
BERRY
MINI

Section 1

PAN SHORTENING

Step #1

Remove all insulation glued to top side of floor pan and tunnel — also body rubber around perimeter of pan.

Step #2

Disconnect hydraulic brake line that runs from master cylinder along bottom side of tunnel to "T" fitting which is located on frame just past torsion tubes on driver side of pan — this is disconnected at "T" fitting only, and is done so to prevent damage to line while pan is being cut. All you need to do is pull through grommet in back of pan and bend tabs up that secure tubing against tunnel.

Step #3

Remove clutch and brake pedals. This is done by removing the two 17 mm bolts which attach this unit to the tunnel.

Step #4

Remove accelerator pedal (1967 and earlier) after disconnecting throttle cable. Push the pedal back and disconnect retaining spring. This will allow the pin that holds the pedal to come out. If you look at the bottom half of the hinge assembly, you will notice two spot weld marks — these may be used as indication points for drilling the bottom half of the hinge loose from pan and the drilled holes will be helpful later for relocation of the accelerator pedal.

Step #5
Remove all control cables — clutch, throttle, emergency brake, heater, (and choke in some early models). The clutch and throttle cables will be saved to be used later.

Step #6
Remove emergency brake handle by pulling retainer ring from side of the pin which anchors the handle to the pan. The pin can then be pushed through — separating the handle from the pan.

Step #7
Remove rear inspection plate after scribing around perimeter to be cut out later.

Step #8
Remove front inspection plate located between torsion tubes on front of pan.

Step #9
Remove gear shift handle.

Step #10
Gear shift linkage can now be removed through front inspection plate by removing 8 mm lock bolt from forward end of universal.

Step #11
Remove battery, strap, and ground cable.

LAYOUT

Step #12

The amount to be taken from your pan will be 14¼". All measurements to be made start where seat tracks stop. Measuring back toward engine (see illustration Fig. 511) a short straight edge is sufficient for indicating the first line to be cut across the pan. By holding the straight edge against the back edge of the seat tracks, a line is scribed from the outside edge of the pan to the inside where the tunnel comes down to meet the pan, then using something flexible enough to form the contour of the tunnel (sheet metal, scale, cardboard being certain it has a straight edge,) fold over the tunnel and align. Straighten edge with previously scribed lines on pan and scribe (these may be indicated w/center punch if cutting is to be done w/acetylene torch). The next line to be scribed will be 14¼" aft or toward the engine. This is best accomplished by cutting a piece of material 14¼" x 1". Then, placing one end to the first scribed line, this leaves the other end to indicate the second line to be scribed. Care should be taken at this point to keep 14¼" indicator, perpendicular or 90° off the original line (this will eliminate unnecessary grinding and filling when sections are rejoined). Templates are furnished for corner cut outs that are necessary before the pan is rejoined. This insures a straight edge on the pan where the body will later be bolted down.

Section III

CUTTING THE PAN

Step #13

Cutting ½" inside previously scribed line (see step #7) on rear inspection plate will allow you access to the inside of the tunnel for cuttings, removing shifting linkage, etc. The clutch and throttle tubes will be cut loose at this time. Be sure to leave enough material on the driver side of cut out to weld the clutch and throttle control tubes back in place later.

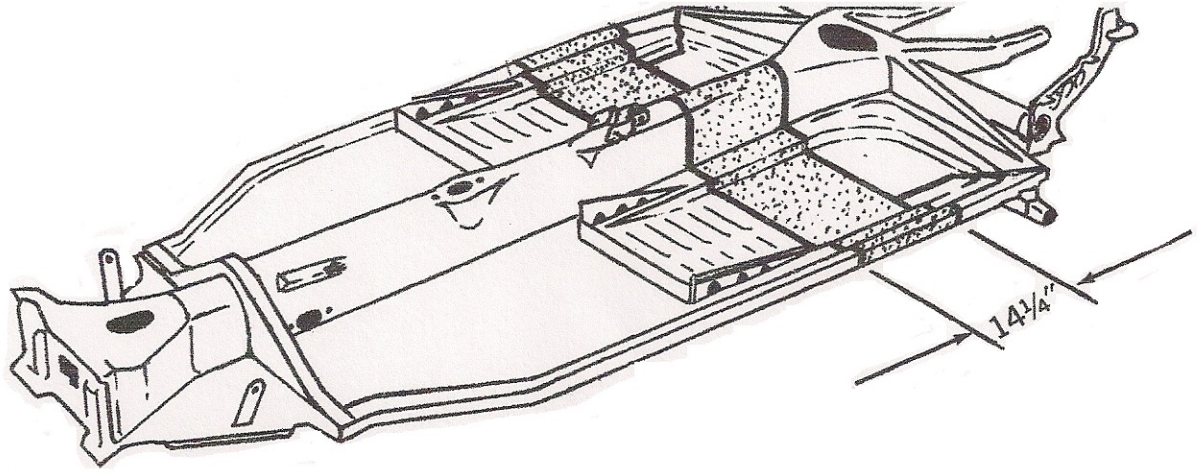


ILLUSTRATION #511

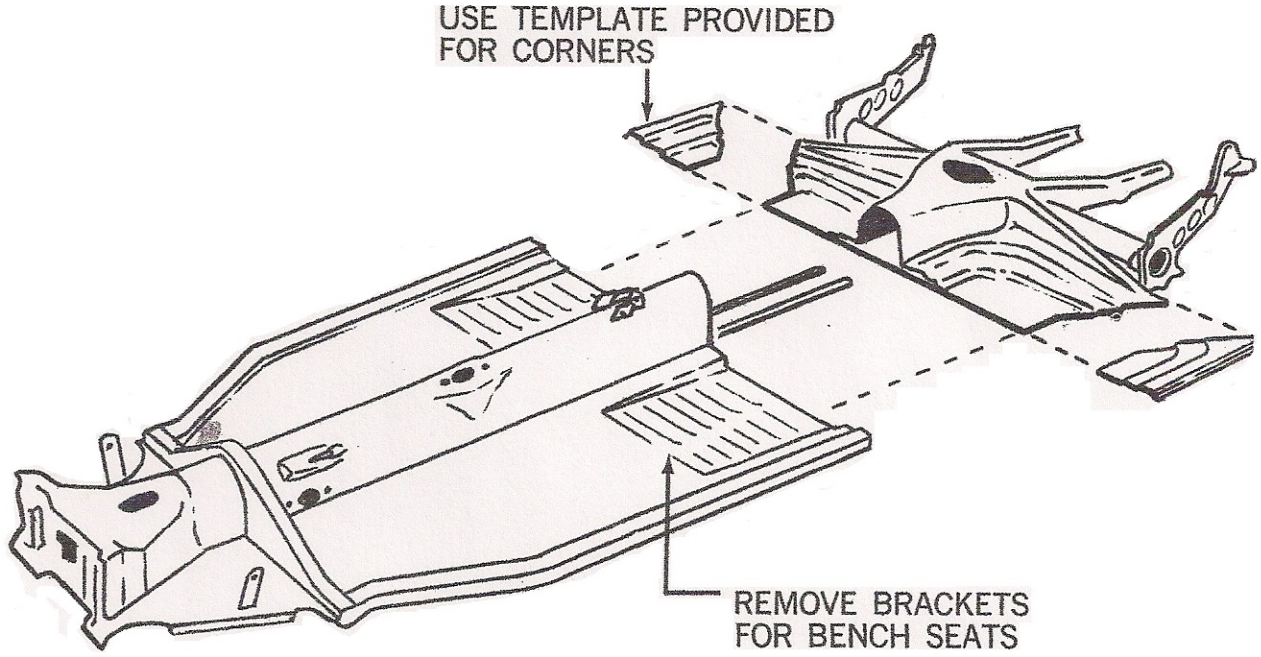


ILLUSTRATION #512

Step #14
The section of tunnel between 14¼" scribe marks can now be removed by cutting up and over top of tunnel and along tunnel base where the tunnel meets the pan. Caution must be taken not to destroy the clutch and throttle tubes inside the tunnel in this section at this time. If the section cannot be removed when cut, it may be necessary to pry open and cut sheet metal straps which anchor control tubes to the inside of the tunnel.

Step #15
After tunnel section has been removed, emergency brake tubes can be cut. This will be done directly below the forward cut on tunnel, behind the emergency brake handle, and inside the tunnel near rear torsion tubes. Short sections remaining in top of tunnel are necessary and will later be used to guide emergency brake cables into original tracks on bottom of emergency brake handle. If tubes are cut with torch, be sure openings are clear of slag. Joining sections later (and threading cables) will be impossible if rough edges or slag remains. A hacksaw is recommended for this operation.

Step #16
Because heater controls will no longer be used, it is advantageous to cut control tubes loose back near torsion tubes and under emergency brake handle. Remainder of tubes, if on early model, can be taken out when tunnel modifications are made.

Step #17
Pan can now be cut at the 14¼" scribe line.

Step #18
After 14¼" section has been removed, corner cuts must be taken care of before pan sections can be rejoined. The template provided (see illustration #510) will be used to indicate this cut. By placing template on the rear section

of the floor pan, the #1 corner of the template will be positioned at the rear corner of the pan. The #2 corner at the outside edge of the pan. The line of template from the #1 corner to the #2 corner will be used to align the template with the outside edge of the pan. After the template is located on the pan, scribe a line from the #1 corner to the #3 corner of the template. Then retaining position of #1 corner of the template on the pan, move the bottom of the template inboard so that the #2 corner is lined up with the previously scribed line, a second line is then scribed from the #1 corner down to the #3 corner. When the template is removed, the area that is between the scribed marks will be the section that has to be removed. The same procedure is used on the opposite side by turning the template over. After the areas have been removed, the outside edges may be folded in.

Step #19

Using blocks, jacks, etc., the two main sections can be aligned and then tack welded on top of the tunnel. Using this tack weld for a pivot point, final adjustments can be made using fixed points on the front and rear torsion tubes. Some grinding may be necessary to insure close fit and to eliminate unnecessary gap filling. Be careful not to overlook the bottom side of the tunnel when making realignment.

