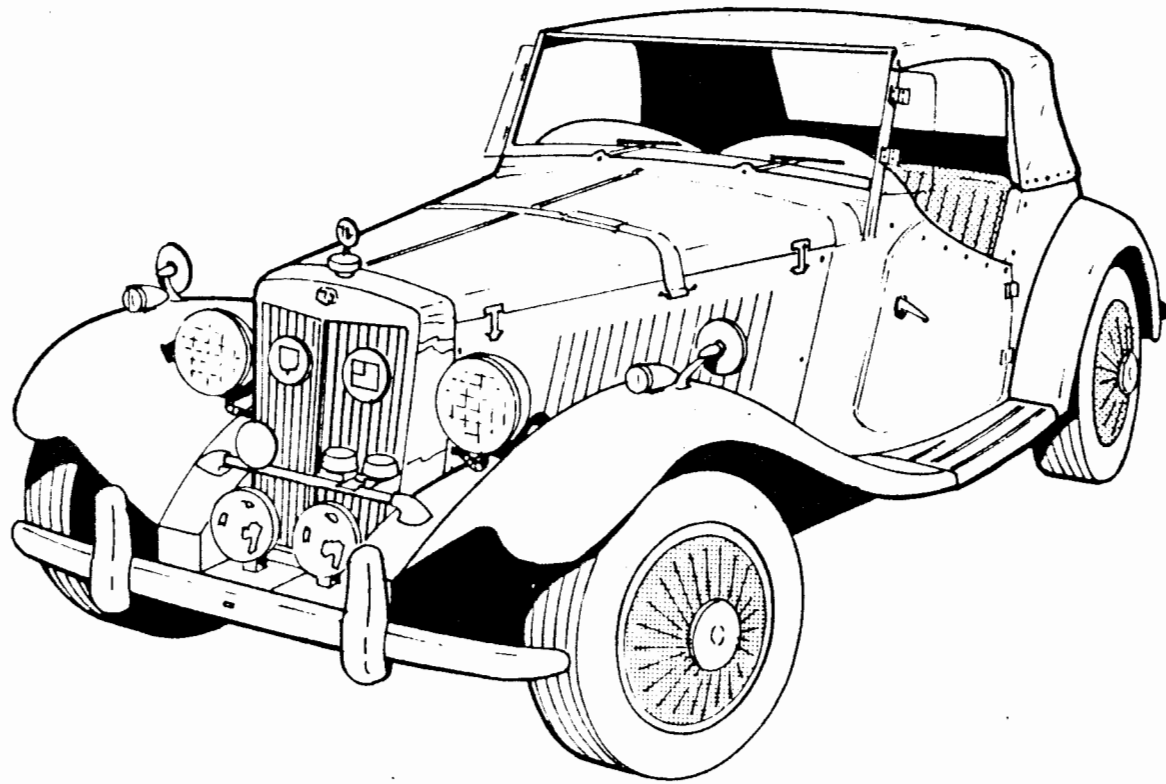


CLASSIC ™



FORD ASSEMBLY MANUAL

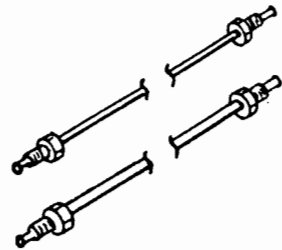
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PARTS TO BE PURCHASED

IMPORTANT: Order these items early due to possible delays with your local dealer.

Brake Lines 3/16" x 15' steel - available in 12, 20, 30, 40, 60" lengths
Gas Feed Line 5/16" x 10' steel - available in 12, 20, 30, 40, 60" lengths
Gas Return Line 1/4" x 10' steel - available in 12, 20, 30, 40, 60" lengths
Gas Vapor Line 1/4" x 10' steel - available in 12, 20, 30, 40, 60" lengths



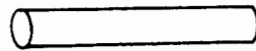
2' of 5/16" gas line
2' of 1/4" gas line



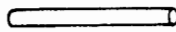
Weatherhead double female flair fittings to connect above lines



2 x 12" neoprene gas hose



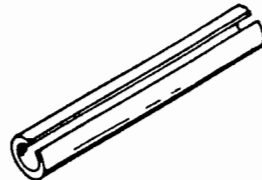
3/4" shaft approximately 3' long



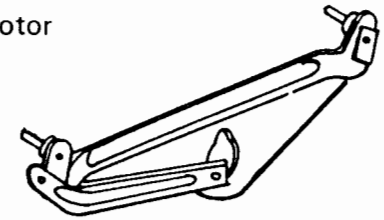
3/4" self-aligning pillow block bearing (Fafnir RAK 3/4. SYH-12x or equivalent)



2cs. 3/8" roll pins (spring tension pins) for steering shaft extension

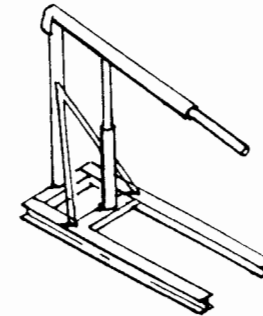


Volkswagon windshield wiper motor
15 3/4" between spindles

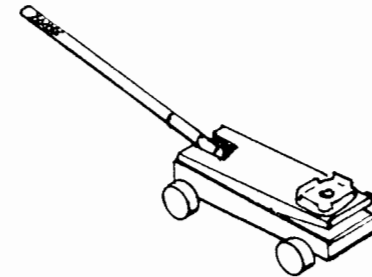


TOOLS TO BE RENTED

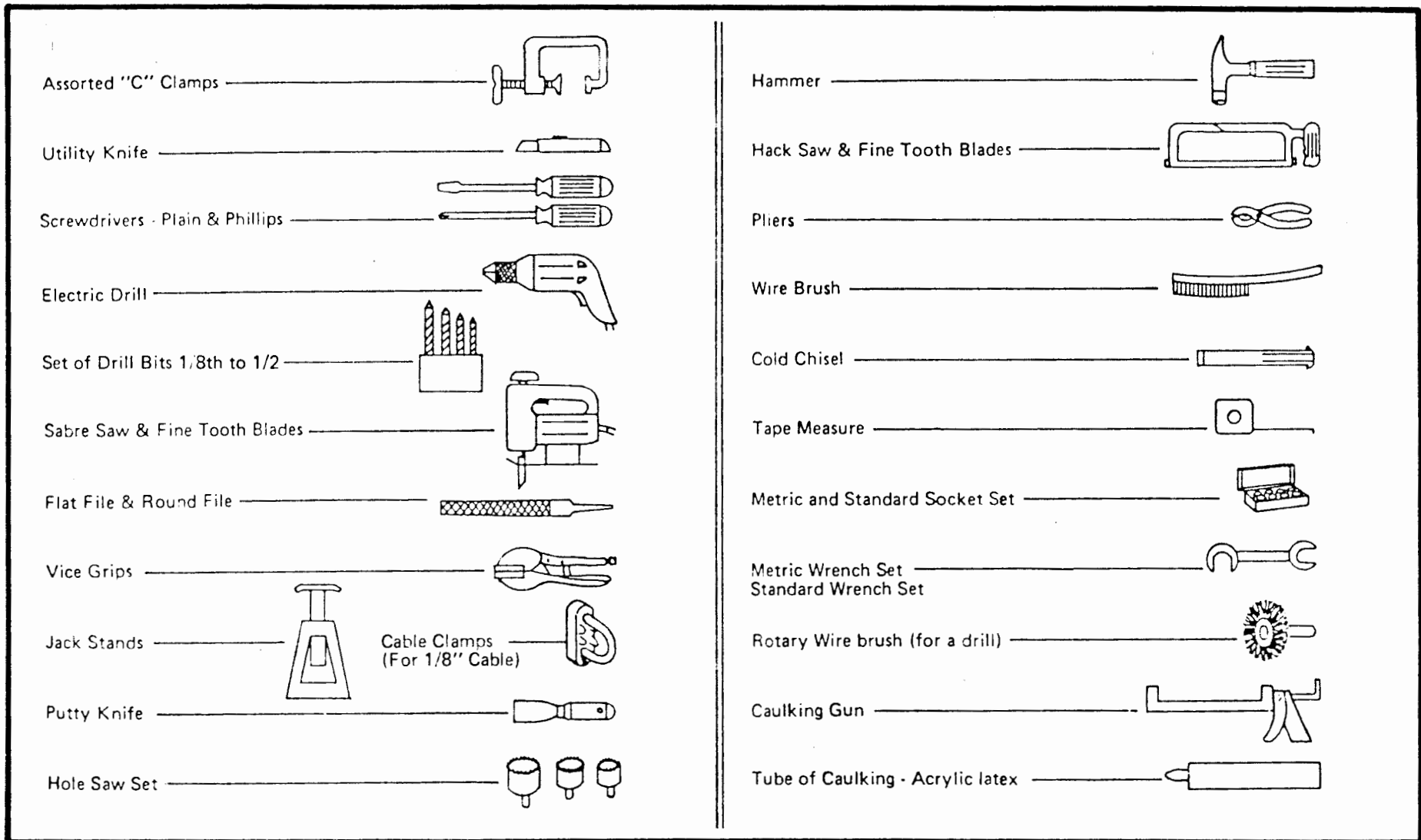
Hydraulic engine hoist



Floor jack



Snap installation tool (for convertible top)



MISCELLANEOUS ITEMS

2 Spray cans of flat black paint

1 qt of Rust retardant paint

China marker (Grease Pencil)

1 gal. of Polyester fiberglass resin and hardener (Methyl Ethyl Ketone)

Sandpaper - 60, 80, 220, 400, 600 grit

4 sq. yards of 1 1/2 oz. fiberglass mat or 30 ft. of 6" wide fiberglass tape

Can of penetrating oil

1 qt. of Acetone or any safe resin solvent for brush cleaning

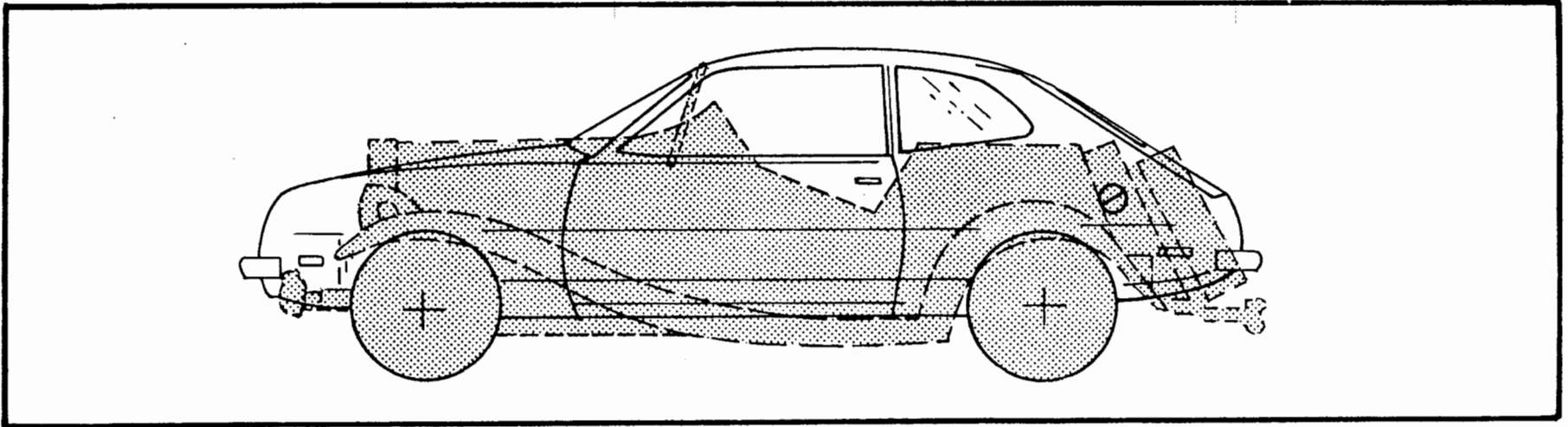
Rags

Large tube of contact cement

2 ea. 2" brushes (throw away type)

Mineral Spirits

30" of 3/8 inside diameter neoprent gas line



CLASSIC TD SUPERIMPOSED OVER PINTO

CONSIDERATIONS WHEN BUYING A FORD

TYPES

The TD can be built using any 1974-80 Ford Pinto, Bobcat or Mustang II. However, it is advisable to build the car on as late a model as possible.

Power brakes and power steering cannot be used because of space limitations. The decreased weight of the finished TD make power steering and brakes unnecessary.

The Ford heating system cannot be adapted to the TD. An auxiliary heater must be used due to space considerations.

WHERE TO FIND A PINTO

Local Newspaper Classified Advertisements, Neighborhood Flyers/Newspapers, Bulletin Boards in Gas Stations, Supermarkets, Apartment Complexes, Schools, Colleges and Places of Work
Car Dealerships, new and used
Repair Garages, Automobile Salvage yards

BUY A COMPLETE CHASSIS

We strongly recommend you buy a complete Ford and strip it yourself rather than buy the parts separately. While your initial outlay may be more, your overall cost will be lower and you will have the convenience of having all the parts you need readily available.

BEFORE BUYING A PINTO

Before you begin, purchase a Pinto repair manual. This will help you identify the parts which you will want to check. Remember that cars with damaged bodies and interiors can be used to assemble your TD. As a matter of fact, a damaged car is ideal if the main components are not damaged.

Inspect the front end for damage. There should be no bent or kinked parts. Damaged shocks should be replaced.

Check steering and brakes. Look for excessive play in the steering. Check for leaky wheel cylinders or master cylinder. These are easily replaced after removal from the body.

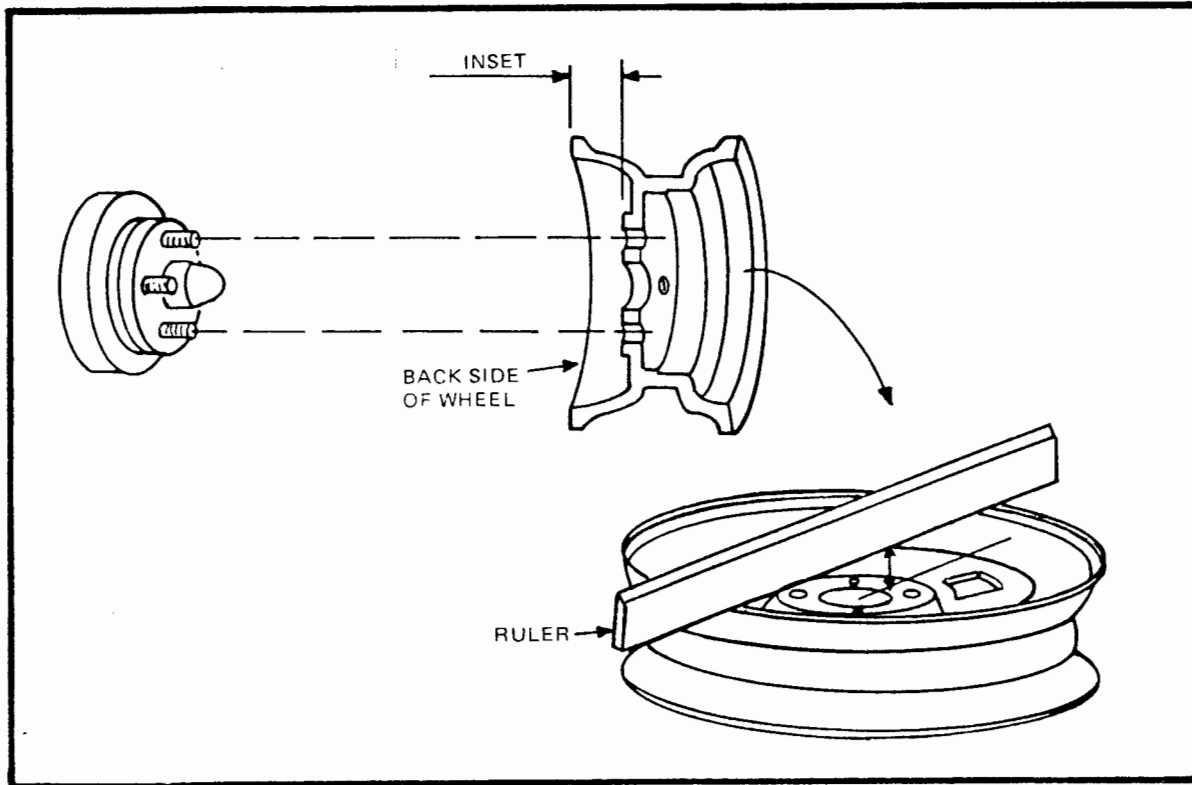


Figure 1

- ☑ Check the transmission. It should shift smoothly and quietly.
- ☑ Check the engine. High mileage cars should not be disregarded as the Pinto engine has proven itself as a workhorse capable of years of reliable service. Use your Pinto manual to check the engine for possible trouble spots. (Check oil pressure, compression, etc.)

A Pinto that has been rolled over would be ideal as long as no engine or drive train components have been damaged.

WHEELS AND TIRES

Due to the configuration of the TD frame the stock 13" wheels and tires from the Pinto do not give adequate road clearance and give the car a disproportionate look.

The car was designed to operate with 14 x 6" wheels and C78-14 tires. *185-75-R14*

Because of the fit of the TD fenders and body, 14" wheels with a 3 1/2" inset are required on the front and rear. Inset is measured as per Figure 1.

Before you begin, we suggest that you read the manual carefully to get an overall picture of the construction steps. You will have to organize your parts, tools, assembly materials, and work space for the task. This manual gives a step-by-step procedure similar to that used to assemble new TD's at our factory.

WORKING SPACE

You need a working space approximately the size of a two-car garage. The assembled chassis measures 156 inches by 68 inches wide. The fiberglass body occupies approximately the same space. During initial construction you will need room for both the chassis and the body until both are finished. Then, when the fiberglass body is mated to the chassis, only half the original space is required.

Be sure to allow sufficient space for walking, storage of parts and access to the car.

UNPACKING

Your Replicar assembly is shipped in one or more crates and numerous cardboard cartons. The total number of items in the shipment is indicated on the shipping documents. Since you may have ordered options, the number of items in your shipment may differ from other customers. Be sure to sign the bill of lading.

UNPACKING (Con't)

Carefully check each container for evidence of damage to container or contents. If you find damage, immediately call the shipper's local office and follow shipper's instructions for submitting a claim.

HARDWARE AND FASTENERS

When disassembling your Pinto be sure to save all hardware. Most of this hardware will be reused when assembling the TD. Take special care to keep nuts, bolts, and washers in their proper order.

WARNING

Structural bolts and nuts should only be replaced with equivalent parts. Replacement parts must be of equal or better strength as indicated by standard bolt and nut markings (radial lines on bolt head, raised dots on nuts).

Ordinary fasteners are not supplied, since they can be obtained from hardware or automotive supply houses. For your convenience an optional nut and bolt package is available.

WELDING AND CUTTING

All structural parts can be bolted in place. However, a minimal amount of welding is

recommended. The parts you choose to weld are dependent only on your preferences. Welding usually gives greater strength and it prevents the possibility of bolts working loose.

Parts that may be welded include the bumper brackets, drive shaft, steering shaft, running boards and exhaust.

These parts can be welded with a small arc welder or taken to machine shop for welding. The work can usually be done in about an hour. Most cities have mobile welders who will come to your garage or shop and do the welding. Unless you are an experienced welder we recommend you contract out these items.

For convenience you can bolt the parts in place initially, then later weld them permanently all at the same time.

The front and rear springs must be cut and a torch is usually the fastest way. These can both be taken to a machine shop to be cut.

PINTO DISASSEMBLY

BEFORE STARTING

NOTE: This assembly manual deals with all phases of construction of your TD. Some

of the operations covered deal with optional items. Consult your brochure for details on standard components.

- Read the manual all the way through before starting work.
- Have all the tools you need before you start.
- Be sure your work space is large enough.
- Have masking tape ready to label parts, attaching hardware, wires, fuel lines, clips, etc. It would also be a good idea to have a variety of small containers to hold small loose items such as nuts, bolts, and washers.
- Save all parts and hardware that you remove. If you try to buy all the pieces separately they will cost a lot more.
- Make sketches or take Polaroid photos of any assemblies that seem complicated. This can help you later when you are assembling the TD.
- Be aware of safety, particularly when jacking and hoisting. Never get under car unless firmly supported on jack stands.

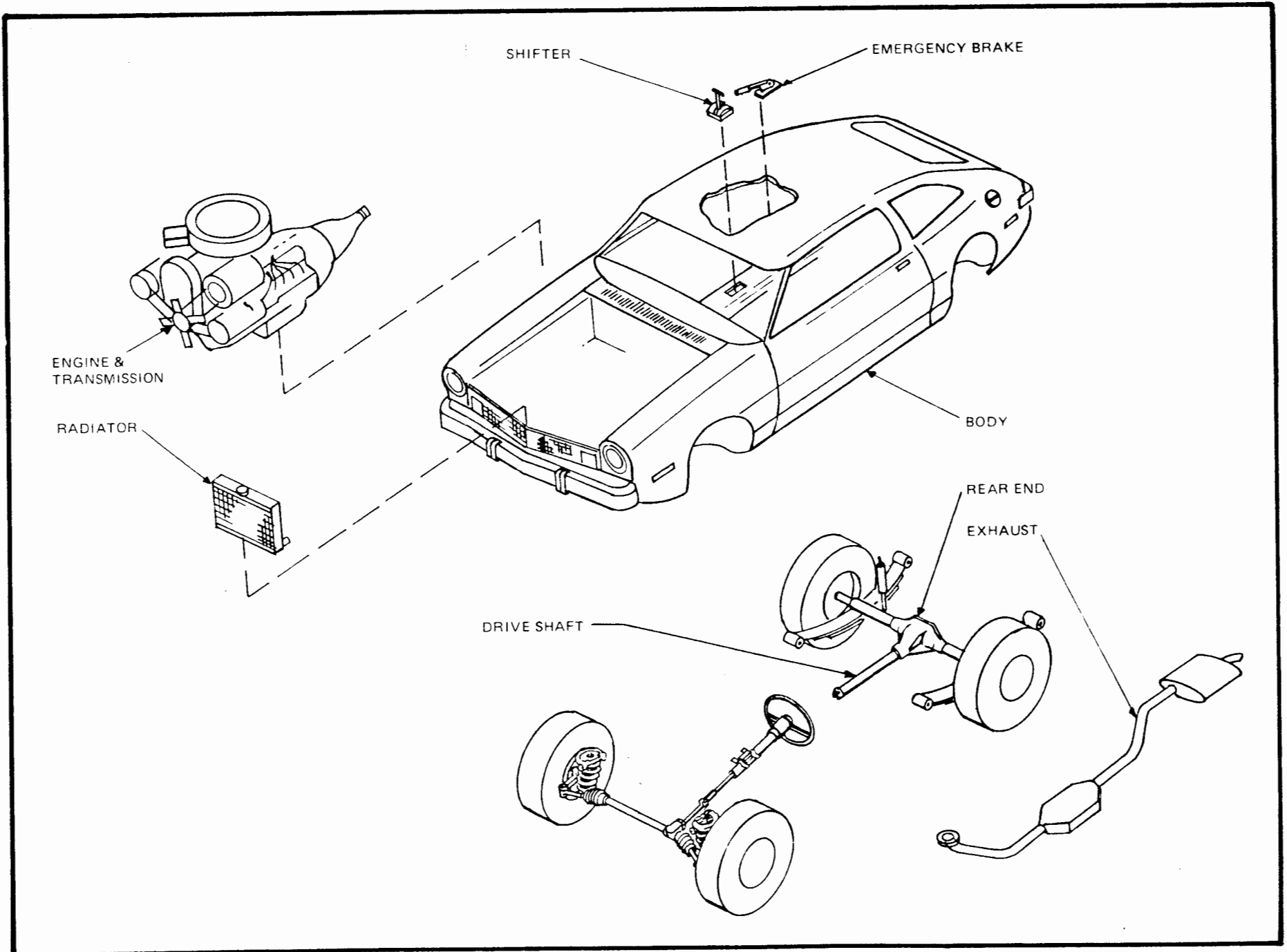


Figure 2

REMOVAL OF REAR AXLE (Figure 3)

- Place a floor jack under the rear axle of the Ford and jack up the rear end high enough to fit two jackstands under the frame just forward of the rear wheel housing on each side of the frame.
- The fuel tank should be left in place, as it is not used on the TD and represents a potential fire hazard.
- Disconnect the drive shaft by removing the two U-bolts connecting the shaft to the differential. Tape the bearings in place, and carefully lower the drive shaft.
- Pull on the drive shaft until the front splined end is free of the transmission.

Plug the drive shaft opening in the end of the transmission to prevent loss of fluid when removing the engine. A plastic or styrofoam cup can be taped in place to plug the opening.

Using a cold chisel, remove the two brackets holding the upper end of the flexible brake line. Also remove the emergency brake cable from the chassis by prying off the retainers securing the housings.

NOTE: Leave the brackets attached to the brake line. If available, an air chisel will speed up this step.

WARNING: Place a jack under the rear axle to take up the slack when removing the shock absorbers. If you don't, the

axle may spring loose when the nuts are removed.

- Unbolt the two shock absorbers from the frame, leaving the brackets attached to the frame.
- Remove the rear spring brackets from the frame and let the rear springs hang down. Leave the brackets attached to the springs.
- Remove the long bolts holding the front end of the rear springs and detach the springs. Save the rubber bushings, bolts, and nuts.
- The rear axle assembly is now free to remove. Roll it out as a complete assembly and set aside until ready to mount on the TD frame.

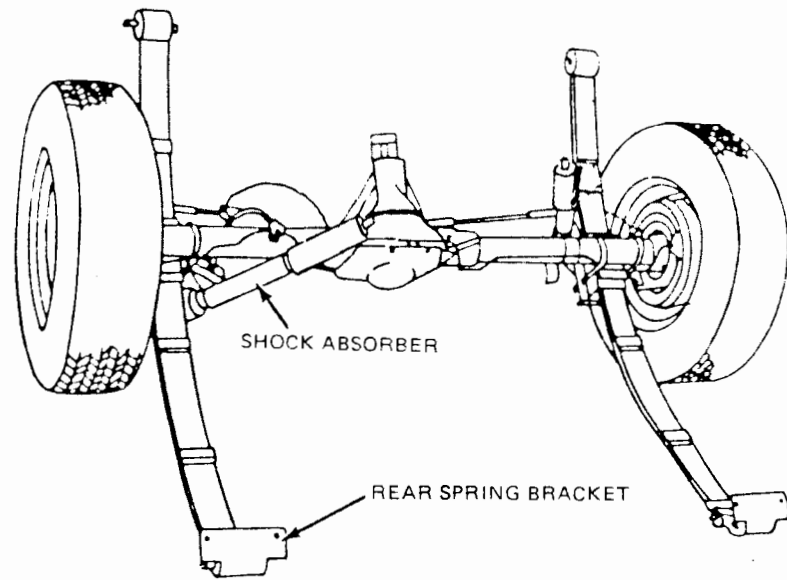
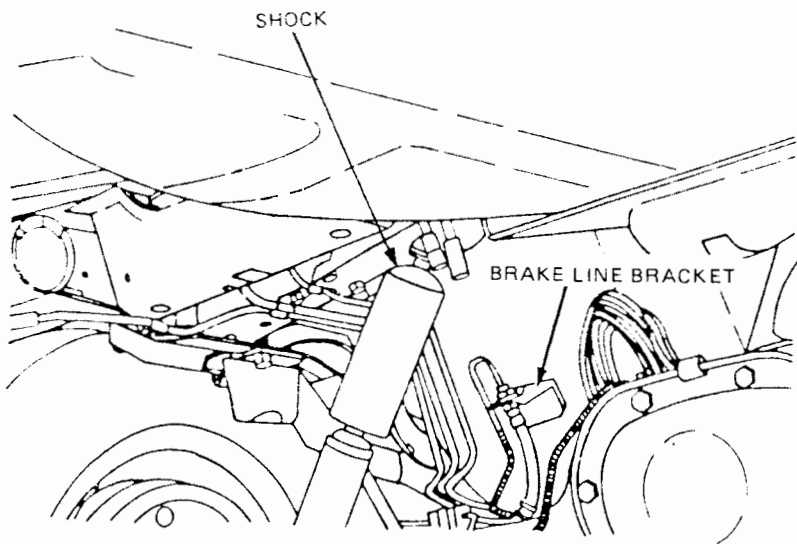
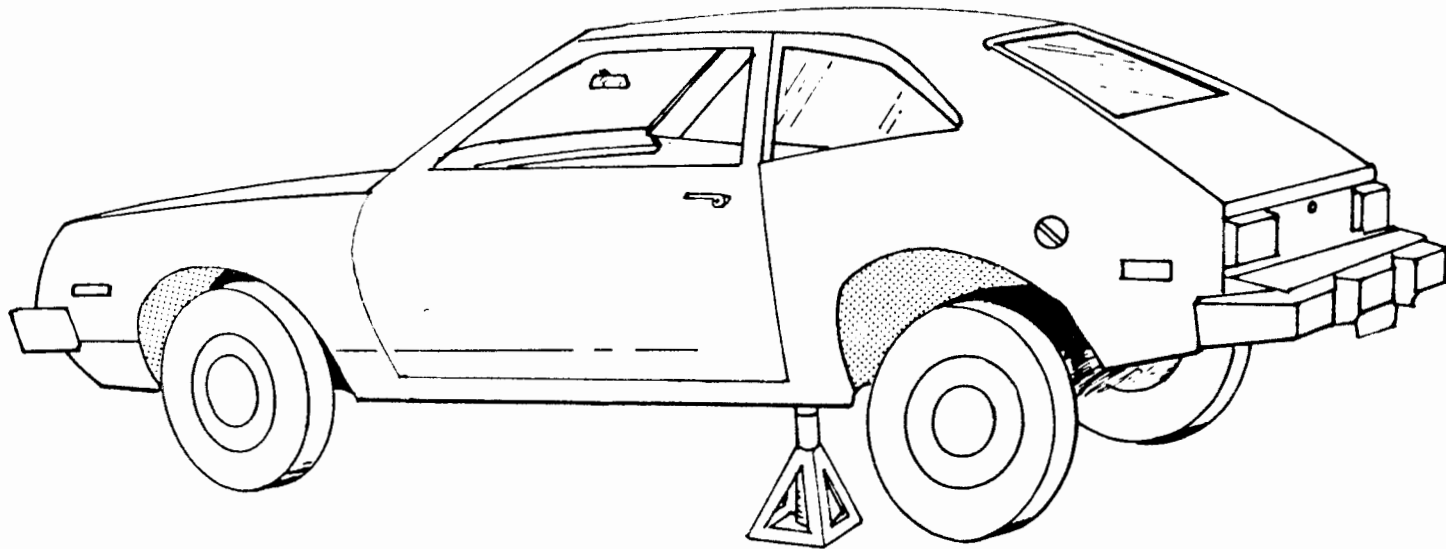


Figure 3

REMOVAL OF ENGINE

NOTE : Save all hardware for reuse later.

- Unbolt the hood at the hinges and remove the hood completely from the car.
- Disconnect the battery by removing battery cables. Remove battery.
- Remove the air cleaner and remove connecting hoses. Tape the top of the carburetor closed to prevent dirt from getting into the engine.
- Disconnect throttle cable, wiring to engine, heater hoses, etc. The specific connections will differ slightly depending on the model year of your Ford.
- Tag hose connections and electrical wiring with pieces of masking tape. If you don't know their function, simply mark both ends with the same letter or number code and during re-assembly, simply match them up.

- Remove accessories such as voltage regulator electronic ignition, ignition coil, windshield washer, etc. Save all connecting hoses and wires and save the attaching hardware.

- Drain coolant from radiator. Remove hoses, unbolt and remove radiator. Save radiator and all hardware for reuse later.

NOTE: If your car has an automatic transmission be sure to plug the transmission fluid cooling lines to prevent contamination of transmission fluid.

- Disconnect all shifting linkages, back-up light connector, etc. from the transmission.
- Attach an engine hoist or chain fall to the two lifting eyes on top of the engine block and take up tension on the engine.
- Remove the two motor mount bolts, one on each side of the engine.
- Unbolt two transmission bolts located under the rear center of the transmission.

NOTE: Be sure transmission is plugged to prevent leakage of fluid when hoisting.

- Unbolt the transmission support cross member and completely remove the U-shaped bracket.
- Inspect the engine and transmission to be sure it is free to be lifted out and no wires or hoses are still connected.
- Hoist the engine up and out of the engine compartment.

NOTE: An extra pair of hands will probably be required to tilt the engine to maneuver it out of the chassis. You will probably have to press down on the transmission as you lift the engine and pull it forward.

- Set the engine aside until you are ready for installation in the TD chassis.
- Remove the motor mount brackets from the car.

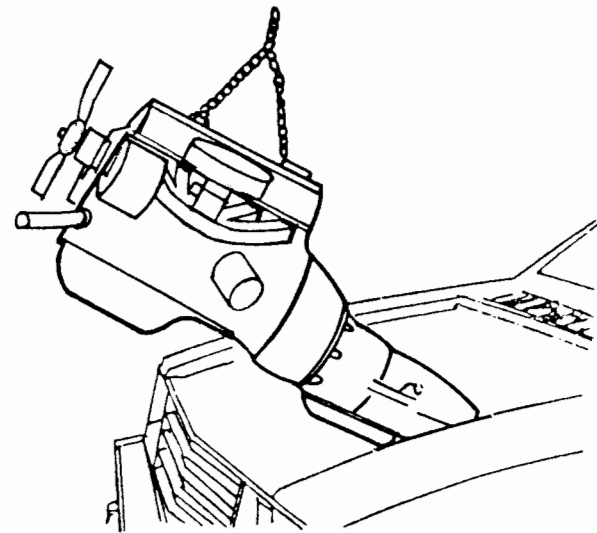
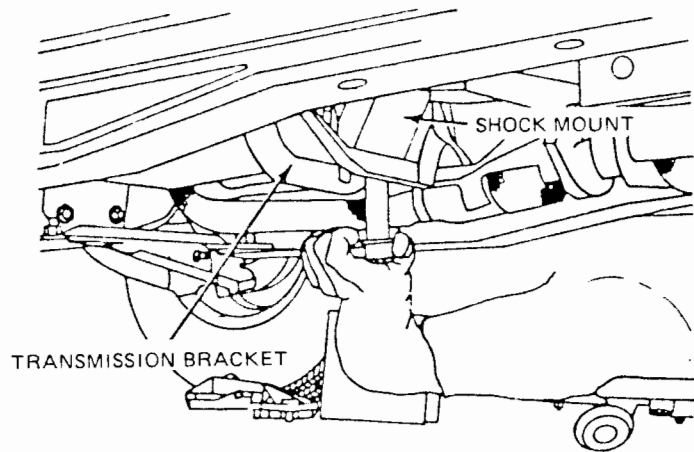
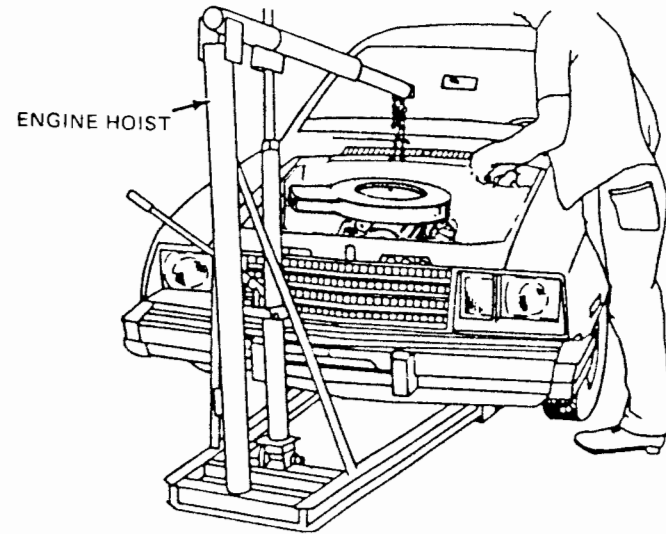
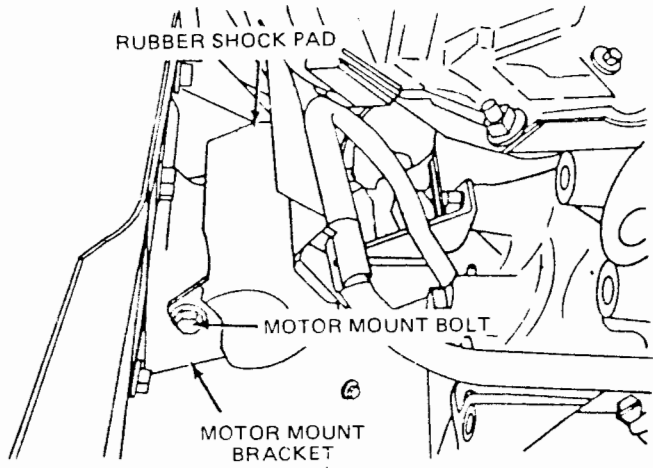


Figure 4

REMOVAL OF FRONT SUSPENSION

- Jack up the front end, and place two more jack stands under the frame, just behind the front fenders.
- Remove the front wheels.
- If installed on your car, remove the stabilizer bar as follows: remove nuts on studs attaching ends of stabilizer bar to lower control arms; remove stabilizer brackets from frame. Discard the stabilizer bar. It is not required on the TD.
- Remove cotter pin and nut from the tie rods and pull the tie rods out of the wheel spindle arms.
- Disconnect the steering shaft flexible joint.
- Unbolt the rack and pinion assembly and remove it from the front axle.
- Unbolt two angled strut bars.

WARNING: Place a jack under the lower control arm to compress coil springs when removing. This precaution eliminates the chance of any personal injury due to the sudden release of the coil spring.

- Using a hydraulic or scissors jack, take up tension on the underside of the lower control arm to compress the coil spring on one side of the car.
- Unbolt the upper mounting of the shock absorber. Save all mounting hardware and rubber washers. Compress the shock absorber so that the end is out of the way.
- Disconnect the two 3/4-inch nuts holding the upper control arm.
- Lift the upper control arm up and over

the top of the wheel assembly. Release the tension on the jack slowly.

- Cut the brake line right next to the brake line bracket using a pair of diagonal cutters.
- Remove the brake line bracket which is spot-welded to the chassis. You'll need to reuse the bracket.
- Unbolt the lower control arm and remove the entire wheel assembly from the front cross member. Take the spring out and be sure to save the circular rubber spring pad that cushions the upper end of the spring.
- Remove the front suspension, on the opposite side of the car, using the same procedures described above.

When the front suspension is completely disassembled, the components you need will look like Fig. 5

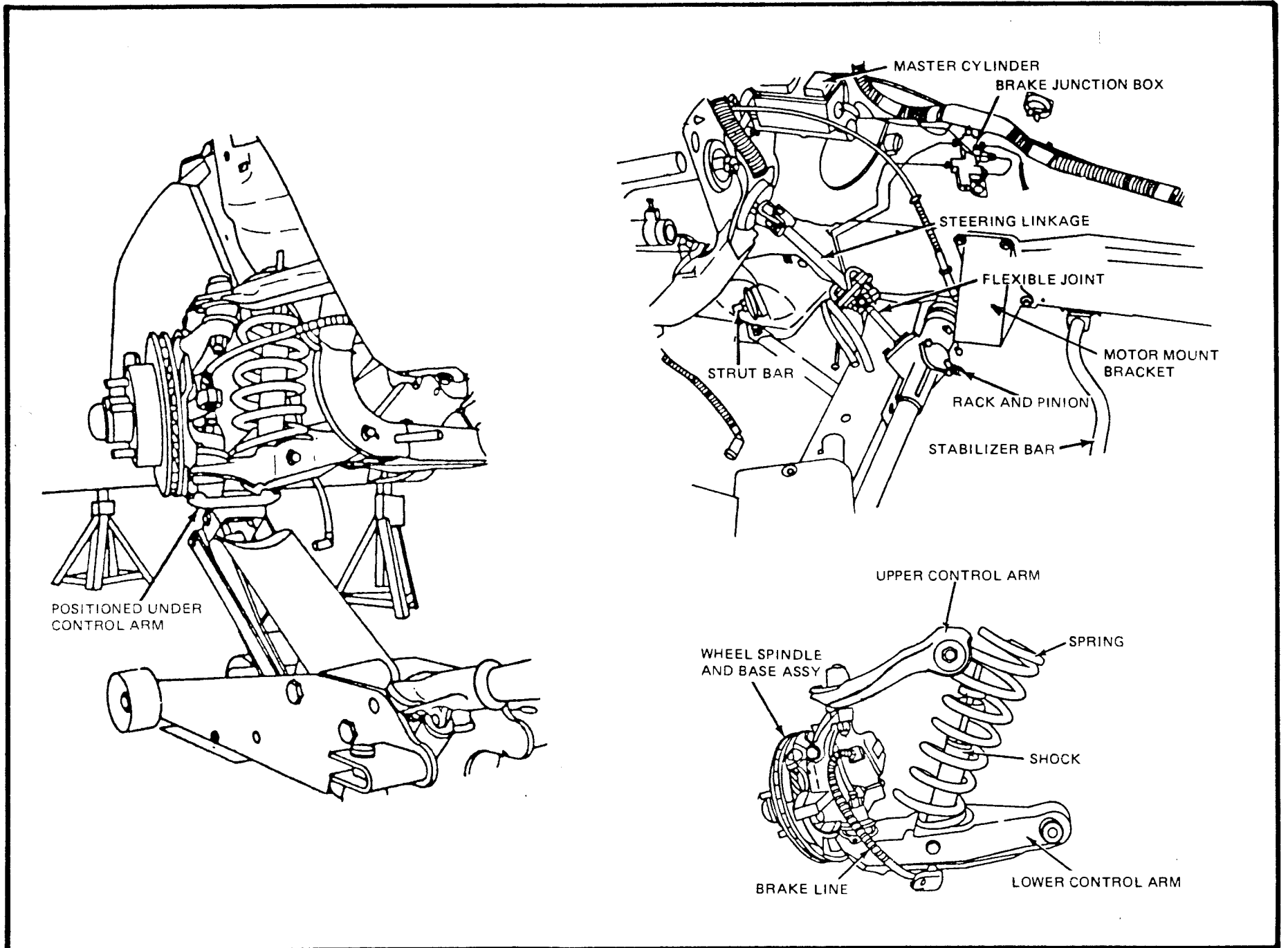


Figure 5

REMOVAL OF ACCESSORIES

- Cut the brake lines to the wheels just below the junction box. Leave the lines attached to the master cylinder.
- Remove the master cylinder and junction box and set aside for later use.
- Remove all clips attaching brake lines to frame, and remove the brake lines. Save the clips, hardware, and lines for later use.
- Inside the car, unbolt the brake pedal and brake light switch (automatic transmission) or brake and clutch assembly (standard transmission) together with linkage.
- Remove the accelerator pedal assembly together with the throttle cable.
- Remove the shift lever assembly and linkage.
- Remove the emergency brake lever and linkage cable.
- Remove the dimmer switch from the floor.
- Remove the windshield mirror as follows: cut away adhesive with a long, flexible knife blade while simultaneously pulling on the mirror.

NOTE: Heat can also be applied to windshield to loosen adhesive but this may crack windshield.

- Unscrew the speedometer cover and remove, exposing the wiring behind.
- Cut wiring harness to the steering column, leaving two plugs attached to the steering column. These two plugs will be used later to connect the wiring. (see Appendix B for a description of using these plugs with the wiring harness.)
- Unbolt the steering column and the pull through the firewall. Save the attaching hardware and the rubber plug from the firewall.
- Remove the exhaust components by cutting off the hangars.

CHECKING THE COMPONENTS

Now is the time to check all components you have removed for wear. Parts that are worn or damaged should be replaced with equivalent parts from your auto supply dealer or Ford dealer.

In addition, you may want to clean and paint some of the parts that need corrosion protection, it will give your car that extra touch.

CHASSIS ASSEMBLY

REAR END

The rear of the TD utilizes only a portion of the rear Ford leaf springs. Modify springs as follows:

Turn rear end assembly upside down to expose 8 nuts securing axle "U" bolts to springs and shock plates. (Figure 6)

Remove nuts and disassemble. Measure 2" behind center anchor nut of spring and mark. Take spring to a machine shop and have them cut spring on mark. Discard rear section of spring. (Springs can be cut using an abrasive cutting wheel or torch. If a torch is used, springs should be allowed to cool on their own, they should not be drenched in water.) (Before going to a machine shop, see "Front End" section about front spring modification.) Attach spring mounting plates to flat bracket welded to axle. Secure with 4 1/2 x 1/2" hardened "U" bolts and flanged lock nuts. (Plate should be installed so that shock mounting tabs are inside and to the rear of the axle.)

Insert spring into mounting plate and secure with original bolts and nuts. Roll axle assembly under chassis and align cut end of spring with mounting bracket on frame. Fit anchor nut of spring into hole on frame mounting bracket. Secure to frame using leaf spring retainers provided and 3/8 x 2 1/2" grade "5" bolts with flat washers and lock nuts. (Figure 7)

Remove the 2 top bolts and the 2 right side bolts from the differential cover. Fit link mount to differential and secure with 4 each 5/16-18 x 1 3/4" grade "8" bolts with lock washers.

REAR END (Con't)

- Attach rear link to mount using 1/2 x 3" grade "5" bolt with 2 flat washers, lock washer and nut.
- Install shocks in mounting plates and extend to fit frame. (Do not over compress rubber bushings.)
- Extend link assembly by holding each end and rotating middle section. Attach to frame using 1/2 x 2 1/2" grade "5" bolt with 2 flat washers, lock washer and nut.
- Adjust link assembly until the universal flange on the differential is straight up and down. (Figure 8)

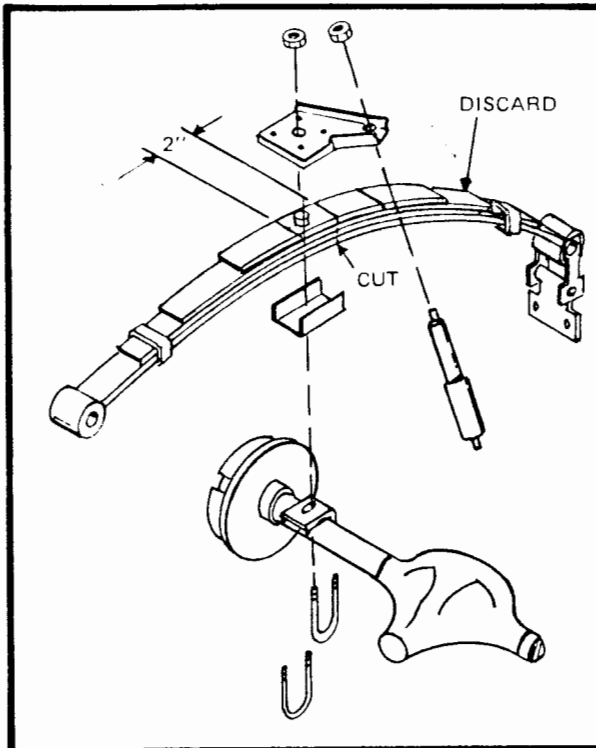


Figure 6

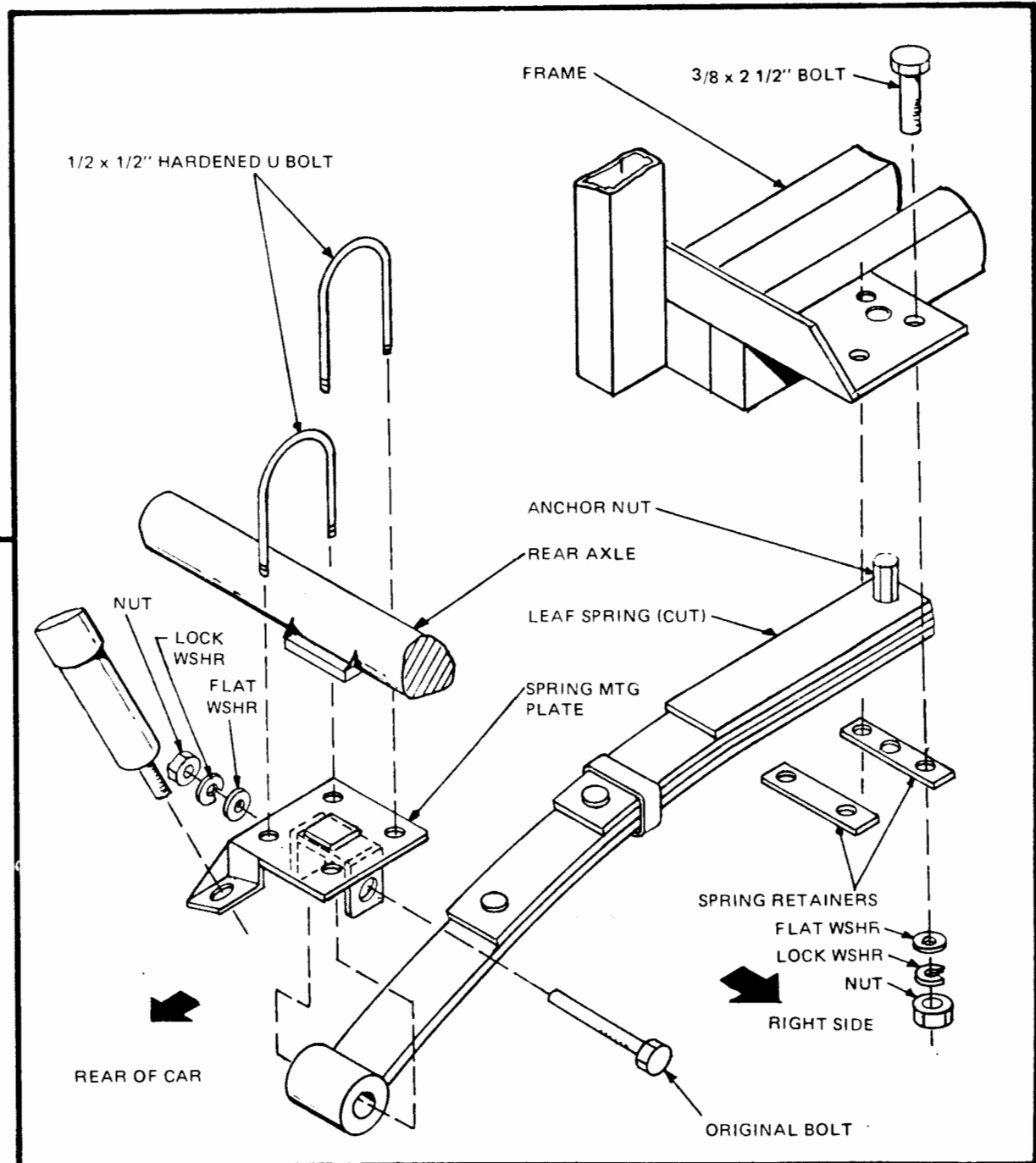


Figure 7

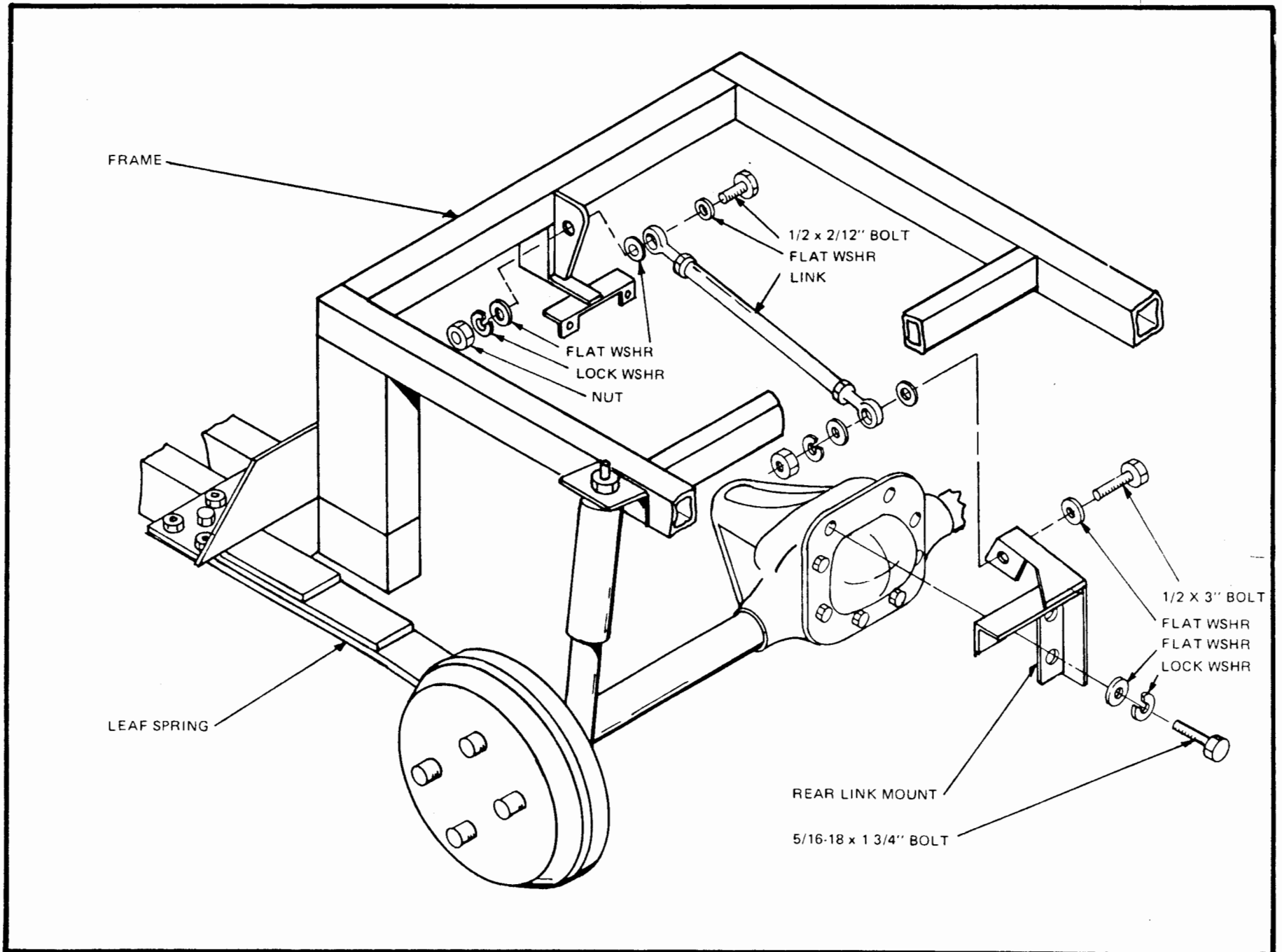


Figure 8

FRONT END

- Before reinstalling the front suspension the springs must be modified to allow for the decreased weight of the TD body.
- Cut two full coils from the bottom of each spring. This is best done with a cutting torch, which any machine shop should be able to do in a few minutes.

NOTE: A better fit can be achieved if a 1 1/2" taper is ground into the cut end of the spring.

- Bolt lower control arm to cross member using the original factory hardware. Place modified front spring over shock and seat to lower control arm. Place rubber spring pad on top of ground end of spring.
- Insert upper control arm bolts up through their holes in cross member and tape in place.
- Jack up wheel assembly to compress spring. (Extra weight on the cross member would be helpful here.) Attach top of shock to cross member using original hardware. Pull upper control arm up over top of cross member and onto bolts. Install original nuts finger tight. (Figure 9A)
- Install tires and wheels, front and rear, to give a rolling chassis.

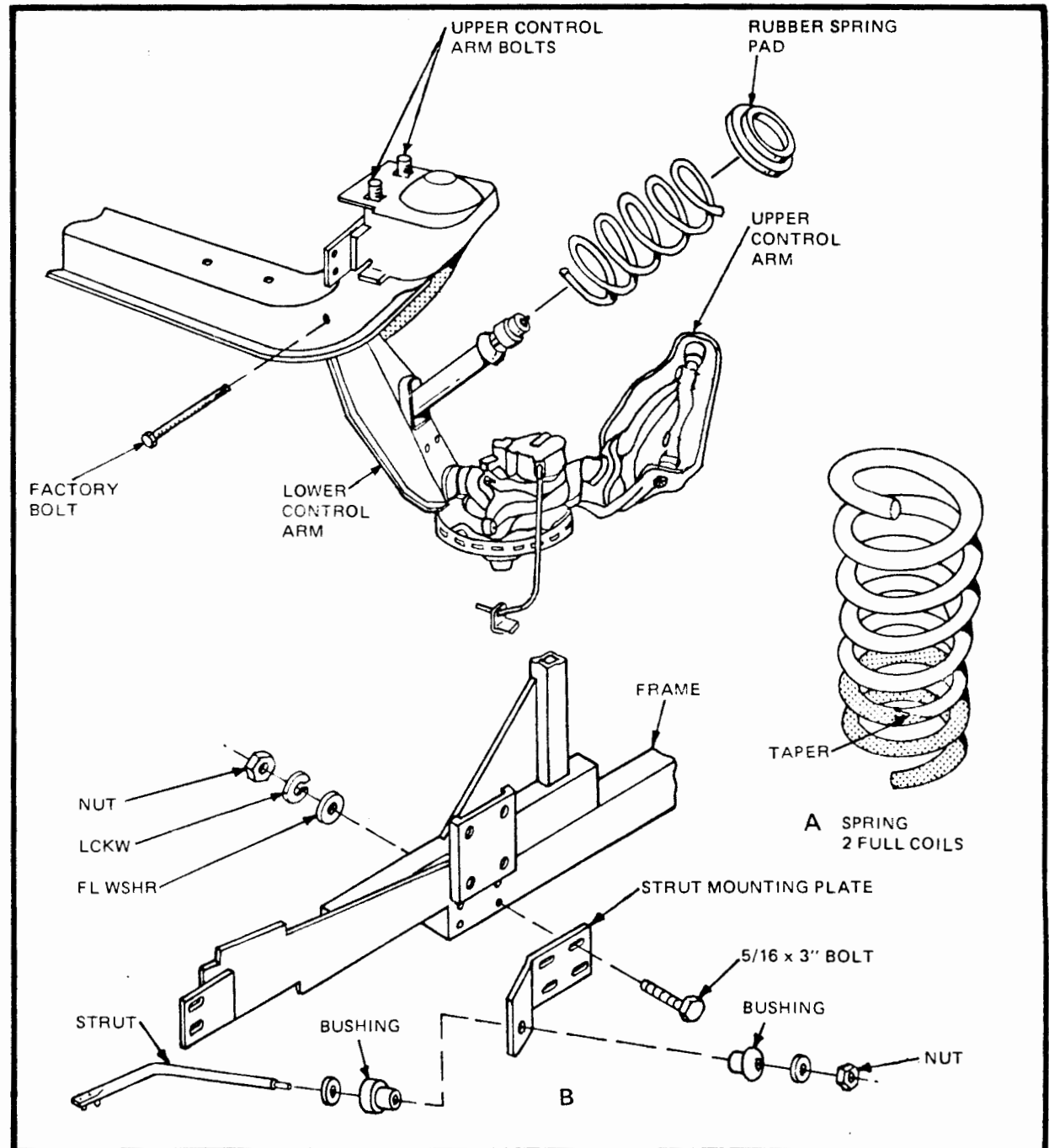


Figure 9

FRONT END (Con't)

- Align rack and pinion with front of cross member and bolt in place with original hardware removed from the Ford. Reattach ends of rack and pinion to wheel assemblies using original nuts. Install new cotter pins.
- Align wheels by placing a carpenter's square against the outer edge of each tire. Tighten upper control arm nuts.
- Place rear strut into holes on lower control arm and loosely fasten with original hardware. Attach strut bracket to frame using $5/16 \times 3''$ bolts with flat washer, lock washer and nut.
- Attach strut bar to bracket using original hardware removed from the Ford. Tighten all bolts. (Figure 9B)

NOTE: When the car is completed, it should be taken to an alignment shop for a precision front end alignment.

