

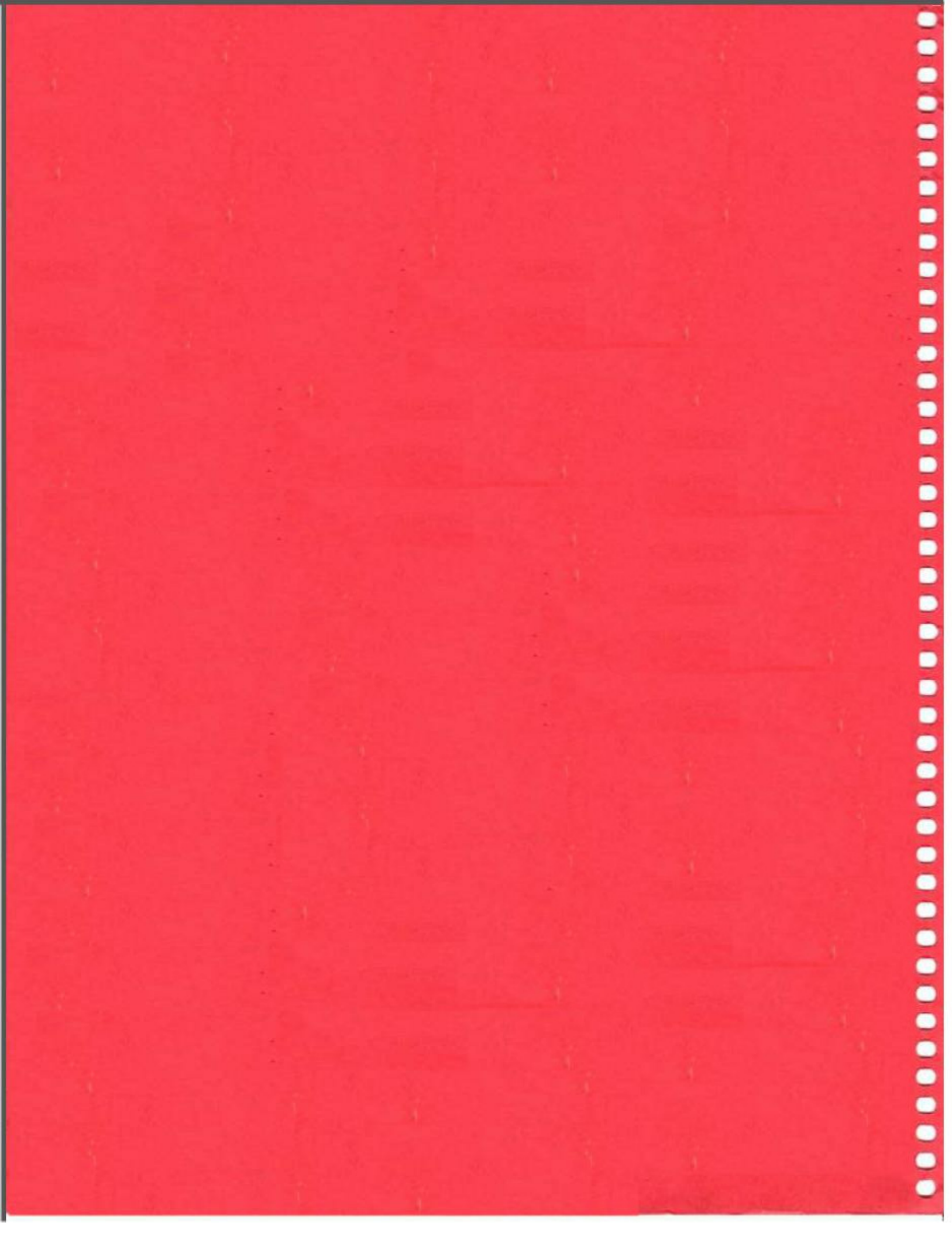
MGA OWNER'S INFORMATION & TECHNICAL GUIDE

by Todd A. Clarke

CSR

Clarke Spares & Restorations

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FORWARD AND ACKNOWLEDGEMENTS

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Thanks are given to the Clarke family for their willingness to share. And to Tom Zofchak of British Miles in Morrisville, PA (215) 736-9300, who purchased Todd Clarke's inventories; which might have included this material. It was his desire to preserve Todd's work and not have it become a commercial enterprise but rather a memorial to Todd. Based on his lifelong friendship with the Clarke family, he, and the below-named people that bring this information to you ask that if you derive value from it, that you make a small donation to the Clarke family. As Tom has said many times, "Heck, a Hallmark card is five bucks!"

The copy reproduced here is the personal property of fellow MGA afficianado Jim Cheatham of Amelia Court House, Virginia. He made certain that posting this copy was in no way bypassing or infringing on the Clarke estate's copyright.

Most of you know me, Basil Adams (707.762.0974 basiladams@yahoo.com) an MGA collector, restorer, parts dealer and College Professor in California. I've spearheaded this effort and could not have done any of it without the help and consideration of the people above.

And lastly, much gratitude to Barney Gaylord, the MGA Guru, for making space available on MGAguru.com for this booklet and for everything else on his thousands of pages and all that he shares from his decades of knowledge with all of us.

Please respect the caring spirit with which this information is shared and for those that knew him, have a kind memory of Todd every time you use this valuable tool.

Thank you on behalf of all of us.

Donations to the Clarke Family may be sent to:

The Estate of Todd Clarke
C/O Stephen Clarke
125 Maple Lane
West Chester, PA 19382



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by Todd A. Clarke

This booklet includes information which is vital to the MGA enthusiast who is doing extensive restoration work and is designed to complement factory literature and recently written *history* books. I have endeavored to answer my customers' most frequently asked questions through the text and diagrams found in this book. My goal is to supply original factory information so components can be assembled properly—the way our friends at Coventry and Abingdon did so, years ago.

Anyone involved in doing MGA restorations should be aware of and obtain the following whenever possible:

1. Factory literature—Owner's, Workshop, and Parts Manuals, sales brochures, etc. Although it is difficult and expensive to find original copies of these, most have been reprinted and are available at reasonable prices. Factory Parts Manuals are extremely helpful as they show just about every nut and bolt and will sometimes prove more helpful in final assembling than the Workshop Manuals.
2. Parts catalogues of all companies specializing in MGA and other British cars of the period. Some parts were shared by other makes and models and in some cases the same parts carry different factory part numbers, etc. There are several publications in which anyone selling British car parts will advertise.
3. Books written about the history and restoration of MGAs. There are several now in print.
4. Workshop manuals other than factory issue. These may not be as complete, but they offer an *after the manufacture* point of view which you will not find in factory publications.
5. Magazine articles and old advertisements. Articles written when the MGA was still in production offer much, including photographs of factory fresh models. Issues of old car magazines can be found at auto flea markets and many times articles are reprinted in MG club and new car magazines.
6. Clubs and registers. MG clubs offer newsletters, car shows, and rallies. The best way to truly understand the thrill of owning and driving an MGA is to attend a meet or GT!

Thanks to my customers and associates who have helped me survive the last fifteen years or so producing MGA spares and restorations. Special thanks to Nancy Boerner, Fred Ehmman, and Cara Regan who contributed directly to the mechanicals of this publication.

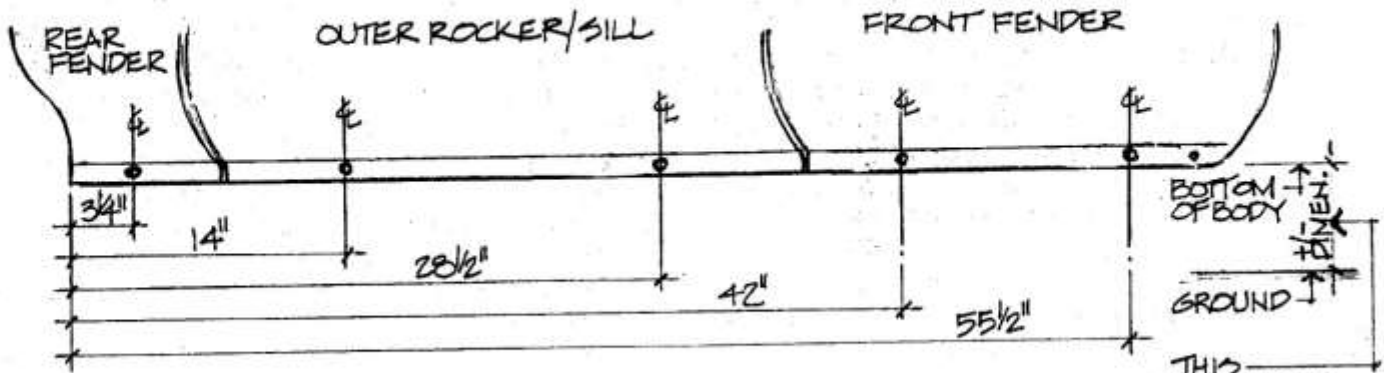
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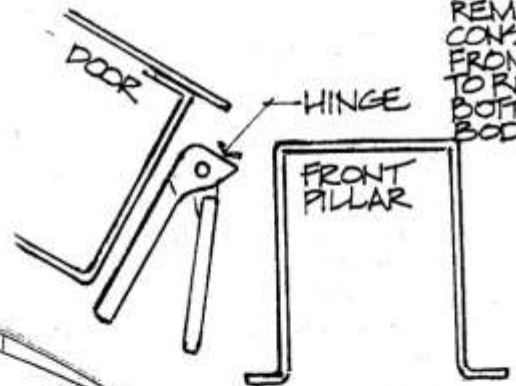
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BODY INFORMATION

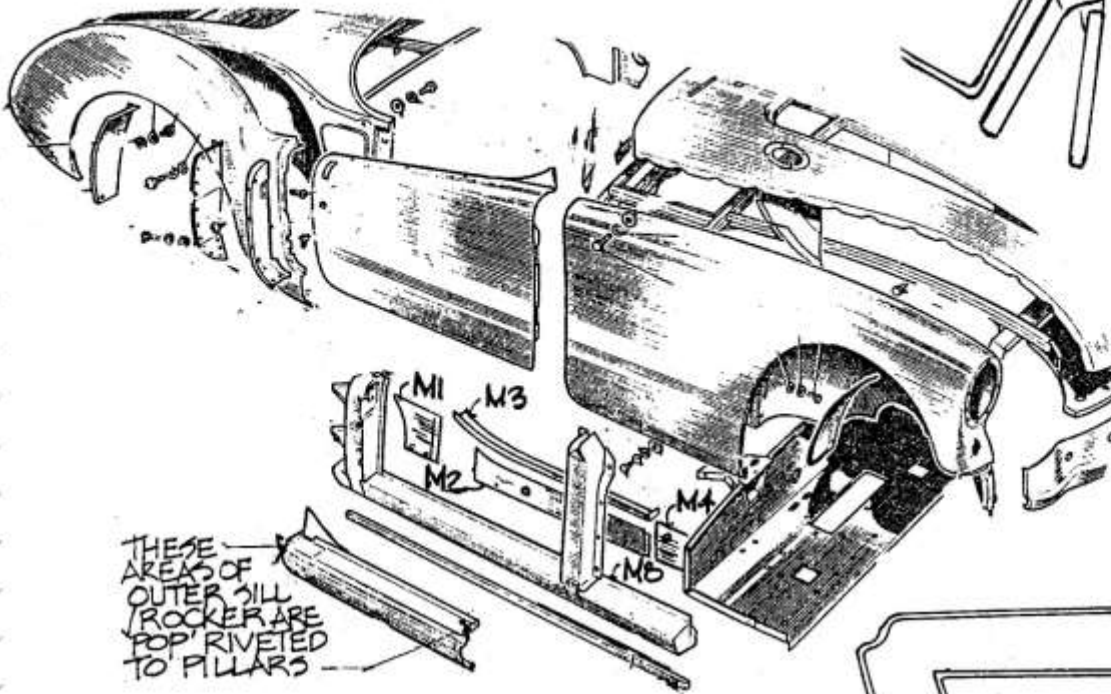


DRAWING SHOWS LOCATION OF HOLES FOR TRIM STRIP FASTENING. DRILL OR PUNCH FIVE 1/4" HOLES ON EACH SIDE OF BODY.

TRIM STRIP



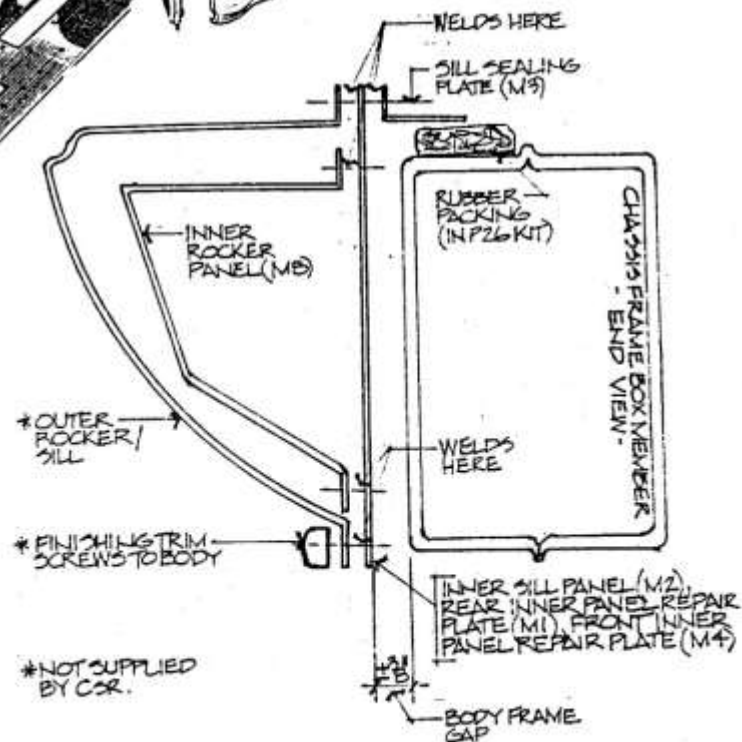
DOOR HINGE



EXPLODED VIEW - BODY PANELS

GAUGE/THICKNESS OF METAL

- * MOST BODY PANELS - 19 GAUGE / .040"
- * MOST CHASSIS AREAS - 16 GAUGE / .059"



SILL END VIEW

CHASSIS FRAME AND BODY ASSEMBLING TIPS AND MISC. INFORMATION

The MGA body was assembled and painted away from the chassis... with the exception of the front wheel inner splash panels, all panels were installed on the main body before it was dropped on the chassis and tightened down. When we did complete restoration work we always painted the doors, bonnet, boot lid, hinges, splash plates, fenders/wings, bonnet/boot lid pulls, fascia panel and trim strips before bolting to body. We believe to some degree the same was done when the cars were manufactured... this process always resulted in a "cleaner" restoration as overspray on various brackets and hardware was virtually eliminated. Painting the body away from the frame also insured better coverage and no overspray on chassis, etc.

The majority of MGA bodies rust from the inside-out as opposed to the chassis which tends to rust from the outside-in. With the exception of very early cars all chassis frames were coated on the inside of the box chambers with a wax oil substance to prevent rust. We have worked with frames that are extremely rusty on the exterior or exposed surfaces but are clean and "shiny" on the inside. Also, moisture absorbing "bricks" were placed on the inside of the main box members-adjacent to the seats to control corrosion. Small holes located along the bottom of the main box members and other low points of the chassis structure act as condensation drains...these holes should be maintained as repair work and painting is completed. Although the bodies were designed to be painted on the inside of the sill/rocker boxes this and other rust preventative processes were never done. I have rarely found any evidence of even a primer coating on the inside of the inner sill panels. As you do your restoration we recommend you take the time to prime, paint and "wax" this area of the body. With the exception of the inner sill/rocker panel area of the body, the inside of the drive tunnel and the undersides of the boot floor, battery cover and radiator duct panel we have found applying an undercoating to be unnecessary. In most cases a tar type undercoating will act as more of a sound muffler than rust stopper.

NOTES / TIPS

Always take precise measurements from specific points on the body before removing it from the chassis. For example measure distances between the front and rear tonneau ledges, front and rear pillars, etc.

Bodies are usually severely rusted in the sill area and will break in half when removed from the chassis. As long as the frame is straight it can be used as a fixture when putting the front and rear clips back in position. We always found it easier to repair the MGA body shell in two pieces then put them back on the chassis and install the inner sill panels. As long as you are aware of the fitting of the doors, fenders, outer rocker panels and their relation to each other you should be able to get every thing back together. It is also perfectly acceptable to repair the inner sills before the body is removed from the chassis. Once all of the inner sill panels are welded in position the body is extremely rigid and can be moved about without any additional reinforcement. This will allow for easy priming and painting away from the chassis.

PAINT & RUST STRIPPING - We recommend chemically stripping the body and sandblasting the chassis. It may be necessary to blast certain areas of the body after the chemical strip - beware of warping body skin, etc. Blasting misc. brackets, chassis components and hardware is recommended

Chassis/Body Info. Cont.

although a mild chemical strip may be required to remove tar, etc. A "60" grit sand is ideal, however most professional blasters use a "90" grit as it is faster. A coarser grit will result in a rougher surface and you may have to "work" it a bit more before painting.

WELDING - The majority of welds on the MGA body were done with a spot welder. Other welding processes can be used as long as you remember excessive heat will result in warpage. Sometimes it is a good idea to temporarily hold panels together with "pop" rivets, clamps, screws, etc. until you are sure of fit.

FINISHING STRIP - The trim strips are held to the bottom of the sill area with a special screw that slides into the strip channel. There are five of these screws per strip - see diagram for positioning. The trim strip is painted the same color of the car and is designed to cover the washers and screw heads that attach the bottom of the fenders. The washer and screw head that hold the bottom of the front splash plate to the front fender are not covered by the strip.

HINGES - It is always a good idea to mark the hinges for the doors, bonnet and boot lid before removing them from the body...suttle changes in the hinges were made from time to time by the factory making it extremely difficult to retrofit hinges and doors from other cars, etc. Early cars featured right and left half hinges for the doors, later hinges could be used on both sides and some hinges feature minor bends. Shims can be used to help with the fit and were supplied on an "as-required" basis. If you are working with a car that has had the hinges removed you will no doubt be spending a great deal of time getting the doors, bonnet and boot lid to fit properly. Buying new hinges will not necessarily solve the problem. Getting the doors to fit properly is by far one of the hardest tasks and may take a great deal of patience. Always remember you are dealing with a car that is over thirty years old...a lot can happen to a body in that span of time - accidents, normal wear, sagging, etc.!!!! See drawing for basic fit of a typical door hinge.

OUTER SILL/ROCKER PANELS - CSR does not manufacture these. We have found the reproductions to be fairly good however you may have to do the following to get them to fit properly. The fit of the outer sill is directly related to the shape of the inner sill panel. (My part No. M2)... you may find it necessary to "open" or "close" the outer sill to match the lines of the M2...my M2 panels are exact - do not second guess them. THIS IS IMPORTANT.

FENDERS - Reproduction fenders are available but as of the time of this notation all reproductions are hand made and are not exacting. The original fenders were stamped from hard tools and dies as they were designed for a fairly fast assembly line type of fitting...although hammer persuasion techniques were not uncommon. We always recommend repairing an original fender before spending a great deal of money on reproductions that don't fit. Patch panels are available and for the most part they are good reproductions.

HARDWARE/FASTENERS - All washers and bolts used to hold the body panels together and position it to the chassis are made from steel and were originally plated in a plain zinc or cadmium finish. In some cases we have seen what appears to be factory paint on the bolt heads and

Chassis/Body Info. Cont.

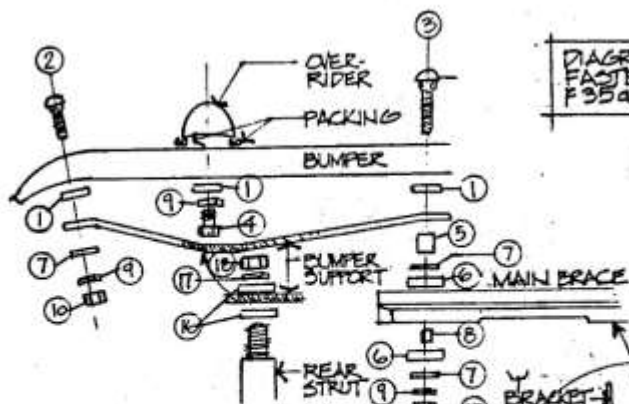
washers, however we believe that for the most part the finish of the hardware was left plated. Many of the body fittings and hardware are not easily replaceable. We recommend "cleaning" these pieces and having them replated. Most industrial platers charge a minimum fee for barrel plating based on batches up to 100 pounds. (Specify; plain/"silver" finish).

FITTING OF PART NOS. M1 & M4 REPAIR PANELS - These panels act as repair plates for the lower sections of the bodies where the bottom of the fenders bolt. They overlap the ends of the M2 Inner Sill Panel. They are designed to be trimmed, when necessary to meet your repair requirements. The top front "tip" of the M1 panel will require some trimming if the panel is used as is...trim it where it meets the top rear of the outer sill/rocker panel to match the radius. Cage nuts for fastening the bottom of the fenders are included with these panels.

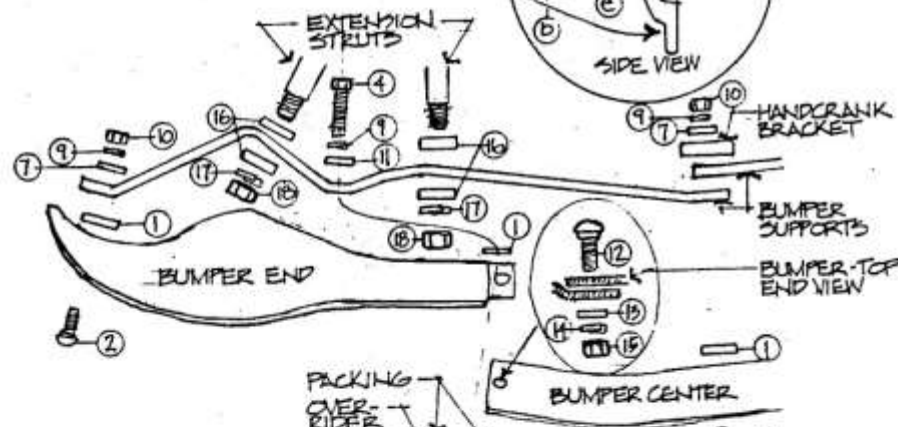
DOOR SEAL - The "fur flex" door seal fits over the ledge created by the "lamination" of the inner sill panels...for example the three thicknesses of steel where the top of the outer sill/rocker, M2 inner sill and M3 sill sealing plate mate. It is important that the fitting of these three panels be as tight and "slag" free as possible. Also, the fit of the door seal relative to the closing of the door must be considered. Sometimes you have to "move"-bend away the seal ledge so that the "fur flex" is farther away from the door. You will not know how well your doors fit until the "fur flex" door seal and interior panels are installed.

FINAL FITTING - The body of the MGA is bolted to the chassis at 31 points. If you are dealing with a body that has broken in half because of inner sill rot and you are not sure if the relation of the front and rear clip is correct always remember that as long as the chassis is "straight" it can be used as a fixture. With all of the mounting bolts loose you will find there is virtually no play in the front clip but some play in the rear clip. This play will allow the movement you need to get the panels where you want them. Sometimes you will find it necessary to shim or jack up the rear clip at the rearmost mounting points as a temporary measure to get the door gap correct. Once the panels are welded in position the shims can be removed and the body will remain where it should even after tightening the mounting bolts. (There is some flexing at the back of the rear clip). The relation of the front hinge pillar and the rear striker pillar is important...In many cases you will find the front pillar to be in good shape and the rear pillar to be thoroughly rusted. Removing the pillars properly, involves drilling out all of the spot welds so unless the pillars are totally useless we do not recommend replacing them. Both the front and rear pillars are available separately and can be purchased through a number of sources. We believe the pillars now available through U.S. suppliers are actually produced in Britain and even with the cost of shipping it may be cost effective to buy them direct from the "old country".

Clarke Spares and Restorations has been producing the metal panels noted in the referenced diagram since 1977. We also manufacture a number of other body brackets, panels and fasteners you may need to restore your MGA body shell. Please see out MGA catalogue for further information.



MGA REAR BUMPER
(VIEW FROM TOP-R.H.)



MGA FRONT BUMPER
(VIEW FROM TOP-R.H.)