Step #20

After the two sections have been aligned to your satisfaction, tack weld with low heat at 5″ intervals until the two main sections are firmly attached to each other.

Step #21

Rear corner cut outs should be taken care of at this time. Assuming the cuts have been made (step #18) on the rear section, the corner sections should then be folded in and tacked in place.

Step #22
You are now ready to finish welding. Because you are working with sheet metal to reduce the amount of warpage, welds should be made at different interludes on both sides of the pan — working both sides and corners until a complete weld is realized.

Step #23
Chassis must be turned on side to complete welding on bottom of tunnel.

Step #24
Seat tracks should now be removed as they will no longer be needed and will be in the way when the tunnel changes are made.

Section IV

TUNNEL MODIFICATIONS

Special Note — This section applies to all V.W. pans 1967 and earlier, the same steps can be applied to 1968 pans by using the illustrations #513 through #517 for reference to specific measurements.

Step #25
All measurements illustrated (illustrations #513 through #522) are taken from the back or engine side of the pan bulkhead. The bulkhead is where the master cylinder is bolted to the chassis. Measurements will be taken from here and measured aft. A few tools that will be helpful in marking these measurements are a straight edge, a thin, narrow strip of sheet metal approximately 13" in length — long enough to reach over the tunnel from the floor pan on the driver's side to the floor pan on the passenger side, a yard stick, tape measure and scribe.

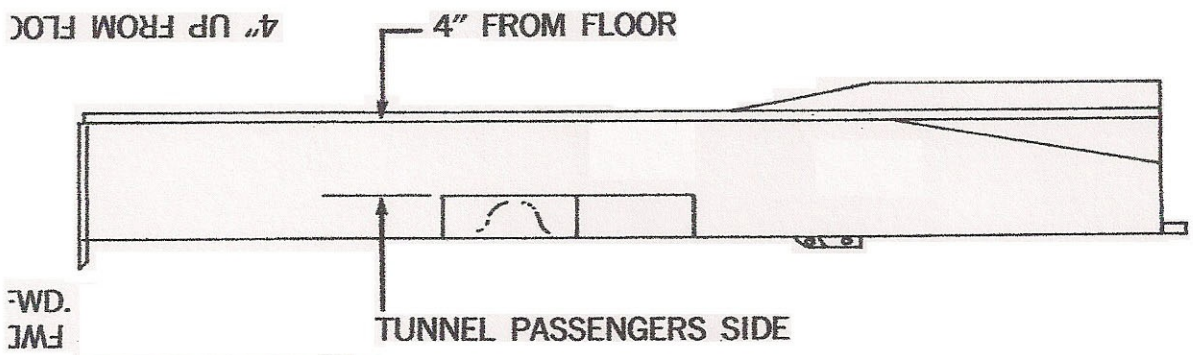


ILLUSTRATION #513

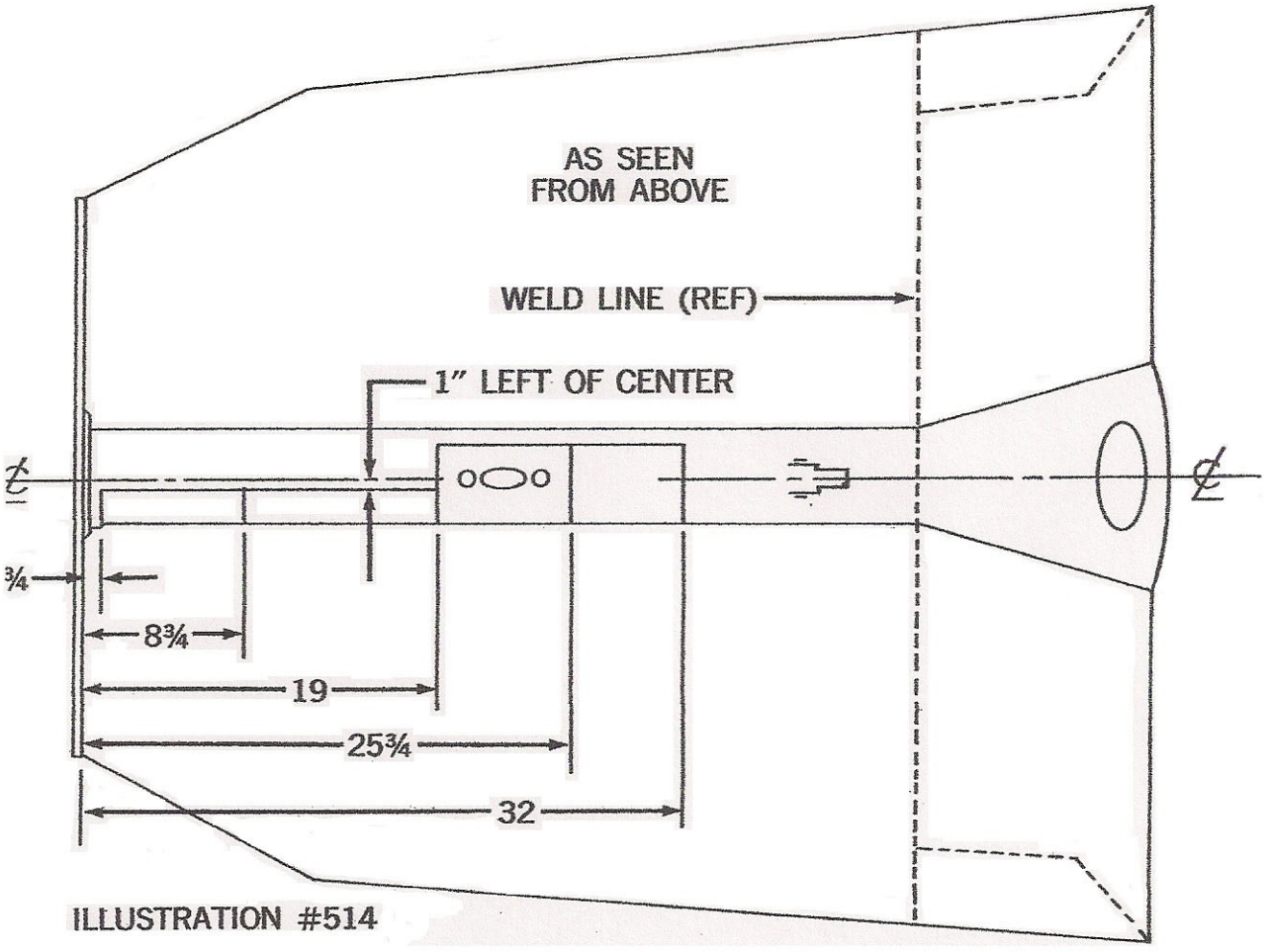


ILLUSTRATION #514

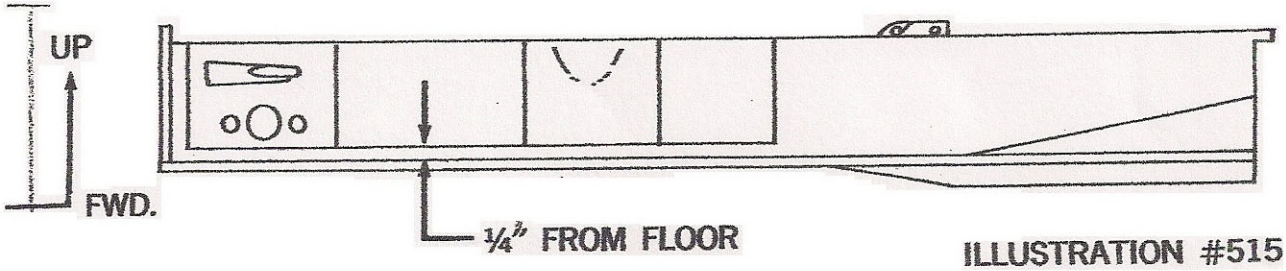


ILLUSTRATION #515

TUNNEL DRIVERS SIDE

Step #26

The first measurement will be 35¼" and is measured from the bulkhead going aft on top of the tunnel. Two marks are then made (using same dimension) at the base of the tunnel pm both sides. Now with the piece of sheet metal, align the three marks by folding the sheet metal over the tunnel — then scribe a line. The same procedure is used with the 24¾" measurement. Next on passenger side of pan, measure up 4" from the floor and mark the tunnel at the bulkhead and at the 35¼" line, align marks with a yard stick or straight edge and scribe the line. The next line to be scribed is on the driver's side of the pan and is made ¼" up from the floor — and going from the bulkhead back to the 35¼" line. (The ¼" left at the bottom of the tunnel in this section is done for ease of welding after the sections have been transferred and are ready to be welded into new locations. If the tunnel is cut any lower than ¼", additional heat is needed for welding and will cause unnecessary warpage in the floor pan). The final line to be cut need not be indicated as it is immediately behind the doubler which is part of the bulkhead (approx. ¾"). The aft edge of the doubler will be cut from the ¼" mark on the driver's side, over the tunnel to the 4" mark on the passenger side.

Step #27

Remove rubber boot from master cylinder before cutting is started. After cutting all the lines previously scribed, it will be necessary to pry sections open with a bar or large screwdriver, and to cut sheet metal straps which anchor the control tubes to the inside of the tunnel. (If an early model pan, heater control tubes can be cut out at this time — see step #16). By removing the rear section of the tunnel the forward section may now be moved aft to its new location letting the clutch and throttle tubes protrude through rear of

pan and then tack weld into place. The rear section is then placed in the forward end of the tunnel and tack welded into place. (Some grinding may be necessary to achieve desired fit). Sections can then be finish welded (using same procedure as in step #22).

Step #28

The clutch and throttle tubes are now welded, or brazed back to the pan inside the rear inspection hole. Facing the back side of the engine, the clutch tube will be on the right side and the throttle, or smaller tube, on the left. Enough clearance (¼") should be left between the tubes so that a flexible clutch cable shroud will be able to slip over the end of the tubing when they are cut off.