GAS TANK

- Drop gas tank between rear frame members, with the angled gas filler on the left. Position tank $2 \frac{1}{2}''$ from side of frame. Mark hole locations. Remove tank and drill $7/32''$ holes at marked location. Glue strips of rubber matting to top of frame where it will contact gas tank flange. Reinstall tank and secure with $1/4 \times 3/4''$ hex washer head self-tapping screws. (Figure 10)

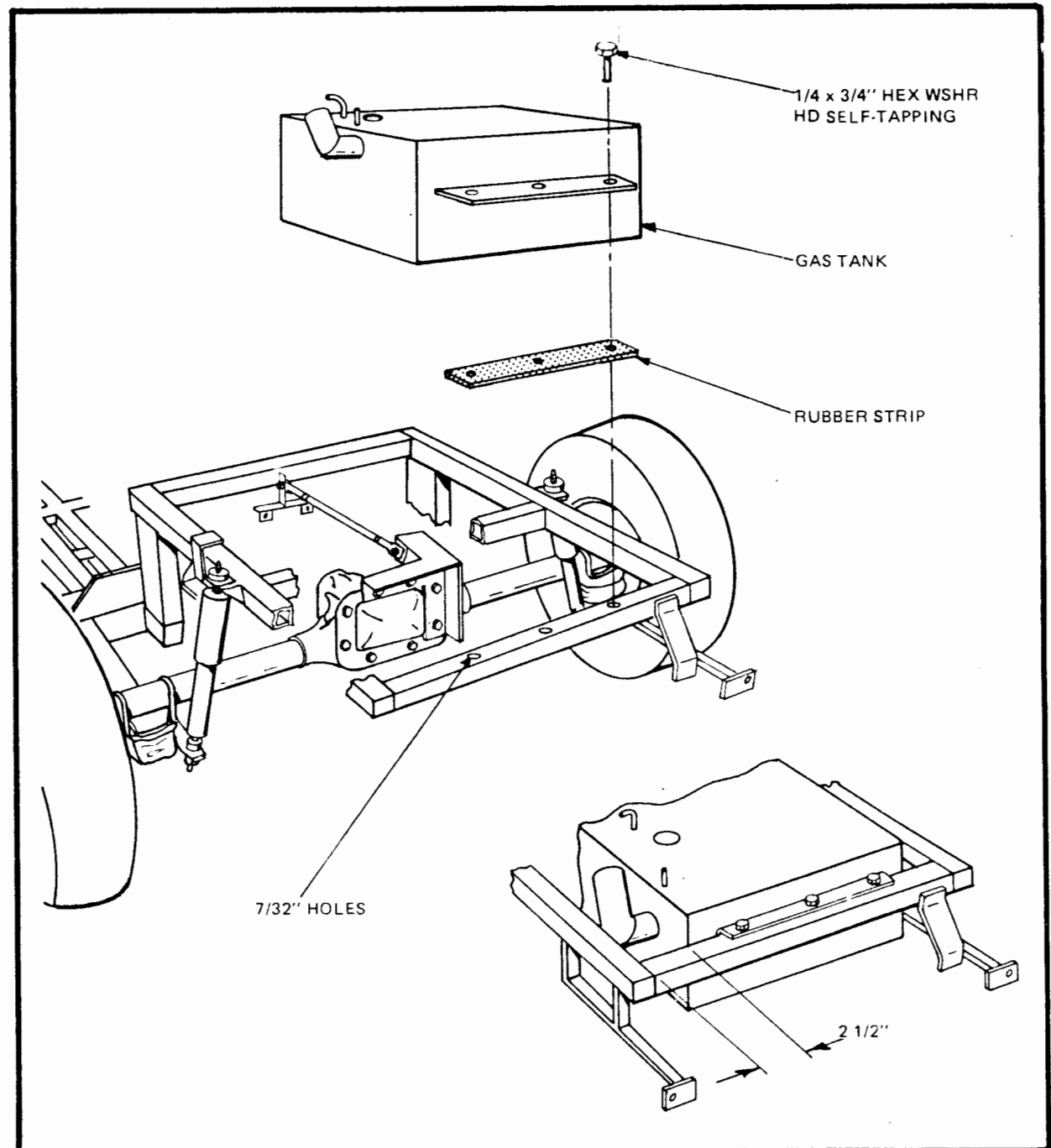


Figure 10

BRAKE DIFFERENTIAL VALVE

- Measure 3" up from the forward frame member on the left side support brace and 1/2" from the edge. Drill 2 holes, 3/8", and attach brake differential valve to brace using original nuts removed from the Ford. (Figure 11)

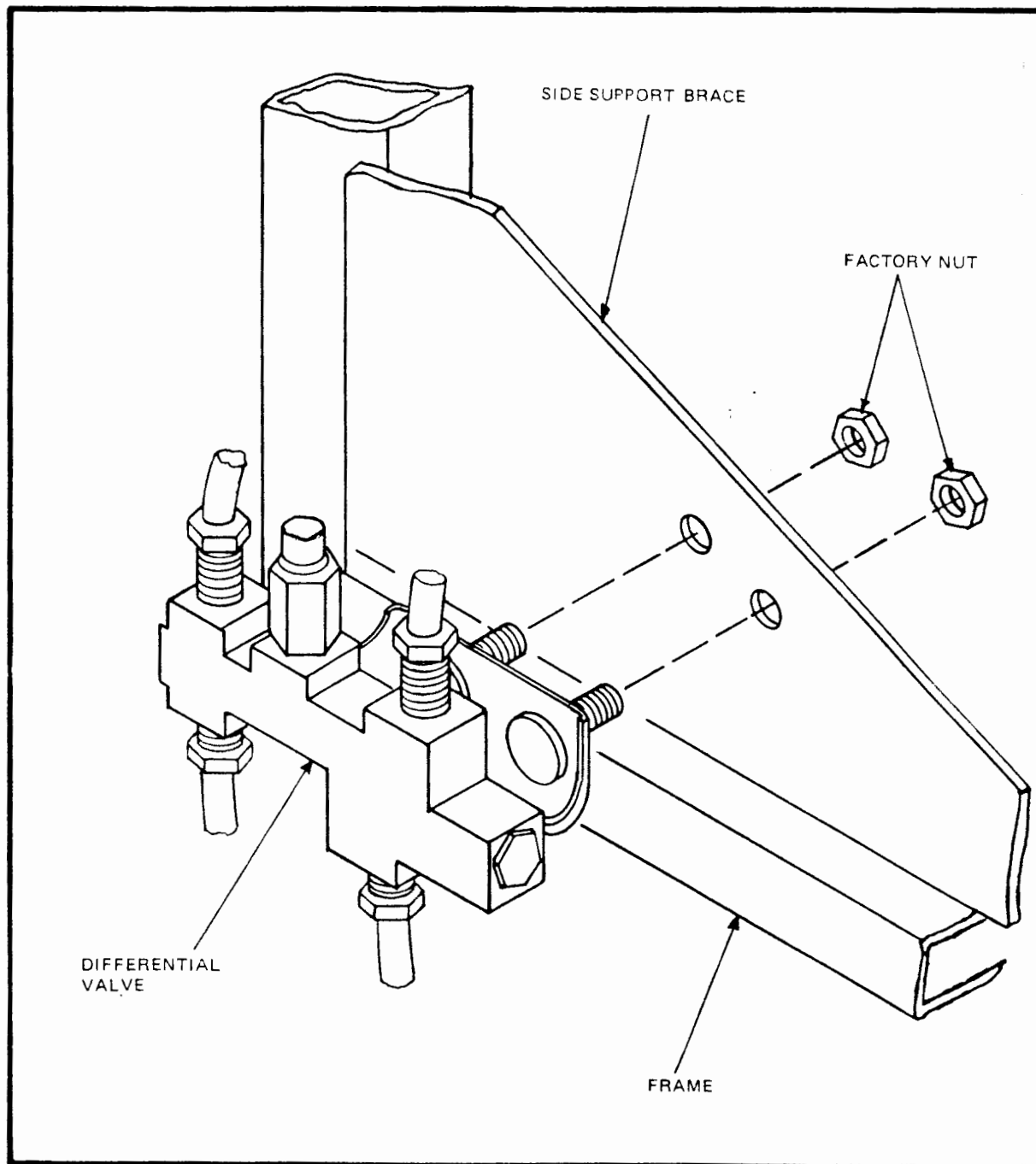


Figure 11

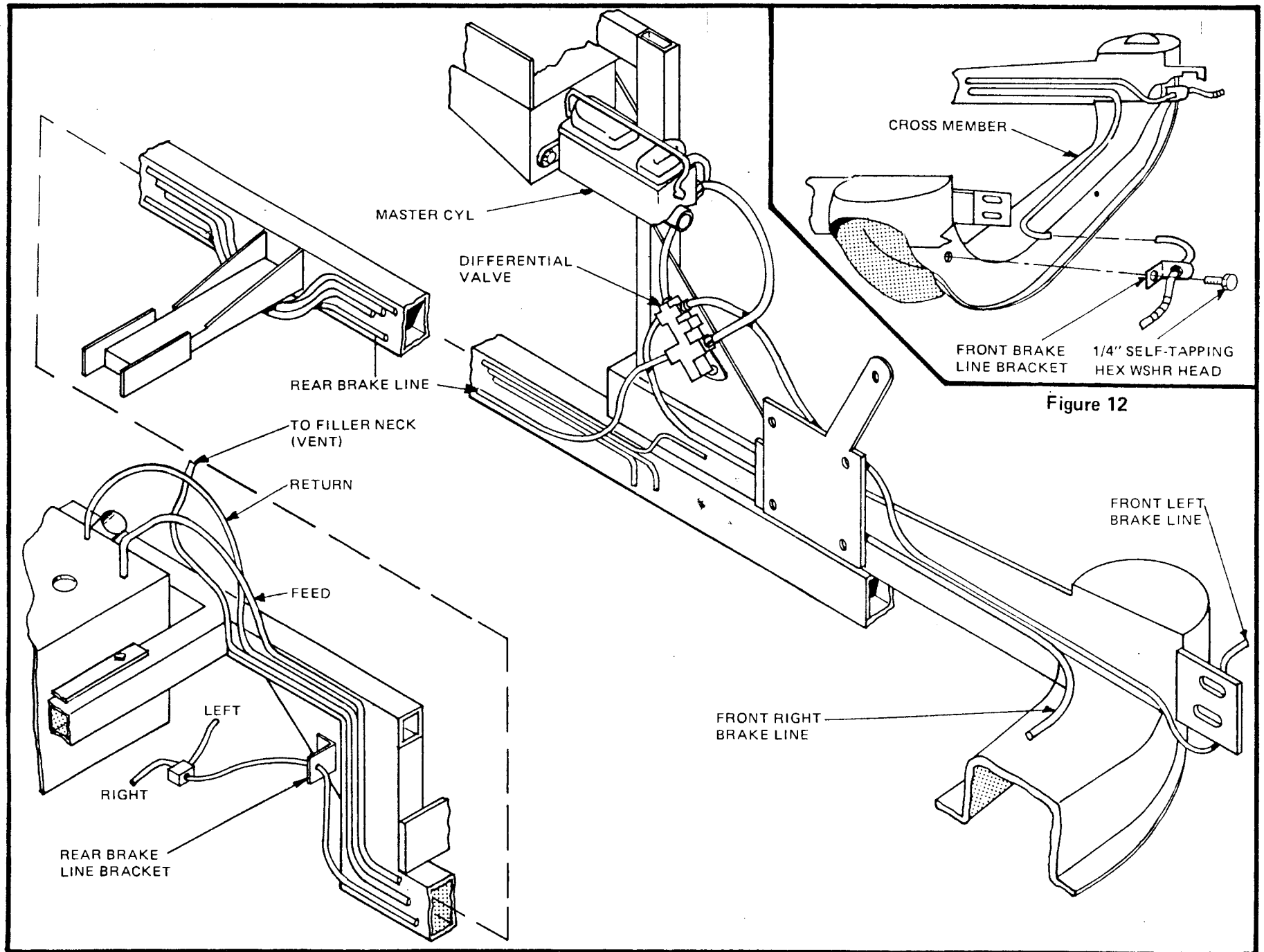


Figure 13

BRAKE AND GAS LINES

Brake and gas lines from your Ford can be used if they are in good condition. However, they will have to be straightened and their lengths altered. A simpler solution is to run new lines. They are available in 12, 20, 30, 40 and 60 inch lengths.

- Brake lines require 3/16" tubing.
Gas feed lines require 5/16" tubing.
Gas return and vent lines require 1/4" tubing.
- Locate front brake line brackets on front of cross member under lip as shown. Drill 2 7/32" holes in the cross member; one for the small tab on the end of the bracket and one for a 1/4" self-tapping hex washer head screw. Fig 12
- Drill two 1/4" holes in rear brake line bracket and position on left rear frame gusset. Mark holes and drill 7/32" holes. Secure to frame using 1/4" hex washer head self-tapping screws.
- Route all lines along main frame member on left side of car. Termination of lines should roughly coincide with illustration. For fuel lines, exact locations are not important, as final connection will be made with neoprene hose. Attach to frame using the original fasteners removed from the Pinto and self-tapping screws. (Figure 13)

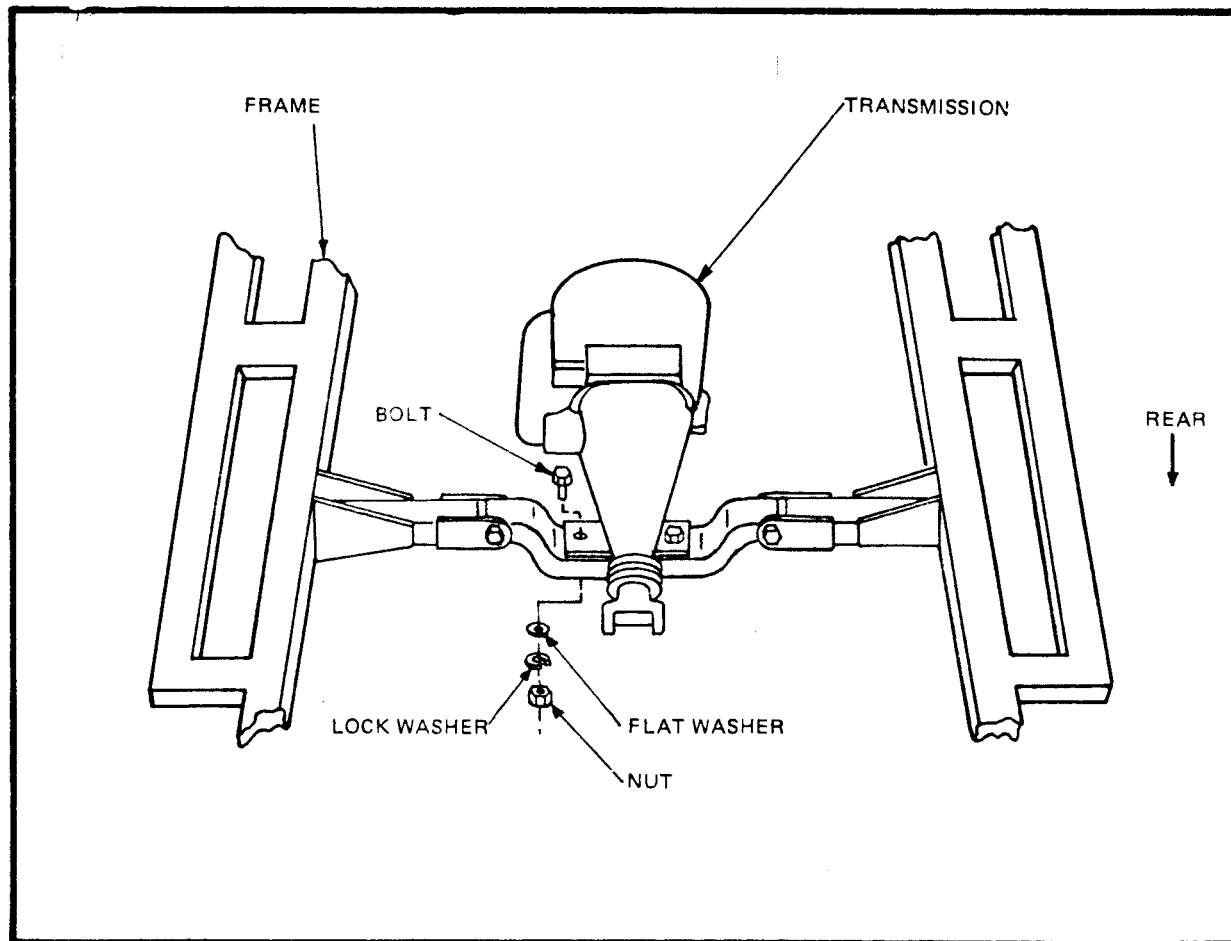


Figure 14

ENGINE INSTALLATION

- Install transmission bracket in frame and secure with original Ford nuts and bolts. Make certain that the longer side of the bracket projects toward the rear of the car, as in the Ford. (Figure 14)
- Attach motor mount brackets to the plates on the side of the frame. The larger of the two brackets goes on the left. Use original Ford nuts and bolts with washers under the bolt heads of the lower bolts to give clearance. (Figure 15)

ENGINE INSTALLATION (Con't)

- Do not bolt the upper forward hole of the left hand mount. This will be bolted later when the steering is installed.
- Attach engine to hoist and lower into chassis. Guide transmission under fire wall and loosely bolt to transmission bracket. Continue to lower engine until motor mounts are aligned with brackets bolted to chassis. Insert original Ford motor mount bolts and nuts. Remove hoist and tighten all bolts.

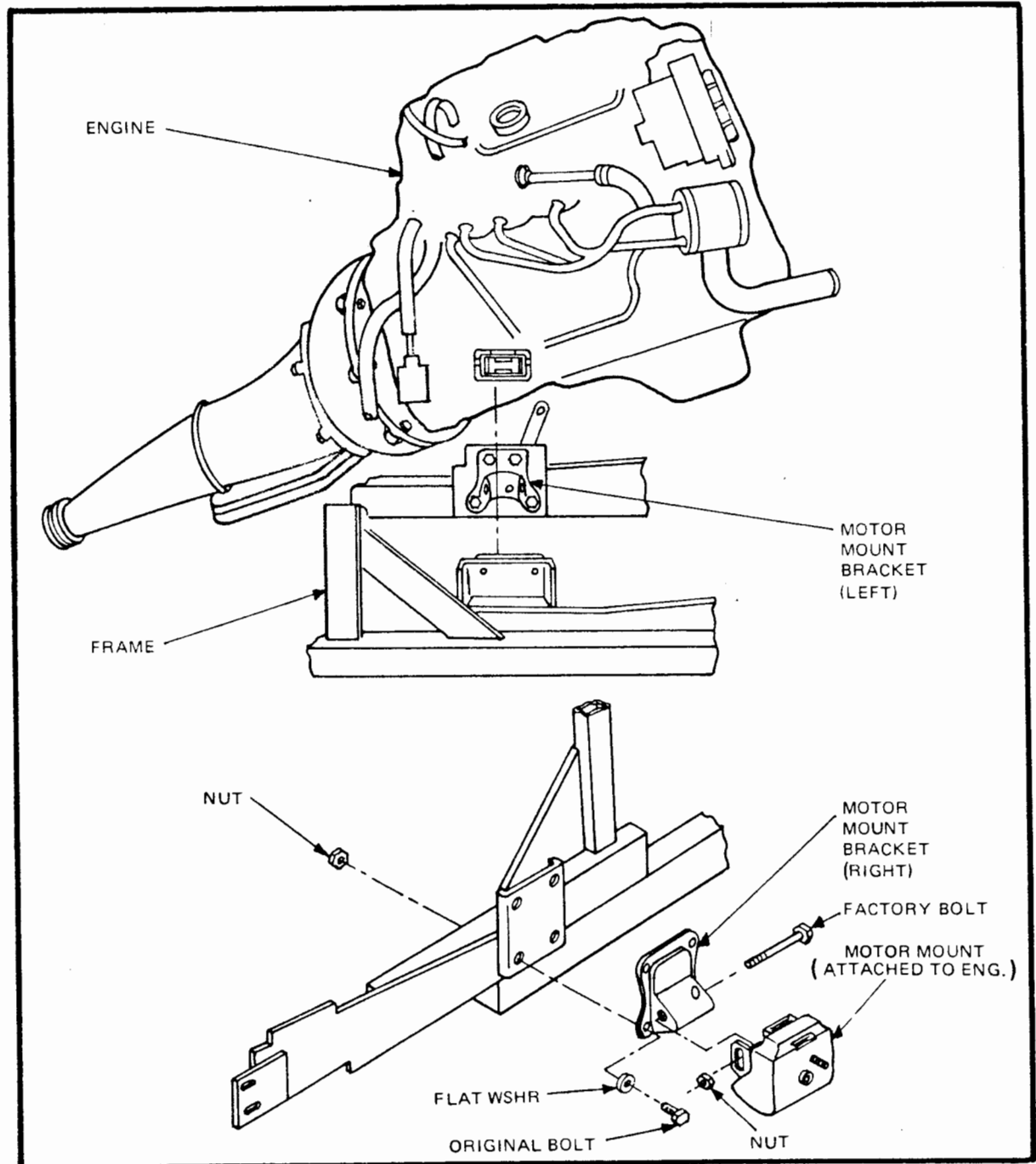


Figure 15

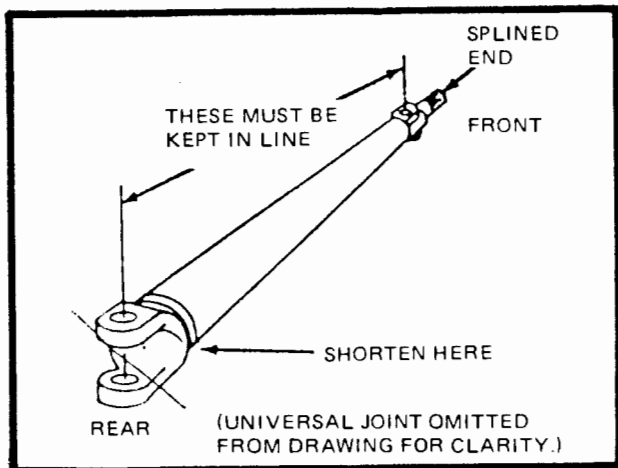


Figure 16

DRIVESHAFT SHORTENING

- After the engine is installed, measure the distance between the transmission housing and the rear universal joint. Subtract one inch from this distance to allow for spline motion.
- Take the shaft to a professional drive shaft shop or machine shop equipped to do the work and balance the finished shaft.

If you elect to do the work yourself, here are the steps required:

- Scribe a reference mark along rear of drive shaft so that U-joint yoke can be reinstalled in the same relative position.
- Cut through the drive shaft at the rear weld joint between the casing of the U-joint yoke at the rear end of the assembly.

CAUTION: Do not cut all the way through; cut only through the outer tubing.

- Shorten the drive shaft tube to the required length.
- Position the U-joint yoke back into the end of the drive shaft tube and align with scribe mark.

CAUTION: The universal joint centers must be kept in line.

- Weld U-joint yoke to shortened drive shaft tube.
- Rebalance the drive shaft by welding tabs as appropriate to obtain proper balance.

ENGINE MODIFICATIONS

- SENDER INSTALLATION** - If using our gauges or other gauges requiring different senders remove the Ford senders from the engine and replace them with the ones supplied with your gauges. The pressure sender is installed in the cylinder head while the temperature sender is installed beneath it in the block. (Figure 17)

NOTE: In some instances the holes in the block will be different from the new senders. If this should be the case use a small brass adapter to fit the new senders. They are available in most hardware stores. Bring the old and new senders to be sure the adapter is correct.

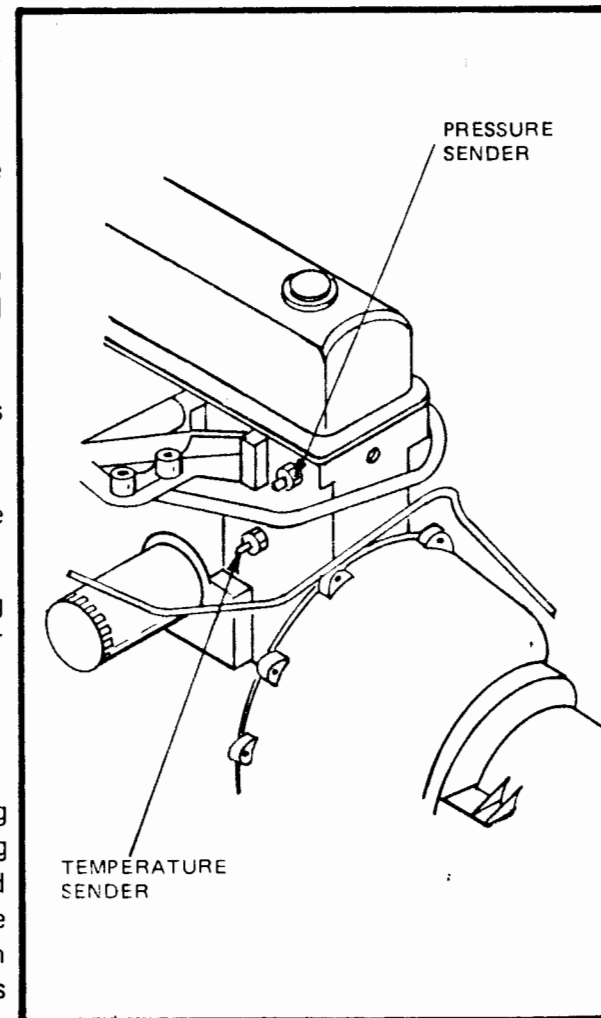


Figure 17

AIR CLEANER - Due to the limited space in the engine compartment, the Ford air cleaner cannot be used as is. Obtain a smaller low profile air cleaner designed for your engine.

BATTERY BOX

- Trim battery box flange as shown. If using our heater, drill out prescribed holes as marked. If using another heater, it is best to fit it into the car after all firewall components are in place (maximum width for heater is 7"). Drill out hole for wiring harness access.
- Set onto top of frame and clamp in place. Mark hole locations for master cylinder. Drill 3/8" and 1 1/2" holes at the marked location. Temporarily bolt steering bracket to frame and steering column to bracket using 3/8 x 1 1/4" bolts. Determine where steering shaft will hit fiberglass and drill 1 1/4" hole at marked location.
- Drill 2 holes, 7/32", through the battery box and into the frame. Secure with 1/4 x 3/4" hex washer head self-tapping screws. (Figure 18)

EXHAUST SYSTEM

- Slide exhaust system under chassis and check for fit. Because the TD is shorter than the Ford, the system will have to be shortened. Because of variations from year to year the exact location or amount of shortening cannot be specified. Additionally, the point where the exhaust passes over the rear axle will have to be modified. A muffler hanger is supplied in the rear of the frame. (An alternative is to leave the

exhaust system off until the car is completed. The car can then be driven

to a muffler shop for a custom installation.)

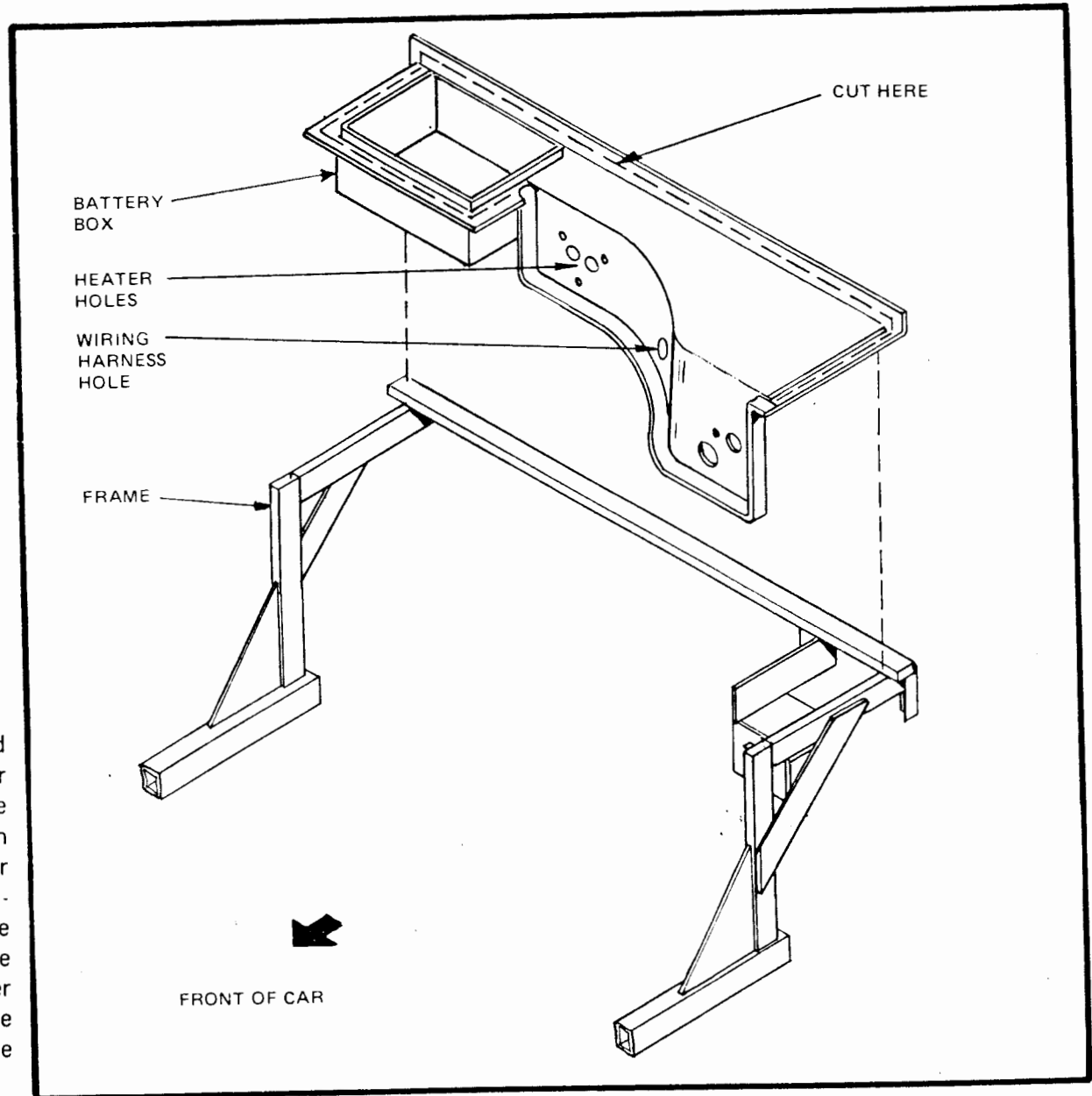


Figure 18

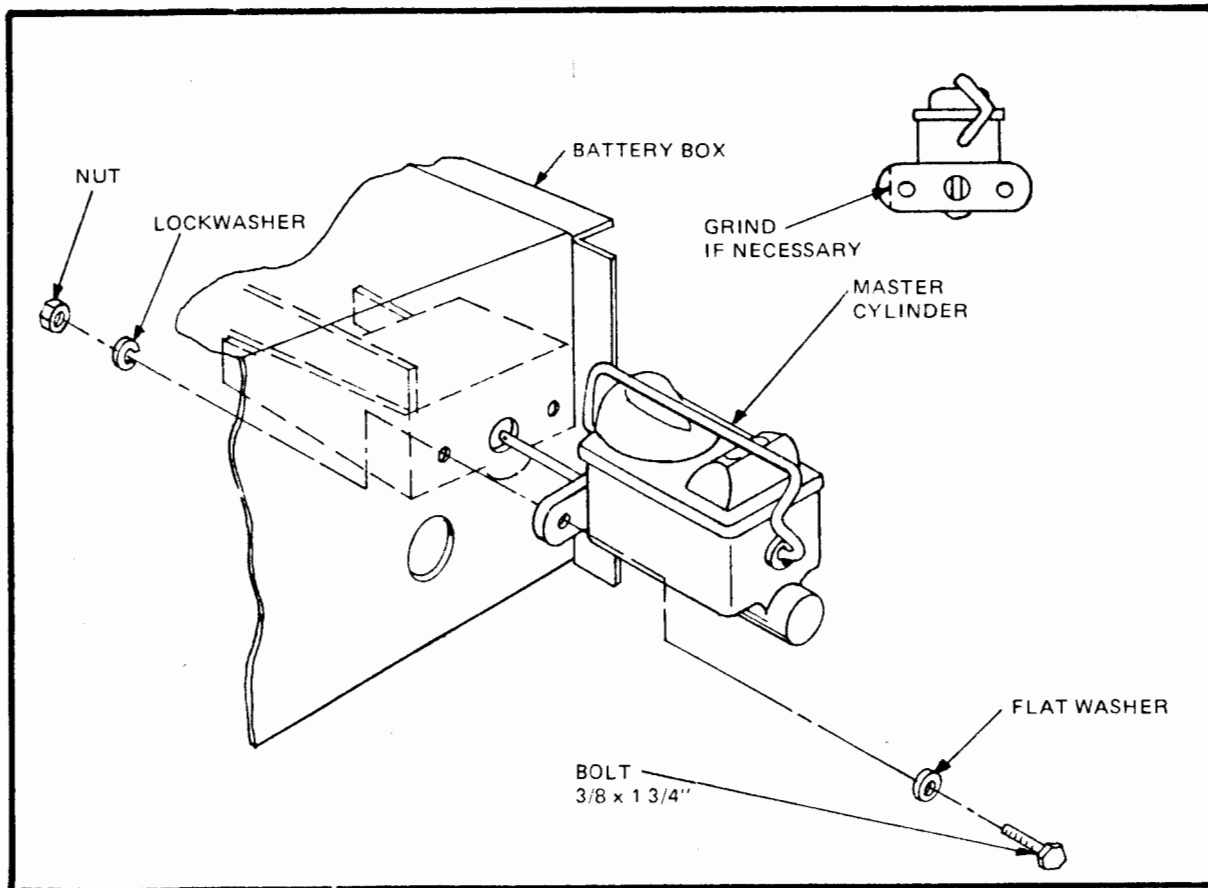


Figure 19

BRAKE MASTER CYLINDER

- Remove accelerator cable bracket from engine. Remove rubber boot from around master cylinder push rod. Insert unit into hole on the front of the battery box and into the frame. Grind down outside edge of master cylinder to clear battery box, if necessary. Secure with 3/8 x 1 3/4" bolts with flat washer, lock washer and nut. Reinstall boot over pushrod. (Figure 19)

ACCELERATOR CABLE BRACKET

- Because of the placement of the brake master cylinder, the accelerator cable bracket will not clear. Modify as follows:
- Cut a small "V" notch out of the side of the bracket just above the down shift linkage arm. Bend the bracket upwards until it just clears the master cylinder. Drill two holes, 3/16", for the bracket reinforcing plate. Secure with 3/16 x 1/2" bolts and nuts. Attach accelerator cable and check for free movement. Bend the bracket slightly to the side to clear any engine components. (Figure 20)

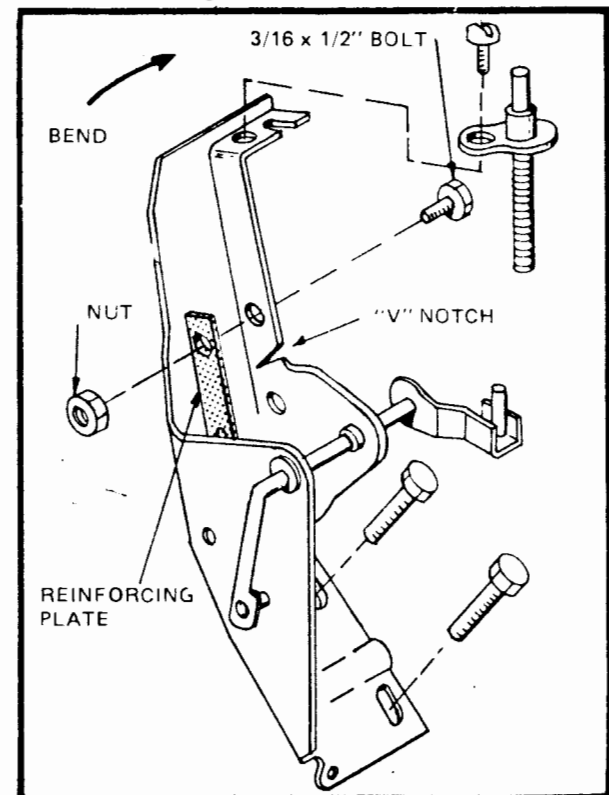


Figure 20

STEERING COLUMN Refer to Figures 21, 23

- For use on the TD, the steering column must be extended.
- Remove the lower coupling disk and universal assembly from the hollow steering shaft.
- Pull the hollow shaft from out of the column.
- Measure 3" from the lower end and cut.
- Attach cut end to lower universal and re-install on rack and pinion.
- Insert hollow shaft back into column. Attach steering column support bracket to frame and secure with $3/8 \times 1 1/4$ "

bolts with flat washer, lock washer and nut. Attach column to bracket with $3/8 \times 1 1/2$ " bolts and nuts. Finger tighten. Determine the distance between the two cut ends of the hollow shaft. Add $3 1/2$ ". Obtain a $3/4$ " shaft of the determined dimension, and a self-aligning pillow block bearing to fit it. (Fafnir RAK $3/4$ or SKF SYH-12X, or equivalent.)

- Slide shaft into column and down into tubular end by universal mark depths.
- Remove entire assembly from car. With the pillow block bearing in place, drill $11/32$ " holes through the hollow tube and the solid shaft and secure with a

$3/8$ " cold rolled steel tension pin. Cut off excess pin and reinstall assembly on car. Align pillow block with bracket on car and bolt using $3/8 \times 1 1/2$ " bolts with flat washer, lock washer and nut.

NOTE: A $3/4$ " slot cut into the bottom of the battery box will allow the column to be removed with the pillow block in place. Save the section removed and fiberglass back in later.

If using our steering wheel, modify spindle as follows:

- Cut $1/2$ " off the threaded end of the steering shaft. Make sure nut will still thread on properly. This allows clearance for the horn button. Fig 22

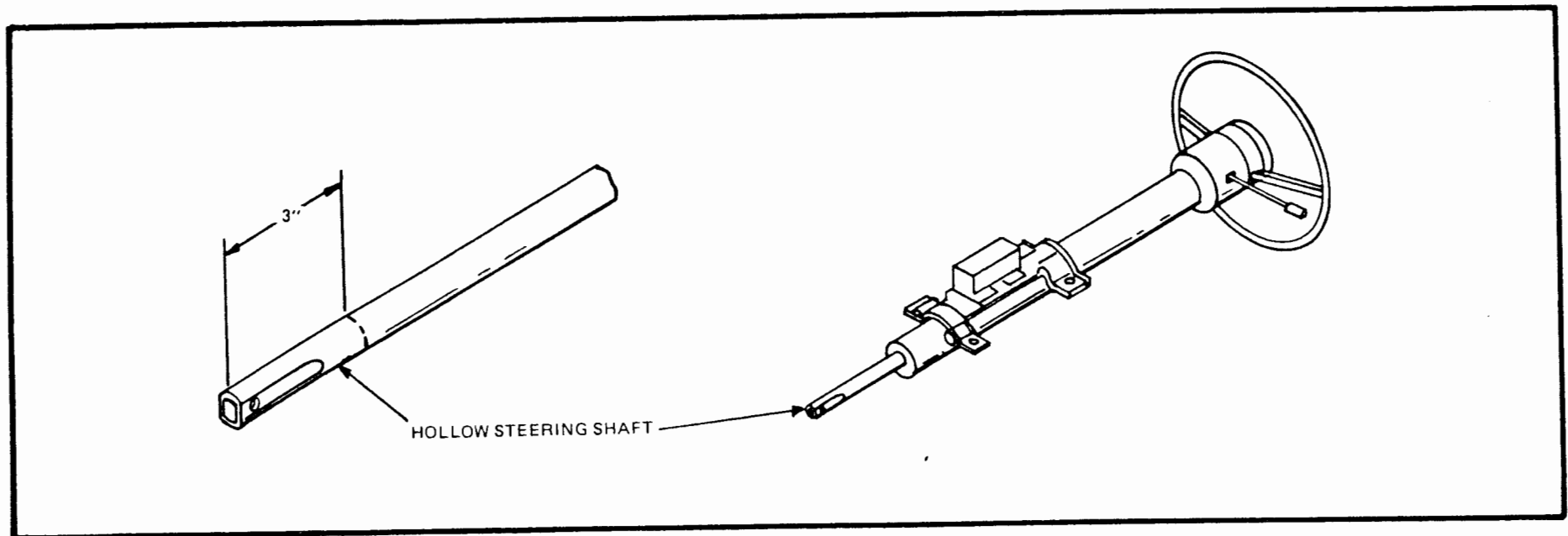


Figure 21

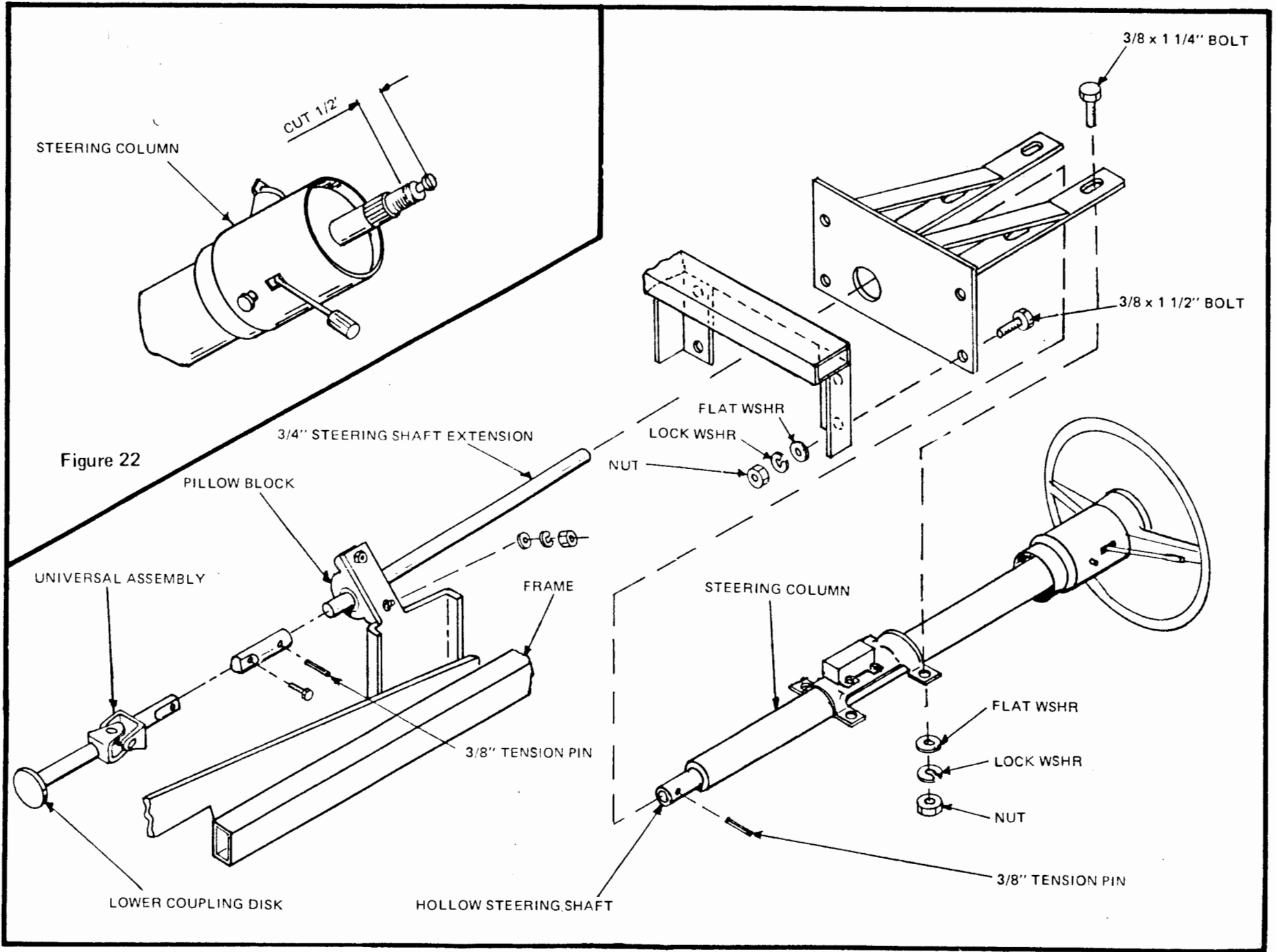


Figure 23

RADIATOR

- Attach radiator brackets to frame using 1/4-20 x 1" bolts; leave loose.
- Using a hacksaw or sabre saw with metal cutting blade, remove metal flanges on both sides of the radiator.
- Install radiator in brackets, using the small holes on the rear flange. Secure with 1/4 x 3/4" bolts with flat washer, lock washer and nut. Tighten bolts holding brackets to frame. Attach radiator hoses. (Figure 24)

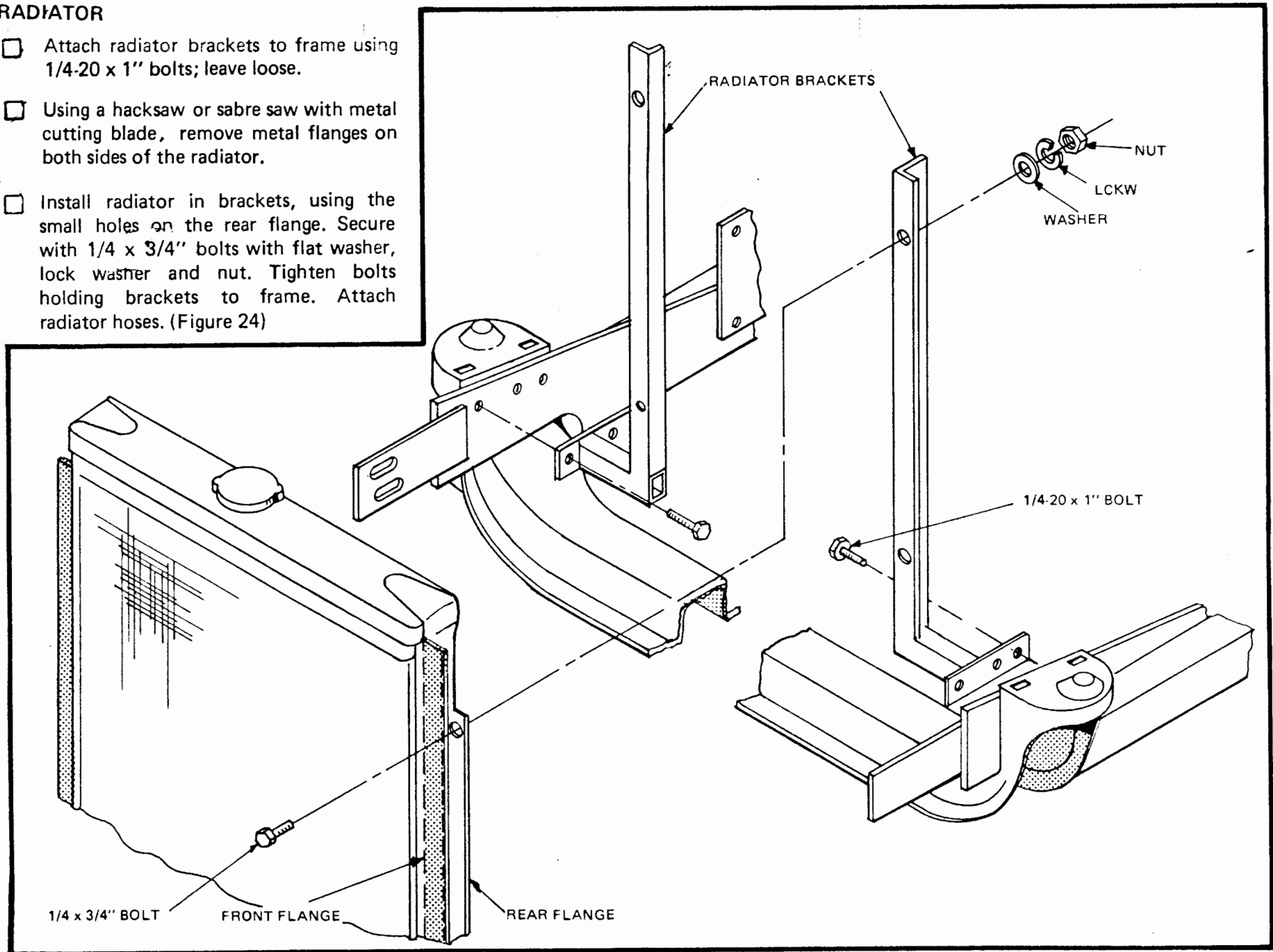


Figure 24

EMERGENCY BRAKE CABLE

- Remove cable retainers from housing. Measure 4" from the housing on one side. Cut cable and insert housings into hanger bracket on frame. Reinstall retainers. The cable will be joined later when the handle is installed. (Figure 25)

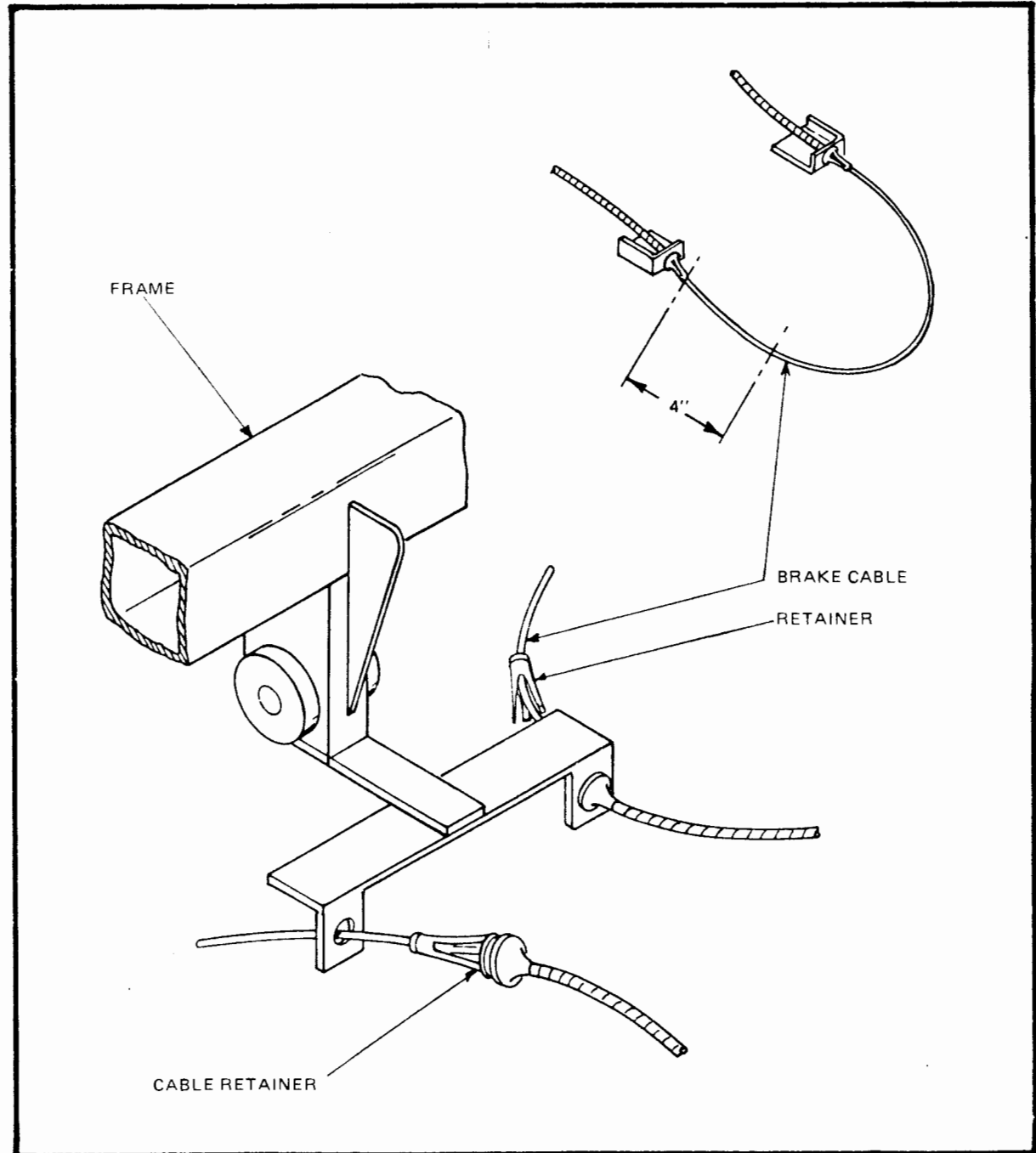


Figure 25

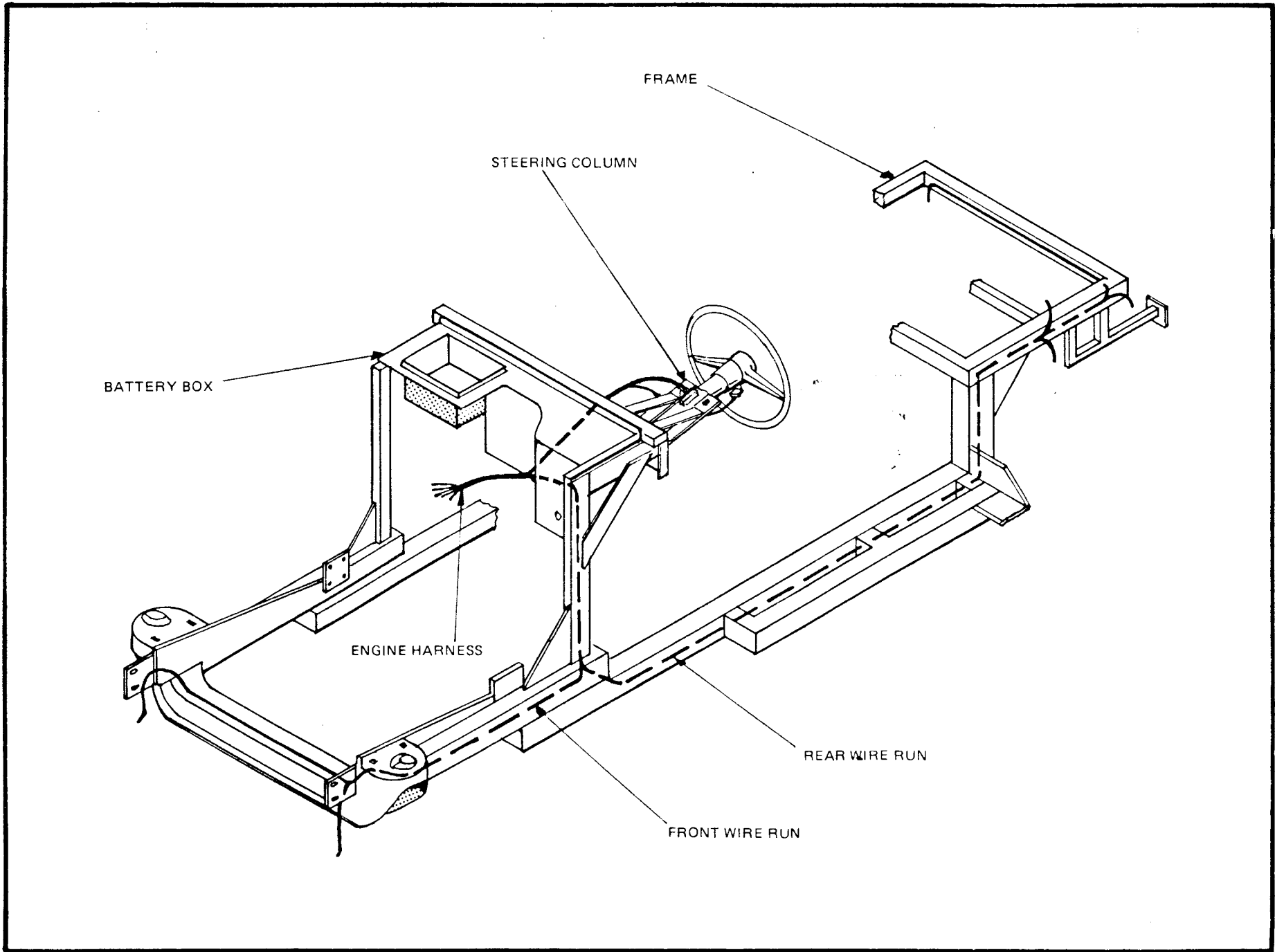


Figure 26

WIRING INSTALLATION

- There are a number of choices available in wiring your TD.
- The entire Ford wiring system and gauges can be removed from your car and installed in the TD. A separate instrument harness will have to be fabricated if using custom gauges.
- A complete wiring harness can be fabricated if your knowledge of automotive wiring is sufficient. A Ford wiring schematic for your year car would be helpful here.
- Our custom made harness comes with complete instructions for installation.
- The main harness is routed through the battery box. Steering column connections, and instrument harness connections are on the passenger side of the box. All engine connections are on the opposite side. On the engine side of the battery box, is the front and rear branches. These go down to the frame where they split, front and rear. A separate instrument/dash harness connects to all gauges and switches. The two harnesses are joined by the steering column. (Figure 26)
- Detailed wiring instructions are provided with the harness.

FIBERGLASS PREPARATION

The following information will help you in working with fiberglass.

- When drilling fiberglass, always use the slowest speed possible, use light pressure to avoid unnecessary heat build-up, and be sure the bit has started in order to prevent it from "walking".
- When cutting fiberglass, always mark the outline of the cut with a grease pencil (do not use marker pencils since they can stain and discolor the lighter body colors), cut inside the drawn area, and finish off with a file. An ordinary hacksaw (or sabersaw) is sufficient, but be sure that only a metal type (fine tooth) blade is used to avoid rough cutting.
- When bolting fiberglass to metal or fiberglass to fiberglass always use a flat washer next to the fiberglass to spread the stress over a larger area.
- Set up all the parts to be glassed in the correct positions, and then cut the matting (fiberglass) material to size and shape.
- When cutting fiberglass along the prescribed lines, apply masking tape along the edge of the side to be kept. Cut outside the tape and finish off with a file. Remove the tape.