DIAGRAMS SHOW CORRECT POSITIONING OF FASTENERS SUPPLIED IN F35 KIT (INCLUDE F35a, F35e, F13 AND F18 KITS)



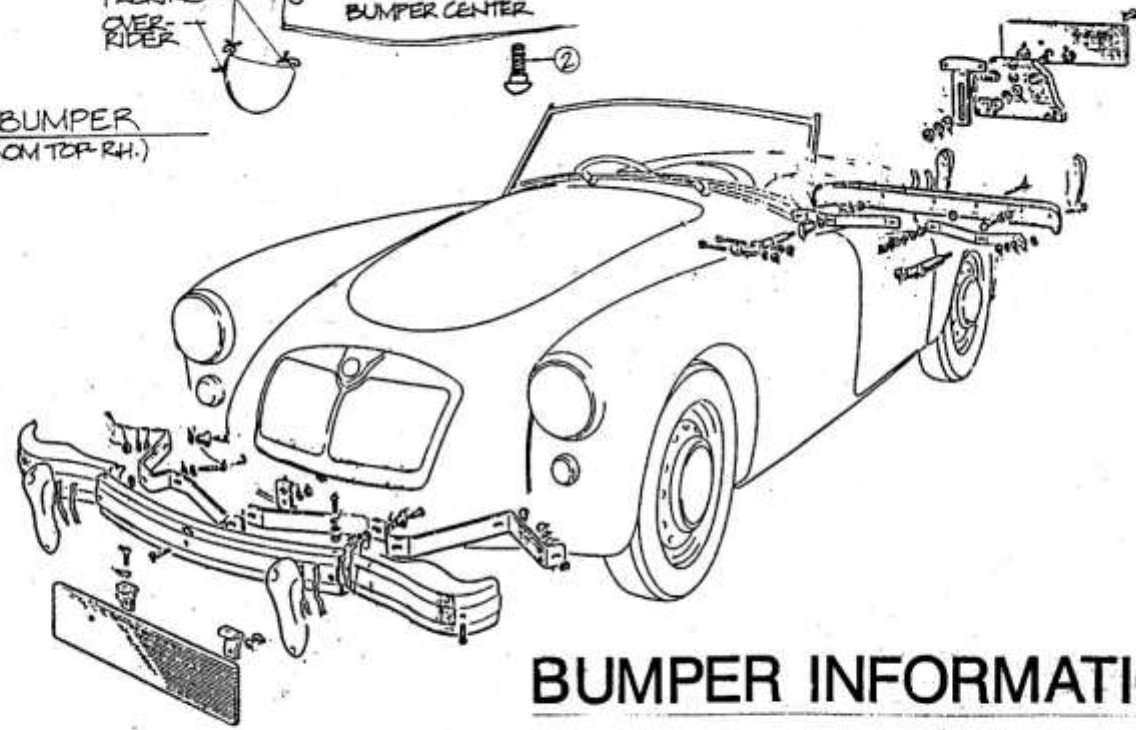
No.	Part	Qty.
1	- washer/spacer	11
2	- 3/8" chromed bolt	5
3	- 3/8" chromed bolt - 2"	2
4	- 3/8" hex bolt	4
	(front - 2 1/2" rear - 2")	
5	- distance piece-large	2
6	- rubber washer	4
7	- 3/8" flat washer-large	9
8	- distance piece-small	2
9	- 3/8" locking washer	11
10	- 3/8" hex nut	7
11	- 3/8" flat washer	2
12	- 5/16" chromed bolt	2
13	- washer/spacer-small	2
14	- 5/16" locking washer	2
15	- 5/16" hex nut	2
16	- 1/2" flat washer	12
17	- 1/2" locking washer	6
18	- 1/2" hex nut	6

not illustrated - 10 of each 1/4" pan hd. screw, 1/4" locking washer and 1/4" nut. These pieces hold brackets and backing plate to bottom of front bumper and hold license plates to backing plates.

PARTS IN CIRCLE

a	- 5/16" hex nut-jam style	2
b	- 5/16" locking washer	2
c	- 5/16" flat washer	2
d	- loop clip-lamp wiring	1*
e	- 1/4" hex nut	2
f	- 1/4" flat washer	2
g	- 1/4" locking washer	2
h	- 5/16" pan or hex bolt	2
i	- fiber washer	2
j	- 1/4" pan or hex bolt	2

*not included in kit.



BUMPER INFORMATION

BUMPER ASSEMBLING TIPS AND MISC. INFORMATION

Assemble bumpers off the car leaving all fittings untightened. Also leave extension strut fasteners loose. Once all pieces are positioned on vehicle tighten bolts and nuts working equally from side to side. It is important that the main braces/supports be 'straight'. Bent supports will result in poor bumper to body alignment. 'Clean' threads are a must if you expect to install bumpers in a relatively short period of time. We have always found it is necessary to chase the 1/2-20 threads on the main mounting struts for example. (Most hardware stores carry threading tools and dies.)

TRIVIA - from the factory

MGAs sold in Germany were fitted with hex type wheel nuts - wire wheel cars.

A rubber "safety pad" was fitted around the rear view mirror - France only.

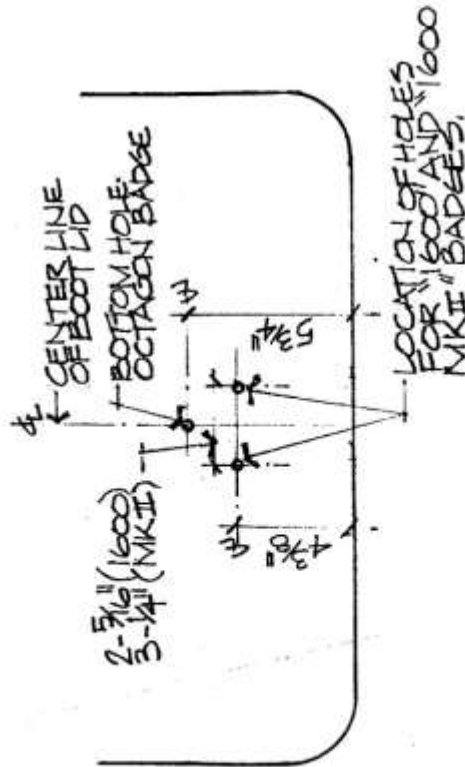
For cold climates a radiator blind was available.

A sound deadener (foam rubber) pad for the underside of the heater box shelf was available - Coupe' only.

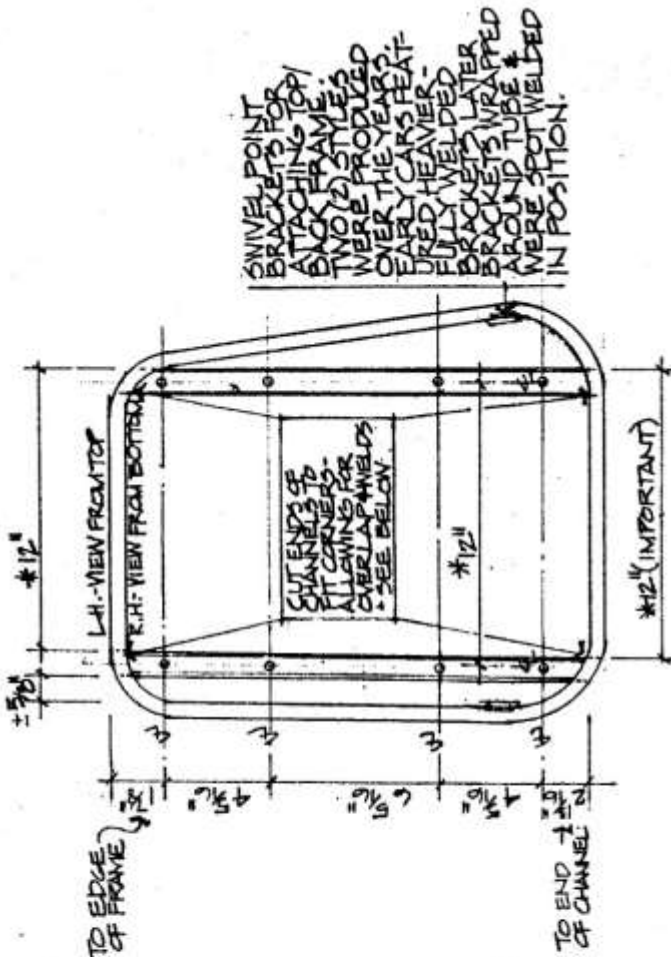
The first 19,000 MGAs lacked rear fender forward splash plates.

SEAT FRAMES - There is a right half and left half seat frame. Bottom frames incorporate a diagonal shape on the drive tunnel side to allow for clearance required when the seats are adjusted. Back/top frames for roadsters angle up and are higher towards the center of the car. RH and LH coupe' back/top frames are the same. Bottom frames can be altered to be LH or RH by moving the "U" channels and pivot brackets to the opposite side of the tubular frame....rewelding the existing frames may prove less costly than locating other units.

CSR



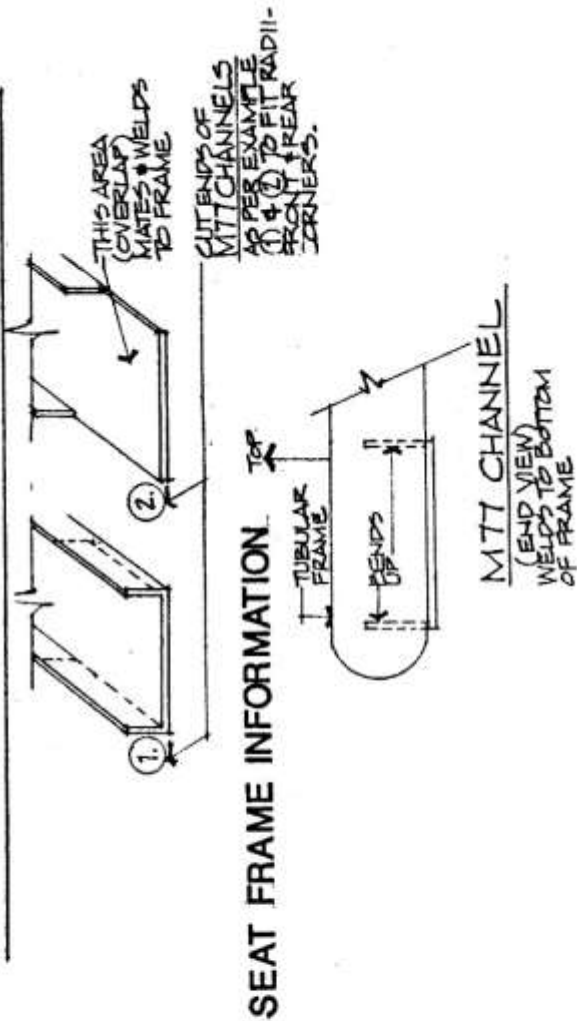
BADGE LOCATIONS - BOOT LID 1600/MkII Models



SNIVEL POINT BRACKETS FOR ATTACHING TO BACK FRAME. TWO (2) STYLES WERE PRODUCED OVER THE YEARS. EARLY CARS HEAVILY FULLY WELDED BRACKETS LATER BRACKETS WRAPPED AROUND TUBE & WERE SPOT WELDED IN POSITION.

MGA SEAT FRAME (REFER ASSEMBLY GUIDE) DIAGRAM SHOWS CORRECT POSITIONINGS OF MTT CHANNELS

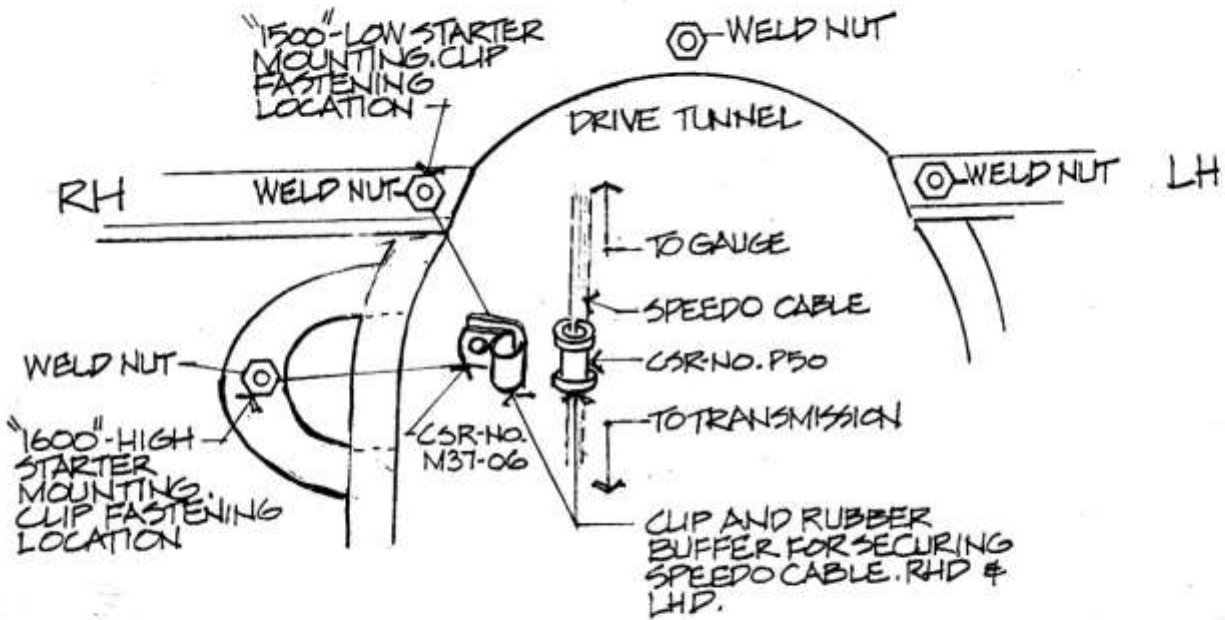
* THIS DIMENSION MAY VARY AND IS DIRECTLY RELATED TO THE POSITION OF THE FLOORBOARD, NUTS & SEAT WOOD STOPS.



SEAT FRAME INFORMATION TOP

MTT CHANNEL (END VIEW) WELDS TO BOTTOM OF FRAME

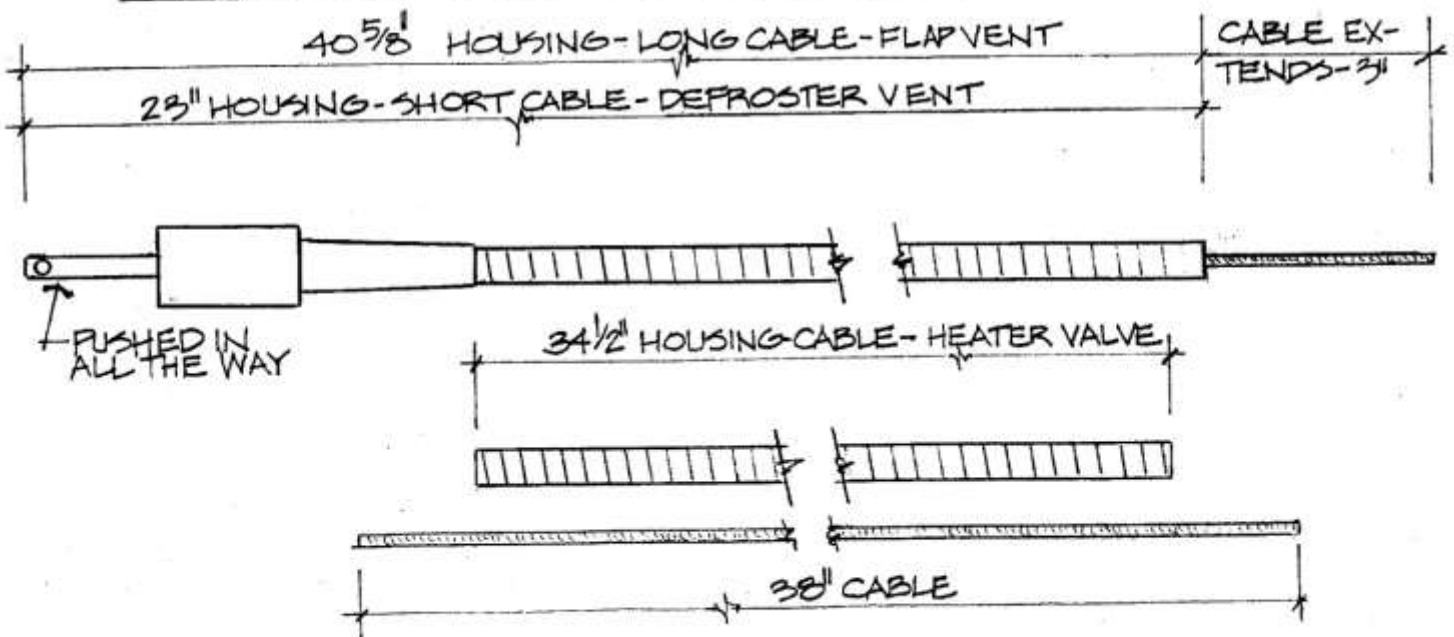
TOEBOARD/FIREWALL PANEL - VIEW FROM FRONT



SPEEDO CABLE MOUNTING LOCATION 1500 & 1600

CABLE IS FASTENED BY BUFFER AND CLIP ON END OF FLOORBOARD SCREW - LONGER SCREW USED HERE - LOCKING WASHER & NUT

HEATER CONTROL CABLES - PUSHROD CARS



CONTENTS OF F93 FASTENER KIT - MGA 1500/1600 RHD/LHD

To service misc. body fittings, brackets, electrical pieces, etc. this kit includes virtually all of the phillips head machine/sheet metal screws required to fasten electrical equipment, small brackets, cable clamps, etc. Nuts, flat washers and lock washers are also included. (all screws are phillips, pan head machine screws unless otherwise noted.) Thread sizes include 10-32, 1/4-28 and 5/16-24. Lengths are specified. Abbreviations include - LW lockwasher, HxN hex nut, FW flat washer, MS machine screw, SMS sheet metal screw, WS wood screw, FLT HD flat head, FIL HD fillister head, SLT HD slotted head, HX HD hex head, O.D. outer diameter. Quantities of fasteners are noted.



PAN
HEAD



FILLISTER
HEAD



OVAL
HEAD



FLAT
HEAD



HEX
HEAD



PHILLIPS
DRIVE

ELECTRICAL PIECES

Headlamp buckets to wings - 8 of each. #10 X 3/4", #10 LW, #10 HxN.
Front parking lamps/bases to wings (1500) - 6 of each. #6 FIL SLT HD MS, #6 LW.
Front parking lamps/bases to wings (1600) - 4 of each. #10 X 1/2", #10 LW.
Heater Box body to shelf - 7 of each. #10 X 5/8", #10 LW.
Defroster vent tube adapters to heater box body - 6 #6 X 3/8".
Control Box to fire wall - 2 of each. #10 X 1-1/4", #10 FW (large O.D.), #10 HxN.
Turn signal relay to fire wall - 2 of each. 1/4" X 5/8", 1/4" LW, 1/4" HxN.
Fuse box to fire wall - 2 of each. #10 X 5/8", #10 LW, #10 HxN.
Highbeam switch to bracket - 2 of each. #10 X 1/2", #10 LW.
Rear lamps to plinths (1500) - 4 of each. #10 X 5/8", #10 LW.
Rear lamps to plinths (1600) - as 1500 plus 6 #6 X 1/2" SMS - turn signal bases.
Rear lamps to plinths (Mk II) - 6 of each. #10 HxN, #10 LW.
Flasher to firewall - 1 of each. 5/16" X 5/8", 5/16" LW, 5/16" HxN.
Horn button to bracket - 2 of each. #6 X 5/8", #6 HxN, #6 LW.



BRACKETS & CLAMPS

Three large clamps for 4" air duct hosing - 3 of each. #10 X 1", #10 LW, #10 HxN.
Three loop clips - wiring harness to bonnet latch area. 3 of each. #10 X 1/2", #10 LW, #10 HxN.
Two loop clips - wiring harness to right inside front wheel arch area (to fender bolts). 3 5/16" HxN, 3 5/16" LW. (Also for gnd. wire).
Three loop clips* - therm. capillary pipe to fire wall/heaterbox shelf/RH wheel arch. 1500 routes via wheel arch, 1600 routes via shelf - 1 #10 X 1", 2 #10 X 5/8". 3 of each #10 LW, #10 HxN.
One loop clip* - wiring harness to fire wall - 1 of each. #10 X 1", #10 LW, #10 HxN.
Two loop clips* - oil pressure capillary pipe to fire wall/heaterbox shelf. 1 #10 X 1", 1 #10 X 5/8", 2 #10 LW, 2 #10 HxN.
Highbeam switch bracket to underside of heaterbox shelf 1500 - 3 of each. #10 X 1/2", FLT HD MS, #10 Finishing Washer, #10 LW, #10 HxN.
Highbeam switch bracket to chassis 1600 LHD - 3 of each. #10 X 1/2", #10 LW.
Highbeam switch bracket to chassis 1600 RHD - 3 of each. 1/4" X 5/8" HX HD MS, 1/4" LW, 1/4" FW.
One loop clip - wiring harness lead to highbeam switch - 1500 & 1600 RHD use 1 of each. #10 X 1/2", #10 LW, #10 HxN. 1600 LHD uses 1 #8 X 5/8" SMS.

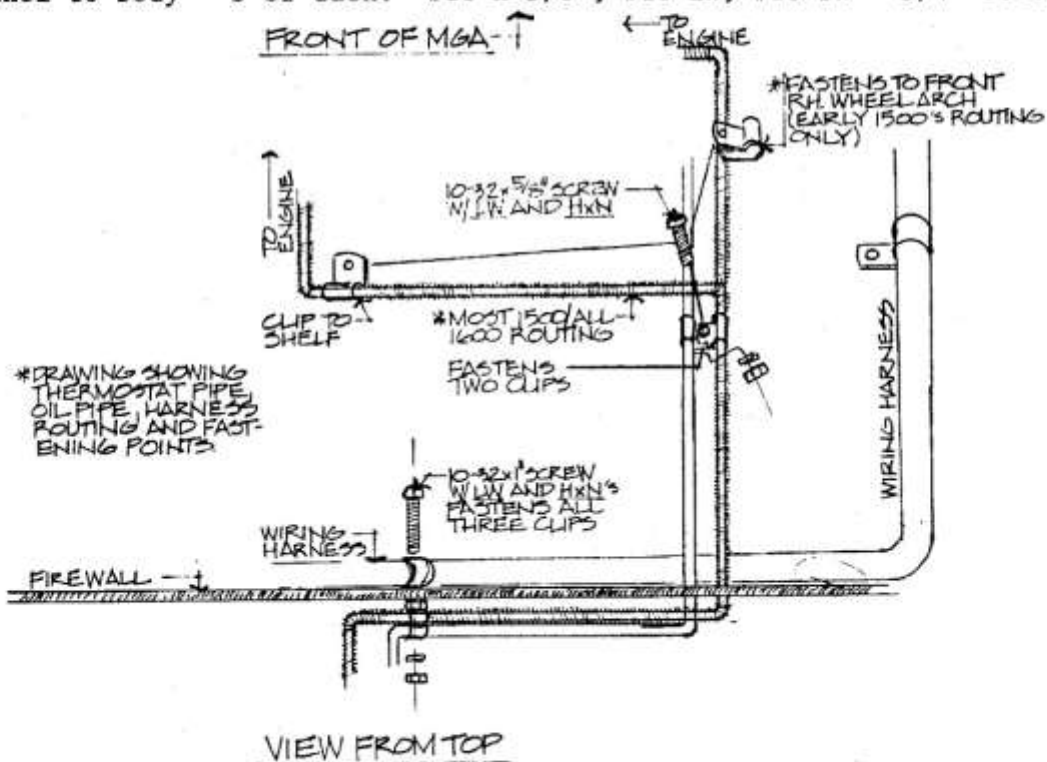
*NOTE - these clips share mounting locations/screws. See diagram.

F93 Kit Cont.

- One loop clip - wiring harness to fire wall (LH side) - 1 of each. #10 X 5/8", 1 #10 LW, 1 #10 HxN.
- Bonnet and boot lid release rod guide plates to fire walls. 4 of each. #6 X 1/2", #6 LW, #6 HxN.
- Washer bottle bracket to heaterbox shelf (when fitted) - 2 of each. #10 X 5/8" HX HD MS, 2 #10 LW, 2 #10 HxN.
- Fascia panel support braces (no heater control panel fitted) - 8 of each. 8 #10 X 5/8", 8 #10 LW, 8 #10 FW.
- Accelerator cable stop bracket to toeboard support panel. 2 of each. #10 X 1/2", 2 #10 LW, 2 #10 HxN.
- Six loop clips (double style) wiring harness and battery cable to underside RH Chassis. 6 of each. #10 X 1/2", #10 LW, #10 HxN.
- Two loop clips - wiring harness to RH rear wheel frame arch area. 2 of each. #10 X 1/2", #10 LW, #10 HxN.
- Three clips - handcrank to boot wall - 3 of each. #10 X 1/4", #10 LW.
- Two chromed braces - rear of hood to tonneau. 2 #10 X 1/4", 2 #10 X 3/8", 4 #10 LW.
- Petrol tank extension pipe retainer and seal to boot floor. 3 of each. #10 X 5/8", #10 LW, #10 FW (large O.D.)
- Two loop clips - brake pipe and cable to RH battery rack. 1 of each. #10 X 1", #10 LW, #10 distance pc./spacer, #10 HxN.