Step #29

Measure from the back side of the pan where the tubing comes through, 1¾" — the clutch and throttle tubes are now cut off. (The 1¾" measurement is very important as it determines the way the clutch will operate when the car is finished. If flexible cable does not have enough sag, the car will jerk in low gear.

Step #30

With the universal attached to the front shaft of the transaxle, measure from the forward locking bolt hole on the universal to the center of the gear shift hole on the top of the tunnel. This measurement is then transferred to the shifting rod — measuring from the center of gear shift socket toward the other end (no cuts should be made on the socket end of the shifting rod). The shifting rod is then cut 2" up from the universal end. Having two pieces now, the 2" section can be moved along the shaft until the dimension taken off the top of the tunnel is the same on the shifting rod. The cut end on the 2" section will indicate where the longer piece of tubing will now be cut off.

Step #31

Take the longest section of the shifting tube. Reaching through the rear inspection hole, insert it through the nylon retainer ring located at the top of the tunnel behind the hole for the gear shift lever. Pull aft until the socket is centered in large hole. Next, the 2" section is put back into the universal and locked with a bolt. The gear shift handle is now replaced making sure it is centered so that any final adjustment may be made later if necessary. Manually engage the transaxle into first gear by rotating the universal counter clock-wise, and then pushing the shaft in toward the engine. The gear shift handle is then pulled to the driver side and pushed forward until the cut ends of the shaft meet. (Make sure the gear shift handle is against stop plate or all the way against driver side — if not, some difficulty may be encountered locating first gear after welding is completed). The cut ends can be aligned with a "C" clamp or vise grips— then tack welded. The universal should be covered when tacking. After tack weld is completed, the gront locking bolt in the universal and the gear shift handle are removed. This will allow you to turn the shaft 360° to complete welding. The gear shift ball and socket can now be lubricated and reassembled.

Step #32

The emergency brake cables can now be reinstalled by threading through the two short sections of tubing left in the top of the tunnel. The sections are directly behind the emergency brake socket which serves as guides to retain the cables on the bottom tracks of the emergency brake handle. The cables may be shortened anytime thereafter — the most common method being a loop inside the tunnel at the rear inspection hole where the cable is now exposed and secured with two ⅛" cable clamps per cable. The preferred method is to cut the cable to length and use the cable ends that are swedged on much like factory cables. These cable ends are available in kits — through your local Berry Mini-T dealer.

TUNNEL MODIFICATION

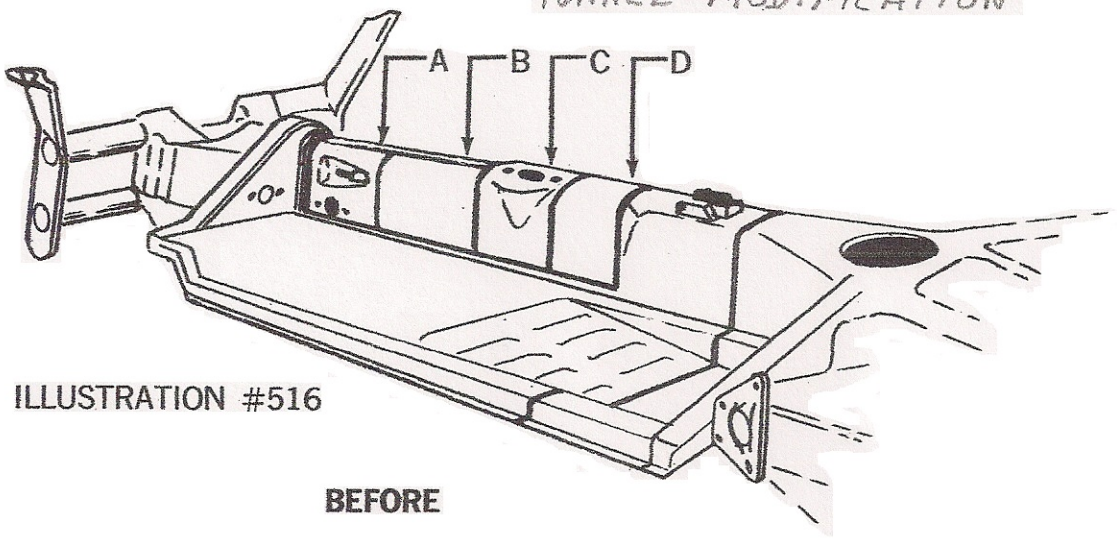


ILLUSTRATION #516

BEFORE

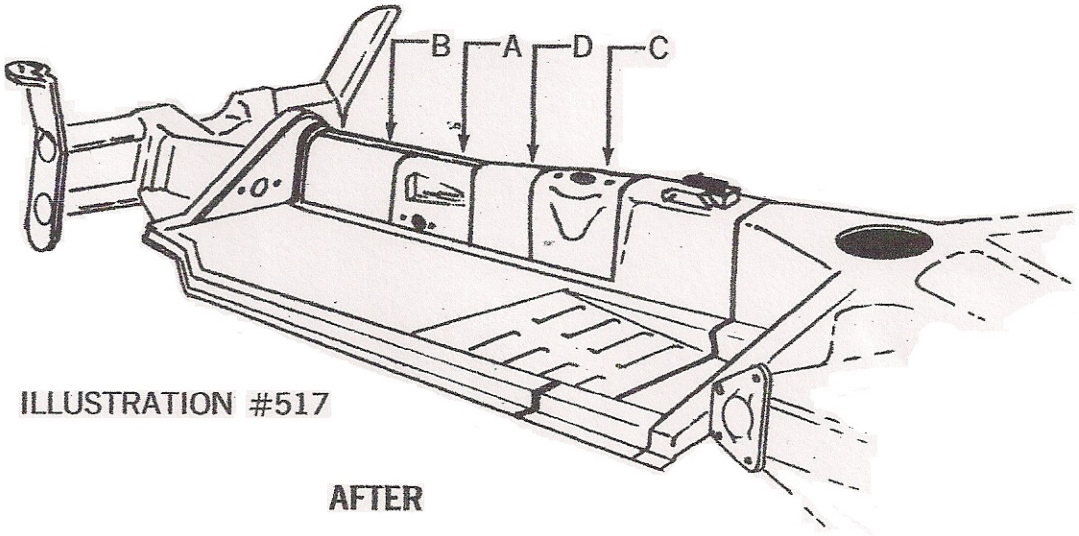


ILLUSTRATION #517

AFTER

NOTE: USE FOR 1968 VW AND LATER ONLY

Step #33

Fitting the clutch and brake pedals to the pan is the next step. Because of the ¼" of material left on the bottom of the tunnel, it will be necessary to grind the bottom of the hole in the tunnel where the pedals will be relocated. Also, a small indentation is necessary below the pedals on the floor pan to clear the stops on the bottom of the clutch and brake pedals. This will insure free movement and operation. The previous location may be used for reference. After the pedals have been installed to your satisfaction, the stop plate is then positioned in front of the pedals and the pan is drilled to secure the stop plate to the floor pan. A vertical position of the clutch and brake pedals is the recommended starting point. The pedals may be adjusted later by means of sliding the stop plate forward or aft — depending on the individual's choice of location. They are then removed to install the clutch cable.

Step #34

The clutch cable is now reinstalled by taking the threaded end of the cable and inserting it into the large tubing inside the tunnel through the hole on the driver's side. This is where the clutch and brake pedals will be bolted back in place. Leave a few inches of the cable extended outside of the hole so that it may be easily attached to the clutch pedal.

Step #35

After the clutch cable has been attached to the hook on the end of the pedal assembly that goes through tunnel, the pedals can then be reinstalled. Some means should be taken to keep the pedals in vertical position at this time. Allowing them to fall aft will disconnect the clutch cable inside the tunnel, and necessitate the removal of the pedals to re-attach. This may be done with pedal stop adjustment, "C" clamp, vise grips, etc.

