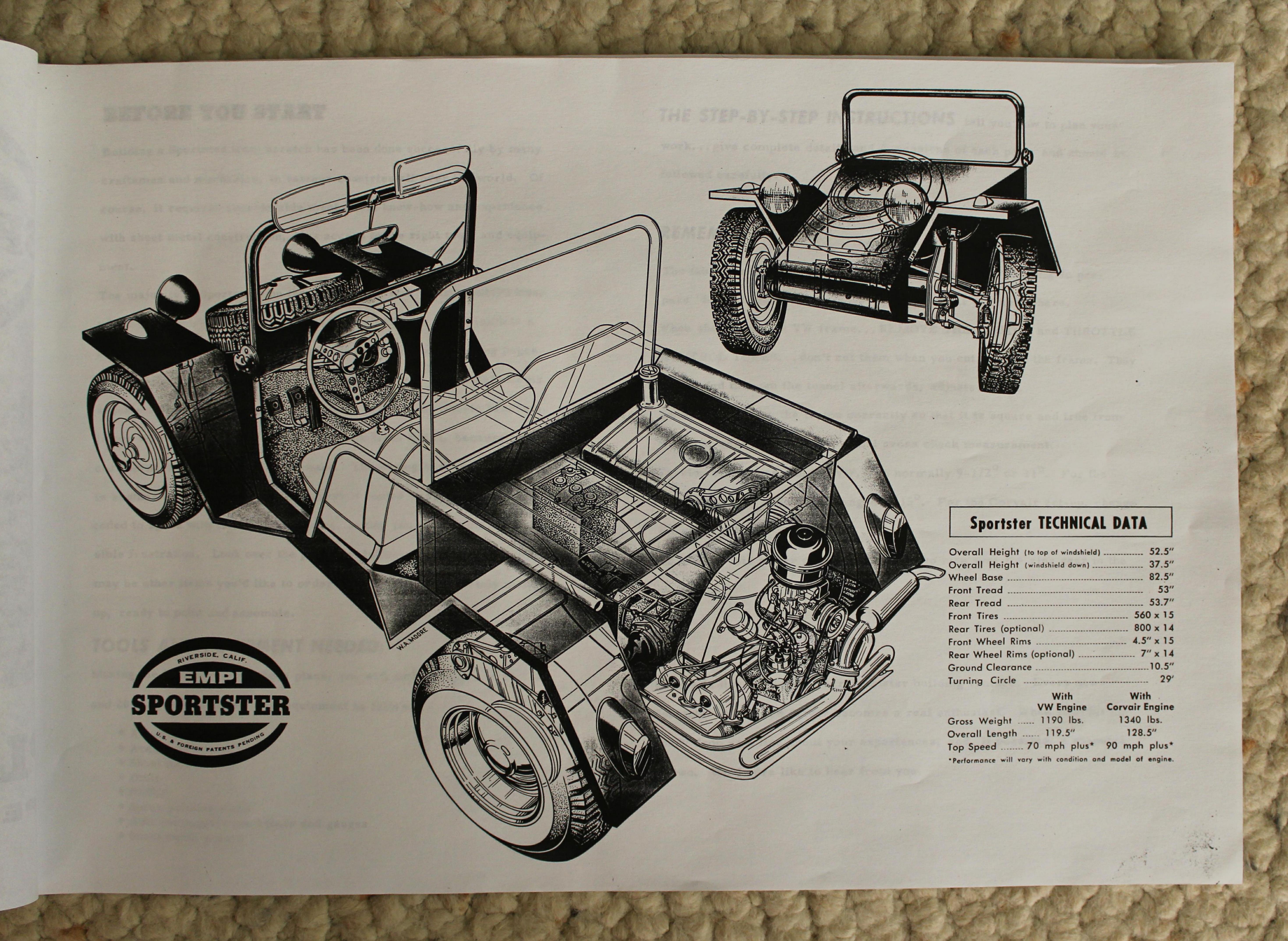


SPI-360 \$9.95 complete

Complete, detailed step-by-step plans to build the most versatile sports car ever.

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rights pending or applied for.



BEFORE YOU START

Building a Sportster from scratch has been done successfully by many craftsmen and mechanics, in various countries all over the world. Of course, it requires considerable mechanical know-how and experience with sheet metal construction, plus access to the right tools and equipment.

The majority of Sportsters on the road are assembled from EMPI kits, which are much easier to put together...save time...and eliminate a lot of the construction details. They are described on following pages. If you are going to build it from the ground up, there are certain items which may be a problem. The windshield, with its adjustable brackets, is one we recommend that you buy complete from EMPI, because the correct parts are hard to find or make. The wiring harness, or loom is another item worth ordering, because it comes wrapped and color-coded to agree with the EMPI diagrams, saving you much time and possible frustration. Look over the parts list following these plans; there may be other items you'd like to order from EMPI...completely made up, ready to paint and assemble.

TOOLS AND EQUIPMENT NEEDED:

Making the Sportster from these plans, you will need a supply of 14, 18 and 20 gauge sheet metal, plus equipment as follows:

- * Arc welder
- * Acetylene welder
- * Sheet metal brake
- * Drill
- * Buffer
- * Spray painting outfit
- * Auto mechanic's hand tools and gauges
- * Sheet metal shears

THE STEP-BY-STEP INSTRUCTIONS tell you how to plan your work... give complete details and dimensions of each part, and should be

REMEMBER-

followed carefully.

The fabricated sheet metal parts need a "metal prep" coating to prepare for painting...otherwise the spray paint will not adhere.

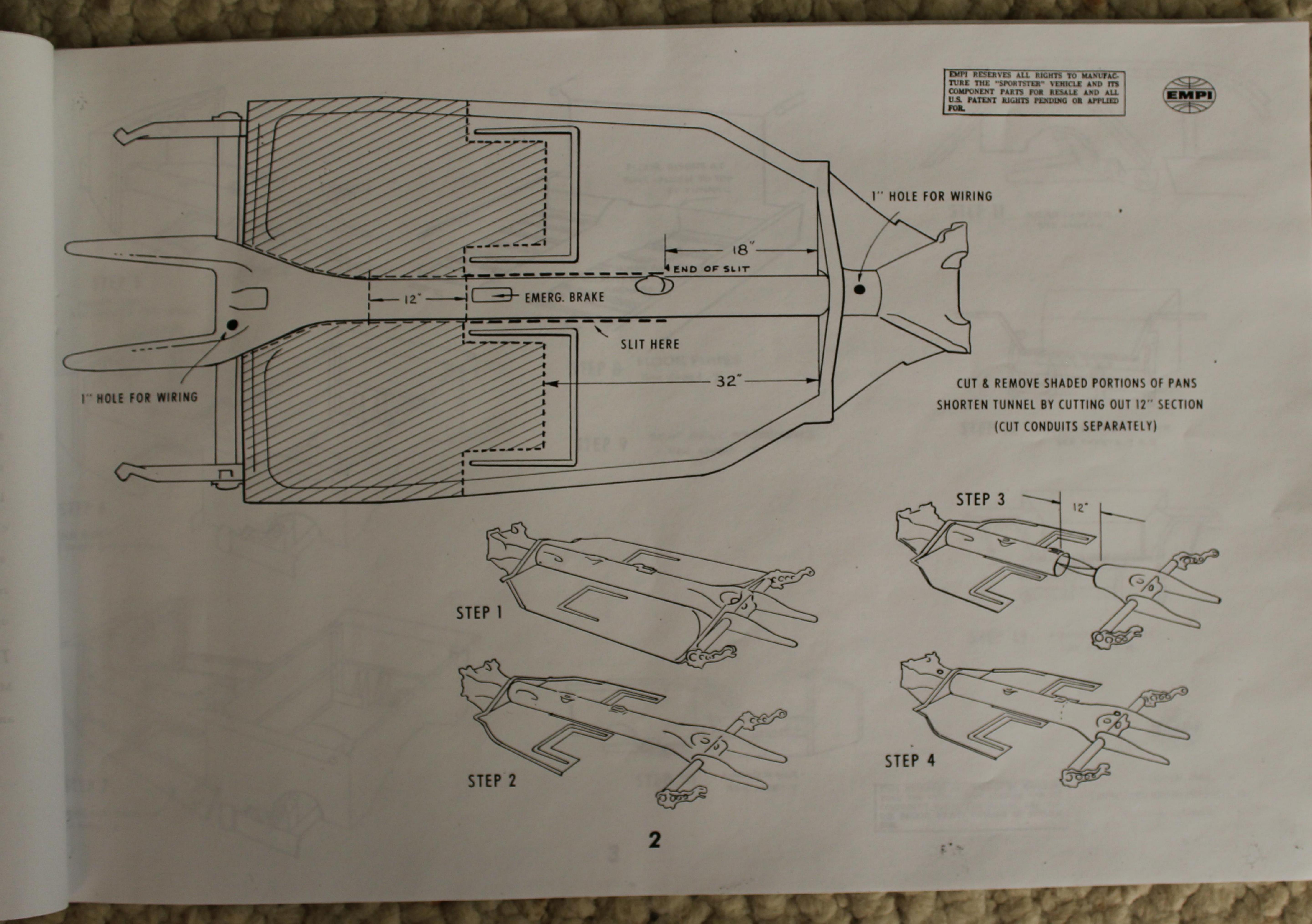
When shortening the VW frame...REMOVE THE CLUTCH and THROTTLE CONTROL TUBES...don't cut them when you cut through the frame. They can be fed through the tunnel afterwards, adjusted to fit.