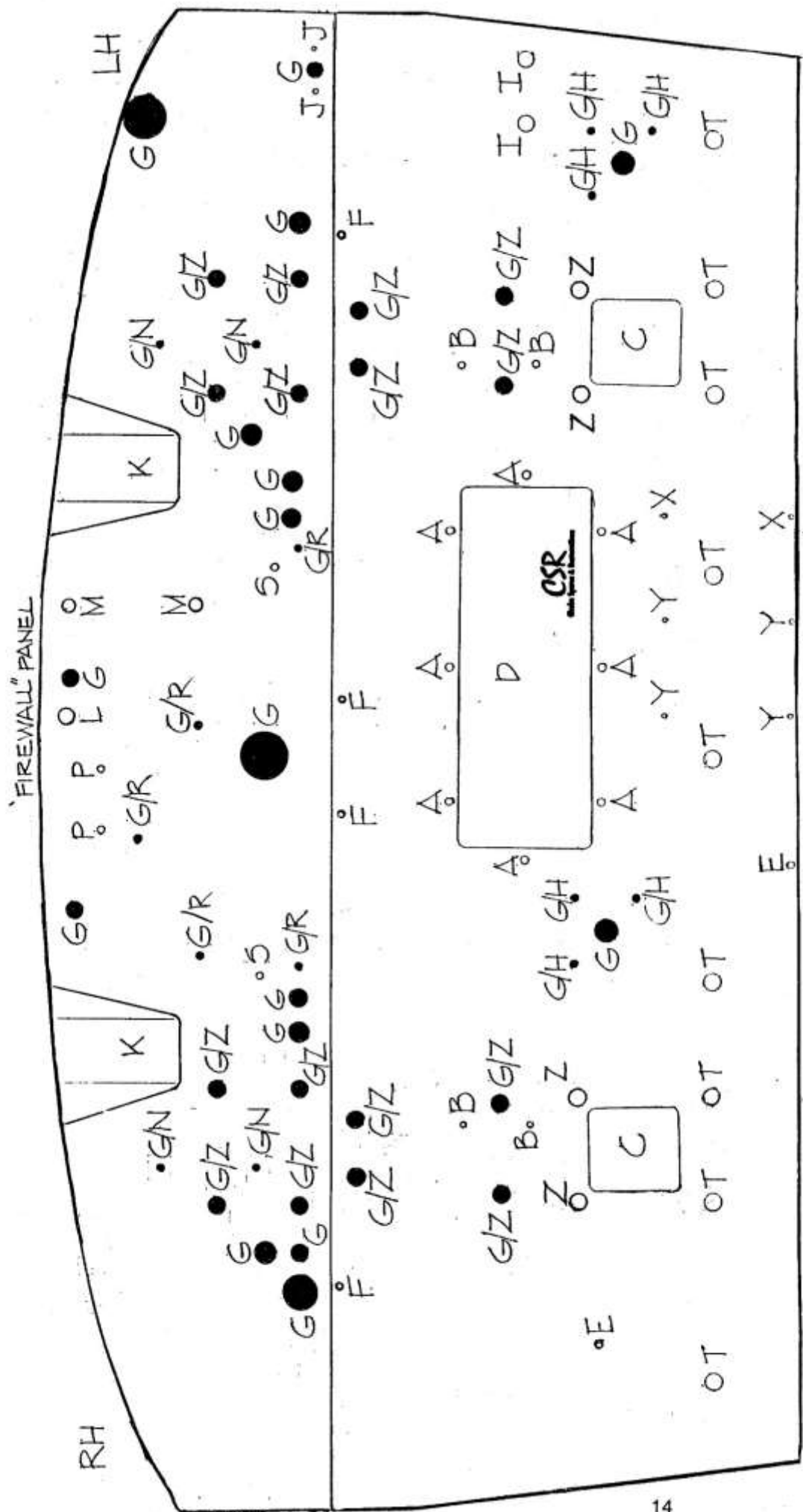
MISCELLANEOUS

- Aluminum cover panels to chassis sides. 6 #8 FLT HD SMS, 10 #10 SMS, 10 #10 FW.
- Transmission extension cover to tunnel. 8 of each. #10 X 3/8", #10 FW - small O.D.
- Latches and pulls to door. 10 of each. #10 X 1/2", #10 LW, #10 FW, 2 #10 HxN.
- Chassis and patent plates to heaterbox shelf. 6 of each. #6 X 1/2", #6 LW, #6 HxN.
(some cars used pop-rivets to fasten these plates - not included)
- Striker pillar face plate and rubber buffer tapping plates. 10 #10 X 1/2" Oval HD MS, 4 #8 Oval HD SMS.
- Buffers, bonnet surround. 10 of each. #6 X 1/2", #6 LW, #6 HxN.
- Wood battens to bonnet and boot lid. 4 #6 X 3/8" WS.
- Boot lid latch and strike to floor and lid. 3 #10 X 1/2" FLT HD MS, 2 #10 X 1/2", 5 #10 LW, 3 #10 FW, 3 #10 HxN, 1 #6 X 1/2" SMS.
- Fascia panel to body - 3 of each. #10 X 5/8", #10 LW, #10 FW - 3/4" O.D.



*Check for punched hole in heater box shelf or wheel arch to determine original routing for your vehicle.

FASTENER INFORMATION - refer to corresponding text



BULKHEAD/HEATER BOX SHELF-MGA 1500/1600 PUSHROD CARS
 RHD - RIGHT HAND DRIVE LHD - LEFT HAND DRIVE
 - VIEW FROM TOP -

FASTENER INFORMATION - refer to corresponding drawing

- *A - Fixed nuts - 10-32 thread - screws/locking washers for heater box or blanking cover attachment. Spare key held under left-rear screw head.
- *B - Hex head screw/locking washer/nut - for washer bottle bracket attachment - These holes were not factory punched. Typical location - LHD/RHD.
- C - Cut-outs for pedal ends - master cylinder workings.
- D - Cut-out - heater box.
- *E - Screw/locking washer/nut - for attaching loop clips that secure oil/therm. pipes.
- *F - Fixed nuts - 10-32 thread - screws/locking & flat washers for fascia stiffener attachment.
- G - Grommets - see grommet information pages - this booklet.
- *H - Screws/locking & finishing washers/nuts - for attachment of high/low beam switch bracket - 1500 - LHD/RHD.
- I - Wiper motor bracket attachment - rear. Hex nuts, locking & large O.D. flat washers.
- *J - Screws/locking washers/nuts - bonnet/boot lid release rod grommet housing plate.
- K - Recess - bonnet hinges.
- *L - Screw/locking washer/nut - attachment of flasher/ground point.
- *M - Screws/locking washers/nuts - turn signal relay box attachment - 1500.
- *N - Screws/locking & large O.D. flat washers/nuts - control box attachment - LHD/RHD.
- *P - Screws/locking washers/nuts - fuse box attachment - "A4" terminals toward top.
- R - Attachment points for various radio pieces. See radio information - this booklet.
- *S - Screws/locking washers/nuts - for attaching loop clips that secure wiring harness/oil & therm. pipes - (harness clips face up, oil pipe clip goes on screw first facing down, therm. pipe clip faces up).
- T - Shelf to chassis - 5/16-24 hex bolts/locking & 1" O.D. flat washers. Other pieces are attached at these points **
- *X - Screws/locking washers/nuts - patent plate attachment - plate faces right side.
- *Y - Screws/locking washers/nuts - I.D. plate attachment - plate faces right side.
- Z - Master cylinder mounting brackets - LHD/RHD. Hex bolts/locking & flat washers/nuts **

* See F93 kit listing - this booklet - for details.

** SEE HEX BOLT INFORMATION & DRAWINGS ON SEPARATE SHEETS

Linread
LIMITED

COLD FORGED FASTENERS

TELEPHONE
318 5877
F.T.O. PHONE 871 338 8622
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P. O. BOX 21 · COX STREET · BIRMINGHAM B3 1RP

YOUR REF
OUR REF DGL/LMC

Mr. Todd A. Clarke,
22 N. Main Street,
Doylestown,
PA. 18901, U. S. A.

4th April 1980

Dear Mr. Clarke,

Thank you for your letter of March 21st. I was most interested to learn of your activities in restoring vintage British cars, and wish you every success. You must be relieved to know that the MG marque is to be salvaged by a consortium headed up by Alan Curtis of Aston Martin, (I drive a DB6 myself).

As regards the fasteners, we will do everything we can to help but it may take some time to locate some of this very old stuff.

We regularly dump stock that has been on the shelves for a long time, and I fear that much of what you want may have taken this route. Rest assured however that we will search thoroughly for anything which might be helpful to you.

I am afraid we cannot help at all with the fender washers or the square nut retainers and I simply don't know where they could be found, but I will ask our sales engineer who calls on MG to make enquiries there for you.

The small head machine screws are not standard but were made specially as trim screws, with a No. 8 head on a No. 10 body. It is unlikely that any of these exist today, and certainly not with Phillips heads because we scrapped all remaining Phillips stock many years ago when Pozidriv came in. We may however be able to find some in Pozidriv.

The bumper bar bolts are probably not of our manufacture because we never made many, but I am checking with a company who is still producing them and for whom we handle the plating.

Sheet 2
Mr. Todd A. Clarke

4th April 1980

The names you list read like a roll-call of the dear departed. Most have now gone from the scene for ever, having been absorbed into other organisations (sometimes several times over) but a couple remain. Rubery Owen Fasteners Limited who are at PO Box 34, Foster Street, Darlaston, Wednesbury WS10 8EJ - contact Geoff Hartley; and TWL equals T. W. Lench Limited of PO Box 21, Excelsior Works, Rowley Regis, West Midlands - contact Mr. Robert Lench.

The name Woden may also still exist - it was the trademark of Steel Nut & Joseph Hampton Limited, which is now part of Garton Engineering Limited of Franchise Street, Wednesbury, West Midlands - try writing to Aubrey Garton, who is a helpful man and might be able to do something for you.

Please bear with us while we hunt around for the old stock, and as soon as I have a clear picture on this and have some replies from the field on the other matters I will write to you again.

With kind regards,

Yours sincerely,

D. G. Lynam

D. G. Lynam
Joint Managing Director

FASTENER INFORMATION

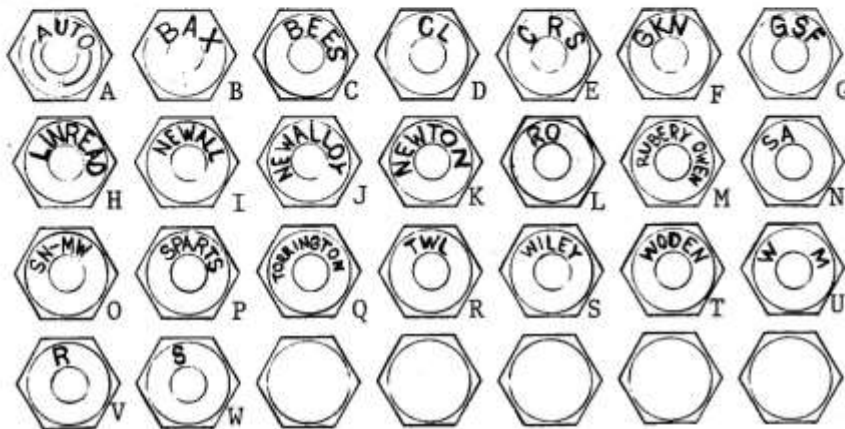
CSR

A very kind and helpful reply from Linread Ltd. Linread was able to find significant supplies of "old stock" bolts for me...all of which I purchased. Linread has since relocated and changed their product line to suit the new age of automobile technology.

FASTENER INFORMATION

A number of manufacturers produced hex bolts for the British car industry. The majority of these bolts were marked with the manufacturer's name - see listing. All of these "marked" bolts were used on MGAs over the years and this listing has been compiled to assist those of you doing extensive restoration work. The "R" & "S" only marked bolts are "generic" brands as these notations refer to the strength of the bolt not the manufacturer. "R", "S", "T", "U", "V", "HT" markings will be found on the manufacturer marked heads...again, these notations reflect the strength of the bolt. "R" and "S" marked bolts are the most common as "R" (45-55) - approx. grade 3 and "S" (50-60) - approx. grade 5 are normally the strength of bolts required to attach most bracketry/panels and mechanical pieces. Higher letter notations reflect stronger bolts, etc. In general "R" bolts are used to attach body panels, misc. brackets, mechanical sundries, etc. Stronger bolts should be used on parts subject to stress. There are hex headed bolts and fittings on the MGA with no markings...these pieces were "turned out" as special dimensions and threads may have been required beyond those mass produced by large fastener manufacturers. The strengths of these "specials" vary. Notations concerning many of the marked hex bolts and locations follow. These notations are designed as a "helpful" guide only as markings & locations vary during the six years of MGA production. Use the below drawing/listing references when you dismantle your car, etc. Original hex bolts are worth saving...as long as they show no signs of stretching and/or excessive corrosion. Once a bolt is thoroughly cleaned it can easily be replated. CSR offers original style hex bolts and replating services. Refer to the factory Parts and Workshop manuals for further fastener information. (Also CSR offers a reprint of a factory fastener "decoder" pamphlet - (Part No. SP-12).

HEX BOLT REFERENCES



Reference "letter" notations for customer's use...keep track of your hex bolts as you dismantle your car!



APPLICATION/PART

Heater box shelf area/Master cylinder mounting brackets
 Fenders to body
 Body to chassis (other than heater box shelf)
 Splash panels to body
 Toeboard attachment plate/firewall panel to chassis
 Master cylinder to mounting bracket
 Accelerator pedal brackets to chassis

CP - denotes Cone Point

ST - denotes Standard Tip

HEX BOLT MARKINGS

see separate listings
 LINREAD - CP
 BEES/LINREAD - CP
 LINREAD/BEES - CP
 WODEN/NEWTON - CP
 NEWTON - ST
 NEWTON - CP

FASTENER INFORMATION - HEX BOLTS - refer to corresponding drawing

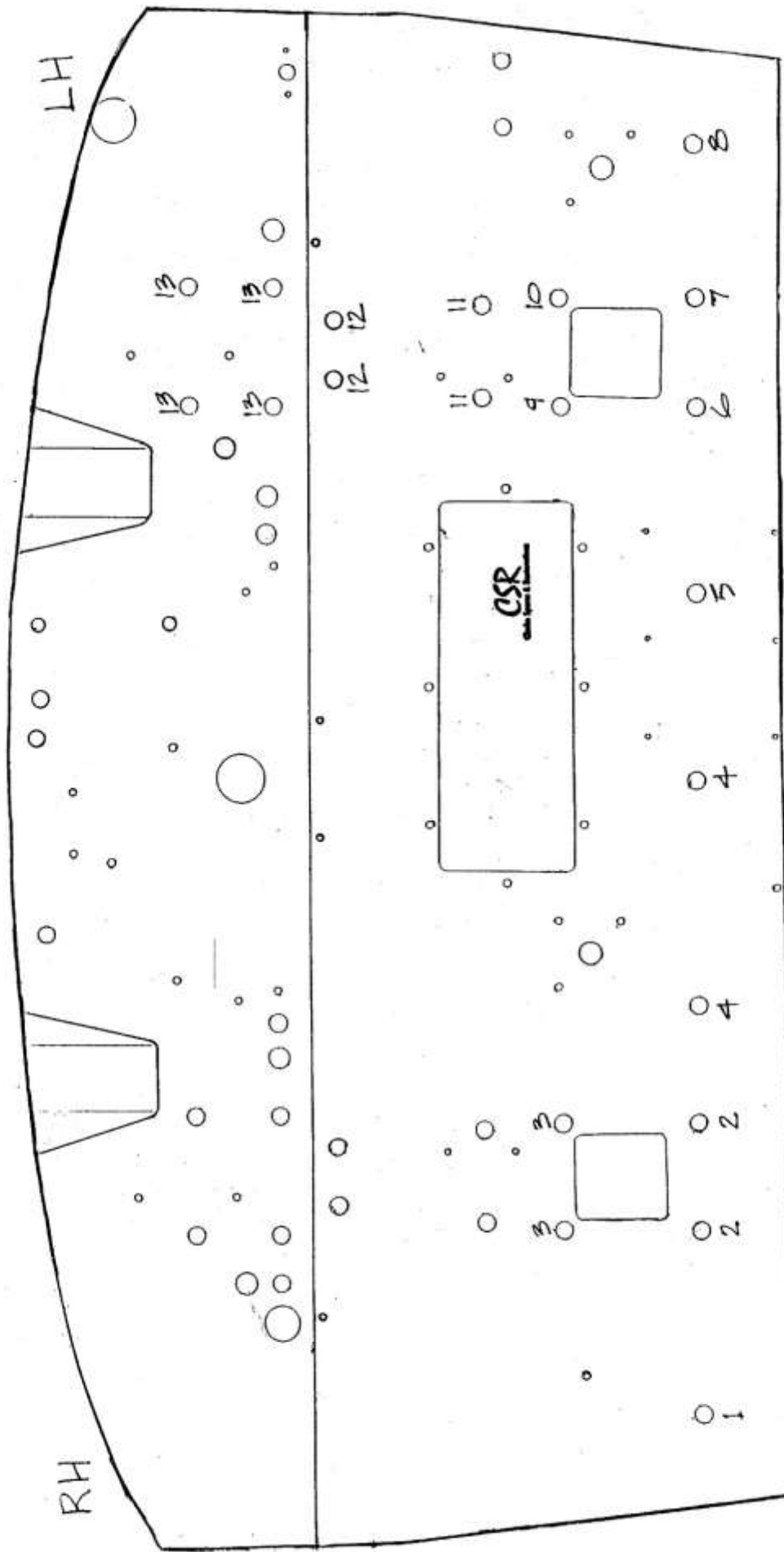
All information is based on two MGAs I have dealt with and is designed as a guide only. Your MGA bolt markings may be partially/completely different. As a rule cone pointed bolts are used where fixed nuts are positioned and standard tipped bolts are used where hex nuts are required. There are exceptions to the "rule". I have noted bolt styles and lengths...much of the fastener information in the parts manual concerning the master cylinder mounting brackets is incorrect!
 CP - denotes Cone Point. ST - denotes Standard Tip.

Ref. No.	Applications/Associated Fasteners	Length	Hd. Markings (examples)
1*	Shelf panel to frame. Harness loop clip held here.	1" CP	WODEN/LINREAD
2*	Shelf panel to frame. Retainer & rubber bland held here.	1" CP	WODEN/LINREAD
3*	Retainer & rubber blank to shelf panel. Washers and nuts on opposite side of panel.	3/4" ST	BAX/SPARTS
4*	Shelf panel to frame. Fuel pipe loop clip held here.	3/4" CP	SPARTS
5*	Shelf panel to frame.	3/4" CP	SPARTS
6*	Shelf panel/Retainer & Excluder/ Pedal mounting plate to frame. Brake pipe loop clip held here.	1" CP	BEES/LINREAD
7*	As #6 except...Clutch pipe loop clip held here.	1" CP	BEES/LINREAD
8*	Shelf panel to frame. Wiper motor bracket held here.	1" CP	WODEN
9*	Retainer & Excluder/Pedal mounting plate to shelf panel and stiffener bracket.	1" ST	WODEN
10*	As #9 except...no loop clips.	3/4" to 7/8" ST	GKN
11*	Master Cylinder bracket/Pedal mounting plate to shelf panel and stiffener bracket.	3/4" to 7/8" ST	WODEN
12	As #11 except...no flat washers.	3/4" to 7/8" ST	BAX
13*	Master cylinder bracket to "firewall" panel. Washers and nuts on opposite side of panel.	3/4" to 7/8" ST	SA

* 1" O.D. flat washer used with these bolts. Except where noted, locking washers position directly under head...loop clips - when used - position under locking washer...flat washers position under locking washers/loop clips on top of panel/bracket. When washers and nuts are on opposite of panel - position the flat washer first...locking washer...hex nut.

CSR
Circle Seal & Retention

FASTENER INFORMATION - HEX BOLTS - refer to corresponding text



BULKHEAD/HEATER BOX SHELF - LHD REFERENCES

MISCELLANEOUS INFORMATION

CARPETING - Original carpets were an all wool cut pile with jute backing supplied in black (roadster) and gray (coupe') only...Overall thickness - 1/4". Only the sections that attached to the chassis sides, rear wood panel - behind the seats and battery cover/wheel arch areas - if you owned a coupe' or had these optional pieces in your roadster - were glued in place. All other sections either lay in place - tunnel sections or were secured by "lift the dot" fasteners...the sections under the seats were held in place by the seat rails. Boot carpeting was never offered by the factory. Insulation padding was used under the main front carpet and forward tunnel carpet sections only. The tunnel insulation was glued in position. Before you complain about excessive engine heat entering your cockpit make sure there is insulation under the appropriate carpet sections. The arm rest - between the seats - was originally sewn to the carpet which covers the rear section of the drive tunnel. (The cover was first sewn in position on the carpet - a slit was then cut in the carpet and the foam cushion was pushed into the cover through the slit.

DOOR PANEL STIFFENER - (CSR No. M14) These "U" shaped stiffeners were used to strengthen the inside/bottom edge of the roadster door panel. They should be painted the same colour as the interior. Attach them to the door before you install the panel...the panel slides up into the stiffener. You should be able to find the original screw holes in the door - one on either side of the pocket edge opening - see page S.2 of the factory workshop manual for a photo of the stiffener in position.

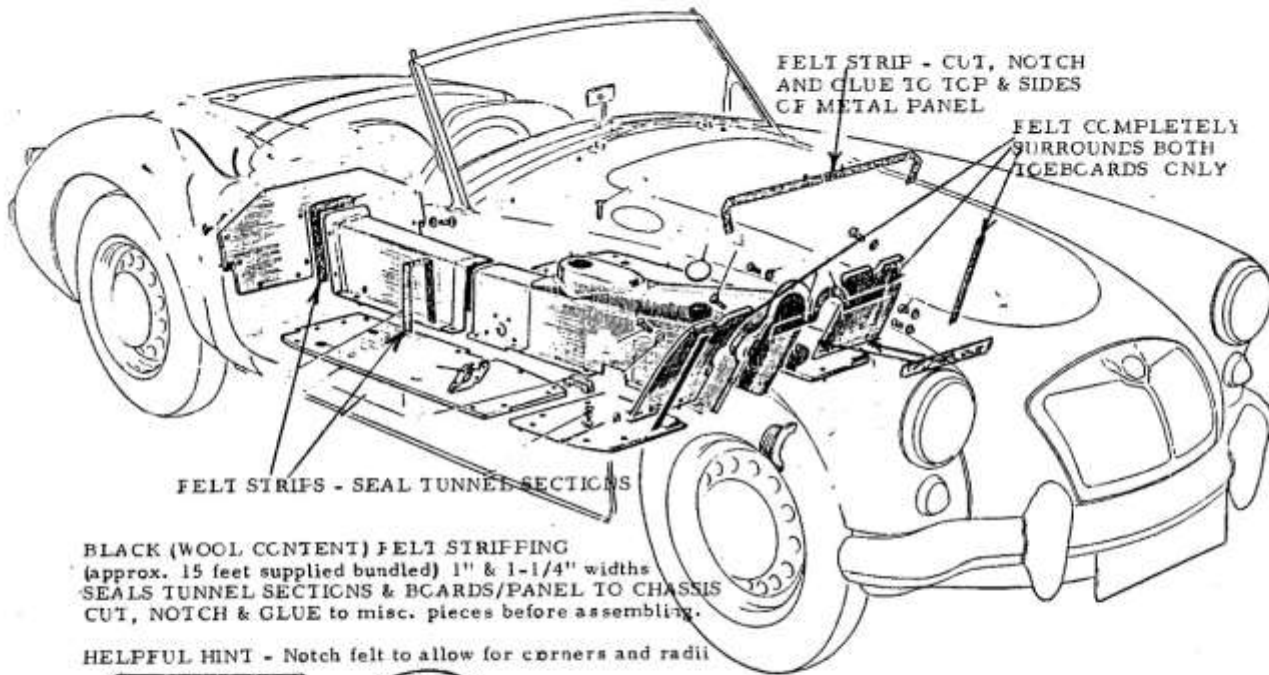
EXHAUST MUFFLER - Muffler tail pipe faces up and in - toward center line of car when it is correctly installed. Pipe ends up next to the inside of left rear over-rider.

FENDER MIRRORS - Fender mounted mirrors were offered as an option by the factory and were mounted directly over the center of the front wheel arch. Replacement/duplicates of the original Lucas units are readily available and can be made to look more original by taking the center "Lucas" marked joining plate off an original damaged mirror and fitting it to the duplicate unit. The original joining plates are made from brass and can be economically replated unlike the stem which is die-cast metal and extremely difficult and expensive to replate. Sometimes it is possible to have new glass placed in an old base - check with your local glass shop.

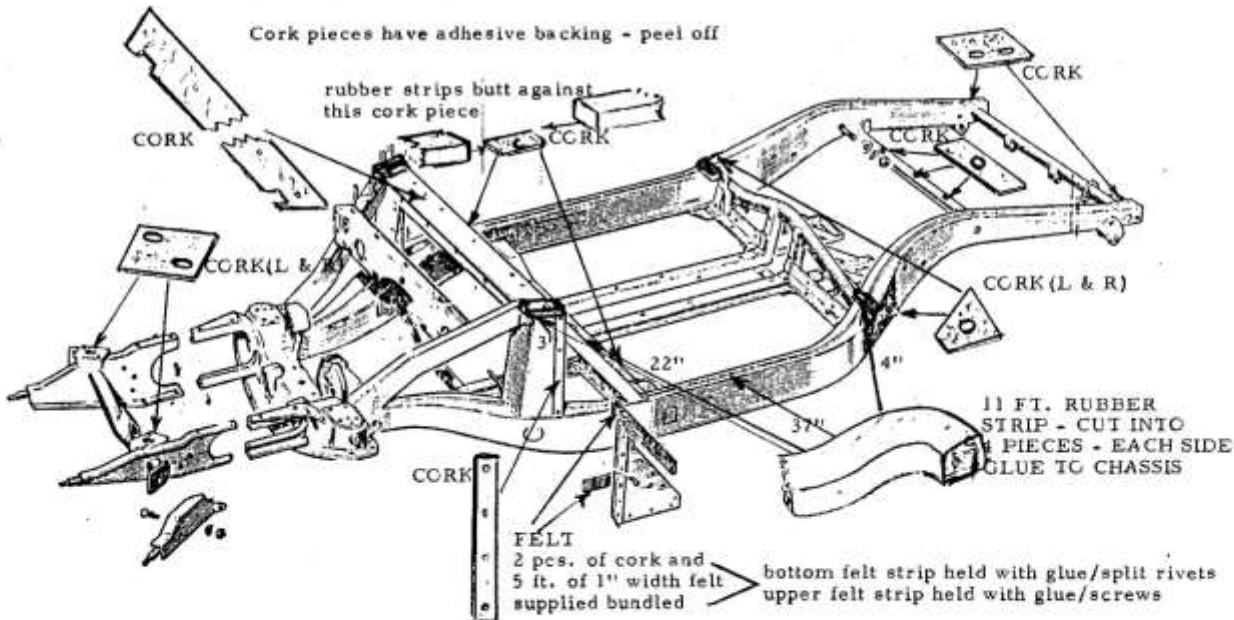
RADIATOR - Note the following - Never assume your radiator is full because you see water in the bottom of the neck area...the design of the filler neck will allow fluid to gather at this low point and not drain into the system. The MGA uses a long reach pressure cap...short reach caps will fit but will not seal against the neck. A partially clogged radiator may function but will certainly not keep the engine running as cool as it should. Tanks on suspect radiators should be removed so the inside of the core can be inspected. Recoring a thirty year old radiator is the best way to go.