- Have fiberglass mat or tape on hand and a gallon of resin and hardener (methyl ethyl ketone).
- Mix the resin and the hardener according to the manufacturer's instructions.

WARNING: Be sure to observe manufacturer's safety precautions for handling the resin and the hardener.

- Resin can best be applied with a brush. First, apply resin to the work area, then lay in glass cloth. Thoroughly saturate the cloth with resin using the brush.

NOTE: It is essential that, when applying new fiberglass to fiberglass or metal, the mating surfaces be prepared by sanding with a medium grit sandpaper to roughen the surfaces for a better bond. Carefully sand all smooth gel coat (colored) areas to ensure a good bond. Just sand enough to give a rough surface. It is not necessary to go down to the fiberglass.

- Clean the brushes or any other tools which you may have used with acetone that you can buy where you purchased the rest of your fiberglassing materials.
- All finished edges of fiberglass parts, such as fender edges should be given a light sanding. Sand only along the edge. Never sand across the edge from the inside out as this will chip the gel coat.

FIBERGLASS PREPARATION (Con't)

- For minor repairs to fiberglass or gel coat see Appendix A.

SCRIBE LINES

In order to insure a precision fit of the fiberglass parts in the TD, scribe lines and drill points have been integrated into the molds. Careful attention to cutting these parts will result in a more precise fit and ease of assembly.

TO CUT A SCRIBE LINE

- Run tape along the line on the good side of the scribe. Cut along the line keeping 1/8" - 1/16" from the tape. File to the tape, being careful not to over file. Finish off with a sanding block and fine sand paper.
- In a situation where the scribe line falls in a right angle corner, such as the running board flange, tape the vertical surface at a right angle to the flange. Cut the flange off next to the tape. File off the remaining fiberglass level with the tape. (Refer to Figure 27)
- Sand all exposed edges with a fine grit sand paper. Avoid sanding directly on gel coat surface.

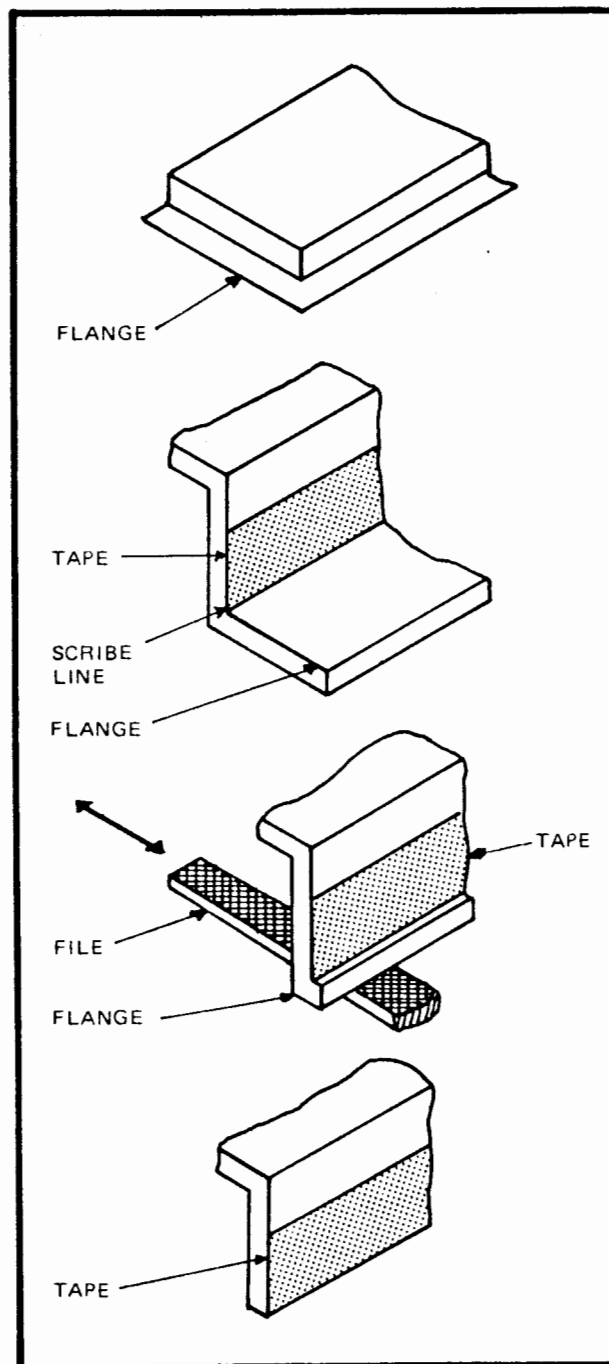


Figure 27

INTERIOR LINER

- Trim liner on scribe lines as shown. Cut out an area 3 x 3 1/2" for the shifter and drill 4 holes, 3/8" for the mounting bolts. Secure with 5/16 x 1" bolts with flat washer, lock washer and nut.
- Drill a 3/4" hole in the back of the emergency brake mounting dimple. Drill 2 holes, 3/8", for the mounting bolts. Secure with 5/16 x 1" bolts with flat washer, lock washer and nuts.
- Set liner into chassis and center from left to right. Drill 16 holes 7/32", through the liner and into the frame rails, leaving approximately 18" for seat base mounting. Secure with 1/4 x 3/4" hex washer head self-tapping screws.
- Drill 2 holes, 1/4" through the upper lip of the liner and the lower lip of the battery box. Secure with 1/4 x 1 1/4" bolts with 2 flat washers, lock washer and nut. Loop longer of the two emergency cables through original retainer on handle. Attach to previously cut cable using two cable clamps.

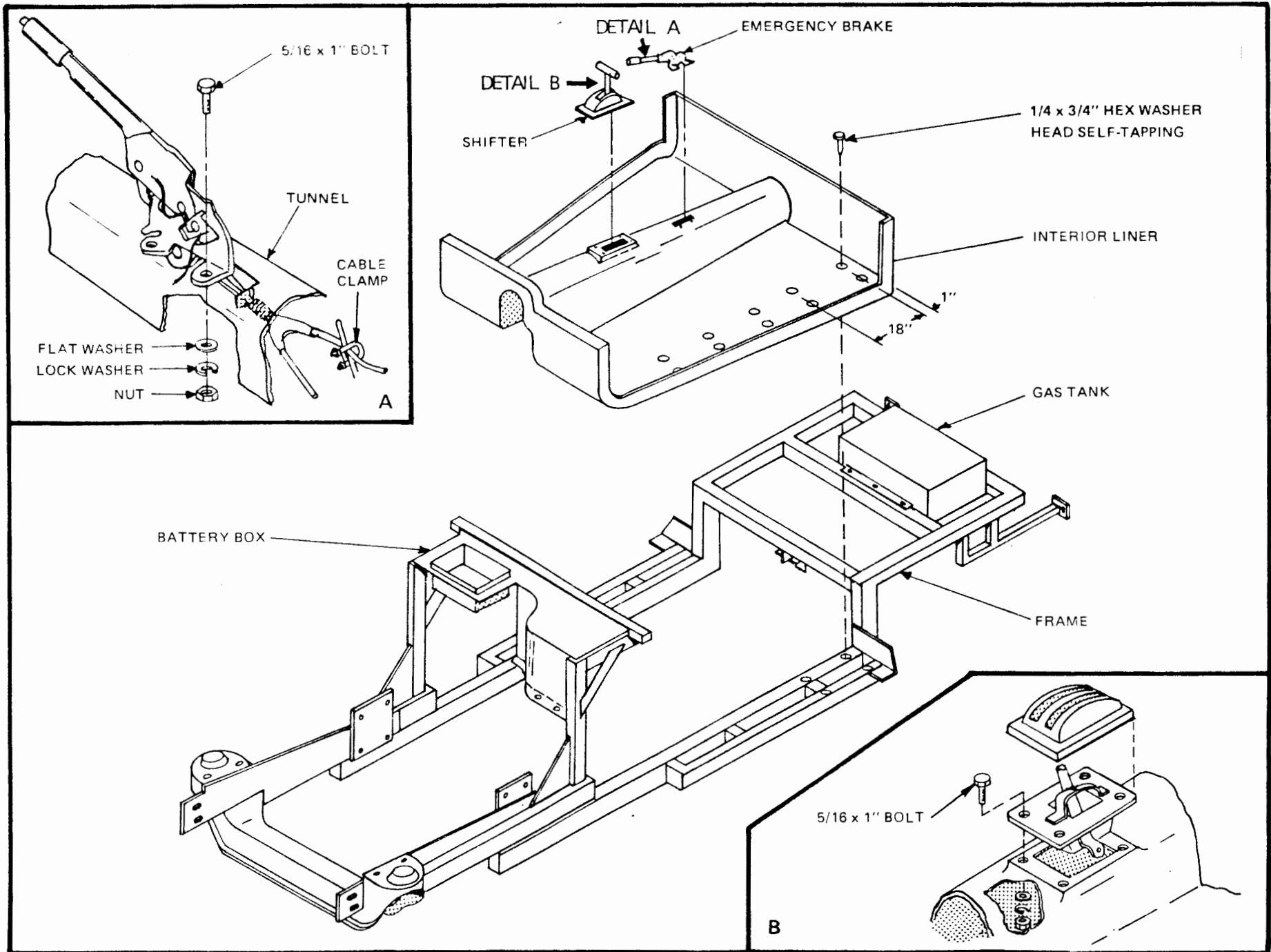


Figure 28

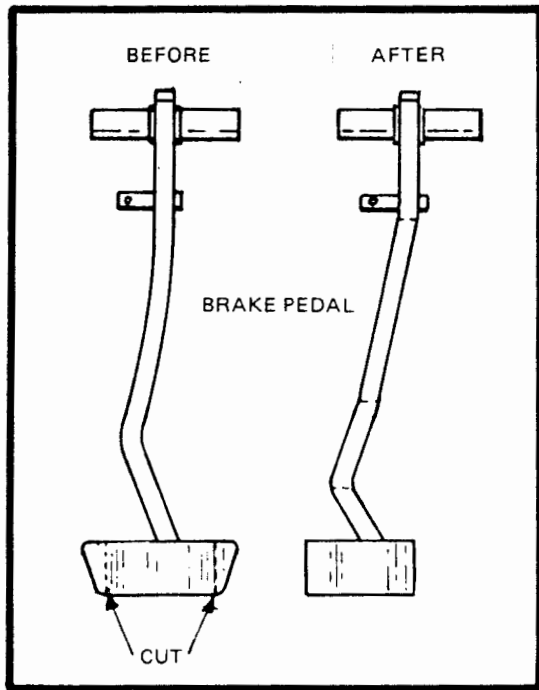


Figure 29

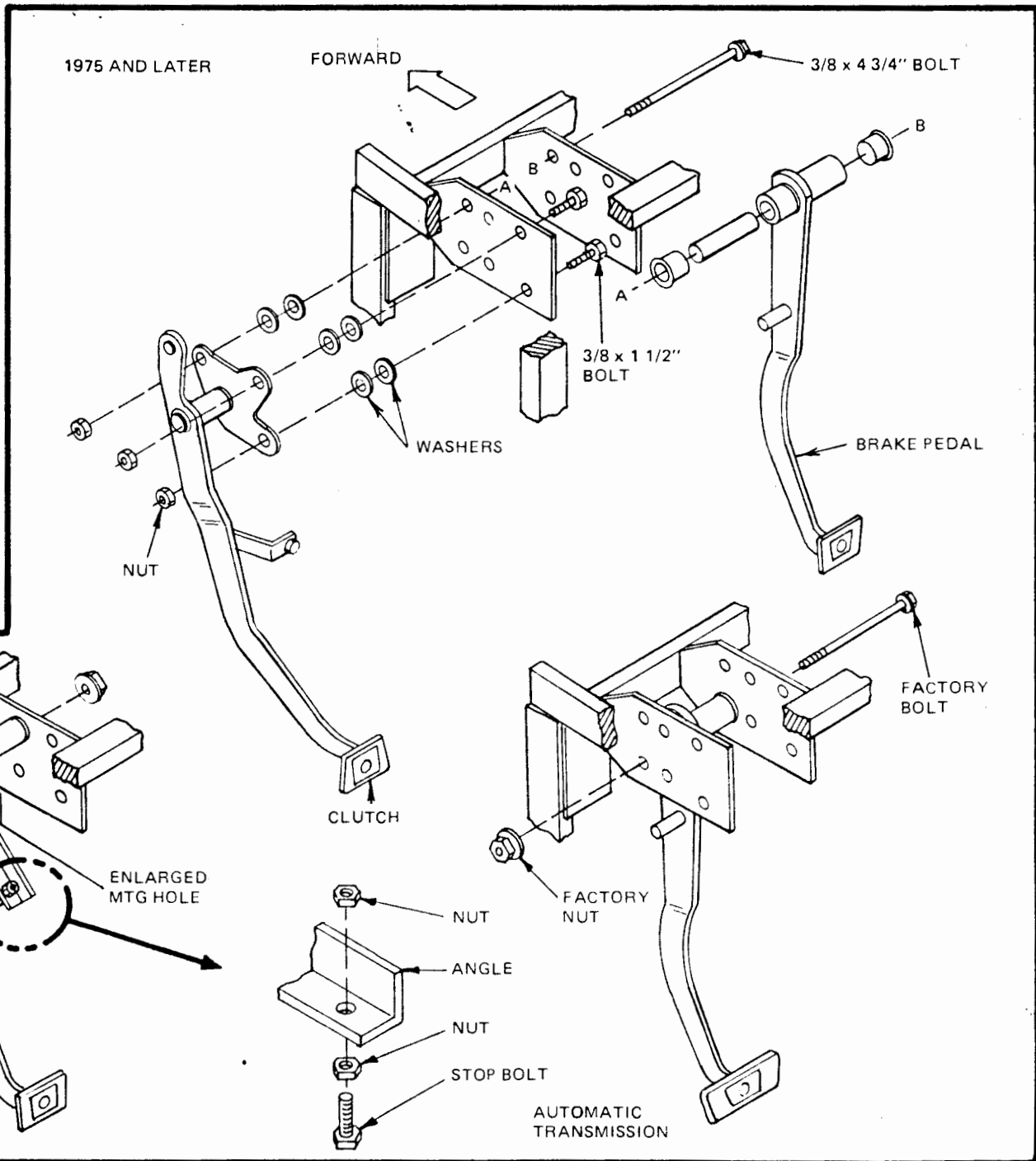
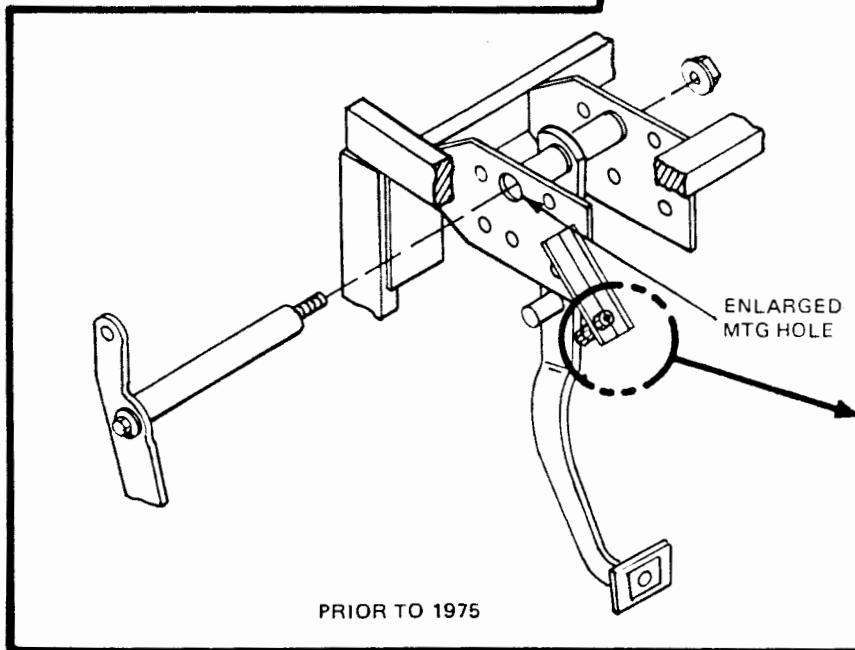


Figure 30



ACCELERATOR, BRAKE AND CLUTCH PEDAL Refer to Figures 29, 30

- If using an automatic transmission modify brake pedal as shown to clear frame. Fit brake pedal into one of the sets of lower holes in the frame. Try each position to determine the best pedal angle.
- If using a clutch assembly prior to 1975, the mounting hole for the clutch pedal will probably have to be enlarged. Use one of the sets of upper holes to fit the clutch and brake pedal in place.
- If using a clutch assembly newer than 1975, fit the clutch pedal to the side of the frame and bolt in place using $3/8 \times 1\ 1/2$ " bolts with 2 washers as spacers, securing with lock washer and nut. Do not bolt the upper hole. Fit brake pedal in place in the forward upper hole and bolt in place using $3/8 \times 4\ 3/4$ " bolt with 2 washers as spacers, securing with lock washer and nut.
- Fit accelerator pedal to liner, adjusting it for personal preference. Drill $3/8$ " holes into the liner and mount using $5/16 \times 1\ 1/4$ " bolts with flat washer, lock washer and nut.
- Drill a $1/2$ " hole into battery box to accept accelerator cable. Mount cable housing to battery box with a $1/4 \times 1$ " bolt with flat washer, lock washer and nut.

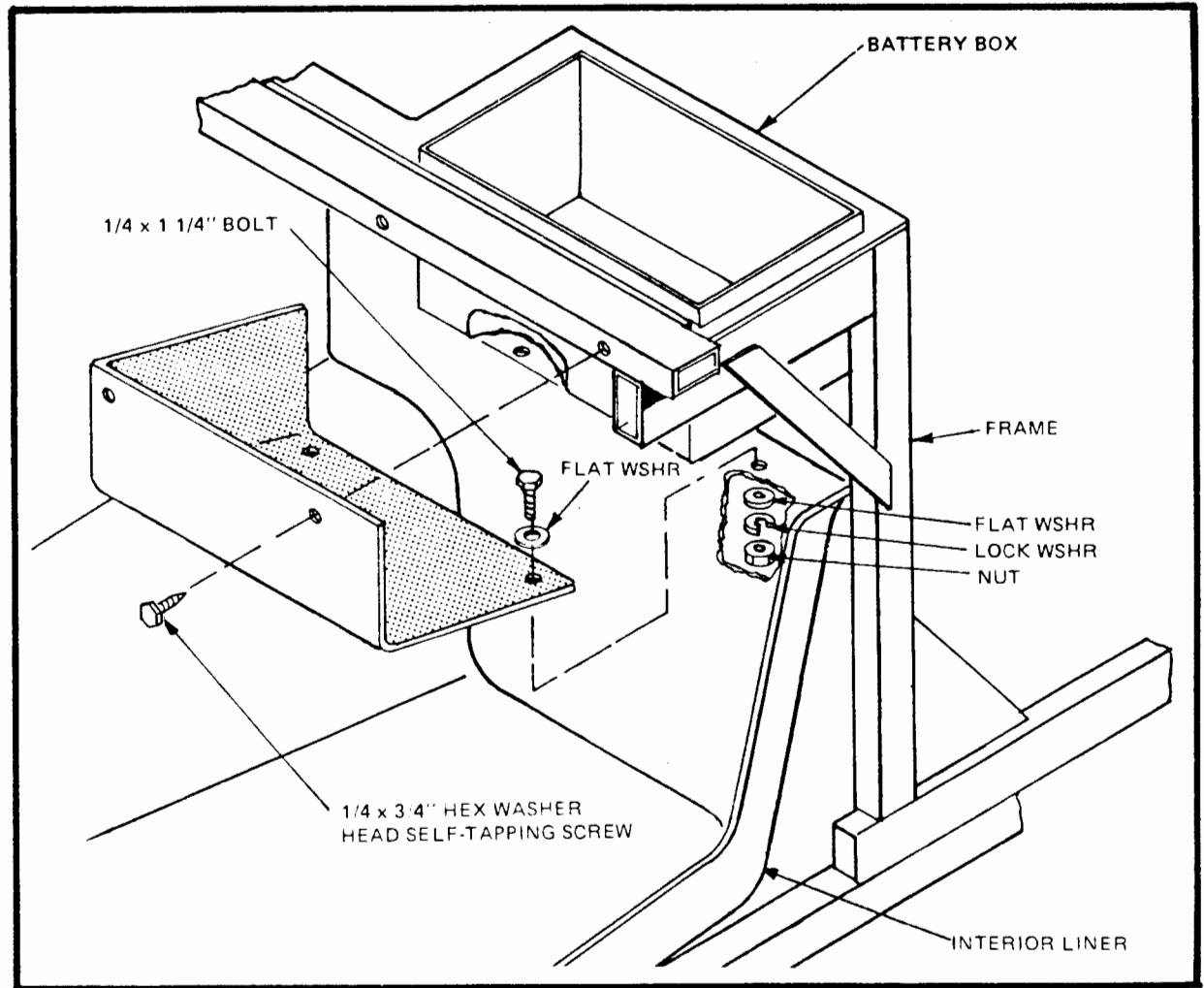


Figure 31

FIREWALL EXTENSION

- Fit firewall extension under right side of battery box, notching as necessary to clear air conditioning brackets. Keep extension pushed as far to the left as possible. Drill 2 holes, $7/32$ ", through the extension and into the frame. Secure with $1/4 \times 3/4$ " hex washer head self-tapping screws. Drill 2 holes, $1/4$ ",

through the upper lip of the liner and into the extension. Secure with $1/4 \times 1\ 1/4$ " bolts with 2 flat washers, lock washer and nut.

- Drill 2 holes, $1/4$ ", through the side of the extension and the side of the battery box. Secure with $1/4 \times 1\ 1/4$ " bolts with 2 flat washers, lock washer, and nut. (Figure 31)

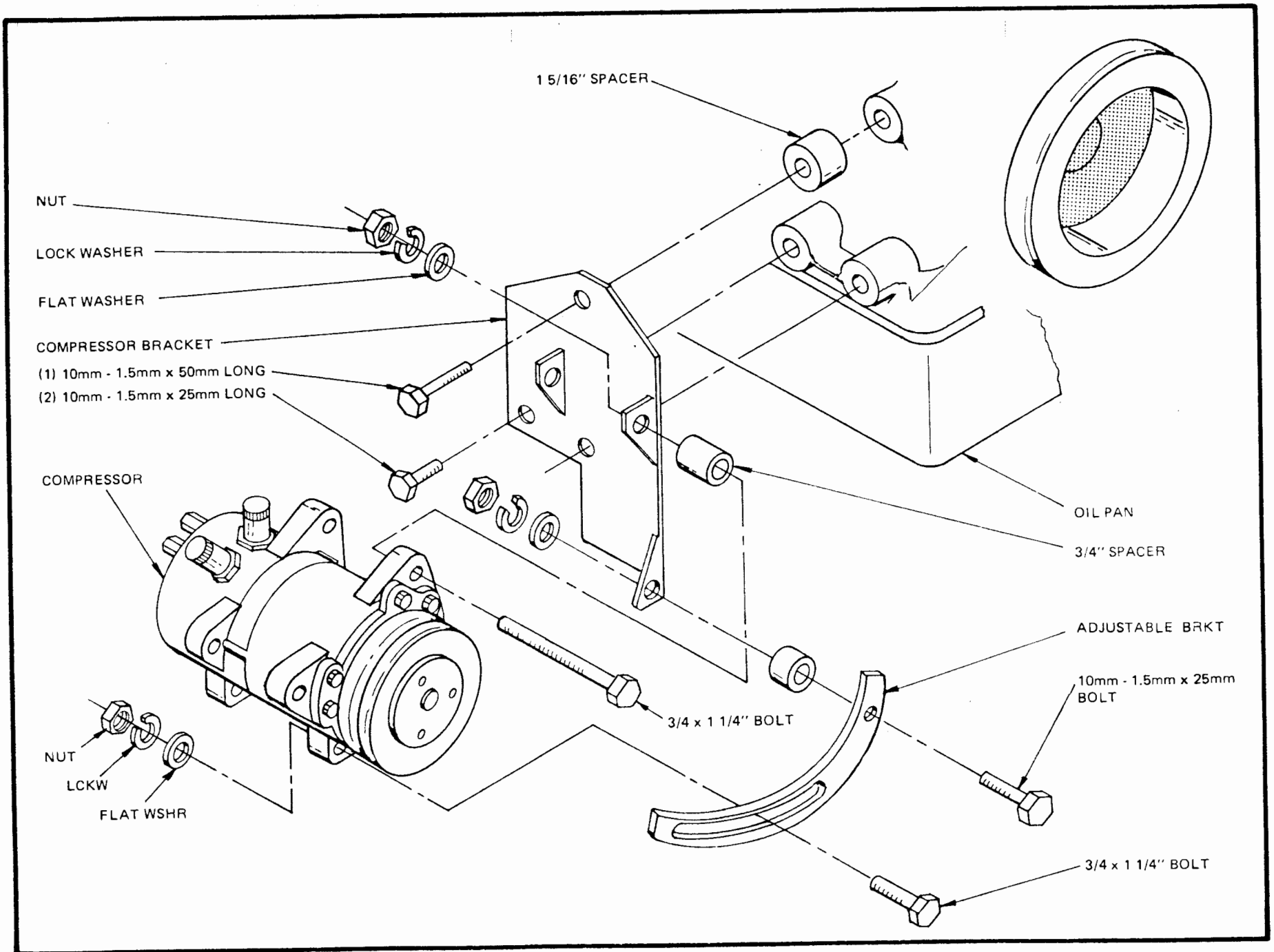


Figure 32

AIR CONDITIONING

These instructions cover the installation of our air conditioning unit. Other units will require the fabrication of brackets to install.

- Install compressor bracket to engine using 2 bolts, 10mm-1.5mm x 25mm long and 1 bolt, 10mm-1.5mm x 50mm long with a 1 5/16" spacer.
- Attach compressor to bracket using 1 bolt, 10mm-1.5mm x 1 1/2" and 1 bolt 10mm-1.5mm x 60mm with a 3/4" spacer.
- Attach adjustable bracket to main bracket with a 10mm-1.5mm x 25mm bolt with lock washer and nut.
- Connect compressor to adjustable bracket with a 3/4 x 1 1/4" bolt with large flat washer, lock washer and nut.
- Remove pulley from engine and replace with pulley supplied in Air Conditioning kit.
- Install belt (Napa 25-08505 or equivalent) and tighten compressor.
- If lower radiator hose will not clear air conditioning components, replace with Dayco No. 70748 or equivalent.
- Install receiver drier to lower frame member approximately 9" forward of

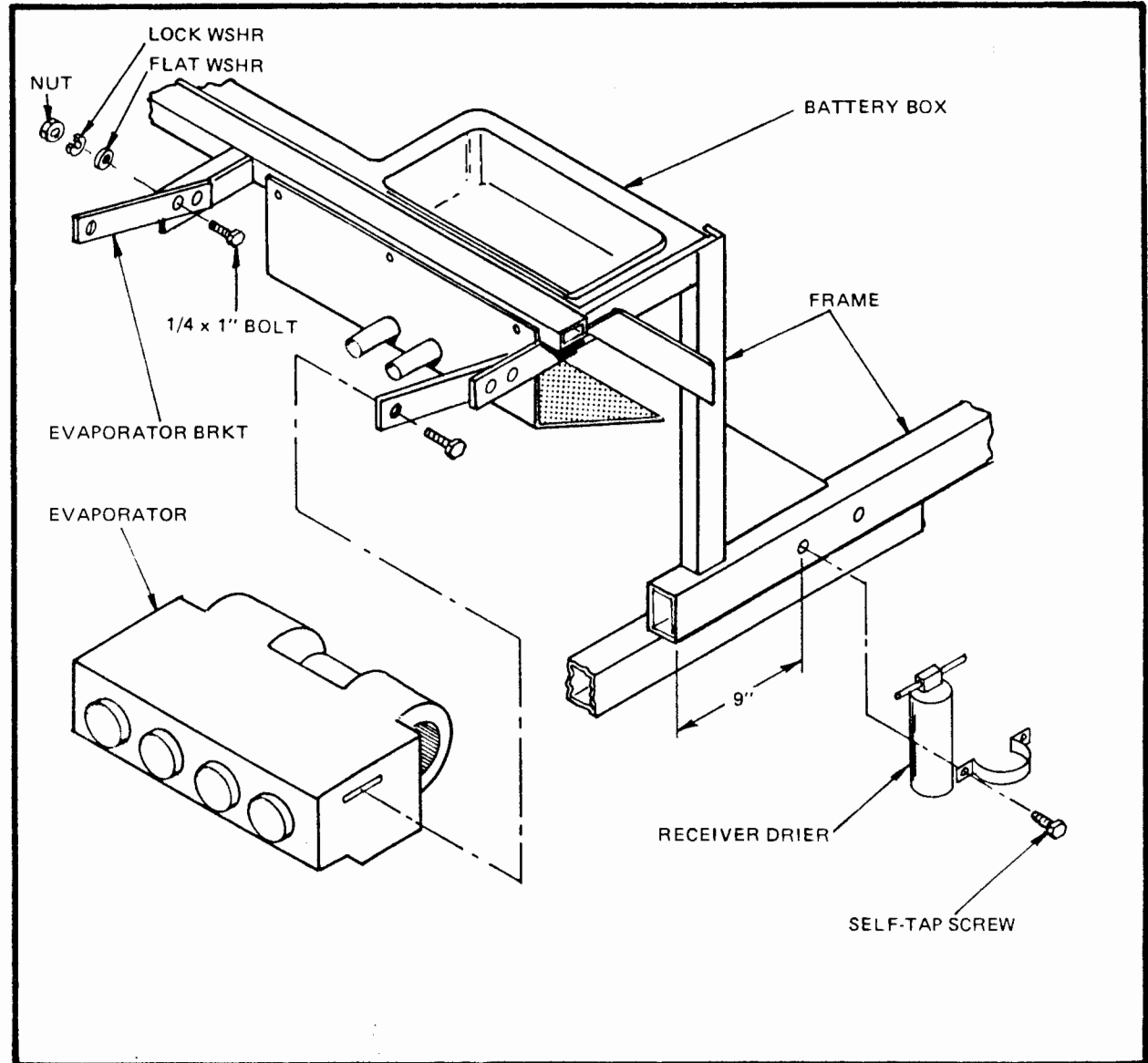


Figure 33

end of tube, using self-tapping screws.

bolts with flat washers, lock washers and nuts.

- Attach evaporator brackets to frame on passenger side of car, using 1/4 x 1"

- Hang evaporator between brackets.

BODY

- Trim rear of body to line if not already done. Drill pre-marked holes as shown (1/4" drill). Set body onto frame, pushing it back as far as possible. Be sure body is seated on the two mounting pads on the frame. (Figure 34)
- Center rear of body on frame.
- From inside the car, drill 3 holes, 7/32", through the body and liner and into the frame. Secure with 1/4 x 3/4" hex washer head self-tapping screws. Drill two holes, 7/32" through the bottom of the rear body into the frame mounting pads. Secure with 1/4 x 3/4" hex washer head self-tapping screws.
- Fit doors into body to check alignment. Shift the front of the body left or right to achieve the most even door fit. (Small gaps between door lip and body are normal and will be taken up by gasketing material.) When best position is found, drill through holes on front of body into frame (7/32" drill). Secure with 1/4 x 3/4" hex washer head self-tapping screws. (Figure 35)

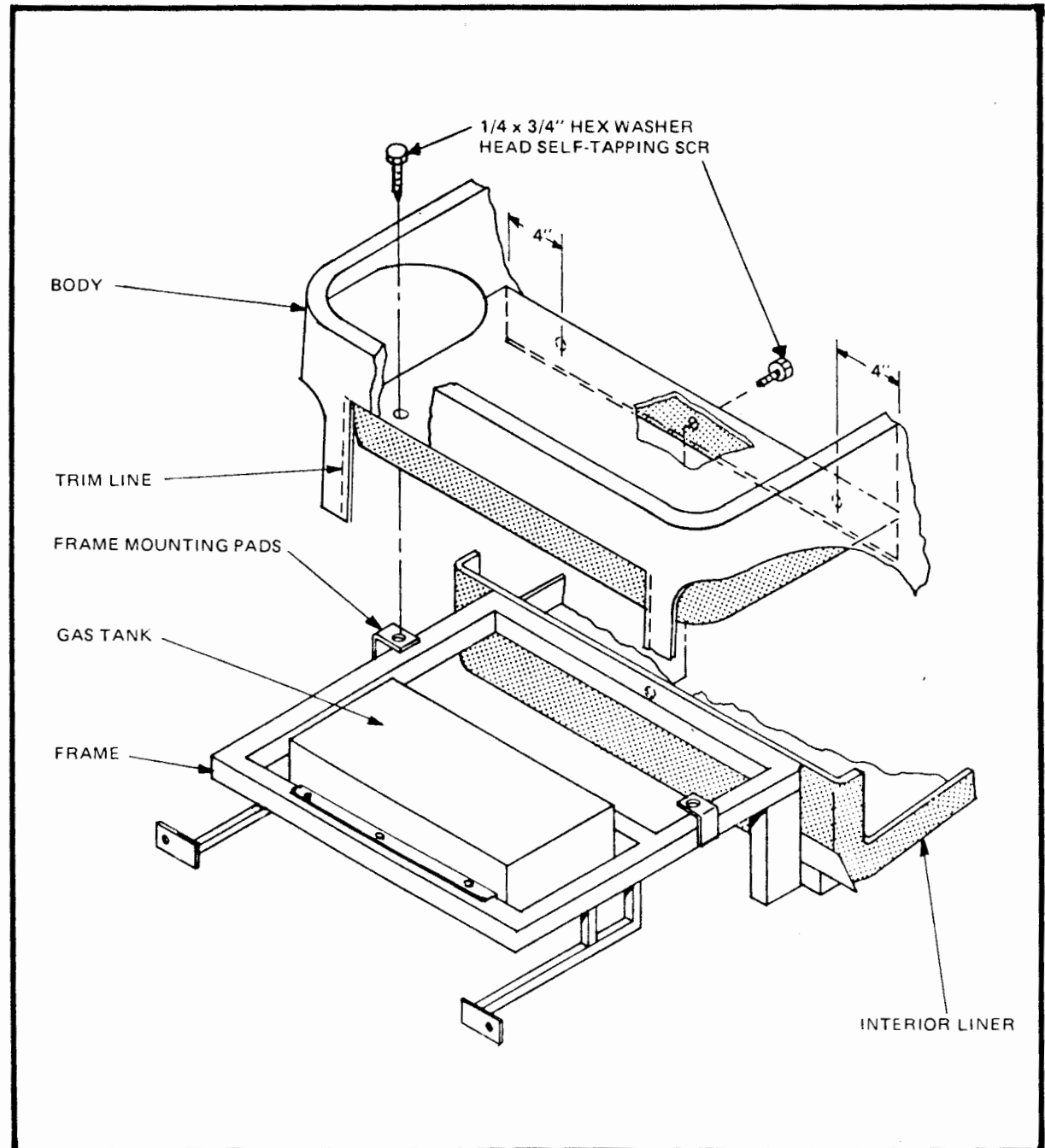


Figure 34

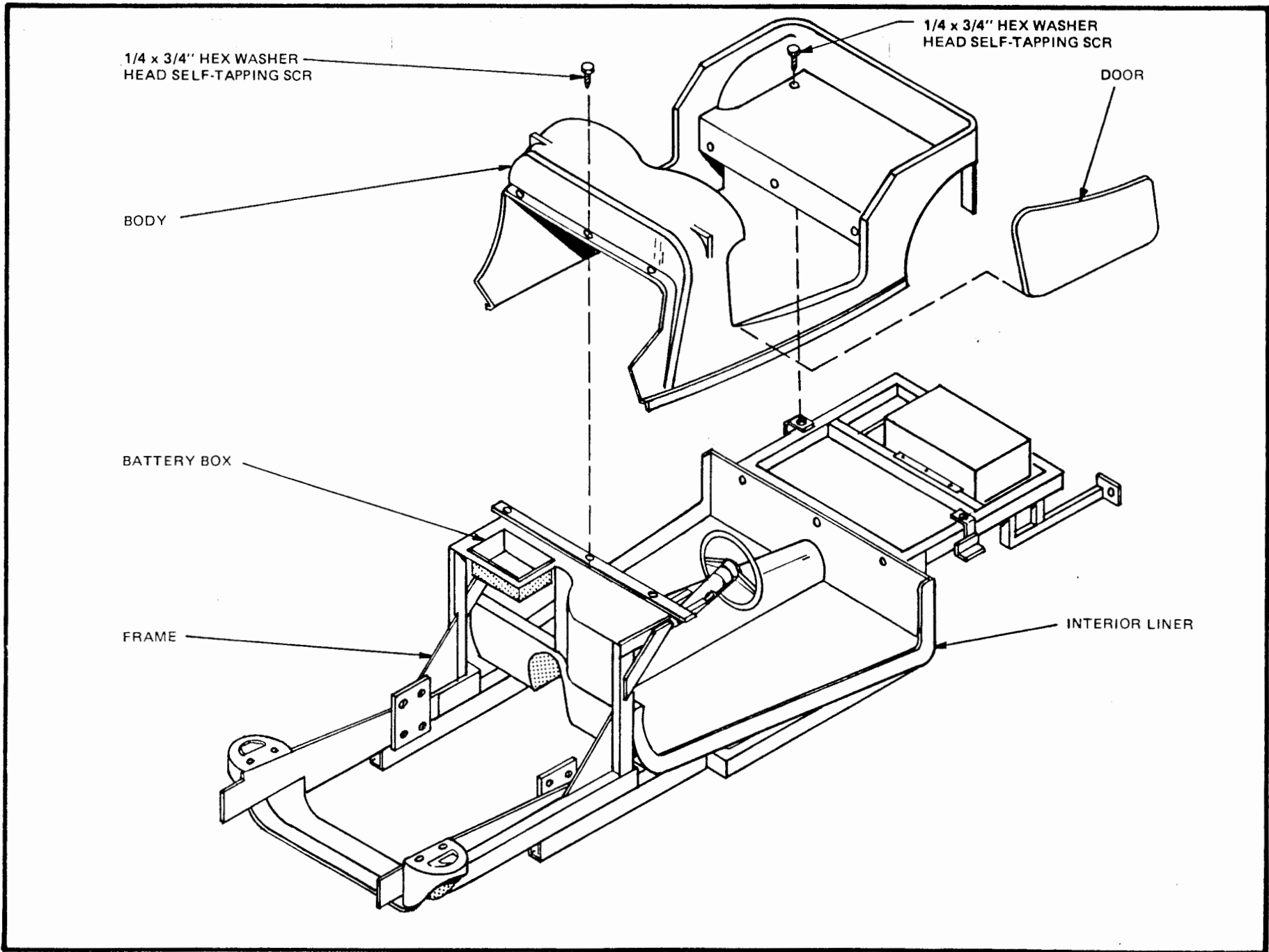


Figure 35

FIBERGLASSING

- Roughen interior of body and edge of liner at places indicated.
- Apply 6" wide fiberglass strips along the matting surfaces and saturate with resin.
- At the firewall, be sure to seal the area between the body sides and the engine compartment (particularly on the driver's side).
- Under the rear wheel wells, seal the junction of the liner and body and seal the opening between the body sides.

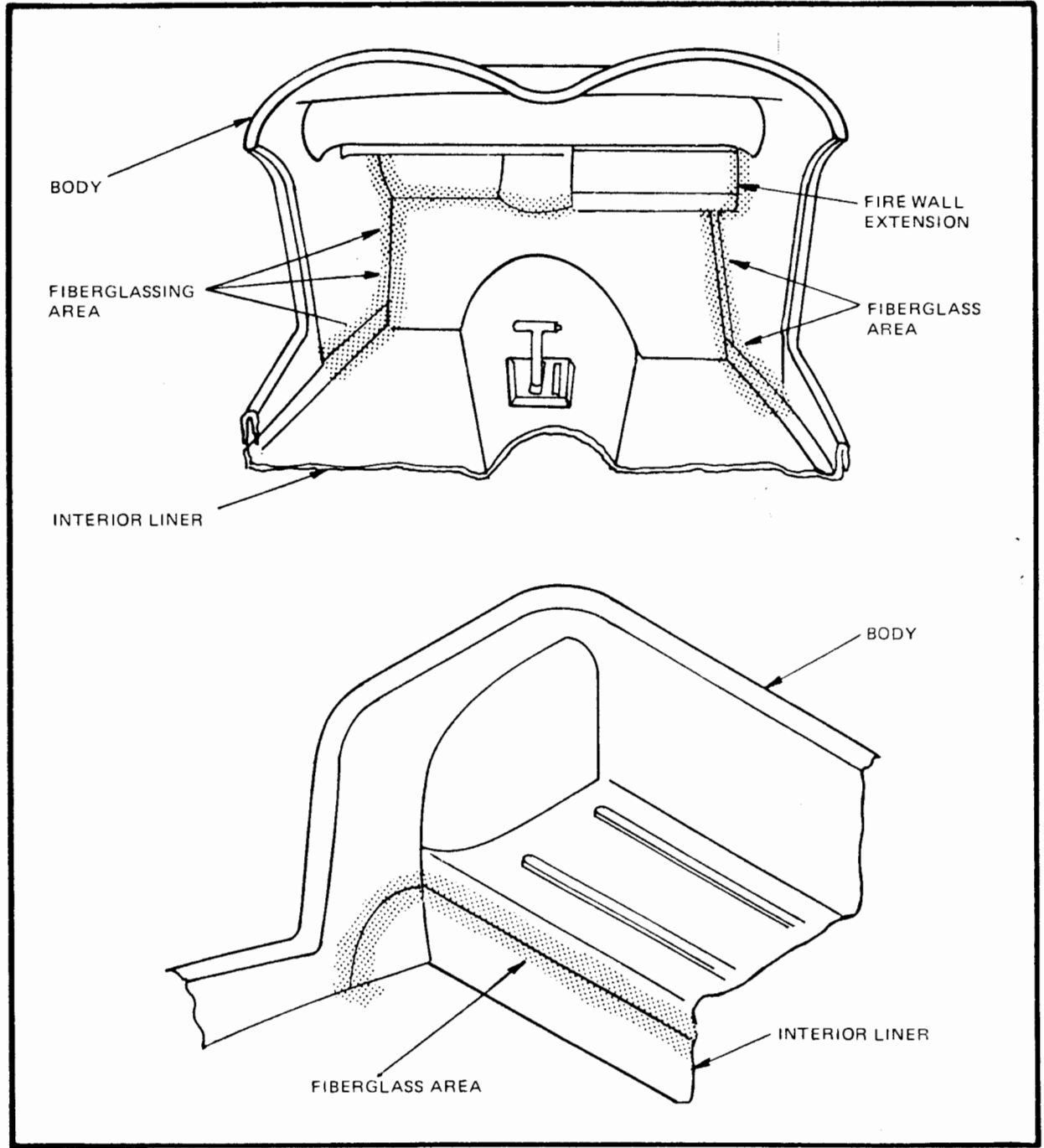


Figure 36

HEATER

- Glue a piece of rubber matting over the hole on the right side of the heater. It is not used and must be sealed.
- Install heater into battery box, securing with hardware supplied with heater. Connect heater hoses to engine, attaching cutoff valve in heater inlet line. (Figure 37)

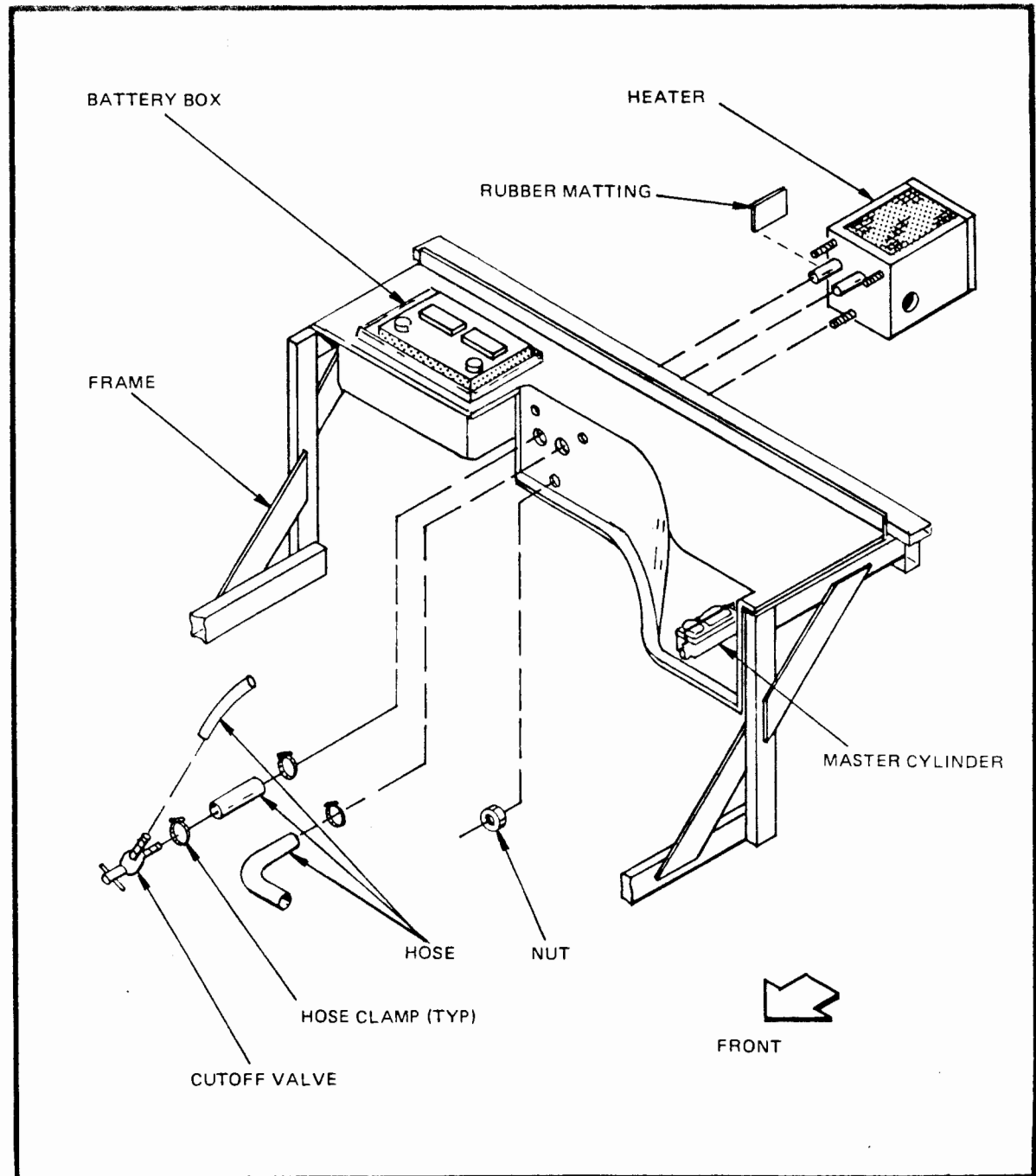


Figure 37

DEFROSTERS

- Locate defrosters 4" forward of the dash board on each body rise. Cut slots carefully and keep them as small as possible.
- Install ducts with openings slanted toward the middle. Carefully lay short strips of fiberglass matting to bottom of duct and secure to body.
- Using a piece of windshield washer tubing, carefully glue it around the duct opening.
- Run hoses from ducts to opening on heater, using the "Y" connector. Glue holes in place. (Figure 38)

ENGINE COWLS

- Trim and drill cowls as per Figure 39. Carefully align cowls with body, matching rear of cowls with forward edge of body. Adjust height of cowls until top edge of cowl aligns with mold seam on body.
- Drill through rear 3/16" holes of cowls into body. Secure with No. 10 x 1 1/4" stainless steel Phillips oval head machine screws with finishing washer, flat washer, lock washer and nut.
- Leave all other bolts out at this time. (Figure 39)

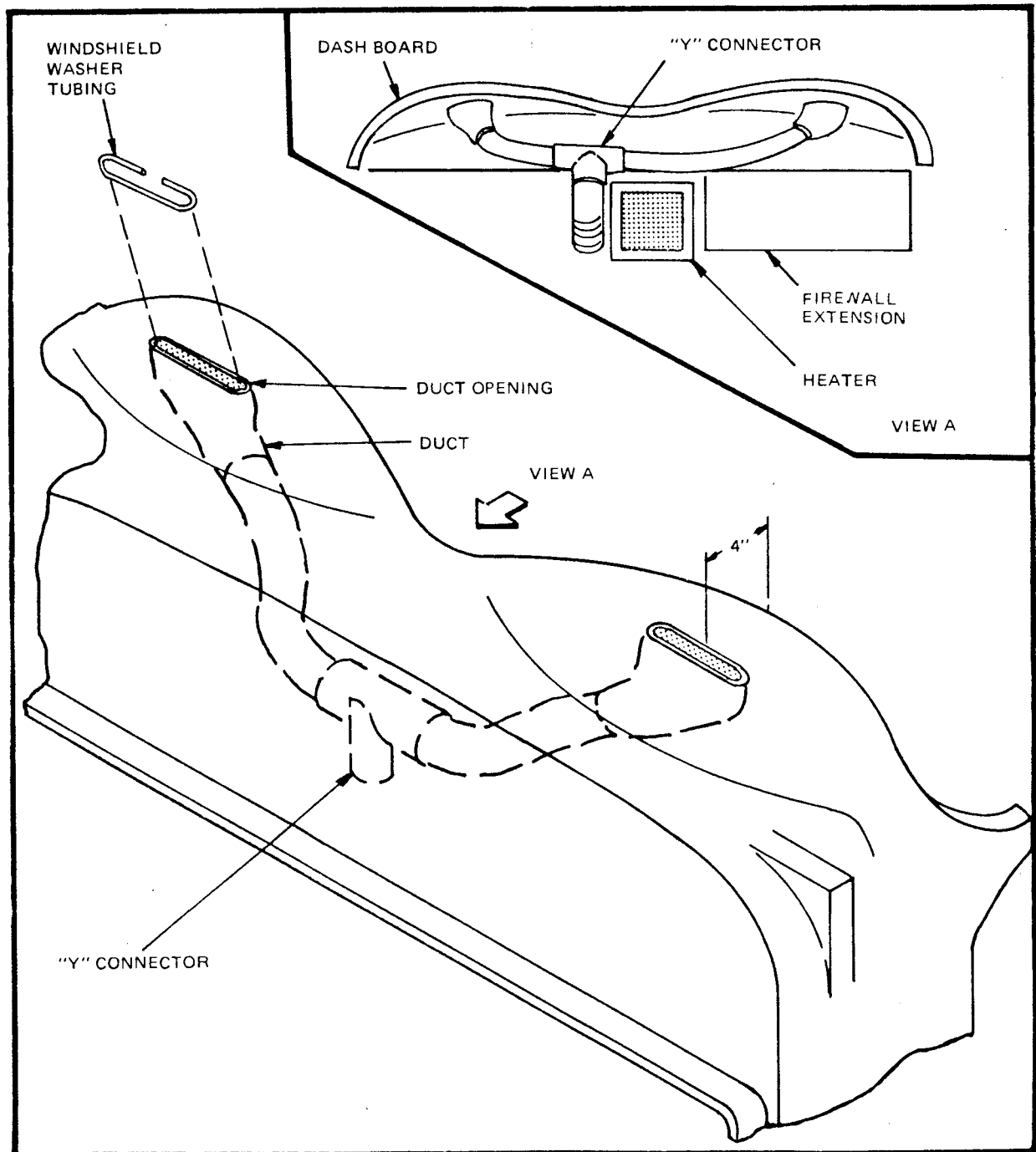


Figure 38

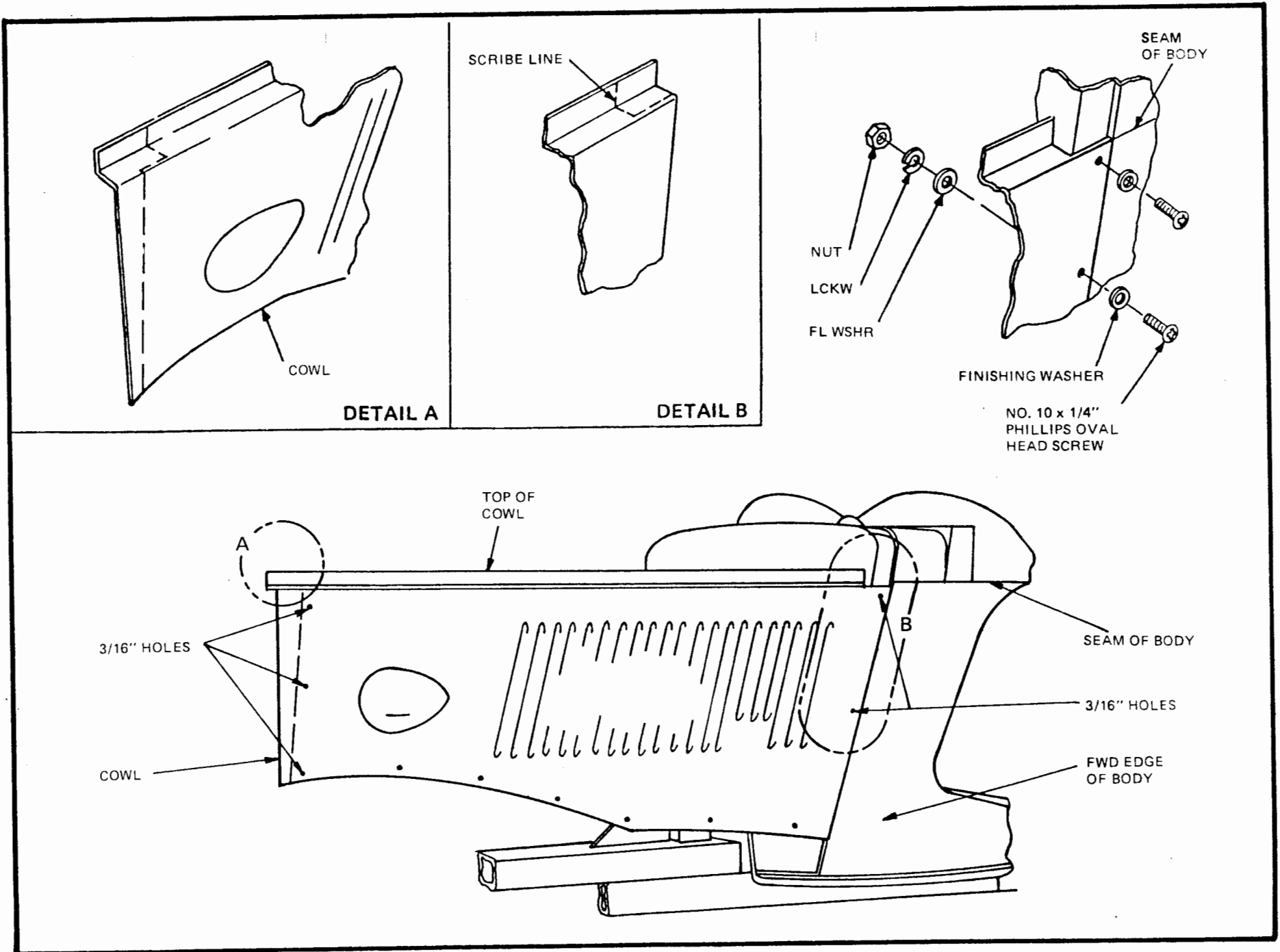


Figure 39

FENDERS

- Trim and drill fenders as per diagram. Drill all marked points, 3/16 and 5/16".
- Align fenders with cowls and allow rear of fender to rest on lower flange of body.
- Bolt second holes from front. 5/16 x 1 1/4" bolt with 2 flat washers, lock washer and nut.

NOTE: If front of fenders do not meet at the same height, loosen the upper cowl screw and adjust cowl height until fenders are aligned.

- Drill through last three holes of fender into body. Secure with 5/16 x 1 1/2" bolts with 2 flat washers, lock washers and nut. Fasten remainder of fender using 5/16 x 1 1/4" bolts with 2 flat washers, lock washer and nut. (Do not bolt forward hole at this time.) Hand tighten all bolts as welting will be installed later. (Figure 40)

GRILLE PREPARATION (Refer to Figure 41)

The grille consists of 7 pieces. The fiberglass liner, the chrome shell, the chrome grille slats, the simulated radiator cap or optional moto-meter and cap, the nose piece and the two large grille mounted headlight supports.

- Bend the metal frame of the chrome grille slats to match the contour of the chrome shell.