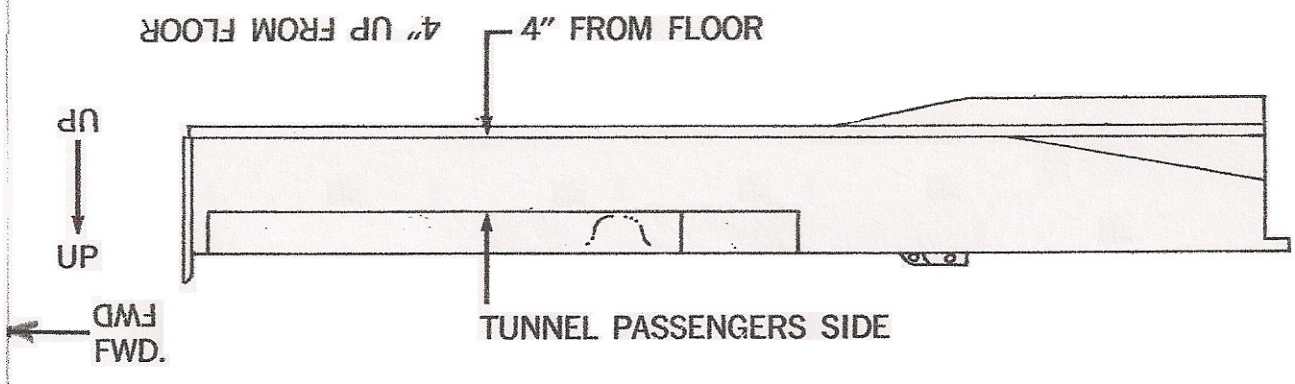


ILLUSTRATION #518

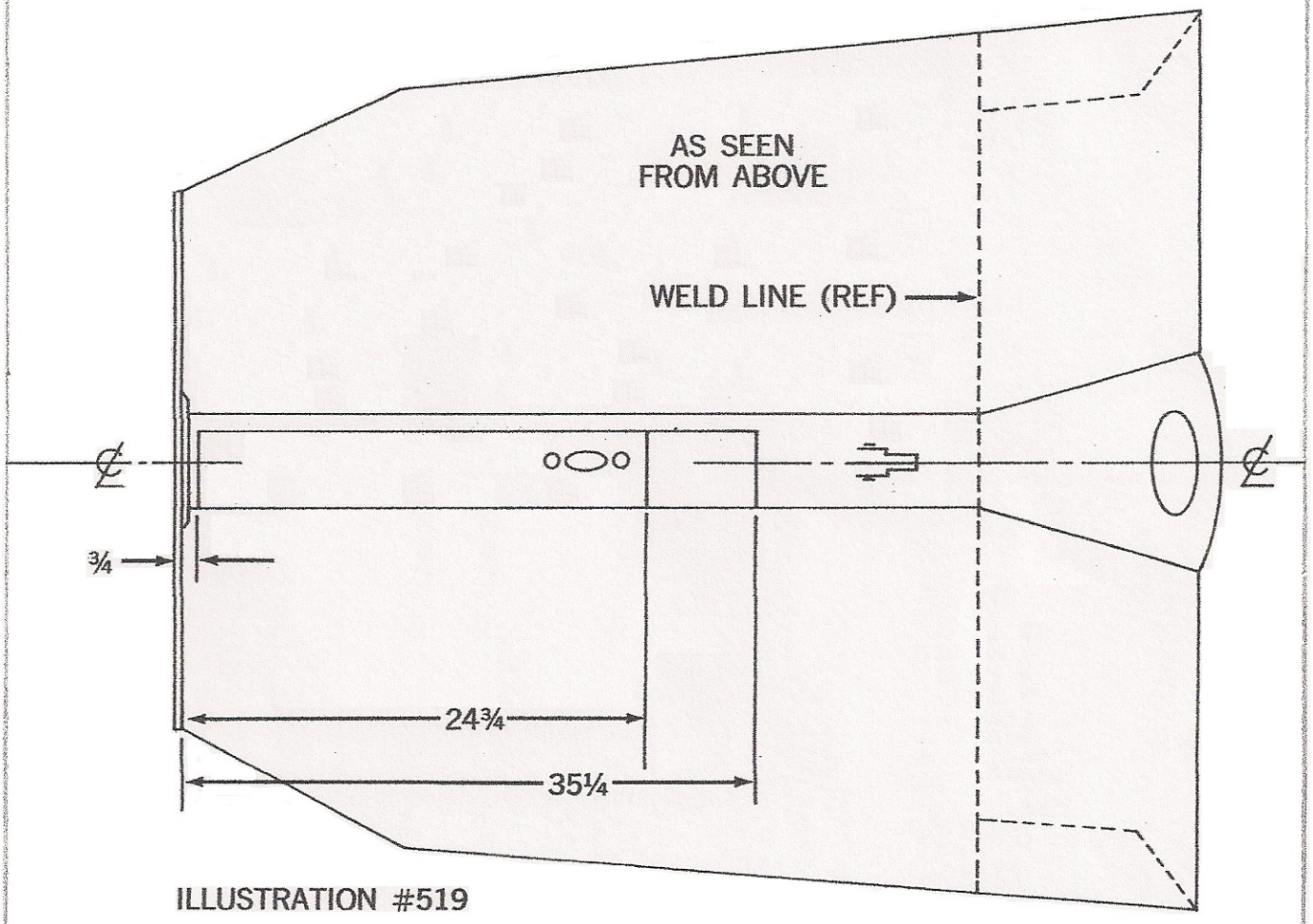


ILLUSTRATION #519

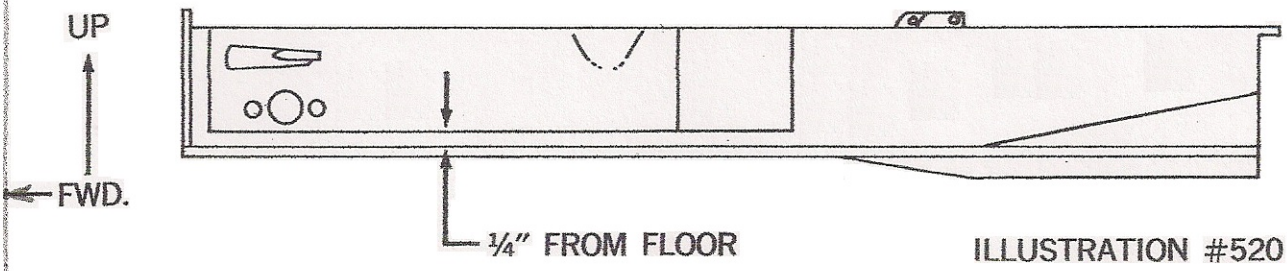


ILLUSTRATION #520

FOR 1967 VW AND EARLIER ONLY

Step #37

Relocation of the accelerator pedal is easily done. By using the original location as a reference and by having the pedal base, or bottom half of hinge, already drilled (see Step #4) and located approximately 1" from the tunnel base on the floor pan. The pan can then be drilled with a ¼" drill and the bottom half of the hinge can be bolted to the pan — using two ¼" bolts. The available pedal may then be reassembled by using a stock retainer spring, a pin, and a small amount of lubrication.

Step #38

Shortening of the throttle cable is accomplished in the area where the cable is exposed — between the back side of the engine and the aft section of the pan where the clutch and throttle cables come through. By cutting the cable and placing both ends through a clamp, slack can then be taken out of the cut ends and the clamp tightened. If you are working with a model which has an automatic choke, be sure the choke is on the last stop, or closed, before tightening the clamp and cutting off the excess cable. A very quick and easy safety measure is to cut the ends ⅛" long, or past the clamp, and then fold the ends against the clamp with a pair of pliers. This will save throttle control should the locking clamp work its way loose. The recommended procedure for this alteration is to use the swedged cable ends (see Step #32).

TUNNEL MODIFICATION

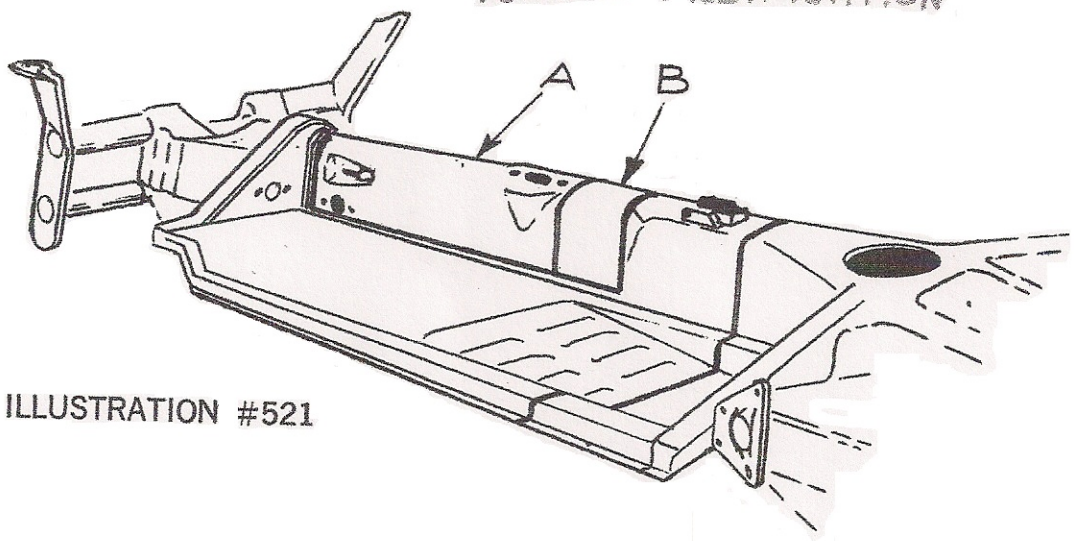


ILLUSTRATION #521

BEFORE

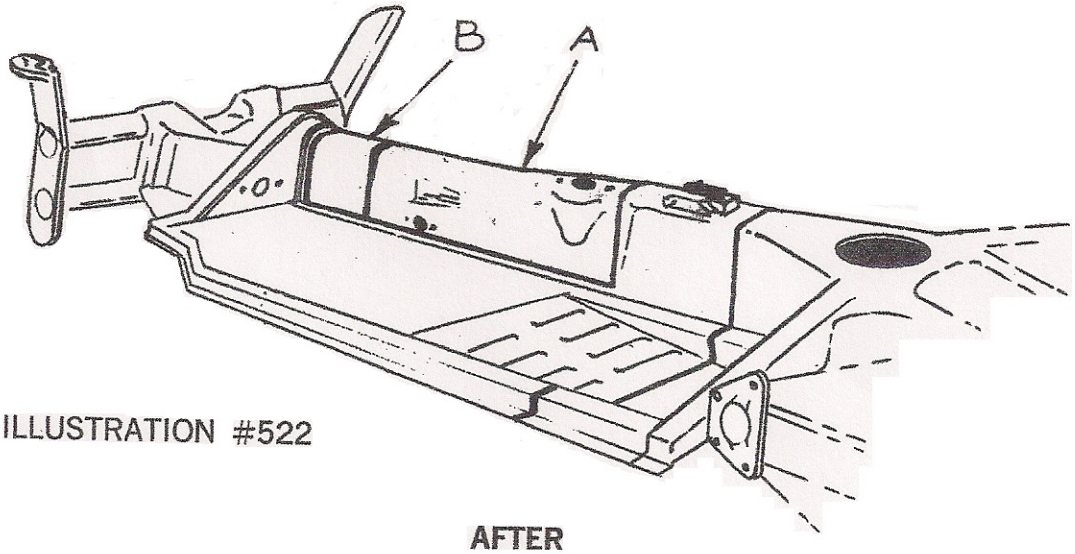


ILLUSTRATION #522

AFTER

NOTE: USE FOR 1967 VW AND EARLIER ONLY

Step #39

The brake extender is installed by first threading the stock lock nut and clevis on to the brake extender rod. The tapered end is then inserted into the master cylinder and the clevis end is reattached to the pin on the brake pedal — retained with a spring. Any adjustments which may be necessary later may be done by rotating the brake extender rod into or out of the clevis, which is attached to brake pedal. The lock nut is to maintain adjustment after it has been made.