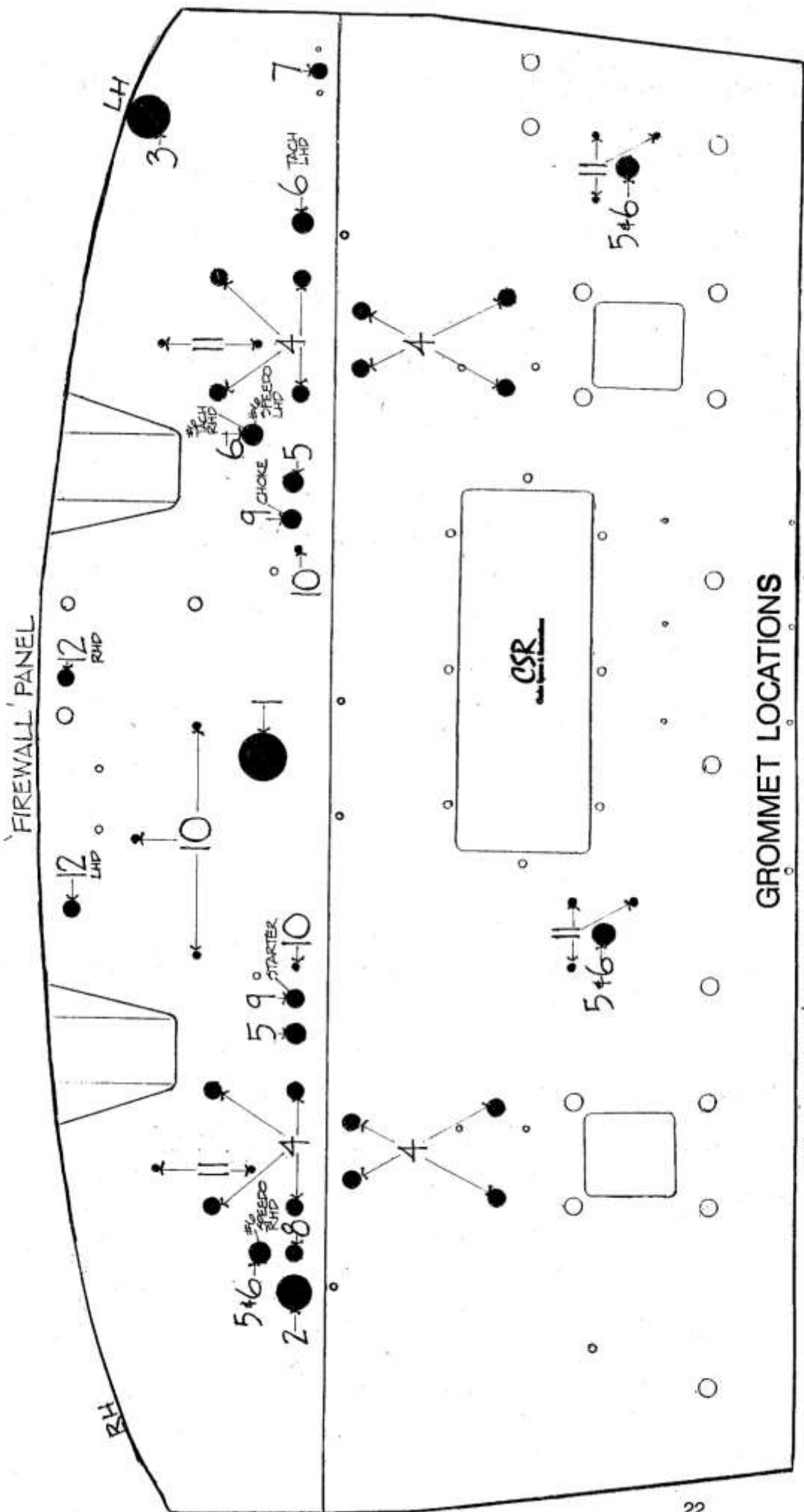
SPARE TIRE COVER - The covers were produced from a combination of carpet which protruded into the cockpit - all roadsters and 1500 coupe's and a vinyl covered padding material which covered the tire in the boot area. 1600 coupe' covers were made entirely from the vinyl covered padding material. The colour of the vinyl was gray with a small white dot pattern. The roadster and 1500 coupe' covers were held to the boot wall with a fibreboard stiffener which was fastened to the metal with 3/16" "pop" rivets. The fibreboard and head of the rivet can be seen from inside the boot. The reach of the rivet should be at least 1/4"...sometimes it is a good idea to use flat washers with the rivets - this will require a longer reach rivet.

P27 FELT KIT - TOEBOARDS, FIREWALL PANEL, TUNNEL



P26 BODY TO FRAME PACKING KIT





GROMMET LOCATIONS

BULKHEAD / HEATER BOX SHELF - MGA, 1500 / 1600 PUSHROD CARS
 RHD - RIGHT HAND DRIVE LHP - LEFT HAND DRIVE
 - VIEW FROM TOP -

GROMMET INFORMATION - refer to corresponding text

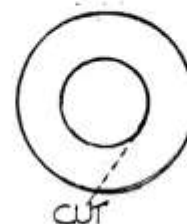
GROMMET GUIDE - applicable to all MGA pushrod cars - LHD & RHD

Illus No.	Part No.	Application	Qty. Per Veh.
1	G14	Main harness	1
2	G13	Therm. sensor tube	1
3	G15	Wiper motor drive	1
4	G18	1/2" Blanking - alternate master cyl. mounting - LHD/RHD	8
5	G19	5/8" Blanking - alternate holes for speedo cables and high/low beam switch harness - LHD/RHD. Also for heater control cables - heaters were an accessory and standard center hole grommets were never used...holes must be pierced for cables	4
6	G12	Speedo, tach, high/low beam switch harness and rear lamp harness sections	6
7	G10	Bonnet and boot release rods	2
8	G11	Oil gauge pipe	1
9	G24	Choke & starter cables	2
10	G16	1/4" Blanking - these holes are for deluxe radio amp. mounting	5
11	G17	3/16" Blanking - alternate mounting for high/low beam switch bracket (1500) and control box	5
12	G25	Windscreen washer feed tube - this hole was never factory "punched". Diagram shows approx. position used when optional washer system was installed.	1
-	G5	Door pocket - latch release cables and harness through front bulkhead area	5
-	G3	Windscreen wiper motor mounting bracket	3
-	G20	3/8" Blanking - heater box	3
-	G21	Headlamp bucket - lamp wiring - this grommet acts as a replacement for the original which was moulded to wiring and bucket. Approx. 1" long	2
-	G22	Cover to body - horn wiring (dual horns were optional)	2
-	G23	Heater box 4" flap shaft - later MGAs	2
-	G26	Heater box water pipes	2

See catalogue for further information on grommet kits, etc. Some grommets may have to be split/cut to get them around cables, etc. Originally the G14, G13, G12 - speedo/tach were fitted to components as they were produced. We have seen examples of whole and split grommets on the speedo and tach. cables. Grommets were supplied in red and black colours - most however were black. The G18 were usually red. Drawing shows correct way of splitting a grommet.

GROMMET INFORMATION

(REFER TO DRAWING)



CSR
Cable Splicing & Repairs

MISCELLANEOUS INFORMATION

ERRORS IN FACTORY LITERATURE - A few inconsistencies are noted here...ones that should be known by the MGA enthusiast!

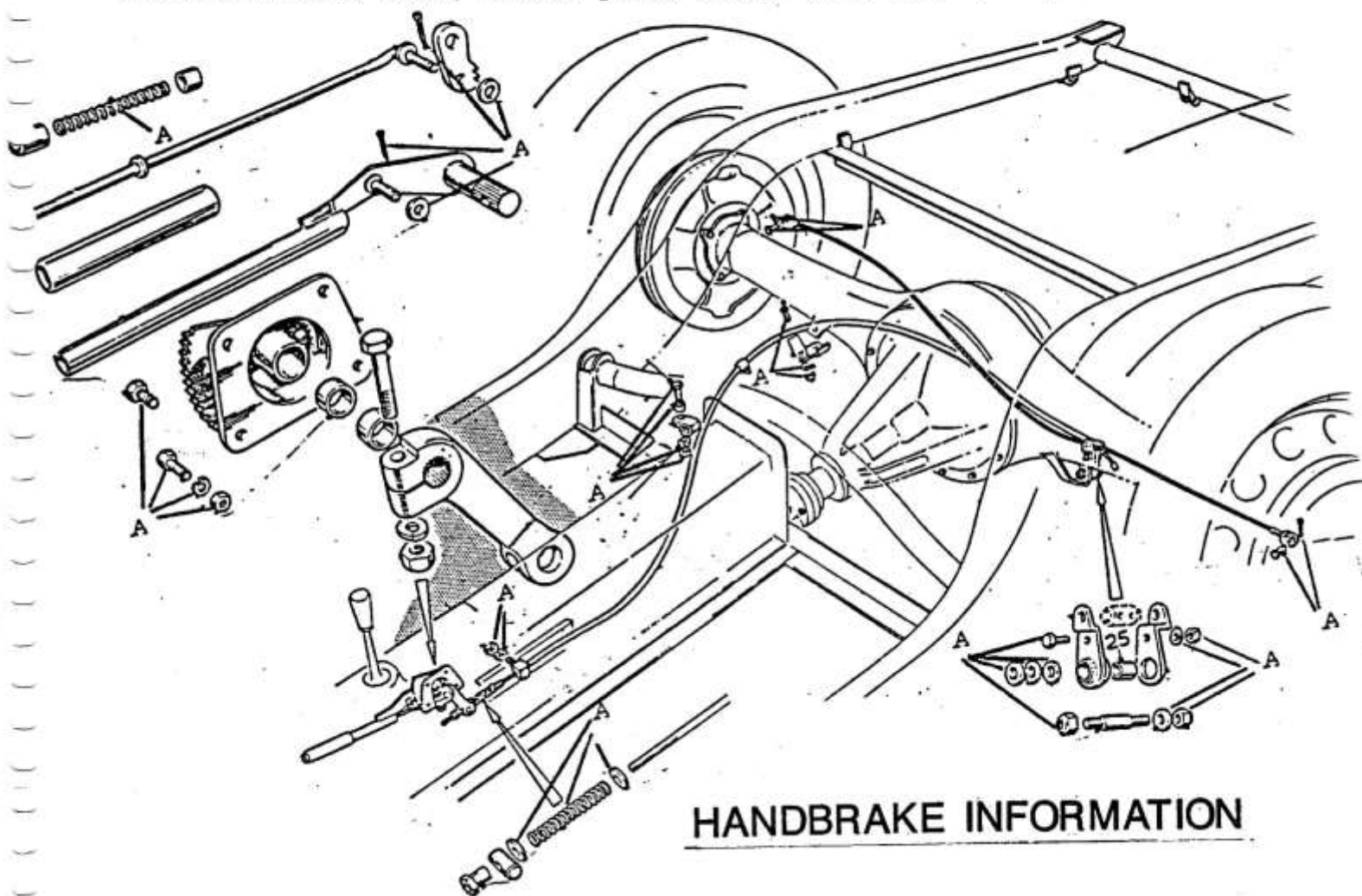
- 1) The position of the heater control switch assembly is shown up-side-down in most factory publications. The on/off switch side of the control should face down.
- 2) Some of the factory released photos of the MGA, picture proto-type cars and mock set-ups ...especially sales brochure photos. In some cases the "workings" of "manufactured" models do not match those of the "official" photos.
- 3) Inaccuracies concerning fasteners exist in the parts manuals, (in part number and illustration). I have noted a number of these over the years and believe the factory made changes as the cars were being manufactured...these changes were never recorded on an official basis as the changes were not considered important. BMC published a fastener specification booklet which was distributed to its dealers in 1964. (CSR has reproduced this - part No. SP-12). The information in this booklet is designed to decipher part numbers and the fasteners they represent. The correct part numbers are not always used to represent the actual part installed by the factory...it is usually a good idea to record this information as you dismantle your car...or at least make comparisons to the factory parts listings.

SEAT CUSHIONS - The bottom cushion is made from foam and the back cushion is made from rubberized "horse hair" material. (CSR offers both cushions). There were at least two ways in which the factory assembled the back cushion assembly...CSR supplies a 1" and 2" thick rectangular section for each back frame. Once the wood tacking blocks (CSR No. W6/7) and "chip" paper board material (CSR No. P40) are attached to the seat frame the rubberized hair can be installed. (The "chip board" material is a common product used by architects, model builders, etc. and can be purchased at a graphics supply house). Place the 1" piece in the frame first - and the 2" piece on top of it - trim the tops to match the curvature of the frame. Pull the upholstery cover over the frame...use cotton batting material as filler, etc.

BATTERY COVER PANEL - Steel panel used to cover battery access area. Panels were painted body colour and coated with tar on the underside. Later panels incorporated a lift handle - welded on front edge which was covered with a rubber sheath. Panels are held to body via a Dzus - 1/4 turn fastener which is pressed into the panel at two points. The Dzus fastener engages a wire fitting which is riveted to the underside of the battery cover ledge. These panels were covered with carpeting - all coupe' models and as an option on roadsters. A vinyl-like material was sewn to the front edge of the carpet which in turn wrapped around the front of the panel. The carpet assembly was glued in position.

MASTER CYLINDER (DUAL TYPE) - New cylinders have become expensive and difficult to obtain...resleeving used cylinders is a practical way of renewing your system. At some point "defective" seals were being supplied by Lockheed in new cylinders. The seal was a bit longer than originals and tended to block the air "bleed" hole - especially on the brake side. The MGA owner experienced a total lock up of the brakes as a consequence. Always make sure the "bleed" holes are not blocked by the seals when the piston is in a "relaxed" position...remove the reservoir cover plate and examine the holes with a strong light. If the hole is blocked I suggest buying a fresh Lockheed rebuilding kit and replacing the seal...checking to make sure the suspect seal is indeed longer. Some shim the front cover...this allows the piston to move forward and clear the hole. Follow the directions in the workshop manual for the proper adjustment of the pushrod/fork assembly. Wear in the forks, clevis pins and pedals will cause problems in the action of the braking. The pins are easily obtainable (CSR No. F94) and the holes in the forks and pedals can be filled and redrilled to the original size. CSR offers this service.

M102-05 SUNDRY KIT to service handbrake assembly- includes springs, and misc. fasteners required when renewing the handbrake system. (all pcs. marked "A") 42 pc. kit includes correct size and style washers, spacers, machine screws, nuts, clevis pins, cotter pins and springs.



HANDBRAKE INFORMATION

TRIVIA - from the factory

Rubber core shift lever knobs were supplied by BMC as a replacement for the original brass threaded units. The knobs looked the same and acted as a cure-all for stripped threads and annoying vibration noises.

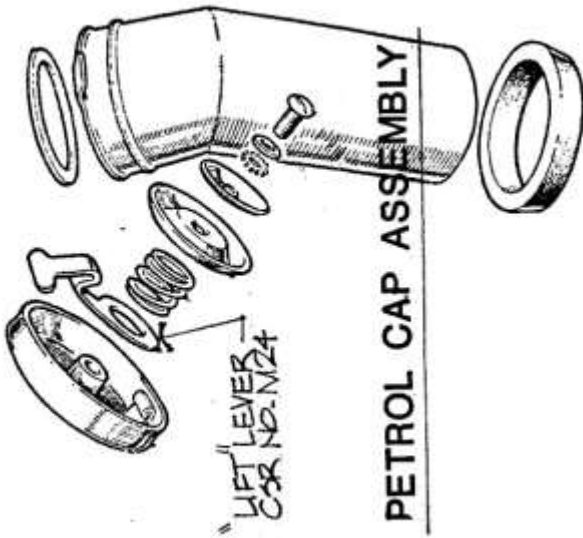
Carpets were all wool pile with a jute backing supplied in black (roadster) and grey (coupe') only.

Early MGAs featured bronze upper and lower suspension swivel links - a carry over from the TF. They were painted black.

Harness type seat belts were available.

Early MGA instruments featured larger number and letter figures.

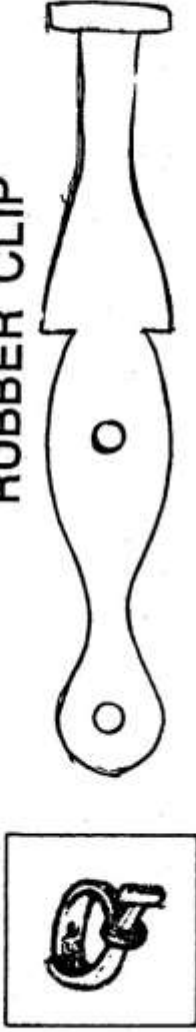
A steering wheel Lock Assembly was offered during late production.



PETROL CAP ASSEMBLY

PETROL CAP ASSEMBLY-In most cases - unless the hinged area is broken, a petrol cap can be readily restored. The stainless steel can be polished to look new and the sundry parts that hold the "lift" lever in position can be cleaned and replated. The screw is a "special" thread and is not easy to replace. The "lift" lever is produced from spring steel. If you are missing the screw, washers, spring, etc. try searching the murky depths of your petrol tank as many times the screw would work its way loose and everything fell in. It was not uncommon for a service station attendant to snap the "lift" lever as he or she would automatically want to push rather than lift the lever. Consequently, the "lift" lever was frequently replaced by the typical MGA owner and many times the cap was not put together properly and/or the star-tooth locking washer was not put back in position. I worked at an MG dealership in 1978 which still held stocks of the "lift" lever! At the time I was able to gather over one hundred levers from Leyland dealers and distributors throughout the country. I believe the "lift" lever was a "best seller" when the cars were in production. Reproduction caps are available and for the most part they are good, except for the "lift" lever which is not formed properly and will not catch to the extension. A proper reproduction of the lever is available and can be retro-fitted to the reproduction cap. "Lift" tab faces directly up when assembly is correctly installed.

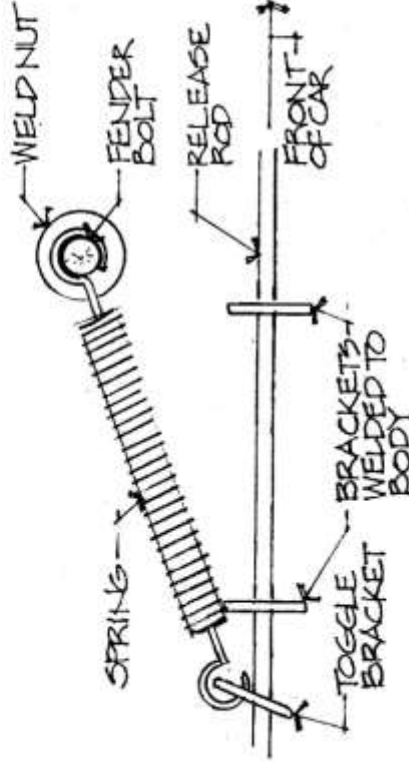
RUBBER CLIP



RUBBER CLIPS - (CSR No. P42) - these clips were used in four locations on the MGA to secure misc. cables in order to prevent vibration noises, wear, etc.

- 1) Heater flap cable to top/LH heater hose. (Factory photos show examples of cable running above and below hose...)
- 2) Starter cable, battery cable and harness section (to coil/generator) held together behind frame member in engine bay area.
- 3) Heater switch wire to fascia support.
- 4) Choke and starter cables to main harness - as they cross each other behind fascia.

CSR



RELEASE ROD SPRING

BONNET RELEASE ROD
 SPRING LOCATION - a spring is attached to bonnet pull rod via a two hole toggle bracket. The coil spring attaches to this bracket and one of the fender bolt tips. Use the seventh fender bolt mounting location back from forward most bolt. See location diagram. Longer fender bolt used here.

TRIVIA - from the factory

A cigar lighter assembly was available and a hole had to be drilled/punched in the fascia to accommodate it.

A headlamp flasher switch and relay assembly was available - a hole had to be drilled/punched in the fascia.

Very early 1500's featured door and rear corner cockpit rails made entirely from wood.

A "touring kit" was available - BMC part nos. 8G1057/8G1058/8G1073. The kit included spare ignition pcs., bulbs, and cylinder head bits. The kit came packaged in a BMC wrap.

On early cars drive tunnel extension covers (for trans. remote shifter) were welded to tunnel, not attached by screws.

Mk II striker pillar face plates incorporated a water drainage "ridge" which made it necessary to fit a different door seal chromed cap.

All BMC packaged parts came with a "slip" reminding customers that returns would not be considered unless accompanied by the slip.

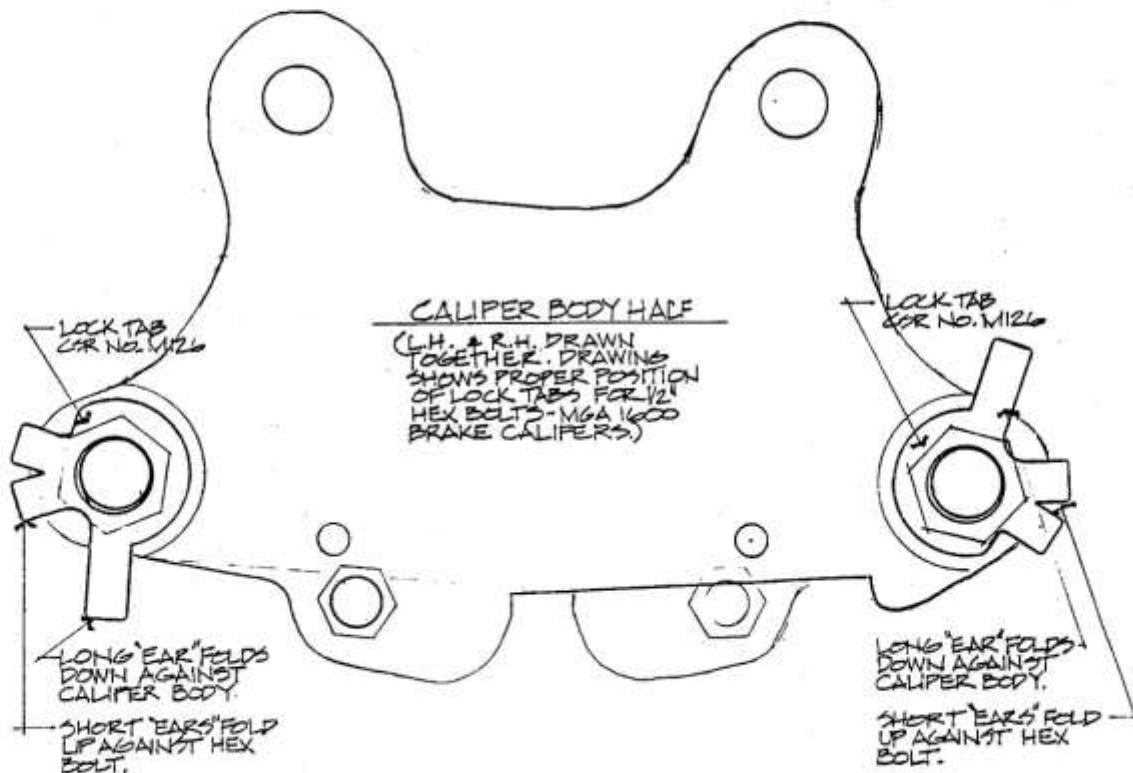
MGAs sold in Switzerland were required to have the following:

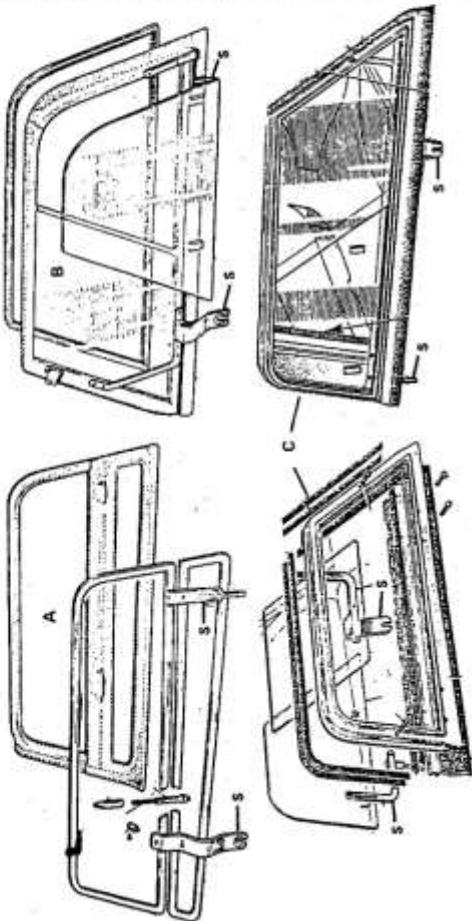
Larger light unit for license plate.

Bracket to hold above light was larger.