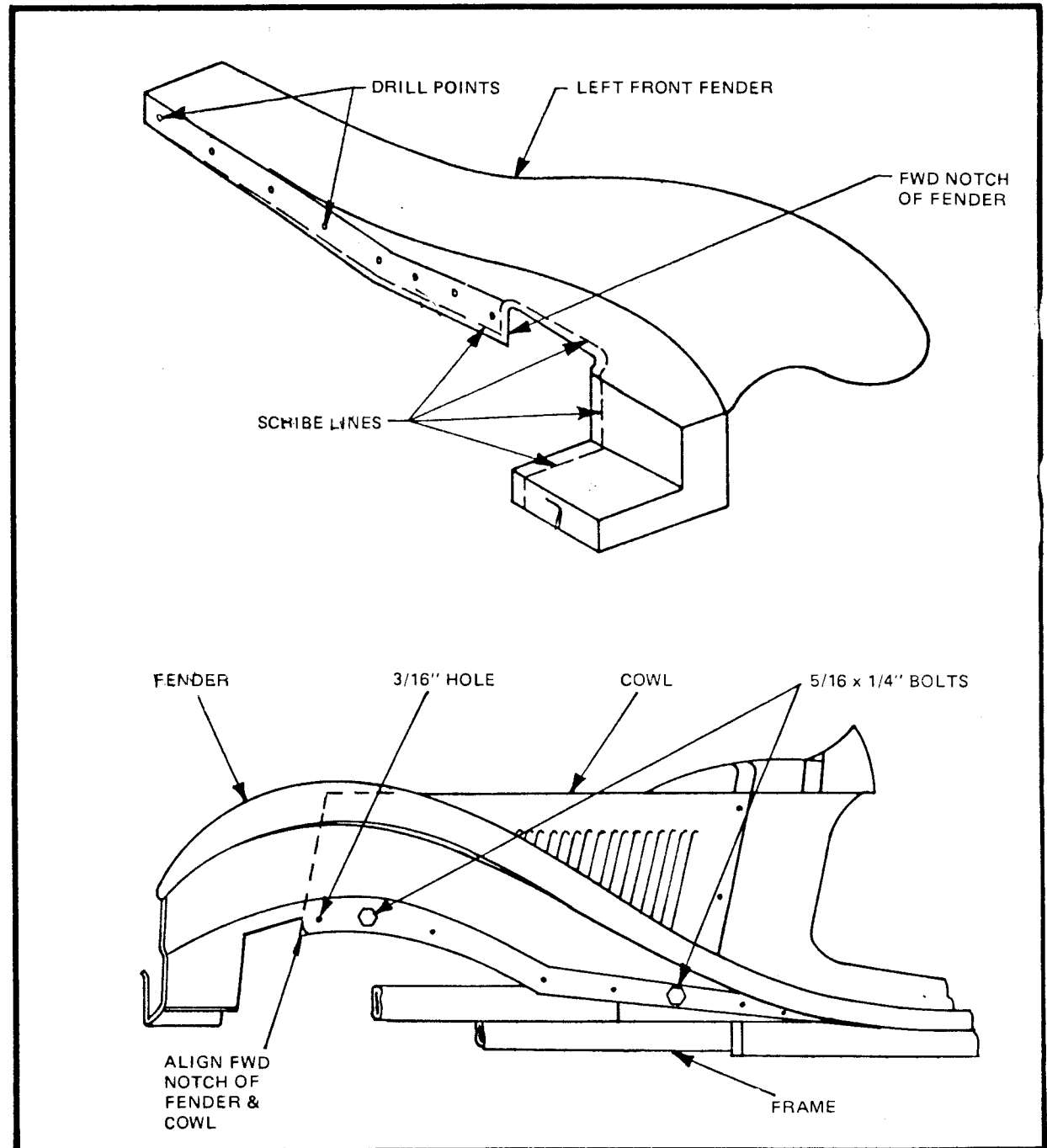
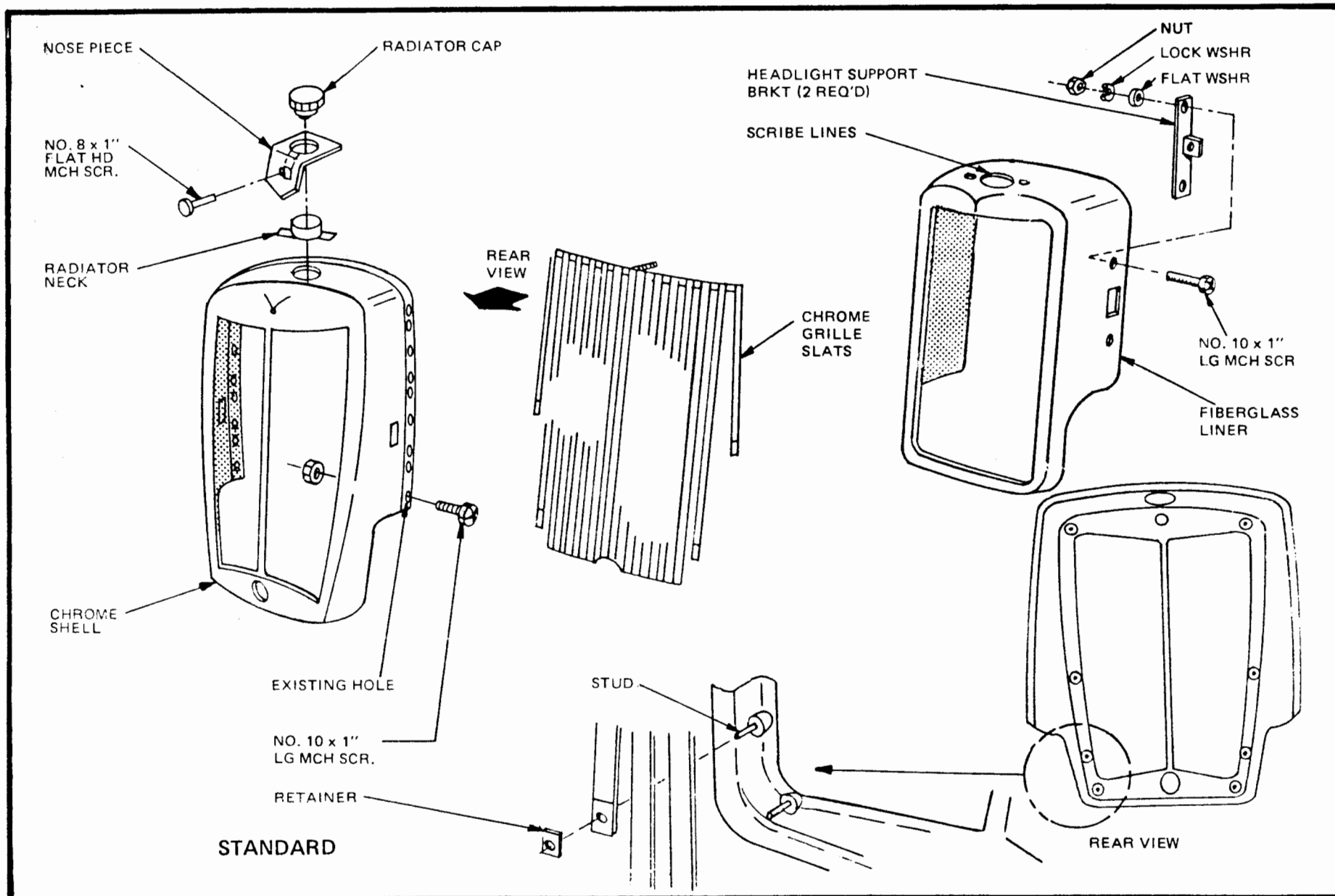


Figure 40



GRILLE PREPARATION (Con't)

Remove the 4 corner nuts of the grille slats. Knock out the studs. Insert slats over projections in chrome grille shell. Secure with retainers provided.

Figure 41

Cut the fiberglass liner on the prescribed lines, including hole for radiator cap.

If using the optional moto-meter cap install as follows, if not, proceed to "Grille Assembly". Insert nose piece into shell pulling front tab down.

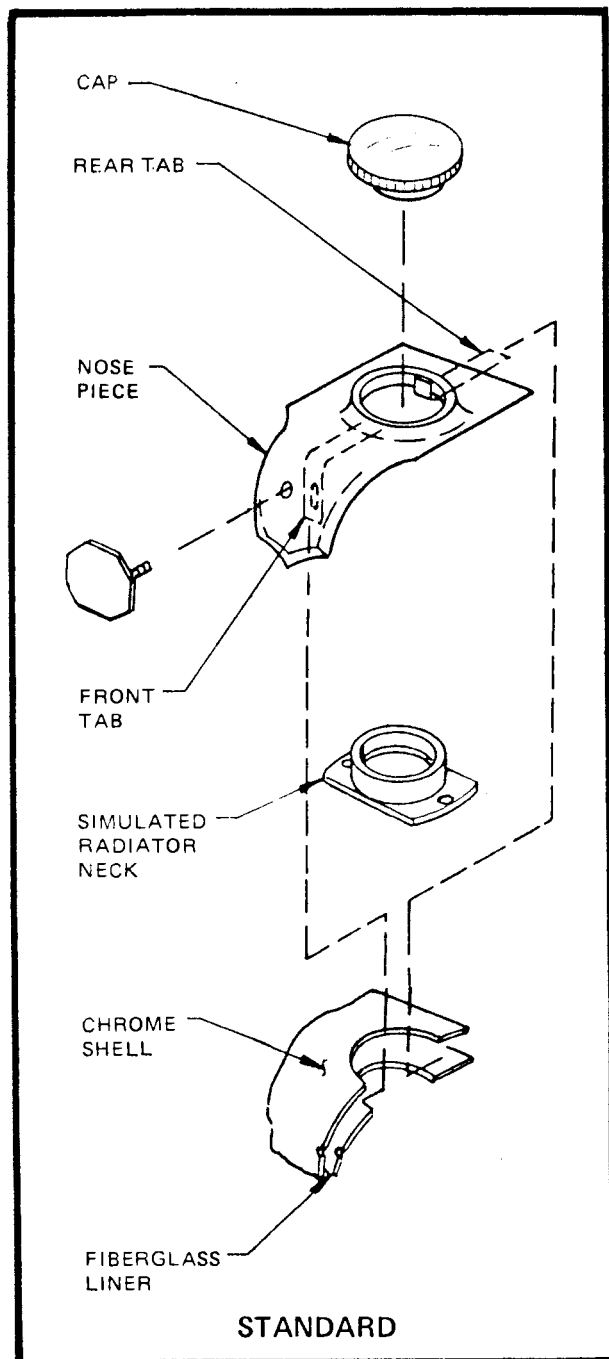


Figure 42

GRILLE PREPARATION (Con't)

- Insert a 8 x 1" flat head machine screw into the front of the nose piece and secure with a nut. Pull tab over stud in center of slat assembly and secure with a nut.
- Insert threaded pipe into liner and drill 3/16" holes through flanges. Secure with No. 10 x 1" machine screws with flat washer, lock washer and nut. If using standard cap proceed to next step.

GRILLE ASSEMBLY

- Insert liner into assembled chrome shell. (Refer to Figure 41). Working through the rectangular holes on each side of the chrome shell, scribe the outline into the fiberglass liner. Remove liner and cut out the rectangular holes in the fiberglass liner. Position one of the headlight support brackets into the rectangular slot of the fiberglass liner. When installed the tab should be angled straight out from the center line of the car, not from the shell. Mark the location of the screw holes. Drill 3/16" hole at the marked location. Insert 2 No. 10 x 1" screws into the liner from the outside. Slide the headlight support over the screws and bolt, using nuts, flat

washers and lock washers. Repeat for opposite side.

- Insert fiberglass liner back into chrome shell, gently prying the chrome shell over the headlight supports. Using one of the existing holes in the side of the shell drill through the fiberglass shell and secure with a small bolt and nut (No. 10 x 1"). (Do not use the counter-sunk holes for this step.) This is just to hold the two sections together.

The following steps are for the standard cap only. Refer to Figure 42.

- Center the radiator neck in the grille opening and drill through the two holes in the flange into the grille shell and fiberglass liner (3/16"). Bolt down using No. 10 x 1 machine screws, lock washer, flat washer and nut. Insert nose piece over neck, making sure rear and front tabs go into area between neck and shell. (It may be necessary to apply a "C" clamp to rear of nose piece to allow it to sit flush.) Insert No. 8 x 1 1/4" flat head machine screw through front of nose piece making sure to bolt thru forward tab. Secure with large washer and nut. Install cap.

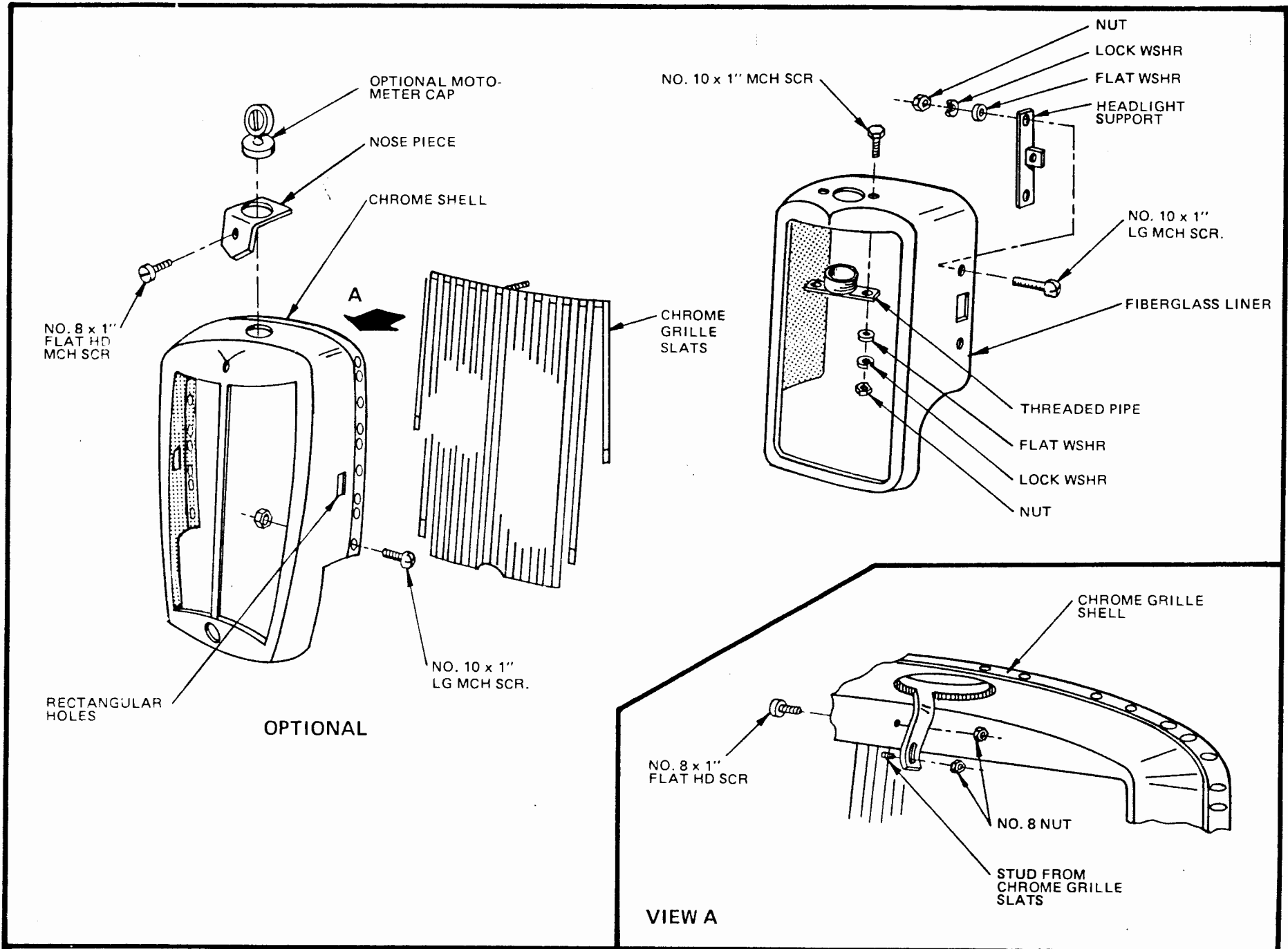


Figure 43

HOOD (PRELIMINARY)

- Trim as per diagram. (Figure 44) The trim line is just inside the raised ridge on the rear of the hood. Trim the inner lip as shown.
- Fit hood to body. Clamp in place, using a piece of wood scrap as a spacer.

GRILLE FITTING

- Slide the grille into place. Pull the grille assembly up as far as possible until shell contacts hood. (Figure 45) It may be necessary to further sand hood or cowls for a good fit where it contacts the grille shell. Hold shell in place and mark through the upper holes in cowl and grille shell ($3/16''$). Remove hood. Insert No. 10 x $1\ 1/2''$ oval head phillips screws with finishing washers. Using washers, lock washers and nuts, secure grille to body. Drill and bolt through lower hole in front part of fender.

FINAL ATTACHMENT - FRONT FENDERS AND WELTING (Figure 46)

- Clamp front of fenders together where they meet in front of radiator shell. Keep the two halves at the same level. Drill 2 holes ($5/16''$) through flange and bolt using $5/16 \times 1\ 1/4''$ bolts, flat washer, lock washer and nut. The seam can be sanded and gel coated for an unblemished appearance. (Detail A)

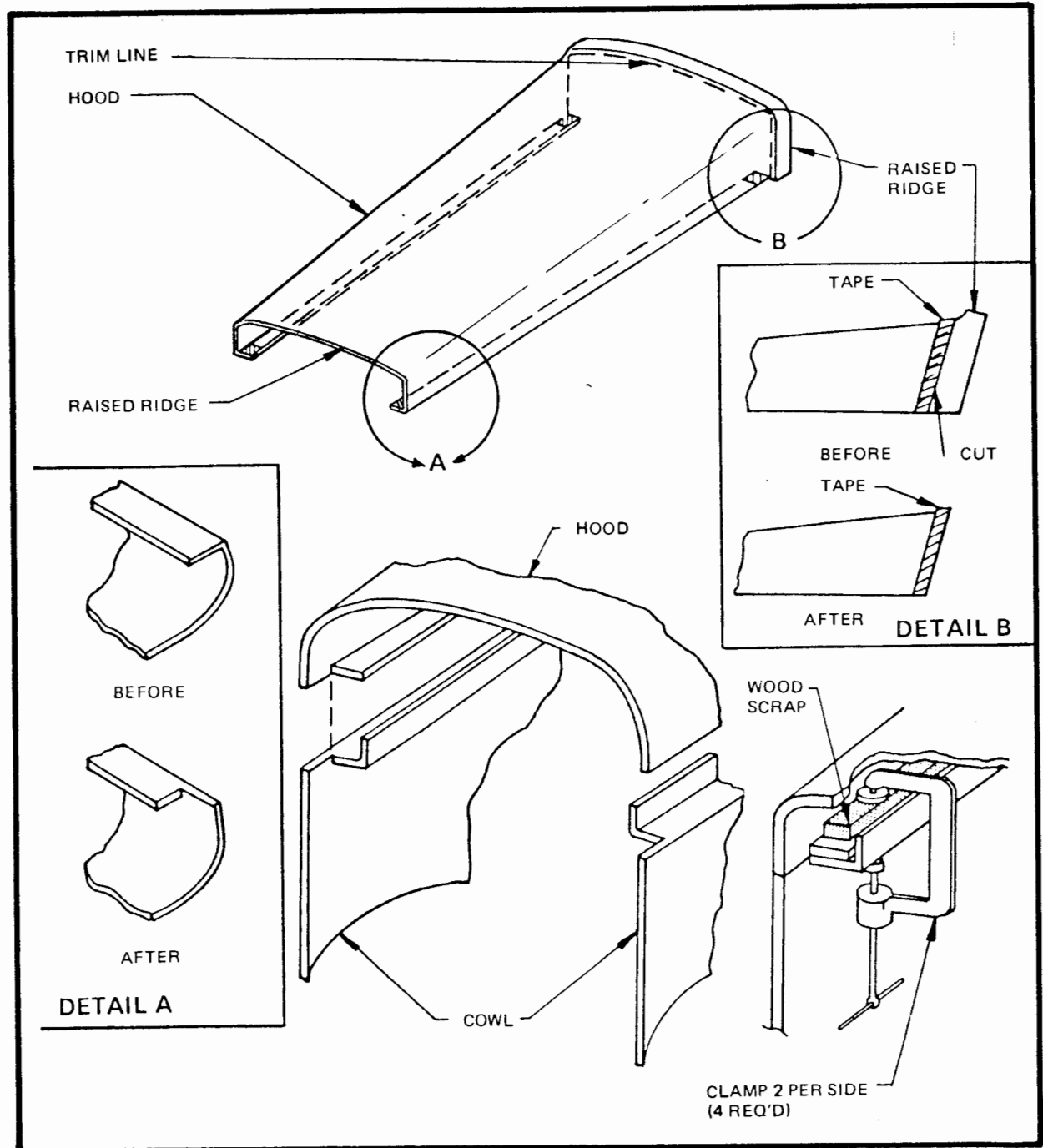


Figure 44

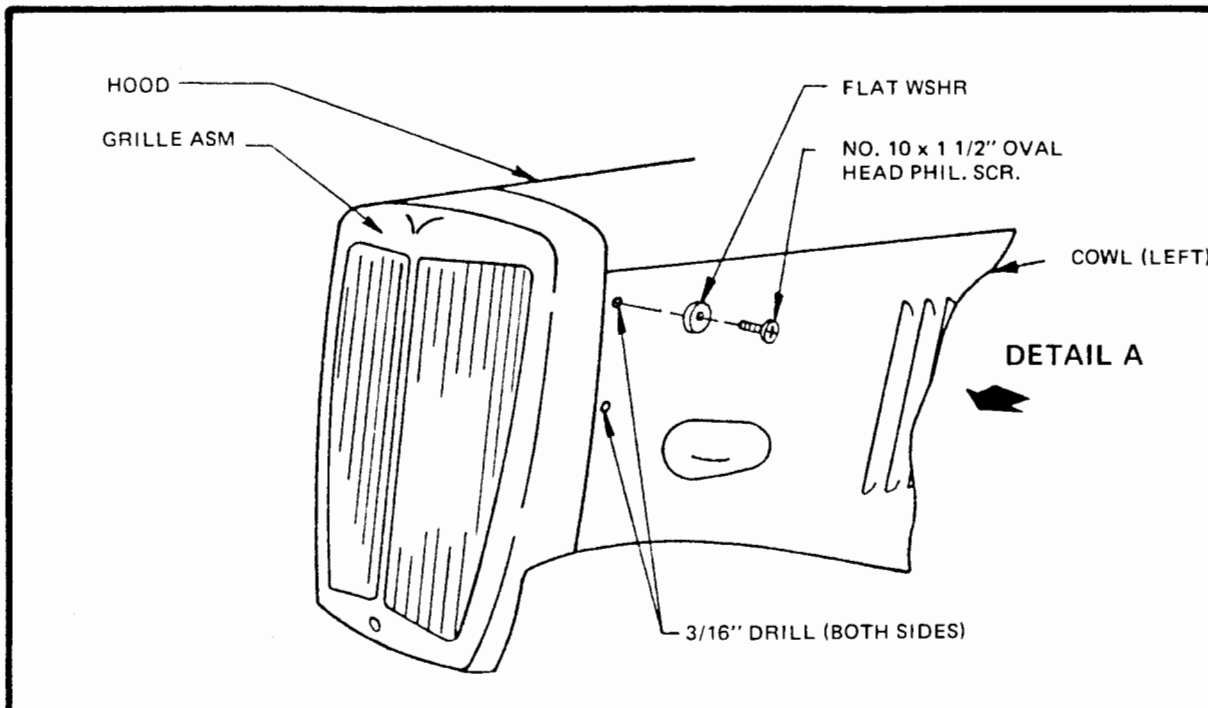
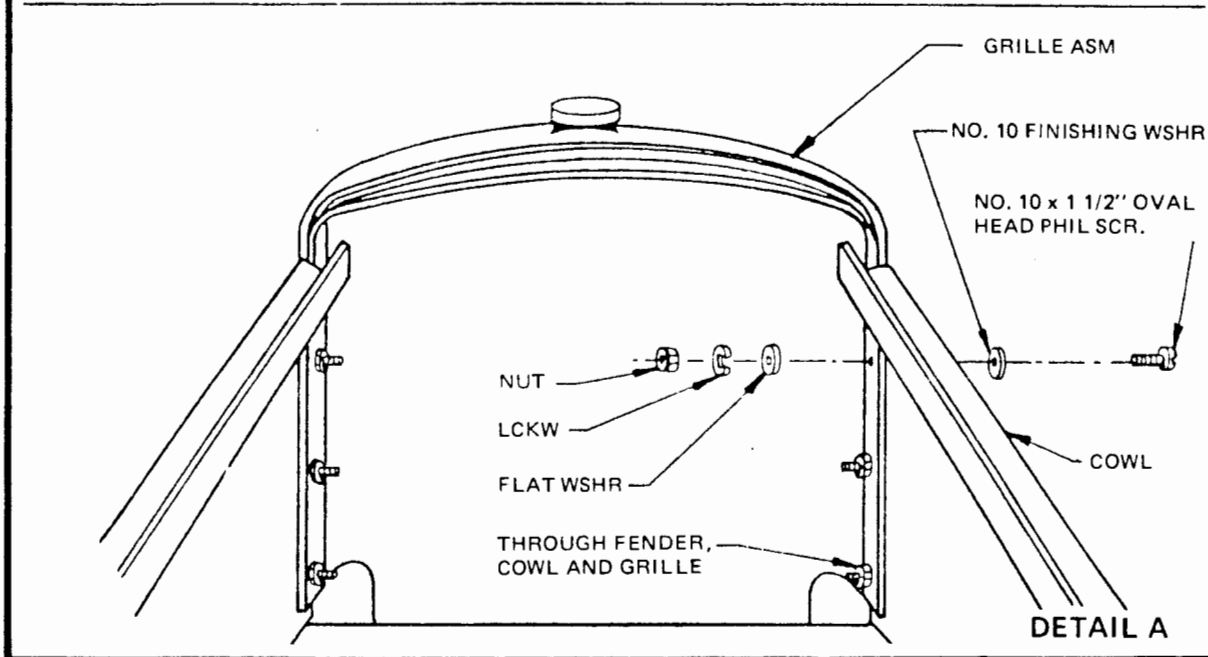


Figure 45



WELTING

- Welting is installed between the fenders and the body. It must be notched to fit around bolts and to negotiate curves. Starting at the rear of the front fender, leave 12" of welting exposed. (This will go between the fender and running board.) Run the welting up along the front fender. Continue around the grille shell and back along the other fender. Leave 12" of welting exposed and cut. Tighten down all fender bolts. (Contact cement can be used in problem areas to keep welting in place.) (Figure 46)

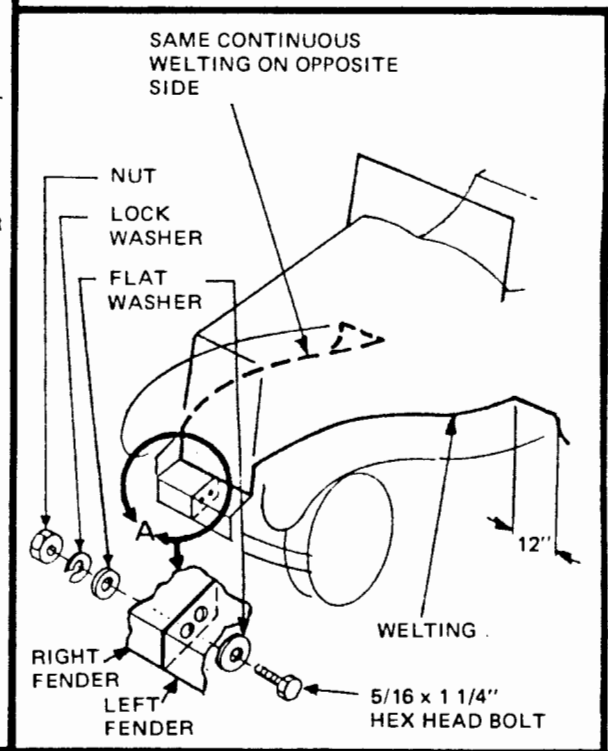


Figure 46

A/C CONDENSER INSTALLATION

The A/C condenser is fitted to the screws holding the grille shell to the body.

- Fit support brackets to condenser using self-tapping screws supplied with A/C kit.
- Attach another bracket to bottom of condenser.
- Bend upper brackets until they can be fastened to the screws projecting into the shell. Secure with a nut and lock washer.
- Bend bottom bracket around until it can be fastened to fiberglass of grille shell. Secure with No. 10 x 3/4" machine screw with flat washer, lock washer and nut. Keep condenser as close to radiator as possible. (Figure 47)

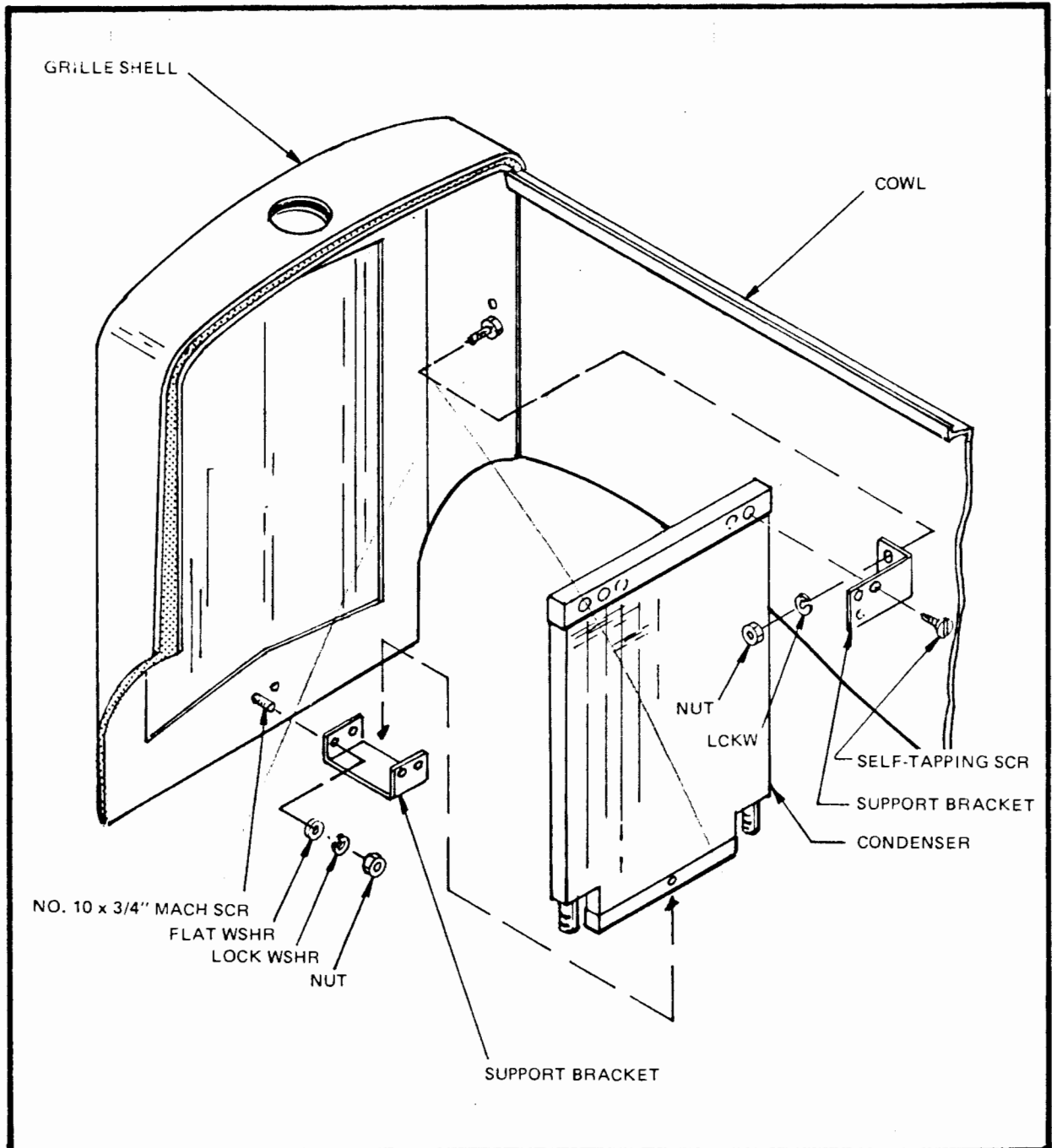


Figure 47

HOOD FITTING

- Reinstall hood. Space hood up on the right side only approximately $1/16$ of an inch. Use three washers as temporary spacers, mark the location of the hinges. The center of each hinge should be 7" from the end of the hood, on the right side. Drill and bolt to body and hood, using No. 10 x $3/4$ " oval head screws. Install latches approximately 4 inches from ends of the hood on the left side, drill and bolt as hinges. Install a sponge rubber weather sealing strip on rear of hood opening and along top of grille where they contact hood. (Figure 48)

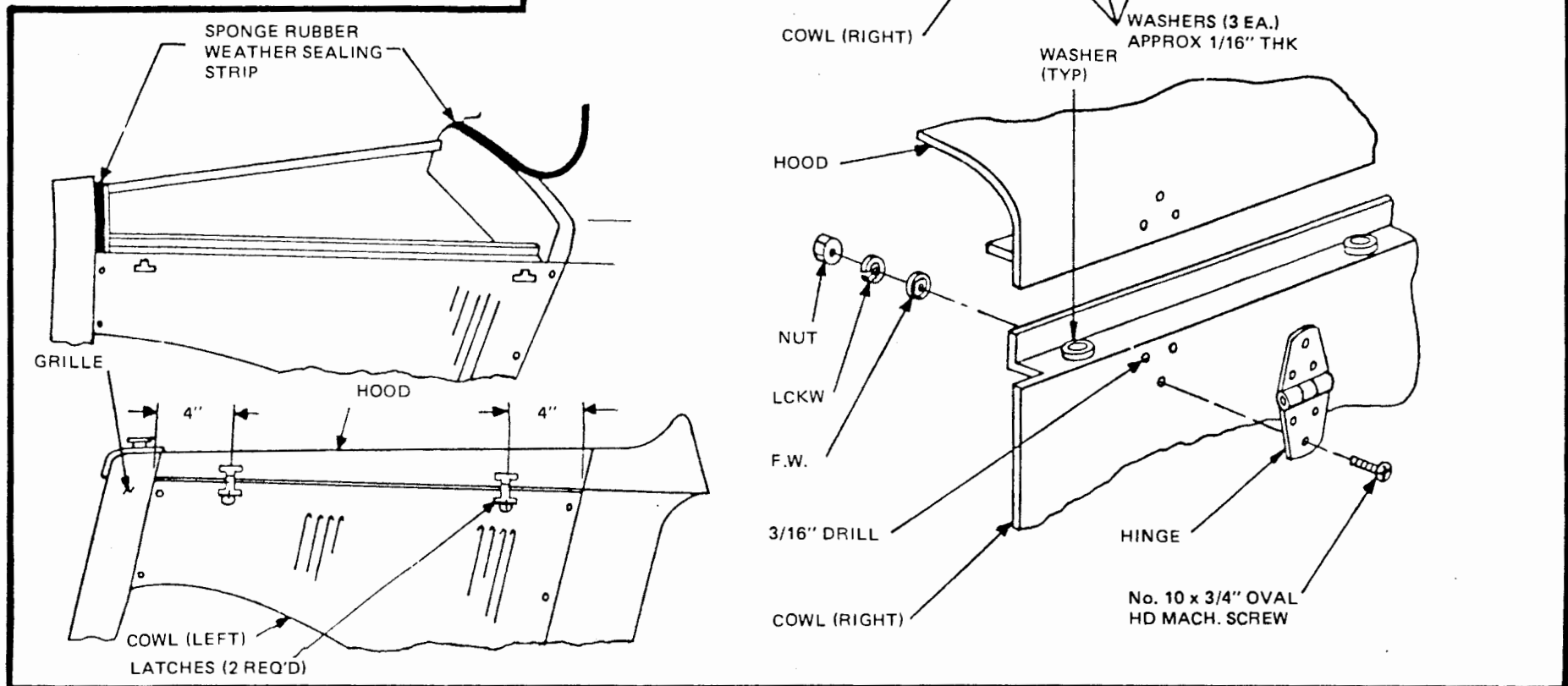
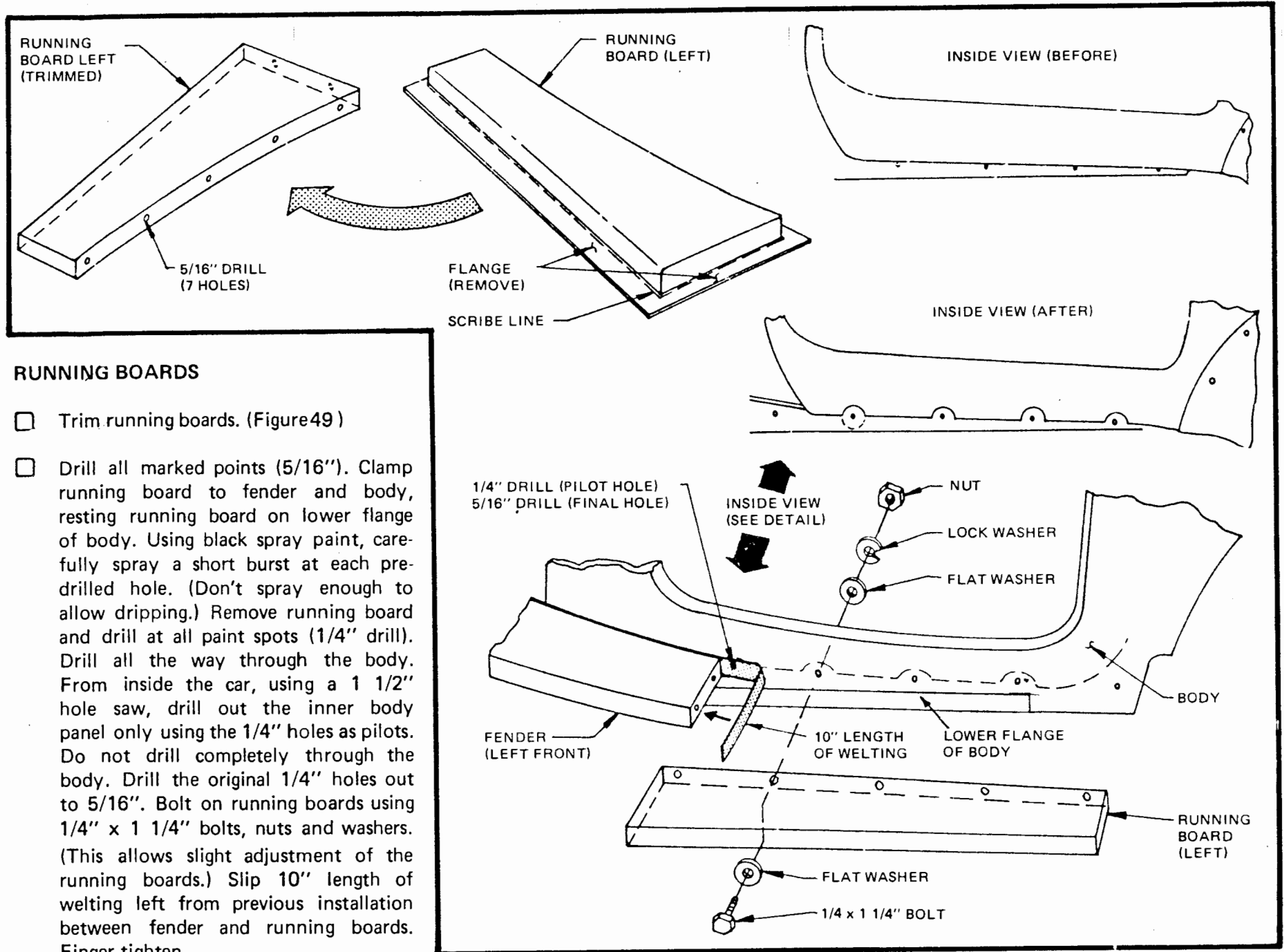


Figure 48



RUNNING BOARDS

- Trim running boards. (Figure 49)
- Drill all marked points (5/16"). Clamp running board to fender and body, resting running board on lower flange of body. Using black spray paint, carefully spray a short burst at each pre-drilled hole. (Don't spray enough to allow dripping.) Remove running board and drill at all paint spots (1/4" drill). Drill all the way through the body. From inside the car, using a 1 1/2" hole saw, drill out the inner body panel only using the 1/4" holes as pilots. Do not drill completely through the body. Drill the original 1/4" holes out to 5/16". Bolt on running boards using 1/4" x 1 1/4" bolts, nuts and washers. (This allows slight adjustment of the running boards.) Slip 10" length of welting left from previous installation between fender and running boards. Finger tighten.

Figure 49

RUNNING BOARD BRACKETS

- Center running board bracket against main frame rail under running board. Position it until it just contacts running board. Mark hole locations and drill 2 holes, 3/8", through frame rail. Attach bracket extension to bracket using 2 bolts, 5/16 x 1 1/4" with flat washer, lock washer and nut. Finger tighten. Glue a piece of rubber matting to the top of the extension to prevent squeaks. Bolt bracket to frame using 5/16 x 3" bolts with flat washer, lock washer and nut. Final adjustments will be made later. (Figure 50)

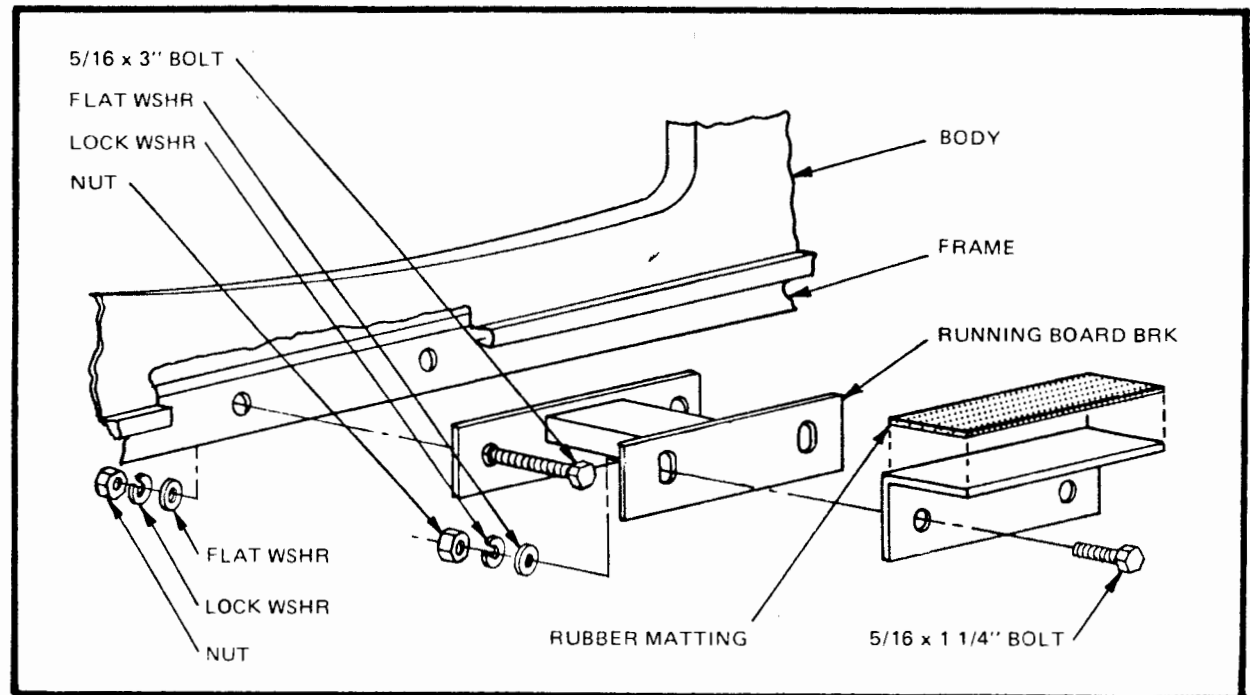


Figure 50

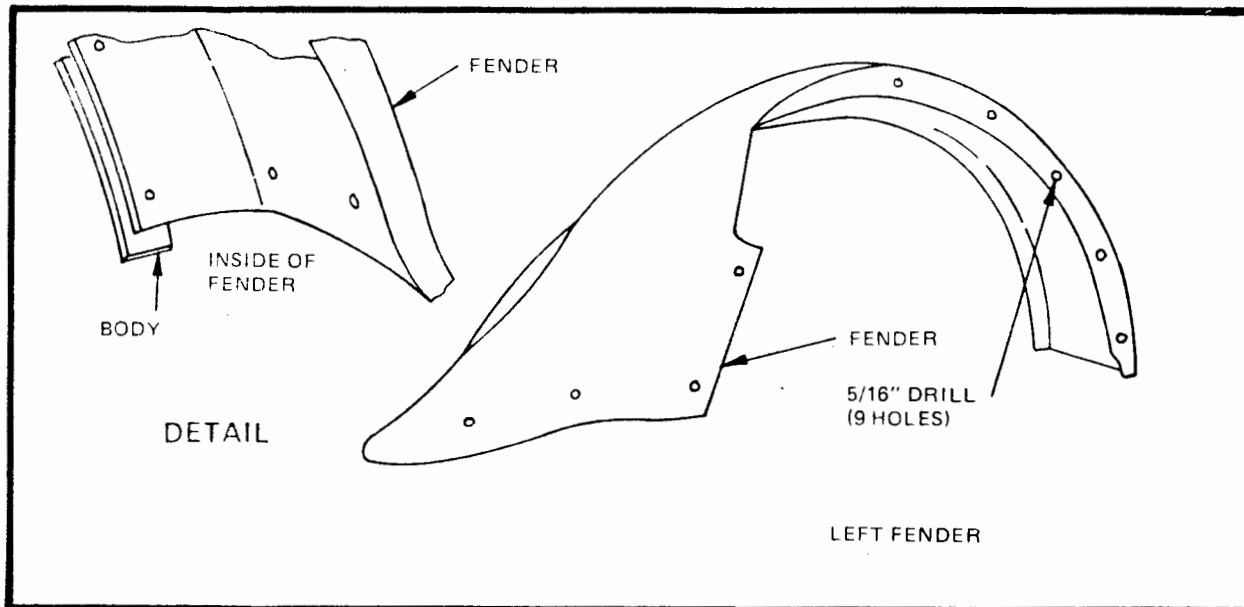


Figure 51

REAR FENDERS (PRELIMINARY)

- Drill as per diagram (5/16"). (Figure 51) Align front of fender with rear of running board. The rest of the fender will fit into place, indexing with the rear body. Clamp to body and running board. Do not bolt.

SPLASH APRON (PRELIMINARY)

- Trim as necessary to clear frame. Align splash apron to body, keeping a 17" measurement from the top of the splash apron to the top of the body. Clamp to body.
- Position rear cover on splash apron to check alignment. Adjust rear of splash apron until cover fits flush against body and flush against splash apron. Clamp rear of apron to bumper supports.
- Clamp fenders to splash apron, pulling the two pieces of fiberglass together. Adjust fenders as necessary to obtain a good fit.

FINAL ASSEMBLY

Using flat black spray paint spot each hole in the fender onto the body and splash apron. Also spray the under side of the running boards onto the forward edge of the fender. Remove clamps from fenders and drill through all spot marks (5/16" drill). (Do not remove clamps holding splash apron.) Reinstall fenders and bolt through all holes (5/16 x 1 1/4") (Figure 52) Finger tighten.

WELTING

- Install fender welting between rear fender and body and between running board and body. Cut a piece of welting approximately 10' long and insert be-

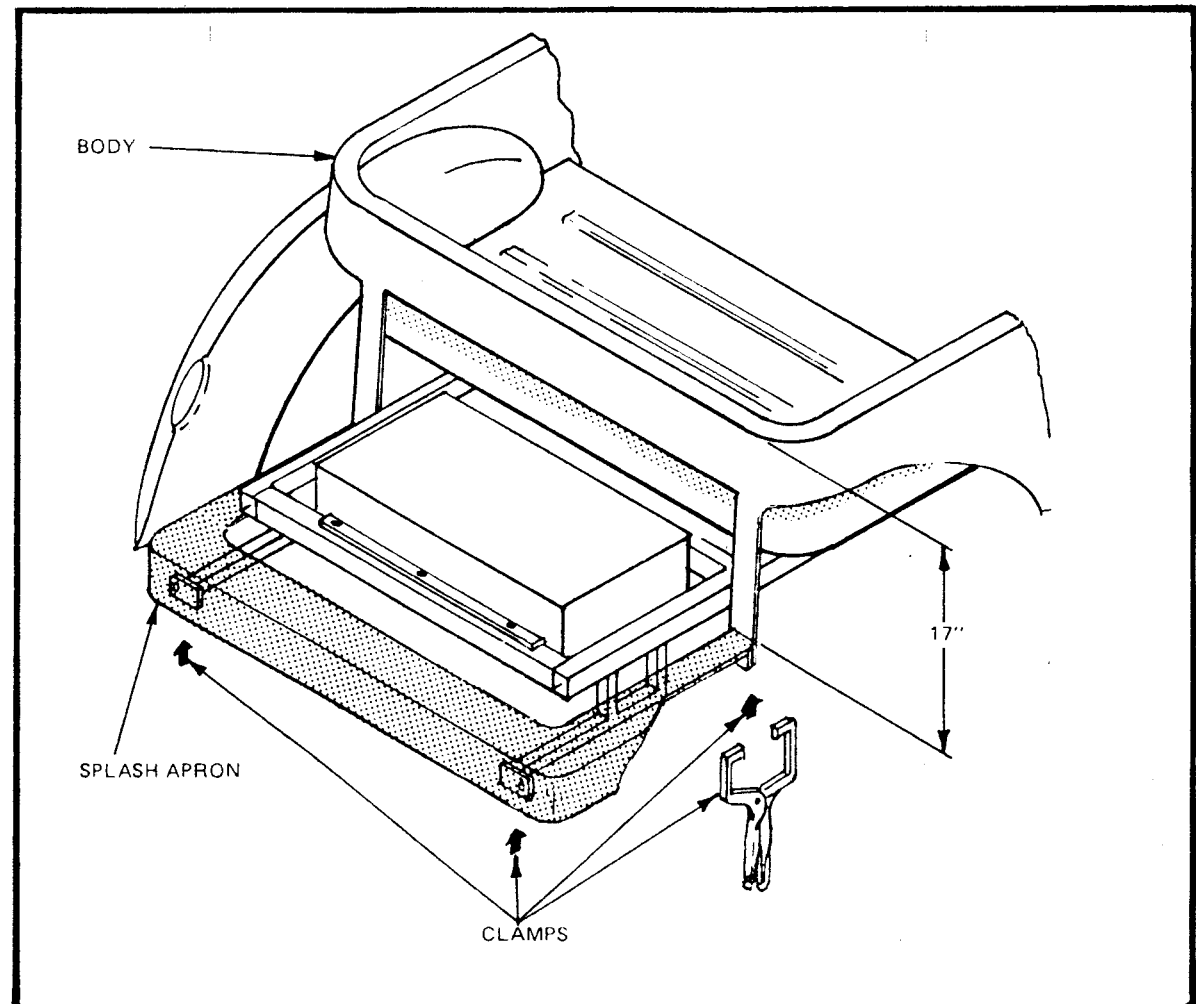


Figure 52

tween rear fender and running boards. Tighten all bolts. Pull running board extension tight up against running board and tighten bolts. Drill through flange of splash apron into body. Bolt using 5/16 x 1 1/4" bolts, with flat washer, lock washer and nuts. Do not remove clamps holding rear of splash apron to frame.

REAR COVER

- From the left hand edge of the cover, measure in 5 5/8" on the top of the cover and mark. Drill a 2 1/8" hole at marked location.
- Position filler neck in opening and drill 2 holes, 3/16", for mounting. Secure

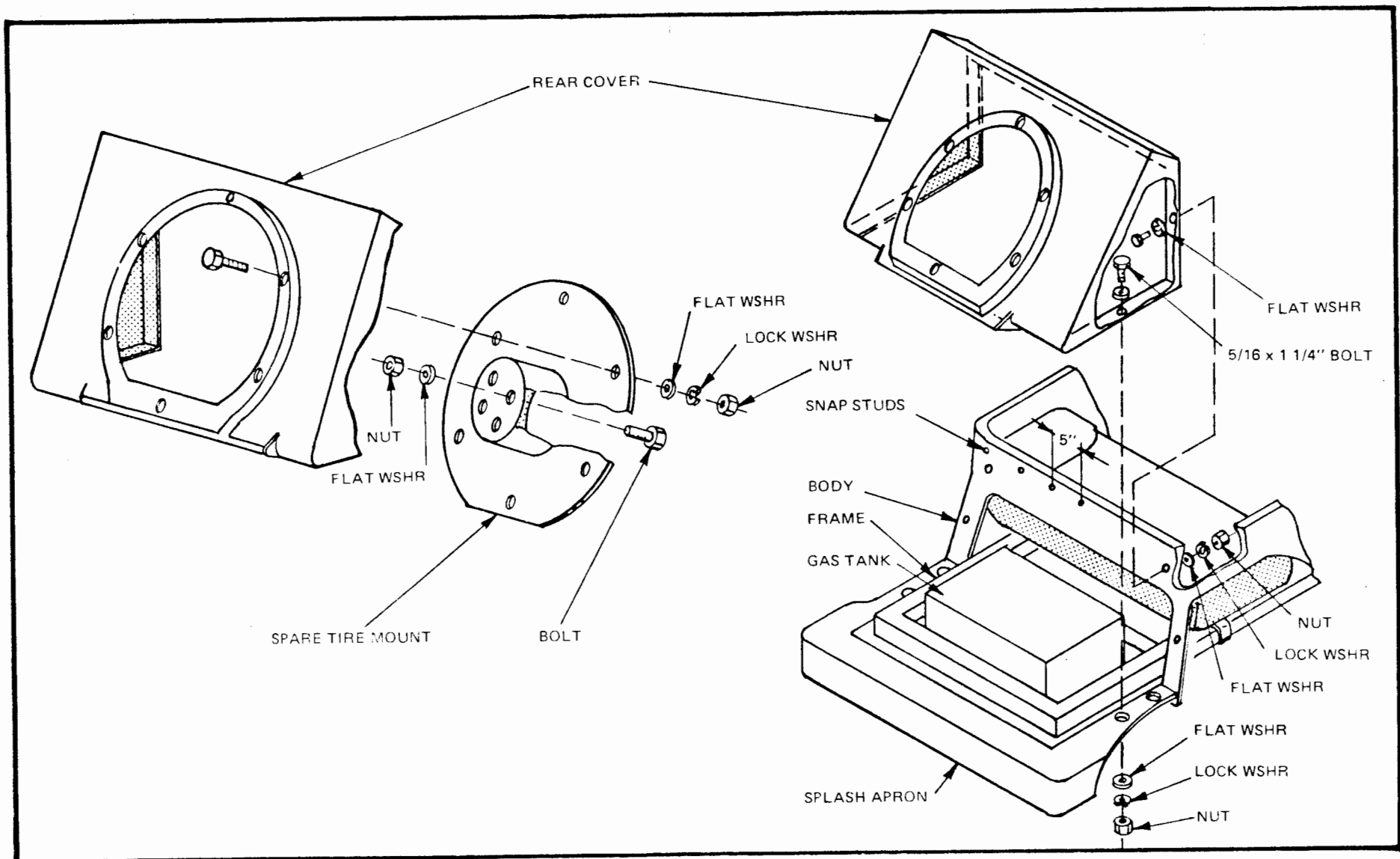


Figure 53

REAR COVER (Con't)

- to cover with No. 10 x 1" machine screws with 2 flat washers, lock washer and nut. (Figure 54)
- Set rear cover onto splash apron, keeping it centered from left to right.
- Working through opening, drill 5 holes, 5/16" through the cover and into the body. Drill 4 holes, 5/16", through the lower flange of the cover and the splash apron.
- Remove cover and insert spare tire support into cover from the inside. Drill 6 holes, 5/16", through the support and cover. Secure with 5/16 x 1 1/4" bolts with 2 flat washers, lock washer and nut.

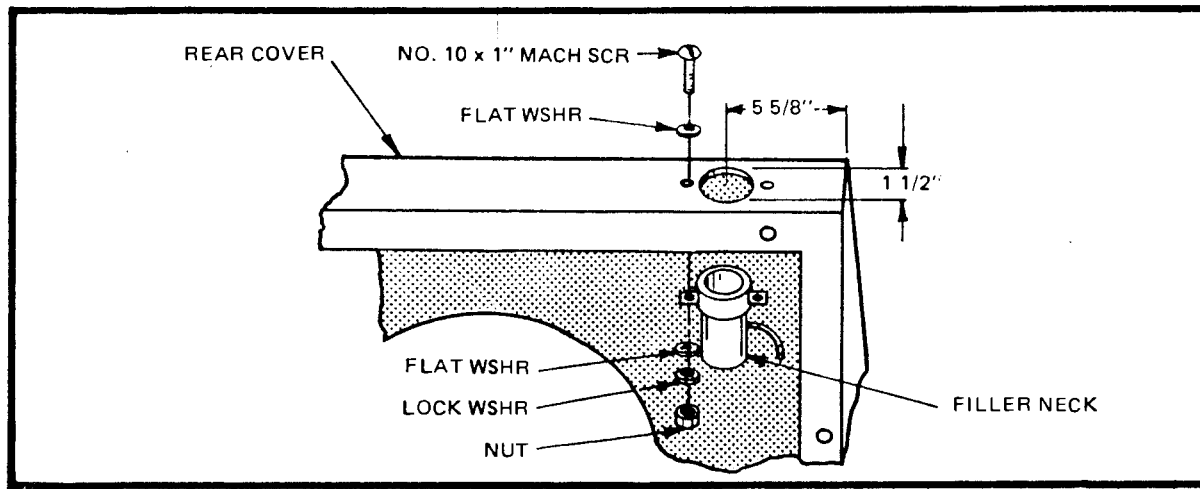


Figure 54

REAR COVER (Con't)

- Place wheel over support and drill two 1/2" holes for mounting.
- Insert 2 bolts, 1/2-20 x 1 1/2" through back of support and secure with a flat nut.
- Locate center of rear body. Measure down 3/8" from the top and install a snap stud. Measure out 20" on each side and install a snap stud at 5" intervals. (Once the cover is installed this operation is difficult.) The remainder of the snap studs will be installed when the convertible top is fitted.
- Position cover on car.
- Working through wheel wells, and from under splash apron, bolt cover to car through previously drilled holes using 5/16 x 1 1/4" bolts with 2 flat washers, lock washer and nut. (Figure 53)

- Attach spare tire using lug nuts.
- Working from under wheel well, cut a length of neoprene gas hose to size and clamp to filler neck and gas tank. Connect a piece of 1/4" gasoline hose to vent on filler neck and vent from charcoal cannister.

REAR COVER STRAPS (OPTIONAL)

- The straps are installed 1 1/2" from the edge of the rear cover. (Figure 55) With strap attached, install two of the hold down loops provided into the splash apron, approximately 2" from the back edge. Drill 3/16" holes. Secure with No. 10 x 1" oval head phillips screw with flat washer, lock washer and nut. Pull strap taut and attach to top of cover, using same hardware as above. Adjust strap as necessary.

