSH BUTTON.

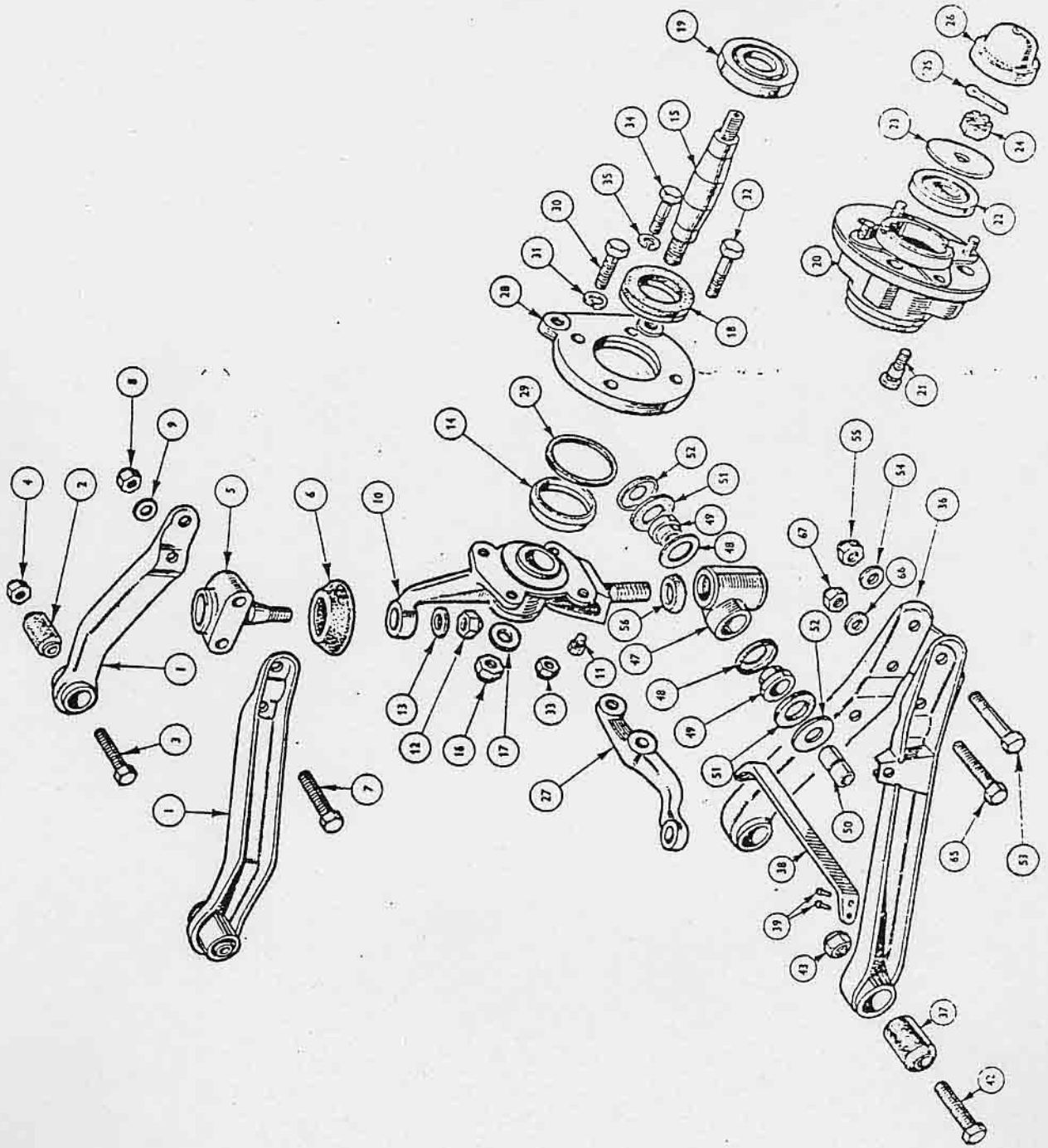


locking link  
(inside)