Step #40

The brake fluid reservoir is installed on the top of the tunnel directly ahead of the bulkhead. The reservoir body should be on the master cylinder side of the tunnel and over the top of the master cylinder. A metal screw is sufficient for this attachment. Stock V.W. lines are used to make connections between the bottom of the reservoir and the brake fluid inlet on the top of the master cylinder.

Step #41

The main brake line that runs from the master cylinder to the "T" fitting on the aft section of the pan can now be shortened. The simplest and most common method is to form a loop in the line, where the line comes through the back of the pan, and then reattach the loose end to the "T" fitting in its original location.

NOTE OF CAUTION:
If the brakes are "low" and/or the brake travel is excessive due to need of brake shoe adjustment or relining, the geometry of the VW pedal action is likely to cause overt forces being applied to the brake extender rod.

BRAKE ROD EXTENDER KIT #235

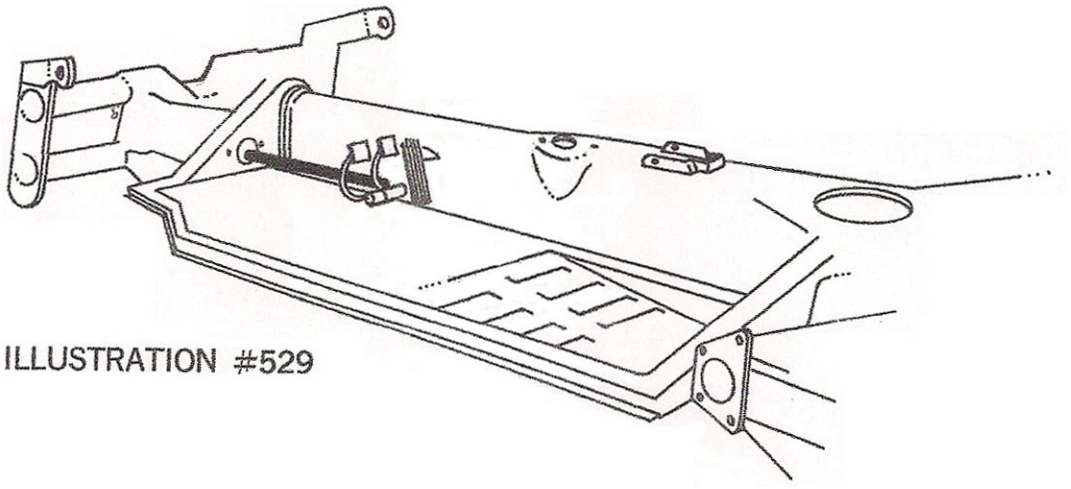


ILLUSTRATION #529

Section V

SHOCK TOWER MODIFICATIONS (1967 and earlier)

Step #42

(See illustrations #523 and #524) Measure 3" up from the top of the torsion tube and indicate on the existing shock tower. A square is then placed against the front side of both tubes and the horizontal leg of the square is aligned with the 3" mark. A line will then be scribed to indicate where the shock towers will be cut off.

Step #43

Cut the shock towers off with a hack saw or a cutting torch, depending on the equipment available.

Step #44

The Mini "T" shock tower adaptors available are designed to minimize confusion on the builder's behalf, and to allow maximum shock travel that is necessary for any off-the-road travel. The adaptors are made for the right and left; and when placed in their new locations on the outboard edge of the cut off shock towers, the ends with the holes that the shocks will be bolted to will be pointing up and outboard (see illustration #525). Alignment of the adaptors is done by lining up the forward edge of the adaptor with the forward edge of the shock tower, then by matching the top forward corner of the adaptor with the cut off on the shock tower. With the front end raised with a jack, the adaptors may be brought into the same dimensions by measuring from the bottom shock mount to the center of the hole on the adaptors. A "C" clamp can be used to retain the adaptors in the desired position for final measurements and tack welding.

SHOCK TOWER ADAPTOR KIT #234

MUST BE USED ON CHASSIS THROUGH 1966

CUT SHOCK TOWER 3" ABOVE TORTION BAR TUBE

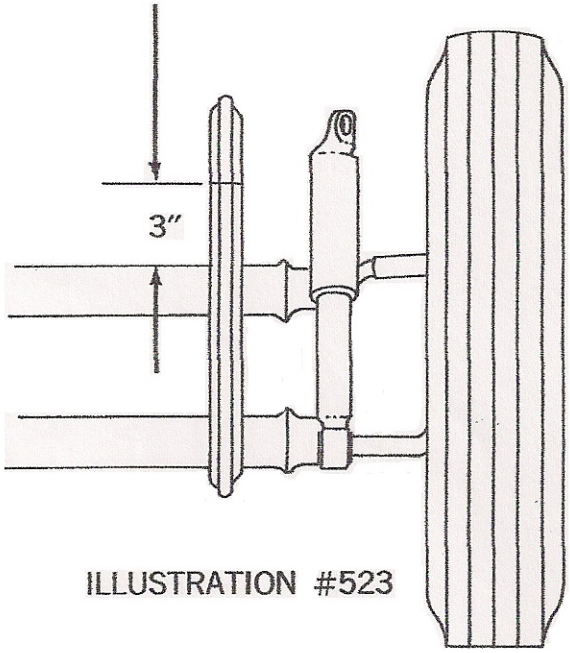


ILLUSTRATION #523

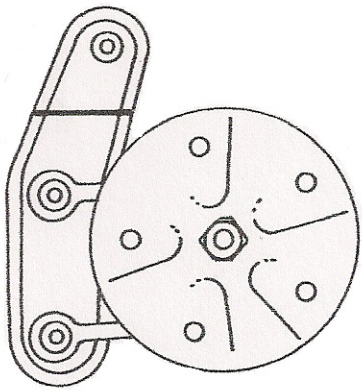
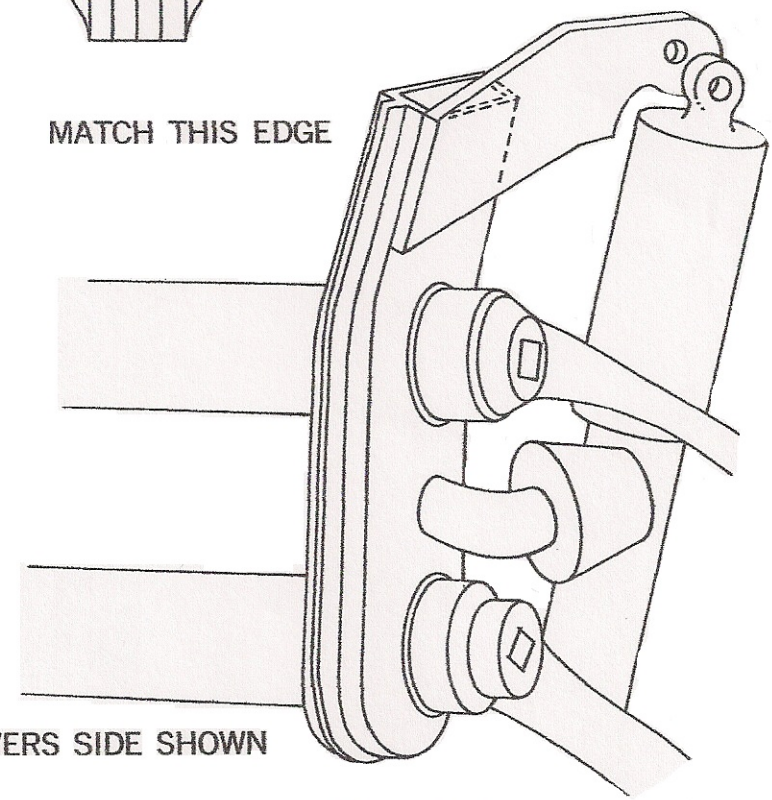


ILLUSTRATION #524

MATCH THIS EDGE



DRIVERS SIDE SHOWN

ILLUSTRATION #525

Step #45

Welding the shock tower adaptors to the cut off towers, after alignment, may be done with arc or acetylene welding. It may be desirous at this time to cover the exposed or open end of the original shock tower. This can be done with a piece of 1" x ⅛" strap metal cut to fit the opening, or with a piece of sheet metal — then welded into place on at least three sides.

Step #46

Before the body can be placed on the pan for final positioning (these instructions are based on tanks from 1958 through 1966, all other fuel tanks require extensive modification), the filler neck of the tank must be shortened approximately 2¾" (see illustration #526). This may be easily done by using lines on filler neck that are already established — the bottom one being where the filler neck is attached to the tank, and the top one where the retainer flange for the gas cap is welded to the filler neck. The neck between these points will be cut off and the gas cap flange reattached to the fuel tank by welding or brazing. Because the air vent to the tank is being eliminated by the removal of the filler neck section, it will be necessary to drill the gas cap so that a vacuum will not be created by the fuel pump.

Section VII

PAN PREPARATION

Step #47
Clean and paint pan.

Step #48
Reattach rubber body mounting strip around perimeter of the pan.

Step #49
Fill the reservoir, bleed the brakes, and top off the reservoir.

Step #50
Check the battery, the battery connections, and then secure the battery in the original location with a strap or clamp provided by V.W. factory for this application.

Section VIII

BODY PREPARATION

Step #51
It is to the builder's advantage to take care of the wiring installation before the body is bolted to the pan. This is not mandatory — only a helpful hint. The wiring is much easier when the body is detached and upside down making all areas more accessible. Complete instructions are included with the wiring harness and should be followed very closely. Substitution of harnesses, other than the original Mini "T" harness, will necessitate unnecessary cuts and splices to wiring which may impair an otherwise guaranteed electrical circuit.

Section IX

BODY INSTALLATION

Step #52

Before any attempts are made to place body on pan for final positioning, fuel tank should be placed on the top of the transaxle and held in position with blocks (this is if engine is still intact). This step may be eliminated at this time if engine is out of car but must be taken into consideration before engine is reinstalled. As fuel tank will not pass between engine and quarter panels without removing body bolts and raising body enough to allow it to do so.