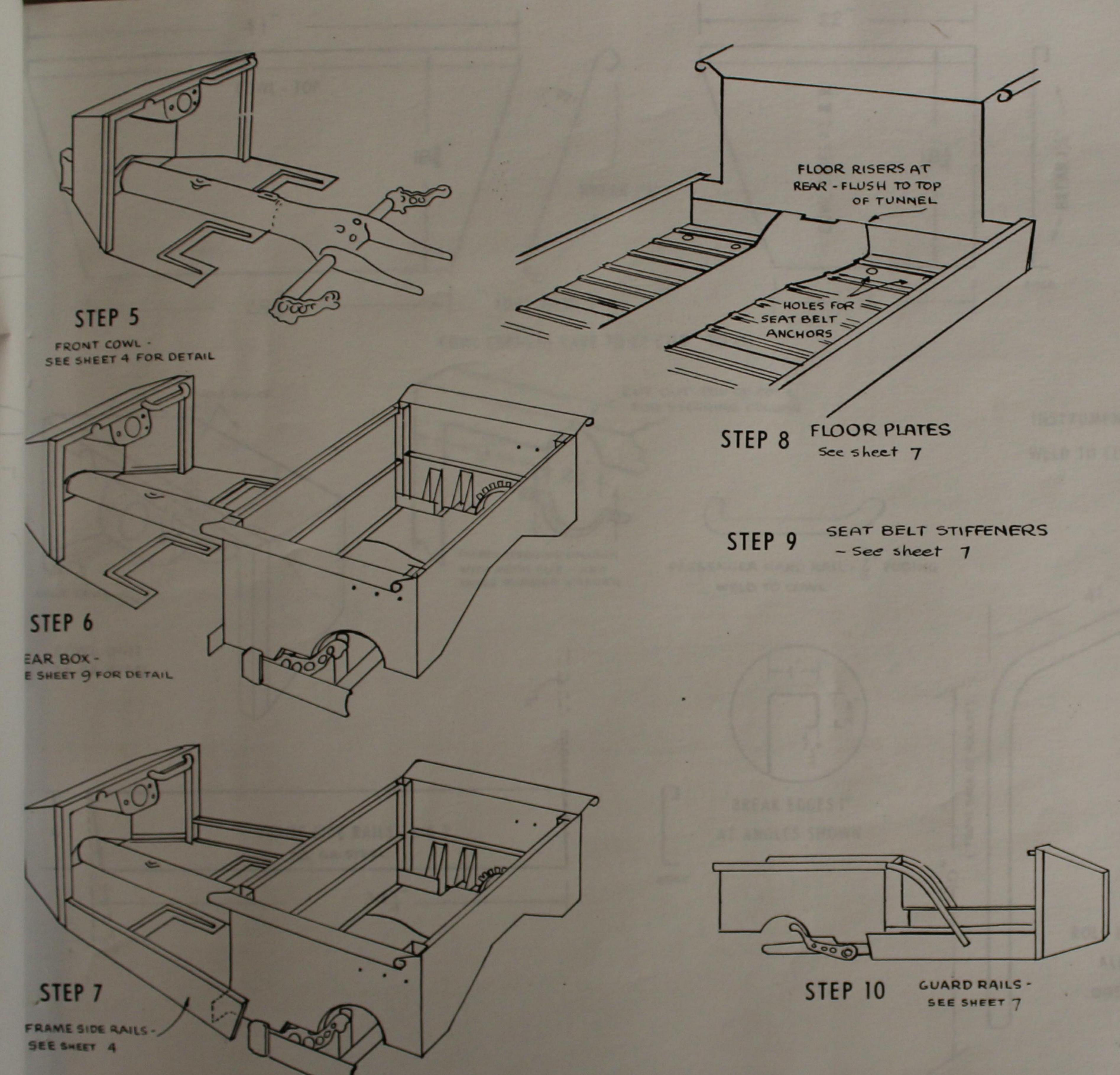
Be sure to line up the frame correctly so that it is square and true from wheel to wheel...using a diagonal cross check measurement.

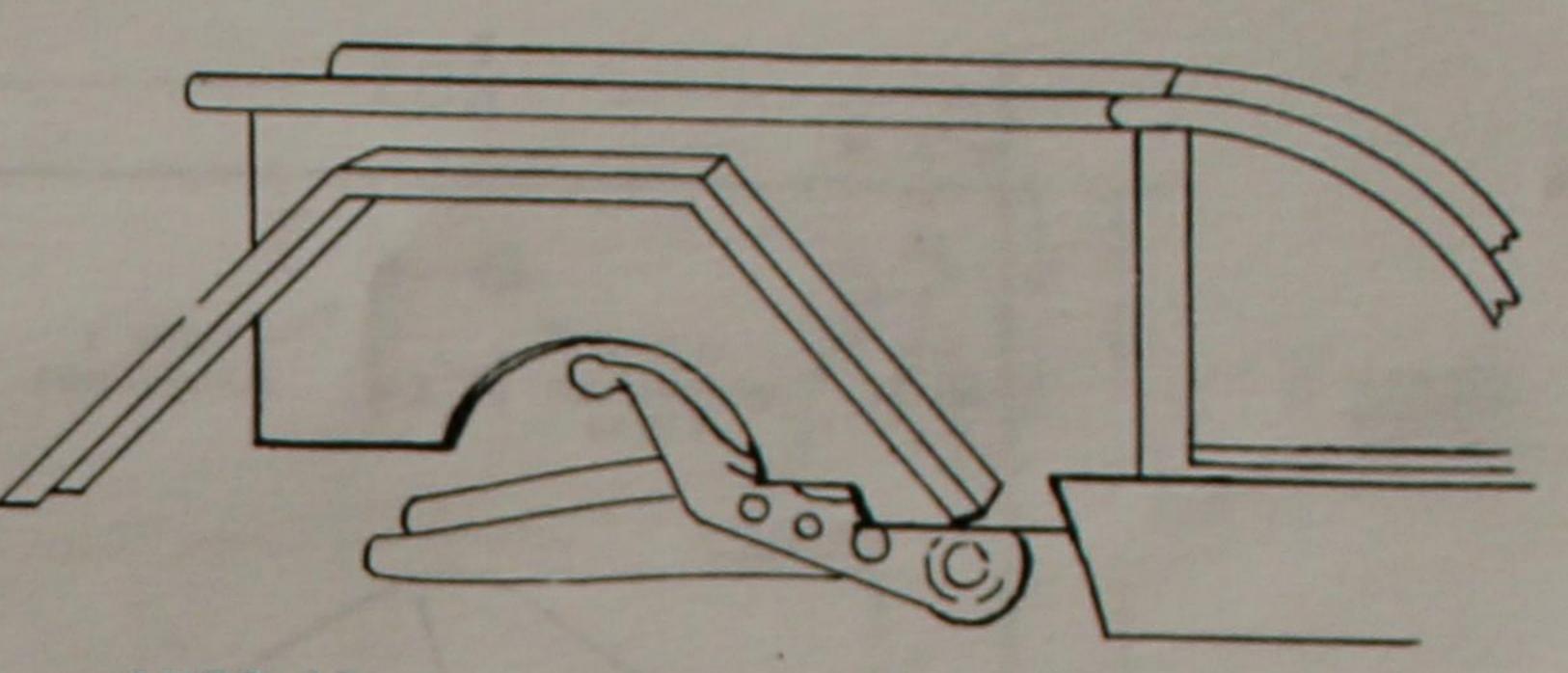
Torsion bar angles, on the VW, are normally 9-1/2° or 11°. For the Sportster, they should be changed to 15°. For the Corvair set-up, change the angle to 18°.

On the Corvair power plant, don't forget to turn over the ring gear in the rear end.

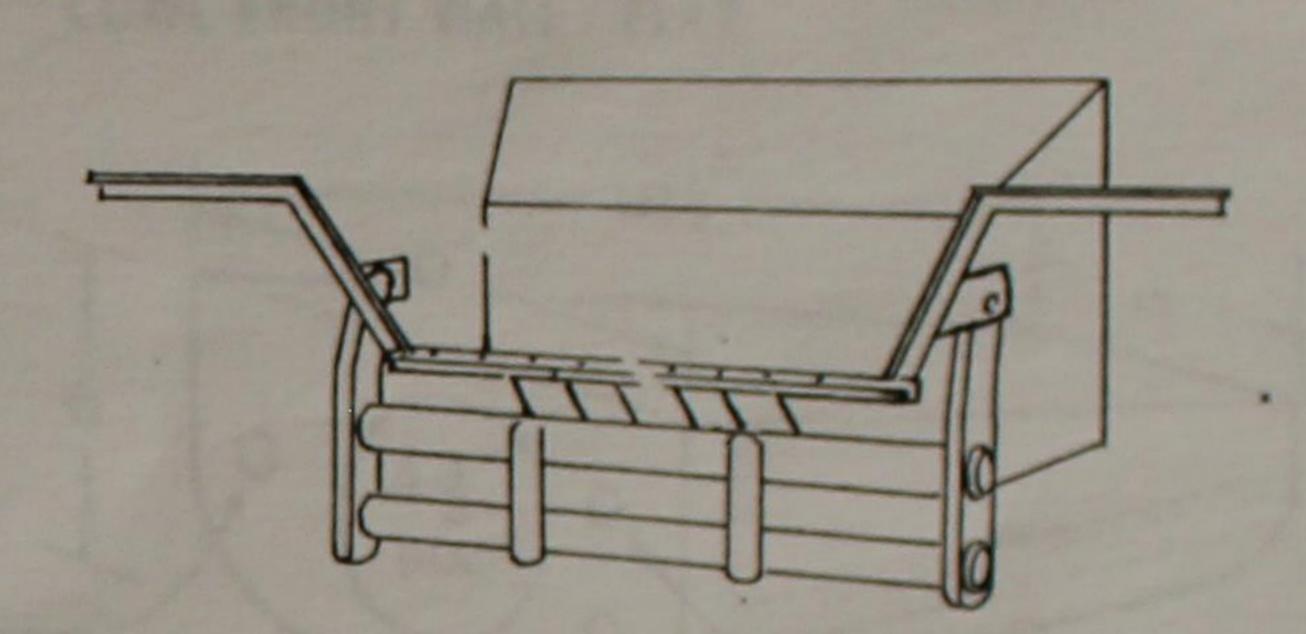
Here's to the success of your Sportster building venture. Every new Sportster owner and driver becomes a real enthusiast. When you "hit the road" drop us a line about your experiences, and, if possible, a snapshot or two. We'd sure like to hear from you.