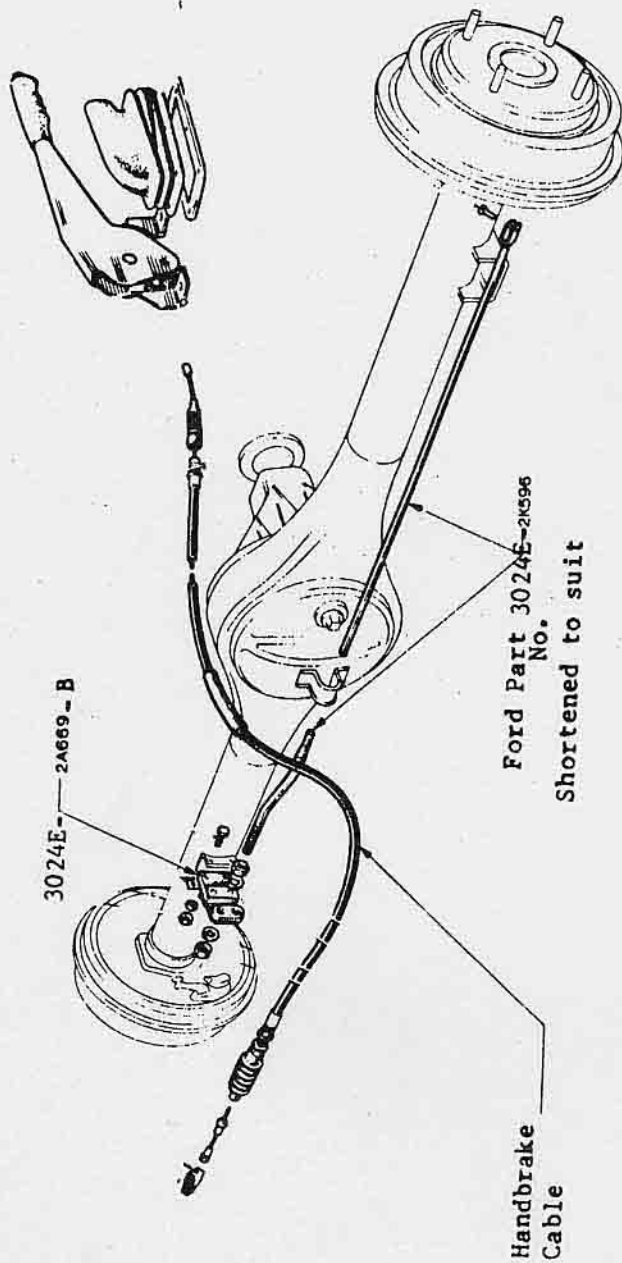
operating release  
link (outside)



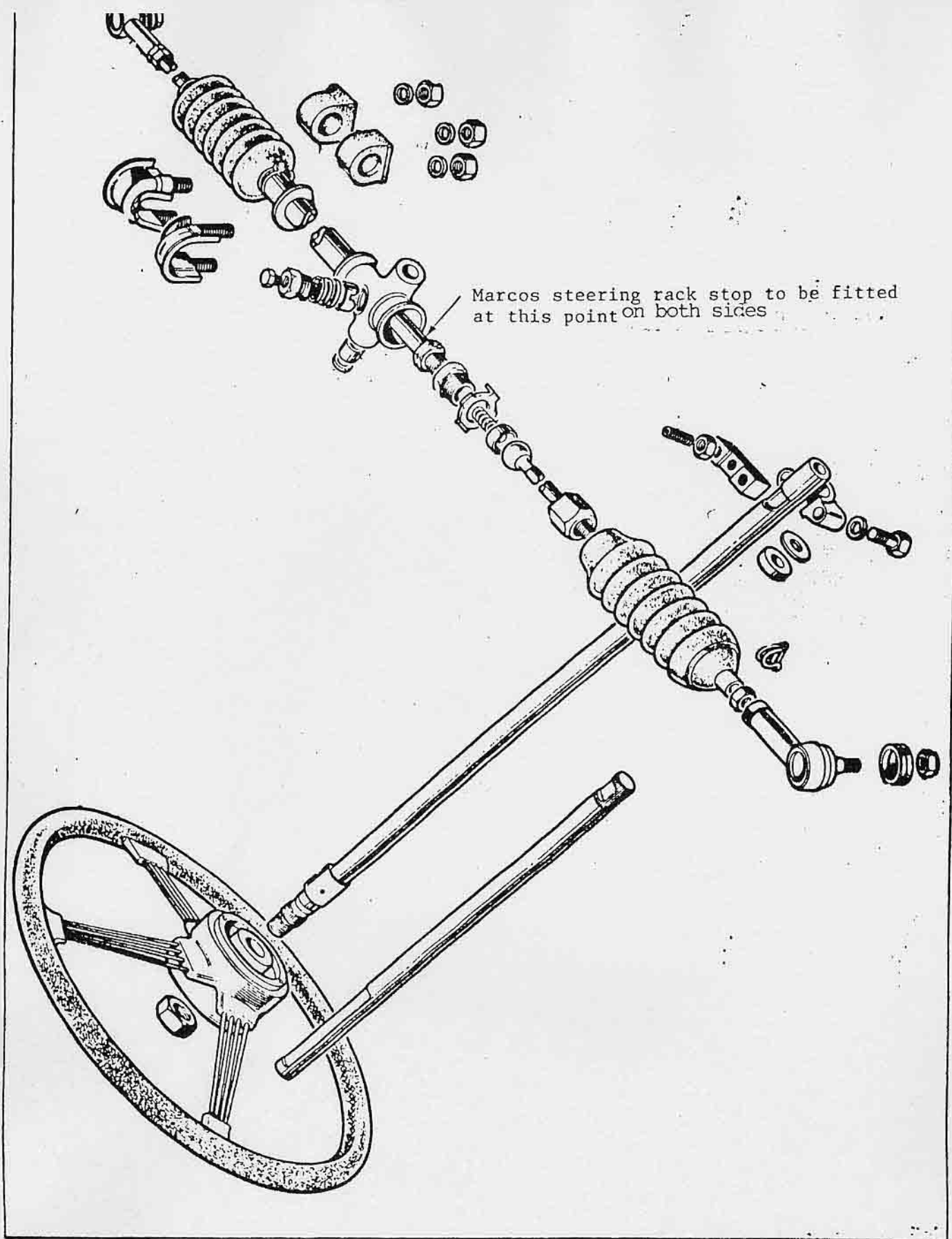
INTERIOR AND EXTERIOR DOOR LOCK ARRANGMENT.