Step #53

Body is then placed on the pan and centered to your satisfaction and then drilled from bottom up through original body mounting holes and bolted to pan with 5/16" carriage bolts available.

Step #53-A

Before bench seat is installed, the plate that covers the rear inspection hole must be replaced. At this time cut an opening through bench directly over Serial Number (on tunnel) so number can be easily read without having to remove seat once it is bolted down. The seat is then placed inside the inner panel, located and then drilled with a 1/4" drill at both back corners and at the center. Do not drill through the inner panel with the 1/4" drill. Inner panel is then drilled with an 11/32" drill through 1/4" holes and the back of the seat attached with three 1 1/4" number 15 metal screws available. The front of the seat is drilled where the legs rest on the top of the inner panel flange that secures the body to the pan using a 1/4" drill. Drill through the seat legs, the inner panel flange and the pan, the seat legs are then bolted down using two 1/4" carriage bolts.

Section X

STEERING EXTENSION

Step #54
Steering assembly must be disassembled for this change — starting from forward and or end that was formerly attached to steering box, measure back 6″ and cut, then measure 2″ from cut on both pieces and indicate (see illustration #528).

Step #55
14″ shaft extension tube can then be placed on inner steering shaft at 2″ indications and welded.

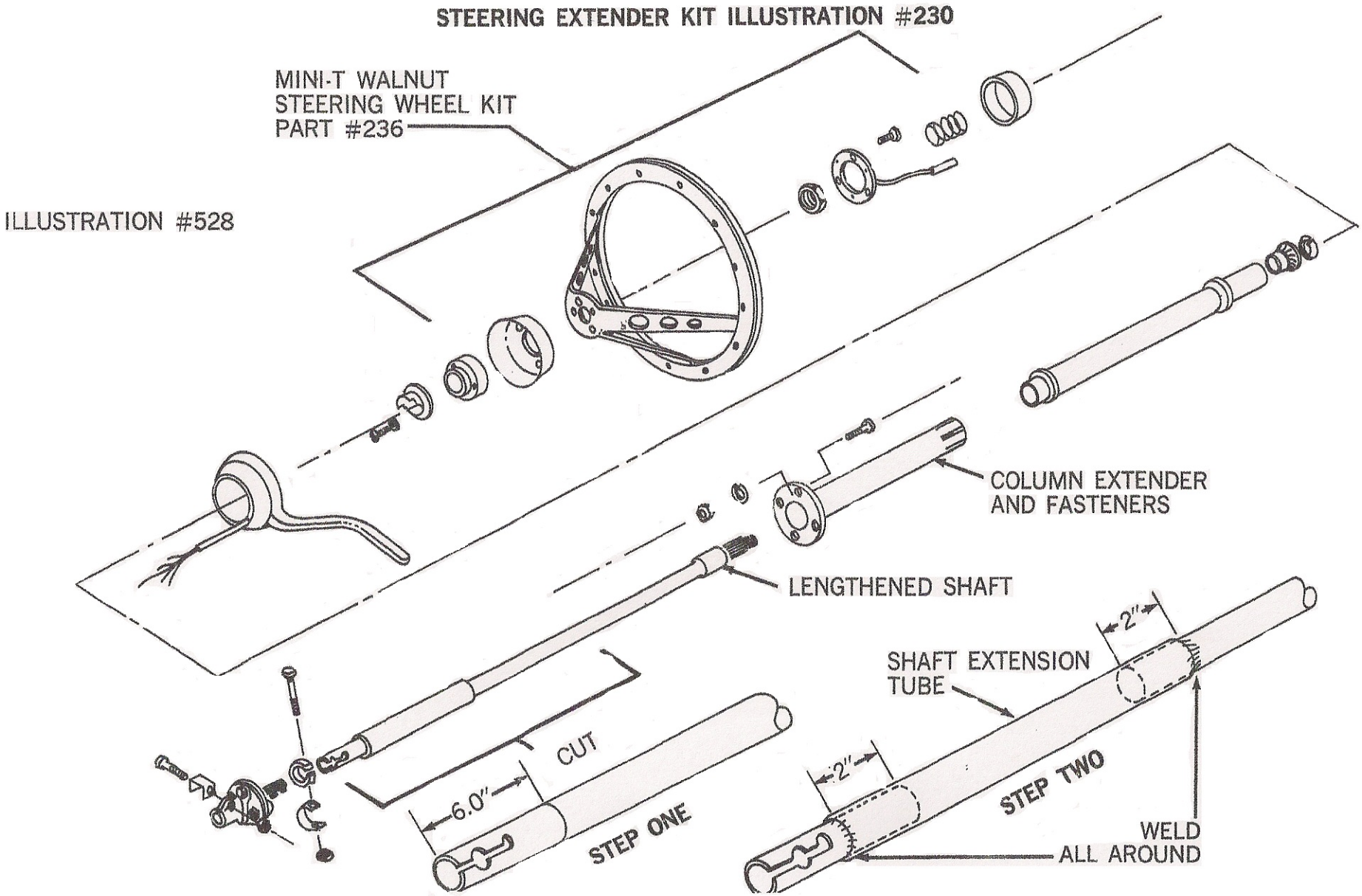
Step #56
Steering can then be reassembled.

Step #57
Using line indicated on dash panel, hole for steering unit can now be cut.

Step #58
The hole to be cut through the inner panel where the steering shaft will be connected back to the steering box, can be indicated with a straight edge or an 8″ piece of angle placing one of these on the rear section of the steering universal, and moving aft against inner panel will give you a location for pilot hole. After the pilot hole is drilled a 1½″ hole will be cut in inner panel.

Step #59
The reassembled steering unit is now installed. By placing the column extender in one hand and inserting the steering unit through the dash, through the column extender, and finally through the 1½″ hole in the inner panel, the extended shaft can then be bolted back to the steering universal and then with the column extender centered, it can be bolted to inside of inner panel. After the column extender is attached to the inner panel, the original column may be moved forward or aft to desired location and then locked with clamp on column extender.

STEERING EXTENDER KIT ILLUSTRATION #230



Section XI

REAR FUEL TANK MOUNT

(Refer to illustrations #526 and #527)

Step #60

Using the brackets available, this can be a very quick and easy installation. The two smaller brackets that secure the front of the tank to the seat back (illustration #527) will be installed on the flange that goes around the perimeter of the fuel tank and tightened finger tight until final location is achieved. The large square tubing bracket can then be bolted to existing bolts (illustration #526) with the filler neck on the passenger side of the car, fuel tank can then be raised and the flange placed on the top of the rear bracket. The front of the tank is then raised until the tank is level. Desired position can be maintained with blocks under the tank. The smaller brackets on the front of the tank are moved forward against the back side of the seat back — seat back is then drilled and the brackets secured with four ¼" carriage bolts. The angle clips are then placed on the rear mount and all the bolts tightened. A fuel filter is suggested when the fuel line from the tank to the fuel pump is reinstalled.

Section XII

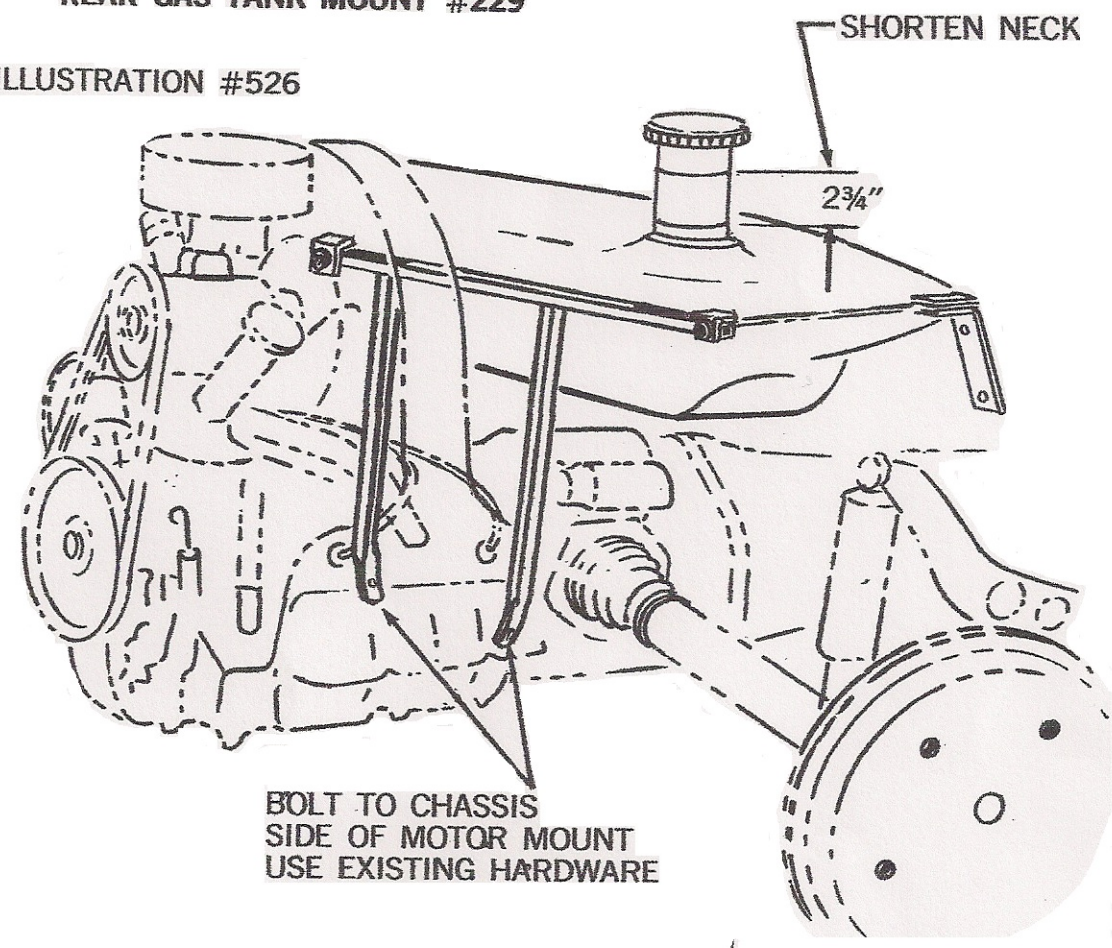
BODY CUTOUTS

Step #61

By measuring from the seat back to the approximate center of the filler neck on the fuel tank, the measurement can be transferred to the top of the box and drilled. Because all the dimensions in this area are variable, enlargement of this hole should be done by using the filler neck of the fuel tank for a reference. This hole may be finished for appearance with a deck plate that is available.