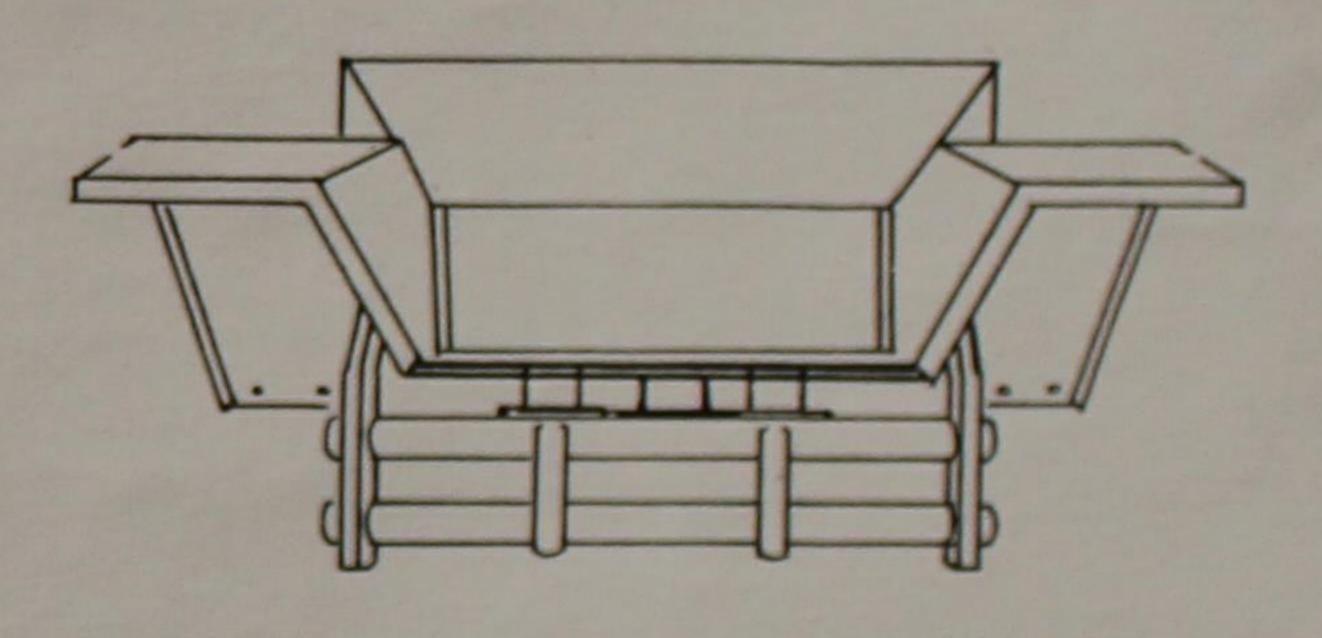




STEP 11 REAR FENDER-SEE SHEET 6



STEP 12 FRONT SUPPORT YOKE
SEE SHEETS 7 & 5

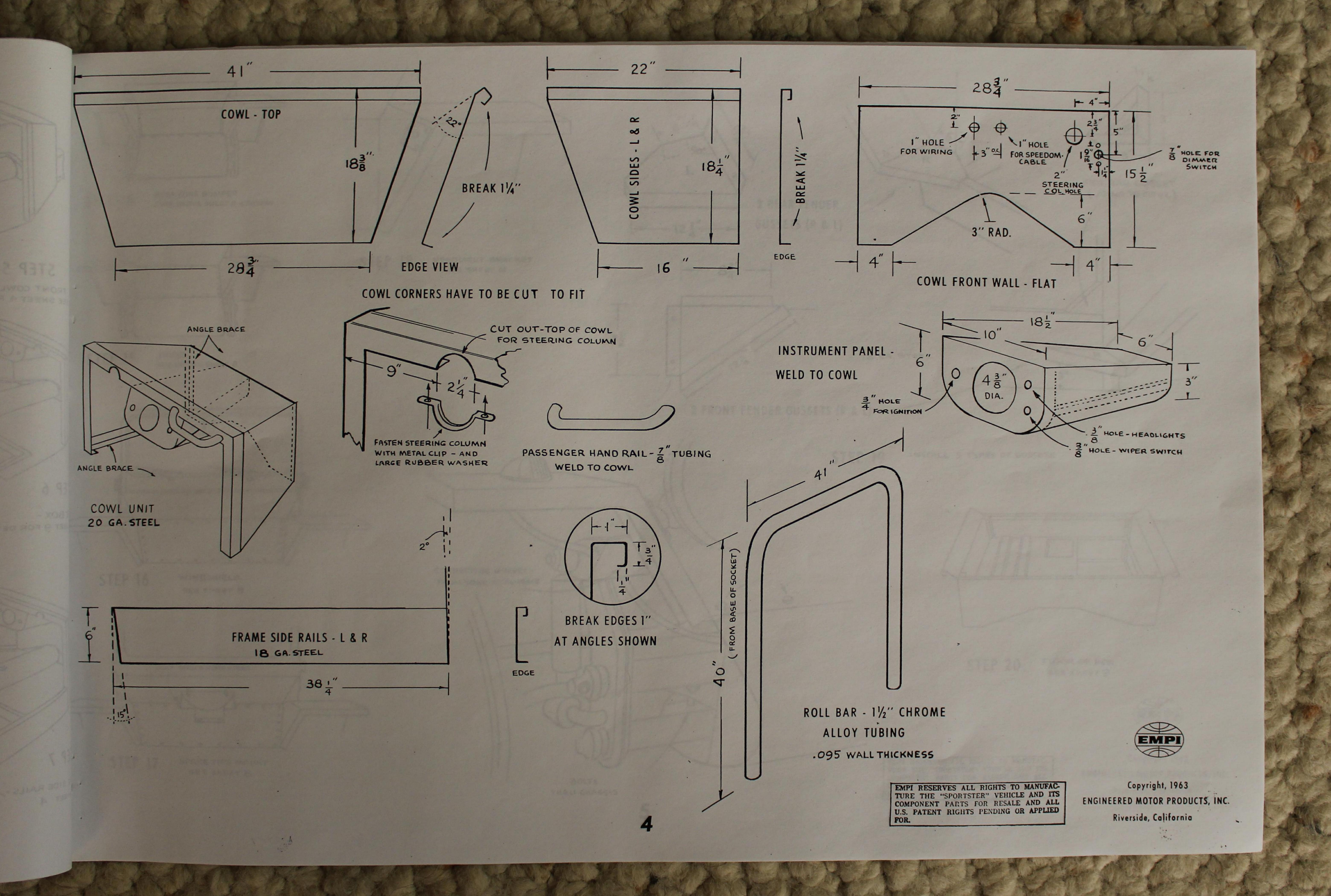


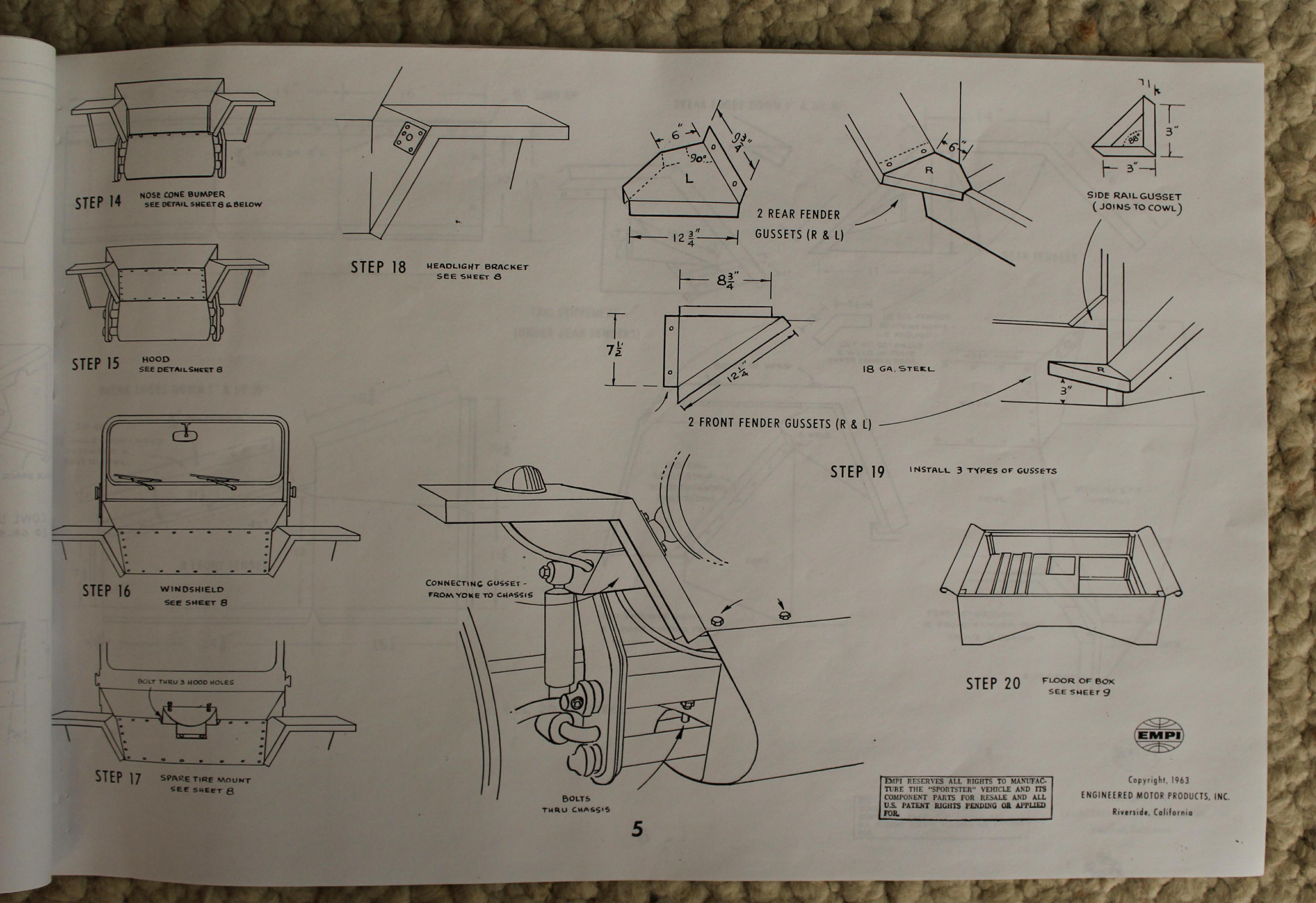
STEP 13 FRONT FENDERS-SEE SHEET 6