TRIUMPH VITESSE MK 2 FRONT SUSPENSION



PARKING BRAKE INSTALLATION



Marcos steering rack stop to be fitted at this point on both sides

### RACK STOPS

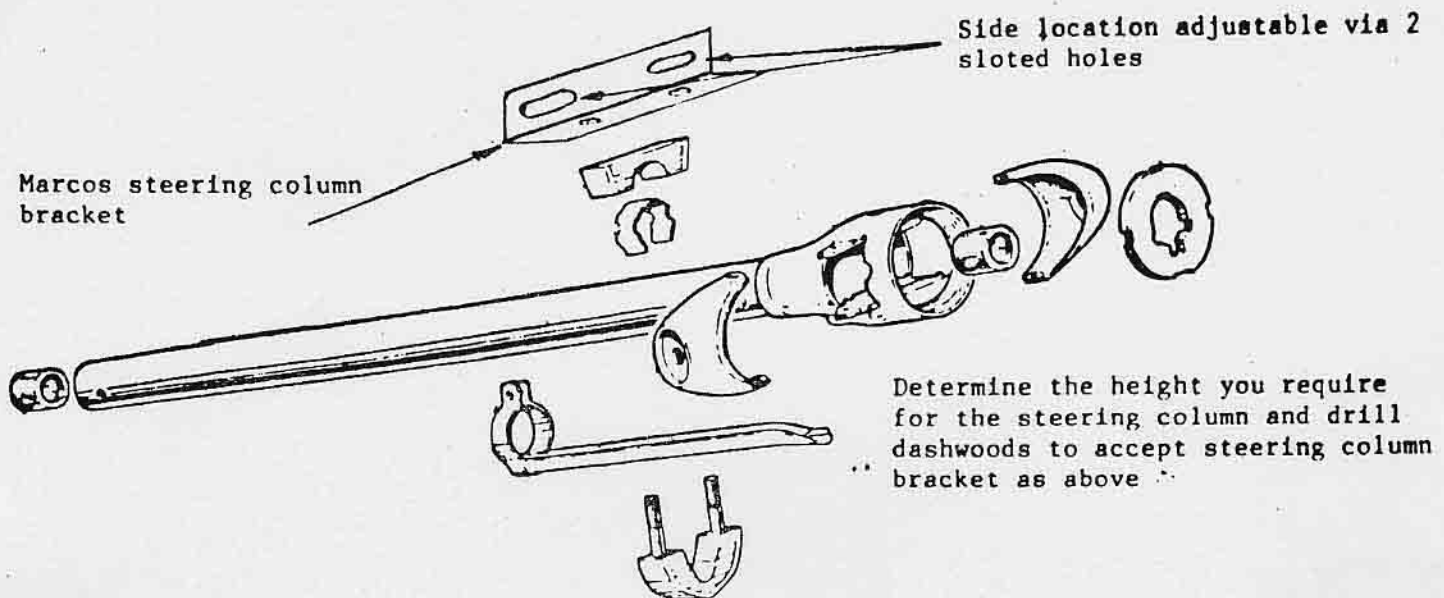
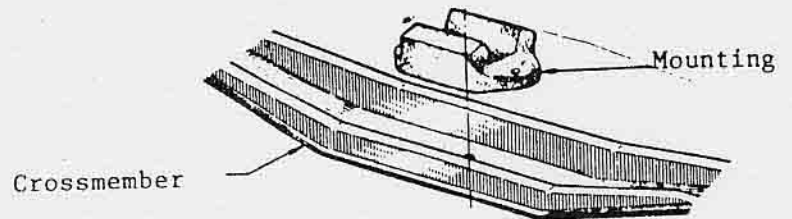
We advise the fitting of racks stops to the standard Triumph steering rack to limit travel of wheels on full lock. These are made from mild steel tubing 5mm wall thickness x 25 mm long and should be fitted as per our drawing.



### 3 LITRE FORD GEARBOX CROSSMEMBER

The rear engine mounting rubber which bolts to the gearbox must be used from the Mki Capri or II Cortina.

If you have a problem obtaining these - as they have been taken off the Ford computer we have them available.