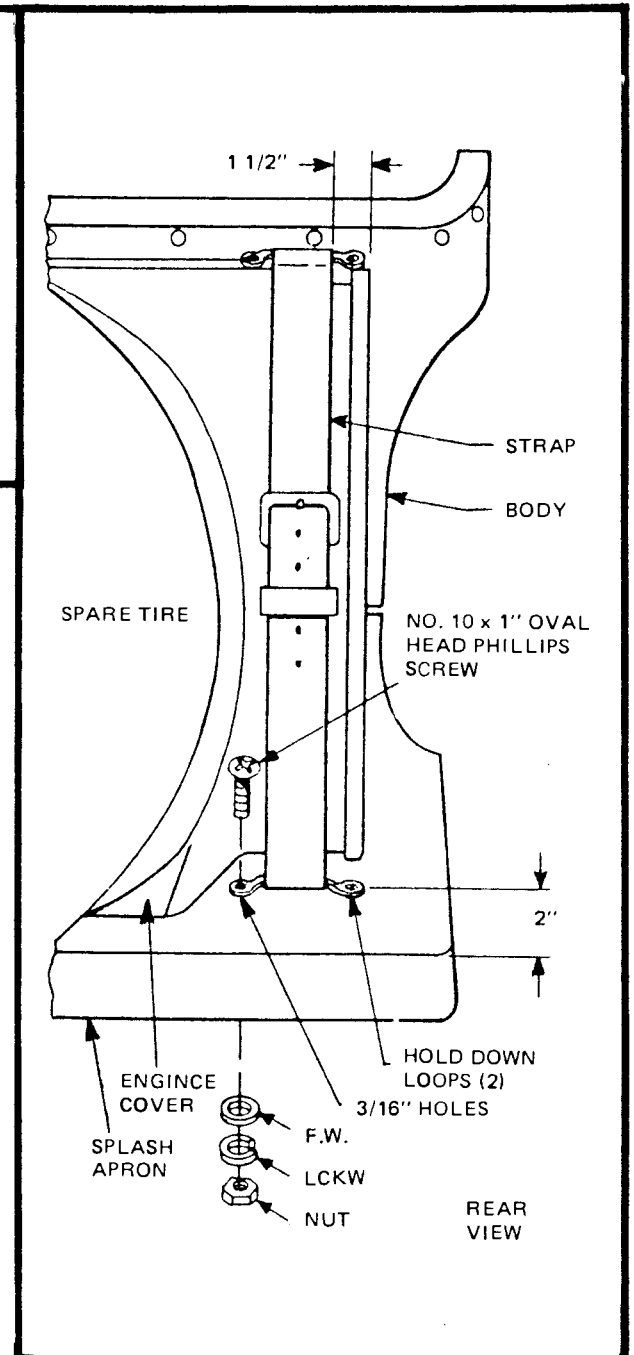
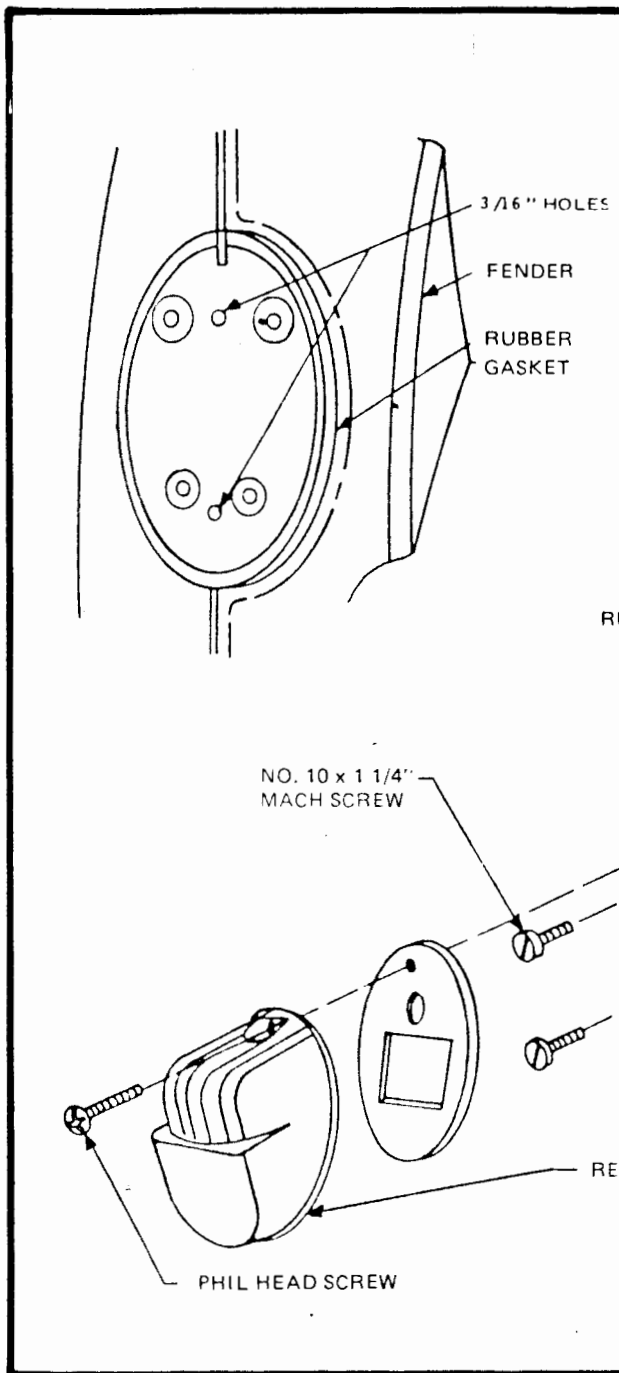


Figure 55



TAILLIGHTS (Figure 56)

- Using the rubber gasket as a guide locate the holes for the taillights on the raised area of the rear fender. Drill for two mounting holes and wire. (3/16"). Attach leads to lights at this time to facilitate hook up later. Secure with No. 10 x 1 1/4" machine screws, flat washers and nuts.

PARKING LIGHTS

- Using the rubber gasket as a guide, locate the holes for the parking light on the top of the front fender. Move the gasket back and forth until the extreme top of the fender is found. (Figure 57) Drill as indicated for two mounting screws and wires. (1/4"). Attach leads to lights at this time to facilitate hook

Figure 56

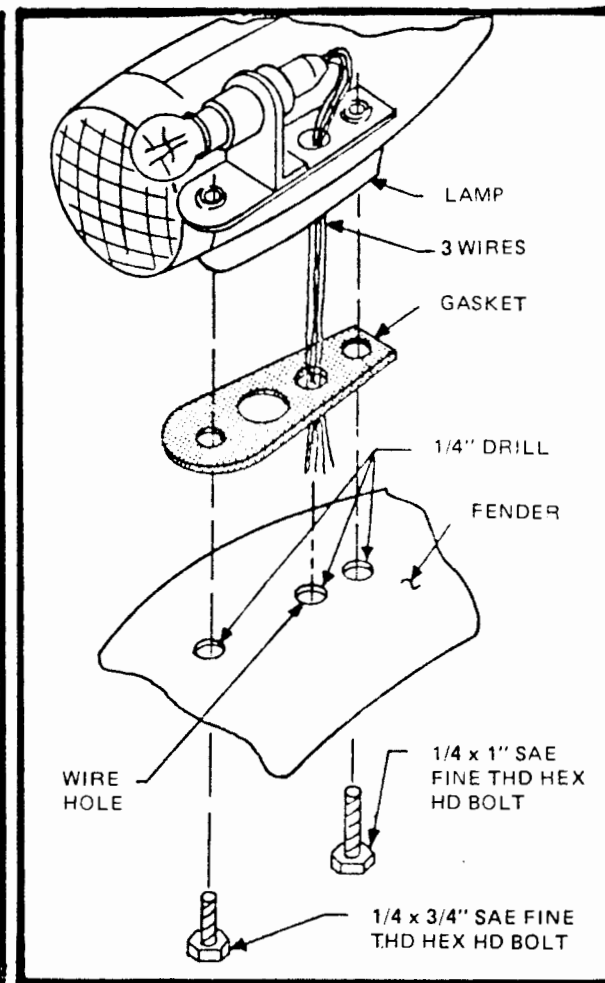


Figure 57

PARKING LIGHTS (Con't)

up later. Secure with 1/4 x 3/4" and 1/4 x 1" bolts, SAE fine thread (short bolt in front of light, long in rear).

WINDSHIELD WIPER MOTOR

The TD utilizes a standard VW windshield wiper motor. (Refer to Figure 58)

- Measure the distance from one wiper mounting post to the other. Transfer this dimension to the dimples on the top of the body. Drill 2 holes, 3/8", at the marked location. Install wiper motor, retaining it by the spindle nuts.

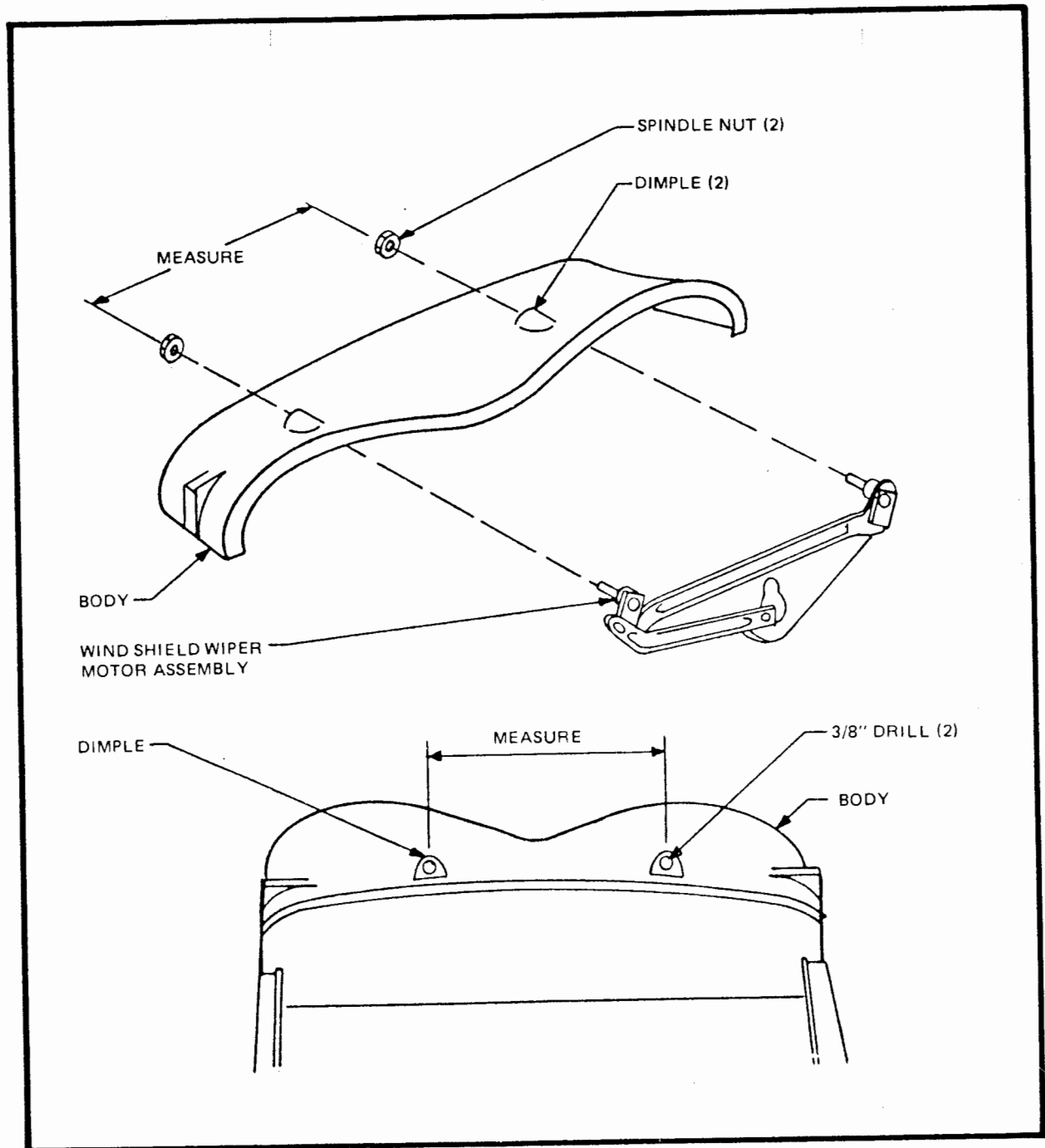


Figure 58

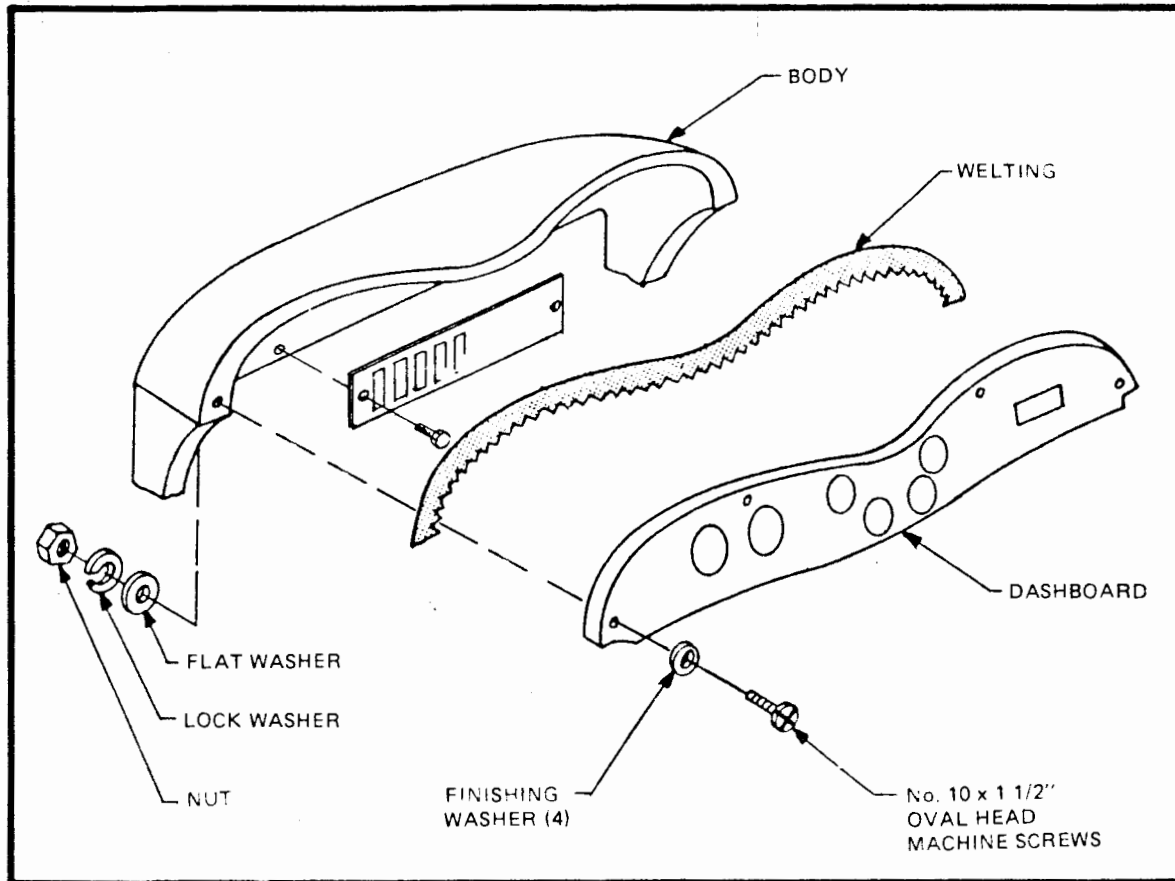


Figure 59

DASH BOARD MOUNTING

- Pre-wire dash board with all gauges as indicated in Appendix "B" of this manual. (Detailed instructions are provided with the harness).
- Mount fuse block, horn relay, and emergency flasher on a 18 x 4" piece of plywood and bolt to upper firewall on passenger side of car.
- Align the dashboard with the body, cutting a recess for the steering column as necessary. Drill 4 holes, 3/16", approximately at the locations shown. (Figure 59) Bolt in place using No. 10 x 1 1/2" oval head machine screws with finishing washer, flat washer, lock washer and nut. Do not tighten all the way. Cut a piece of welting to length and insert between dash and body, notching where necessary to prevent kinks. Tighten bolts.

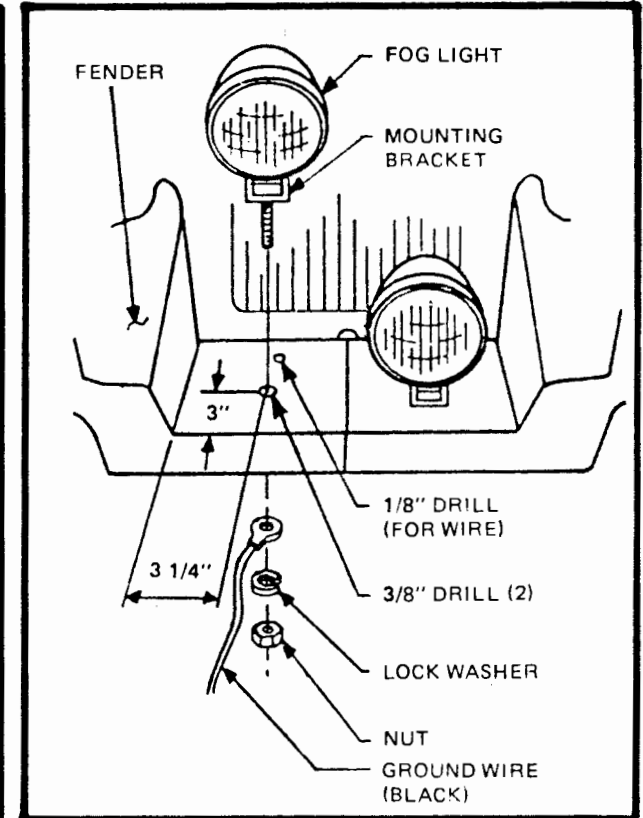


Figure 60

FOG LIGHTS

- Locate each fog light approximately as shown. (Figure 60) Drill a 3/8" hole at the marked location. Position fog lights in the holes. Drill a 1/8" hole directly behind the mounting bracket and push the attached wire through. Where the mounting bolt projects through the fiberglass, attach a 2 foot piece of black wire and secure the foglight in position using the hardware supplied. Run the black ground wire under the radiator shell and secure to the frame.

HEADLIGHTS

- Refer to Figure 61 and exploded view for general construction. Position the main headlight brackets against the radiator shell and bolt to the brackets previously installed in the shell. (Head light mounting tab must face rearward.) Bolt with 1/4 x 3/4" round head machine screws with locknuts. Hand tighten. At this time make sure the fenders sit at the same height. Adjust them by propping with a length of 2 x 4. Mark the location where the bracket contacts the fender. Cut a slot 7/8 x 1/4" so the slot is adjacent to the rear surface of the bracket. Insert the small fender mounted headlight support from beneath the fender, and bolt to bracket, using 1/4 x 3/4" round head machine screw with lock nut. Tighten all bolts. From underneath the fenders, lay fiberglass matting over the bracket and saturate with resin.
- After resin has set install headlights as shown. If chrome flex cables or stone guards are used, modify headlight as follows:
 - Remove knurled knob, nut and small screw from each side of the headlight stone guard. Lay the screening over the headlight, pulling back as tightly as possible. Mark the sides of the headlight through the holes in the two mounting tabs.
 - Remove headlight chrome ring and sealed beam. Pull wires from mounting bolt. For chrome flex cables, cut mounting bolt so that 1 1/8" remains above square shoulder of bolt. File off any burrs inside and outside the mounting bolt.
- For headlight stone guards, drill each previously marked point with a 3/16" drill. Insert screw from inside and secure with nut on outside. Reassemble headlight.
- Fix headlight stone guards to headlight sliding holes in mounting tabs over projecting screws from headlight. Secure with knurled knobs.
- Drill a 1/2" hole, 1 1/2" behind the radiator shell and 1" off the fender. Install headlight. Slide flex cables over wire and push onto mounting bolt. (Epoxy or silicone may be used to retain cable.) Push flex cable through hole in body and secure inside with a plastic wire tie.

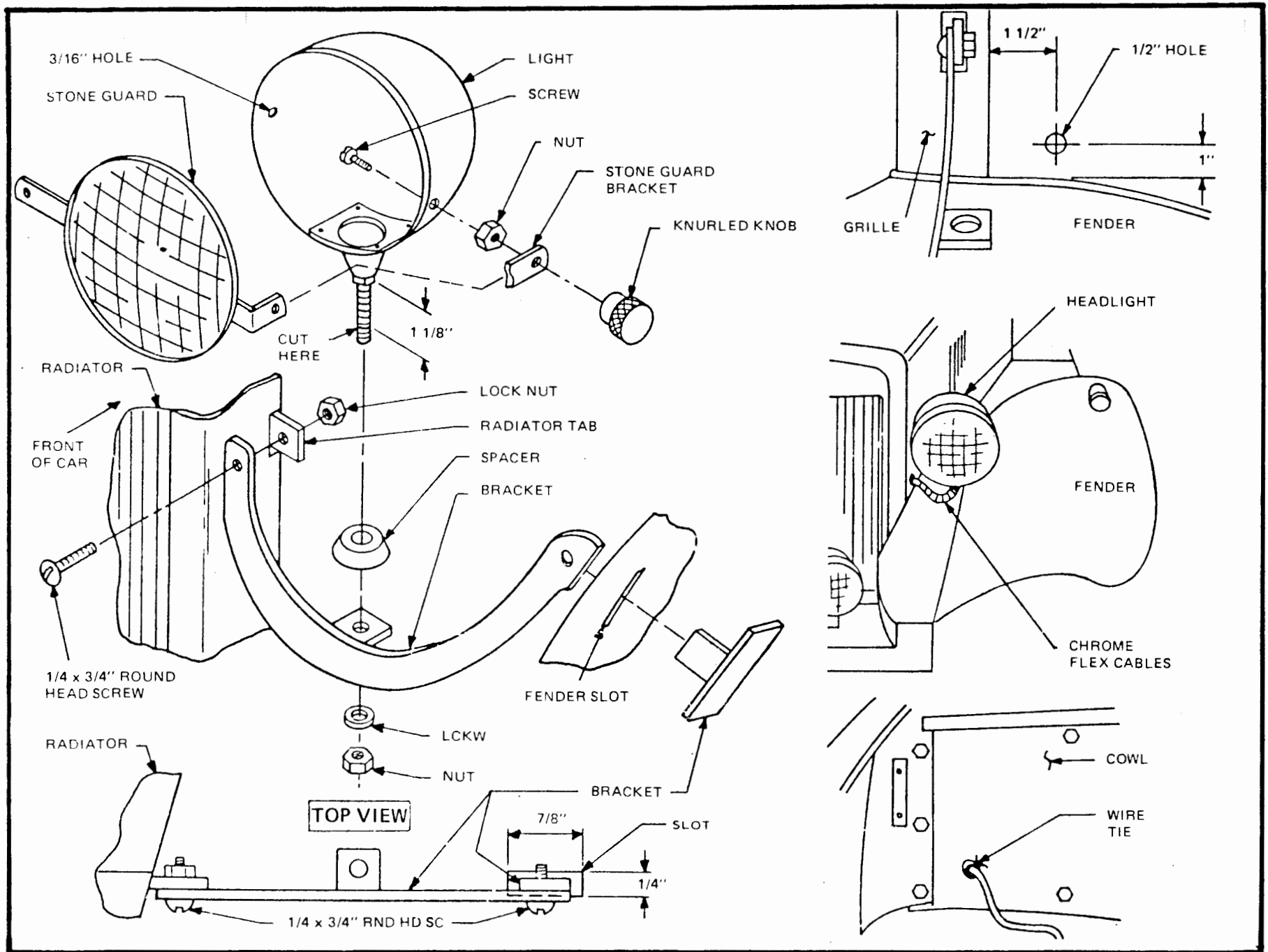


Figure 61

WINDSHIELD (Refer to Figure 62)

- Slide windshield over body, centering each side post on the raised mounting pads on the body sides. (Loosen the construction screw on each side of the frame if necessary.) Angle the windshield back so that the angle of the frame matches that of the forward edge of the mounting pad. (Figure 62) The groove in the edge of the windshield must face forward to allow installation of the convertible top.
- Mark fiberglass through upper hole only in frame. (Press down on windshield to insure a water-tight seal.) Drill with 5/16" drill bit. Insert 2 of the bolts supplied and secure with washers and lock nuts. Tighten only enough to draw windshield posts into body. Do not over-tighten as glass can crack.
- Bottom hole will be drilled and fastened when convertible top is installed.

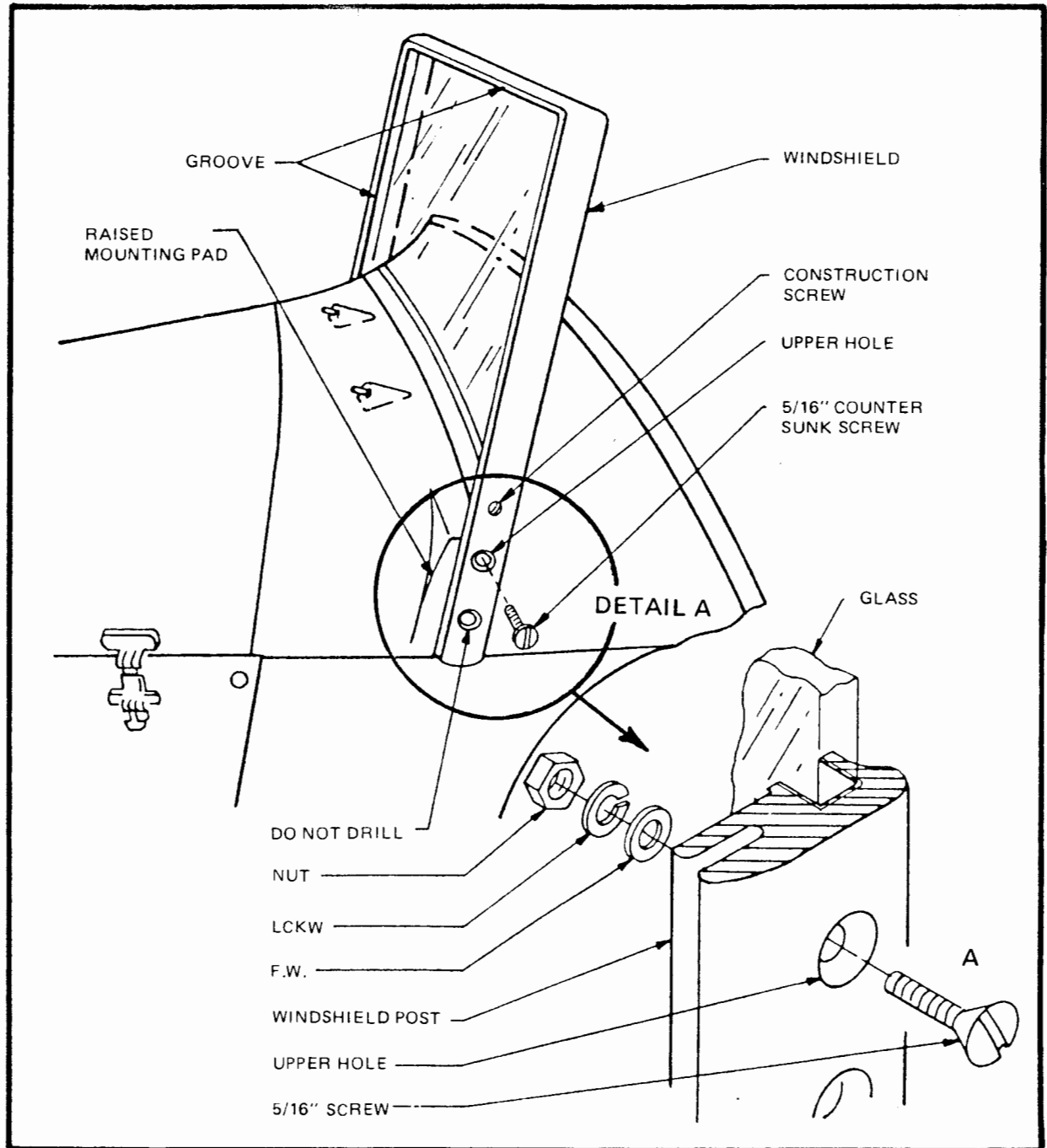


Figure 62

BUMPERS - FRONT (Refer to Figure 63)

The front bumper consists of 5 pieces. Two inner supports, two outer brackets (the larger set) and bumper.

- Bolt inner bumper supports to tabs on frame using $7/16 \times 1 \frac{1}{4}$ " bolts with 2 flat washers, lock washer and nuts.
- Adjust supports so they meet fiberglass. Hand tighten.
- Bolt outer brackets to bumper using $3/8 \times 1 \frac{1}{2}$ " chrome carriage bolts with flat washer, lock washer and nut. (If using optional bumper guards, bolt onto bumper, inserting rubber molding between guard and bumper. Replace innermost bolt with $3/8 \times 1 \frac{1}{2}$ " hex head bolt inserted from the rear.)
- Measure distance between mounting holes of brackets. Transfer this dimension to lower valance of fenders. Determine correct height of mounting hole by measuring center of inner support. Drill $7/16$ " hole at marked locations. Bolt to body and bracket using $3/8 \times 1 \frac{1}{2}$ " chrome carriage bolts with flat washer, lock washer and nut. Tighten all bolts.

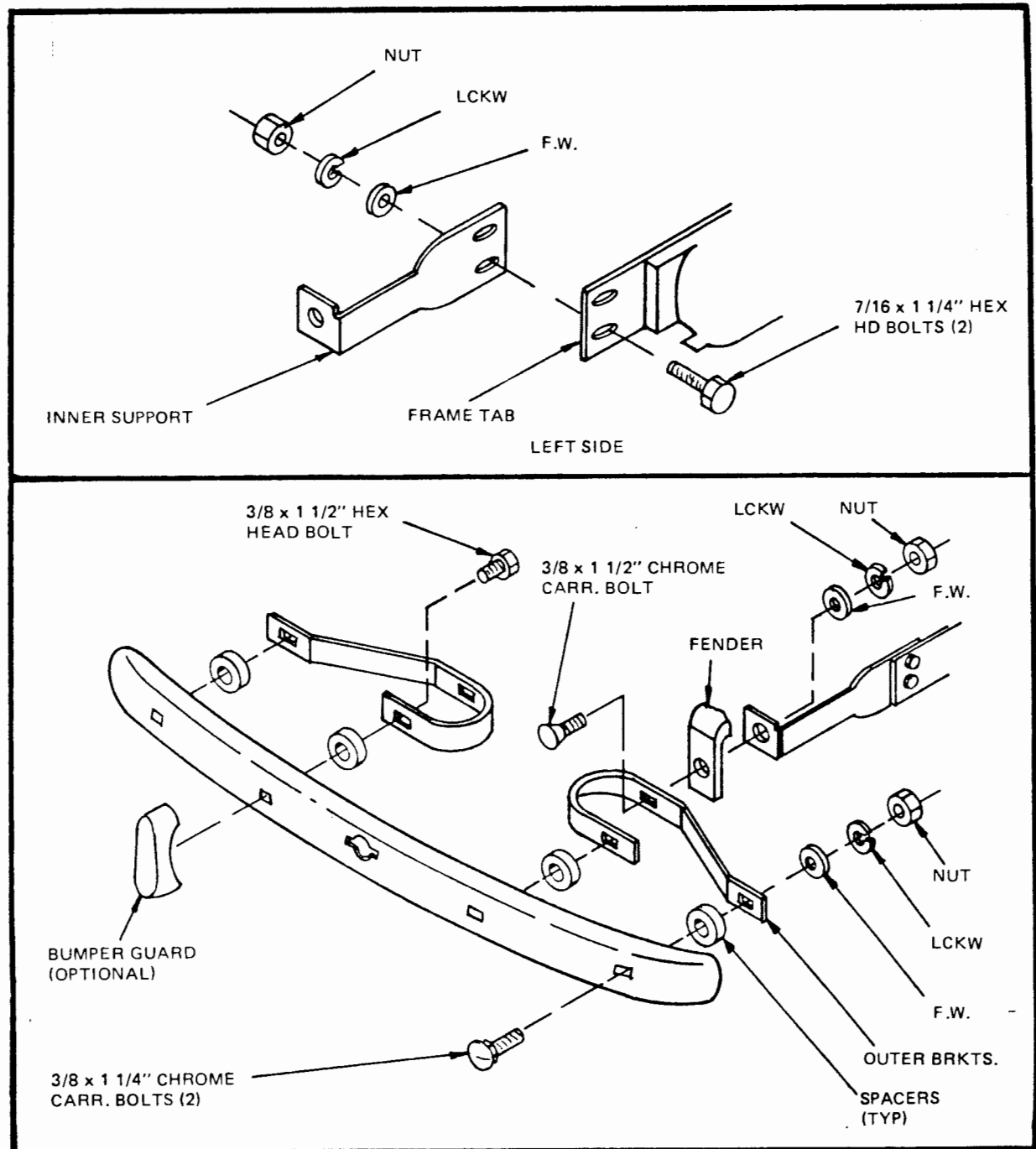


Figure 63

BUMPERS - REAR (Refer to Figure 64)

The rear bumper consists of the two outer brackets (the shorter set) and the bumper.

- Bolt brackets to bumpers using $3/8 \times 1\ 1/4$ " chrome carriage bolts with flat washer, lock washer and nut. (If using optional bumper guards bolt onto bumper, inserting rubber molding between guard and bumper. Replace inner-most bolt with $3/8 \times 1\ 1/2$ " hex head bolt inserted from the rear.)
- Measure distance between mounting holes of brackets. Transfer this dimension to the back of the splash apron. Determine correct height of mounting hole by finding center of mounting tabs under splash apron. Drill $7/16$ " holes at marked location, through splash apron and inner support. Bolt using $3/8 \times 1\ 1/2$ " carriage bolt with flat washer, lock washer and nut.

HOOD STRAP (Refer to Figure 65)

- Lay hood strap over car with one of the hold-down loops provided in each end. Center the strap on the hood. Adjust the strap so that the hold-down loops fall somewhere on the smooth fiberglass section above the molded-in louvers. Mark the hole locations and drill ($3/16$ "). Secure with No. 10 x 1" oval head phillips screws with flat washer, lock washer and nut. Repeat for opposite side keeping strap as tight as possible.

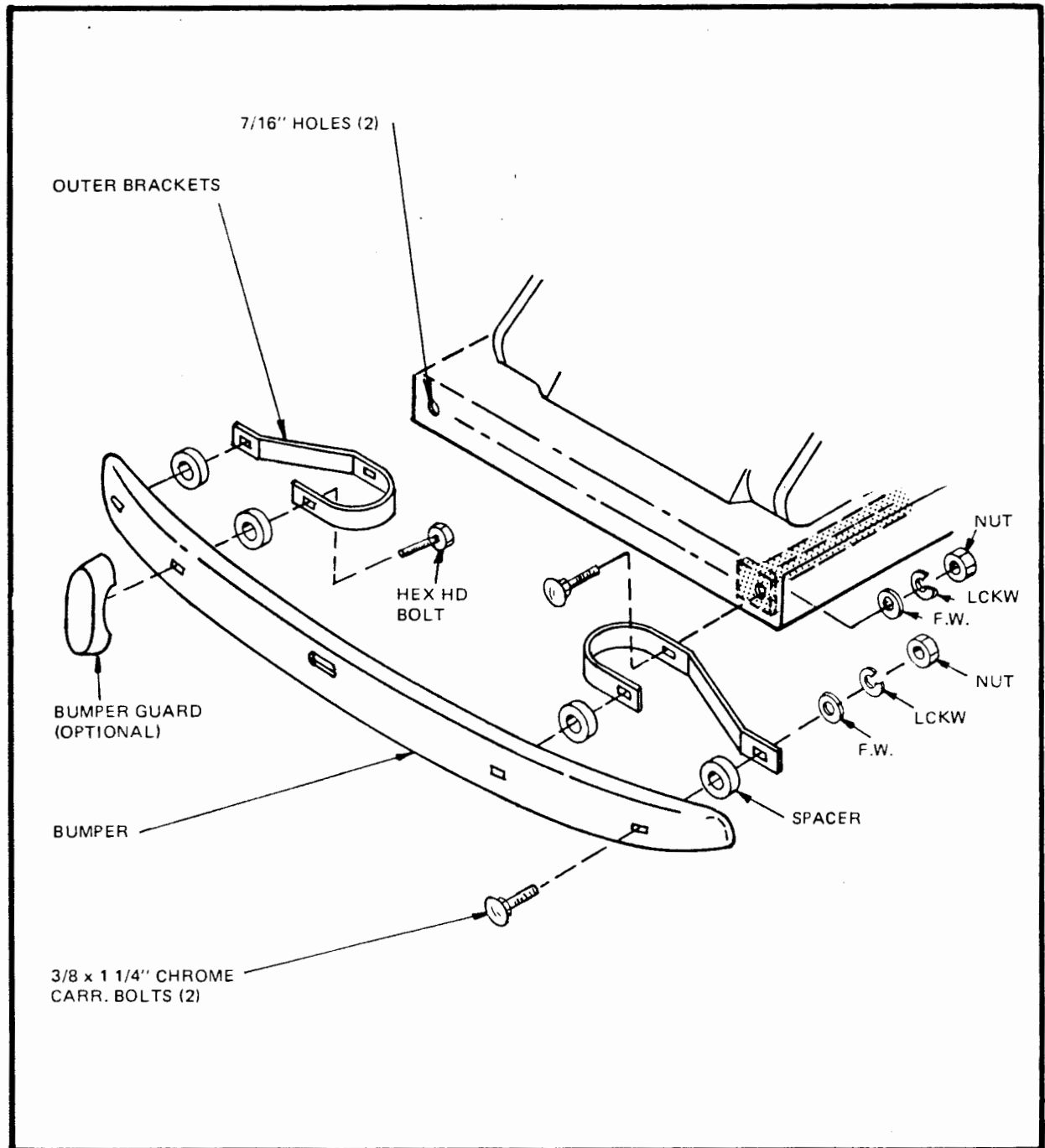


Figure 64

LICENSE LIGHT

- The license light can be mounted in one of two places. On the engine cover with the bracket supplied or on the bumper. For engine cover mounting, bolt license light to bracket using No. 10 x 1" machine screws with flat washers, lock washer and nut. Line bracket up on left side of engine cover. Measure 3" down from top and 2 1/2" in from the edge. Keep license light parallel to rear of engine cover. Mark and drill 2 holes, 3/16", through holes in bracket. Secure to cover using No. 10 x 1" machine screws with flat washer, lock washer and nut. Run wires (hot and ground) up body and down into cover. (Figure 66)

- For bumper mounting, drill two 3/16" holes in license light as indicated. (Figure 66)

- Hold light up to bumper over hole in center. Mark through drilled holes onto bumper. Remove and drill in marked location. Secure with 2 No. 10 x 1" machine screws with flat washer, lock-washer and nut.

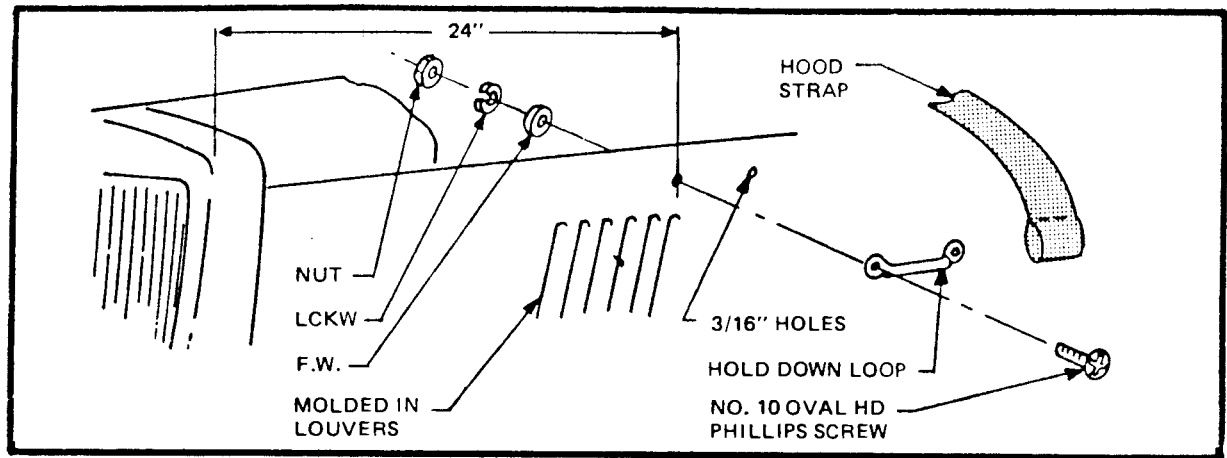


Figure 65

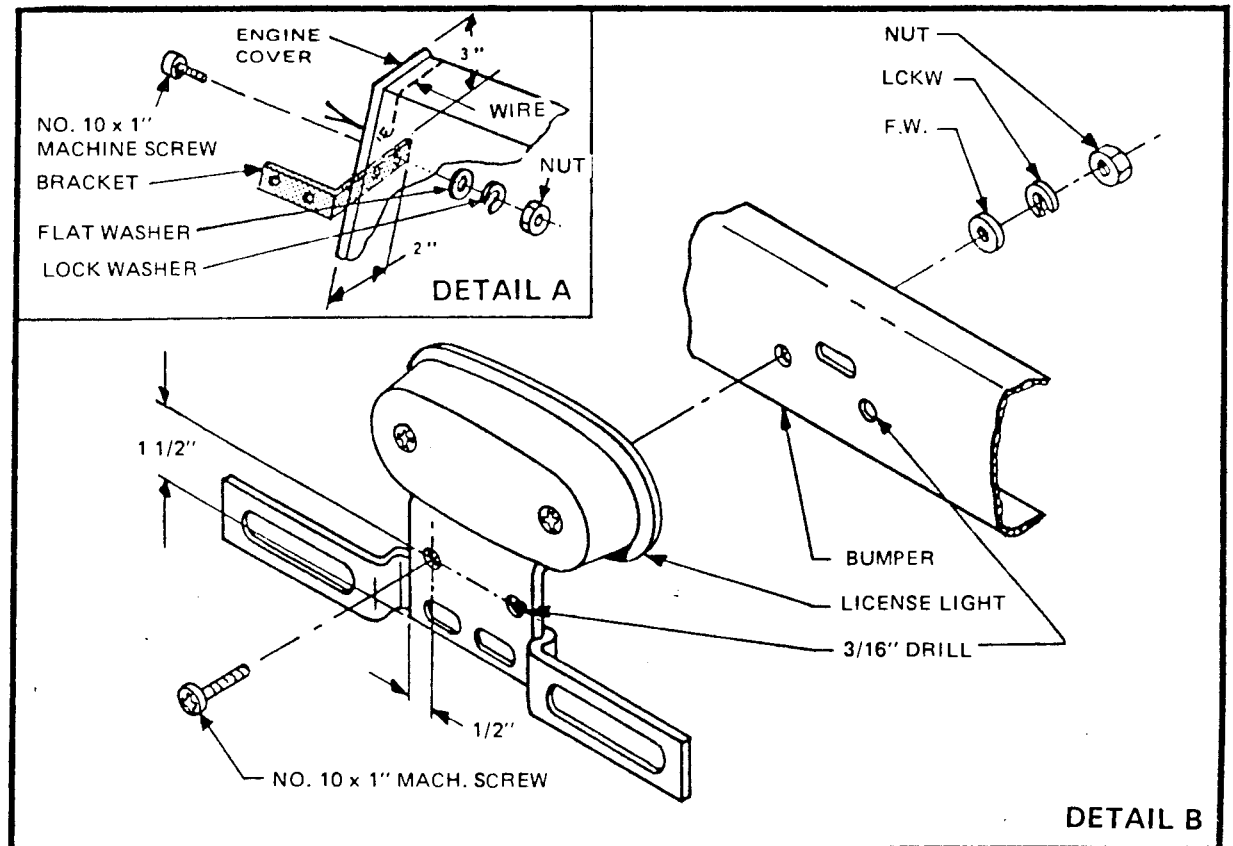


Figure 66

DOORS (Refer to Figure 67)

- Fit doors to body opening, sanding where necessary for a good fit. Align hinges in slots in door edge. Hinges must face rear of car and have hinge pins pointing upward. (It may be necessary to file slots flat for a precise fit.) Keep back edge of hinges $1/4''$ from inner edge of door. Mark hole locations and drill $1/4''$ holes. Bolt to door, using $1/4 \times 1''$ flat head socket screws with flat washer, lock washer and nut.
- Position door in main body. Space door off door jamb approximately $1/4''$. Use washers taped to door jamb as spacers. From the inside of the car, scribe a line around the hinge onto the main body. Open door. Align hinges in scribe line just made and mark hole locations. Drill $1/4''$ holes. Bolt using $1/4 \times 1''$ flat head socket screws with flat washer, lock washer and nut. (Access to nut is through fender well with a long ratchet extension.) An alternate method is to cut two access holes on the body just behind the hinge location. Cut holes as indicated. These holes will be covered later by carpeting. Check for free movement of door. Adjust hinges if necessary.
- Refer to Figure 68 . Temporarily hold upholstery in place and mark location of lock cut out. With door closed, hold lock in position with spring latch contacting body. Mark holes and drill ($3/16''$ drill bit). It may be necessary

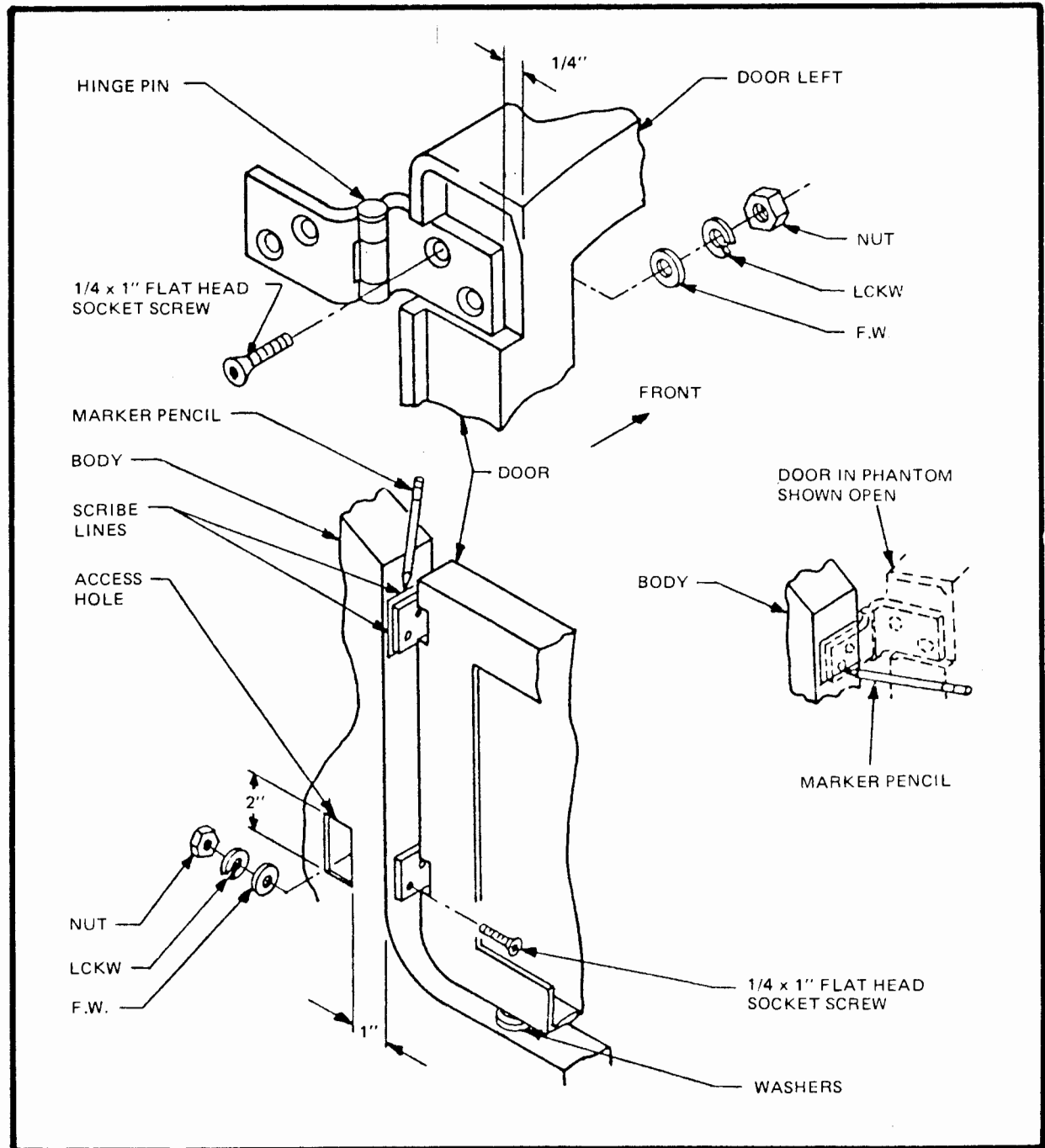


Figure 67

DOORS (Con't)

to cut away some of the inner door to allow the lock to seat flush. Bolt with No. 10 x 1" oval head machine screws with flat washer, lock washer and nut.

- Using a 5/16" drill bit, drill through operating hole of latch mechanism into door. Enlarge hole to 1/2". Slide handle through door and lock. Measure 3/4" from the lock on the handle shaft. Mark and cut. Position handle mounting plate straight up and down and mark holes. Drill 3/16" holes. Secure with No. 10 x 1 1/4" oval head machine screw with flat washer, lock washer and nut.
- Install pre-upholstered door panels on door. Where handle shaft protrudes cut a small hole in upholstery (cut hole smaller than shaft). Align panel on door and drill 1/8" pilot holes at approximate places indicated. (Pull panel tight on each side of lock.) Secure with 11 No. 8 x 5/8" oval head self-tapping screws with finishing washers. Position striker plates in door opening. Drill 2 holes, 3/16". Secure with No. 10 x 1" machine screws with flat washer, lock washer and nut. Adjust plate for tight fit when door is closed. It may be necessary to grind down striker plate to allow it to fit. Do not attempt to bend striker to achieve a fit.

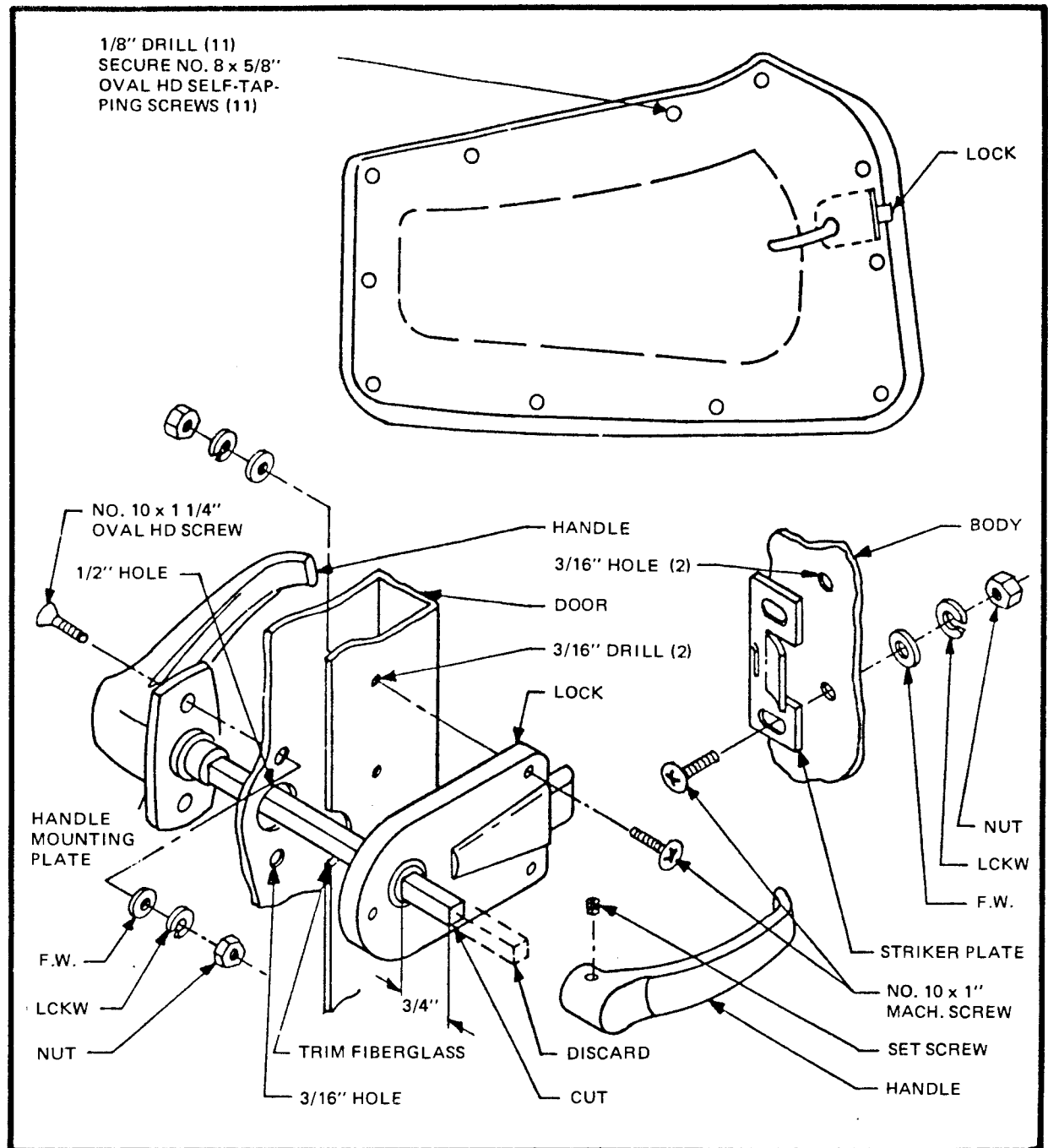


Figure 68

CARPETING

Carpeting consists of 12 pieces. (Figure 69)

- 2 rear wheel hump covers
- 1 rear section
- 1 rear tunnel section
- 1 center tunnel section
- 1 forward tunnel section
- 1 right side section
- 1 left side section
- 1 firewall section
- 1 firewall extension section
- 2 floor sections

NOTE: There is a thirteenth piece of carpeting which is used on the seat back. This will be dealt with later.

- The first pieces to be installed are the wheel hump sections. (Figure 70) Using spray glue or contact cement, glue the section in place, notching where necessary to allow it to lay flat.

NOTE: Carpet edges that are not finished are designed to be covered by other sections.

- Fit the rear section in place. Align side edges with wheel humps and rear with top of body. (Figure 70) Glue in place, spreading glue on back and bottom of body. Do not glue corners or part of carpet that drops down toward floor. They will be glued in a later step.

- Fit forward and rear tunnel sections in place, cutting a slot for the emergency brake handle. Glue in place.

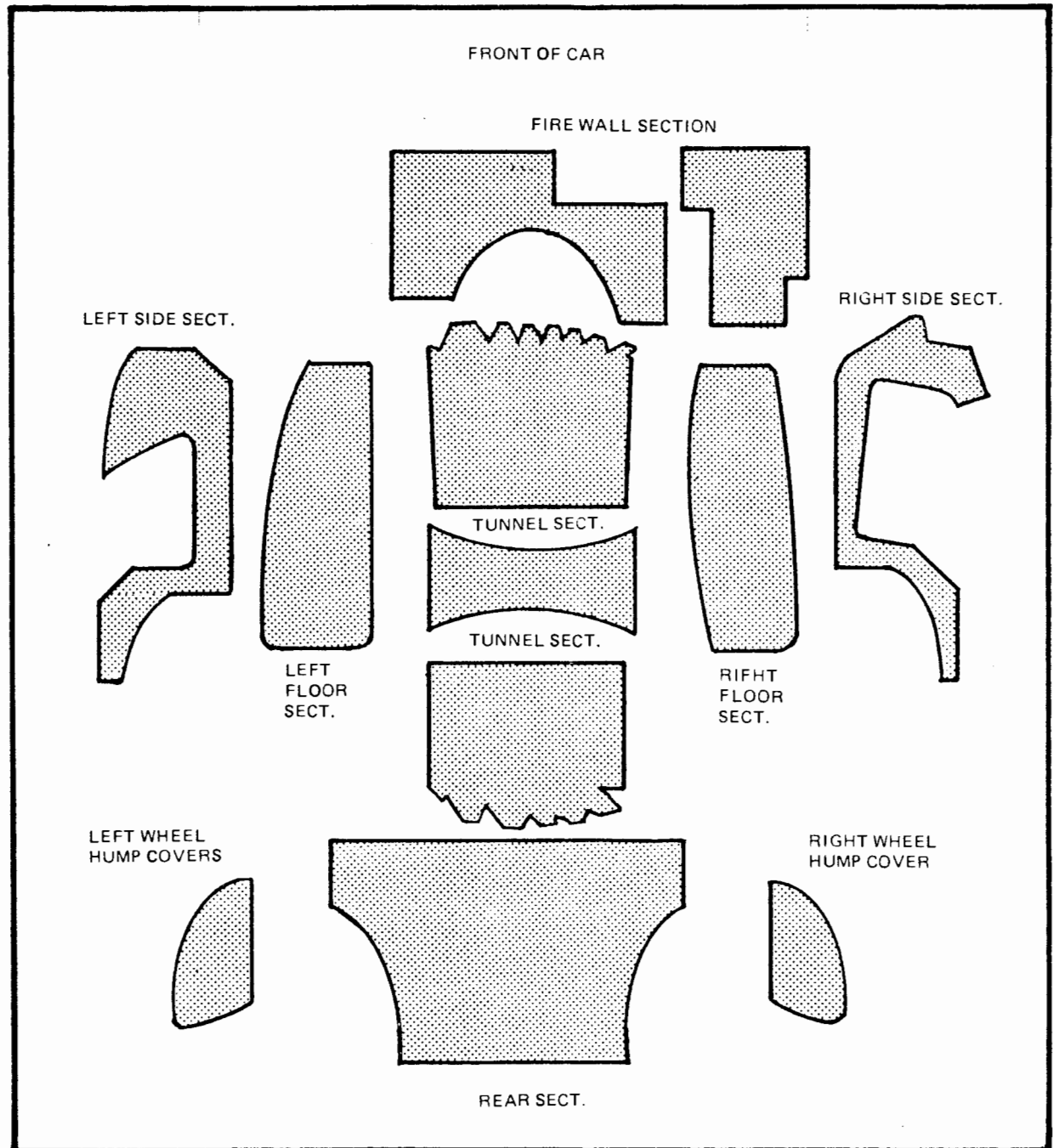


Figure 69

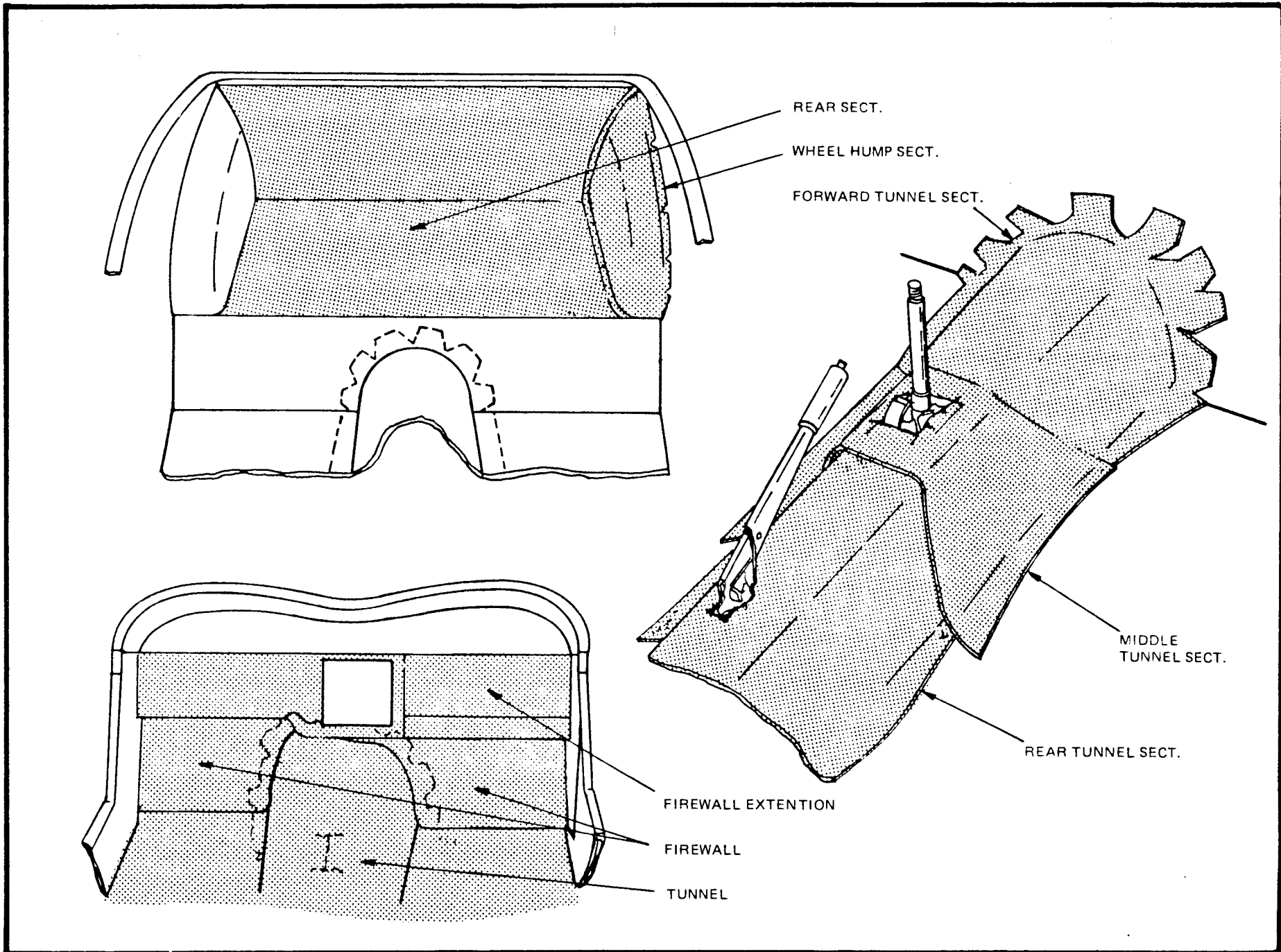


Figure 70

CARPETING (Con't)

- Glue down lower part of rear section.
- Cut an opening in the center tunnel section for the shifter handle and glue in place.
- Fit the firewall extension piece in place, cutting slits to allow it to curve around the side.
- Fit firewall section in place, cutting out a portion, as necessary, to clear the heater, if installed. Also cut around accelerator pedal and glue in place.
- Side sections fit around the door openings, extend forward to the firewall and back over the wheel hump. They must be mounted on a piece of heavy cardboard or paneling before they can be installed. This is due to the configuration of the body around the doors. As a basic pattern cut a piece of cardboard to the sizes indicated. (Figure 71)
- Transfer the completed patterns onto a piece of heavy cardboard or panel.
- Using contact cement or spray glue, attach carpet to panel keeping padded piping just over edge of opening.
- Install completed panels in car, carefully aligning the padded piping with the door opening. Keep all wiring under the panels (speaker wire) and against the body, trying to keep it in the hollow spaces under the doors.