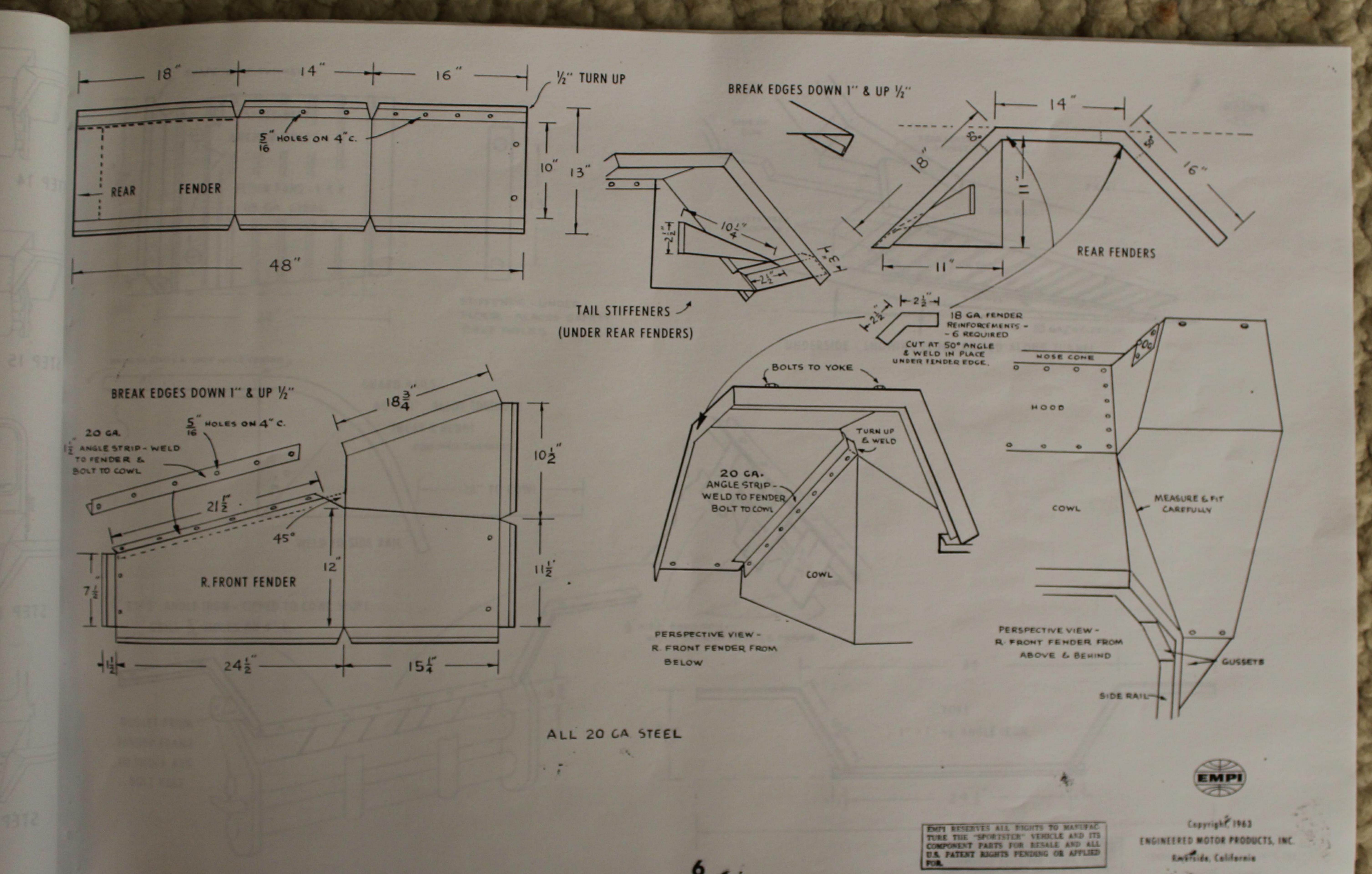


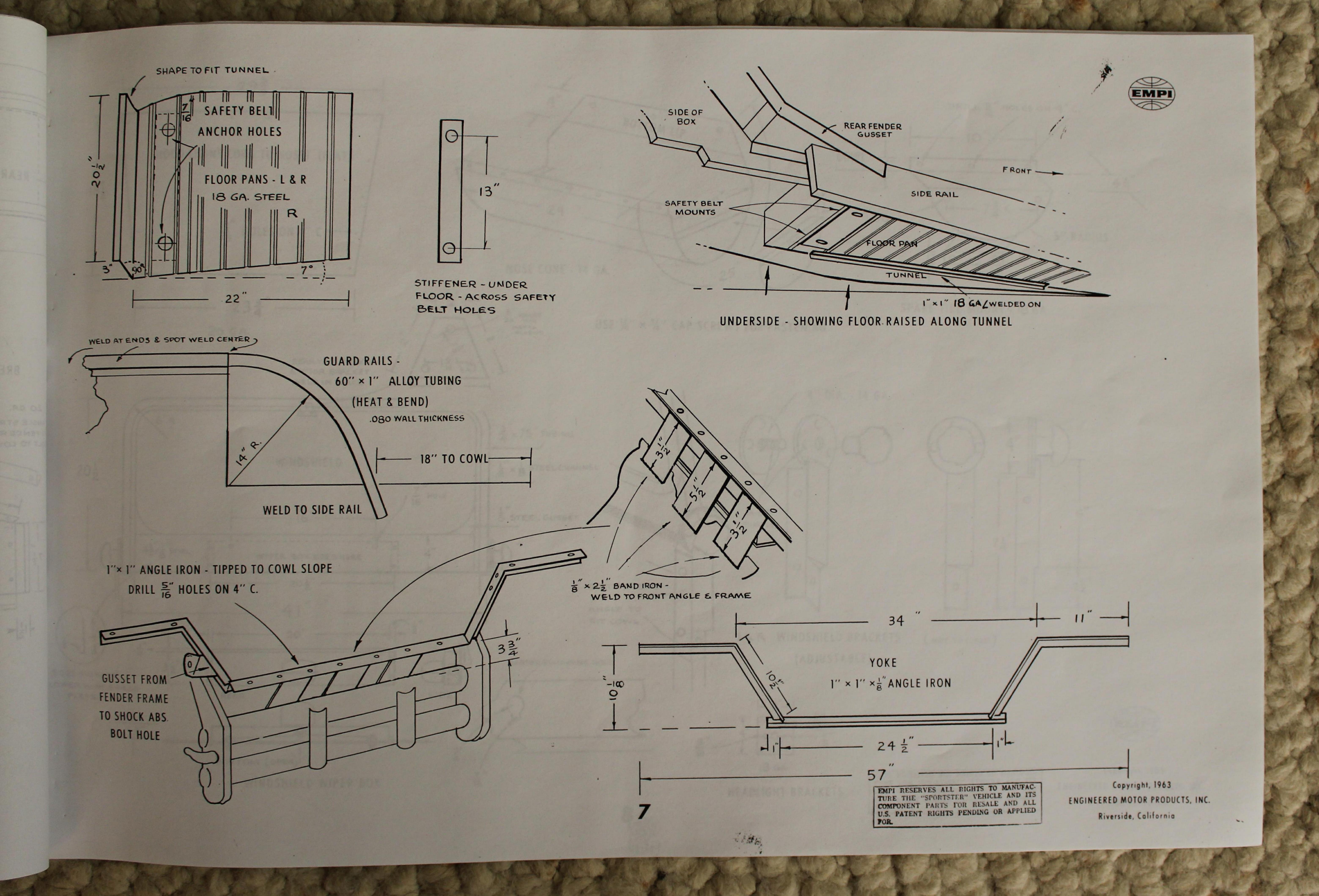
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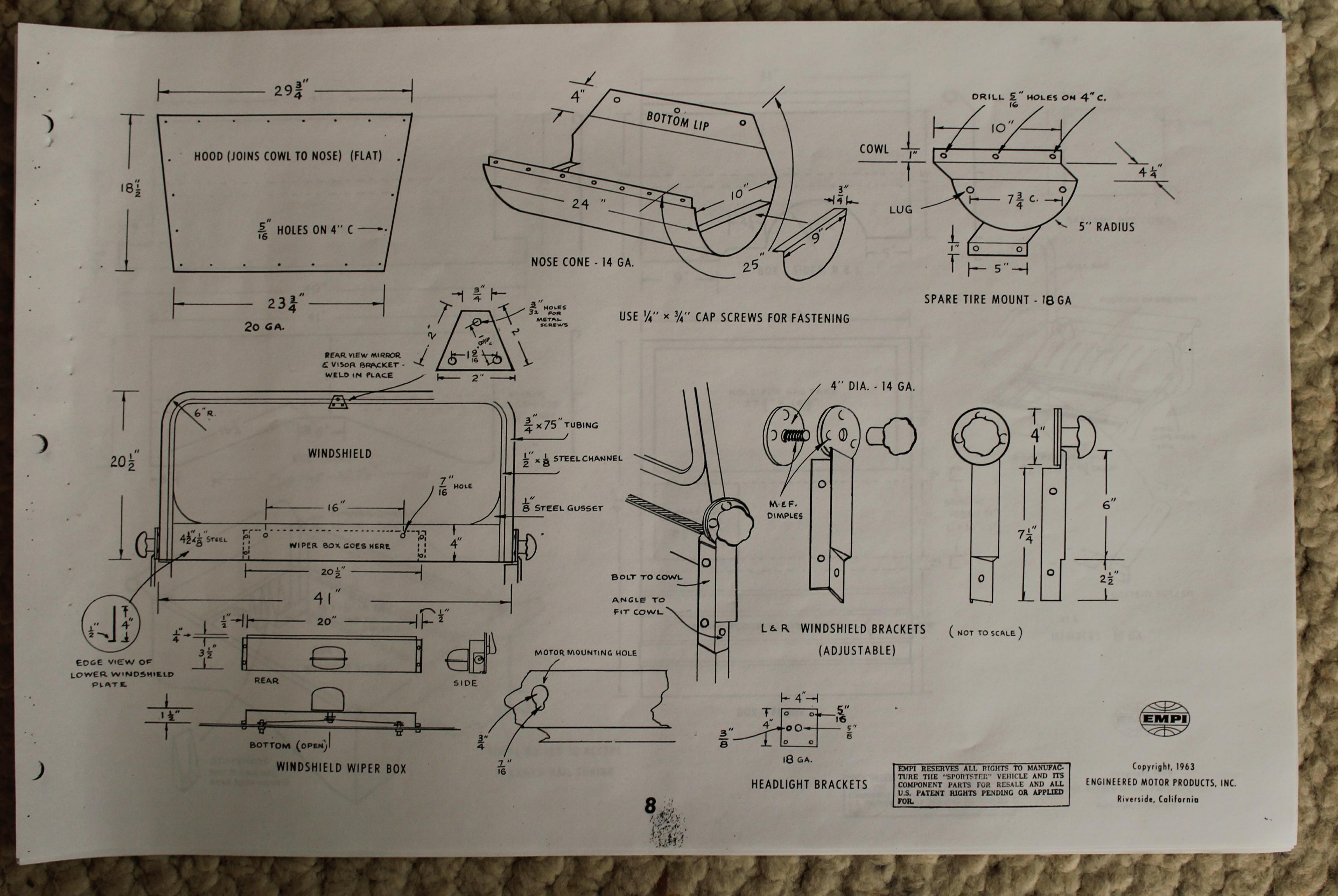
Copyright, 1963
ENGINEERED MOTOR PRODUCTS, INC.
Riverside, California