### MARCOS STEERING COLUMN AND FIXINGS

Cut through propshaft tube only. Do not  
cut into U/J yoke spigot

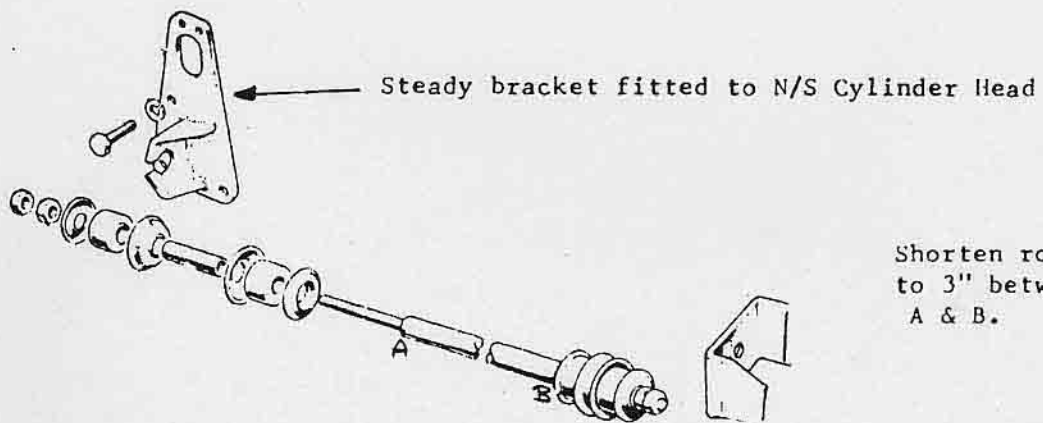


Propshaft tube

Original weld

METHOD FOR SHORTENING PROPSHAFT

ENGINE STEADY BRACKET



Shorten rod No. 4  
to 3" between poi  
A & B.

STEADY BRACKET V8 ENGINE ONLY

VIEWED FROM THE FRONT

SPOT LIGHTS UW N A IOA	BATTERY FED SPARE N E IOA	HEATED FRONT WINDOW W PR M 15A	HEATED FRONT WINDOW W PR M 15A	HEATED FRONT WINDOW W PR M 15A	HEATED FRONT WINDOW W PR M 15A
DIP BEAMS UR N B IOA	HEATER REAR WINDOW N F IOA	HEATER MOTOR INSTRUMENTS G W J 7.5A	HEATER MOTOR INSTRUMENTS G W J 7.5A	HEATER MOTOR INSTRUMENTS G W J 7.5A	HEATER MOTOR INSTRUMENTS G W J 7.5A
MAIN BEAMS INNERS UW N C 15A	ENGINE FAN INT. LIGHT N G	LH WINDOW MOTOR S W K 15A	LH WINDOW MOTOR S W K 15A	LH WINDOW MOTOR S W K 15A	LH WINDOW MOTOR S W K 15A
MAIN BEAMS OUTERS UW N D 15A	HORNS HAZZARD N H	RH WINDOW MOTOR S W L 15A	RH WINDOW MOTOR S W L 15A	RH WINDOW MOTOR S W L 15A	RH WINDOW MOTOR S W L 15A
CARTER SOL RELAY WR		IGNITION FED SPARE W O IOA	IGNITION FED SPARE W O IOA	IGNITION FED SPARE W O IOA	IGNITION FED SPARE W O IOA
		WIPER MOTOR W P IOA	WIPER MOTOR W P IOA	WIPER MOTOR W P IOA	WIPER MOTOR W P IOA
		REAR WINDOW RELAY PLG	REAR WINDOW RELAY PLG	REAR WINDOW RELAY PLG	REAR WINDOW RELAY PLG
		FRONT WINDOW RELAY PO	FRONT WINDOW RELAY PO	FRONT WINDOW RELAY PO	FRONT WINDOW RELAY PO