REAR GAS TANK MOUNT #229

ILLUSTRATION #526



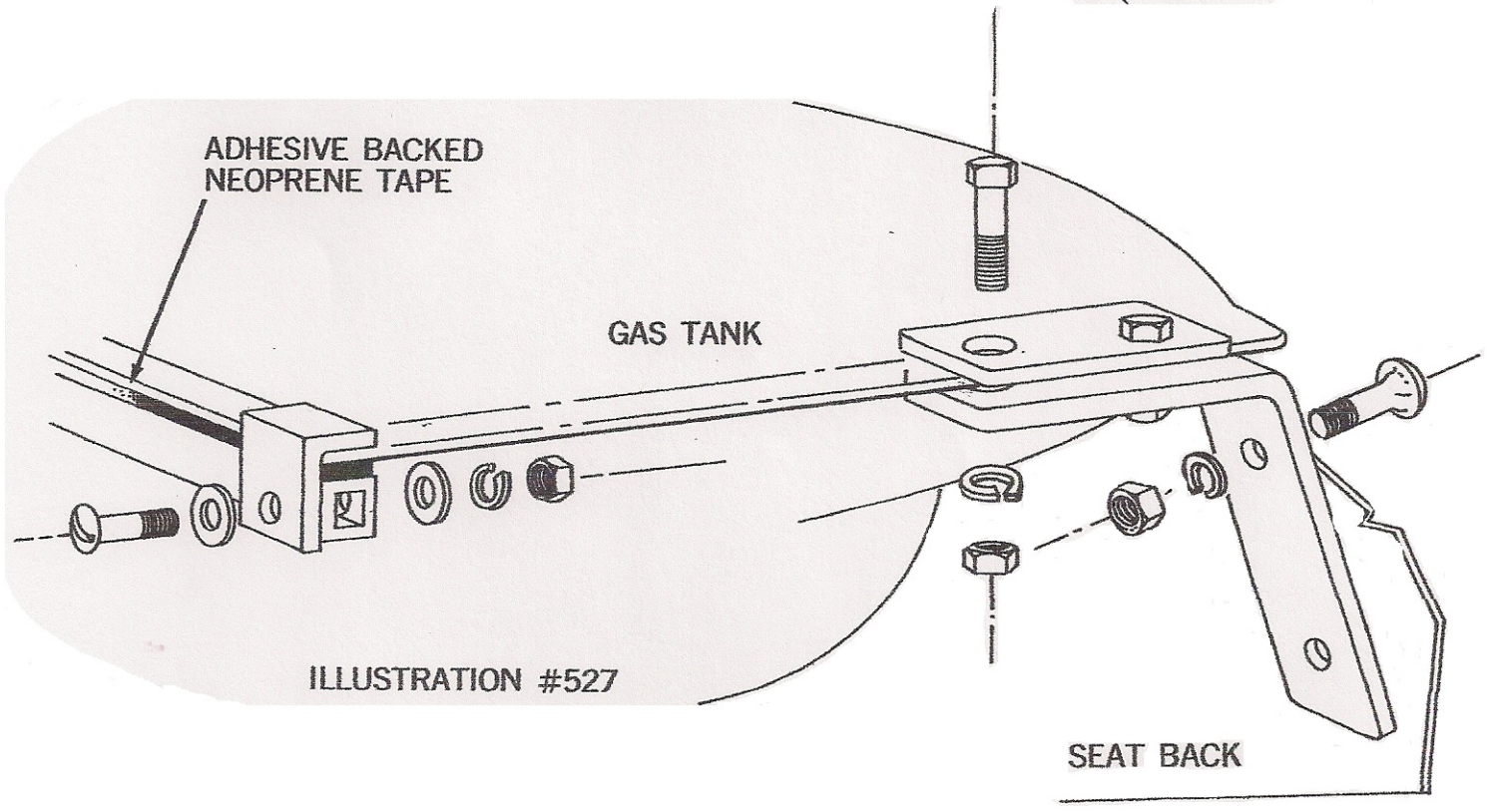


ILLUSTRATION #527

WINDSHIELD INSTALLATION #223

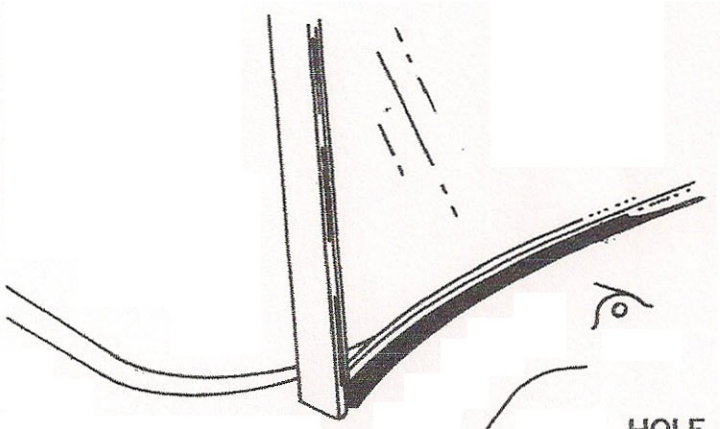
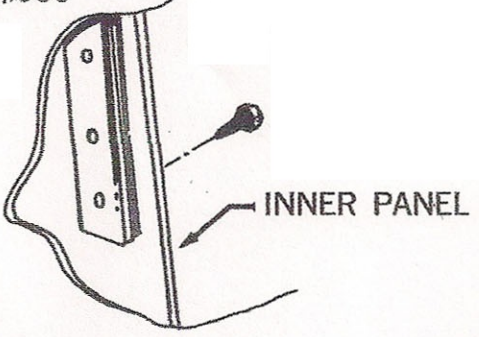
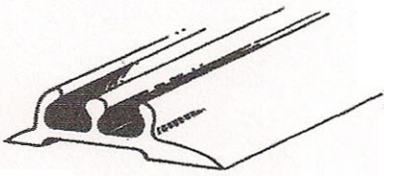
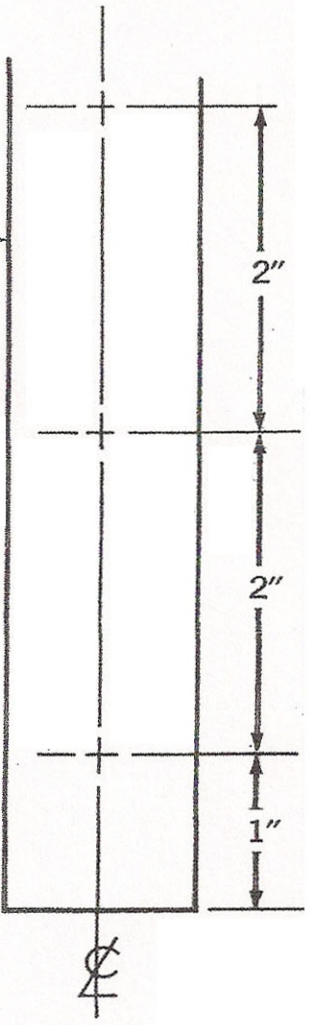


ILLUSTRATION #530



LONG FLAP IN FRONT





INSTRUCTIONS

1. INSTALL WEATHER SEAL.
2. CUT HOLES IN COWL AND POSITION WINDSHIELD.
3. DRILL ¼" DIA. HOLE THRU INNER PANEL UNTIL DRILL MARKS ALUMINUM POST.
4. REMOVE WINDSHIELD AND DRILL 11/32" HOLES IN POST FRAME.
5. RE-POSITION WINDSHIELD AND SECURE WITH 1¼" #15 SELF TAPPING METAL SCREW. TIGHTEN TOP SCREW FIRST, THEN WORK DOWN.

Step #62

Cut the weather seal on the ends to fit the bottom of the windshield. Holes indicated on body are indicated undersize. This is done to allow the builder a perfect fit when the windshield is installed. In all cases a certain amount of filing will be necessary. After windshield is seated on the top of the cowl and postioned vertically, the inner panel is drilled with a ¼" drill and the windshield posts indicated. The windshield is then removed and the marks drilled with an 11/32" drill. The windshield is then replaced and secured with six 1¼" number 15 self tapping metal screws (illustration #529).

Step #63

Windshield wiper motor is installed by measuring the distance between the posts on the wiper assembly. This measurement is then transferred to the front of the cowl, and the cowl drilled with a ½" drill. With the wiper arms removed, the wiper assembly can be held to the front side of the cowl to check the holes and insure a perfect fit for this installation. The wiper motor is then placed through the holes and secured with the stock washers and nuts. 1958 and later wiper assemblies are recommended. Earlier models are wider and have to be modified before they can be used. Transporter arms and wiper blades are used to gain necessary additional length. The bottom side of the wiper assembly is used to attach the fuse block when the wiring is installed.

INSTRUCTIONS FOR INSTALLING THE MINI-T CUSTOM WIRE LOOM

(Read through instructions completely before starting)

To facilitate installation of completed unit, it is recommended that the Volkswagen repair booklet for year and model of chassis be purchased.

The Mini-T Wire Loom consists of two harness sections. The larger is the body wiring for the lights, instruments and accessories and includes two ground wire sets (included separately in the box) for the front lights and turn signals. The smaller section is the engine wiring and includes a disconnect for joining body wiring. This feature will allow the installation and termination of all engine wires and most of the body wires prior to the placement of the body on the chassis.