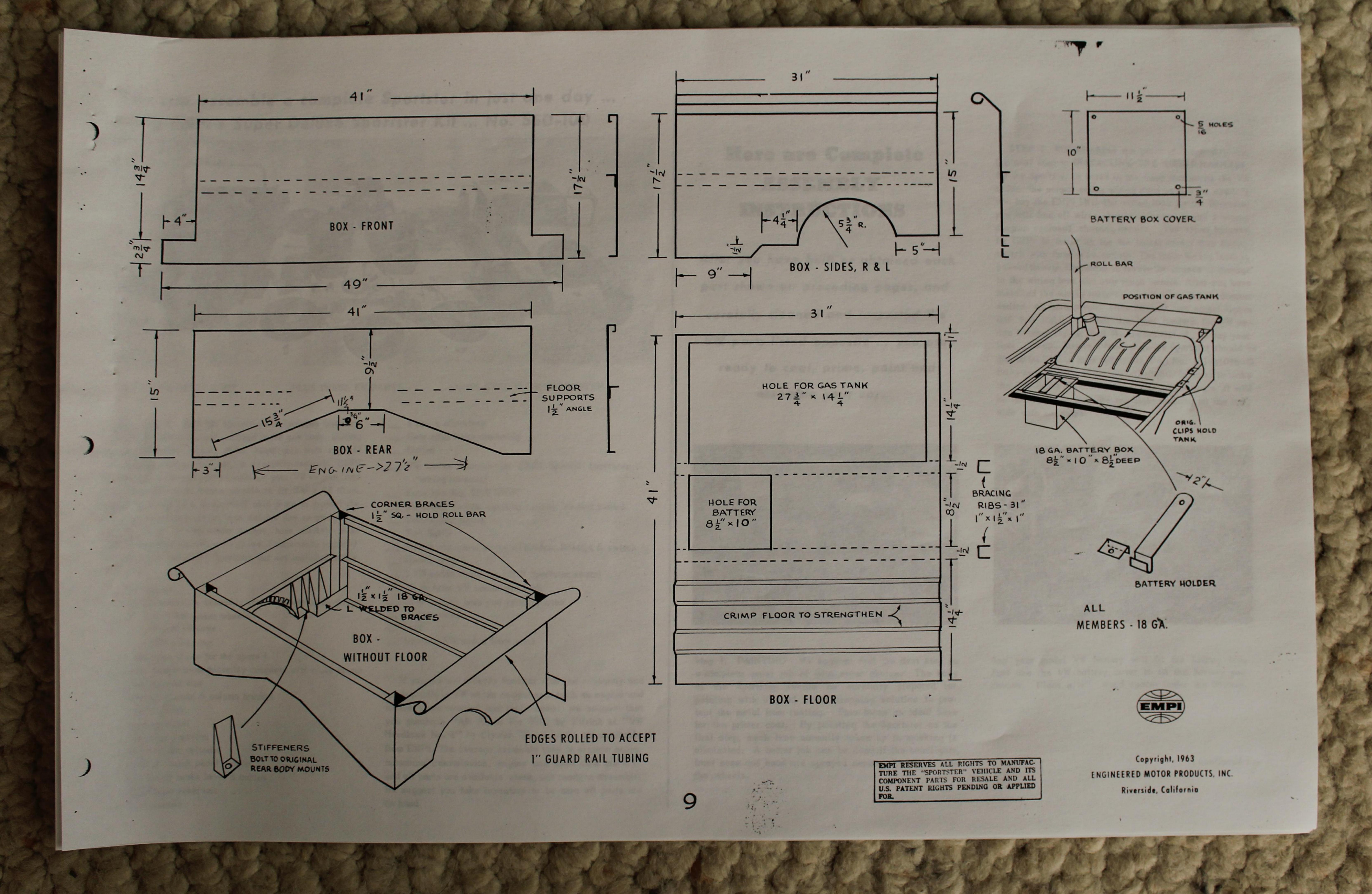




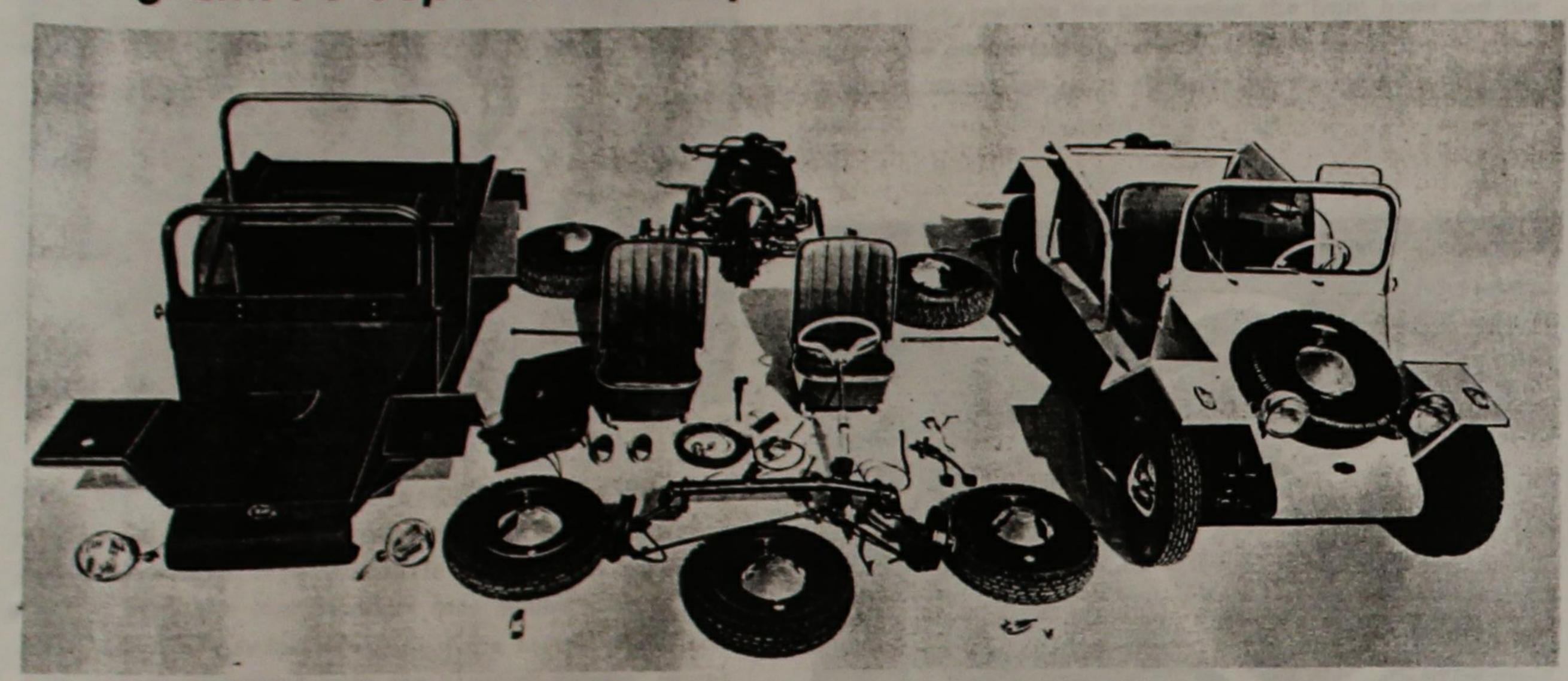








You can assemble a complete Sportster in just one day ... using EMPI's Super Deluxe Sportster Kit ... No. SSD-100



THE SUPER DELUXE KIT

PLUS THESE VW PARTS ..

.. COMPLETES YOUR SPORTSTER

The No. SSD-100 Sportster Kit includes complete all steel heliarc welded unitized frame and body, folding windshield with safety glass, headlights with six-volt seal beam units, roll bar, a specially-designed EMPI tuned extractor exhaust system for your VW engine, and the two rear wide based wheels to fit 800 x 14 tires. Also included is a heavy duty skid plate to protect the engine and transmission from damage due to going over rocky terrain, clutch cable clamps, horn bracket - fuse box clamp and shortened shift rod. Components required to complete the EMPI Sportster but not included in the Kit are:

___ VW engine

___ VW transmission assembly complete with brake drums

3 15" VW sedan wheels

3 560 X 15 tires

_ 2 800 x 14 tires

__ 5 hub caps (one for the spare)

Front suspension assembly complete with brake drums

__ Steering gear box

__ Steering column & column bracket

__ Steering shaft

__ Steering wheel

_ Turn signal switch

__ Master brake cylinder

__ Brake & clutch pedal cluster

_ Emergency brake lever & cables

. __ Brake fluid reservoir

__ Clutch cable

__ 4 shock absorbers

__ Gear shift lever assembly

___ Starter

___ VW sedan harness (or EMPI Special Sportster wiring harness)

___ Fuse box No. 1119 37037

___ Headlight switch, ignition switch, dimmer switch

__ Turn signal lights

__ Tail lights

___ Windshield wiper motor w/blades, linkage & switch

___ Speedometer

___ 2 VW sedan seats (or EMPI Sportster seats)

___ '61 or later VW sedan gas tank

- Rear torsion bars and spring plates

__ Battery cover

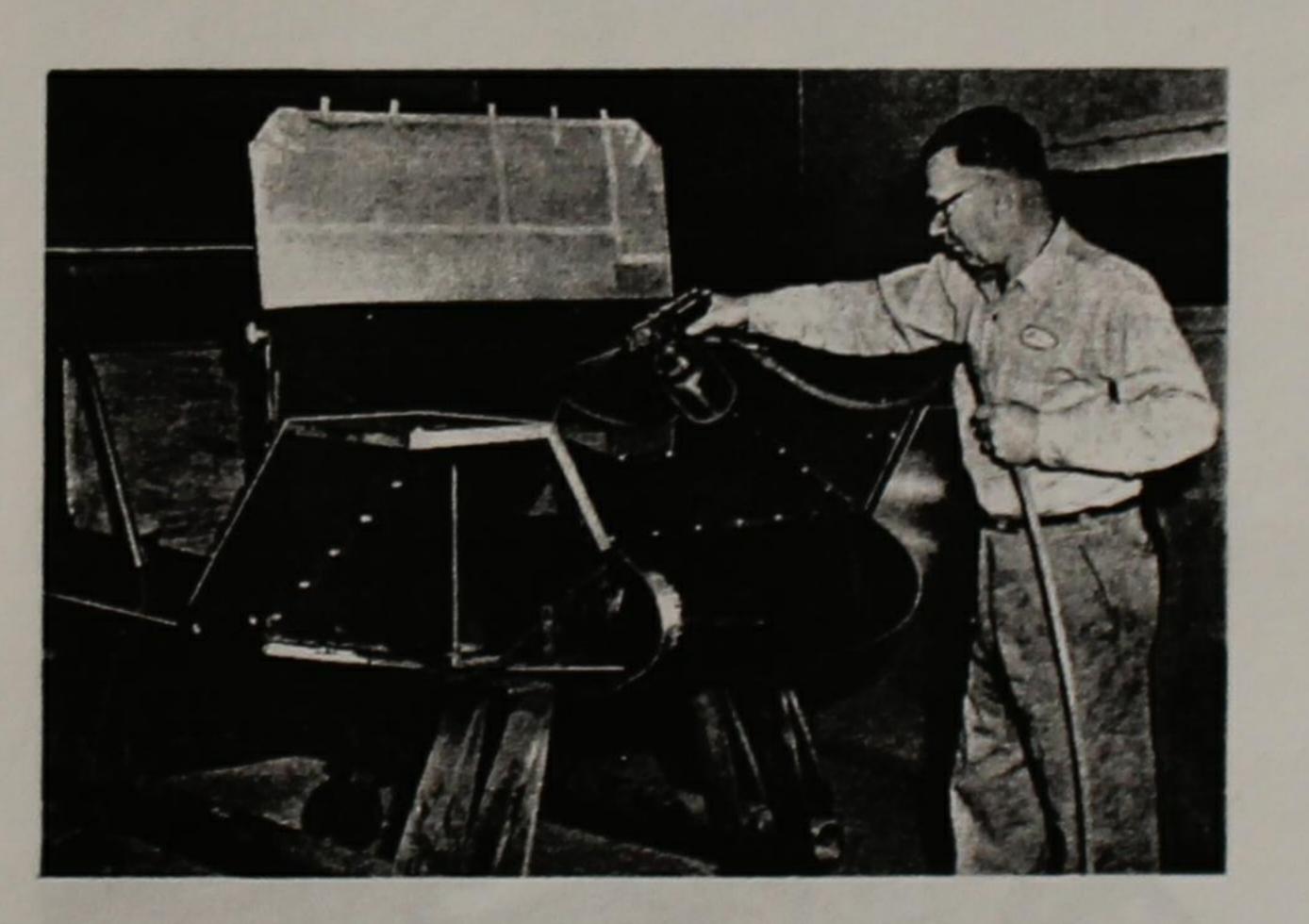
__ Horn

___ Standard VW sedan floor mats

If you are not already familiar with the assembly and disassembly of VW sedan components such as engine and transmission removal and replacement, we suggest that you purchase "All About the VW" by Elfrink or "VW Handbook No. 4" by Clymer. These books are available from EMPI. The average assembly time is sixteen hours, assuming transmission, engine and front axle are o.k. and all parts are available, clean, and ready to assemble. We suggest you take inventory to be sure all parts are on hand.