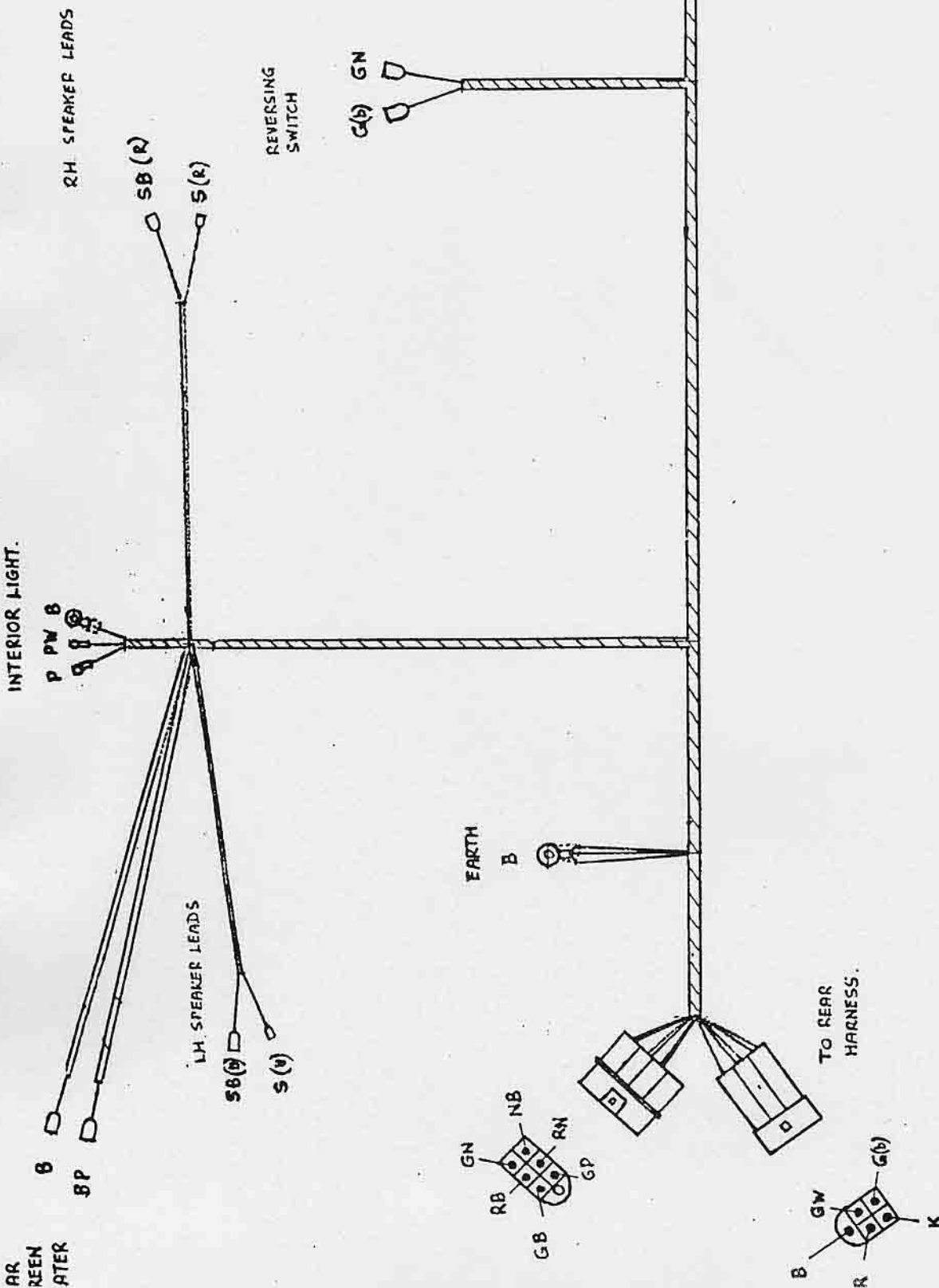
COLOUR CODE

N	BROWN
B	BLACK
W	WHITE
G	GREEN
R	RED
U	BLUE
K	PINK
O	ORANGE
S	SLATE
P	PURPLE
Y	YELLOW
LG	LIGHT GREEN

WK 4 2 W

3 WR

IGNITION SWITCH WIRING

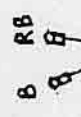


INTERMEDIATE HARNESS

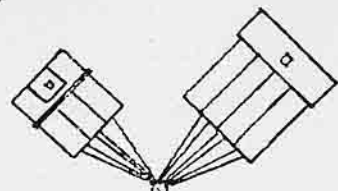
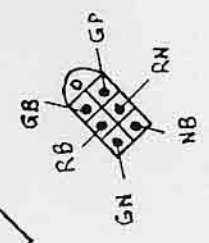
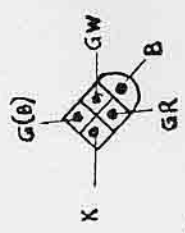
MARCOS CARS

1985 -

NUMBERPLATE LAMP



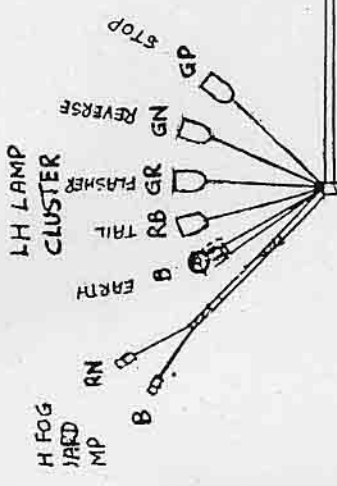
CONNECTIONS TO INTERMEDIATE HARNESS.