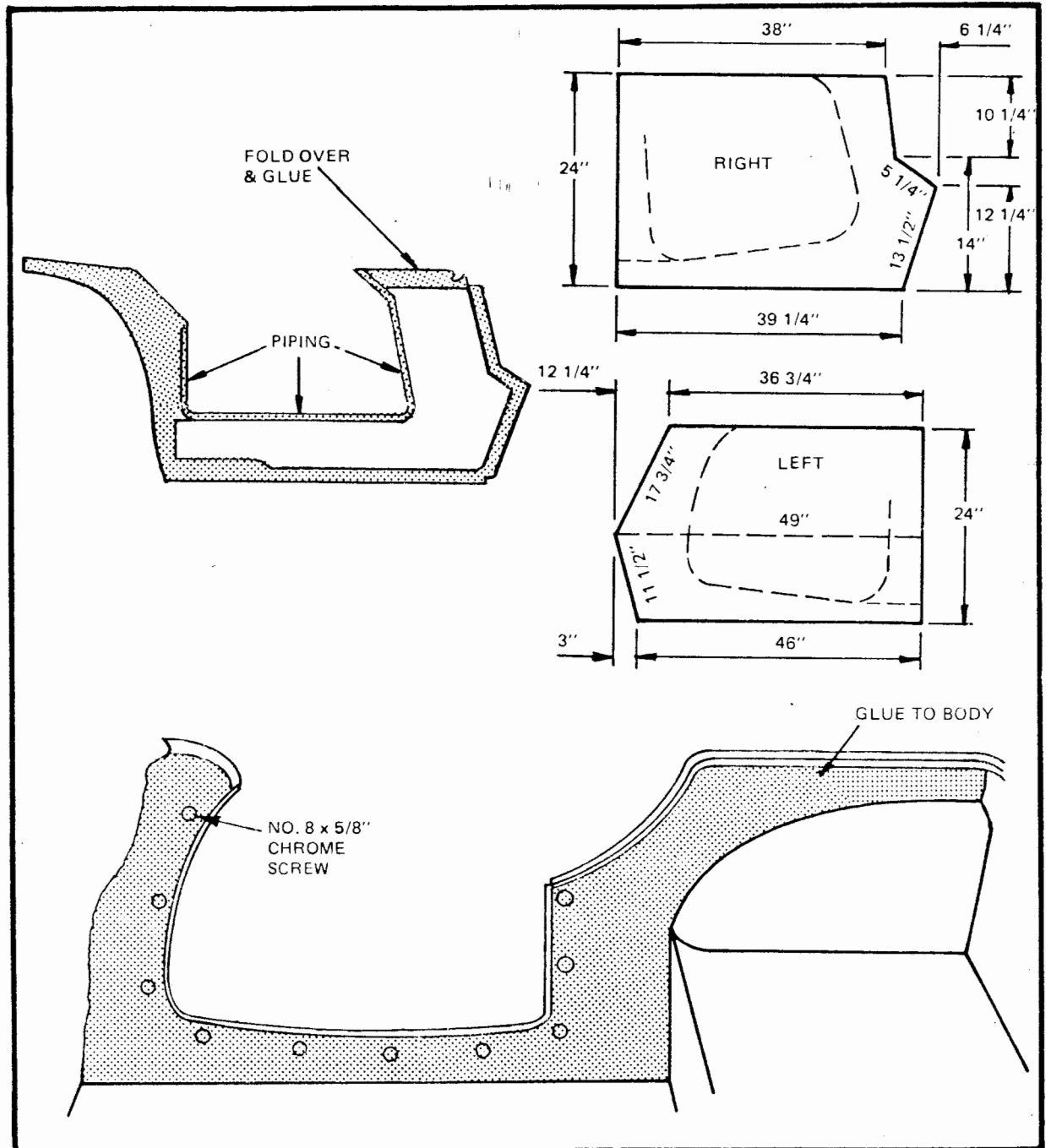


Figure 71

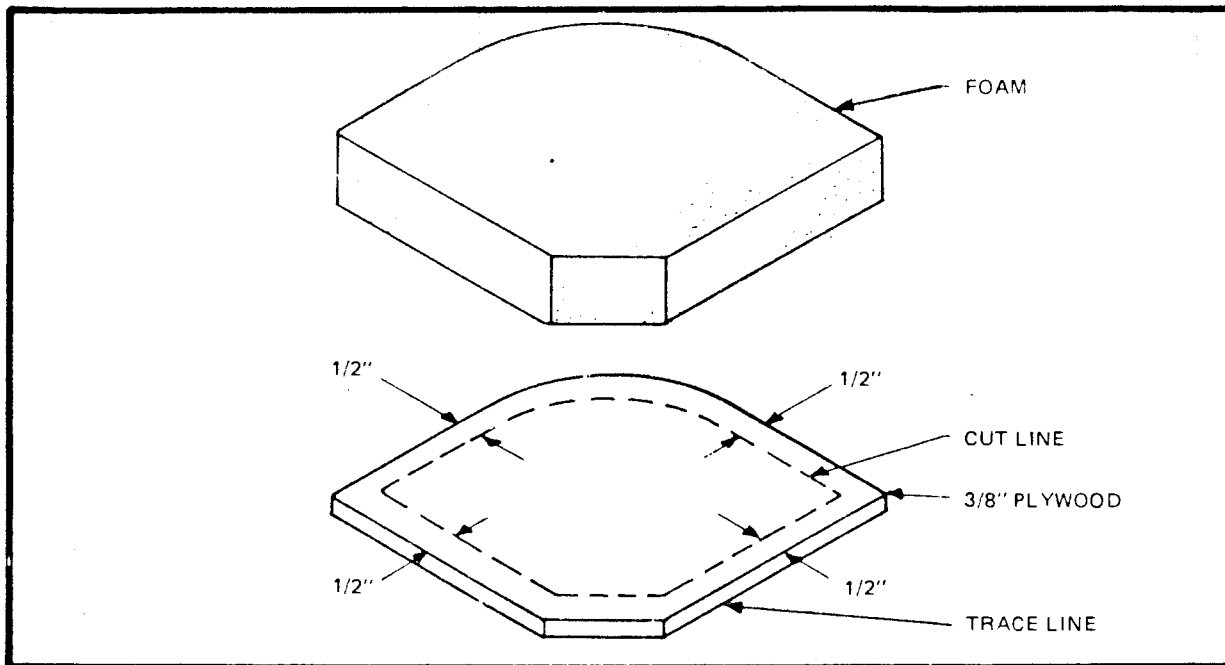


Figure 72

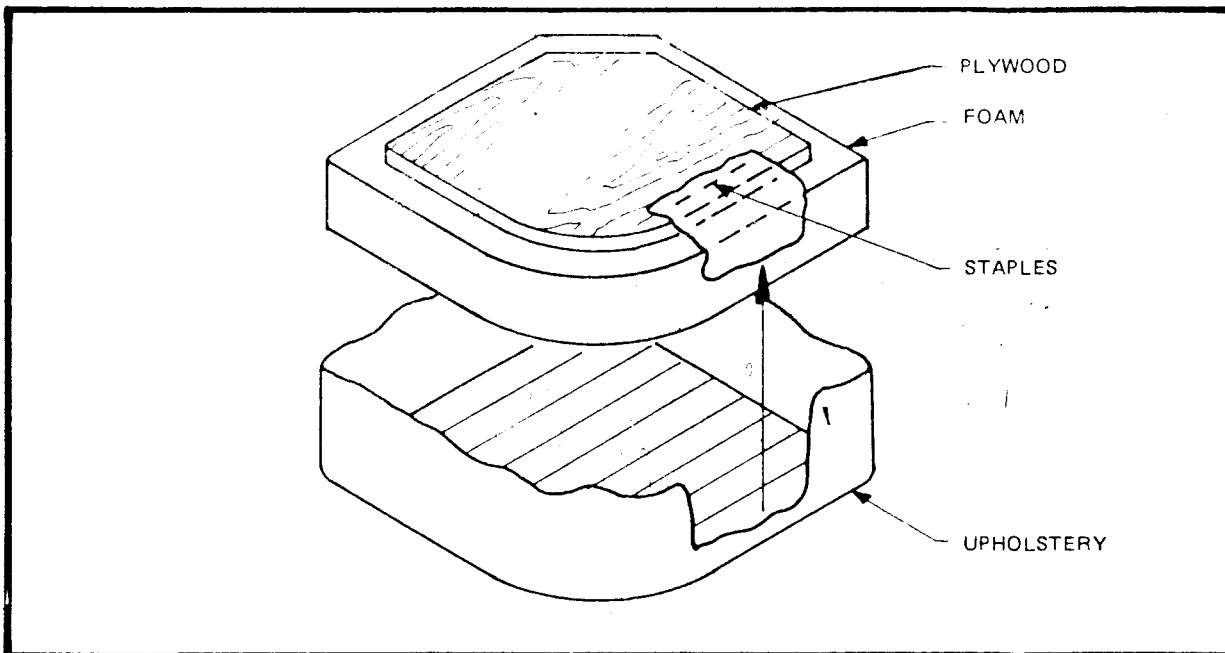


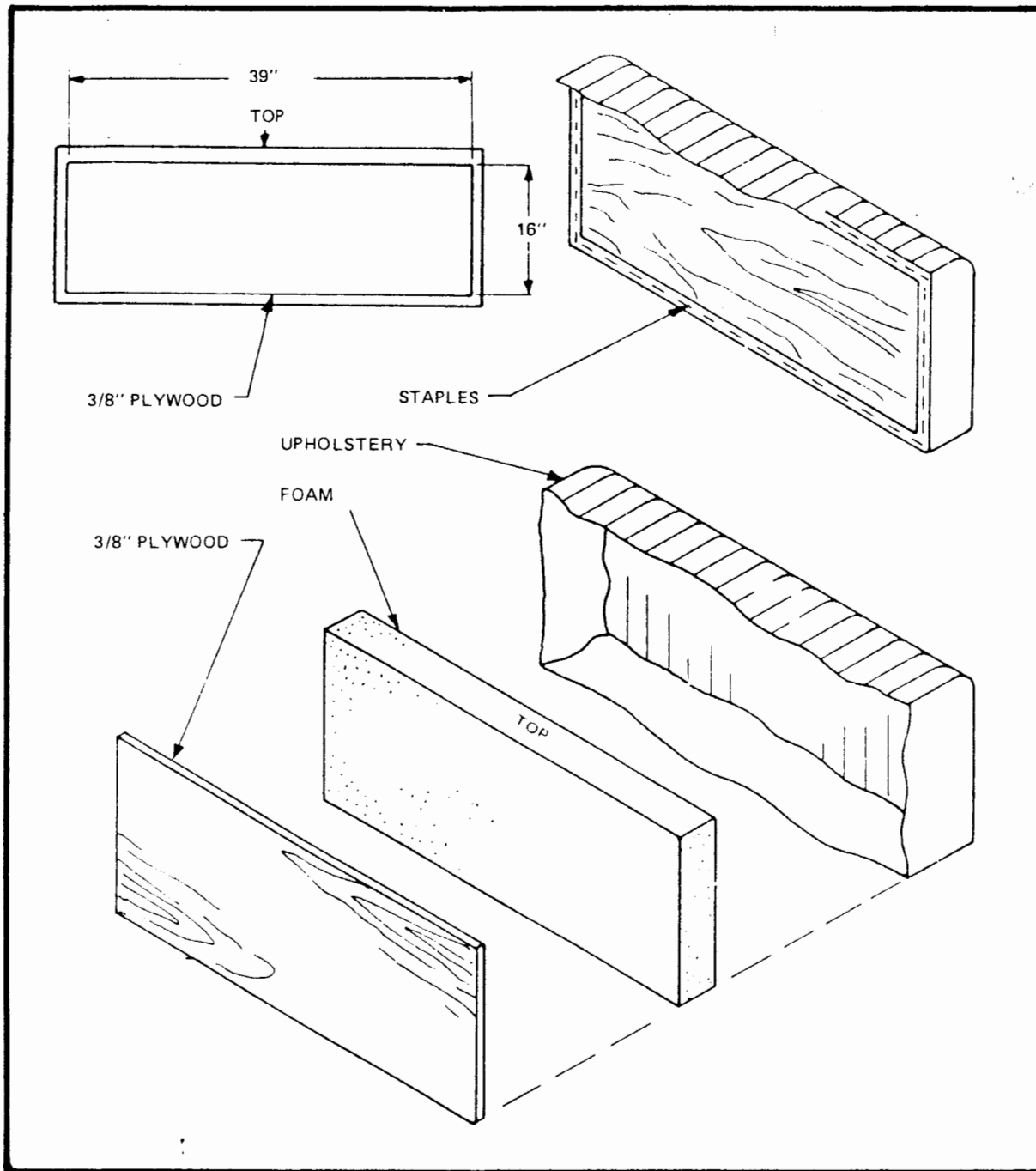
Figure 73

CARPETING (Con't)

- Using No. 8 x 5/8" chrome phillips self-tapping screws with attached finishing washer, secure panel to car around door opening (approximately 5" apart) Allow excess carpet on bottom to extend onto floor pan.

SEAT ASSEMBLY (Refer to Figure 72)

- A piece of 3/8" plywood must be fabricated for seat bottom and back. For seat bottom, use the foam cushion supplied to trace an outline onto the plywood. Using a ruler, measure a series of points 1/2" inside this line. Connect the points to give a continuous line inside the original one. Using a sabersaw, cut on this line. Use a file to remove all sharp edges of the plywood to avoid cutting the upholstery.
- Glue the foam to the plywood, keeping it centered on the board. After the glue has set, stretch the upholstery over the foam and board. With the upholstery side down, staple the edges of the upholstery to the plywood. (Figure 73) slightly compressing the foam as you do so. Keep the upholstery even on all sides as you staple. The seat bottoms are left unfinished as they are not visible in the finished car.



SEAT BACK

- Cut a piece of 3/8" plywood 39 x 16". Glue the foam to the plywood, keeping an equal amount of foam exposed on all sides of the plywood. (Figure 74)
- Slide upholstery over plywood and foam and set on a table with upholstery side down. Pull edges and bottom of cover over plywood, slightly compressing foam as you go. Pull the top over to give a rounded appearance and staple to back. (Figure 74) The rectangular piece of carpet supplied covers the rear of the seat back and will be installed in a later step.

Figure 74

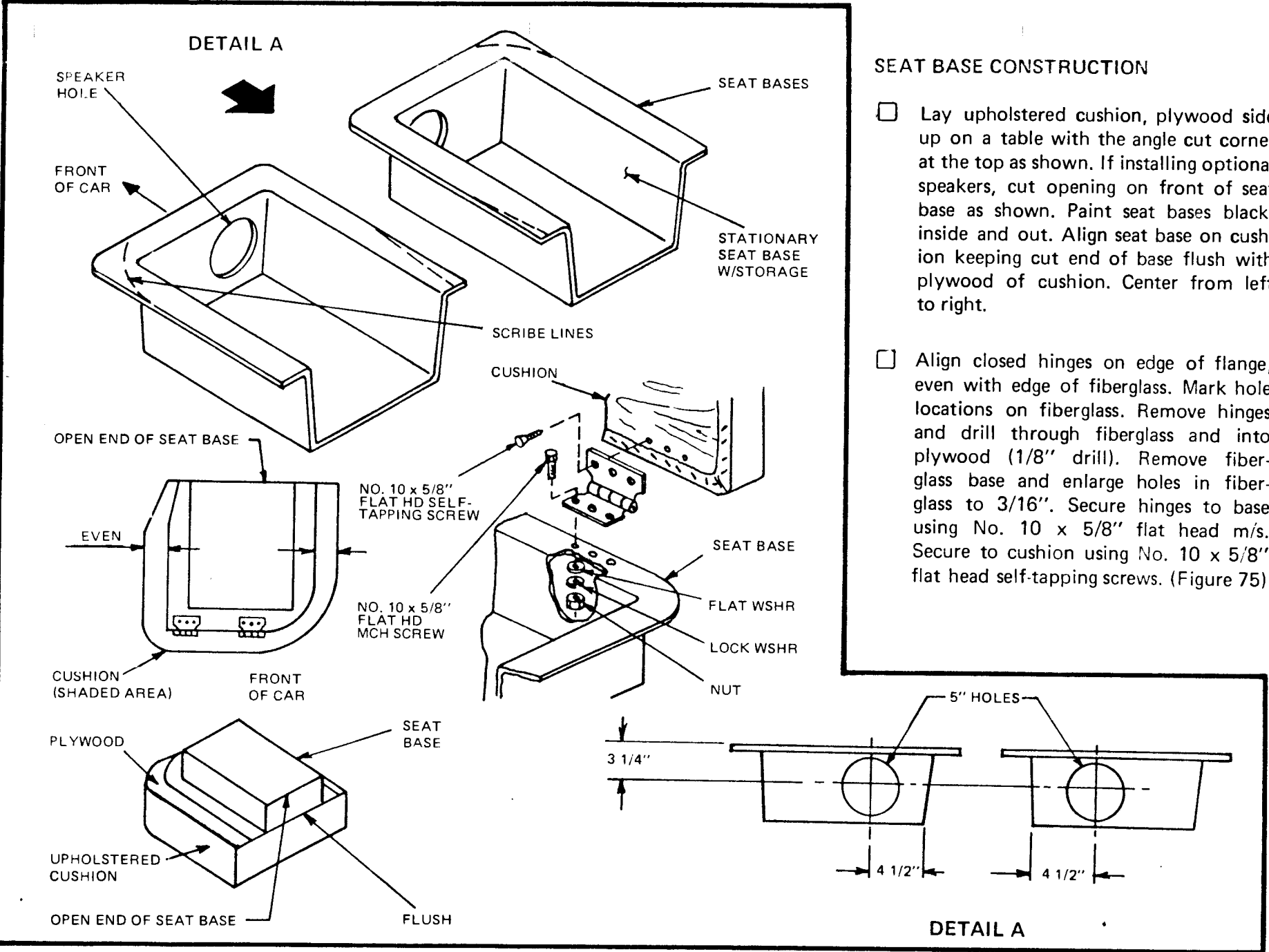


Figure 75

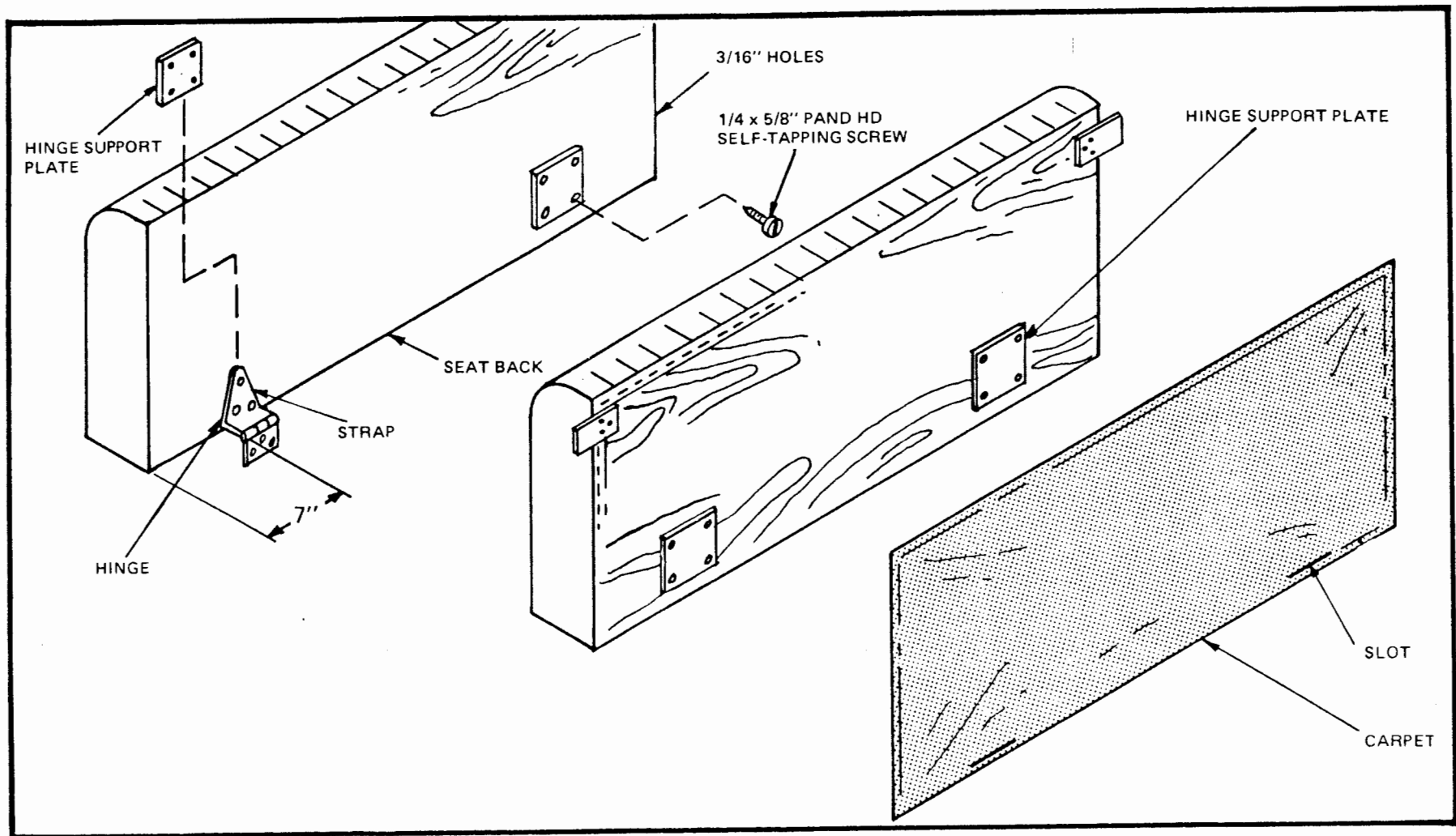


Figure 76

SEAT BACK MOUNTING

For maximum flexibility, modify hinges as follows:

- With the hinge fully closed, mark a line 1" down on the strap from the edge

of the pivot pin. Clamp in a vise and bend out at a 90 degree angle. (Fig. 77B)

- Attach hinges to body using No. 10 x 1" flat head self-tapping screws. The pivot

pin should be upwards, with the strap projecting straight forward. Hinges should be installed approximately 7" from body sides, and 1/4" down from the rear ledge. (Figure 77A)

- Temporarily, put seat bases into car, pushing them as far back as possible. Fit seat back into position, resting on the seat cushion. Push seat back, trying to keep it straight up and down. With strap of hinge flat against back of seat, fit one of the hinge support plates over the strap. Push plate down tightly on hinge. Mark hole locations. Repeat for opposite side. Drill with 1/4" drill. Secure plates to seat using 1/4 x 5/8" pan head self-tapping screws. Slide seat over hinges and check for fit. (Figure 76)

SEAT ADJUSTERS

- Attach seat adjuster to mounting plate using No. 10 x 1" stainless steel phillips oval head machine screws and nuts.
- Position seat in the most forward position you will be using. Secure knob in last hole of adjuster.
- Align mounting plate on seat back approximately 2 1/2" down from top edge. Adjust it left and right until adjuster is parallel to side of body. Mark hole locations and secure with 3/16 x 3/4" pan head wood screws.
- Position mounting foot on body keeping adjuster parallel to top of body. Mark hole locations and secure with No. 10 x 1" stainless steel phillips oval head self-tapping screws. (Figure 77C)
- Remove adjuster from plate.

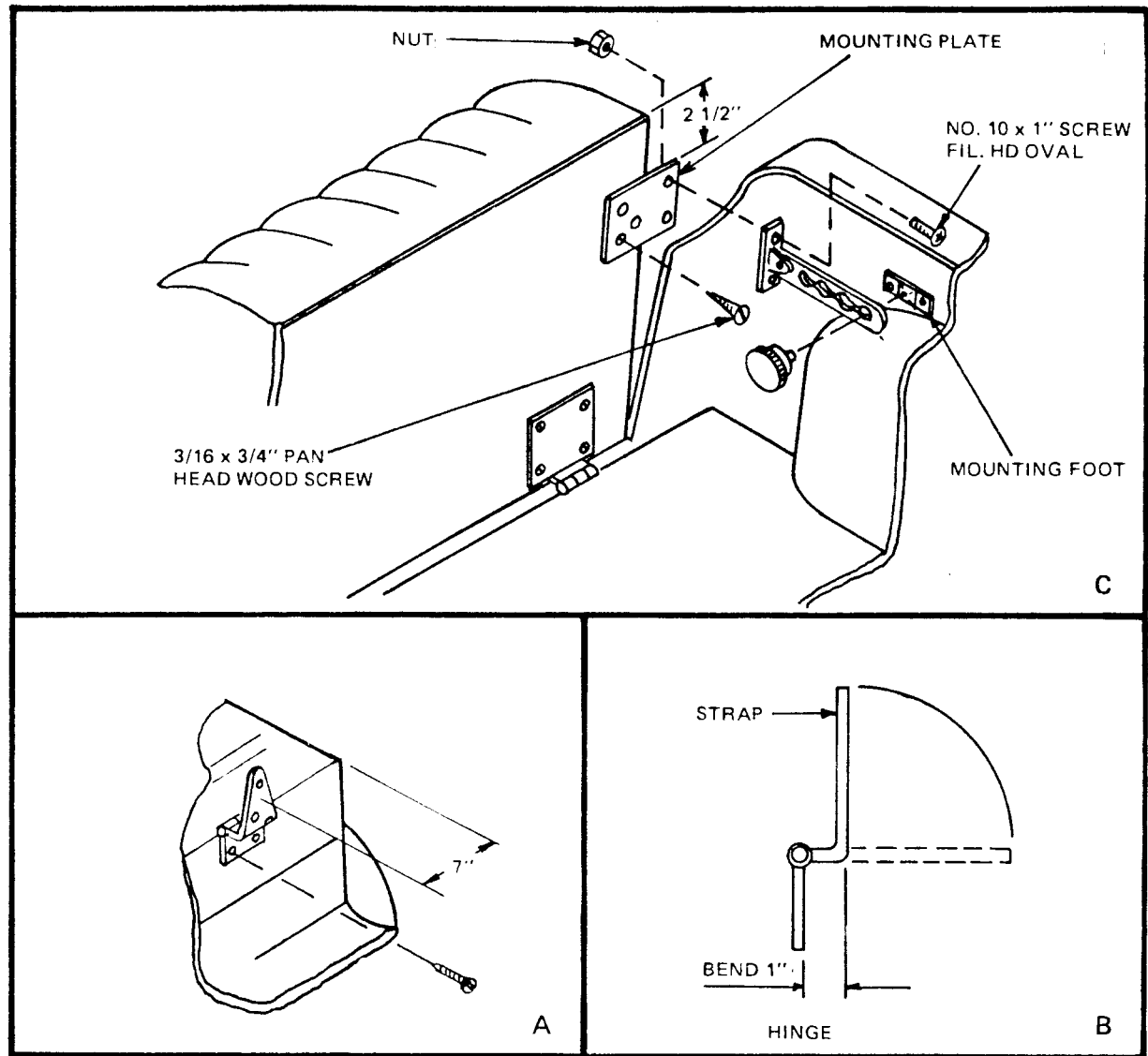


Figure 77

- Remove seat back. Lay carpet rectangle over back of seat centering it on all sides. Staple along top edge. Apply contact cement or spray glue to metal plates and area of seat back below plate. Lay carpet down over seat and

staple remaining edges. With a razor blade or sharp knife cut a slit in carpet along bottom of metal support plates. Trim as necessary to allow easy access. (Figure 77C)

SEAT BASE MOUNTING

- With the seat back straight up and down, position seat bases in car. Find most rearward position that will allow seat cushion to open and close easily.
- Using a 3/8" drill bit, drill 4 holes through the bottom of the seat base and through the liner. The two outside bolts should pass between the two main frame rails. Bolt using 5/16 x 1 1/4" bolts with flat washers, lock washer and nut. Use a flat washer on each side to spread the load. (Figure 78)

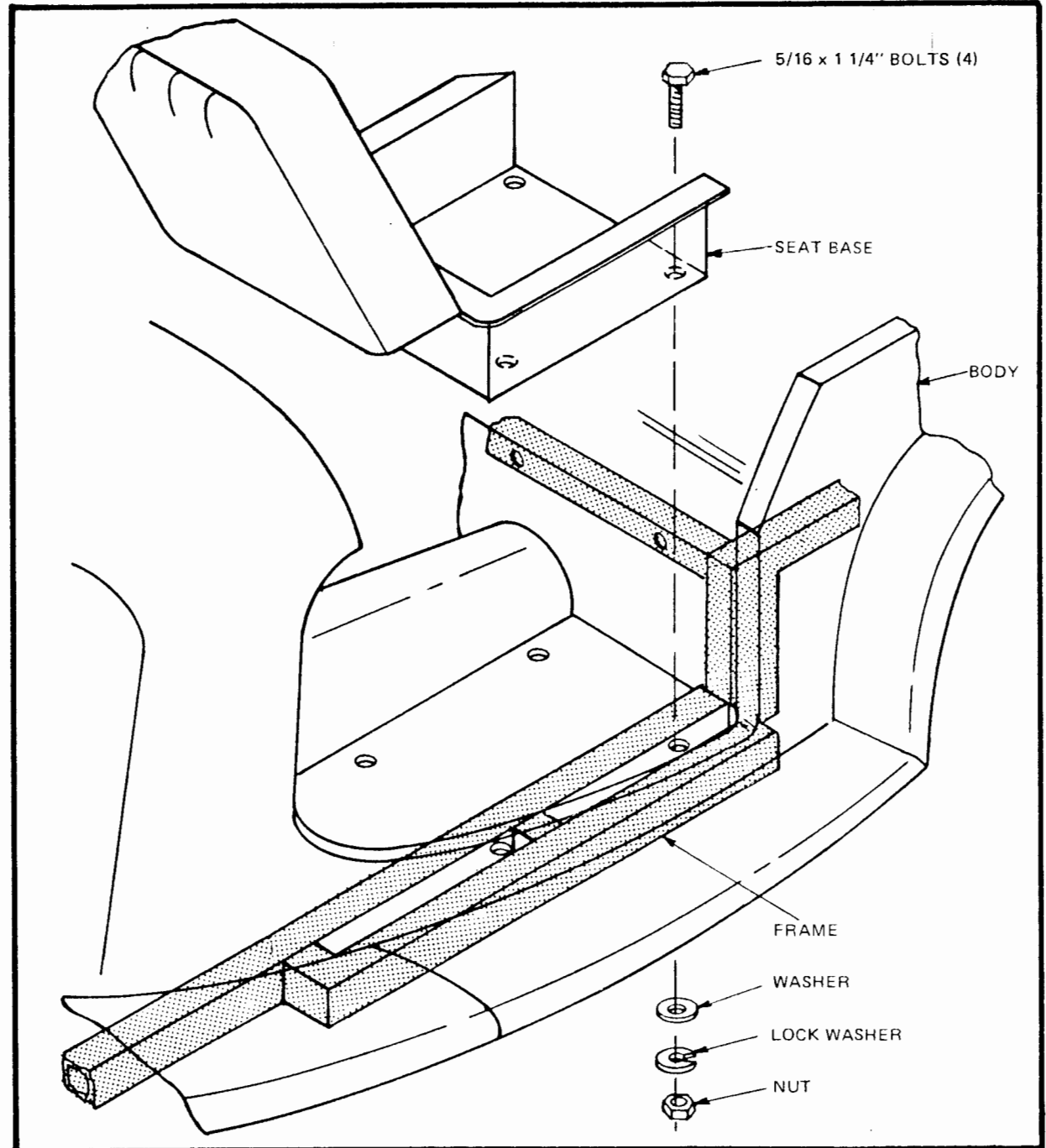


Figure 78

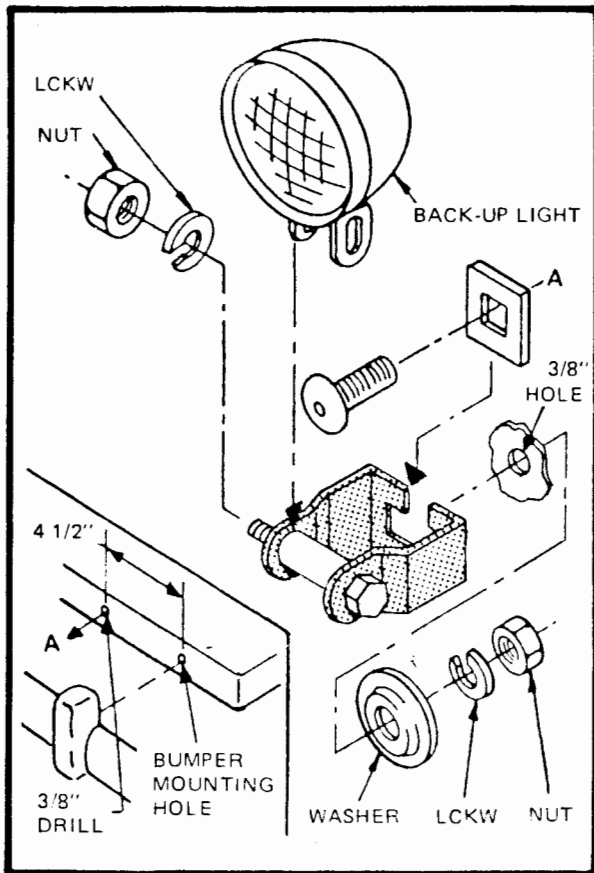


Figure 79

BACKUP LIGHTS

- Locate backup light (or lights if using 2) on splash apron behind bumper. If using 2 lights, measure in approximately 4 1/2" from inner bumper bracket mounting hole. Position lights so they protrude just above bumper. Mark location and drill 3/8" holes. Assemble lights as shown and bolt to fiberglass. (If washer supplied is too large, substitute a smaller washer.) Attach a 2 foot

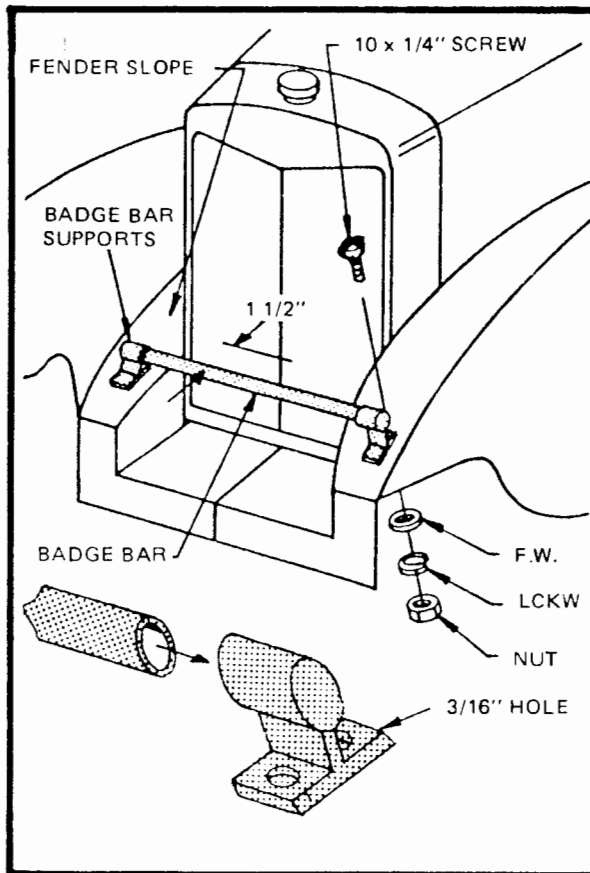


Figure 80

BADGE BAR

- Fit badge bar into supports as shown. Position on fender slips, keeping badge bar approximately 1 1/2" from center ridge of radiator shell. Mark hole locations. Drill 3/16" holes and secure with No. 10 x 1 1/4" oval head machine screws with flat washer, lock washer and nuts.

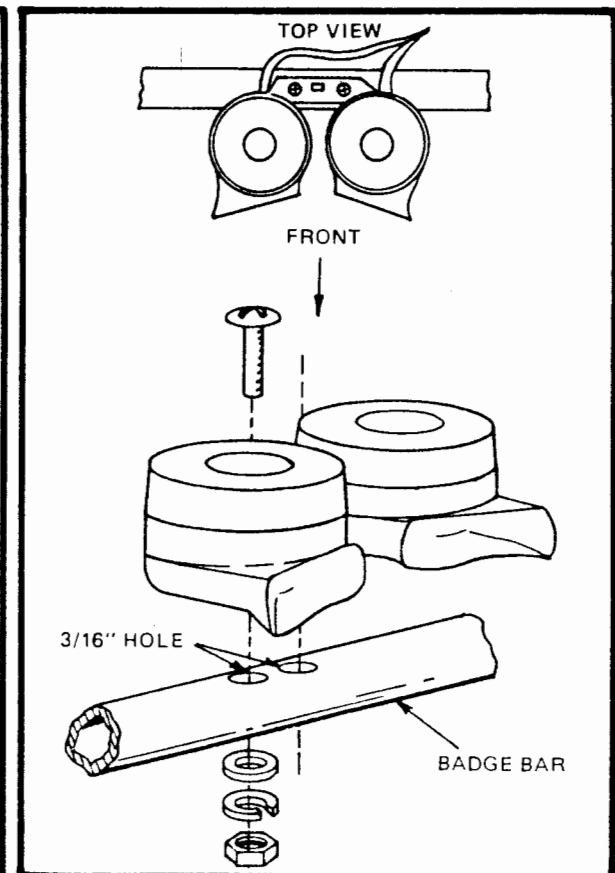


Figure 81

HORNS

- Align horns with top of badge bar. (Usually on the left side). Drill 3/16" hole completely through the badge bar and secure with No. 10 x 1 1/2" stainless steel machine screws with flat washer, lock washer and nut.
- Route wires along badge bar to support. Drill a 1/4" hole at the base of the support and run wires through fender.

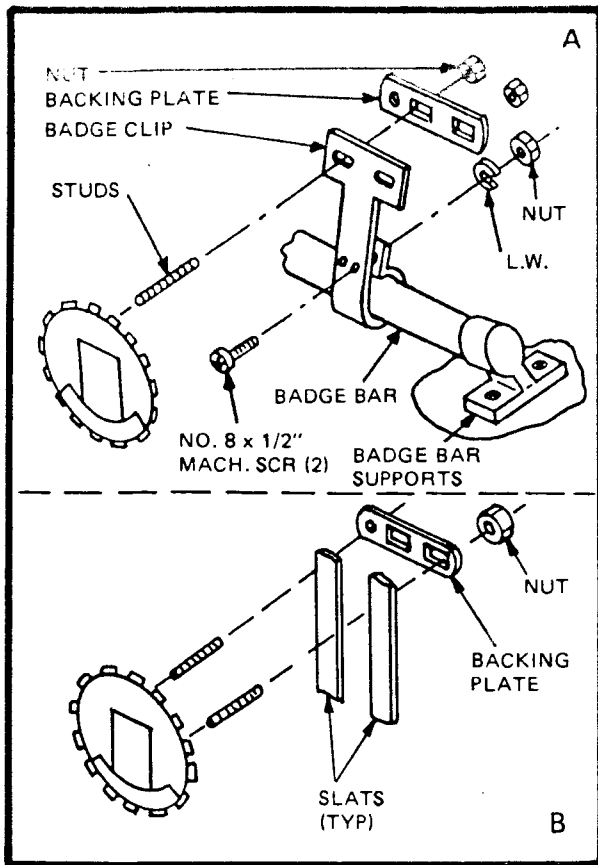


Figure 82

BADGES

- Secure badges to clips supplied using hardware that comes with badges. Secure clips to badge bar using No. 8 x 1/2" machine screws with lock washer and nut. (Figure 82A) Badges can be fastened to grille slats by securing with hardware supplied. (Figure 82B).

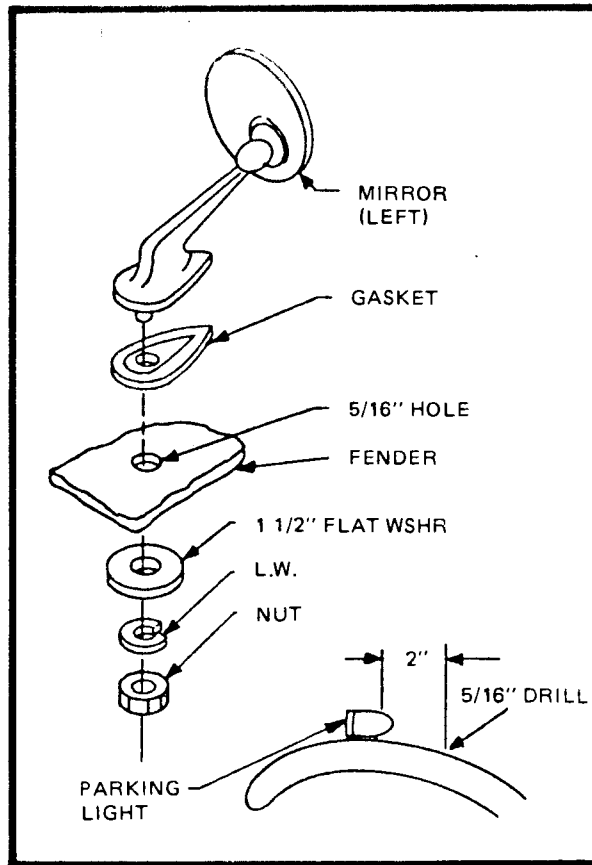


Figure 83

FENDER MIRRORS

- Position mirror 2" behind parking light on top of fender. Drill a 5/16" hole at marked location, and secure mirror to fender using hardware provided.

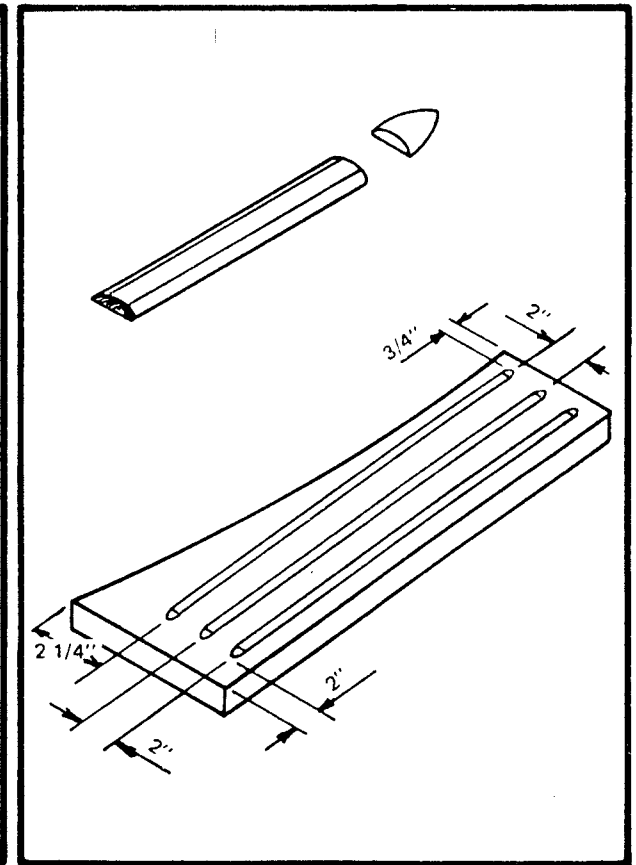


Figure 84

RUNNING BOARD TRIM

- Cut trim to conform to dimensions shown. The running boards are different sizes, necessitating longer strips on one size.
- Clean running board thoroughly with acetone. Remove backing from trim and attach as indicated. Peel backing from end pieces and secure to running board.

WIND WINGS

Wind wings attach in the groove on the front of the windshield. Before mounting, the hinges must be modified as follows:

Using a punch, drive out the pin holding the hinge together (One end of the pin will have 3 indentations in it. Drive the pin out by punching from the opposite smooth side.) Refer to Figure 85

When the pin is removed, drill the holes in the hinge out to $5/32''$. Install No. 8 x $1\ 3/4''$ machine screws and lock nuts (No. 8-32). Attach hinges to wind wing as shown using No. 8-32 x $1/2''$ oval head screws and cap nuts. Large end of wind wing must be at bottom. Measure down $4\ 1/2''$ from top of windshield, and mark frame. Measure in $1/4''$ from front edge of frame. This is done by placing a ruler across the groove in front of the windshield and then measuring back $1/4''$ from the ruler. Repeat further down the frame and connect the points. This will give you a line $1/4''$ from the front edge of the frame. Position wind wing on frame with top hole of top hinge over the two lines scribed earlier. Make sure all other hinge holes fall on $1/4''$ line. Mark at each hole. Remove wind wing and drill $3/16''$ holes at all marked locations. Be sure to keep drill parallel to windshield glass, not frame. Counter sink all holes. Install wind wings as shown using washers as spacers between frame and hinge. Secure with 8-32 x $5/8''$ machine screws and cap nuts. Repeat for opposite side.

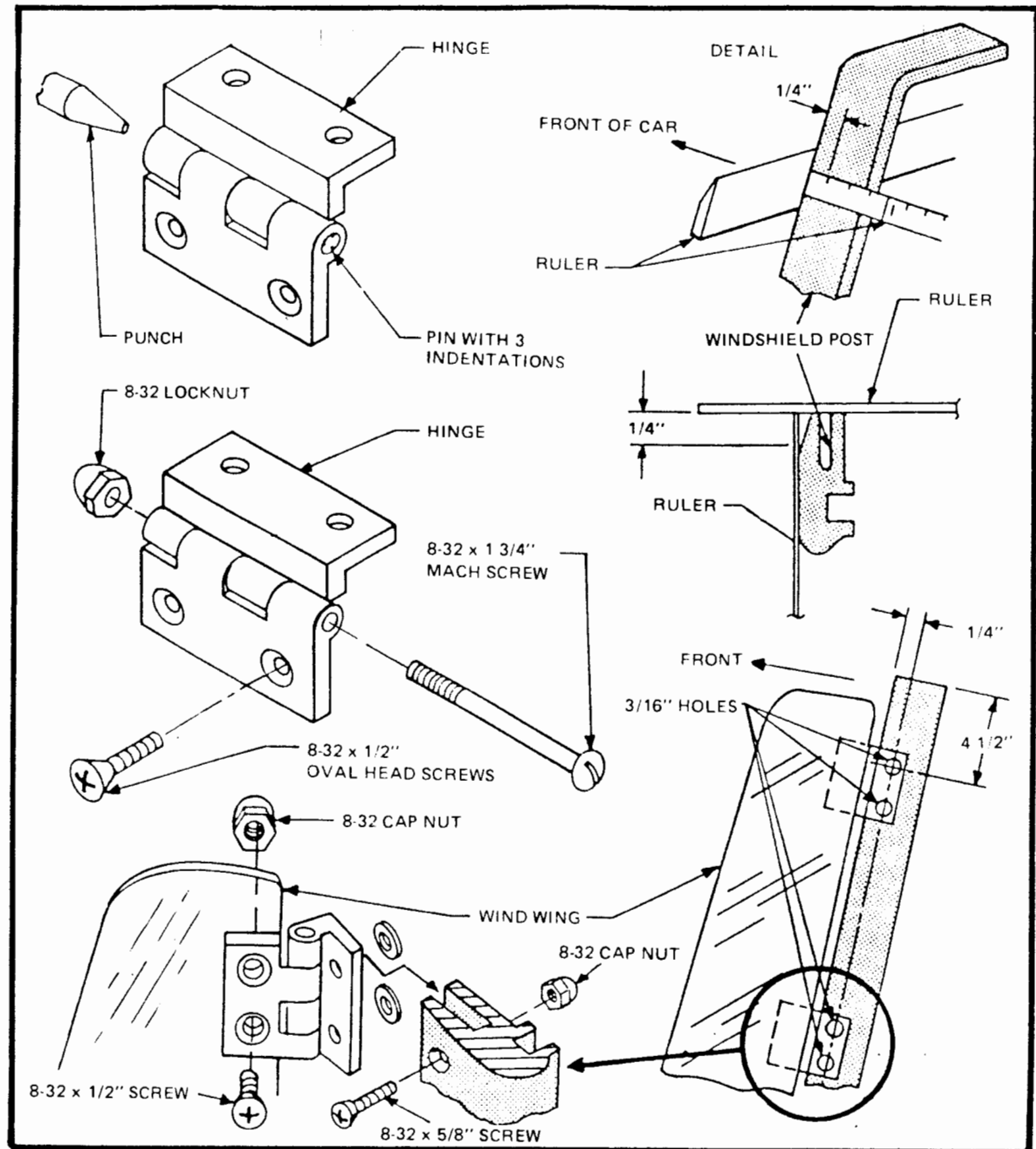


Figure 85

STEERING WHEEL

Attach steering wheel to adapter with screws provided. Fit wheel to column and retain with original Ford nut. Attach horn button wires and press in place. (It will be necessary to bend the contacts so they do not touch the column.)

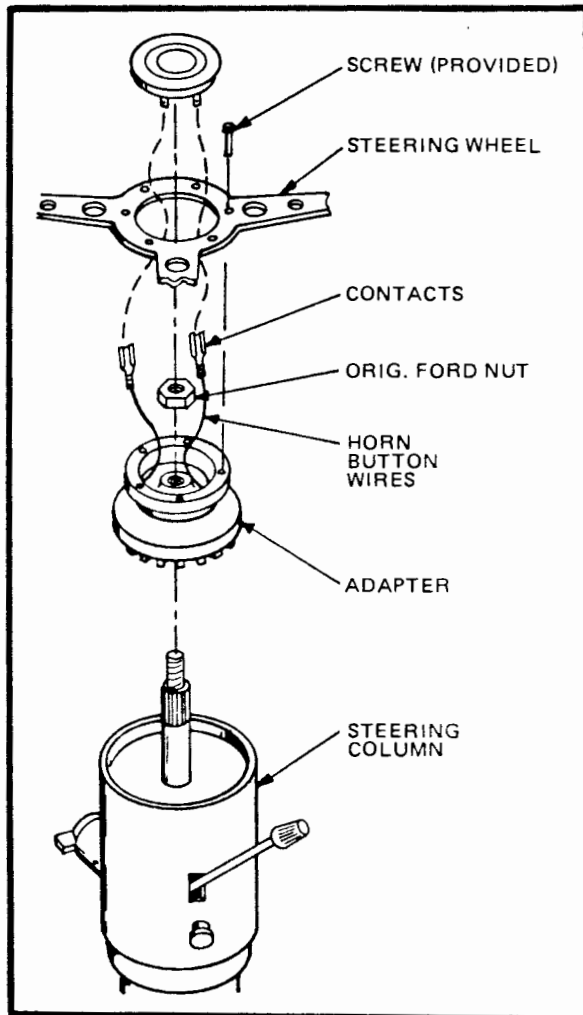


Figure 86

CONVERTIBLE TOP INSTALLATION (Refer to Figure 88)

Insert main bow through pocket in top with secondary bow projecting forward. Be sure to slide bow through straps. These are inserted through the slits on the forward edge of the pocket. Measure for location of bow mounts as indicated. Center the mounting foot over this point and mark hole locations. Drill 1/8" holes with No. 10 x 1" oval head self-tapping screws.

Attach top to windshield by pushing front seam into slot on front edge of windshield. Pull rear of top down over snap studs. With a grease pencil, mark the top whenever you can feel a stud underneath. After marking, install snaps using a small anvil and die tool that can be purchased for a few dollars or use a more professional type tool that can be rented.

Position secondary bow along seam and adjust straps.

Pull sides of top taut along body over rear fenders. Mark for 5 snap studs equally spaced along body. Install an additional stud in rear corners and pull top down tight. (Figure 88)

Pull windshield forward until top is tight and mark lower mounting hole location. Drill 5/16" hole and secure with bolt supplied with windshield. (See Detail A)

Mark windshield post 1 1/2" down from top. Drill 1/8" hole and insert snap stud. Pull forward flaps of top taut against frame and bring around to cover stud. Mark material and install snap. (Figure 87)

Hang side curtains from convertible top. Attach 3 studs to outside of windshield frame where outer flap contacts frame. Mark and install snaps.

Locate snap studs on door and body where side curtain falls. Mark side curtain and install snaps. (Figure 88)

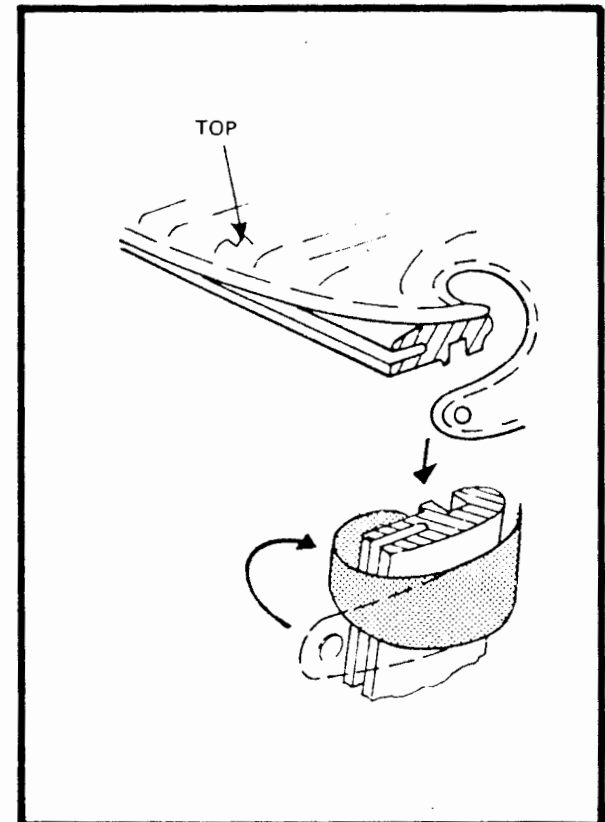


Figure 87

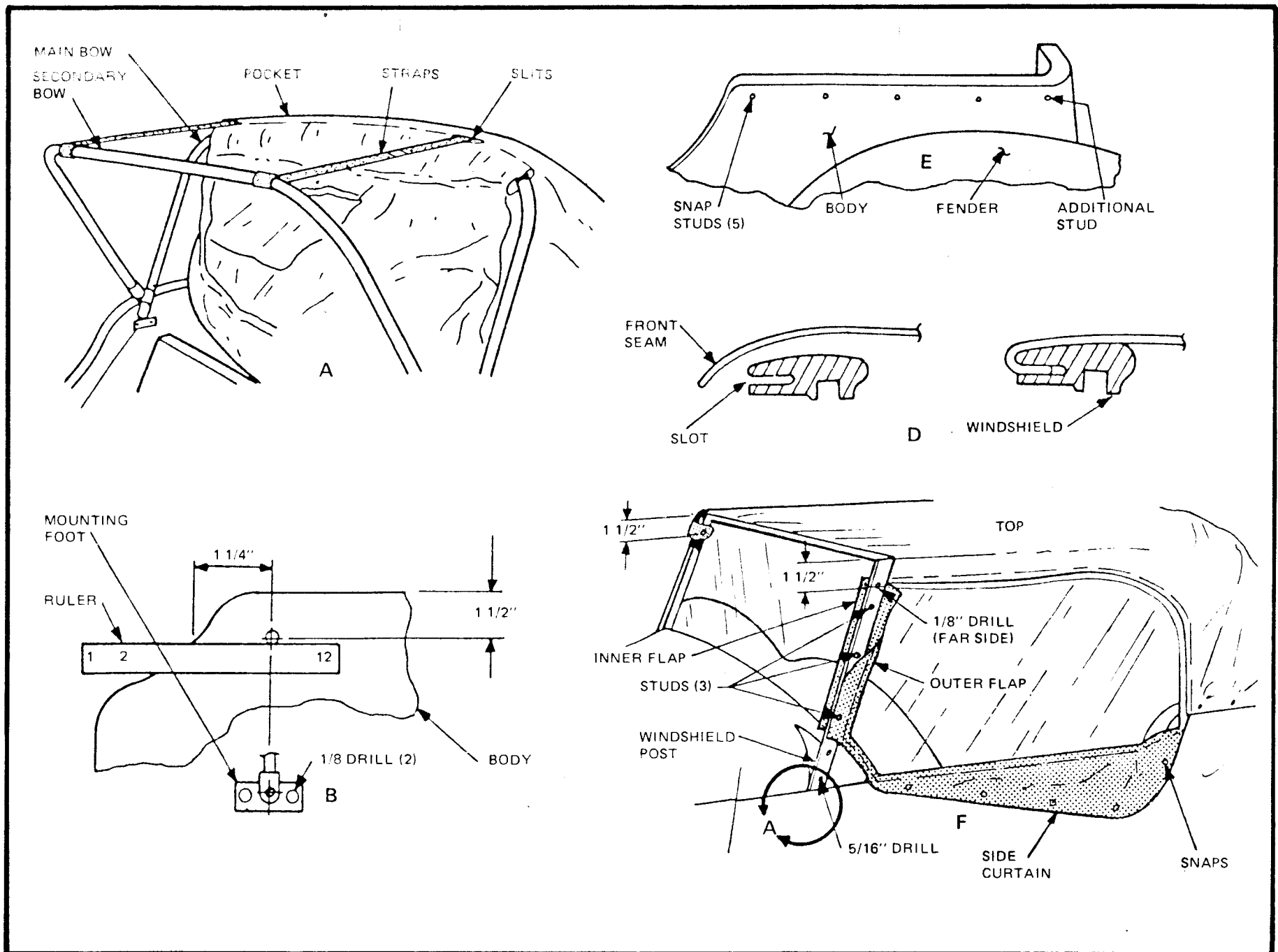


Figure 88

BOOT COVER

To install boot cover, fold top back on itself, folding material around bows. Insert into boot cover and zip.