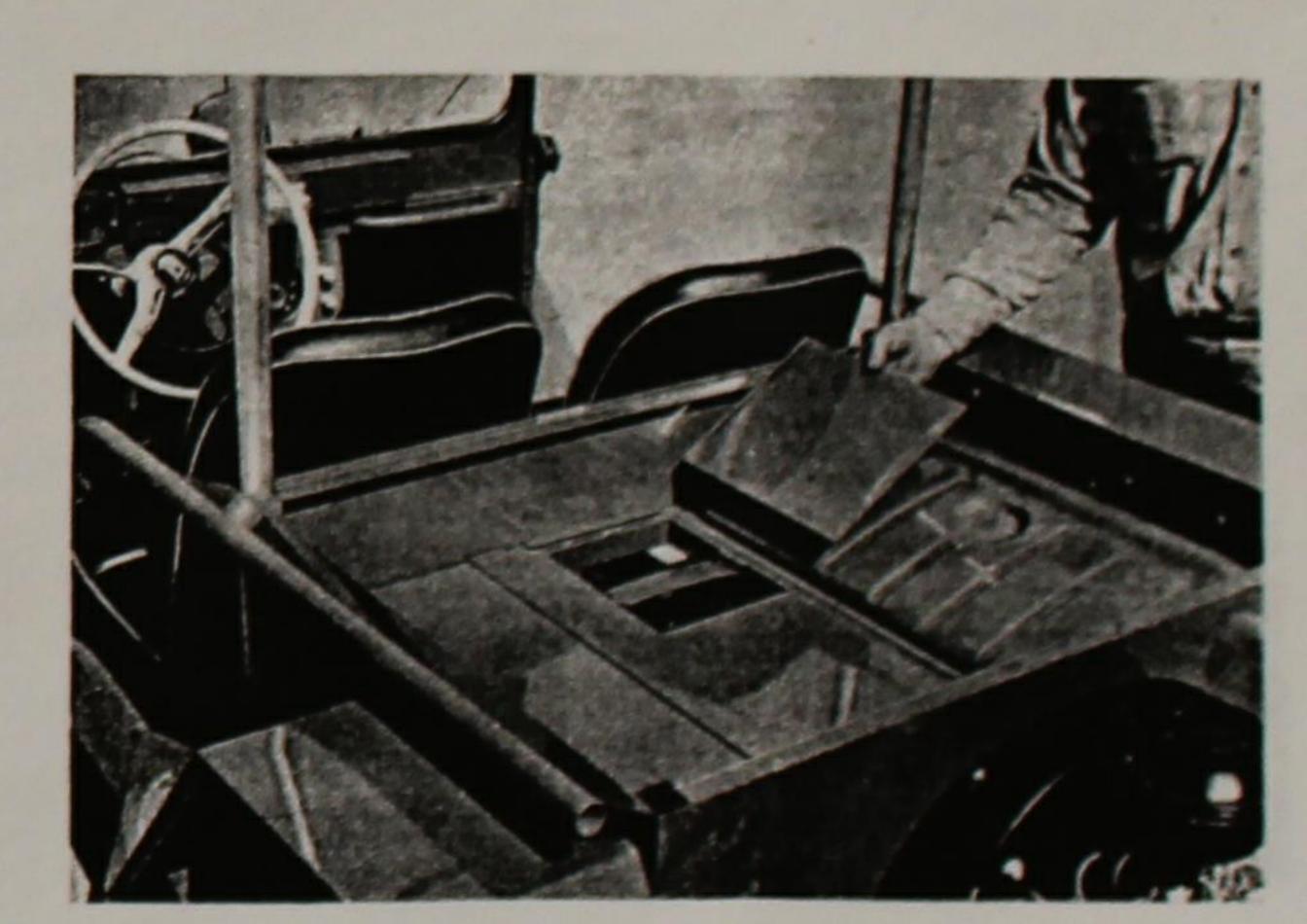
Here are Complete ASSEMBLY INSTRUCTIONS

After you have built or obtained each part shown on preceding pages, and carefully cleaned and inspected the VW parts listed opposite ... you are ready to coat, prime, paint and assemble your car.



Step 1. PAINTING - We suggest that the first step be a complete paint job of your color choice. The body of the Sportster should be carefully prepared for painting with a good metal prepping solution to protect the metal from rusting. This forms an ideal base for the primer coat. By painting the Sportster as the first step, much time normally taken up in masking is eliminated. A better job can be done if the headlights, front nose and hood are sprayed separately, along with the wheels.

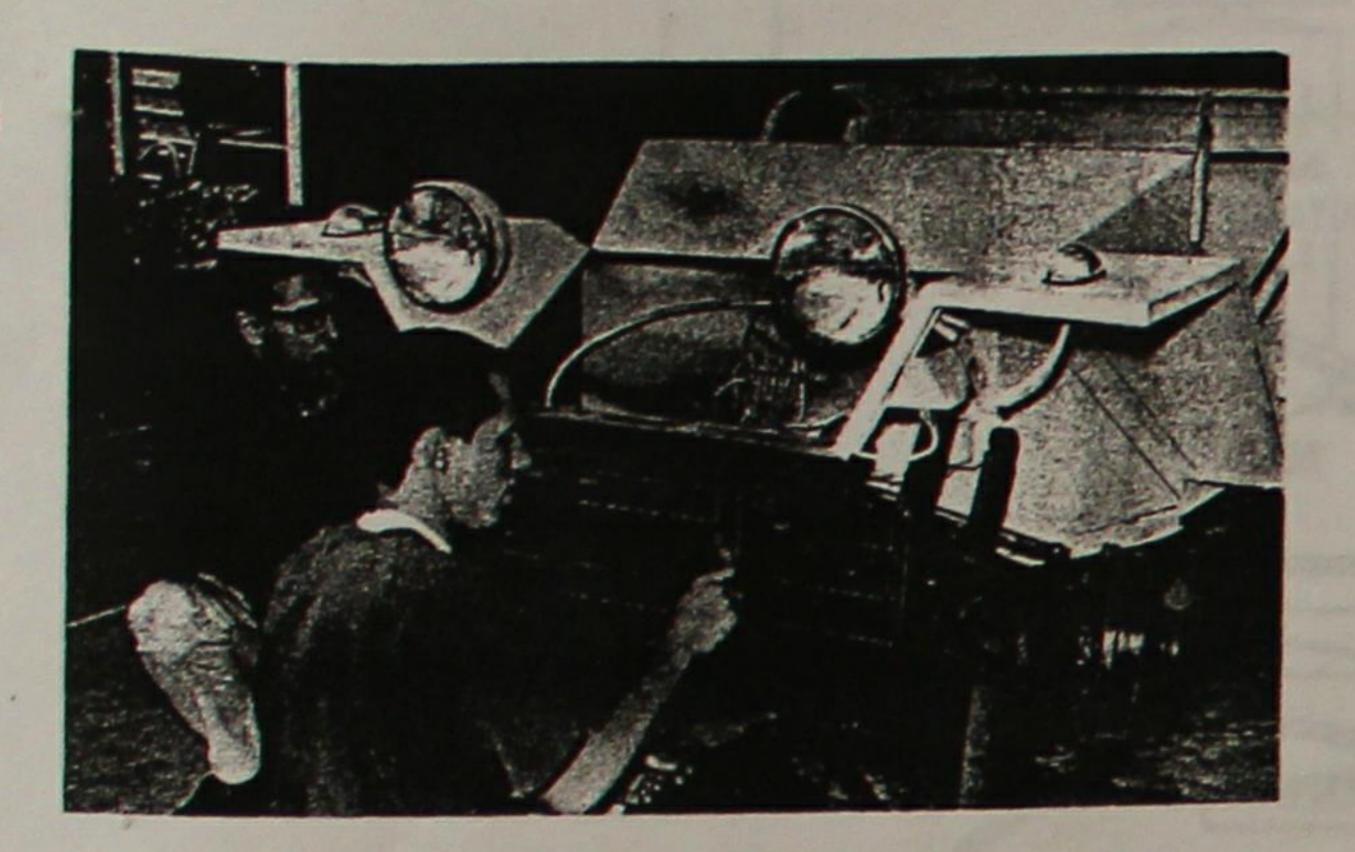
STEP 2. WIRING-After the paint is thoroughly dry, the next step is INSTALLING THE WIRING HARNESS. As the Sportster is wired in the same manner as the VW sedan, the normal sedan wiring diagram may be used. If you buy the EMPI SWH-450 wiring loom for the Sportster you will find all wires plainly color-coded and a wiring diagram enclosed, showing details. The wiring harness by EMPI is made up for the latest model turn signal switch with three wire outlets. The main wiring loom is passed through the tunnel to lessen the chance of damage to the wiring from use over rough terrain. After you have installed the wiring loom, connect the headlights, dimmer switch, all instruments. Then connect turn signal lights and tail lights. Drill the front fenders for VW sedan flasher lights, Part No. 113953041-A, of any year from 1958 up. The rear fenders on the Sportster should be drilled for 1962 or later tail lights, Part No. 111945095-G (left) and Part No. 111945096-G (right). In order to make the tail lights fit the fender at the proper angle, it will be necessary to trim the tail light housing on the long side with tin snips.



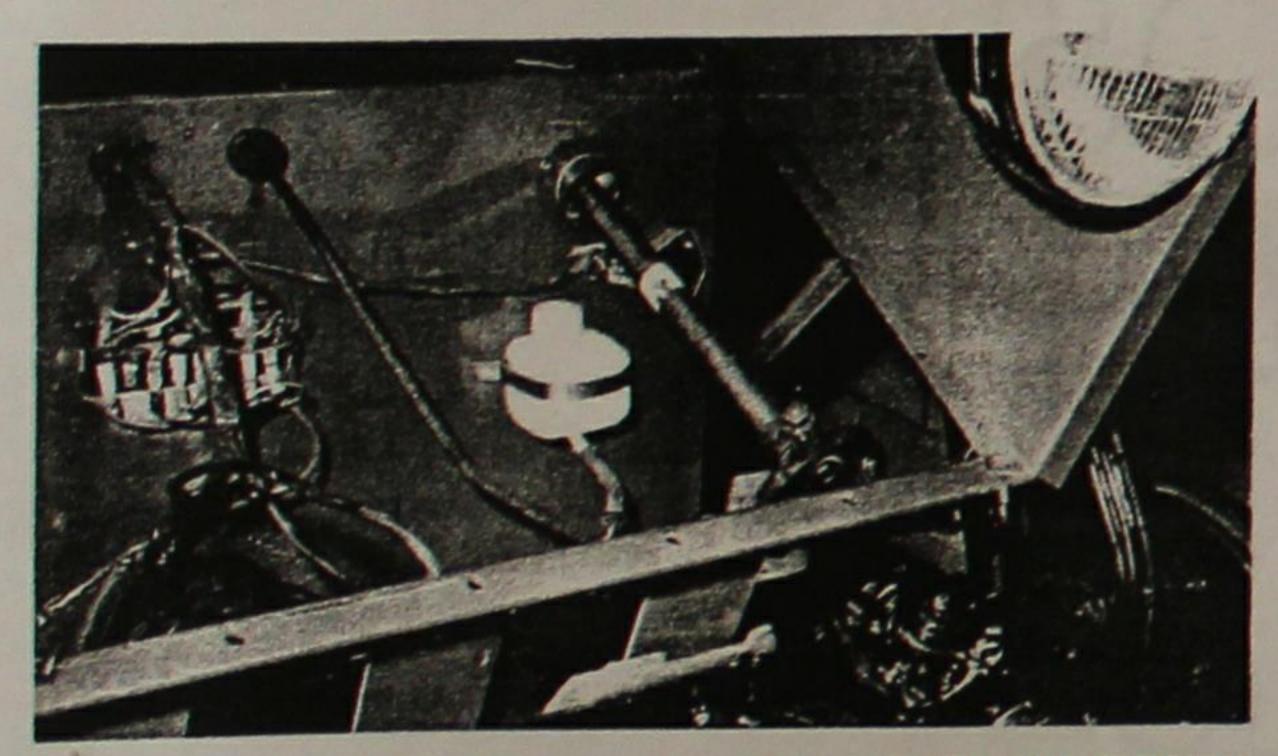
Any year model VW battery will fit the battery box. Just use the VW battery cover to fit the battery you choose. Place a ½" wood spacer under the battery.