ALTERNATOR SENSING WIRE

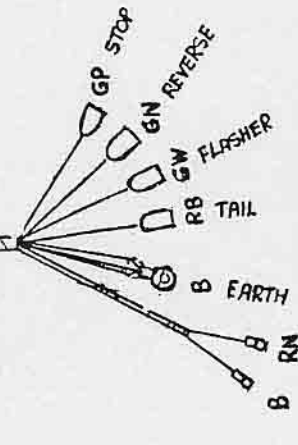


PETROL TANK SENSOR



LH LAMP CLUSTER

H FOG LAMP (MP, RN)



RH LAMP CLUSTER

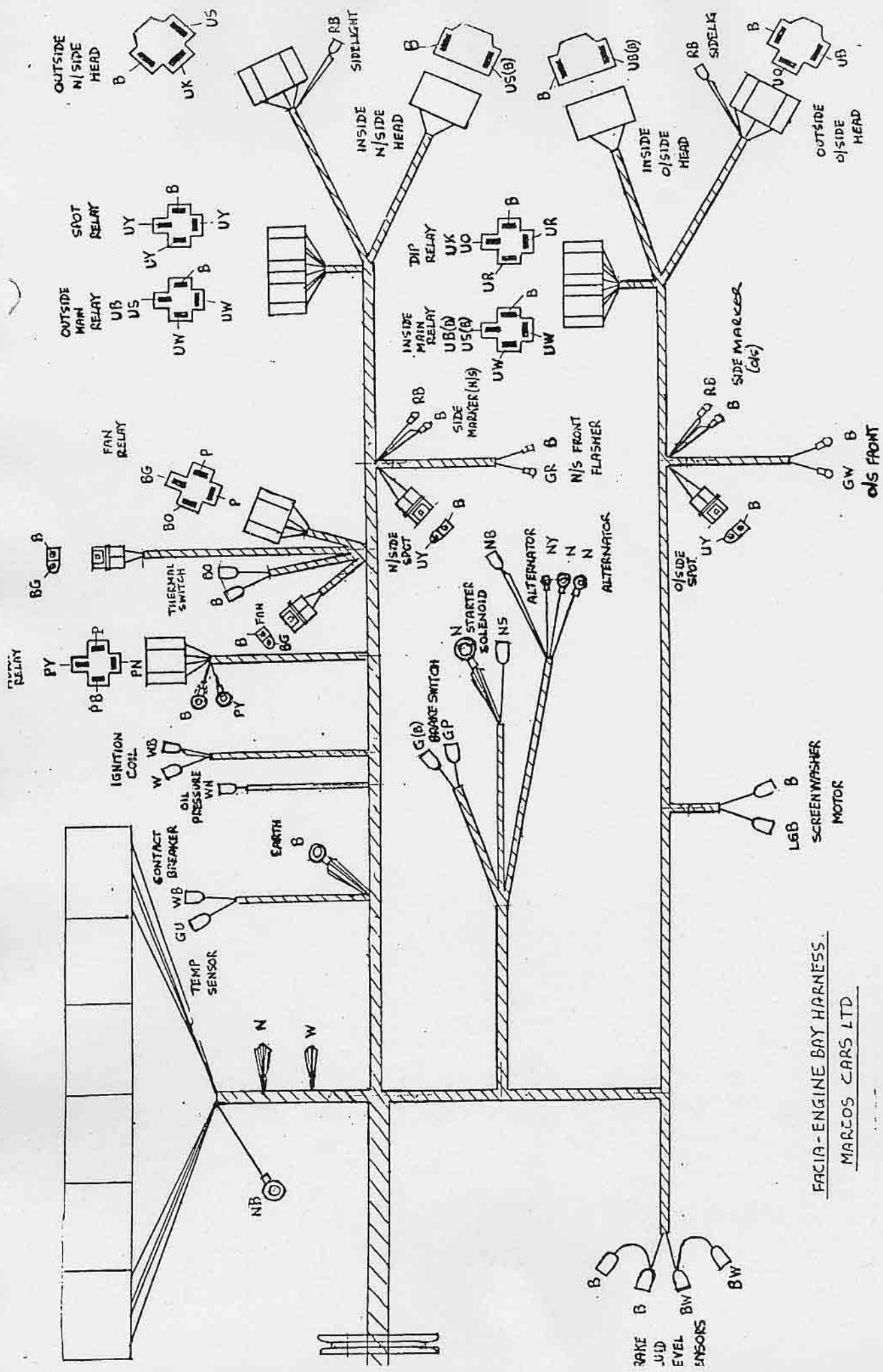
RH FOG GUARD LAMP (B, RN)

REAR HARNESS  
MARCOS CARS

1985-







FACIA-ENGINE BAY HARNESS.  
 MARCOS CARS LTD

## NOTES ON THE WIRING

It will be noted that on the wiring diagram for the engine bay harness provision has been made for side marker lamps. These are only used on American specification cars and should be taped up.

ALTERNATOR SENSING WIRE - col - NB - These wires are only to be used on the latest type Leyland alternator. If you are using the early type without provision for battery sensing - tape wire securely to loom. These will be found:-

1	Adjacent to fuse block	<u>Colour</u>
2	In the rear harness towards nearside	
3	At the alternator take off point	NB = Brown & Black

PANEL LIGHT DIMMER RHEOSTAT - Provision is made in the wiring harness for the dimmer rheostat. This can be obtained, probably, from your donor vehicle. If it is not going to be used simply connect RW and RB together.