Exhaust system featured an extra silencer with heat shield which mounted under the front floorboard.

LOCK TAB - 1600 Brake Caliper

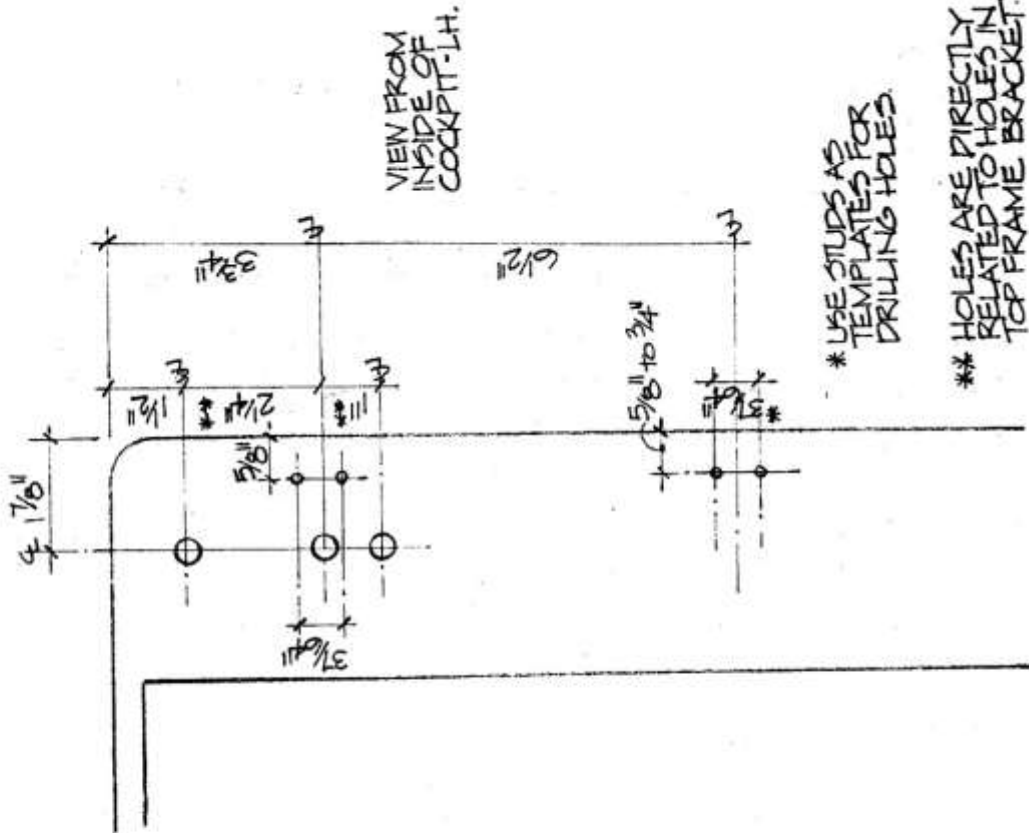




NOTE: All factory side screens feature steel braces - marked S.

SIDESCREENS

- A. "Pop Out" type - standard equipment until 1959. Steel frame covered with vinyl. Braces painted tan. Available in Black or Ice Blue. Very early units were available in other colours.
- B. Deluxe-Vinyl covered Sliding type - optional extra until 1959 then became standard equipment. Steel frame. Braces painted tan. Available in Black, Beige, Grey or Blue.
- C. Aluminum type - designed for use with hard tops. Two sizes were produced as the aluminum and fiberglass factory hardtops required different heights. Braces were chromed. (Rubber seals on bottom and front of frame only).



VIEW FROM
INSIDE OF
COCKPIT-LH.

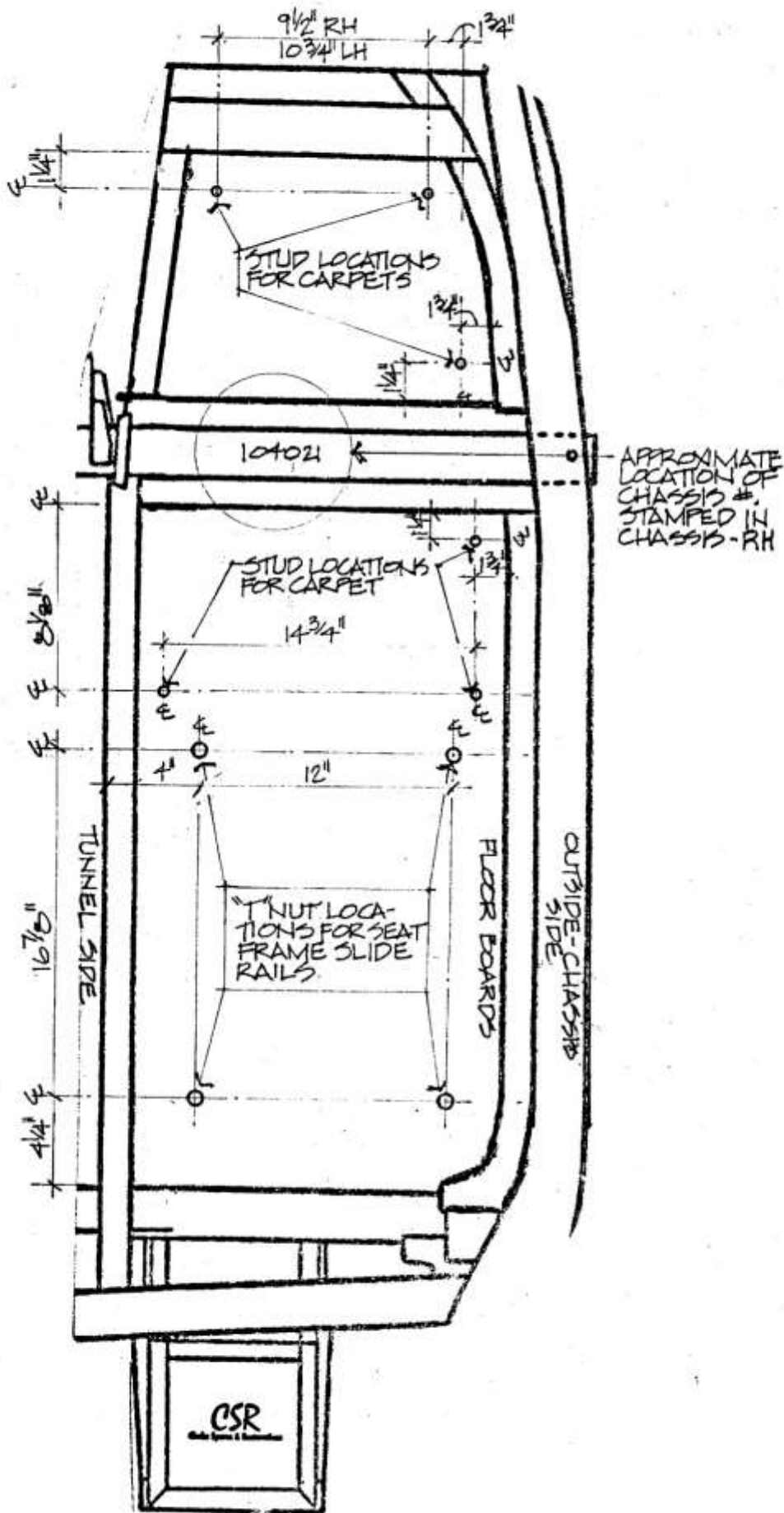
* USE STUDS AS
TEMPLATES FOR
DRILLING HOLES.

** HOLES ARE DIRECTLY
RELATED TO HOLES IN
TOP FRAME BRACKET.

LOCATION DIAGRAM FOR TOP FRAME ATTACHMENT (and flange studs - side curtain pouch attachment)

(THE THIRD STUD MOUNTS ON COCKPIT CORNER RAIL - INSIDE -
2 1/2" CENTERED FROM FRONT OF RAIL.)

NOTE! IT IS NOT UNUSUAL FOR HOLES TO BE COVERED
BY PAST BODY REPAIR WORK - PROBE FOR ORIGINAL
HOLES BEFORE DRILLING NEW ONES.

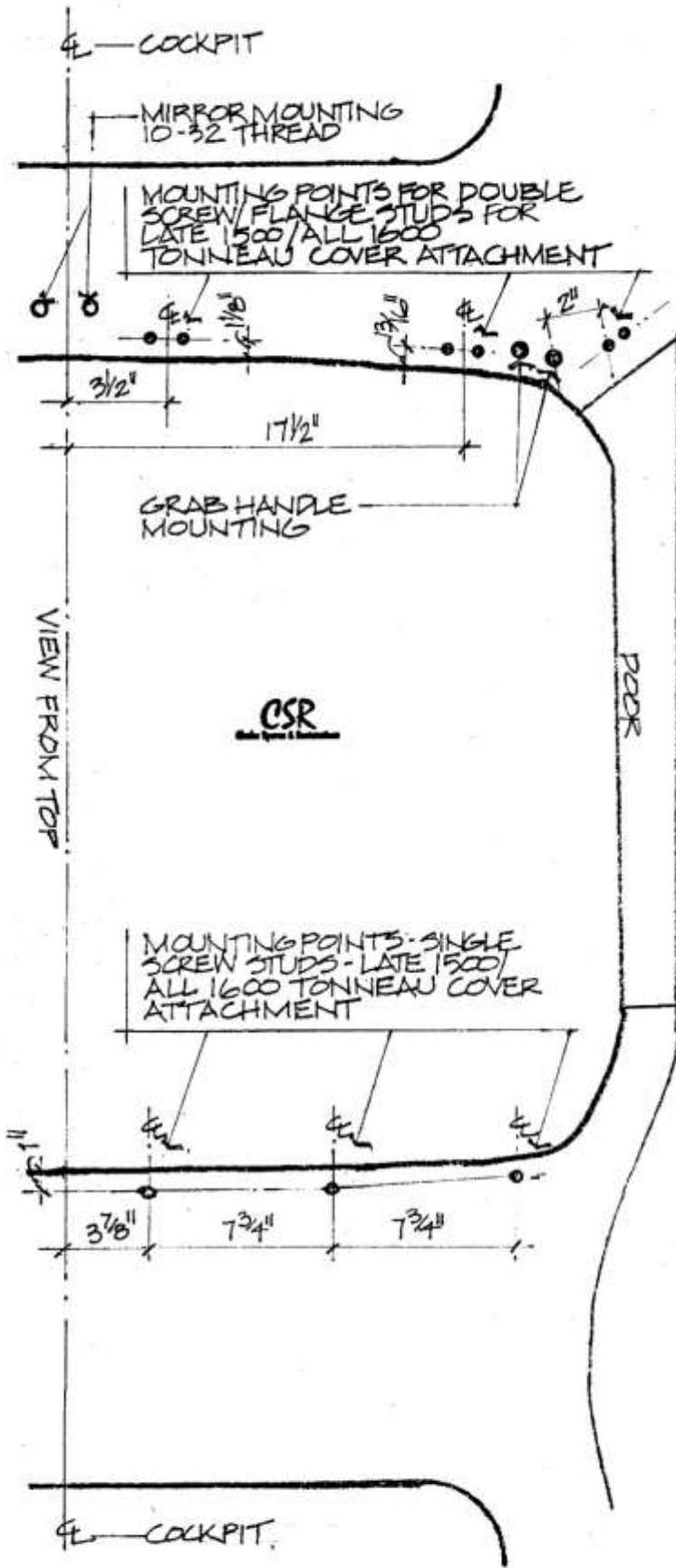


LOCATION DIAGRAM

- A. 1" NUTS - SEAT FRAME SLIDE RAILS
 - B. SCREW STUDS - CARPET "LIFT-THE-DOT"
 - C. CHASSIS I.D. NUMBER
- ### FLOORBOARD SUNDRIES

TONNEAU COVER ATTACHMENT

Drawing shows RH stud mounting points typical of most MGA roadsters - LH is symmetrical opposite. (Early MGAs featured studs mounted in doors and rear cockpit rails - this proved unnecessary and a bad idea to mount studs in wood and aluminum...the studs would eventually pull out!) It is not unusual to find these holes "hidden" by body repair work, etc. Check the underside of the body skin before you drill new holes... There are also variables in the hole locations which may be close enough to the "original" hole locations (noted on this sheet) to use.



MISCELLANEOUS INFORMATION

FUEL SYSTEM PROBLEMS - Besides worn carburetors and fuel pumps, fuel problems can be caused by clogged fuel delivery pipes and carb. float bowl over-flow pipes. Always make sure all pipes are clean and clear of obstructions. The "pick-up" pipe in the tank can also be clogged...if this is the case try blowing it out using high pressure air. If air does not work you may have to cut into the tank and replace the pipe. I have been able to restore most original tanks. The currently available reproduction tanks may not fit and it will most likely prove less expensive to repair your original tank. Once a used tank is stripped clean, holes can be filled with hi-temp silver solder, etc. (Make sure the tank has been purged of all gasoline and fumes before attempting any repair work!) The angle of the filler pipe is sometimes off...this can be caused by accidents and poor handling. (The petrol cap "lift" lever should face directly up.) Use a steel pipe which will "just" fit inside the tank filler pipe as a way to lever it "straight". Dents in the tank may also cause problems...sometimes the "pick-up" pipe which is attached to the tank "floor" is broken loose. Always remember it is possible to cut into a tank and make repairs.

FELT AIR DAM - A felt seal was glued to the underside of the bonnet directly over the radiator on push-rod MGAs. This seal helped keep air from going around the radiator and consequently aided in the cooling of the engine. CSR offers this seal - part no. P19.

CLUTCH WORKINGS - The clutch fork pivots via a bushing and shoulder bolt assembly. The action of the clutch is directly related to the condition of the bearing fork and clevis pins/pushrods for both the slave & master cylinders. Always replace these pieces if there is any sign of wear. The clevis pin hole in the clutch pedal may also require filling and re-drilling. Early MGAs used a smaller diameter shoulder bolt for the fork pivot.

PEDALS - CLUTCH & BRAKE - Different pedals were used over the years on all models. "Improvements" were made as the closeness of the pedals sometimes made it difficult to work them if the driver was wearing wide shoes for example. The high position of the high/low beam switch on 1500 models also was a problem...if you are replacing your pedals always make sure you are dealing with a matched set! There are at least three different brake pedals and two different clutch pedals used over the 1500/1600 (LHD/RHD) range of cars. Twin Cam and "Special" 1600 models used the same pedals throughout their production.

RADIO INFORMATION - Radios were available as an option for all MGA models. Radios and mounting kits produced by Radiomobile were commonly used when the fitting was done by the factory for export models. Motorola supplied radios to fit the MGA and these units were usually fitted by U.S. dealers. Although Radiomobile kits were made available to the U.S. market they were expensive compared to the U.S. made Motorola kits...The Motorola units also did not require a separate amp. and speaker as all was contained in the tuner box. Other companies produced radios to fit the standard BMC mounting opening...many radios were designed for both neg. & pos./6 & 12 volt applications as the 50s and 60s were a transition time for electric systems on automobiles. Blaupunkt made a unit - FRANKFURT Tr deluxe for the U.S. market which was also commonly fitted to British cars as its neg./pos. - 6/12 volt design made it easy to adapt to MGAs. It, like the deluxe Radiomobile units had a separate amplifier. The Blaupunkt design allowed the amp. to be mounted to the tuner. Radiomobile also produced less expensive units, but in all cases a detached speaker was required. There are companies that specialize in older radios so although it may be expensive, it is relatively easy to locate period radios for your MGA.

Radiomobile



By Appointment to H.M. The Queen
Manufacturers of car radio equipment
Automobile Ltd

RADIOMOBILE LIMITED Goodwood Works, North Circular Road, London NW2 7J5
Telephone 01-452 3533; Telegrams Mobilrad, London NW2

FDBE/JS.

28th September 1978.

Mr. Todd A. Clarke,
22 North Main Street,
Doylestown,
Pennsylvania,
U.S.A.

Dear Sir,

Thank you for your letter of August 15th only recently received here and for your enquiry regarding the original car radio installation in your 1959 MGA Tourer.

As you rightly suppose, the Radiomobile Model 22 car radio receiver has long since been discontinued and, regrettably, we no longer hold spare parts for this particular unit.

However, we are pleased to enclose both the original service data sheet covering the unit and also a copy of a leaflet which gives full details of our current range of loudspeakers from which it may be possible for you to select a suitable replacement unit. You will note that the unit gives dimensions of each loudspeaker.

It is probable that the original receiver was factory installed by the MG car company at Abingdon as in the case of most of their exported vehicles this was the procedure. This was not the case with cars originally marketed in the U.K., all installations having been carried out by the vehicle distributors at point of sale.

We trust that the information will be of some assistance to you and assure you of our close attention at all times.

Yours faithfully,

P.D. Burlington,
Export Manager.

RADIOMOBILE LIMITED is a subsidiary of
Registered Office: Clichfield, London NW2 7JN
Incorporated in England No. 395098

SMITH'S Radiomobile Installation instructions

VEHICLE: M.G.A. SPORTS & COUPE &
TWIN-CAM.

Radio: 40T, 41T, 42T, 40RT, 41RT, 42RT,
40RT, 41RT, 42RT, 40RT, 41RT, 42RT.
Note: Smith Models in the 50T and 50RT Series
as detailed for the corresponding Model
in the Model 40T or 40RT Series.

INTRODUCTION

This instruction covers both left and right-hand drive cars. The illustrations show right-hand drive.

NOTE: Models 42T, 42RT, 401T, 402T.

Before connection to power supply, ensure that "POSITIVE GROUND" POLARITY FLAG is inserted in POLARITY SOCKET. (Undersurface of 42T, 42RT - Side of 401T, 402T).

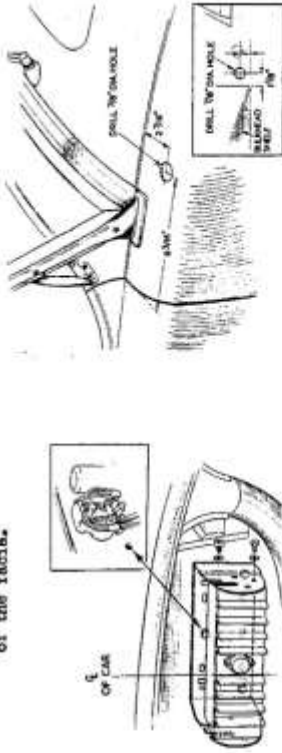
DAMAGE TO AMPLIFIER IS INEVITABLE IF POLARITY IS REVERSED.

The Aerial is mounted in the drive side wing.

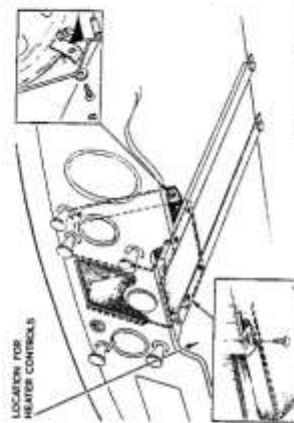
The Control Unit is mounted behind the aperture provided in the passenger's side of the fascia.

The Amplifier is mounted on the bulkhead behind the loudspeaker location.

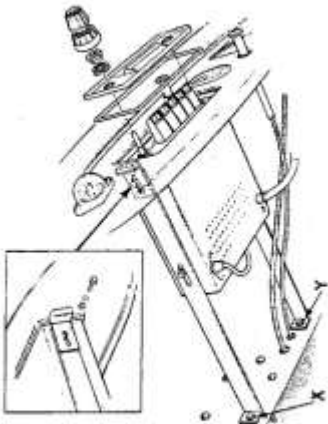
The Loudspeaker is mounted behind the aperture provided in the centre of the fascia.



LOCATION FOR HEATER CONTROLS



IMPORTANT: Ensure that the loudspeaker mounting box is as close as possible to back of fascia. Check that loudspeaker grille is secure.



RADIO INFORMATION

Kangol Magnet Limited

(Registered Number 41174)

A member of the
Kangol Group of Companies
Manufacturers of
Seat Belts

Mr Todd A Clarke
22 N. Main Street
Doylestown
PA
18901
U.S.A.

Norfolk Street
Carlisle Cumbria CA2 5HX
telephone Carlisle 31711
std 0228
cables Safety Carlisle
telex Kangol G 64163

Our Ref: CAN/EC

19th November, 1979

Dear Mr Clarke,

Thank you for your letter dated 27th October 1979 enquiring as to whether we could supply seat belts to fit your MGA Car.

Unfortunately in this instance we are unable to be of assistance.

Whilst we have supplied belts as original equipment for this model when it was manufactured we no longer carry stocks. Furthermore, we regret we would in any case not be in a position to supply to the U.S.A. in the light of the heavy premium costs for product liability in the U.S.A.

We apologise that we cannot be more positive in our reply and wish you success in your endeavours in finding a possible alternative source of supply.

Yours faithfully,

C. A. WILSON
SERVICE EXPORTATION



Registered in England

Registered Office
Norfolk Street
Carlisle Cumbria CA2 5HX
telephone std 0228 31711
telex Kangol G 64163

Directors:
J. G. Ogg S. Measner
A. G. Tucker R. A. Ashworth
A. E. Pearson & Company Secretary
R. C. Atwood

SEAT BELT INFORMATION

Kangol's response to my interest in having seat belts manufactured... We believe Kangol "magnet belts" were available during late MGA production.

C.S.R. has since reproduced most of the brackets and hardware BMC supplied for proper seat belt mounting.



A new-old stock seat belt kit... Britax supplied BMC with belts and hardware for MGA applications. BMC specified harness style belts for all of their "sports" models. Basic lap belts were never recommended for "front" seat use.

INSTALLATION INSTRUCTIONS FOR M70a, M70b AND M70c MOUNT & HARDWARE KITS

to service MGA harness seat belts/typical BMC seat belt assemblies

IMPORTANT - PLEASE READ BEFORE INSTALLATION

A Note on MGA Seat Belts - Harness type seat belts were offered as optional equipment by the manufacturer BMC during MGA production years. Original belts were supplied in kits or came pre-installed (if ordered) as per later MGA production. For example, MK II's were fitted with the anchorage brackets. For more information on original seat belts see factory literature including section S and SS of the MGA Workshop Manual.

Clarke Spares & Restorations has reproduced the mounting hardware and brackets to accommodate both single point - one hole (as per typical seat belt end brackets) and double point - two holes (as per typical BMC tonneau/wheel arch seat belt end brackets). Most currently produced belts call for a 7/16" to 1/2" mounting bolt size....this size has become an industry standard. All bolts and nuts used in our kits are hardened and match the strength of fasteners used on new vehicle seat belt assemblies.

GENERAL INSTRUCTIONS - for the best and safest results please follow instructions. If you have any questions please feel free to contact us.

1) Welding is required to install brackets. An experienced welder will be able to install pieces without damage to panels, exterior paint finish, etc. An electric welding process should be used. Paint and rust will have to be removed from areas where brackets attach. See more specific instructions further on.

2) Inspect kit to be sure you have all brackets and hardware. See itemized listing below. If you are missing any of the pieces contact us immediately.

3) ITEMIZED LISTING - M70a Kit - ROADSTER - services two seats

- 2 M70-01 QUICK RELEASE BRACKETS with hardware - (4 - 5/16-24 hex bolts, 4 - locking washers).
- 2 M70-10 FRAME "U" BRACKETS - LH & RH.
- 2 M70-02 CIRCULAR BRACKETS with hardware - (12 - 10-32 X 5/8" pan head machine screws, 12 - #10 locking washers, 12 - 10-32 hex nuts, 2 - 7/16-20 hex bolts, 2 - 7/16" locking washers, 2 - 7/16" flat washers, 2 - 7/16" hex nuts and 4 - 7/16" wave/tension washers).
- 2 M70-08 TONNEAU BRACKET with hardware - (2 - 7/16" hex bolts, 2 - 7/16-20 hex nuts, 2 - 7/16" locking washers, 2 - 7/16" flat washers, 4 - 7/16" wave/tension washers, 2 - 10-32 hex bolts, 2 - 10-32 hex nuts, 2 - #10 locking washers, 4 - #10 flat washers, 4 - 5/16-24 hex bolts and 4 - 5/16" locking washers).

4) ITEMIZED LISTING - M70b Kit - Coupe' - services two seats

- Includes 2 - M70-01, 2 - M70-10, 2 - M70-02 - see M70a listing for details.
- 2 M70-03 BOLT ASSEMBLY - (2 - 7/16-20 hex bolts, 4 - 7/16-20 hex nuts, 2 - 7/16" locking washers, 2 - 7/16" flat washers and 4 - 7/16" wave/tension washers).