TONNEAU COVER

Install snaps on the tonneau cover to match the studs installed previously for the top and side curtains. Pull tonneau cover forward over dash and mark location of 5 snap studs. Locate 1 in the center and evenly space the others out from there. Drill 1/8" holes and install studs. (It may be necessary to tilt the windshield forward to allow the holes to be drilled. Remove the top mounting bolt from the windshield and tilt it forward.)

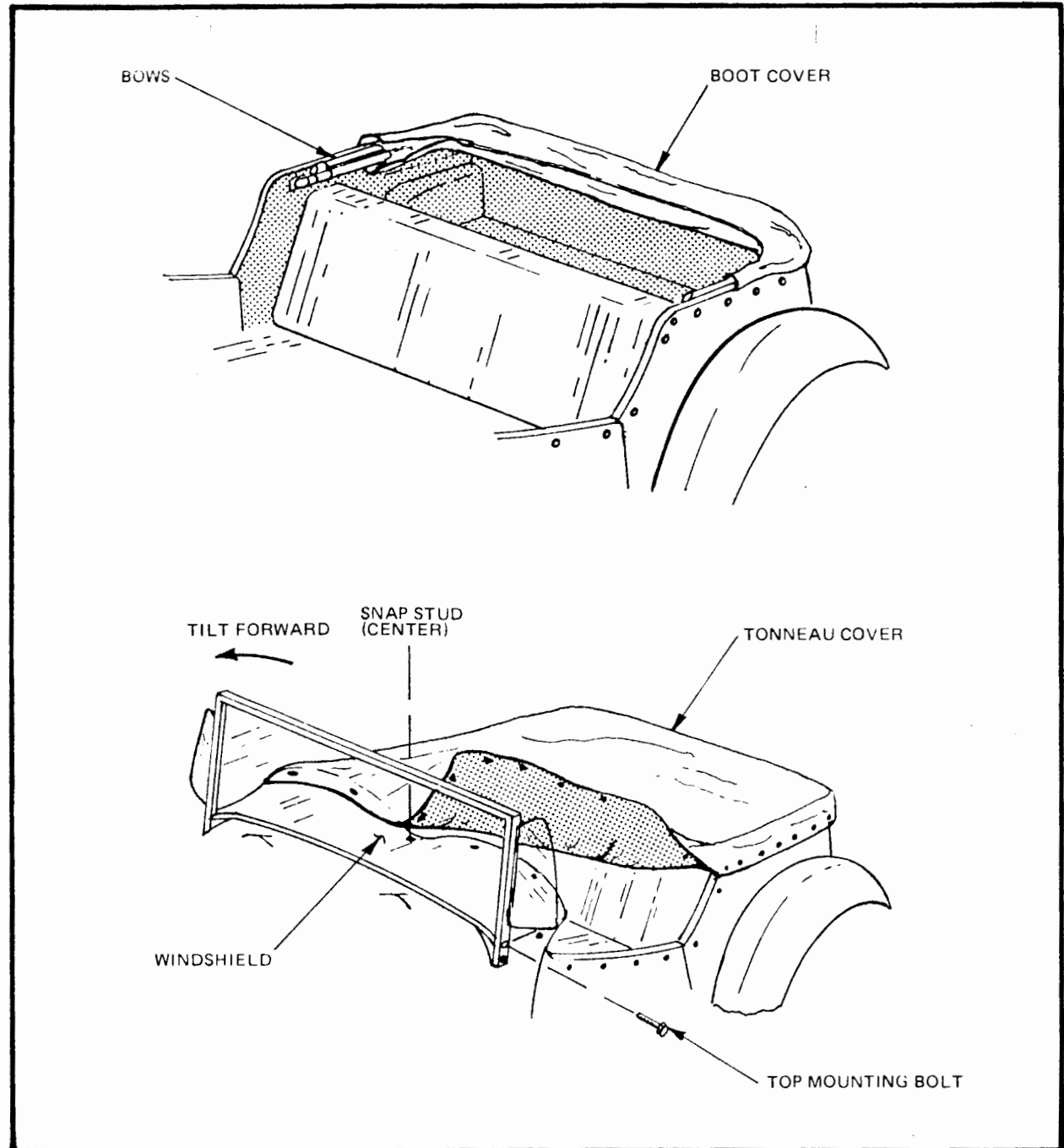


Figure 89

APPENDIX

A. Fiberglass Repair

B. Wiring Harness

GENERAL

TYPES OF FINISHES

Parts are made of molded fiberglass. There are 3 types of fiberglass material finishes:

1. Gel Coat finish: This finish is made of a special pigment and blended polyester resin several thousandths of an inch thick.
2. Molded-in-Color finish: This finish is molded into the fiberglass material which is the same color throughout its thickness.
3. Painted finish: This finish is painted on the natural color fiberglass material using standard painting procedure.

CARE OF FINISHES

The Gel Coat and molded-in-color finishes require minimum care and can be kept looking new by following these easy maintenance rules:

Clean, buff and wax the exterior periodically to renew finish.

An automotive wax type cleaner containing fine rubbing compound is suitable for removing minor scratches and scuffs. Scratches which are not removed by the rubbing compound can be removed by wet sanding with 400 grit sandpaper. Then wet sand with 600 grit sandpaper, rebuff and apply wax polish.

Care should be taken not to cut through the gel coat surface when rubbing. A power buf-

fer may be used with care or the surface may be buffed by hand, using a rubbing compound.

REPAIRS

Patch and fill in deep scratches, scars and small breaks.

Repair any major breaks as soon as possible to avoid any additional damage.

For damage to the gel coat finish, a can of Gel Coat of the same color and a small amount of catalyst is needed. For damage to the molded-in-color surface, a can of Filler Coat of the same color and a small amount of catalyst is needed. For deep holes, breaks, or gouges, some fiberglass mat and pre-accelerated polyester resin will also be required. Use M.E.K. (methyl ethyl ketone) catalyst.

The other materials including fiberglass mat, and pre-accelerated polyester resin are supplied in fiberglass repair kits which are available at most marine or automotive supply stores.

Damage to the painted type finish can be repaired by sanding, priming and painting using regular painting procedure.

SURFACE FINISHING

GEL COAT TOUCH-UP AND SURFACE REPAIRS

This type of damage may be classified as damage to the gel coat only, or a hole or

gauge that is deep enough to slightly penetrate fiberglass material. Repair as follows:

1. To be sure that the area to be patched is dry, clean and free of any wax or oil, wash with lacquer thinner.
2. Roughen the bottom and sides of the damaged area, using a power drill with a burr attachment. Feather the edge surrounding the scratch or gouge, being careful not to undercut this edge. (See Figure A)
3. A small amount of gel coat, the same color as the finish should be placed in a small can lid or on a piece of cardboard. Use just enough to fill the damaged area. If damage has penetrated through to fiberglass material, an equal amount of fibers, which can be taken from glass mat and shredded into small fibers, should be mixed with the gel coat - using a putty knife or flat stick. Add three drops of catalyst per teaspoon of gel coat using an eye dropper. Be sure to mix the catalyst thoroughly for maximum working time. Maximum working time (pot life) will be about 15 to 20 minutes at which time it begins to "gel". (See Figure B)
4. Fill the scratch or hole above the damaged area about 1/16", working the material into the damaged area with the sharp point of a knife. Be careful to puncture and eliminate any air bubbles which may occur. (See Figure C)

NOTE: If fiberglass fibers have not been used in mixture, skip steps 5 through 7 and proceed with step 8.

5. When the patch feels rubbery to touch (10-15 minutes), trim the patch flush with the surface, and then allow to cure completely (30-60 minutes). Patch will shrink slightly as it cures, making a depression. (See Figure D)

6. Carefully roughen up the bottom and edges of the depression, using the electric drill with burr attachment, as in Step 2. Feather into surrounding gel coat; do not undercut.

7. Again mix a small amount of gel coat with catalyst - do not use glass fibers. Using your

finger or putty knife, fill the depression with gel coat $1/16''$ above the surrounding surface.

8. Spread the gel coat level with the surrounding area and allow to cure (30 - 60 minutes). (See Figure E) Gel coat can be covered with cellophane, if desired, to aid in spreading evenly. Remove cellophane after gel coat has cured.

9. Sand the patched area, using a sanding block with 600-grit wet sandpaper. Finish by buffing with fine rubbing compound such as DuPont No. 606 and waxing. Weather-

ing will aid to blend touch-up if a slight color difference can be observed. (See Figure F)

NOTE: Where surface color of part has changed due to weathering, color match of patch may not be satisfactory. In this case, entire panel must be sprayed.

Thin Gel coat with acetone (1 to 1 ratio) and spray panel, blending sprayed area into a radius or corner on the part. Use a touch-up spray gun such as the Binks Model 15. After Gel coat is hard, buff and polish sprayed area.

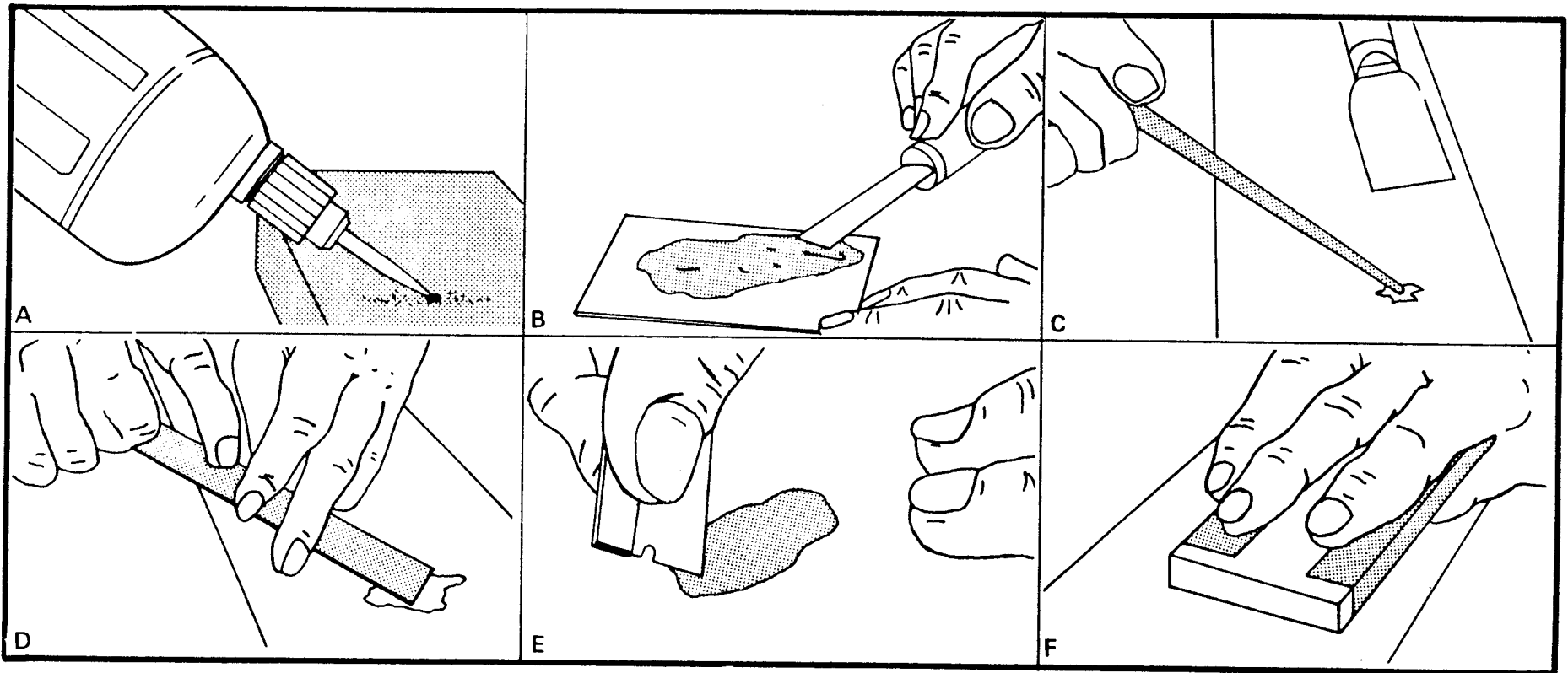


Figure A-1

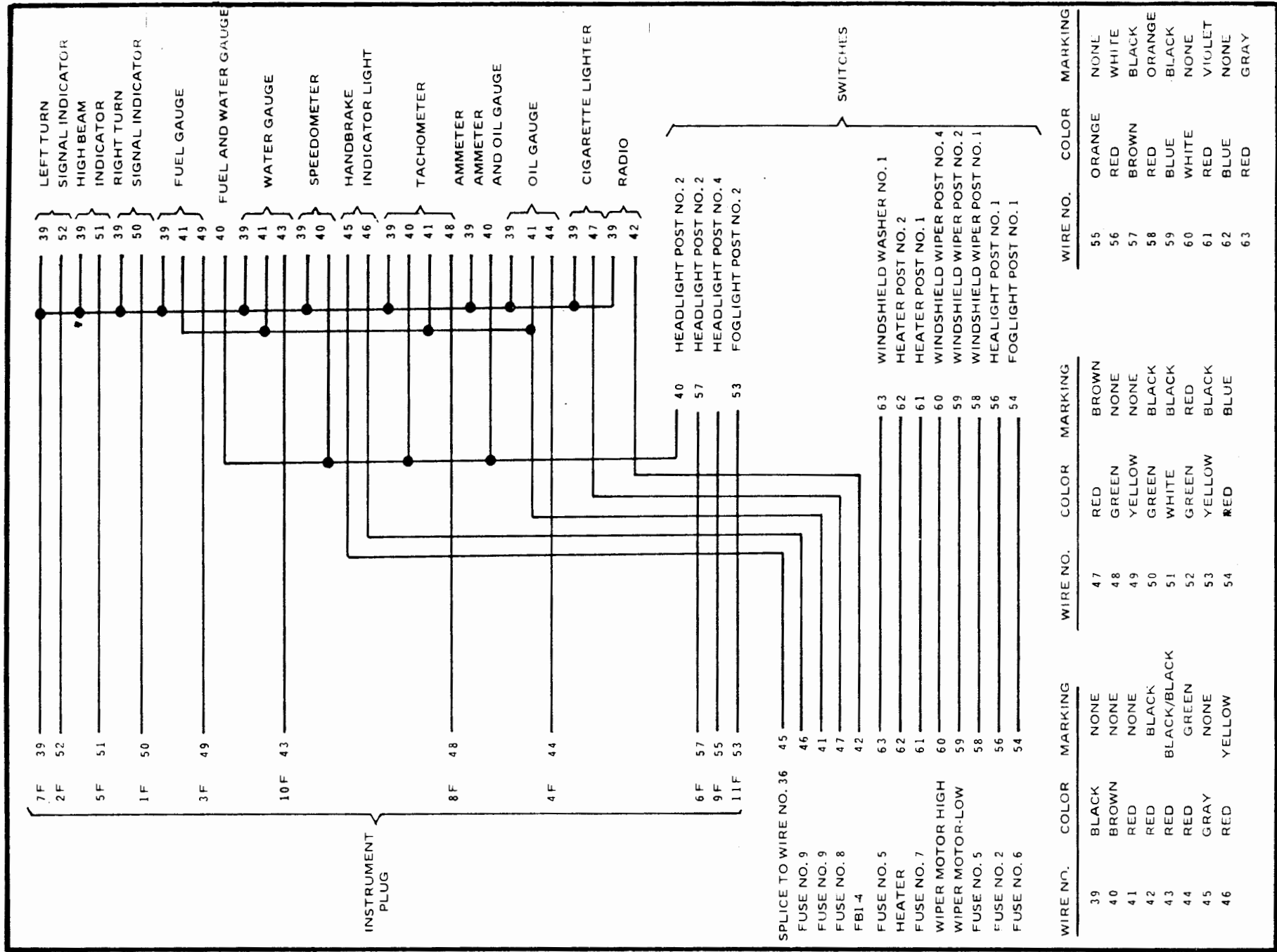


Figure B-1 Instrument Harness

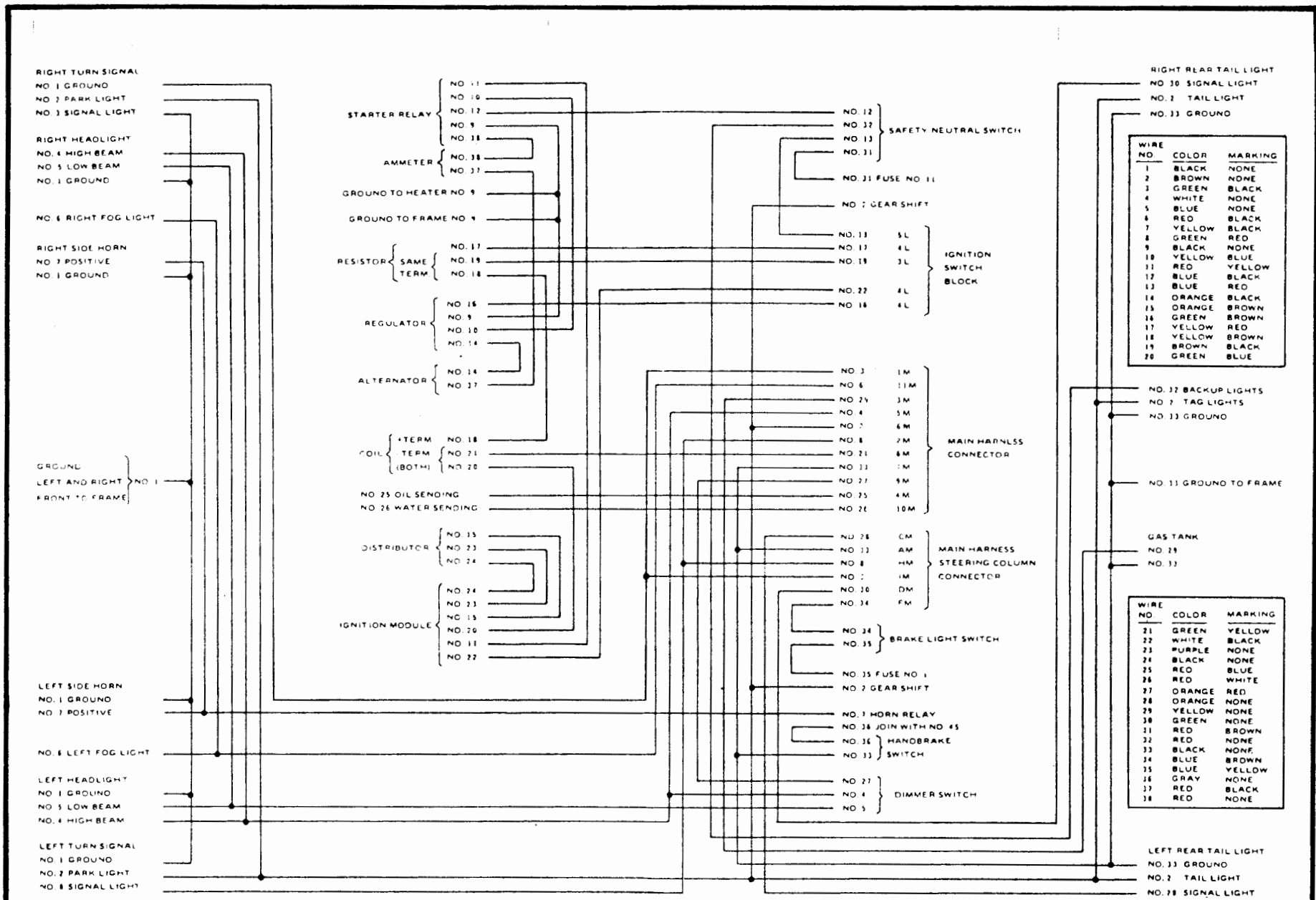


Figure B-2. Ford Gazelle Main Harness

Figure B-2 Main Harness Schematic

FORD CLASSIC TD NUT AND BOLT KIT

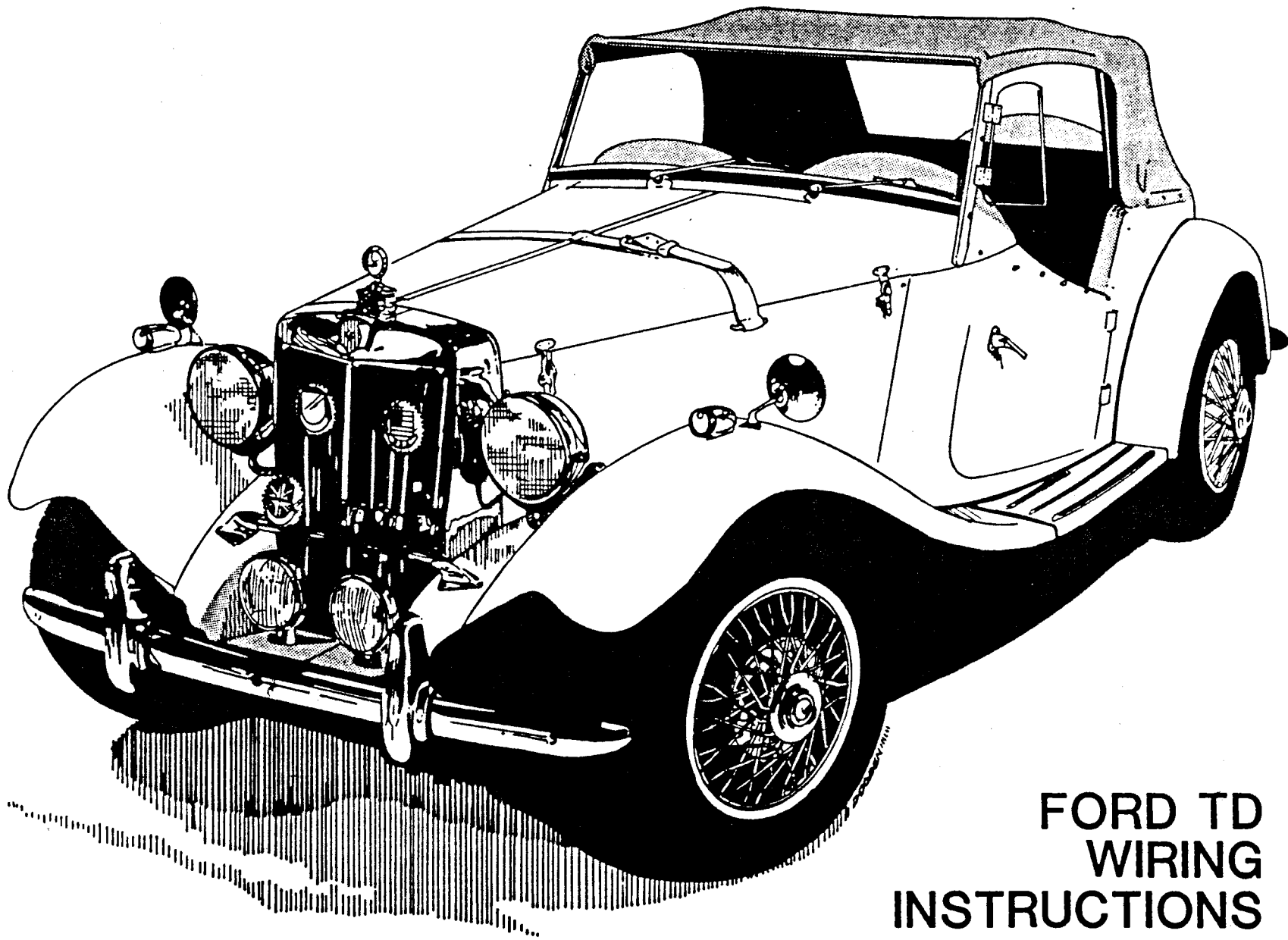
1. Axle to spring plate = (4 each) 7/16" x 4 1/2 x 2 1/2" spread, hardened "U" bolts with lock nuts (with kit)
2. Spring to spring plate - factory bolts and nuts
3. Spring to frame = (8 each) 3/8 x 2 1/2" Grade '5' hex head cap screws, flat washers, lock washers, and nuts
4. Link mount to differential = (4 each) 5/16-18 x 1 3/4" grade '8' hex head cap screws and lock washers
5. Link to link mount - 1/2 x 3" grade '5' hex head cap screw, 2 flat washers and lock washer and nut
6. Link to frame 1/2 x 2 1/2" grade '5' hex head cap screw, 2 flat washers, lock washer and nut
7. Motor mounts to frame = (8 each) factory bolts and nuts with 4 each flat washers
8. Strut brackets to frame = (8 each) 5/16 x 3" hex head cap screws, flat washers, lock washers, and nuts
9. Master cylinder to frame = (2 each) 3/8 x 1 3/4" hex head cap screws, flat washers, lock washers and nut
10. Gas tank = (6 each) 1/4 x 3/4" hex washer head self-tapping screws
11. Motor mounts - 1973 and earlier = (8 each) 5/16 x 1" hex head cap screws, flat washers, lock washers, and nuts
12. Pillow block bearing = (2 each) 3/8 x 1 1/2" hex head cap screws, flat washers, lock washers and nuts
13. Steering column support to frame = (4 each) 3/8 x 1 1/4" hex head cap screws, flat washers, lock washers and nuts
14. Steering column to support = (4 each) 3/8 x 1 1/2" hex head cap screws, flat washer, lock washers and nuts
15. Radiator brackets to frame = (6 each) 1/4-20 x 1" hex head machine screws
16. Brake line brackets to frame = (4 each) 1/4 x 3/4" hex washer head self-tapping screws
17. Radiator to brackets = (4 each) 1/4 x 3/4" bolts, nuts, lock washers
18. Accelerator bracket reinforcing plate = (2 each) 3/16 x 1/2" hex head machine screws, nuts
19. Battery box to frame = (2 each) 1/4 x 3/4" hex washer head self-tapping screws
20. Shifter to liner = (4 each) 5/16 x 1" hex head cap screws, flat washers, lock washers and nuts
21. Emergency brake to liner = (2 each) 5/16 x 1" hex head cap screws, flat washers, lock washers and nuts
22. Liner to frame = (20 each) 1/4 x 3/4" hex washer head self-tapping screws
23. Firewall extension to frame = (2 each) 1/4 x 3/4 hex washer head self-tapping screws
24. Firewall extension to liner = (2 each) 1/4 x 1 1/4 hex head cap screws, 2 flat washers, lock washers, and nuts
25. Firewall extension to battery box = (2 each) 1/4 x 1 1/4" hex head cap screws, 2 flat washers, lock washers and nuts
26. Body to frame = (9 each) 1/4 x 3/4" hex washer head self-tapping screws
27. Cowls to body = (4 each) No. 10 x 1 1/4" stainless steel phillips oval head machine screws, finishing washers, flat washers, lock washers, and nuts
28. Fenders to cowls and body = (6 each) 5/16 x 1 1/2" hex head cap screws, 2 flat washers, lock washers and nuts (8 each) 5/16 x 1 1/4" hex head cap screws, 2 flat washers, lock washers, and nuts
29. Front fender flanges = (2 each) 5/16 x 1 1/4" hex head cap screws, 2 flat washers, lock washers and nuts
30. Grille assembly to body = (6 each) No. 10 x 1 1/4" stainless steel phillips oval head machine screws, with finishing washers, flat washers, lock washers and nuts
31. Nose piece to grille = (1 each) No. 8 x 1" flat head machine screw, nut.
32. Moto meter flange to shell = (2 each) No. 10 x 1" machine screw, flat washer, lock washer and nut
33. Hood hinges = (12 each) No. 10 x 1" stainless steel phillips oval head machine screws, flat washers, lock washers and nuts
34. Hood latches = (8 each) No. 10 x 1" stainless steel phillips oval head machine screws, flat washers, lock washers and nuts
35. Running boards to body = (10 each) 1/4 x 1 1/4" hex head cap screws, 2 flat washers, lock washers and nuts
36. Running board to front fender = (4 each) 1/4 x 1 1/4" hex head cap screws, 2 flat washers, lock washers and nuts
37. Rear fenders to body and splash pan = (18 each) 5/16 x 1 1/4" hex head cap screws, 2 flat washers, lock washers and nuts

38. Splash pan to body = (4 each) 5/16 x 1 1/4" hex head cap screws, 2 flat washers, lock washers and nuts
39. Rear cover to body = (9 each) 5/16 x 1 1/4" hex head cap screws, 2 flat washers, lock washers and nuts
40. Spare tire mount to cover = (5 each) 5/16 x 1 1/4" hex head cap screws, 2 flat washers, lock washers and nuts
41. Spare tire to mount = (2 each) 1/2-20 x 1 3/4" hex head cap screws, 2 flat washers and jam nut
42. Rear cover straps = (8 each) No. 10 x 1" stainless steel phillips oval head machine screws, flat washers, lock washers and nuts
43. Tail light to fenders = (4 each) No. 10 x 1 1/4" machine screws, flat washers, lock washers and nuts
44. Parking lights to fenders = (2 each) 1/4-28 x 3/4" hex head machine screw and flat washer
(2 each) 1/4-28 x 1" hex head machine screw and flat washer
45. Dash board to body = (4 each) No. 10 x 1 1/2" stainless steel phillips oval head machine screw, with finished washer, flat washer, lock washer and nut
46. Head light bracket to grille and fender = (4 each) 1/4 x 1" round head machine screw, flat washer, lock washer and nut
47. Front inner bumper supports to chassis = (4 each) 7/16 x 1 1/4" hex head cap screws, 2 flat washers, lock washers and nuts
48. Front outer brackets to inner supports = (2 each) 3/8 x 1 1/2" hex head cap screws, flat washers, lock washers and nuts
49. Front bumper to outer brackets = (4 each) 3/8 x 1 1/4" carriage bolt, flat washer, lock washer and nut
50. Bumper guard to bumper = (4 each) 3/8-24 x 1 1/4" hex head cap screw, flat washer and lock washer.
51. Rear outer brackets to chassis = (2 each) 3/8 x 1 1/2" hex head cap screws, flat washers, lock washers and nuts
52. Rear bumper to outer brackets = (4 each) 3/8 x 1 1/4" carriage bolt, flat washers, lock washers and nuts
53. Hood strap to body = (4 each) No. 10 x 1" stainless steel phillips oval head machine screws, flat washers, lock washers and nuts
54. License light = (4 each) No. 10 x 1" stainless steel round head machine screw, flat washers, lock washers and nuts
55. Door hinges = (16 each) 1/4 x 1" flat head socket screw, flat washers, lock washers and nuts
56. Slam lock to door = (4 each) No. 10 x 1" stainless steel phillips oval head machine screw, flat washers, lock washers and nuts
57. Handles to door = (4 each) No. 10 x 1" stainless steel phillips oval head machine screw, flat washers, lock washers and nuts
58. Striker plates to body = (4 each) No. 10 x 1" round head machine screw, flat washers, lock washers and nuts
59. Seat base hinges to figerglass = (12 each) No. 10 x 3/4" stainless steel phillips oval head machine screw, flat washers, lock washers and nuts
60. Seat base hinges to plywood = (12 each) 3/16 x 3/4" flat head wood screw
61. Running board brackets to frame = (4 each) 5/16 x 3" hex head cap screw, flat washers, lock washers and nuts
62. Running board bracket extensions to bracket = (4 each) 5/16 x 1 1/4" hex head cap screw, flat washers, lock washers and nuts
63. Seat bases to liner = (8 each) 5/16 x 1 1/4" hex head cap screw, 2 flat washers, lock washers and nuts
64. Seat back hinges to body = (6 each) 1/4 x 1" flat head self-tapping screw
65. Seat back-hinge plates to seat back = (8 each) 1/4 x 3/4" pan head self-tapping screw
66. Door panels to door = (22 each) No. 8 x 5/8" chrome phillips oval head self-tapping screws with finished washers
67. Carpet to body = (24 each) No. 8 x 5/8" chrome phillips oval head self-tapping screws with finished washers
68. Gas filler to rear cover = (2 each) No. 10 x 1" stainless steel machine screws with 2 flat washers, lock washers and nuts
69. Seat adjuster to seat back = (6 each) 3/16 x 3/4" pan head wood screws
(4 each) No. 10 x 1" stainless steel phillips oval head machine screws, flat washers, lock washers and nuts
70. Seat adjuster to body = (4 each) No. 10 x 1" stainless steel phillips oval head self-tapping screws
71. Badge bar to body = (4 each) No. 10 x 1 1/4" stainless steel phillips oval head machine screw with flat washer, lock washer and nut
72. Horns to badge bar = (2 each) No. 10 x 1 1/2" stainless steel round head machine screw with flat washer, lock washer and nut
73. Badges to badge bar = (2 each) No. 8 x 1/2" stainless steel round head machine screws with lock washer and nut

74. Clutch pedal to frame = (2 each) 3/8 x 1 1/2" hex head cap screws with flat washer, lock washer and nut.
75. Brake pedal to frame (1975 and later standard shift only). (1 each) 3/8 x 4 3/4" hex head cap screw with flat washer, lock washer and nut.
76. Accelerator pedal to liner (2 each) 5/16 x 1 1/4" hex head cap screw with flat washer, lock washer, and nut.

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**FORD TD
WIRING
INSTRUCTIONS**

SECTION VI WIRING

WIRING HARNESS

TOOLS:

Good quality wire strippers
Good quality terminal crimping tool
Straight edge razor knife and extra blades
Self powered test light

SUPPLIES:

Coil Resistor Mopar No. 5206436 or equivalent such as NAPA ICR-13, available from auto parts store.

Proper terminals - butt connectors, ring terminals, female disconnects, splice connectors

Electrical tape

Wire ties

Wire clamps

GENERAL

The Ford Harness is a two section, integrated assembly that meets the electrical wiring requirements for normal operation. Modifications can be made to suit any engine-transmission instrument configurations.

The two sections are the instrument harness and the main harness. These two sections meet and interconnect at the upper left corner on the rear of the firewall. We recommend that you use the Ford connectors that came with your Ford chassis or purchase new connectors from a dealer to interconnect the two harness sections. See Figures 1 and 2.

NOTE: Most older Fords have only one set of male/female plugs. The female plug is attached to the steering column. To facilitate connections between the main harness

and the instrument harness, another set of connectors should be purchased from a Ford dealer. See Figure 2.

An alternate method is to splice the wires together with butt connectors or use a terminal block.

The harness should be secured to the frame using plastic tie straps or cable clamps and should be checked for clearance between mating body parts. The harness should be kept clear of sharp edges, protruding screws, etc.

The wiring instructions given here apply to a standardized wiring-chassis-engine configuration. They apply to the use of Ford pin connectors, standard engines and automatic transmissions, with standard accessories. Refer to the Alternate Wire Hook-up for exceptions.

INSTRUMENT HARNESS

The instrument harness connects to the instrument and indicator lights on one end and the fuse block and the female half of a Ford 11-pin connector on the other end.

Install the gauges in the instrument panel before installing the instrument panel in the body. Lay the instrument harness along the top edge of the panel above the gauges. There will be little space between the instruments and the wiper arm. Connect all the leads to the instruments and indicator lights.

NOTE: Keep the wiring tight and clean since there is little space between instruments.

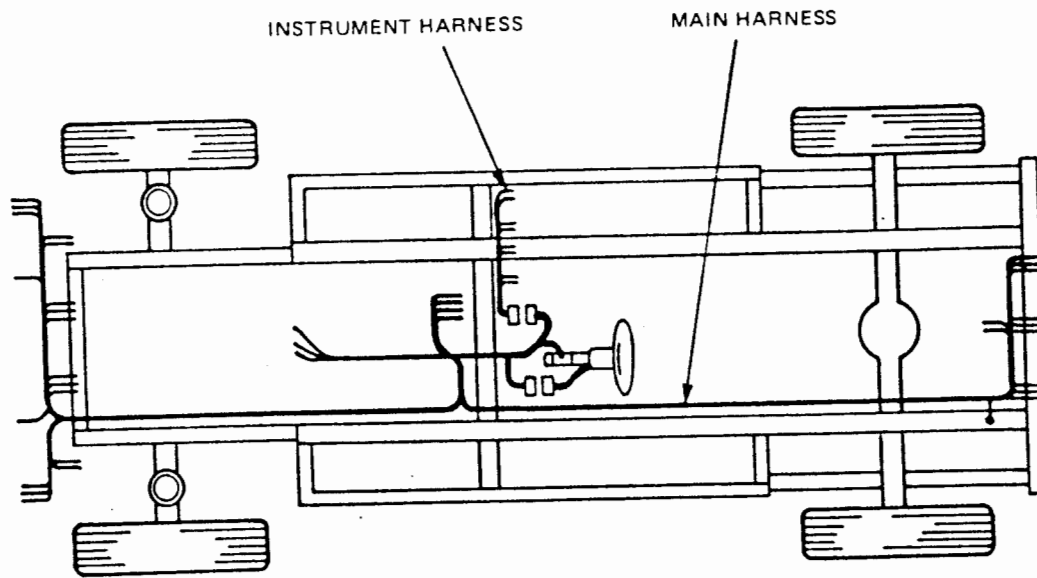
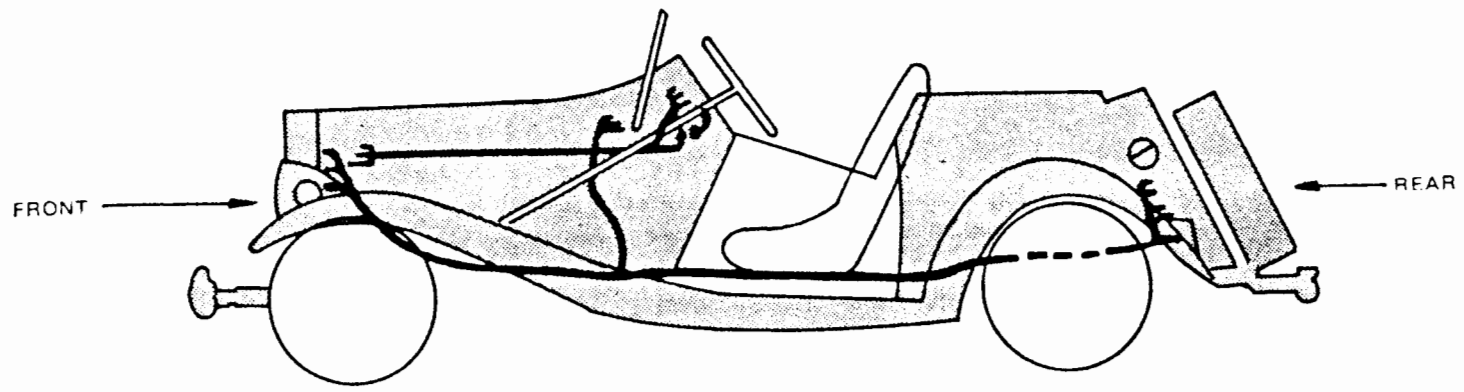
Check the diagrams, instructions and color codes carefully.

After the instrument panel is installed into the body, turn the body upside down and continue wiring.

INSTRUMENT HARNESS CONNECTIONS

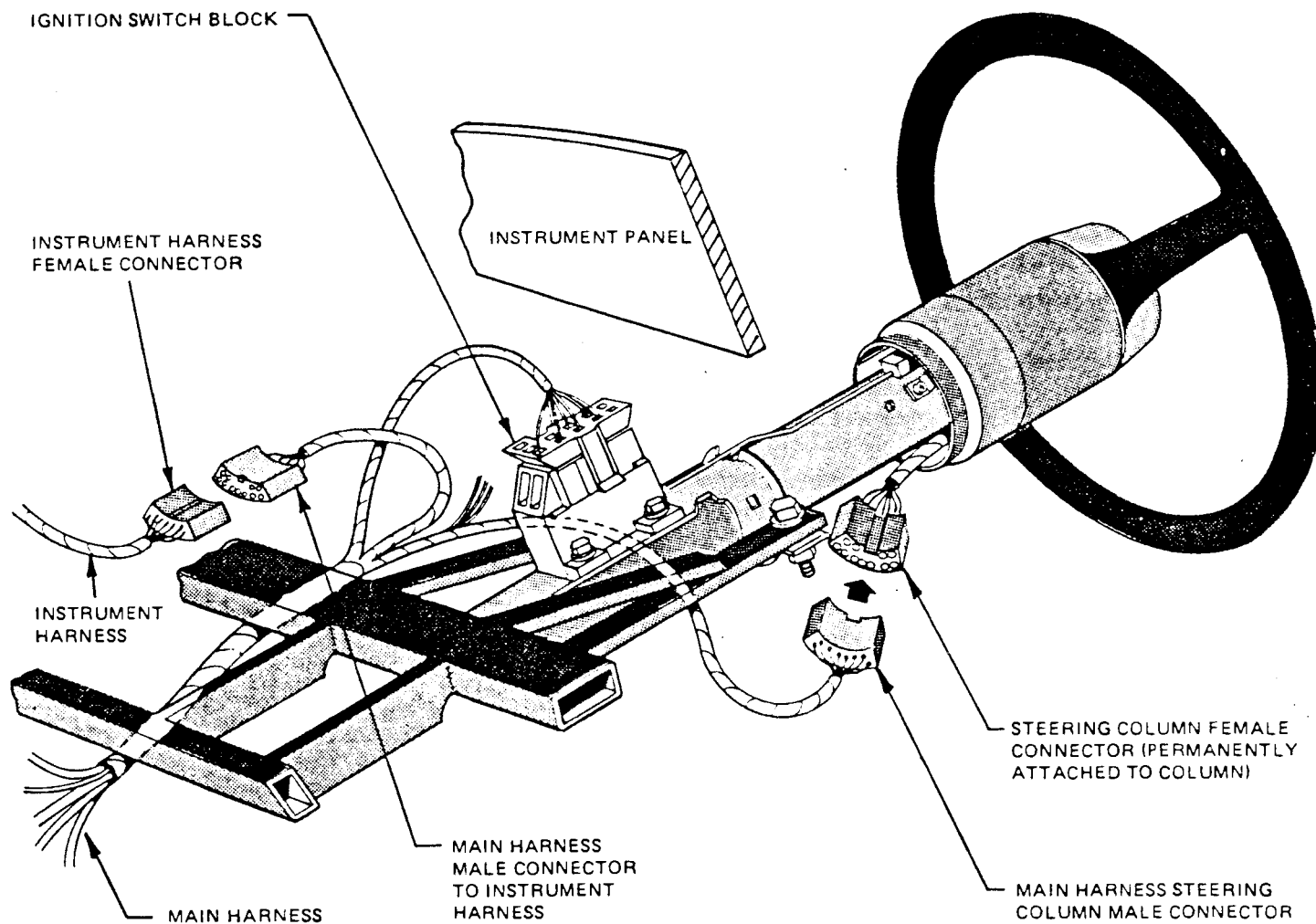
See Figure 4 for detailed connections. An over-all wiring diagram is provided in this section.

- Heater. Connect blue (No. 62) to post No. 2 on heater switch and post on heater. Connect red/violet (No. 61) lead to post No. 1 on heater switch and fuse No. 7. Connect black ground wire (No. 9) from frame to heater. See Figure 4, 5, and 6.
- Windshield Washer. Connect red/gray (No. 63) lead to post No. 1 on washer switch and fuse No. 5. Run a wire (not supplied) from post No. 2 on washer switch to washer pump. Ground pump to frame.
- Windshield Wiper. Connect white (No. 60) lead to post No. 3 on wiper switch and high speed post on wiper motor. Connect blue/black (No. 59) lead to post No. 2 on wiper switch and low speed post on wiper motor. Connect red/orange lead (No. 58) to post No. 1 on wiper switch and fuse No. 5.
- NOTE:** Due to many variations in windshield wiper motors, we recommend that you connect the high and low speed



Harness Placement

Figure 1



NOTE: Main harness to steering column connection will be referred to with a letter, and male or female designation (i.e., BF, AM)

Main harness to instrument harness connections will be referred to with a number, and male or female designation (i.e., 3F, 5M)

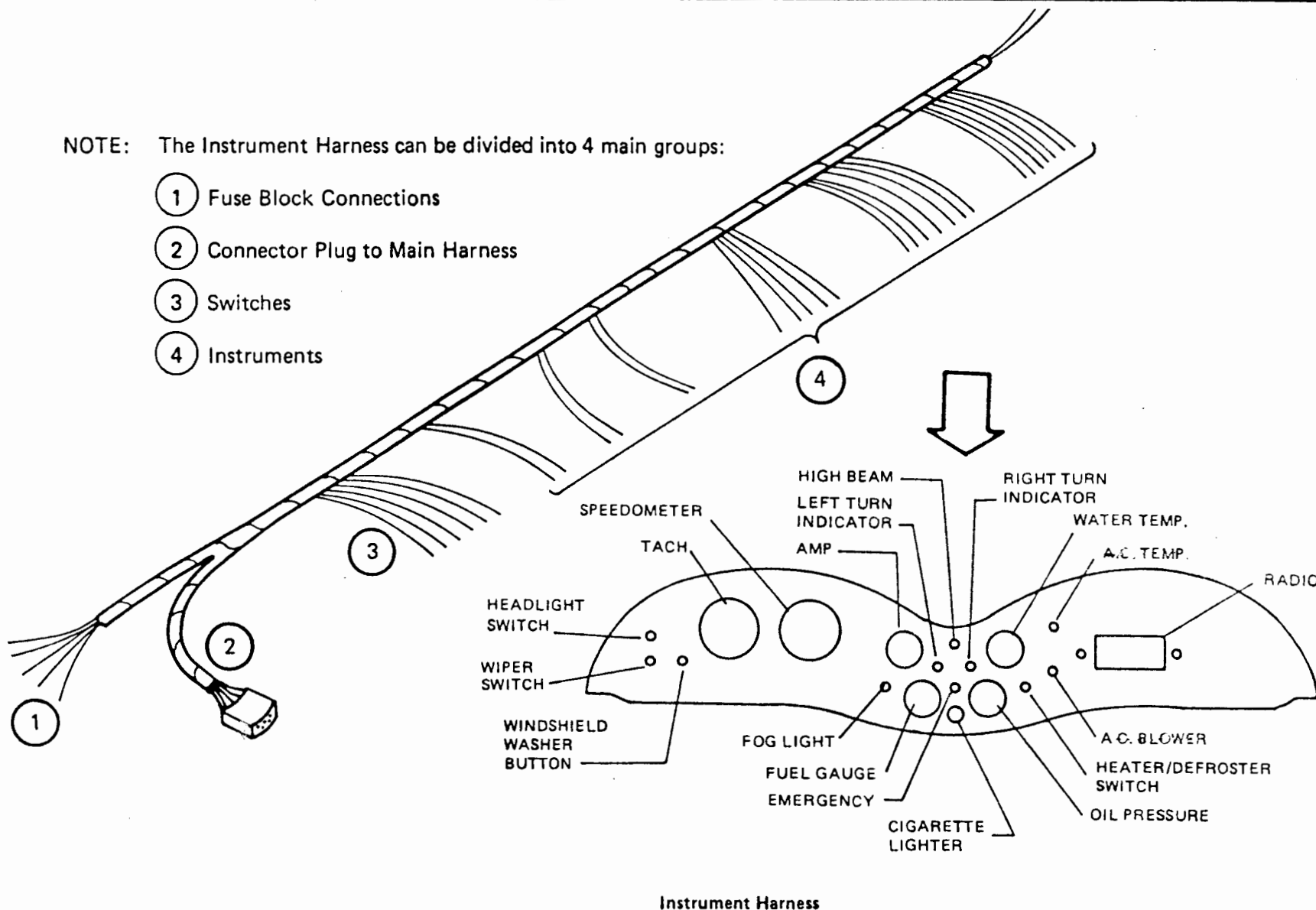
Main Harness, Instrument Harness and Ignition Switch Connections

Figure 2

- leads to the motor as suggested. If the motor gives you high speed when it should give you low speed, reverse the two leads. Also, the wiper will not return to park (all the way down) position when you turn them off. Time your shut-off so the wipers are down when you turn them off.
- Parking Light. Connect brown/black (No. 57) lead to post No. 2 on headlight switch and pin No. 6F on instrument harness connector. Also connect brown (No. 40) to post No. 2 on headlight switch.
 - Headlight. Connect red/white (No. 56) lead to post No. 1 on headlight switch and fuse No. 2. Connect orange (No. 55) to post No. 3 on headlight switch and pin No. 9F on instrument harness connector. See Figures 4 through 8.
 - Foglight. Connect red/blue (No. 54) lead to post No. 1 on foglight switch and fuse No. 6. Connect yellow/black (No. 53) to post No. 2 on foglight switch and to pin 11F on instrument harness connector.
 - NOTE: At this stage, your five dashboard switches will be hooked up. The next steps will complete the instrument connector hook-up and all the gauge and indicator light hook-ups for the Ammeter. See Figures 6,8 and 9.
 - Right Turn Signal. Connect green/black (No. 50) lead to right turn signal indicator light and pin 1F on instrument harness connector. Connect black (No. 39) ground lead to light and pin 7F on instrument harness connector.
 - High Beam Indicator. Connect white/black (No. 51) lead to high beam indicator light and pin 5F on instrument harness connector. Connect black (No. 39) ground lead to light.
 - Left Turn Signal. Connect green/red (No. 52) lead to left turn signal indicator light and pin 2F on instrument harness connector. Connect black (No. 39) ground lead to light.
 - Ammeter. Connect black (No. 39) ground lead to (G) post. Connect brown (No. 40) lead to ammeter light lead. While doing this also join the light lead from the oil gauge with brown (No. 40) lead. For main harness connections, refer to page 18.
 - Oil. Connect red/green (No. 44) lead to (S) post on oil pressure gauge and pin 4F on instrument harness connector. Connect red (No. 41) lead to (I) post on oil gauge and fuse No. 9. Connect black (No. 39) ground lead to (G) post. The lead from the oil pressure gauge light is joined with the ammeter gauge light. Together they are joined with brown (No. 40) lead.
 - Tachometer. Connect green (No. 48) to (S) post on tachometer and pin 8F on instrument harness connector. Connect black (No. 39) ground lead to (G) post.
 - Connect red (No. 41) to (I) post. Connect brown (No. 41) to light.
 - Hand Brake Light. Connect red/yellow (No. 46) lead to hand brake indicator light and fuse No. 9. Connect gray (No. 45) lead to hand brake light. The other end of gray (No. 45) lead is left unattached until all other connections are made. Then it is joined with gray (No. 36) lead from the main harness and taped.
 - Speedometer. Connect black (No. 39) ground lead to speedometer light. Connect brown (No. 40) lead to light.
 - Water. Connect red/black/white (No. 43) lead to (S) post on water temperature gauge and pin 10F on instrument harness connector. Connect black (No. 39) ground lead to (G) post. Connect red (No. 40) with water gauge light. While doing this, also join the light lead from the fuel gauge with brown (No. 40) lead.
 - Fuel. Connect yellow (No. 49) lead to (S) post on fuel gauge and pin 3F on instrument harness connector. Connect red (No. 41) lead to (I) post. The lead from the fuel gauge light is joined with the lead from the water temperature gauge light and together they are joined with brown (No. 40) lead.
 - Cigarette Lighter. Connect red/brown (No. 47) lead to cigarette lighter and fuse No. 8. Connect black (No. 39) ground lead to lighter.

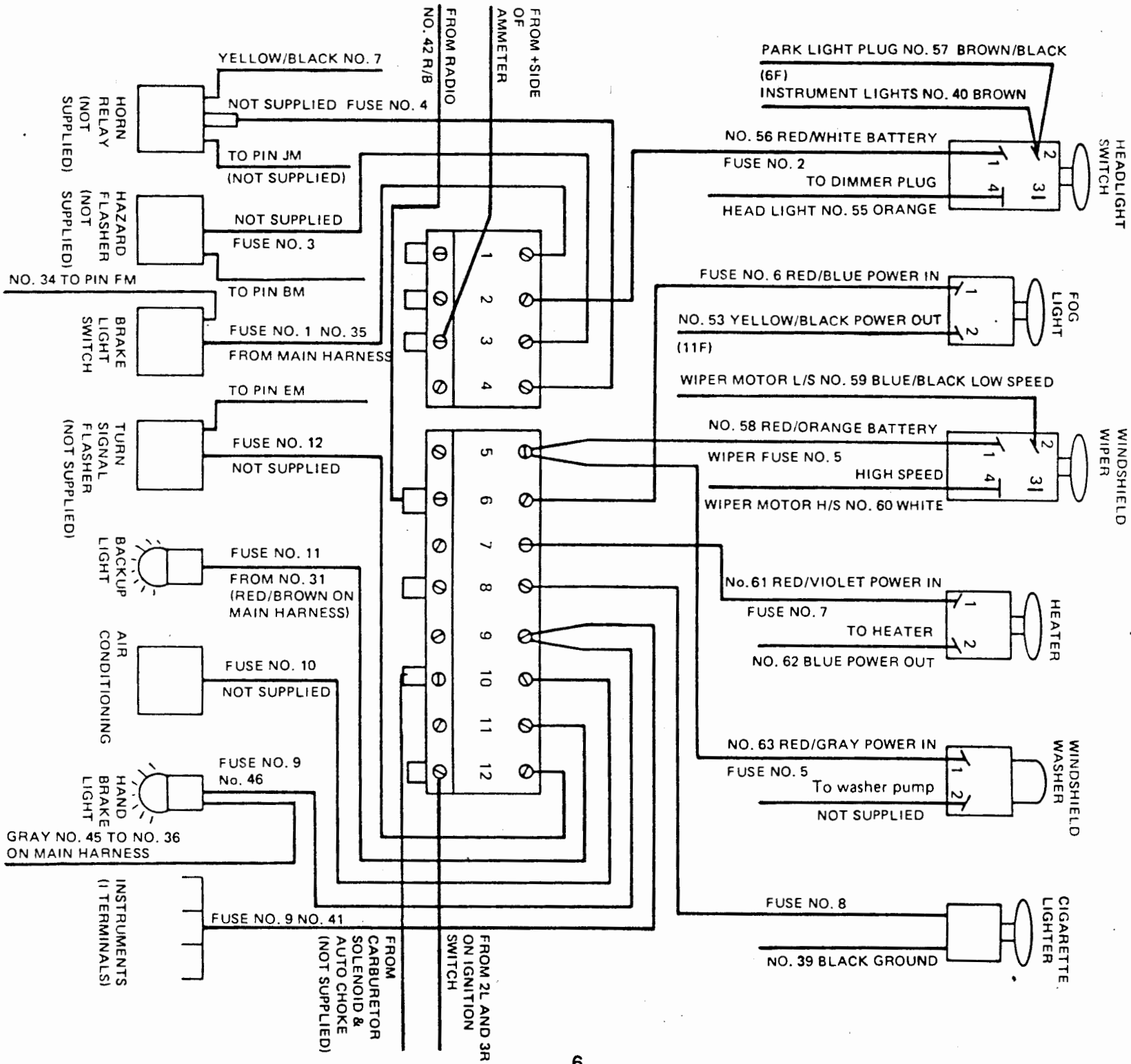
NOTE: The Instrument Harness can be divided into 4 main groups:

- ① Fuse Block Connections
- ② Connector Plug to Main Harness
- ③ Switches
- ④ Instruments



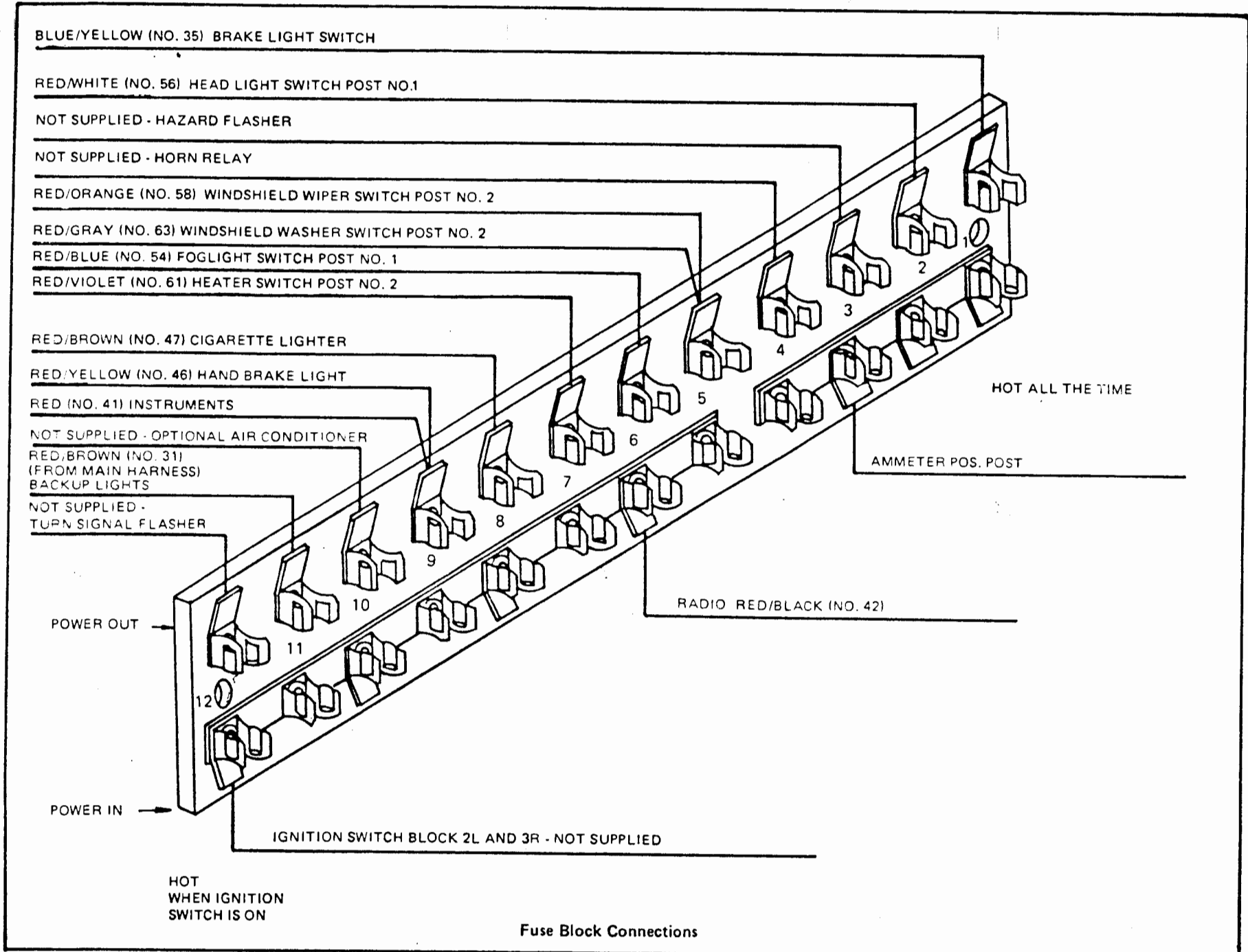
Within each group there may be extra wires that will be connected to the main harness or chassis components.