HEATER WIRING DETAILS - A rheostat is supplied in the package: this should be fitted to the wooden dash supports on brackets supplied and wired through switch as per wiring diagram, a small wiring harness is supplied for this. These are coloured green/yellow

FUEL PUMP WIRING - (electric) - If you are fitting an electric fuel pump either Ford/Mantula this can be fitted in the boot and the brown/black wire used as a feed providing you don't use the alternator sensing wire. Likewise the pump can be fitted in the engine compartment and on Mantula models the white and brown wire for oil pressure sensor (Ford model) can be used as a feed.

### REGISTRATION

If all new parts are used in your construction of the vehicle, this will attract Car Tax and V.A.T., and you will then be given a current registration number plate. If the major mechanical components are taken from donor vehicles, the vehicle will be given a 'Q' registration and will only attract V.A.T.

On completion of the vehicle, if you have used mechanical parts from donor vehicles, you will have to obtain an M.O.T. Certificate from your local M.O.T. Station: this will just have the chassis number affixed. Armed with a blanket insurance certificate and M.O.T., contact your Local Licencing Authority who will then give you a form No. V 55/5 to register the vehicle.

Some Insurance Companies and Licencing Authorities require an Engineer's Report. Your local competent motor engineer should be able to provide this without any problem.

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## RECOMMENDED METHOD OF PAINTING THE FIBRE GLASS OF THE MARCOS

After building the car up and fitting the locks, the door frames, the rear window etc. it is necessary to strip all these parts off the car again to paint, including the doors, the bonnet and the boot.

Rub down and grind out all the mould joins around the body chassis unit and bonnet. This can be done with a 36 grit on an ordinary drill with a disc attachment. Flat out the complete shell using dry 80 grit production paper so that the whole surface of the body chassis unit is rough. Remove all traces of dust after this procedure. All cracks, nooks, crannies and holes can be filled up with a body filler such as Tetrocel or similar. Rub down the filler after it has hardened to a rough shape to the line of the bodywork with 80 grit.

The whole of the body shell and parts must then be rubbed down with 150 to 250 grit dry paper. Make sure that a good line is achieved, mainly this is done by feeling with your hand, to see if there are any humps or hollows. If there are fill them in with body filler and repeat the method above.

It is absolutely essential that the body filler is left to shrink and depending on the temperature of where it is stored it may be as long as a whole week. As the majority of Marcos's will be sprayed in garages and small paint shops, it is advisable to use straightforward cellulose paint. There are various brands on the market, ICI, Berger etc. Also it means that, if you are using cellulose it is easy for the home constructor to touch up and polish out any marks that he makes when painting the vehicle in his garage.

ICI SR Primer or Berger Autobody Sealer can then be used to spray over the whole of the car covering all fibre glass parts,

Two coats of sealer must be applied, allowing one to dry properly first. ICI SR Primer must be left for 24 hours. The sealer must not be rubbed down. As its name implies this will break the seal and the top coats will bleed into the area where you have rubbed through and give you marks on the body work. It is recommended that you leave the sealer to cure well for two or three days.

Wipe over with a dry rag, making sure that all dust is removed. Blow it off with an air line if you have this facility. Apply five or six coats of cellulose primer over a period of four to five days, leaving to cure thoroughly. Again this depends on temperature, but for about a week.

Apply a light coat of colour. You then rub down lightly with wet 500 until all the colour has been rubbed out. This will then ensure that no areas have been missed. Before you put on the main body of the colour coats. Thoroughly clean off again ensuring that there is no dust present and apply three or four coats of your chosen colour over the next two or three days.



PAINTING METHOD CONTD - This should then be left again for two or three days to allow the paint to thoroughly dry. Flat out the whole body shell with 1000 wet and dry and apply a further three to four coats of colour thinned down to 75% thinners 25% paint.

Leave the car for three to four days before re-fitting the parts to the body chassis unit.

The above instructions may appear to take a long time but this does ensure that you get no shrinkage after the car has been finished. Other methods of painting with 2 part mix etc are obviously a lot quicker but great care must be taken. Under no circumstances should the car be put into a high temperature, low bake oven as there is a distinct possibility of distorting the fibreglass panels.

Advice can be obtained from the paint manufacturers as to the correct procedure of painting with 2 part mixes.

DOOR LOCKS - You will notice that the push button locks have bolts welded to the moving part. These bolts line up with the lock which is bolted to the door with the countersunk bolts supplied with the nut and bolt kit. You may find in some places that the bolt is slightly too long, in which case all that is necessary is for you to chop off the head with a saw and file to correct length, being careful that you do not cut off too much.