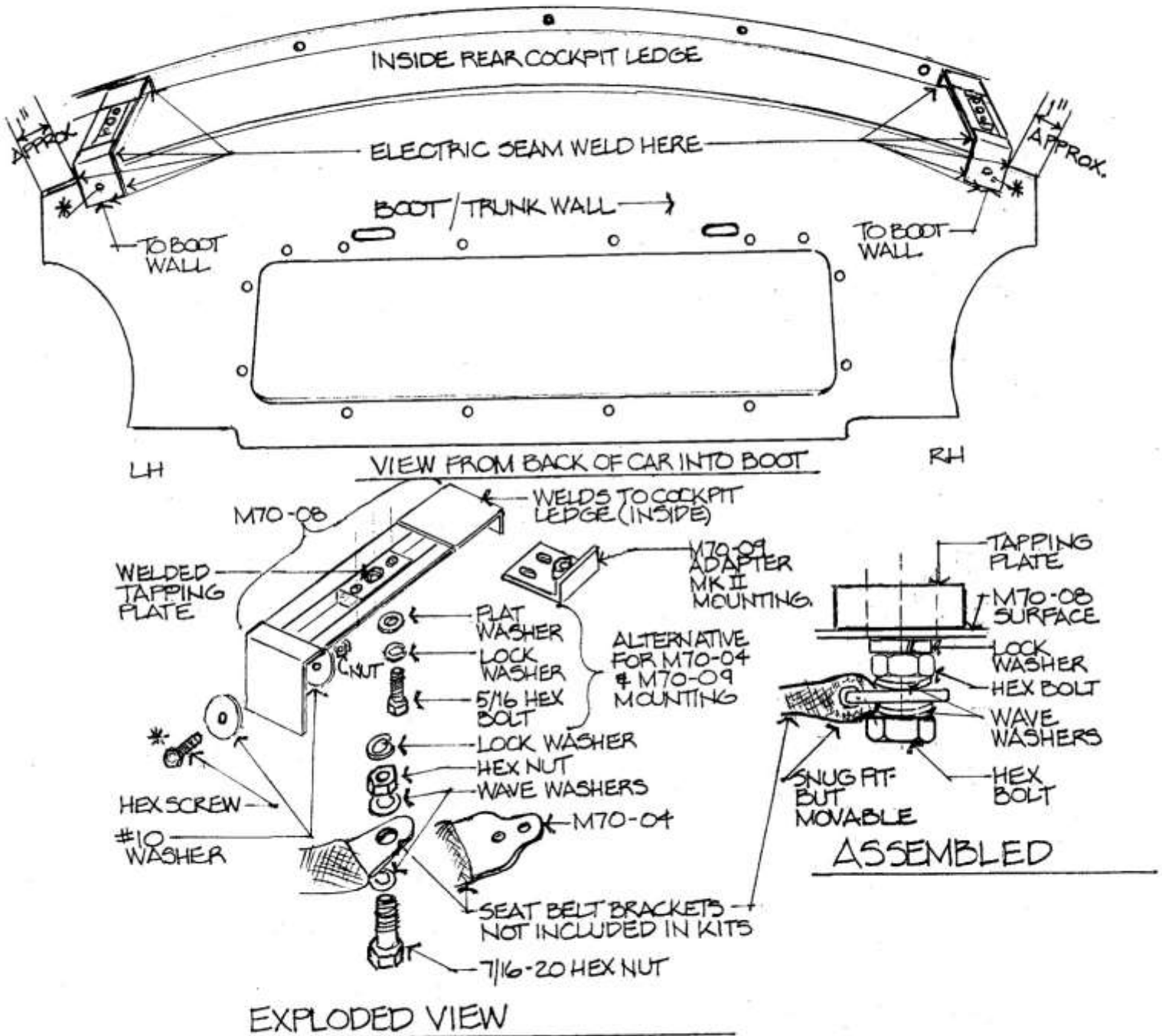
5) ITEMIZED LISTING - M70c Kit - MK II Roadster & Coupe' with factory fitted anchorage brackets.

Includes 2 - M70-01 - see M70a listing for details.

- 2 M70-09 ADAPTER BRACKET - (4 - 5/16" hex bolts, 4 - 5/16" locking washers, 4 - 5/16" flat washers, 2 - 7/16-20 hex bolts, 2 - 7/16" hex nuts, 2 - 7/16" locking washers, 2 - 7/16" flat washers, 4 - 7/16" wave/tension washers, 4 - 5/16" hex nuts).
- 2 M70-03 See M70b listing for details.

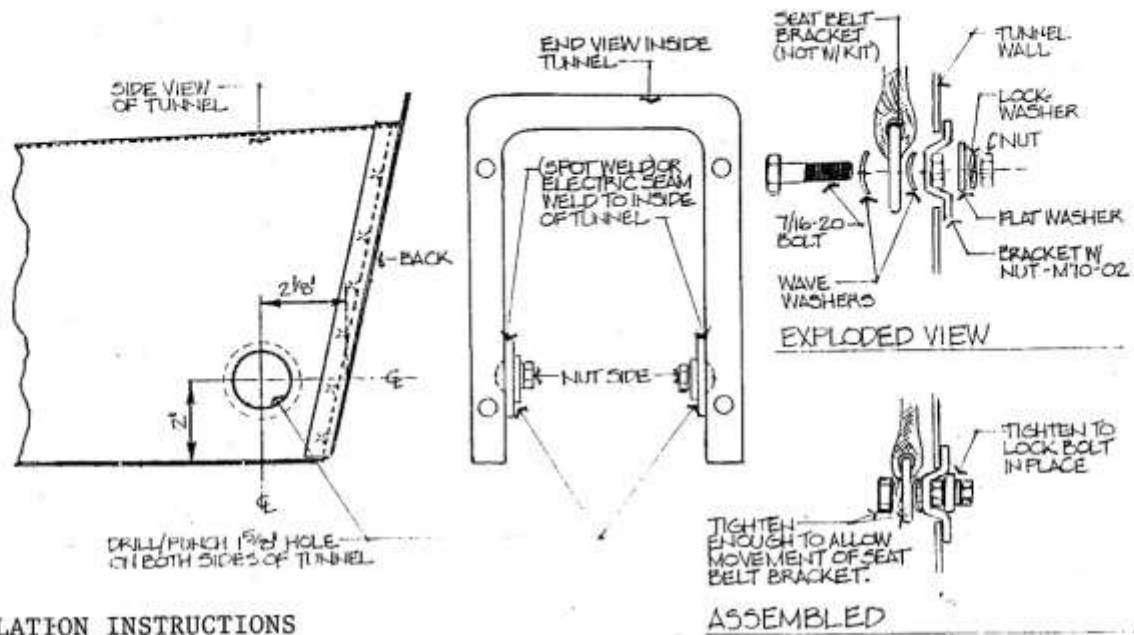
A - TONNEAU ANCHORAGE - Roadster Only

- 1) Locate and install brackets in position - see diagram. Electric-seam weld as per notations on diagram.
- 2) Prime and paint - avoid painting welded nut threads.
- 3) Install hardware as per diagram making sure bolt is not over tightened - seat belt bracket should fit snugly but be left loose enough so belt will swivel. Be sure bolt, lock washer, and nut are tight and locked in position.



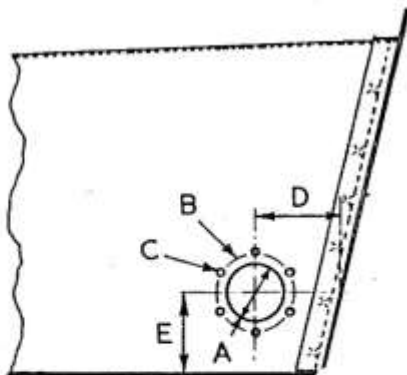
* BRACKET CAN ALSO BE ATTACHED AT THIS POINT W/ ENCLOSED #10 HEX HEAD SCREW, WASHERS AND NUTS. DRILL HOLE AFTER BRACKET IS POSITIONED W/ OTHER WELDS MADE.

B - TUNNEL ANCHORAGE - Roadster & Coupe

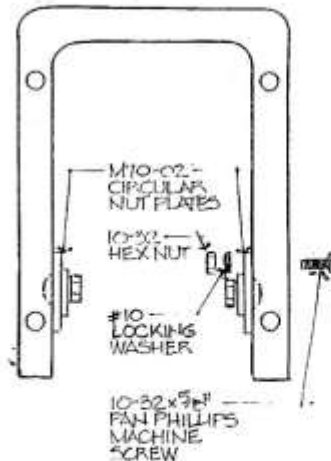


INSTALLATION INSTRUCTIONS

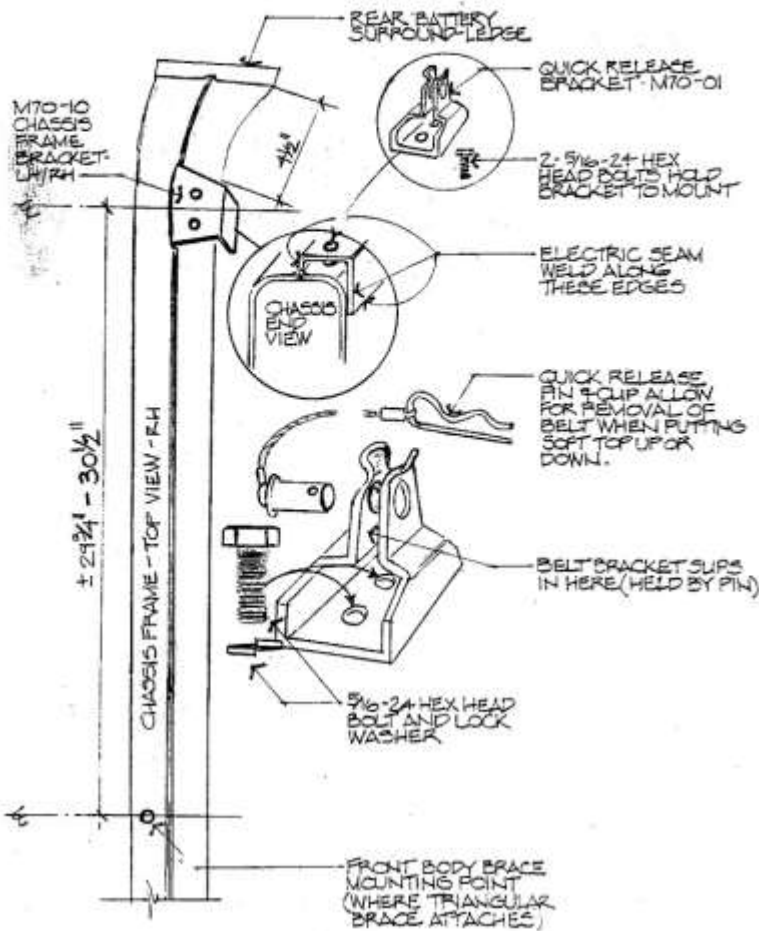
- 1) Remove carpet.
 - 2) Locate and drill/punch 1-1/2" holes as per diagram.
 - 3) Install circular bracket.
 By Weld: electric seam weld (or spot weld) in position.
 See diagram. Prime and paint - avoid painting threads.
 By Fasteners: use bracket as template and mark the six holes around perimeter on tunnel.
 Drill or punch holes to 13/64". See below diagram for proper positioning.
 Tighten - always use locking washers.
 - 4) Cut holes in carpet to coincide with positioned bracket. Install carpet.
 - 5) Install hardware as per diagram making sure bolt is not over tightened - seat belt bracket should fit snugly but be left loose enough so belt will swivel. Be sure bolt, locking washer, and nut are tight and locked in position.
- Note- The tunnel wall is prone to severe rusting and may have become 'thin' and weak over the years. It is recommended that a reinforcement plate be welded in position to insure the integrity of the mounting bracket. It is also recommended that alterations performed on the tunnel be done while it is off the car. A better perspective can be had of the extent of damage due to corrosion when the tunnel is 'in hand'.



A	1.625" (1 5/8")
B	2.125" (2 1/8")
C	.203" (13/64")
D	2.125" (2 1/8")
E	2.00" (2")



C - FRAME ANCHORAGE - Roadster & Coupe



INSTRUCTIONS

- 1) Remove carpeting from area of frame where bracket will be welded.
- 2) Locate and electric-seam weld bracket in position. See diagram.
- 3) Prime and paint being careful to avoid painting threaded area of welded nuts.
- 4) Position and bolt down 'quick' release bracket using the 5/16-24 Hex Hd. bolts and 5/16 locking washers - Tighten.
- 5) Remove clip and pin, place seat belt end in bracket - install pin to hold belt - install hitch clip to hold pin.
- 6) Clip-pin assembly will have to be removed when putting top up or down. Be sure clip-pin assembly is always installed properly - hitch clip is locked in position. (as per pre-assembled unit in this kit - examine before dismantling).

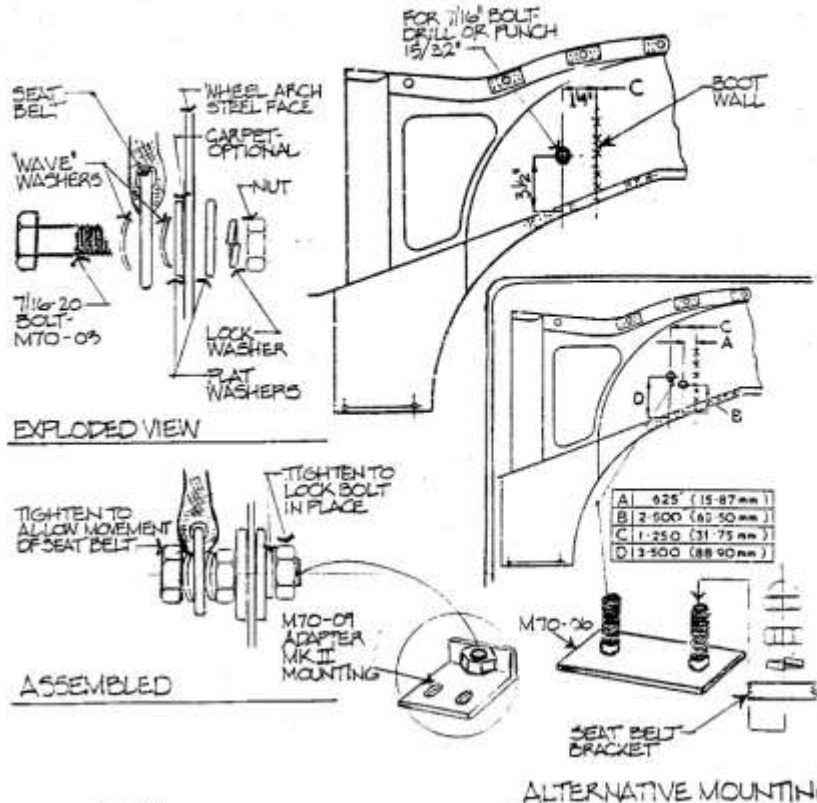
-Note- When installing carpeting always trim carpet to fit around bracket. Never place carpet between welded bracket and 'quick' release bracket.



INSTRUCTIONS

- 1) Remove carpeting from wheel arches.
- 2) Locate and drill/punch hole to accommodate 1/2" bolt. A 17/32" hole is ideal. See diagram.
- 3) Cut hole in carpet to match hole in arch - install carpet (carpet may be optional).
- 4) Install hardware as per diagram making sure bolt is not over tightened. Seat belt bracket should fit snugly but be left loose enough so belt will swivel. Be sure bolt, lock washer and nut are tight and locked in position.

D- WHEEL ARCH ANCHORAGE - Coupe' Only



TOOL INFORMATION SHEET

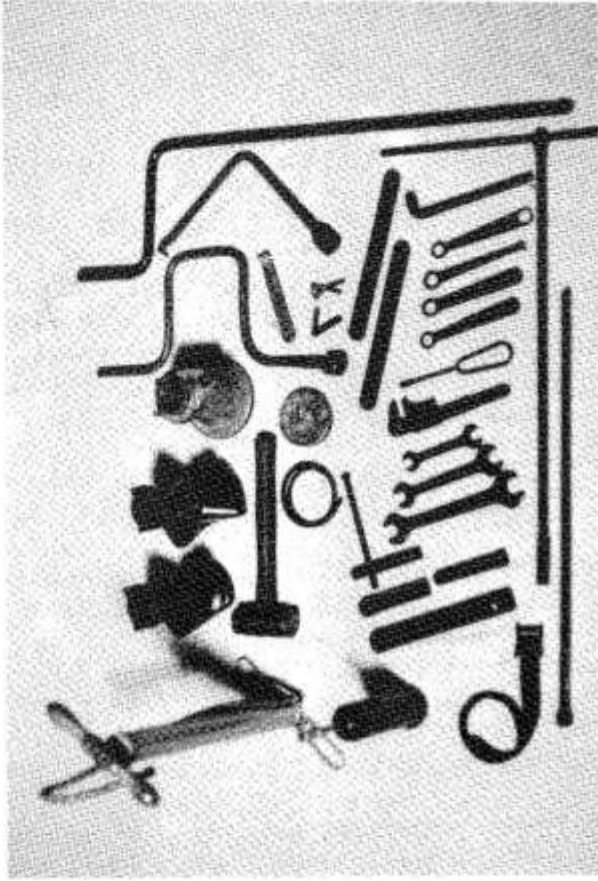
LONG LIVE KING DICK

BY Todd Clarke and Steven Clarke

Have you ever excavated through the crust of oil soaked rust scale in the corner of your boot and unearthed cheap looking tools reminiscent of those in the Handy Andy tool kit you owned as a child? Well, before you toss them over your shoulder into the path of your neighbor's oncoming lawnmower, please take a moment to see if the words "King Dick - Made in England" are inscribed upon them. If so, you have just discovered original MGA tool kit bits. Look harder, behind the rusty, dusty, frequently jammed boot lid latch assembly and you may find a tommy-bar. Now, take a mechanics magnet and probe along the edges of the boot, through the wads of candy wrappers and you might find even more. Yes, your MGA boot may be a King Dick tool mine!

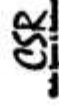
Unfortunately most MGA owners threw the original tools away when they bent or broke upon being used. Alternately, the tools were kept for household use when the car was sold or wrecked. Taking these factors into account, it is hard for the new wave of MGA owners to find KING DICK and friends.

Following is a list of the tools usually included in the MGA tool kit when bought new. I have attempted to be as complete and specific as possible in my descriptions. If you should find inconsistencies with your King Dicks, don't be concerned as the tools were altered from time to time and may have been excluded during certain production periods. Please write if you have specific questions or information to add. (detailed descriptions, illustrations and photos of other original tools supplied with British vehicles of this period are particularly welcome).



- ✓ AAA8447
- ✓ AAA4258
- ✓ ACG5247
- ✓ BXS0708
- ✓ BXS0010
- ✓ BXS1112
- ✓ JEN0708
- ✓ JEN0010
- ✓ JEN1112
- ✓ AJD0018
- ✓ ACA6216
- ✓ ACH6245
- ✓ ACH6805
- ✓ 07H2724
- ✓ 2H2640
- ✓ ACH5490
- ✓ ACA5218
- ✓ AJJ279
- ✓ AJJ281
- ✓ AMK0958
- ✓ 07H2724
- ✓ 1G7872
- ✓ BHA4007
- ✓ BHA4076
- ✓ AHH16090
- ✓ AHH6124
- ✓ ACA5217
- ✓ 88G829
- ✓ AHH5899

- ✓ Bag—tool
- ✓ Strap—tool bag
- ✓ Toll—tool
- ✓ Spanner—box— $\frac{1}{2}$ x $\frac{1}{2}$ (U.N.F.)
- ✓ Spanner—box— $\frac{3}{4}$ x $\frac{1}{2}$ (U.N.F.)
- ✓ Spanner—box— $\frac{1}{2}$ x $\frac{1}{2}$ (U.N.F.)
- ✓ Spanner— $\frac{1}{2}$ x $\frac{1}{2}$ (U.N.F.)
- ✓ Spanner— $\frac{3}{4}$ x $\frac{1}{2}$ (U.N.F.)
- ✓ Spanner— $\frac{1}{2}$ x $\frac{1}{2}$ (U.N.F.)
- ✓ Spanner—box—sparking plug
- ✓ Tommy bar
- ✓ Spanner—tappet adjusting (ring type)
- ✓ Spanner—cylinder head
- ✓ Gauge—tappet feeler (-015")
- ✓ Spanner—adjustable
- ✓ Screwdriver (recessed head screw)
- ✓ Screwdriver
- ✓ Pliers
- ✓ Lever—tyre (spoon)
- ✓ Spanner—tyre valve
- ✓ Screwdriver—distributor and gauge
- ✓ Key—rear axle drain plug
- ✓ Pump—tyre with connection
- ✓ Grease gun
- ✓ Handle—starting
- ✓ Jack—lifting
- ✓ Tommy bar—jack
- ✓ Brace—wheel
- ✓ Hammer—copper
- ✓ Spanner—hub cap



STORAGE GUIDE

A B C D E F G H
I

A. Grease Gun
B. Box Spanners/Tommy Bar
C. Tyre Levers
D. Key, rear axle Plug
E. Open End Spanners
F. Adjustable Spanner
G. Screw Drivers
H. Ring Spanner(s)
I. Tyre Valve Spanner & both Gauges

- An original TECALMIT grease gun -

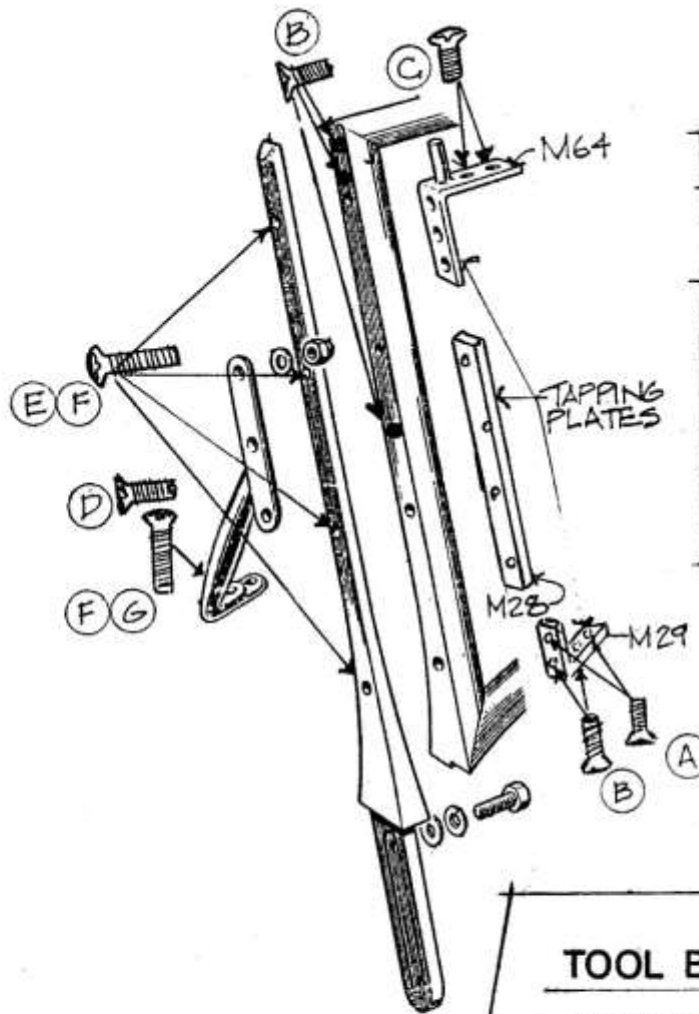
- exploded view -

TOOL DESCRIPTIONS

- 1) BAG - large for tools, constructed of a coated jute material. Held all tools except the wheel brace (disc wheels) which was most likely stored on the spare wheel between its cover and stuffed tool bag. * (Very late units made from plastic.)
- 2) STRAP - for large tool bag. Two of these were fixed through and around boot wall just above spare tire to hold bag in place. *
- 3) ROLL - for small tools, constructed of a coated jute material. 9 pockets. See illustration. * (Later units made from plastic).
- 4) BOX SPANNERS - four of these were supplied and are designed to be nested inside one another for tidy storage. Inscribed. KING DICK MADE IN ENGLAND. Plated black.
- 5) TOMMY BAR - for turning box spanners. Plated black.
- 6) OPEN END SPANNERS - three were supplied. Inscribed, KING DICK MADE IN ENGLAND. Plated black.
- 7) ADJUSTABLE SPANNER - inscribed KD. Plated black.
- 8) SPANNER - cylinder head, 12 pt. ring type. Three styles known. A. Unusual knobby handle, inscribed KING DICK MADE IN ENGLAND VADIUM. B. Rounded handle, inscribed CYLINDER HEAD. Plated black. C. See later of TAPPET.
- 9) SPANNER - tappet adjusting, 6 pt. ring type. Two styles known. EARLY, inscribed KING DICK MADE IN ENGLAND. Plated black. LATER, combination style including 12 pt. cylinder head ring spanner. Inscribed KING DICK. Plated black.
- 10) SCREWDRIVERS - recessed (phillips #2) & regular. Recessed which is not in photo was a standard style screwdriver with wooden handle. Regular, made from round stock as shown in photo. Inscribed KING DICK MADE IN ENGLAND. Plated black.
- 11) KEY - rear axle (and in some cases transmission) drain plug. Produced from bar stock, about 1½" long. Not in photo. *
- 12) TYRE PUMP - varnished wood handle with steel body which was painted a metallic blue colour. Colourful fabric covered hose with solid brass connections. Inscribed on bottom SUTTY MADE IN ENGLAND.
- 13) GREASE GUN - see photos for detail of an original TECALMIT produced unit. Various sizes of this style gun were supplied. Similar type shown in group photo. Originals featured a cast white metal body with brass and steel guts. Could be used for applying either grease or heavy oil.
- 14) PLIERS - not in photo. Similar to type found in VW Beetle tool kits. Plated black.
- 15) TYRE LEVERS - two were supplied. Inscribed DUNLOP MADE IN ENGLAND. Plated black.
- 16) TYRE VALVE SPANNER - produced from 1/8" brass round stock with one end machined to fit tyre valve. About 1½" long. Not in photo. *
- 17) TAPPET FEELER GAUGE - plated black steel handle with free moving feeler. Inscribed KING DICK on handle. .015 & .017 versions were available.
- 18) SCREWDRIVER & FEELER GAUGE - for adjusting distributor points. Steel, zinc plated. Inscribed LUCAS.
- 19) STARTING HANDLE - painted black with loose fitting plated sleeve.
- 20) JACKS - three styles known. "1500" style-screw type, rectangular base with three piece handle. Inscribed SHELLY. Painted black. "1600" style-screw type, hour glass base with three piece handle. Inscribed KING DICK. Painted black. "Late 1600/1600 Mk. II" style-ratchet screw type with one piece handle which also acts as lug remover. Inscribed SHELLY. Painted an orange colour.
- 21) WHEEL BRACE - for removing lugs and hub cap. Inscribed KING DICK. Painted black.
- 22) COPPER HAMMER - for removing spinners and other parts no longer wanted. Wood handle. #1 inscribed on head.
- 23) "HUB CAP" SPANNER - for removing hex style spinners which were required on MGAs sold in Germany and Switzerland. Not in photo, same as supplied with later British cars exported to North America.
- 24) HUB CAP LEVER - for solid wheel cars fitted with ratchet style jack.
- 25) BLEEDER TUBE WITH STORAGE TIN - round tin labeled (black on yellow) "The British Lockheed Hydraulic Braking System Bleeder Drain Tube, Warning - use only Genuine Lockheed Brake Fluid".