(continued)

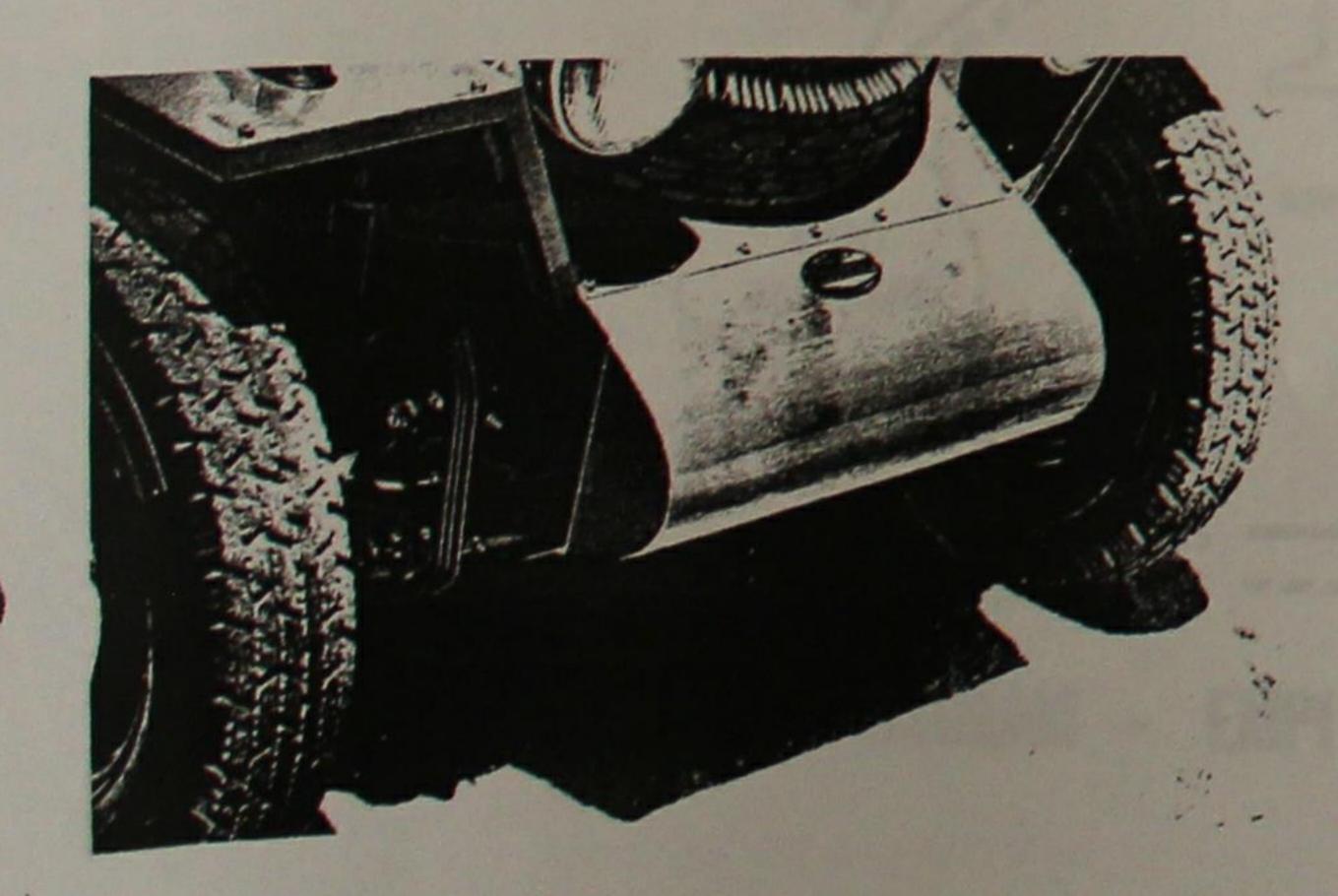
ASSEMBLING THE SPORTSTER, cont'd.



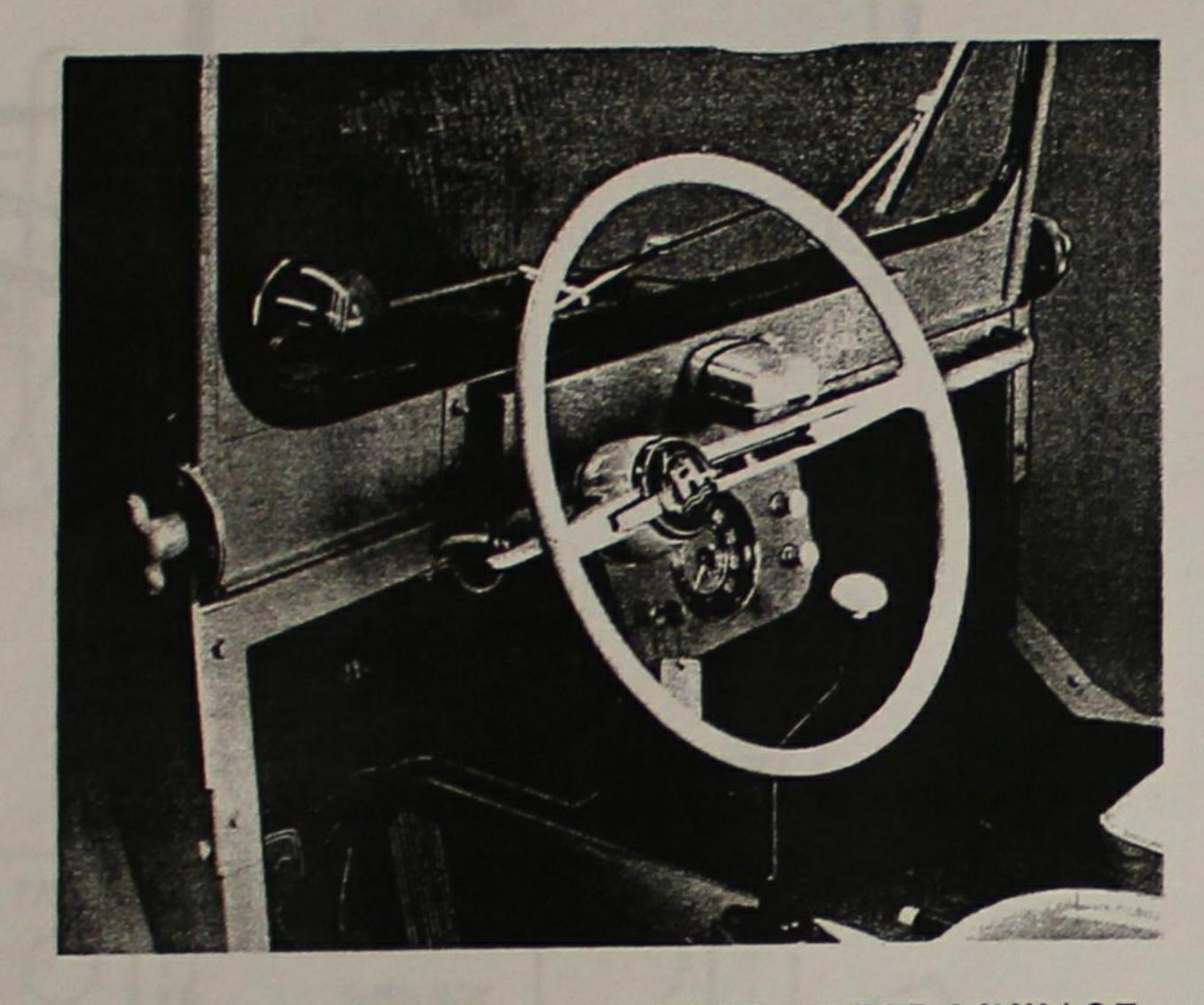
TION OF THE COMPLETE FRONT AXLE ASSEMBLY with steering gear box, steering column, steering wheel and front shocks. The front axle assembly is bolted in position with the four standard axle mount bolts as are used on the VW sedan. Make sure the steering gear box is in proper alignment with the steering column. Mount the steering column, just under the top edge of the cowl, using the stock sedan steering column clamp and bolts.