FITTING OF THE HEATER KIT - New generation Marcos' have the heater blower matrix behind the instrument panel of the car. Place the heater matrix and blower with a blower motor facing inboard. Two top outlets are re-connected to the demister holds in the dashboard with the 1½" flanges provided, coupled with the convoluted hose. Two bottom pipes on the heater matrix are coupled through the hole provided. These fit onto two multi-directional vents which are attached to the underside of the wooden dashboard structure. The heater matrix has two flanges on the side of the casing and these are to be bolted to the front of the bulkhead ensuring the seal between the bulkhead and casing is good to minimise hot air intrusion into the cockpit. Connect the outlet from the cooling system to the inlet pipe. The other water pipe is to be returned to the water system. The water valve should be fitted in the inlet pipe to the heater making careful note of the arrows on the unit. These indicate the water flow direction on the engine side of the bulkhead. Fit the aluminium collector box over the hole in the bulkhead again ensuring that it is properly sealed. A special 3/4" diameter air pipe should be connected to the flange on the collector box and routed to the front of the car via the heater flap valve. On the Rover engine model due to lack of space we recommend cutting a hole in the offside wheel arch and pick up the fresh air from there. The heater control supplied has two levers.

1 to be connected to the water tap

2 connected to the air flap valve with the cable supplied



SPRINGS - All black springs are to be fitted on the front. This is the thicker wire diameter and the rear springs have red paint in the form of stripes and are thinner wire diameter.

2 LITRE OHC MARCOS - The following modifications must be carried out when using 1600 and 2 litre OHC engines.

Two engine mounting brackets are supplied with the stage one kit. These should be used in conjunction with the standard Ford engine mounting rubbers. To achieve sufficient ground clearance it will be necessary to reduce the depth of the sump by 2". This can be carried out by any competent welder. This will also entail shortening the oil pick up pipe. Ensure that all parts are clean before assembly.

With this engine application use the gearbox cross member and mounting rubber from a donor Cortina Mark III or IV.

The exhaust manifold from the donor Cortina may be used coupled with a front pipe from the same vehicle modified to fit the Marcos silencer tail pipe assembly.

We can supply alternator brackets for the 2 litre. This must be used in conjunction with a belt tensioner available from the factory or your BL dealer. Part no:- UKC 7287. Likewise the fan belt:- Mintex part no:- 435.

WATER HOSES - (Top hose - Ford Capri 3 litre). Extend with a straight pipe of suitable steel and clips to the top of the radiator.  
(Bottom hose - Ford Capri 3 litre). Extended to reach bottom of radiator. As per top hose.

OIL - Ford Veglia oil pressure sender unit must be attached to the pipe which is attached to the front of the block which normally has a flexible pipe to the gauge. If this is missing from the engine this is a standard Ford part and can be obtained from any local Ford dealer.

IT IS CLEARLY UNDERSTOOD THAT MARCOS CANNOT BE HELD RESPONSIBLE FOR ANY PURCHASERS OF BODY CHASSIS UNITS WHO FIT PARTS WHICH WE DO NOT RECOMMEND.

WE WOULD BE PLEASED TO ANSWER ANY QUERIES THAT YOU MAY HAVE.

- - - - -

CODE OF PRACTICE

MARCOS are one of the founder members to the Code of Practice set up by the S.M.M.T. to protect respective purchasers of component cars. Copies of this Code of Practice are obtainable from our office - (please send large S.A.E. or 50p in stamps).

IT IS VERY UNWISE TO OBTAIN A COMPONENT CAR (KIT) FROM ANY MANUFACTURER WHO DOES NOT HAVE THE CERTIFICATE SUPPLIED BY THE T.U.V. MANUFACTURERS WHO DO NOT HAVE THIS CERTIFICATE WILL NOT CONFORM TO OUR VERY STRINGENT ENGINEERING SAFETY AND ROADWORTHY RULES AND REGULATIONS.

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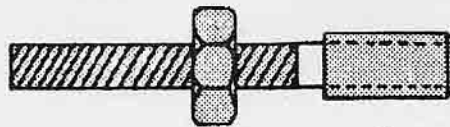
# SPEEDY CABLES

(LONDON) LIMITED

10-12 Gaskin Street, Islington London N1 2SA

The logo for Speedy Cables, consisting of the letters 'SC' in a bold, stylized font. The 'S' and 'C' are connected at the top and bottom, with a vertical line separating them. The letters are black with a white outline.

Telephone 01-226 9228



1. Let us have the measurement from the centre of the hub of a drive wheel to the ground, with the tyre pumped to normal pressure.

ANSWER: inches.

2. Disconnect speedometer and place a cardboard arrow on the end of the protruding inner speedo cable.

3. Put a chalk mark at the bottom of the measured wheel. Push the car straight forward with gear in neutral counting exactly 6 revolutions of the wheel, whilst a partner counts the number of times that the arrow on the cable revolves. **DO NOT DO THIS BY JACKING UP THE WHEEL AS THIS GIVES A COMPLETELY FALSE RESULT.**

ANSWER: turns.

Please be as careful as possible with the information you supply in order that we can carry out an accurate re-calibration.