* Reproductions available from CLARKE SPARES

MGA WINDSCREEN ASSEMBLY

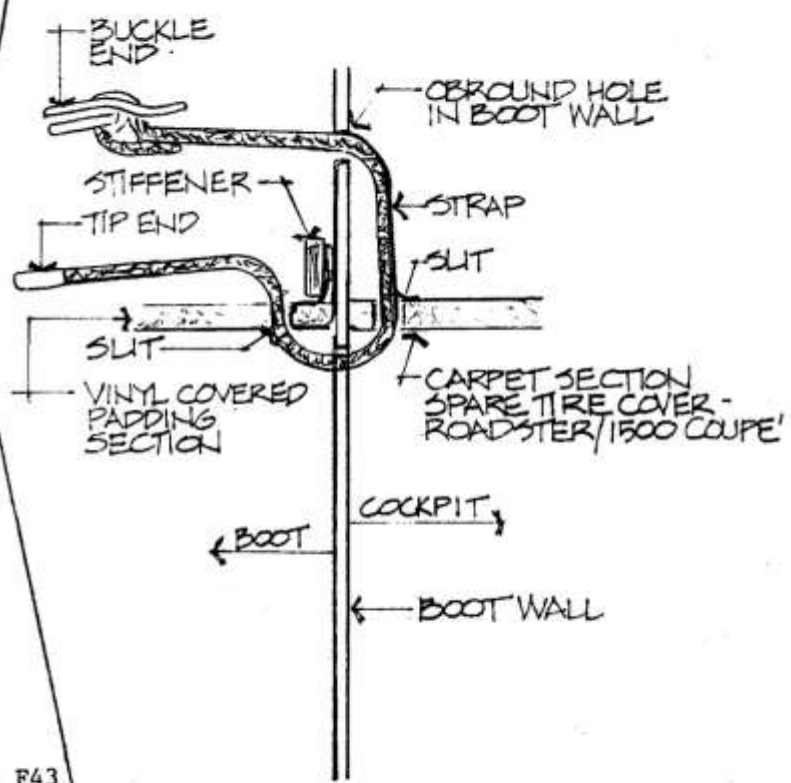


LOCATION DIAGRAM

(FOR TRIM SCREWS INCLUDED IN F12 FASTENER KIT - ALL 10-32 THREADS)

	LENGTH	HEAD STYLE	QTY.
A.	1/4"	FLAT	4
B.	5/16"	FLAT	10
C.	5/16"	FLAT	4
D.	7/16"	FLAT	6
E.	5/8"	OVAL	4
F.	3/4"	OVAL	6
G.	1"	OVAL	2

TOOL BAG STRAP LOCATION



TRIM SCREWS Roadster Interior (SEE C.S.R. CATALOGUE - FASTENER SECTION)

CONTENTS OF F80 SCREW KIT

- 34 #4 x 5/8" screws. Oval hd. F27a & F45
- 4 #4 x 3/8" screws. Oval hd. F27
- 20 #6 (with #4 hd.) x 5/8" screws
Oval hd. F20 & F37
- 4 #8 x 3/4" screws. Oval hd. F17
- 6 #8 x 5/8" screws. Oval hd. F28
- 34 #4 finishing washers. F27a & F45
- 20 #6 x 1/2" screws. Truss hd. F45
- 2 #10 flat washers. F44
- 2 #10 locking washers. F44
- 2 #10 hex nuts. F44
- 4 #10 (with #8 hd.) machine screws. F44 & F43

132 Total pcs.

VIEW FROM RIGHT SIDE



WIRING HARNESS ROUTING GUIDE - SEE DRAWINGS

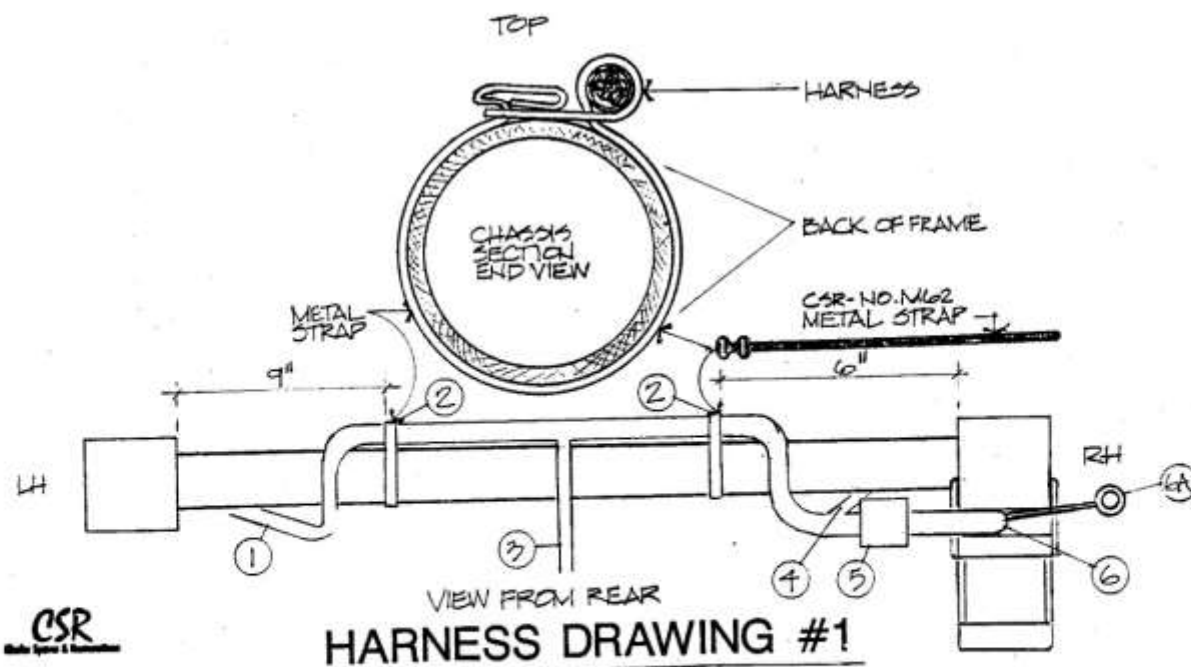
- REF. NO. 1 - Rear harness section to LH lamp connections. PVC tubing used on 1500 and 1600 as harness goes up inside fender. MkII harness goes towards boot floor. Grommets fitted in fenders/floor.
- REF. NO. 2 - Metal straps hold harness at two points - see diagram. (Metal straps also used to hold optional harness to front extension tubular section when a second "LH" horn is fitted).
- REF. NO. 3 - Harness to license lamp - through body (grommet fitted) up to lamp. Held at back of "T" bracket with metal loop clip - top fixing bolt. PVC tubing used to protect wiring.
- REF. NO. 4 - Rear harness section to RH lamp connections. See #1.
- REF. NO. 5 - Terminal connections - rear harness to side harness.
- REF. NO. 6 - Side harness routes through area above shackle.
- REF. NO. 6A - Ground point - to bumper extension bracket bolt - rearmost - under bolt head.
- REF. NO. 7 - Side harness held with metal loop clip to inside of bracket which is welded to chassis.
- REF. NO. 8 - Wire to fuel tank - sending unit. This wire is usually wrapped around fuel pipe at least twice before it is fixed to sending unit.
- REF. NO. 9 - See #7
- REF. NO. 10 - Wire to fuel pump. (Ground wire from pump body to rear wood fastening screw - upper RH - use locking washer and hex nut - not shown).
- REF. NO. 10A - Harness routes up through area above front of rear leaf spring attachment point - continuing up between rear - upright floorboard and tubular chassis section.
- REF. NO. 11 - Battery cable to RH battery - routes up through front of RH battery rack - is held to bottom of rearmost floorboard channel with metal loop clip - (floorboard screw with locking washer and hex nut).
- REF. NO. 12 - Harness, battery cable, fuel pipe and brake pipe to underside of chassis rails. See diagrams for details.
- REF. NO. 13 - Cables and pipes to engine bay - fuel pipe, harness and battery route up along RH toeboard rail - secured with large "U" clip (not shown) - "U" clip is welded to chassis - not toeboard rail. Brake pipe goes to brass junction. Battery cable goes to starter switch, harness goes to terminal connections of main harness and fuel pipe routes up to heater box shelf where it is fastened with two metal loop clips before it joins with rear flexible fuel line - from carb. Battery cable and harness route up - behind diagonal upright chassis member to connections. See factory parts manual for more info. on pipe routing.
- REF. NO. 14 - Terminal connections - side harness to main harness.
- REF. NO. 15 - Harness section to starter switch, coil and generator. (See P42 - this booklet).
- REF. NO. 16 - Harness held with metal loop clip to heater box shelf - far RH 5/16" hex bolt - shelf to chassis. (Clip sits on flat washer). See shelf diagram - this booklet.
- REF. NO. 17 - Harness held at two points to firewall with metal loop clips - See shelf diagram and P93 listing - this booklet.
- REF. NO. 18 - Harness section to control box/voltage reg. Drawing shows LHD. Lucas label is wrapped around this section of harness close to control box.
- REF. NO. 19 - Harness section to fuse box.
- REF. NO. 20 - Harness through firewall panel to instruments/switches/fascia harness see workshop manual for wiring harness diagram. (See P42 - this booklet).
- REF. NO. 20A - Harness sections for turnsignal relay (1500) and heater box fan motor also junction from this area.
- REF. NO. 21 - Harness section to windscreen wiper motor and high/low beam switch. Harness routes along firewall - through master cylinder mounting bracket and on to connections - LHD.
- REF. NO. 22 - Harness held at two points to fender bolts with metal loop clips. Longer fender bolts used at these points - locking washer and hex nut.
- REF. NO. 23 - Harness routes through metal panel - rubber grommet used here.

Harness guide cont.

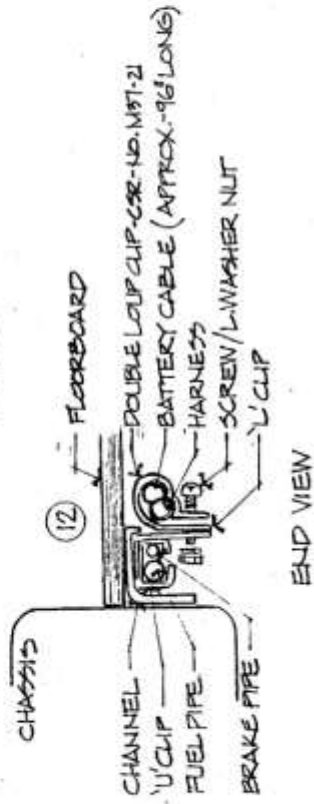
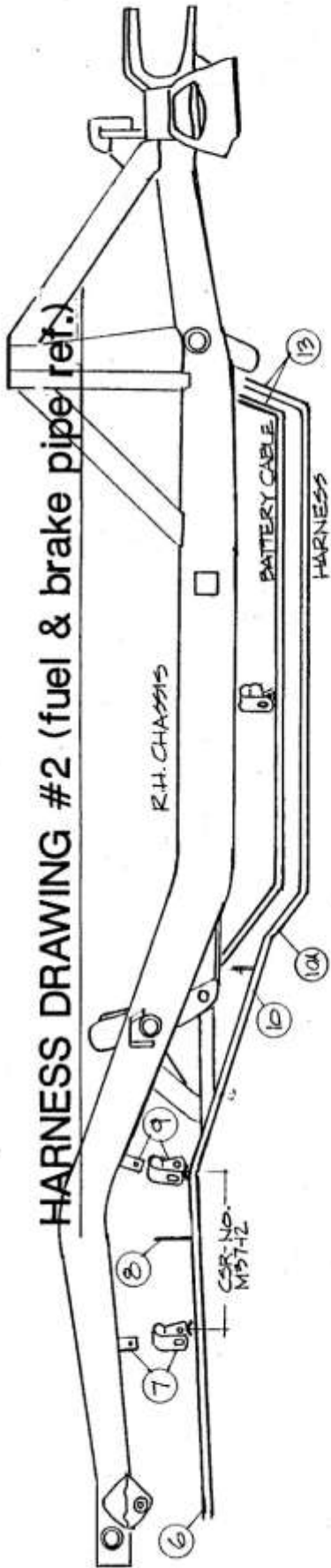
- REF. NO. 24 - Ground point - longer fender bolt used here - locking washer and hex nut.
REF. NO. 25 - Harness to front harness section. Original harness used separate front harness - reproduction harnesses may come connected. Horn harness through grommet to horn.
REF. NO. 26 - Leads from front lamps held to inside forward most fender bolt - both sides of vehicle. Lamp leads are covered with PVC tubing and route through metal clip and up around body through radiator "X" panel to connections - grommet used. Longer bolts used at these two points - Clip nests between locking washer/bolt head and obround washer.
REF. NO. 27 - Harness section held at three points with metal loop clips. Harness held to grill side of bonnet latch stiffener member. Screws enter holes from radiator side - locking washer and nut. See F93 - this booklet.
REF. NO. 28 - Harness section to terminal connections RH.
REF. NO. 29 - Harness sections to terminal connections LH.

Harness notes -

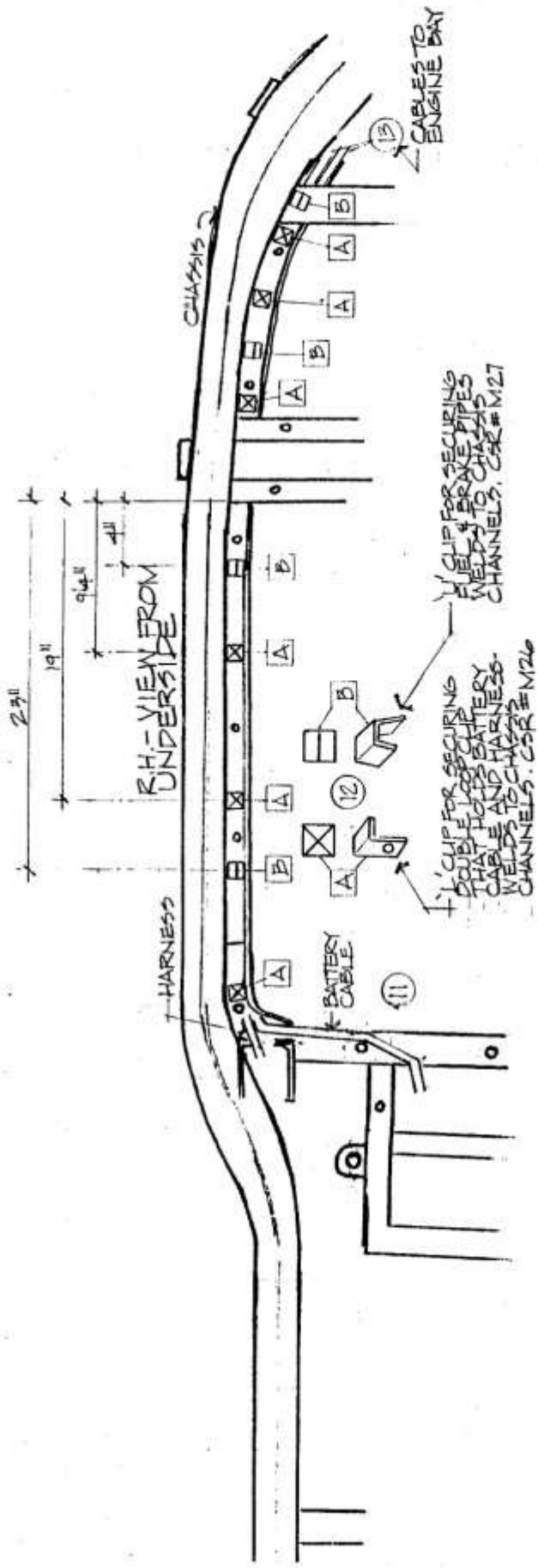
Early harness individual wires were cloth covered/lacquer-braided - starting sometime in 1958 individual wires were PVC covered. Completed harness were always cloth covered - black with brown and white "tracers". Fascia harness section cloth covering was black - no tracers. Battery cables were also cloth covered in black although later vehicle cables may have been left plain PVC. Reproduction harnesses are available with a cloth cover - usually this is done after the manufacturer wraps them in PVC tape. (Original harnesses were never wrapped in PVC tape). Although there were harnesses produced specifically for LHD and RHD, currently available harnesses for the most part are actually RHD patterns. They will fit LHD MGAs but you may not be able to get them to "fit" as "neatly" as you would like. Original harnesses can be rewrapped/cloth covered...there are companies that offer such services. We have found the reproduction harnesses to be very good once the minor changes are understood. If you are having problems it is most likely because of poor installation or faulty switches, etc. Some "problem" areas include the connection of the red leads to lamp switches (at fascia), heater switch and horn button connections and lead connections to back of fuel gauge. Check these areas very carefully! Make sure the screw studs sticking out the back of the fuel gauge are insulated from the gauge body...there are two brass nuts per stud - one nut secures the stud and insulator and the other secures the wire end. Ground points are extremely important - make sure these areas are paint and corrosion free.



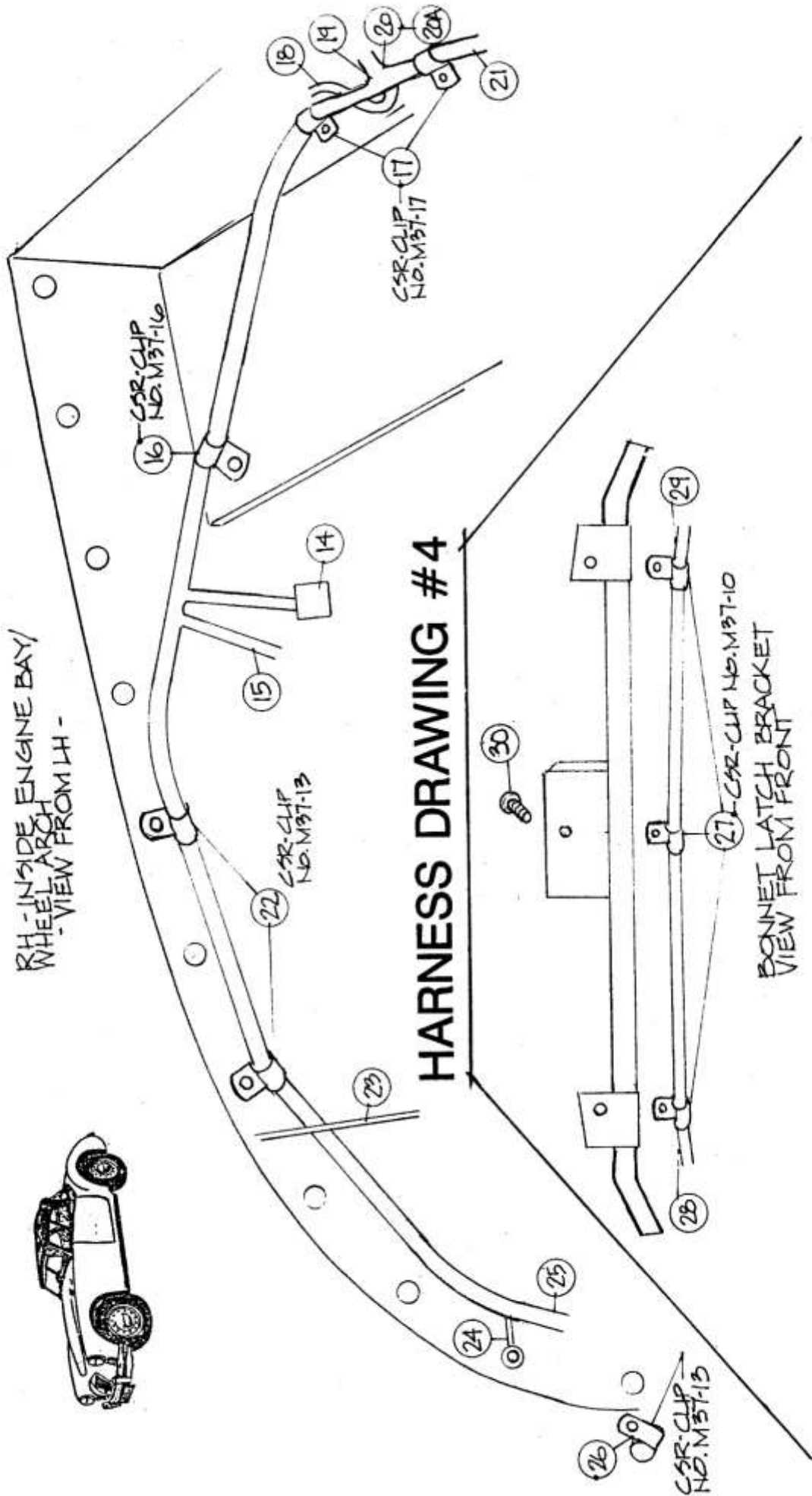
HARNESS DRAWING #2 (fuel & brake pipe ref.)



CSR

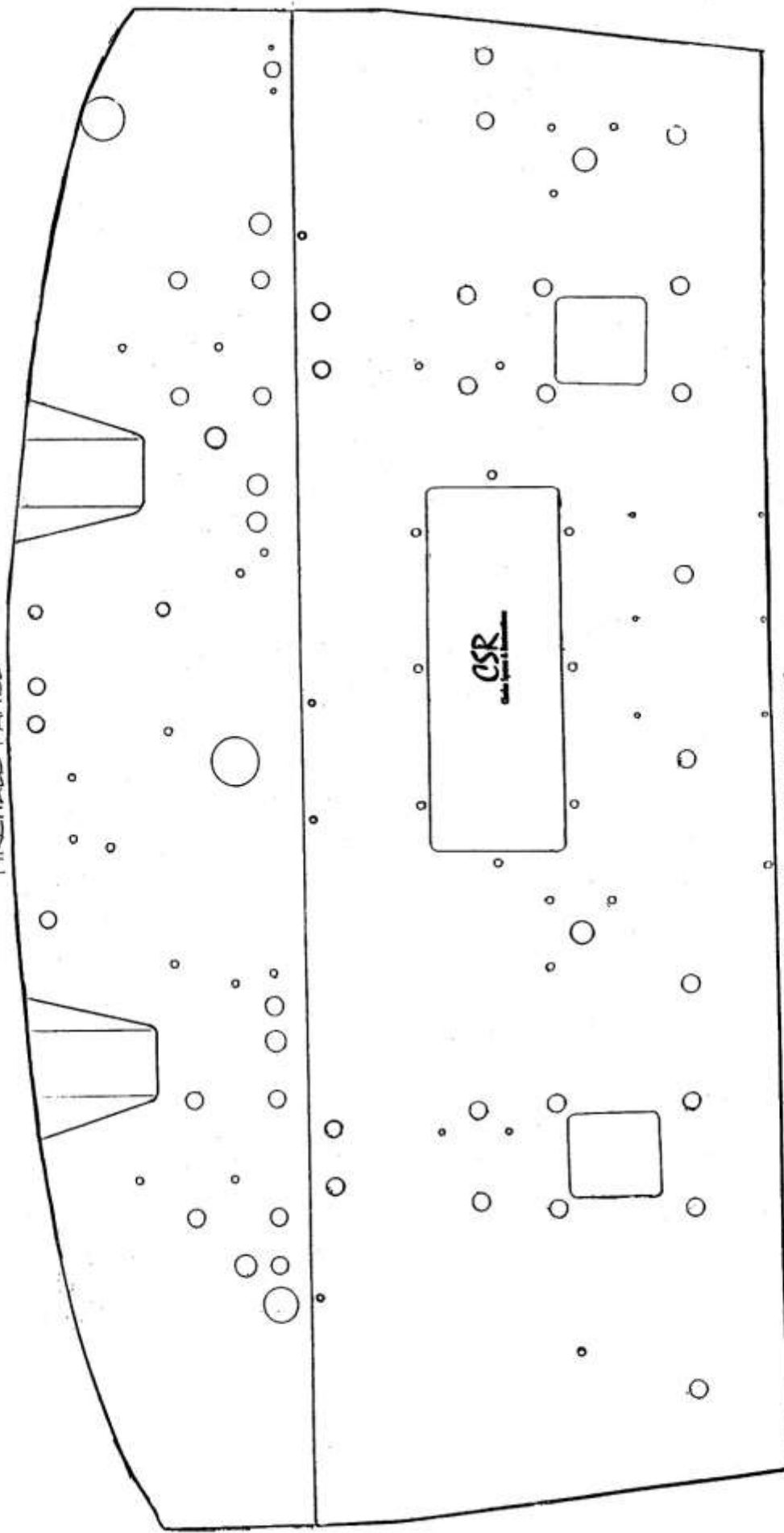


HARNESS DRAWING #3 (fuel & brake pipe ref.)