INSTRUCTIONAL STEPS

Before installation, lay wiring harness sections on the floor to familiarize yourself with the front, rear, left, and right of each. Use the Wiring Diagrams as a layout guide.

1. ENGINE WIRING — Diagram is top view
   Mount harness at center of gas tank frame and run starter and disconnect wires to respective sides. Lay rear of harness over fan shroud and connect coil, choke, oil sender and voltage regulator. Connect starter wires and finish mounting gas tank run. (Tie or tape).

   A — Connect black wire to Coil

   B — Connect black wire to Choke

   C — Connect green wire to Oil Sender

   D — Connect two red wires to Voltage Regulator (forward). Connect blue wire to Voltage Regulator (rear)

   E — Connect red wire with large terminal to Starter
   Connect the other red wire to Solenoid

2. BODY WIRING — Diagram is bottom view

After installing lights, gages and wiper motor, turn body over on a padded surface to install body wiring harness. Insert rear part of wiring harness (tail lights, etc.) between inner paneling on driver's side of body through hole provided in rear lower part of body panel. To determine the amount of harness to be pulled to the rear of body, mount fuse board on wiper motor bracket, including one brown wire (g) on mounting stud from other end of board (consult diagram).

CONNECT

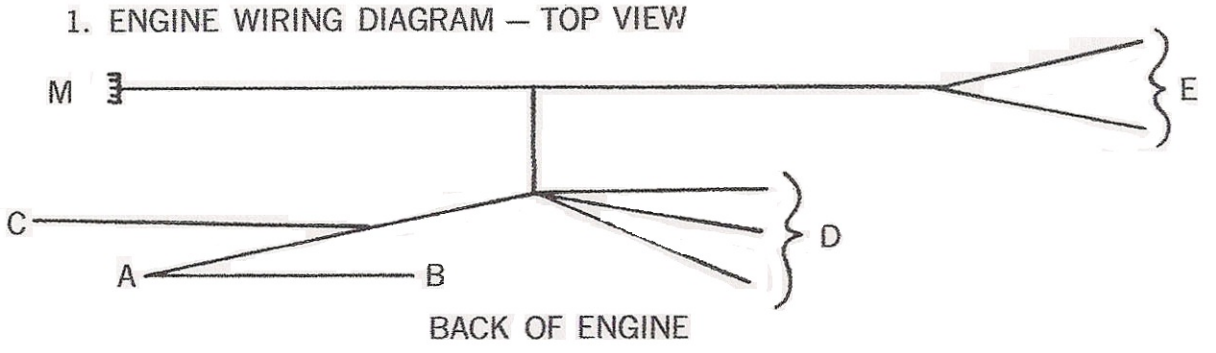
GROUP NO. 1 RIGHT TAIL LIGHT
- White wire to TAIL LIGHT
- Red wire to STOP LIGHT
- Brown wire to RIGHT TURN LIGHT
- Black wire to GROUND

GROUP NO. 2 LICENSE PLATE LIGHT
- White wire to LICENSE PLATE LIGHT
- Black wire to GROUND

GROUP NO. 3 LEFT TAIL LIGHT
- White wire to TAIL LIGHT
- Red wire to STOP LIGHT
- Yellow wire to LEFT TURN LIGHT
- Black wire to GROUND

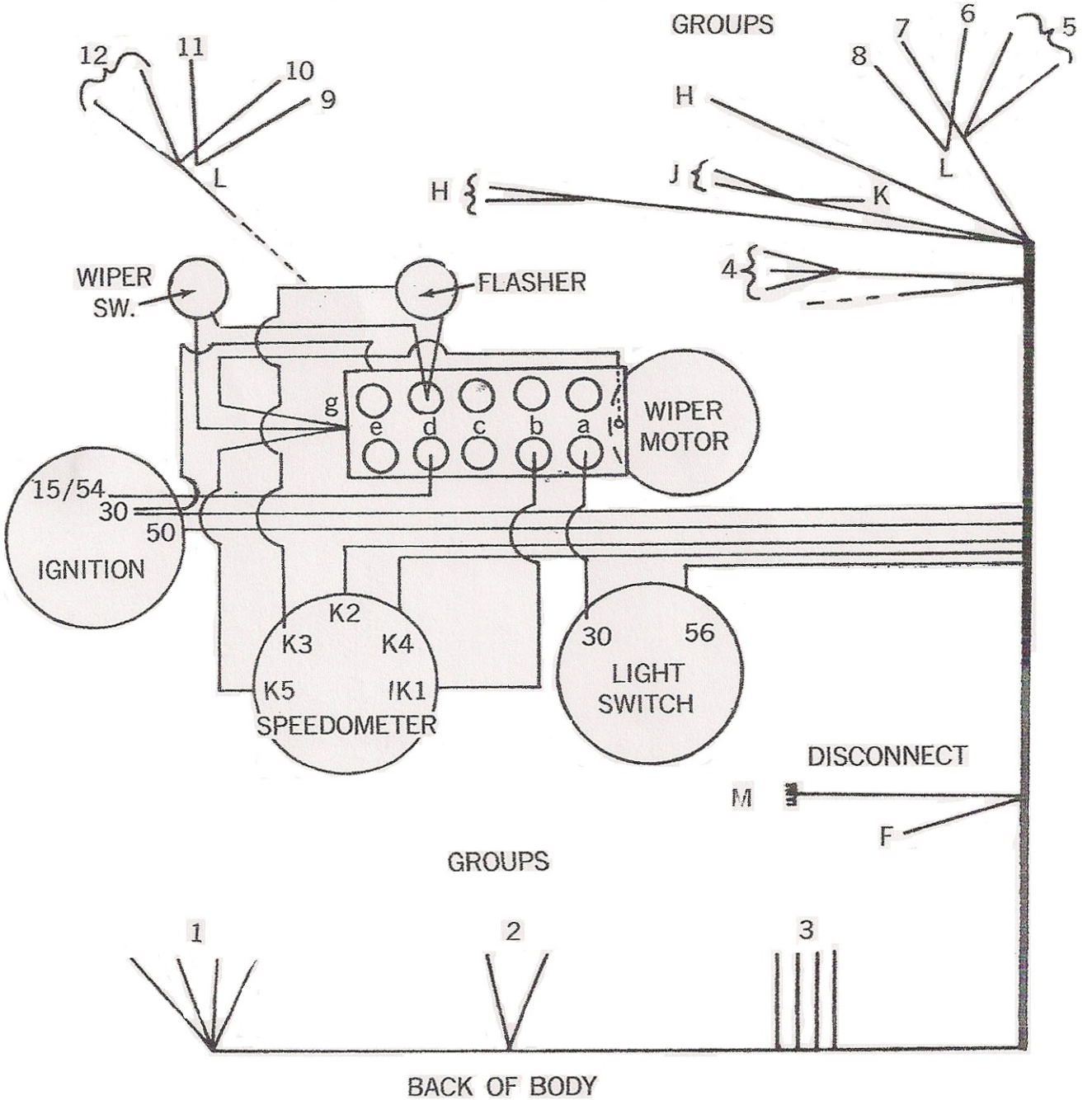
Drill two ½" holes, right and left, in forward inner panel top for headlight wires. Lay in wires to lights.

1. ENGINE WIRING DIAGRAM – TOP VIEW



BACK OF ENGINE

2. BODY WIRING DIAGRAM – BOTTOM VIEW



BACK OF BODY

CONNECT

Light Switch: Wire as shown on tags on wires.

Wiper Switch: Brown wire with large terminal (g) grounds switch.

White wire (from terminal (d) on fuse block as shown on diagram) to "54" on switch.

One Brown wire (g) grounds wiper motor.

FOR WIRING FROM SWITCHES, consult VW Manual if VW switches are used.

Ignition Switch: Wire as shown on tags on wires.

SPEEDOMETER

White wire with blade receptacle goes to "K1" (Hi Beam Indicator Light).

Blue wire with blade receptacle attaches to "K2" (Amp Light).

Green wire with blade receptacle attaches to "K4" (Oil Light).

Brown ground wire (g) attaches to Speedometer.

Black wire from Terminal (d) on fuse block attaches to bottom of Speedometer.

(Note: Speedometer Light from Light Switch "57" to "K5" is NOT provided.)

FLASHER

Green wire from (d) on fuse block attaches to flasher.
Run attached Green wire to "K3".
From steering column attach Black wire with green and white tracer to S on AMERICAN.

CONNECT

GROUP NO. 4 DIMMER SWITCH
- White wire to HI BEAM
- Yellow wire to LO BEAM
- Red wire to POWER

GROUP NO. 5
- White wire to HI BEAM
- Yellow wire to LO BEAM

GROUP NO. 6
- Headlight Ground (White and Brown wires). Attach large terminal under nut on headlight mounting bolt, as tagged.

GROUP NO. 7
- Yellow wire to LEFT TURN SIGNAL LIGHT

GROUP NO. 8
- Brown wire to LEFT TURN SIGNAL LIGHT GROUND

GROUP NO. 9
- Brown wire to RIGHT TURN SIGNAL LIGHT GROUND

GROUP NO. 10
- Brown wire to RIGHT TURN SIGNAL LIGHT

GROUP NO. 11

White and Brown wires with large terminal to HEAD-LIGHT GROUND, as tagged

GROUP NO. 12

White wire to HI BEAM
Yellow wire to LO BEAM

INSTALL BODY ON CHASSIS

CONNECT

F — Black wire to ground on chassis.
tracer to Brown wire (Right Turn).

G — From steering column, connect Black wire with green
Connect Black wire with white tracer to Yellow wire (Left Turn).

CONNECT

H — Stop Lights: Connect both Red wires to Brake Sending Unit.

I — Ground to chassis with Brown wire.

J — Connect both Blue and Taped Green wires to Horn.

K — Connect other end of Green wire to clip on steering tube.

L — Ground White wire from Headlights and Turn Signals to chassis, as tagged. This is done with a sheet metal screw or small bolt.

M — Engine and Body Disconnect: Join wires together, being careful not to cross blue, green, black and large and small red wires.


BERRY
MINI