Figure 3



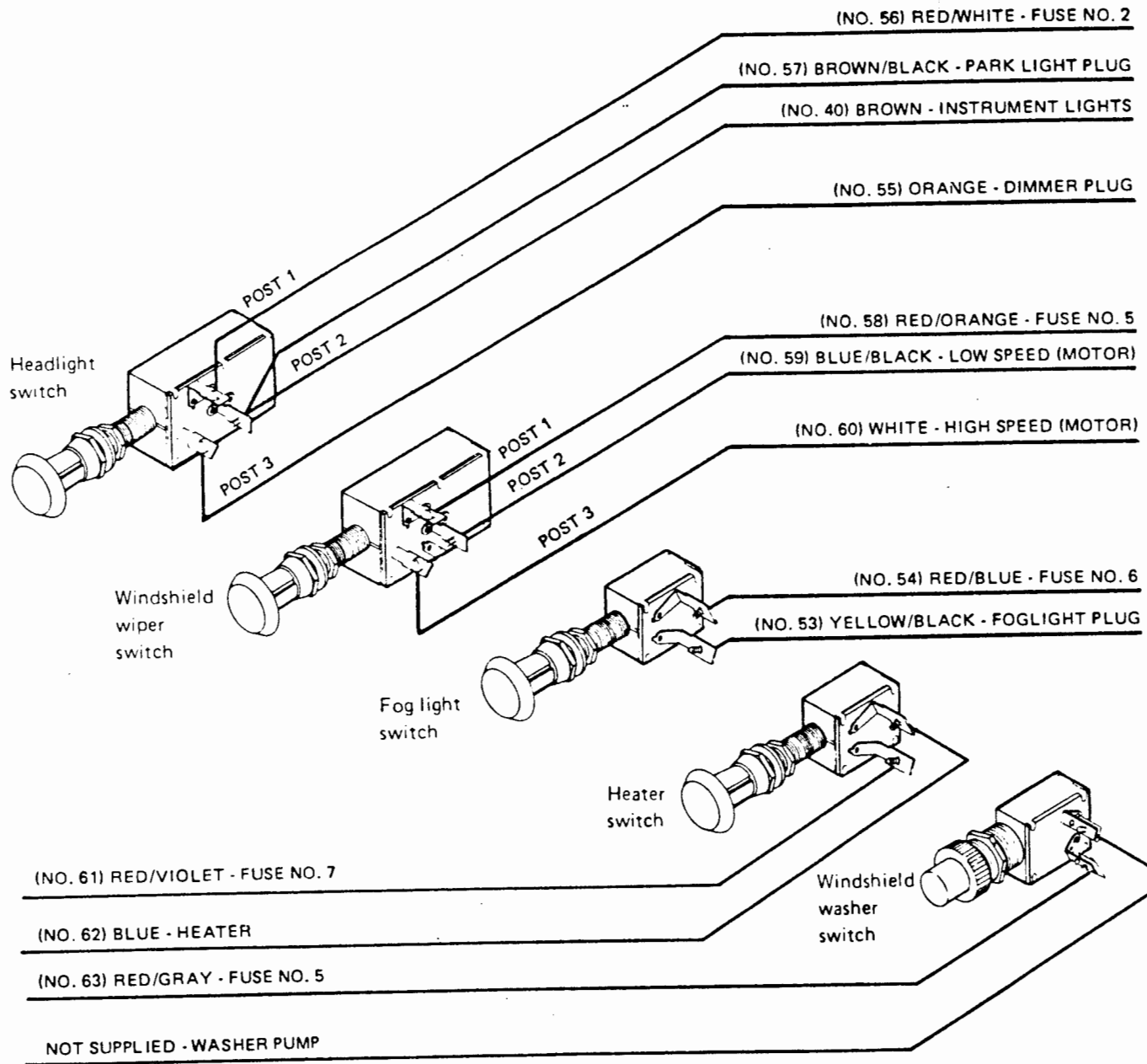
Instrument Harness Connections

Figure 4



Fuse Block Connections

Figure 5

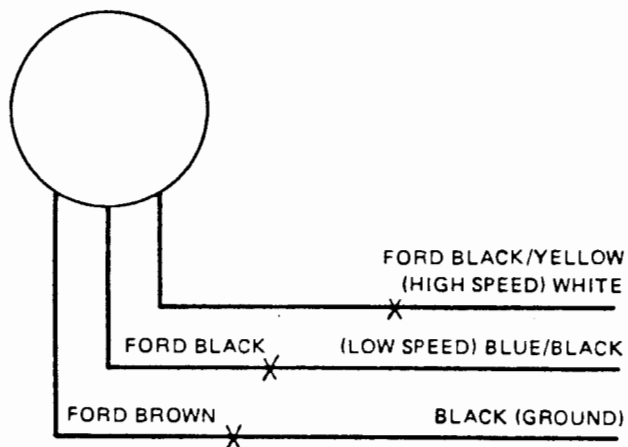


Switch Connections

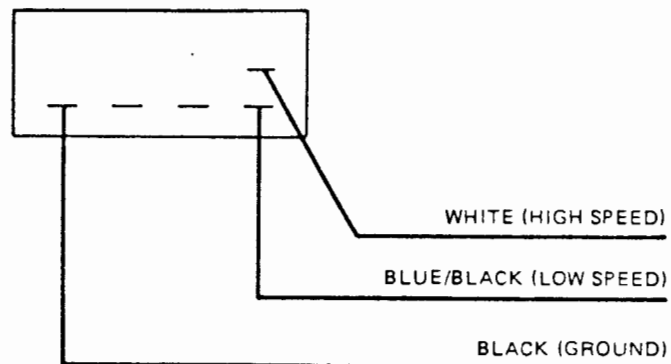
Figure 6

WINDSHIELD WIPER MOTORS

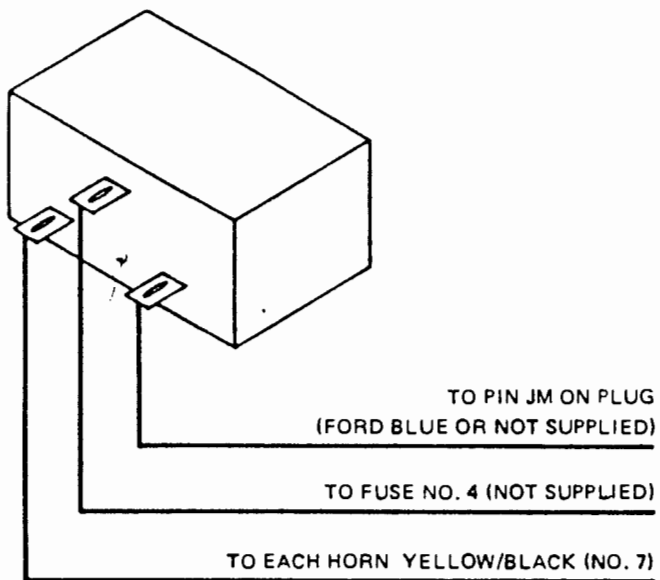
OLDER MODEL



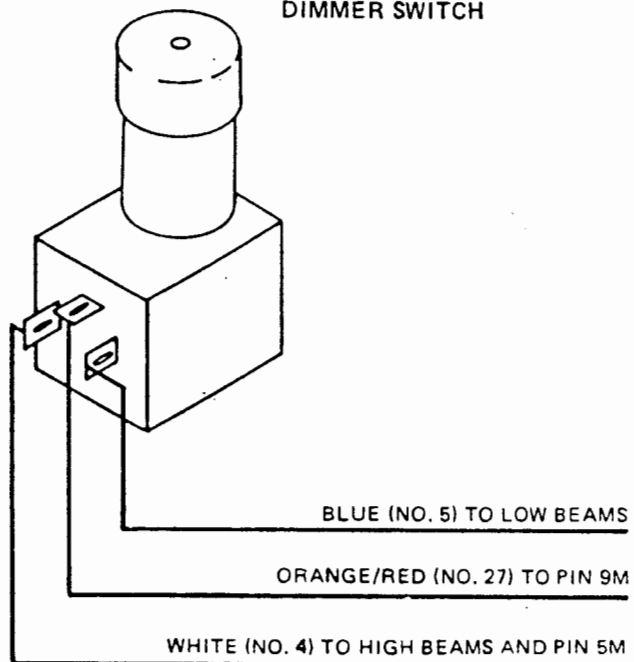
NEWER MODEL



HORN RELAY (BOTTOM VIEW)



DIMMER SWITCH

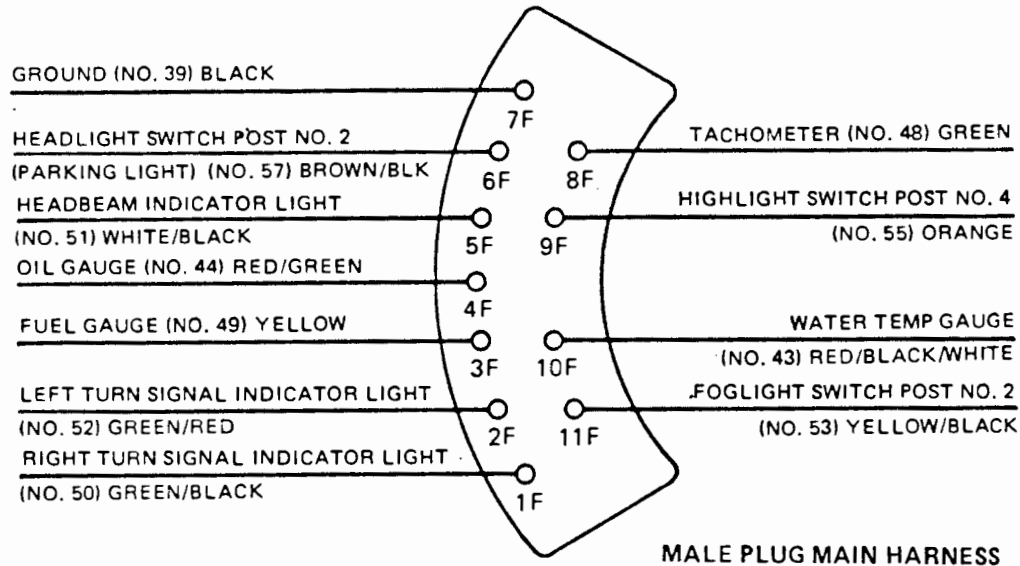


Windshield Wiper, Horn Relay and Dimmer Switch Connections

Figure 7

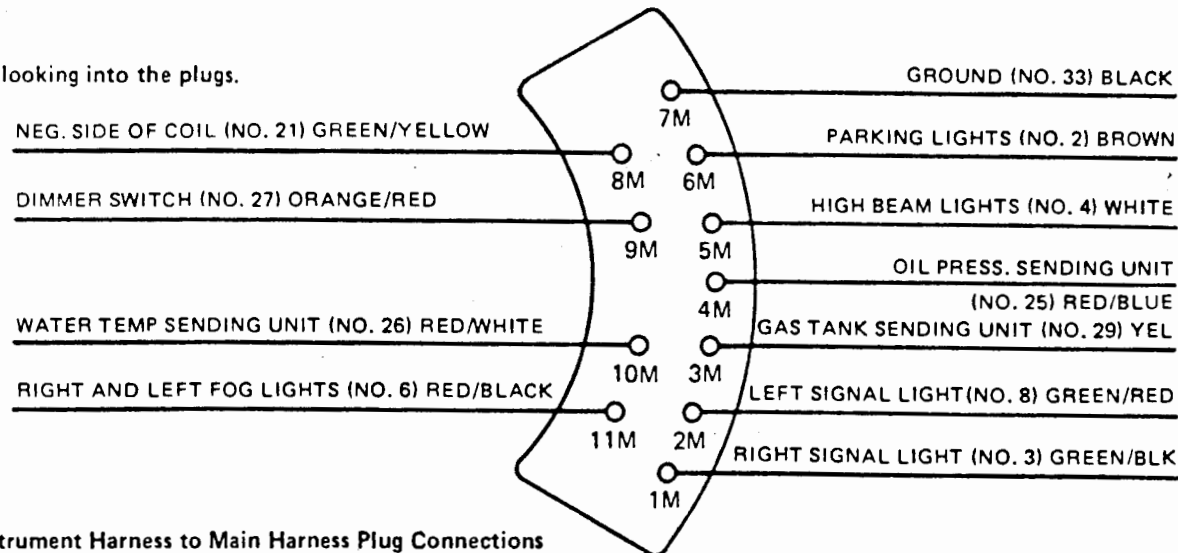
FEMALE PLUG INSTRUMENT HARNESS

FEMALE PLUG INSTRUMENT HARNESS



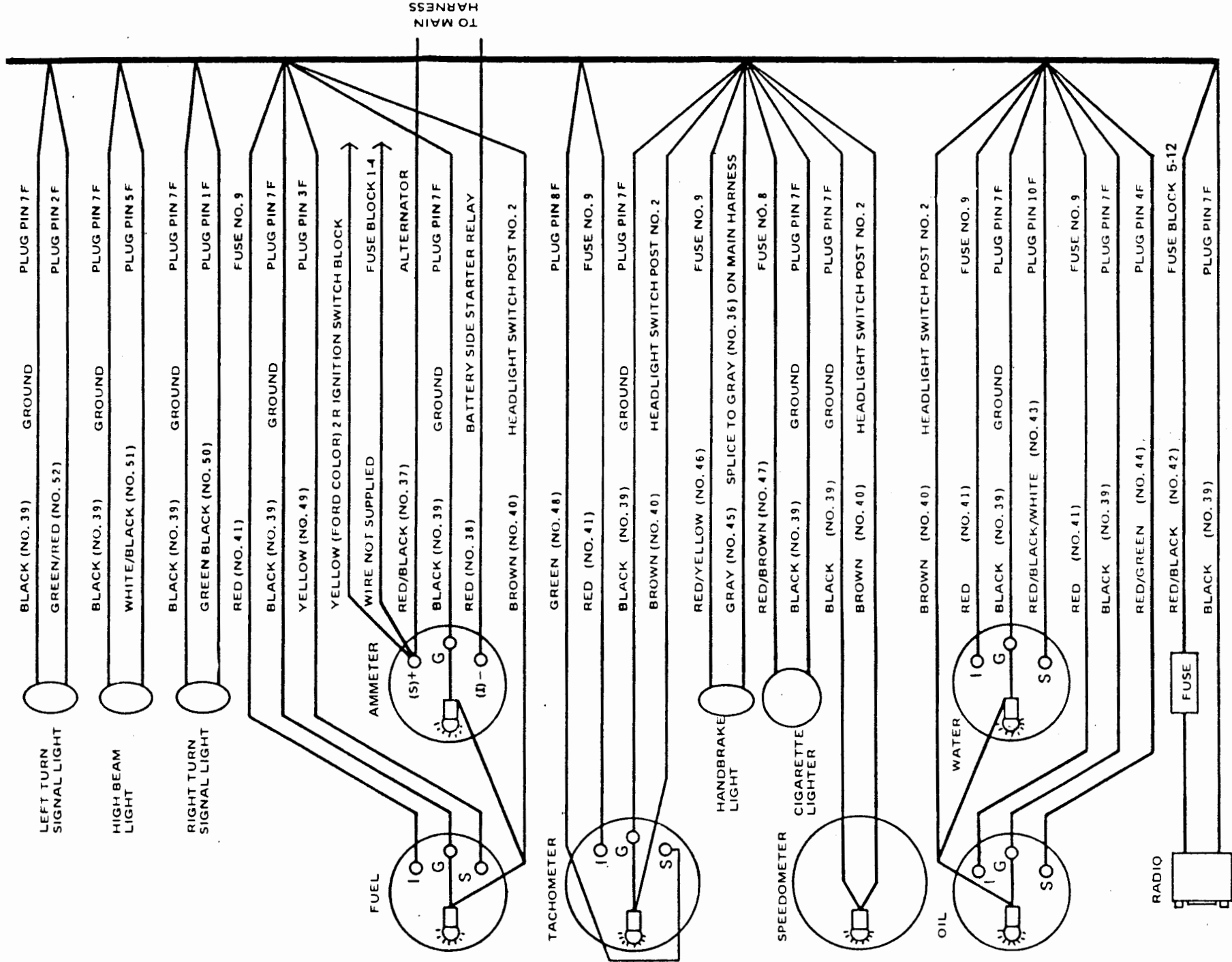
MALE PLUG MAIN HARNESS

NOTE: All views are looking into the plugs.



Instrument Harness to Main Harness Plug Connections

Figure 8



Gauges and Indicator Lights

- Radio. The radio has an in-line fuse. Connect red/black (No. 42) lead to power side of fuse block 1-4 and the lead on the radio containing the in-line fuse. Connect black (No. 39) ground lead to radio.

- NOTE-** This completes connecting the instrument harness.

MAIN HARNESS

The Main Harness connects to two Ford pin connectors and the ignition switch block on one end and branches off into three main branches which are the front branch, engine branch and rear branch. Each main branch divides into other branches which are detailed below. The starting point for all the branches will be the steering column. This is where the Ford pin connectors join and the ignition switch block is on the steering column. Since the main harness branches from one end of the car to the other, it is more efficient to run the branches to their locations and make all the connections that apply to the branch. Then come back to the steering column area and make the pin connections and block connections.

FRONT BRANCH

Route the harness down from the left side of the firewall. Bring the wires forward on top of the frame and across the front through the channel under the radiator. The branches for the lights, horn, etc. should end up behind the front corners of the frame. Make the ground connections before the body is on the frame.

NOTE: For an overall wiring diagram of Main Harness, see Main Harness Installation.

- Right and Left Front Turn Signals. Connect the black (ground) (No. 1) lead to each light. Connect the brown (No. 2) lead to the parking light. The green/black lead (No. 3) connects to the right signal light and the green/red (No. 8) lead connects to the left turn signal.
- NOTE:** Connect short leads to all lights prior to installation to facilitate hook-ups.
- Rights and Left Headlights. Connect the black (No. 1) ground lead to each headlight. Connect blue (No. 5) lead to low beam and white (No. 4) to high beam on each light.
- Right and Left Foglights. Connect red (No. 6) lead to each foglight.
- Right and Left Horns. Connect black (No. 1) ground lead to each horn. Connect yellow/black (No. 7) lead to the positive connection on each horn. (The two leads are interchangeable.)
- Ground. The black (No. 1) lead attaches to each component and then is bolted to the front of the frame.
- NOTE:** Make sure all dust, paint, rust, etc. is cleaned away where the ground connection is made.

- Horn relay. The horn relay, as well as the flashers, are mounted on the fuse block board behind the dashboard. Connect the yellow/black (No. 7) lead to the relay. Run a lead (not supplied) from the relay to where the main harness pin plug connector will be (later connect to pin JM). From the other side of the relay run a lead (not supplied) to terminal No. 4 on fuse block 1-4. Refer again to Figure 7 for typical horn relay hook-up.

- NOTE:** This completes the connections to be made in the front of the car.

ENGINE BRANCH

The engine harness branch has two main divisions. One runs along the left side of the valve cover to the distributor and alternator. The other runs across the top edge of the firewall to the ignition module, coil, resistor, regulator and starter relay. The ignition module, coil, resistor and regulator are located on the shelf on each side of the battery box. The starter relay is on the firewall.

Lay the harness in position along the firewall to determine the location for the components. The connectors at the alternator, distributor, coil and ignition module are Ford connectors and not included with the Harness Kit. Use the plugs on the original Ford harness and attach them to the engine harness where appropriate by soldering and taping each lead. Specific connections are detailed below. (In the event the Ford plugs are lost or damaged, all the connections are

given in terms of direct splices to the components.)

- Alternator. Connect the orange/black (No. 14) lead to the F (field) connection on the alternator. The red/black (No. 37) lead attaches to the B (battery) terminal on the alternator. See Figure 10.
- Distributor. The distributor has a plug connector that can be joined to the engine harness by either replacing the Ford wire with the harness kit wires or splicing the wires together. The color match up are as follows: Connect the orange/brown (No. 15) lead to the Ford yellow lead; connect the purple (No. 23) lead to the Ford purple/blue; connect the black (No. 24) to the Ford black.
- Ignition Module. The ignition module has two plug connections. Use the plugs by either replacing the Ford wires with the kit wires or splice the wires together. The connections are as follows: connect the red/yellow (No. 11) lead to the Ford red; connect the white/black (No. 22) lead to the Ford white.
- This completes one plug. The other is as follows: connect the black (No. 24) lead to the Ford black; connect the purple (No. 23) lead to the Ford black/blue or purple; connect the orange/brown (No. 15) to the Ford orange; connect the green/blue (No. 30) to the Ford green. This completes both plugs.

NOTE: Some ignition modules have all connections on a single plug. Follow the same hook-up procedures.

Sending Units. Connect red/blue (No. 25) lead to the oil pressure sending unit on the engine. Connect the red/white (No. 26) lead to the water temperature sending unit on the engine.

Starter Relay. Connect red/yellow (No. 11) lead to S (starter) terminal on the relay. Connect the blue/black (No. 12) lead to S terminal. Connect the red (No. 38) lead to battery side of the relay. Connect the yellow/blue (No. 10) lead to battery side. The ground lead is black (No. 9) and attaches to the relay mounting nut. Now would be a good time to connect this ground lead to the regulator, heater and bolt it to the frame.

Regulator. The regulator should be grounded with black (No. 9) lead from the starter relay. If this connection has not been made, do so now. The regulator terminals are marked, A, F, and I. Connect them as follows: the yellow/blue (No. 10) lead to A; the orange/black (No. 14) lead to F; the green/brown (No. 16) to I. (Other terminals on the regulator are not used.)

Resistor. Connect brown/black (No. 19) lead to one terminal on the resistor. Connect the yellow/red (No. 17) lead

and the yellow/brown (No. 18) lead to the other terminal on the resistor.

Coil. Connect yellow/brown (No. 18) lead to the positive terminal (indicated with a (+)) of the coil. Connect the green/blue (No. 20) lead and the green/yellow (No. 21) lead to the negative terminal (indicated with a minus sign [-]).

NOTE: This completes the component connections of the engine branch of the main harness.

REAR BRANCH

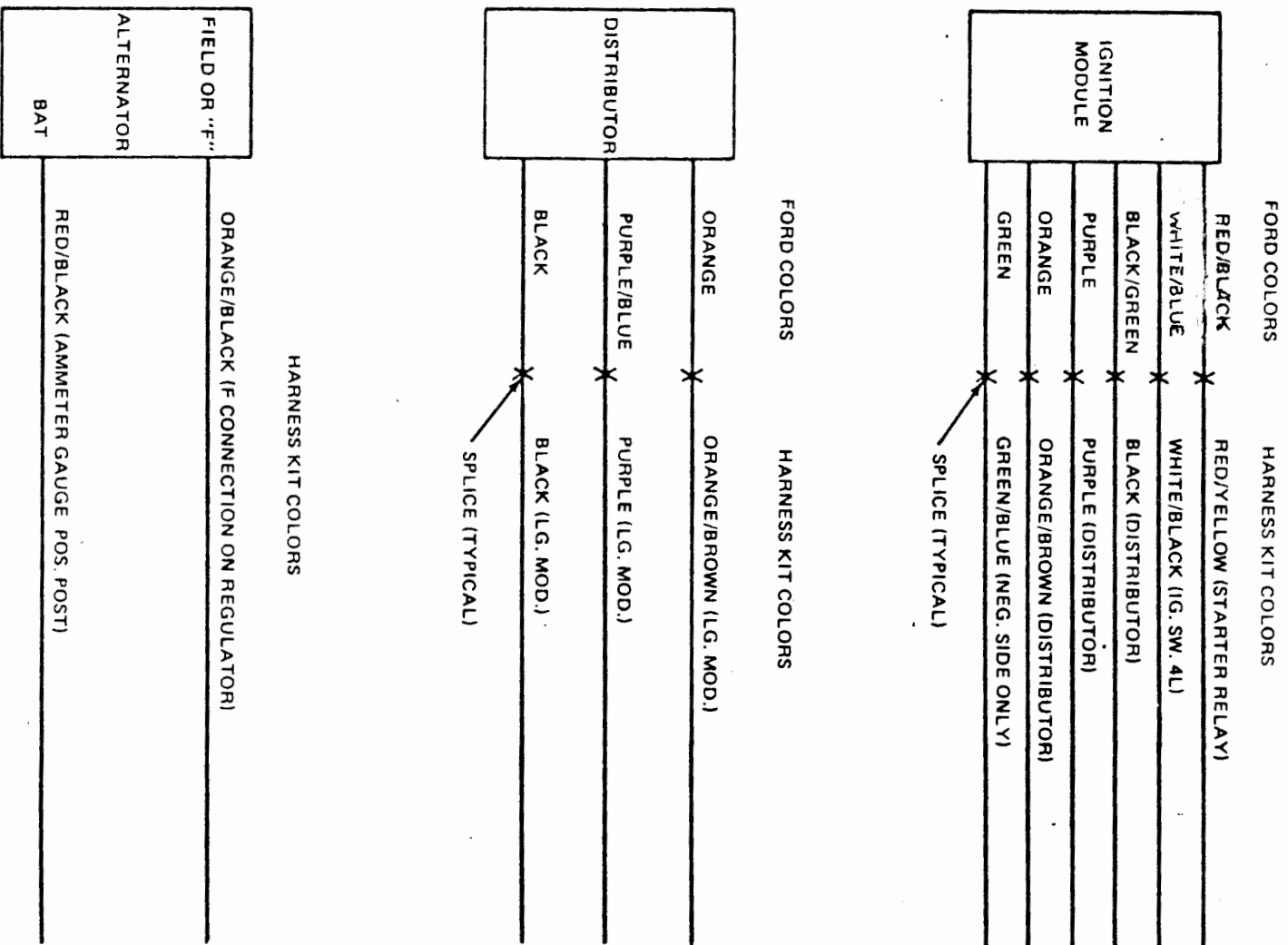
The rear branch of the main harness has several divisions that branch several ways. The main branch goes down the firewall and back along the inside of the frame. Make transmission, fuel, and ground connections before the body is on the frame. Each branch and its connections are detailed below.

Right Taillight. Connect brown (No. 2) lead to the taillight. Connect green (No. 30) lead to the signal light. The black (No. 33) lead is ground.

NOTE: Connect short leads to taillights prior to installation to facilitate hook-up.

Back-up and Tag Lights. Connect red (No. 32) lead to the back-up lights and brown (No. 2) lead to the tag lights. The black (No. 33) lead is ground.

MAIN HARNESS ENGINE BRANCH



Ignition Module, Distributor and Alternator Hook-ups

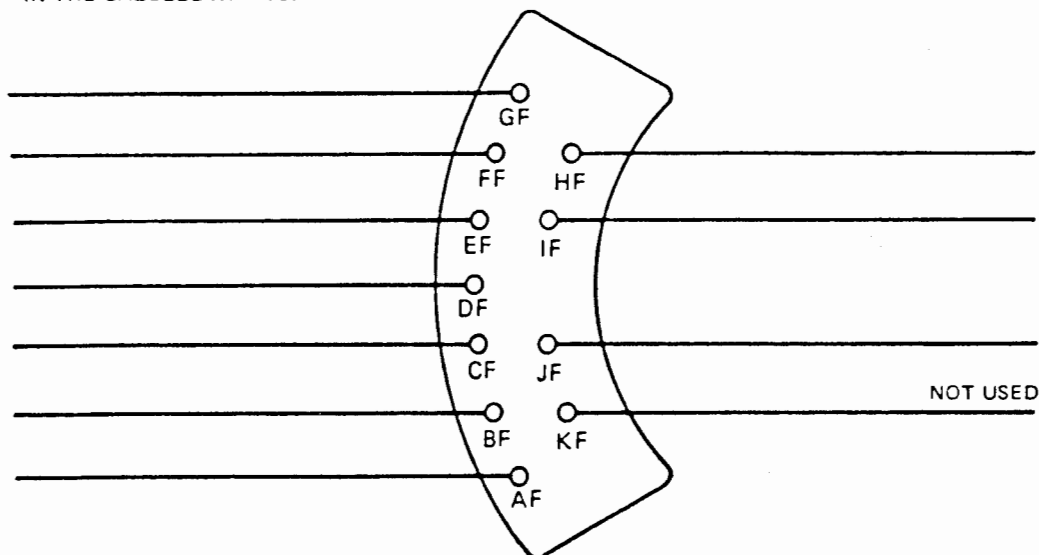
Figure 10

FEMALE PLUG STEERING COLUMN

(LOCATED UNDER STEERING COLUMN.
COMES WITH FORD. LEADS ARE ALREADY
CONNECTED.)

NOTE: SOME FORDS WILL HAVE A LEAD
CONNECTED TO THIS PIN. IT IS NOT USED
IN THE GAZELLE WIRING.

FEMALE PLUG STEERING COLUMN



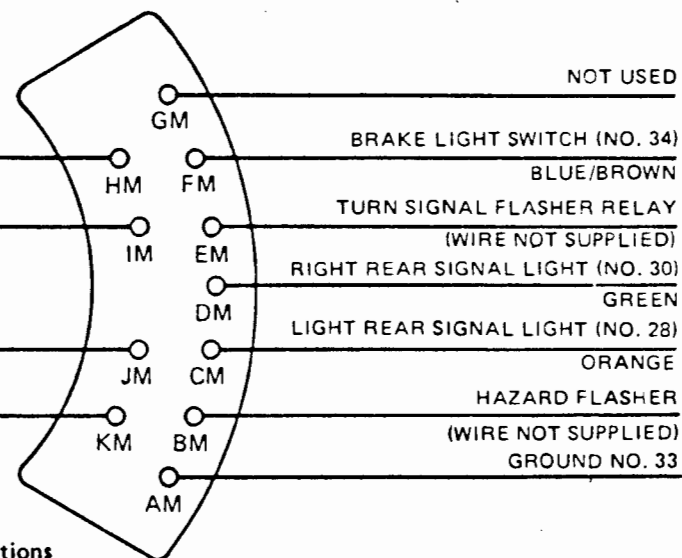
JOINS WITH LEFT SIGNAL LIGHT WIRE FROM OTHER PLUG
(NO. 8) GREEN/RED

JOINS WITH RIGHT SIGNAL LIGHT WIRE FROM OTHER PLUG
(NO. 3) GREEN/BLACK

HORN RELAY (WIRE NOT SUPPLIED)

NOT USED

MALE PLUG MAIN HARNESS



NOT USED

BRAKE LIGHT SWITCH (NO. 34)

BLUE/BROWN

TURN SIGNAL FLASHER RELAY

(WIRE NOT SUPPLIED)

RIGHT REAR SIGNAL LIGHT (NO. 30)

GREEN

LIGHT REAR SIGNAL LIGHT (NO. 28)

ORANGE

HAZARD FLASHER

(WIRE NOT SUPPLIED)

GROUND NO. 33

NOTE: All views are looking into the plugs.

Steering Column Plug Connections

Figure 11

- Left Taillight. Connect brown (No. 2) lead to the left taillight and the orange (No. 28) lead to the signal light. The black (No. 33) lead is ground.
- Gas Tank. Connect yellow (No. 29) lead to the gas tank's fuel level sending unit. The black (No. 33) lead is ground.
- Handbrake Switch and Gear Shift Light. Connect gray (No. 36) lead to handbrake switch (Ford green). Connect black (No. 33) ground lead to ground lead (Ford black) on switch. Connect brown (No. 2) lead to light bulb in gear shift.
- Neutral Safety Switch. The neutral safety switch is located on the left side of the transmission. We recommend that you leave the Ford wires going into the plug that connects to the switch and splice the harness kit wires to them. The connections are as follows: connect the blue/black (No. 12) lead to the Ford red/blue lead; connect the blue/red (No. 13) lead to the Ford blue/red lead.
- NOTE: These wires are interchangeable. If you switch wires and hook No. 12 to blue/red lead, the switch will still function properly.
- Connect the red/brown (No. 31) lead to the Ford purple/blue lead and connect the red (No. 32) lead to the Ford purple/white lead.

NOTE: These wires are interchangeable. If you switch wires and hook No. 32 to the Ford purple/blue lead, the switch will still function properly.

Dimmer Switch. Connect white (No. 4) lead, the blue (No. 5) lead and the orange/red lead to the dimmer switch. Refer again to Figure 7.

Brake Light Switch. Connect blue/yellow (No. 35) lead and the blue/brown (No. 34) lead to the brake light switch. (The two leads are interchangeable.)

Turn Signal Flasher and Hazard Flasher. Both of these flasher relays are on the fuse block plate behind the dash-board. On the turn signal flasher, connect a wire (not supplied) to one prong on the flasher and run the wire to pin EM in the main harness steering column plug. Do the same for the hazard flasher and connect to pin BM in main harness steering column plug. From the other prong on the turn signal flasher, run a wire (not supplied) to fuse No. 12 on the fuse block 5-12. From the other prong on the hazard flasher, run a wire (not supplied) to fuse No. 3 on fuse block 1-4. See Figures 5 and 11.

NOTE: This completes the component connections of the rear branch of the main harness. You now have all the component connections of the main harness connected.

In order to complete the wiring the leads of the main harness go to one of two pin connectors, the ignition switch block, the ammeter or the fuse block. The details of these connections are described below.

INSTRUMENT HARNESS PIN CONNECTOR TO MAIN HARNESS

The instrument harness plug is an 11-pin female connector. It is located by the steering column and should have all its leads going to it from the instrument harness. Connect the main harness leads to the male half of the connector as described below and plug the two connectors together. See Figure 8. Hold the plug in your hand in a vertical position with you looking into the plug. The column of 4 pins will be on the left and the column of 7 pins will be on the right. The leads will be coming into the back of the plug as you are facing it now. Start with the bottom right (1M) and work up to 7M and over to 8M and down to 11M.

- 1M - Connect green/black (No. 3) lead. (From right signal light.)
- 2M - Connect green/red (No. 8) lead. (From left signal light.)
- 3M - Connect yellow (No. 29) lead. (From gas tank sending unit.)
- 4M - Connect red/blue (No. 25) lead. (From the oil pressure sending unit.)
- 5M - Connect white (No. 4) lead. (From the high beam lights.)

- 6M - Connect brown (No. 2) lead. (From parking lights.)
- 7M - Connect black (No. 33) lead. Ground lead from rear branch of main harness.)
- 8M - Connect green/yellow (No. 21) lead. (From the negative side of the coil.)
- 9M - Connect orange/red (No. 27) lead. (From the dimmer switch.)
- 10M - Connect red/white (No. 26) lead. (From the water temperature sending unit.)
- 11M - Connect red/black (No. 6) lead. (From the right and left fog lights.)
- NOTE: This completes the leads going into the 11 pin, male, Ford plug and it now can be connected to the 11 pin, female, Ford plug, on the instrument harness.

STEERING COLUMN PIN CONNECTOR TO MAIN HARNESS STEERING COLUMN CONNECTOR

The next pin connector is an 11-pin Ford connector. The female half of the connector

is on the steering column and comes with its connections already made when you get the chassis.

Take the male 11-pin Ford connector and hold it in a vertical position as you look into the plug. The 7-pin column will be on the right and the 4-pin column will be on the left. The leads will be coming into the back of the pin as you are looking at it. Begin with the right bottom pin (AM) and work up to GM and over to HM and down to KM. Refer again to Figure 11.

- AM - Connect black (No. 33) lead. (From rear harness branch.)
- BM - This lead is not supplied. It is the lead that comes from the hazard flasher. Connect the lead from the hazard flasher to pin BM.
- CM - Connect orange (No. 28) lead. (From the left rear signal light.)
- DM - Connect green (No. 30) lead. (From the right rear signal light.)
- EM - This lead is not supplied. It is the lead that comes from the turn signal flasher. Connect the lead from the flasher to Pin EM.

- FM - Connect blue/brown (No. 34) lead. (From the brake light switch.)
- GM - Not used.
- HM - Connect green/red (No. 8) lead. (This lead joins with left signal light lead from the other plug.)
- IM - Connect green/black (No. 3) lead. (This lead joins with the right signal light lead from the other plug.)
- JM - This lead is not supplied. It is the lead that comes from the horn relay. Connect the lead from the horn relay to pin JM.
- KM - Not used.
- NOTE: This completes the leads going into the 11-pin male, Ford plug by the steering column and this plug can now be plugged into the connector on the steering column.
- NOTE: If using a stock Ford gas tank with a stock Ford sending unit, you will need to install a five-watt 50 ohm resistor between the S and the I terminals of the custom gauge.

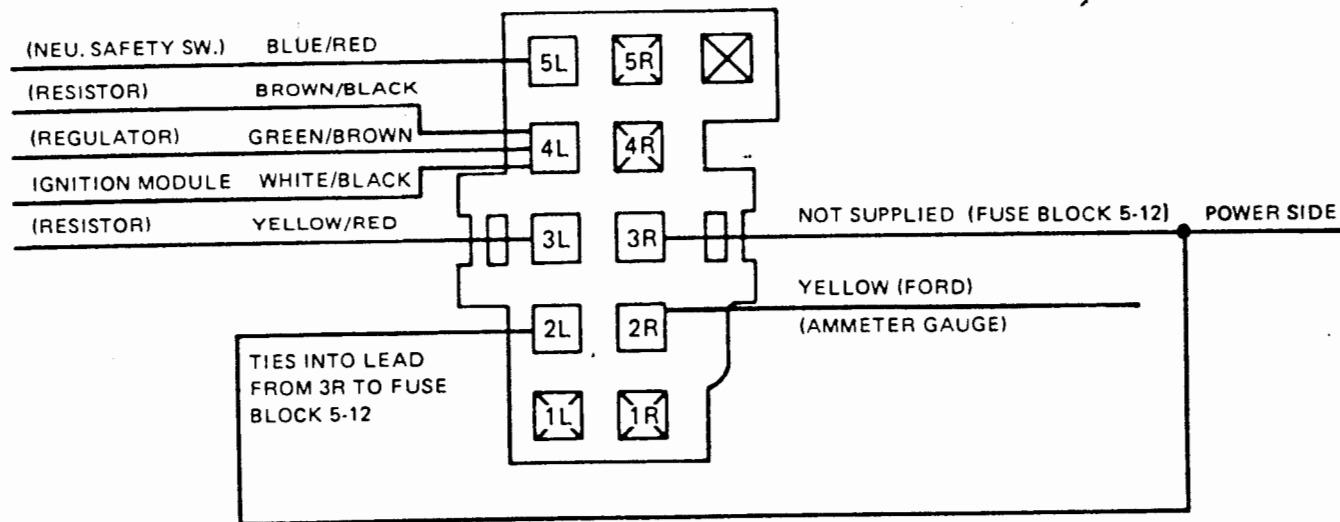


Figure 12. Ignition Switch Block Connections

IGNITION SWITCH BLOCK

The ignition switch block is mounted on the top of the steering column. The connections are called out from the view of you sitting in the driver's seat looking down on the block. The connections on the left are designated 1L (closest to you) to 5L. The connections on the right are designated 1R (closest to you) to 5R. See Figure 12. We recommend that you splice the harness kit wires to the Ford wires. Not all of the wires or connections are used.

- 1L - Not used.
- 2L - Use the Ford lead and splice it with the Ford lead coming out 3R.
- 3L - Connect yellow/red (No. 17) lead (from the resistor) to the Ford brown/purple lead in the switch.
- 4L - Connect green/brown (No. 16) lead (from the regulator), the brown/

black (No. 19) lead (from the resistor) and the white/black (No. 22) lead (from the ignition module) to the Ford lead in 4L.

- 5L - Connect blue/red (No. 13) lead (from the neutral safety switch) to the Ford lead in 4L.
- 1R - Not used.
- 2R - Run a lead (not supplied) from 2R to the positive post on the ammeter. (If the Ford wire is too short, splice a lead you supply.
- 3R - This lead is not supplied. Connect a lead you supply to 3R and 2L and run the lead to the power side of fuse block 5-12.
- 4R - Not used.
- 5R - Not used.

- The connector to the right of 5R is not used.

AMMETER

- Connect red/black (No. 37) lead (from the alternator) to the positive post on the ammeter. Also run a lead (not supplied) from the positive post on the ammeter to power side of fuse block 1-4. Connect red (No. 38) from battery side of starter relay to the negative post on the ammeter. Refer to Figure 9.

FUSE PANEL

- Connect blue/yellow (No. 35) lead (From the brake light switch) to terminal No. 1 on fuse block 1-5. Refer to Figure 5.

This completes all of the connections for the Harness Kit.

APPENDIX A

ALTERNATE WIRE HARNESS HOOK-UP INSTRUCTIONS

For connection of instrument harness with main harness

1974 and Earlier Fords. These earlier Fords do not have electronic ignition systems. If you have a chassis that fits into this group, refer to the supplement.

SUPPLEMENTARY WIRING INSTRUCTIONS FOR '74 AND EARLIER FORDS

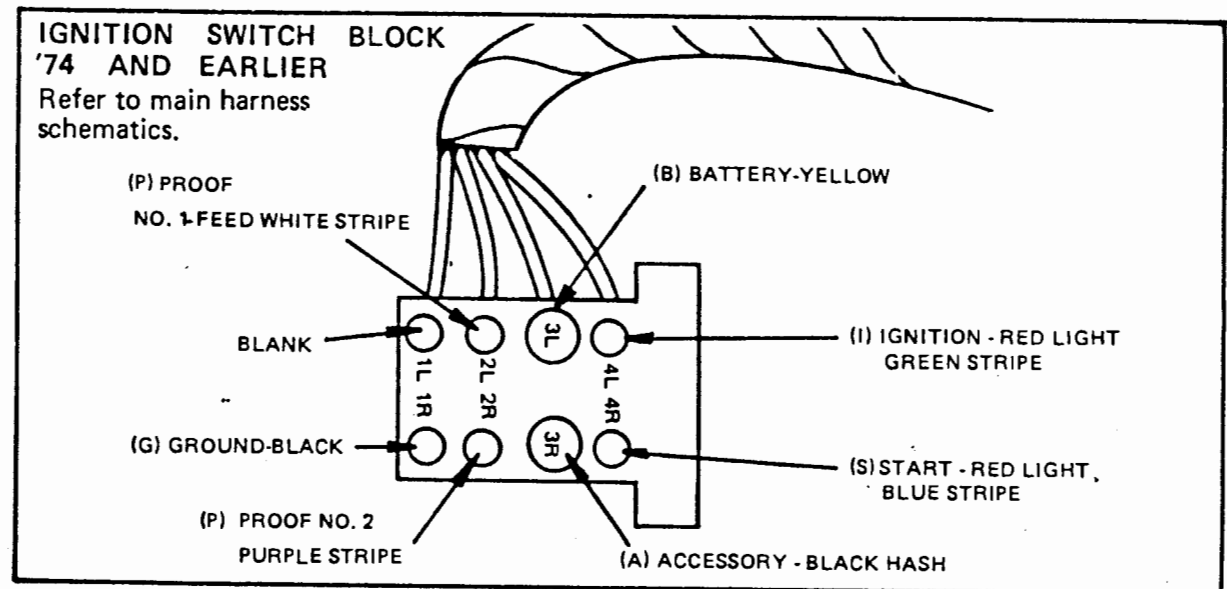
- 1L - Not used.
- 2L - Not used.
- 3L - Run a lead (not supplied) from 3L to the positive post on the ammeter. (If the Ford wire is too short, splice a lead you supply.
- 4L - Connect green/brown (No. 16) lead (from the regulator), brown/black (No. 19) lead (from the resistor) and the white/black (No. 22) lead (from the ignition module) to the Ford lead in 4L. The yellow/red (No. 17) lead (from the resistor) is not used.
- 1R - Not used.
- 2R - Not used.
- 3R - This lead is not supplied. Connect a lead you supply to 3R and run the

lead to the power side of fuse block 5-12.

- 4R - Connect blue/red (No. 13) lead (from the neutral safety switch) to the Ford lead in 4R.
- Starter Relay. Connect red/yellow (No. 11) lead to the I terminal on the relay. Connect the blue/black (No. 12) lead to S terminal. Connect the red (No. 38) lead to battery side of the relay. Connect the yellow/blue (No. 10) lead to battery side.
- Ignition Module Wires. Splice together red/yellow (No. 11) and white/black (No. 22). Also splice orange/brown (No. 15) and green/blue (No. 20). The purple (No. 23) and the black (No. 24) are not used.

Transmissions. The earlier instructions refer to an automatic transmission. If you are using a standard transmission, when you make your connections to the neutral safety switch, take the two Harness Kit leads colored blue/black and blue/red and connect them together using solder and tape. Cap or tape the brown lead coming out of the transmission. Connect the red and red/brown leads from the Harness Kit to the remaining leads on the transmission.

Other Engines. Six and eight cylinder ignition systems require additional wires between the distributor and ignition module. These should be routed along the harness and taped in place. Engines other than four cylinder Fords may have different starter, alternator, etc., locations so lead lengths may have to be changed.



RIGHT TURN SIGNAL
 NO. 1 GROUND
 NO. 2 PARK LIGHT
 NO. 3 SIGNAL LIGHT

RIGHT HEADLIGHT
 NO. 4 HIGH BEAM
 NO. 5 LOW BEAM
 NO. 1 GROUND

NO. 6 RIGHT FOG LIGHT

RIGHT SIDE HORN
 NO. 7 POSITIVE
 NO. 1 GROUND

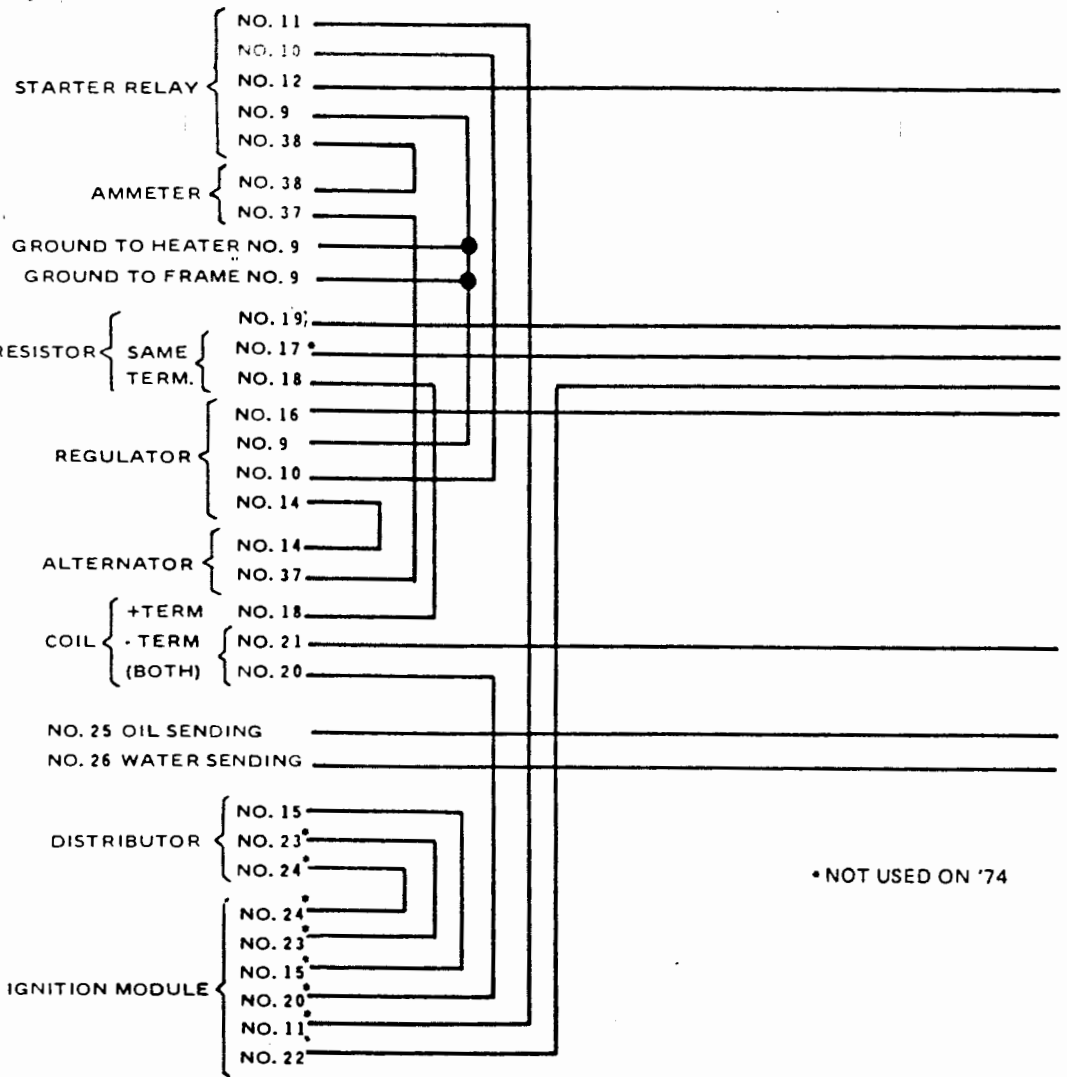
GROUND }
 LEFT AND RIGHT } NO. 1
 FRONT TO FRAME }

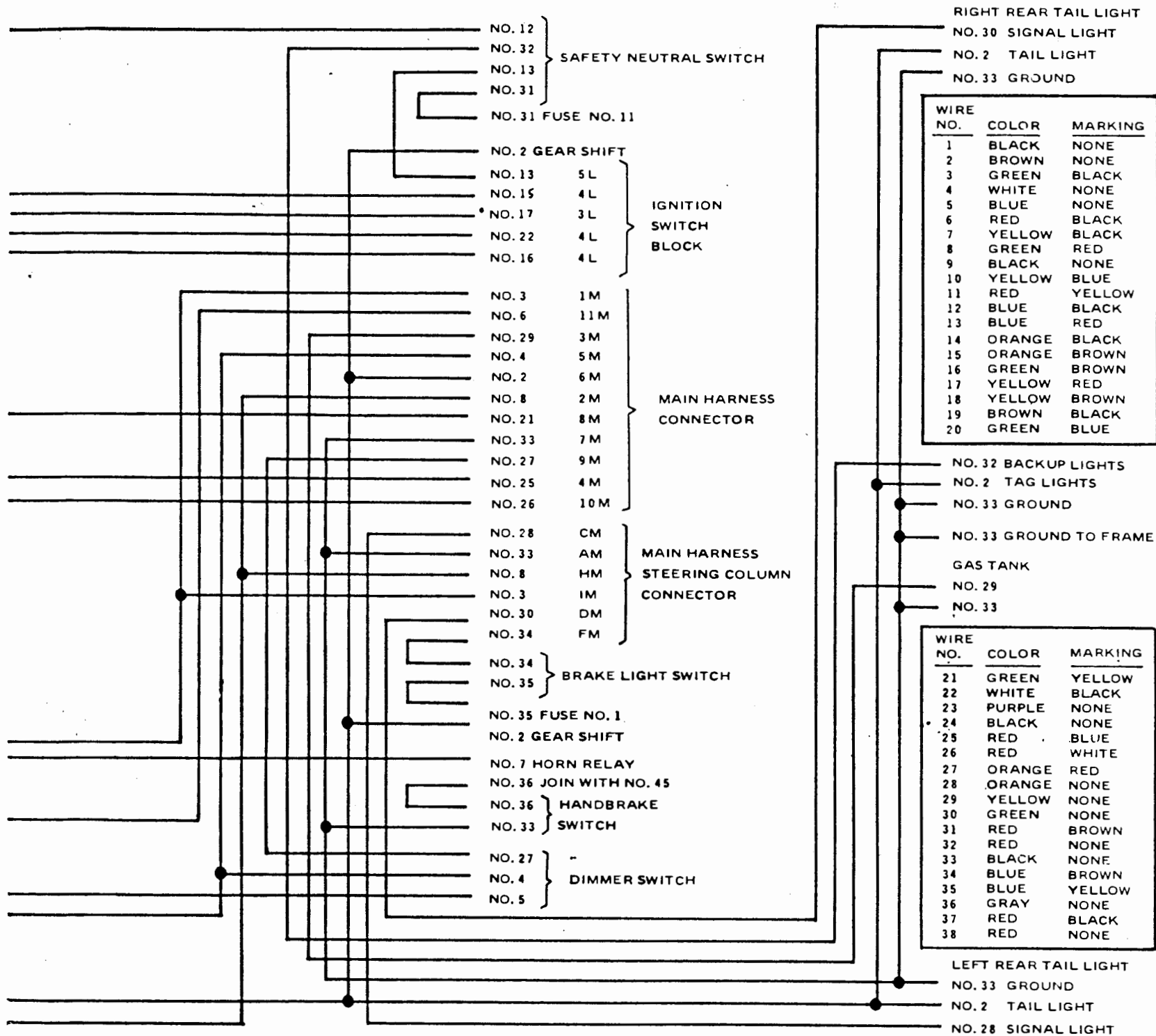
LEFT SIDE HORN
 NO. 1 GROUND
 NO. 7 POSITIVE

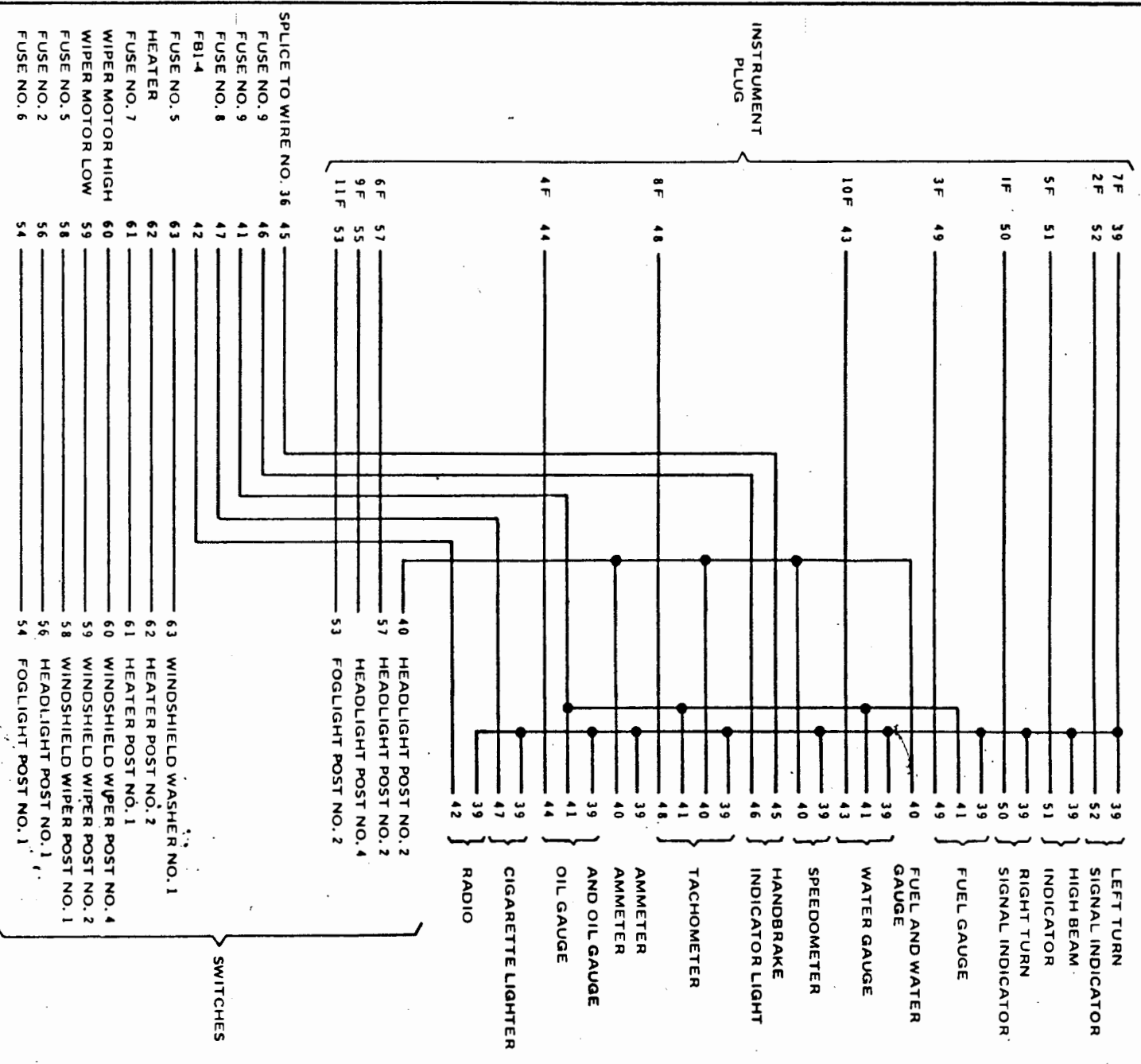
NO. 6 LEFT FOG LIGHT

LEFT HEADLIGHT
 NO. 1 GROUND
 NO. 5 LOW BEAM
 NO. 4 HIGH BEAM

LEFT TURN SIGNAL
 NO. 1 GROUND
 NO. 2 PARK LIGHT
 NO. 8 SIGNAL LIGHT







WIRE NO.	COLOR	MARKING	WIRE NO.	COLOR	MARKING	WIRE NO.	COLOR	MARKING
39	BLACK	NONE	47	RED	BROWN	55	ORANGE	NONE
40	BROWN	NONE	48	GREEN	NONE	56	RED-	WHITE
41	RED	NONE	49	YELLOW	NONE	57	BROWN	BLACK
42	RED	BLACK	50	GREEN	BLACK	58	RED	ORANGE
43	RED	BLACK/BLACK	51	WHITE	BLACK	59	BLUE	BLACK
44	RED	GREEN	52	GREEN	RED	60	WHITE	NONE
45	GRAY	NONE	53	YELLOW	BLACK	61	RED	VIOLET
46	RED	YELLOW	54	RED	BLUE	62	BLUE	NONE
						63	RED	GRAY

Ford Instrument Harness