CSR

"FIREWALL PANEL"



BLANK - TEMPLATE
(FOR OWNER'S USE - FOR NOTATIONS
CONCERNING OWN VEHICLE)

4

MISCELLANEOUS INFORMATION

ENGINE PAINT - Dupont Centari (acrylic enamel) #7263 AM is a very close match to the original maroon engine colour. The inside of the engine was sometimes coated with a special-oil proof paint which allowed for better oil flow.

BODY COLOURS - New technology allows for exact matching of original paint colours assuming you have original paint on your car. Most of the large automotive paint companies no longer list the old BMC codes, however when I last checked, R&M still did. Information concerning body paints is readily available through MG clubs, etc.

COLOURS, OTHER THAN BODY - Colors of brackets, etc. have been noted in recently published MGA "history" books. In general most brackets that were to be bolted to the body, etc. were plated and/or painted a semi-gloss black. (In some cases some plated pieces were painted black or body colour.) There are variations in the way certain components were "finished" during certain production periods. Engine painting was apparently done in a fairly sloppy way as it is not unusual to find dark red over-spray on some of the engine sundries. I always found it advantageous to "detail" all pieces on the restorations I completed...in some cases the factory methods of finishing certain areas of the MGA remain vague.

I.D. PLATES - With the exception of the body number plate which is welded to the body, all I.D. plates on the MGA are either screwed or riveted in place. The valve cover plates are held with semi-tubular rivets. The I.D. and Patent plates are held with machine screws and nuts...some cars exported to certain parts of Europe had plates which were "pop" riveted in position. The heater box plates were held with "pop" rivets. The engine plate and windscreen "Auster" plate are held with drive rivets. Early MGA I.D. plates (Possibly as late as 1958 models) had the engine number stamped in the "Eng. No." space. "Later" car I.D. plates had the words "SEE ENGINE" either screened or stamped in the "Eng. No." space. CSR offers all of the fasteners required to hold these plates plus number stamping services.

MGA HERITAGE - The British Motor Industry Heritage Trust has been established to care for among other things the B.M.C. archives and the old MG production records. Your MGA can be traced to its "birth" by sending the chassis number to B.M.I.H.T. Heritage Motor Center, Banbury Road, Gaydon, Warwick CV35 OBJ. (Tel: country access code, (1926) 641 188. FAX: country access code, (1926) 641 555. C/O Archivist. You will receive a document detailing the production of your MGA. There is a fee for this service. Unfortunately, body numbers were never recorded during production so there is no easy way to determine your chassis number (if yours is "lost") by the body number. The chassis number was stamped on the chassis frame - see floor-board Sundries, this book - but as you know this area is prone to rusting and the rather light stamping may be impossible to find. There are acid based chemicals which can be used to help bring the number "up". Eventually, I believe body number sequences will be sorted out by those researching the Coventry and Abingdon records.

MORE BODY INFORMATION



LUCAS

FITTING INSTRUCTIONS FOR 'SPORTS' IGNITION COILS

Models PA6 (6 volt) & PA12 (12 volt) (Export Only)
Models SA6 (6 volt) & SA12 (12 volt) (Home Market)

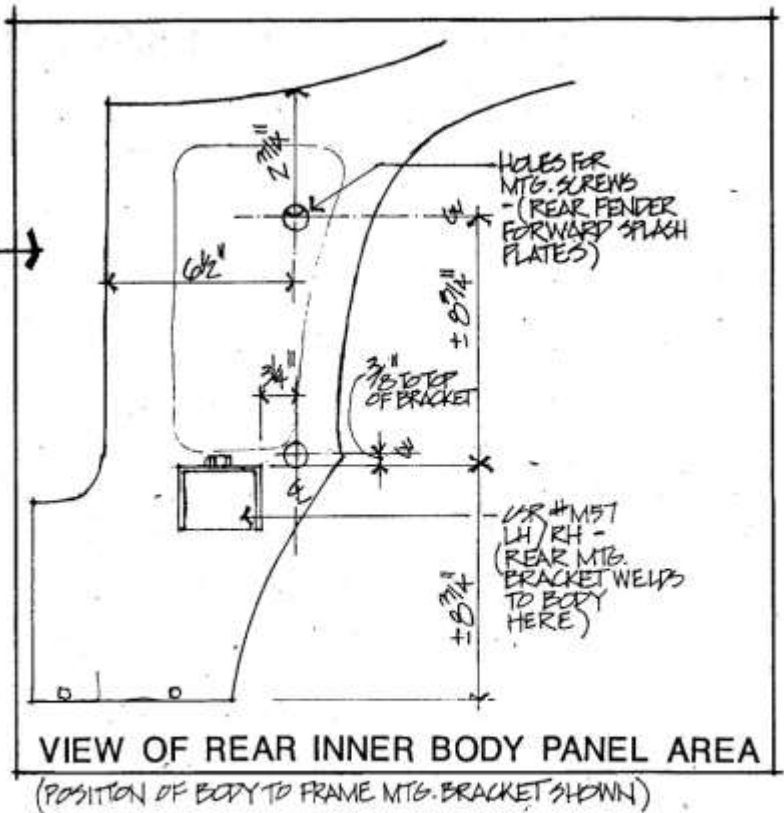
A sports ignition coil is capable of functioning at higher speeds than the standard coil and when the plug gaps are increased, gives easier starting and improved performance. To achieve these benefits it may be necessary to increase the plugs gaps to a maximum of 0.040" (1 mm.). The use of wider gaps imposes a greater strain on the ignition equipment because of the higher voltage required to bridge the gap between the plug electrodes. As a result the H.T. cables must be dry and in a sound condition.

If the existing cables show signs of deterioration, replacement cables should be fitted. Use suitable lengths of approved ignition cable for the high tension circuit between coil and distributor, and 14/010 insulated cable for the low tension circuit. To conform with the Lucas colour scheme, use a white cable between the ignition switch and coil terminal and a white-with-black cable between the distributor and coil terminal.

Disconnect the existing coil and remove it from the vehicle. Fit the replacement and connect up.

Connecting Up

- Vehicles having the battery terminal Positive (+) connected to Earth (Frame).
 - Connect the terminal in the moulded neck of the coil to the central high tension terminal on the distributor cover, using approved H.T. cable.
 - Connect the terminal marked 'SW' (or '-') on the coil to the ignition switch.
 - Connect the terminal marked 'CB' (or '+') on the coil to the distributor L.T. terminal.
- Vehicles having the battery terminal Negative (-) connected to Earth (Frame).
 - Connect the terminal in the moulded neck of the coil to the central high tension terminal on the distributor cover, using approved H.T. cable.
 - Connect the terminal marked 'SW' (or '-') on the coil to the distributor L.T. terminal.
 - Connect the terminal marked 'CB' (or '+') on the coil to the ignition switch.



USEFUL INSTRUCTIONS

Lucas Fitting instructions

WARNING:

This dynamo must be polarized to suit the vehicle's electrical system.

- Fit dynamo to vehicle.
- Connect jumper lead from the 'T' terminal as shown in diagram.
- Hold against battery insulated terminal for a few seconds.

CHECK AS FOLLOWS:-

- Cable connections (system in control box)
- Regulator open circuit setting.

ATTENTION

Cette dynamo doit être polarisée pour être conforme au système électrique du véhicule.

- Monter la dynamo sur le véhicule.
- Brancher une extrémité d'un fil volant sur la borne 'T' et l'autre comme montré sur le dessin.
- Faire contact sur la borne isolée de la batterie pendant quelques secondes.

CONTROLLER DE LA FAÇON SUIVANTE:-

- Connexion du câble (entre dynamo et régulateur)
- Réglage à vide du régulateur.

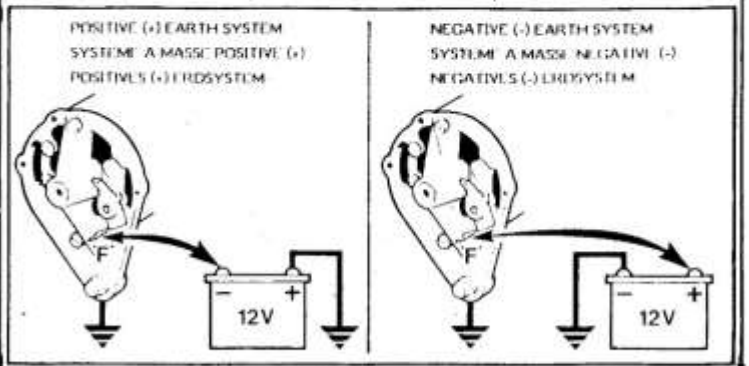
BEACHT

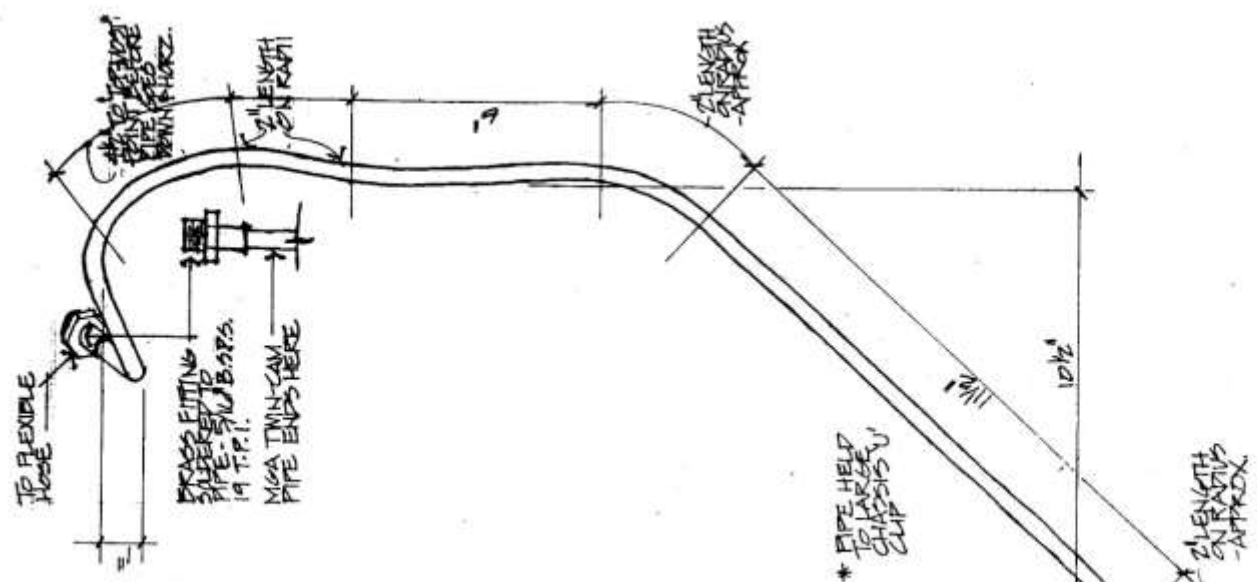
Diese Lichtmaschine muss entsprechend den verschiedenen elektrischen Systemen polarisiert werden.

- Montieren Sie die Lichtmaschine am Motor.
- Verbinden Sie mittels eines 14/010-Kabels das 'T' Terminal wie im untenstehenden Diagramm.
- Verbinden Sie dieses mit dem Batterie-Terminal für ein paar Sekunden.

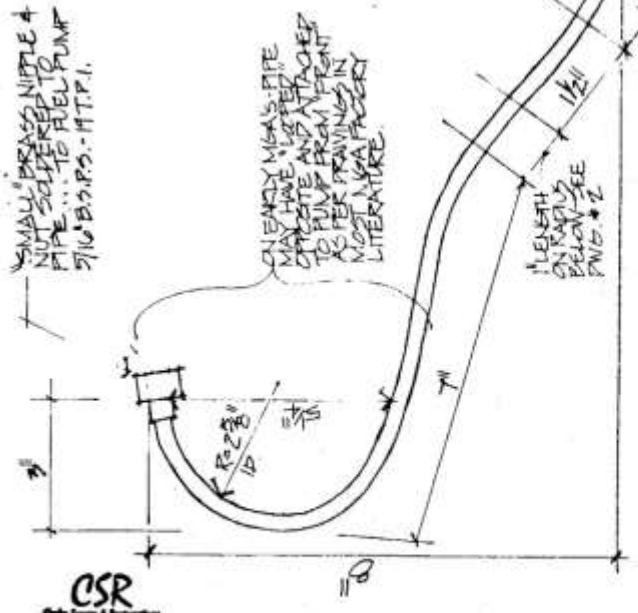
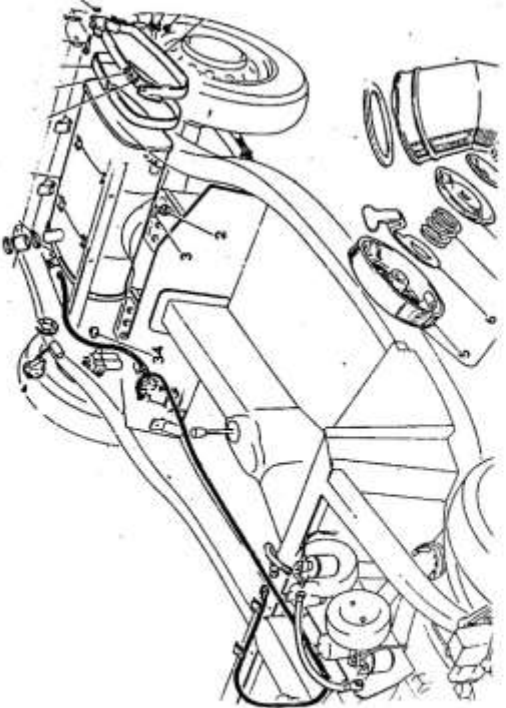
ÜBERPRÜFEN SIE DANACH FOLGENDE S:-

- Kabelverbindungen
- Regulatoreinstellung bei offenen Stromkreis





VIEW FROM SIDE (PNC.#1)
 MGA FUEL PIPE - PUMP TO FLEXIBLE HOSE THIS PARTING
 MATERIAL: BRASS FITTING, BRASS NUT, MILD
 STEEL PIPE (UNFINISHED), 3/16" O.D. - CSR#111
 B.M.C. PARTS
 BRASS FITTING - #414 5/16" LENGTH 104
 TWINCAM - #414 5/16" LENGTH 104
 (CSR PART NO. # M12-316L STAINLESS STEEL)
 ALL DIMENSIONS ARE 7-1/8"

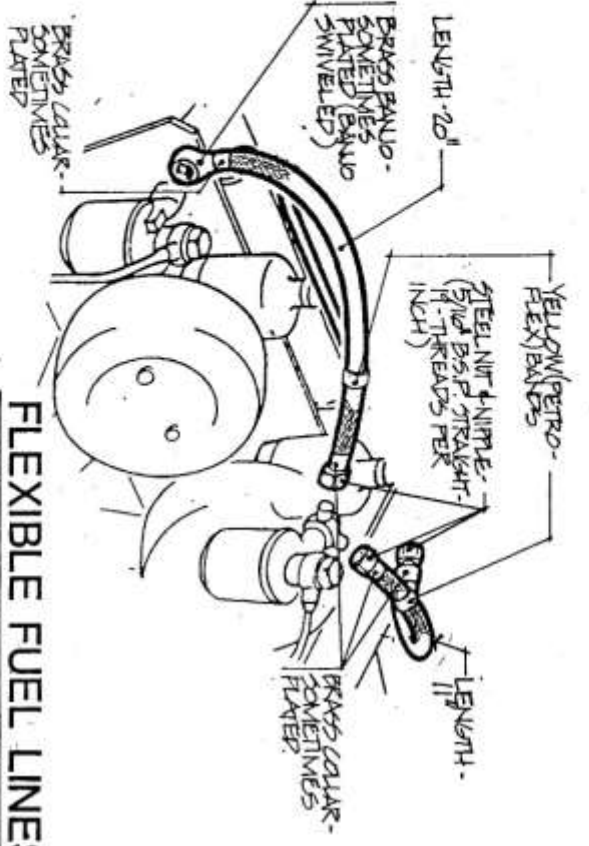


SMALL BRASS NUT & NUT SOLDERED TO PIPE... TO FUEL PUMP 5/16" B.S.P.S. - H.T.P.I.
 CHEMICAL MGA'S PIPE MAY HAVE TO BE ATTACHED TO PUMP FROM FRONT AS PER DRAWINGS IN MOST MGA FACTORY LITERATURE

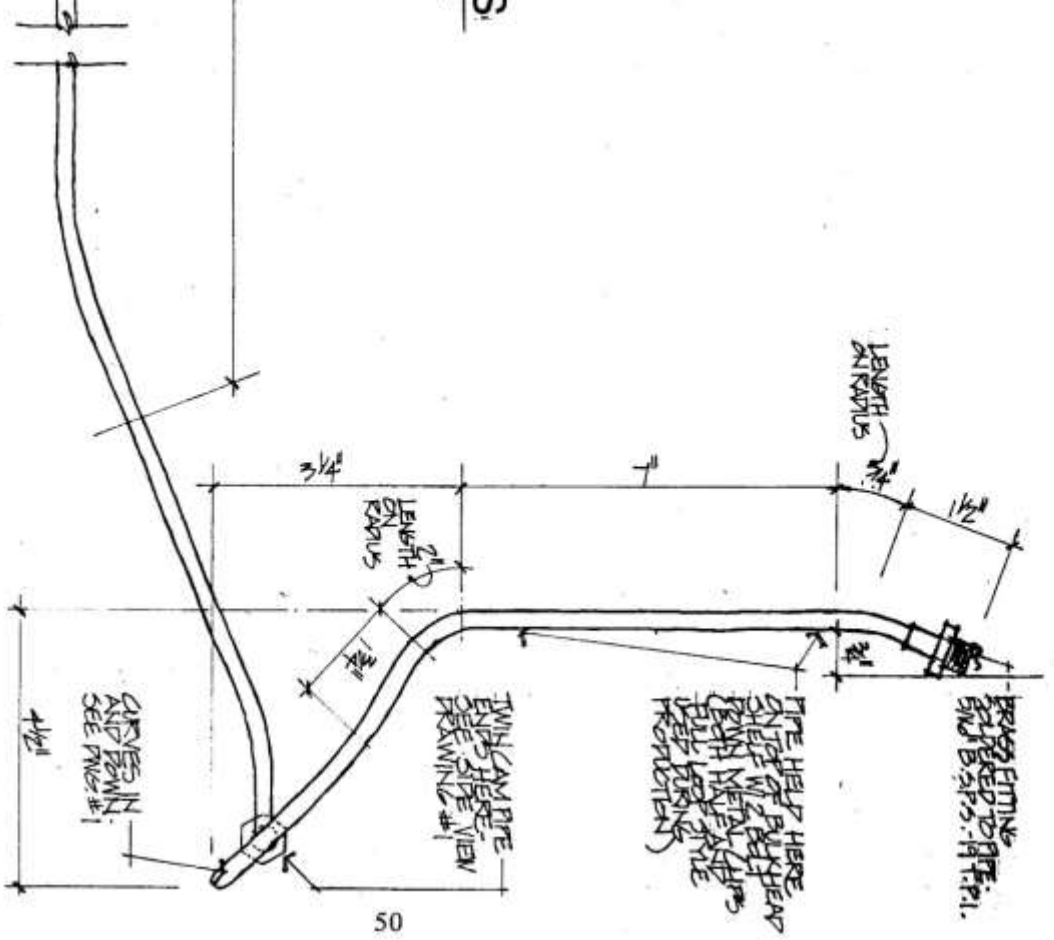
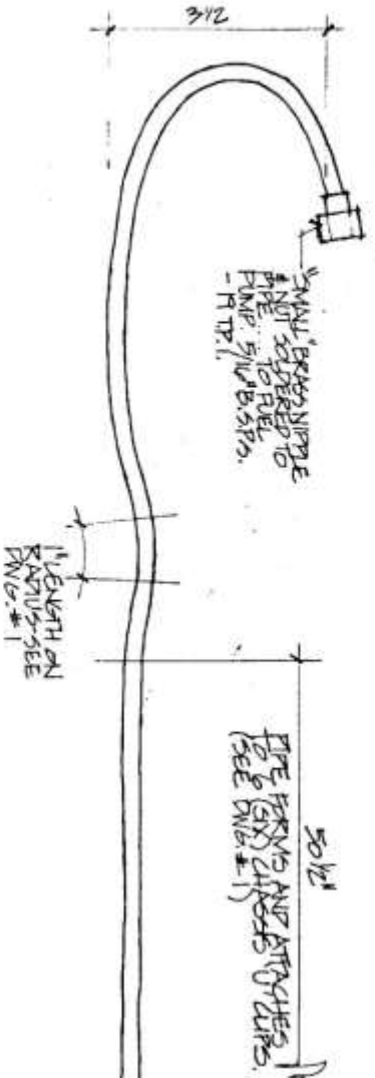
50 1/2"
 PIPE FORMS AND ATTACHED TO 6 (SIX) CHASSIS CLIPS

FRONT FUEL PIPE

CSR



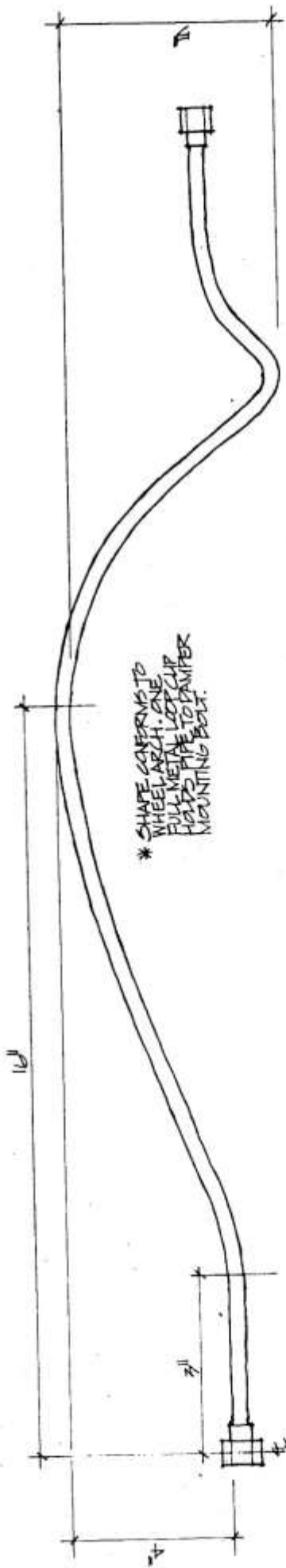
FLEXIBLE FUEL LINES.
RUBBER HOSE REINFORCED W/ METAL MESH - APPROX. 1/2\"/>



VIEW FROM TOP
W/ A FUEL PIPE - PUMP TO FLEXIBLE HOSE - SEE DRAWING #1 FOR ADDITIONAL INFO. ALL DIMENSIONS ARE +/- .05\"/>

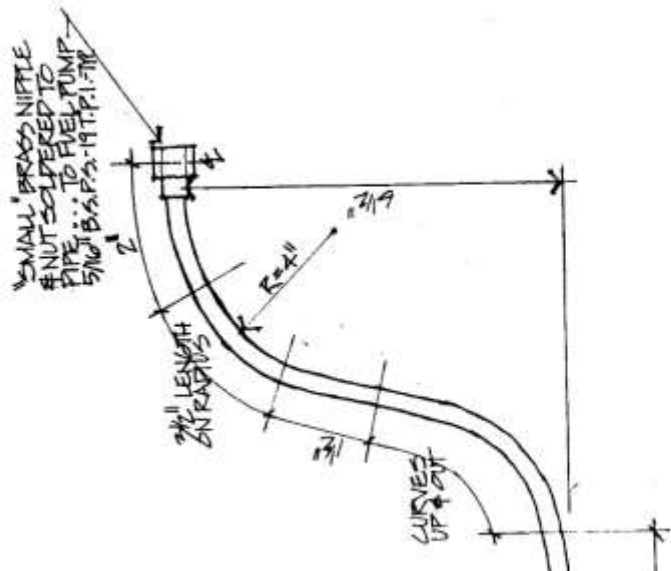
FRONT FUEL PIPE



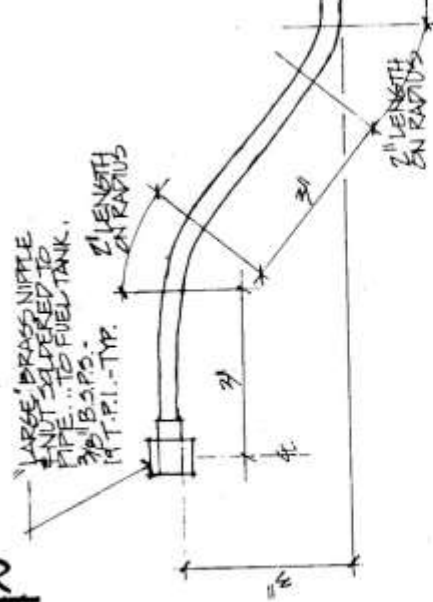


VIEW FROM SIDE (DWG.#4)

REAR FUEL PIPE - TANK TO PUMP
 MATERIAL - ORIGINAL CARBON STEEL - MILD -
 WELDED TYPE (BUNDY TUBING. 2 1/2" OD - 0.5" WALL
 BNC. PART NO. PUSHED & TWIN CAN. #1411 5220 LENGTH 34 1/2"
 (COR PART NO. #151 - STAINLESS STEEL)
 ALL DIMENSIONS ARE +/- .05"



VIEW FROM TOP (DWG.#5)
 7/16 OR 1/4"



REAR FUEL PIPE