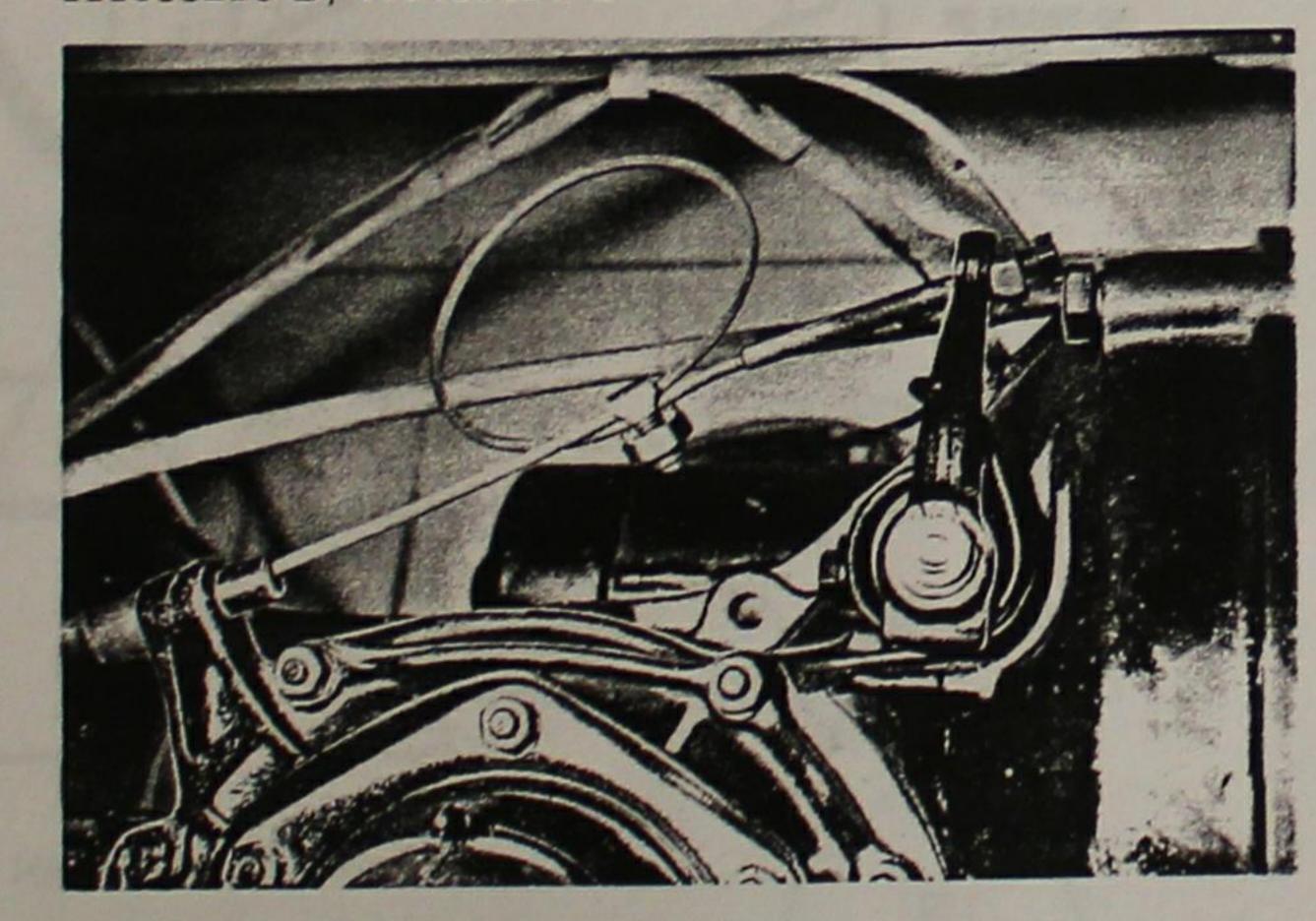
VOIR as shown in Step 4 picture, install the master cylinder and connect the front brake lines. The brake fluid reservoir is a normal late model VW sedan component.



Then, after you have double checked your wiring and your brake lines, replace the nose cone, the front hood and the spare tire mount and spare wheel. Be sure to replace the washers under the hood bolts to prevent scratching the paint.

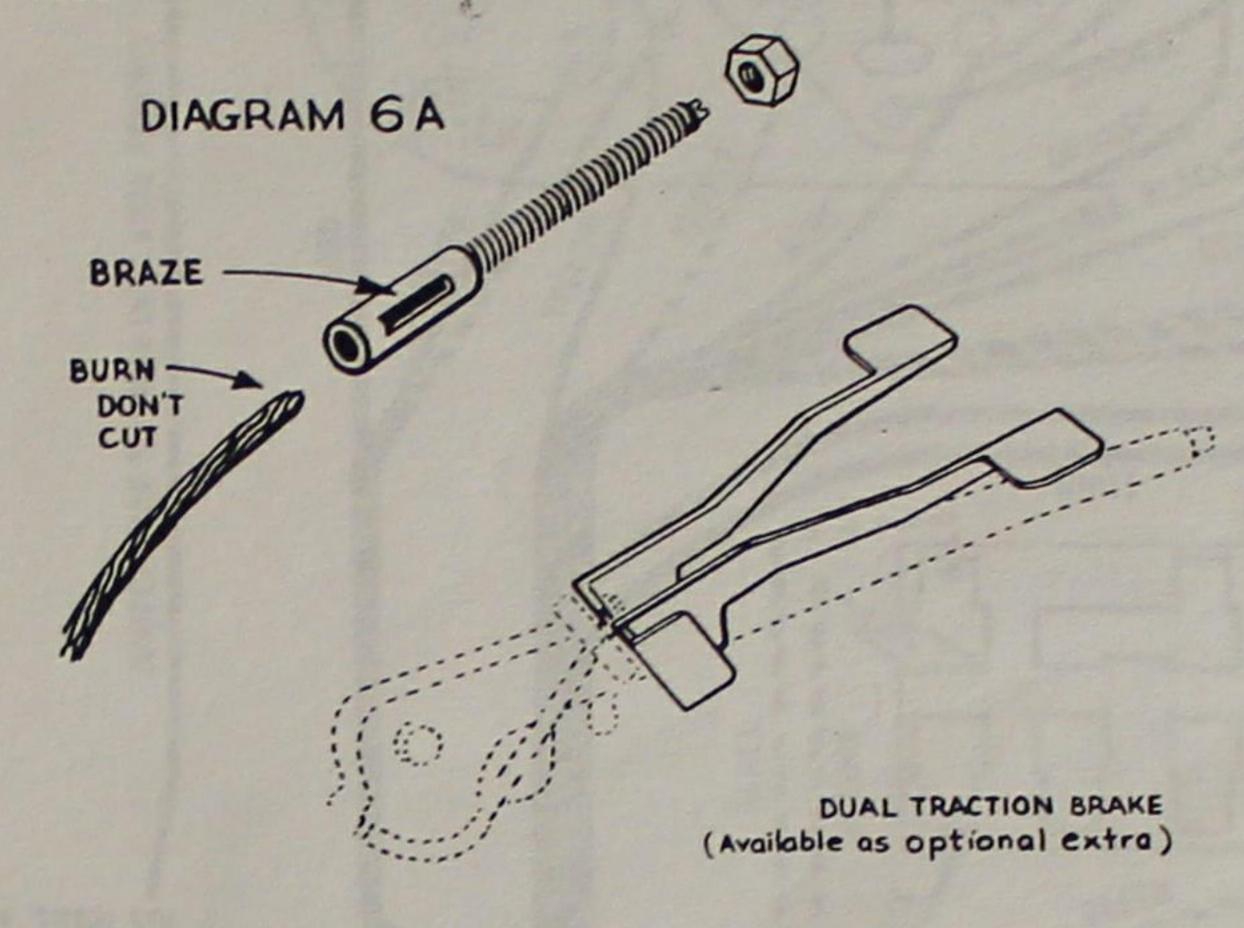


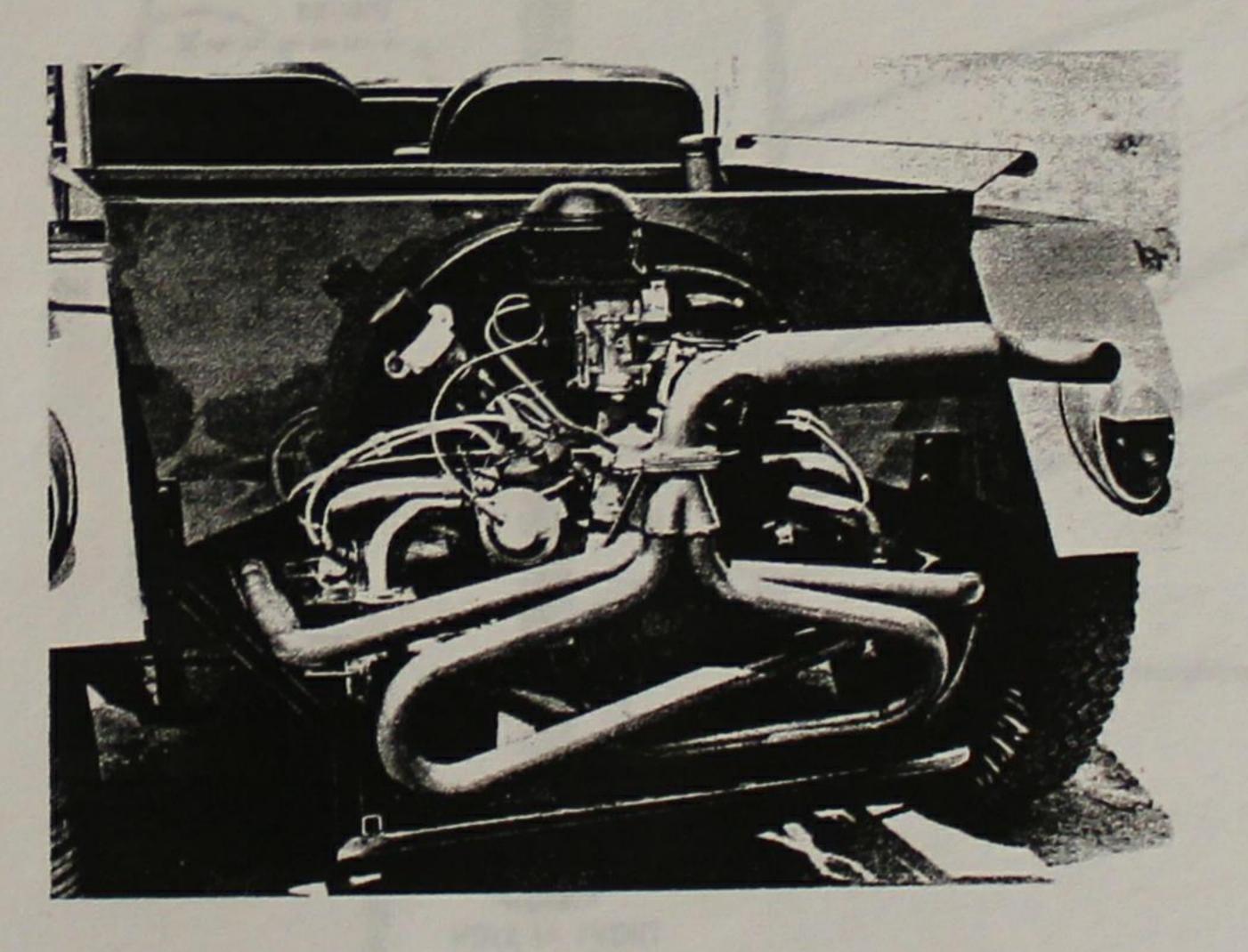
on the windshield assembly. The EMPI windshield is drilled and the bracket furnished is made to accept the 1964 VW sedan linkage, Part 111955305 B, 111955325-A, 111955215-B, 111955216-B.



STEP 6. INSTALL TRANSMISSION ASSEMBLY, REAR SHOCK ABSORBERS & WHEELS. Connect clutch cable and shorten with loop and clamp as shown in Step 6 picture. Be sure the shifting rod is in alignment with the shifting rod in the frame. Your new Sportster is designed for a late model syncromesh transmission. The older transmission may be used by altering the front mount.

To SHORTEN HAND BRAKE CABLES, simply pull cables through base of brake handle until desired tension and/or slack is obtained. (Vise grips may be used as a temporary clamp for the adjustment process.) Mark cables with chalk and cut as shown in diagram No. 6A. Make cut with a torch to prevent cable from raveling, allowing about 3/4 " of excess cable to braze on a new tip, being careful not to get cable too hot. Use low temperature rod.



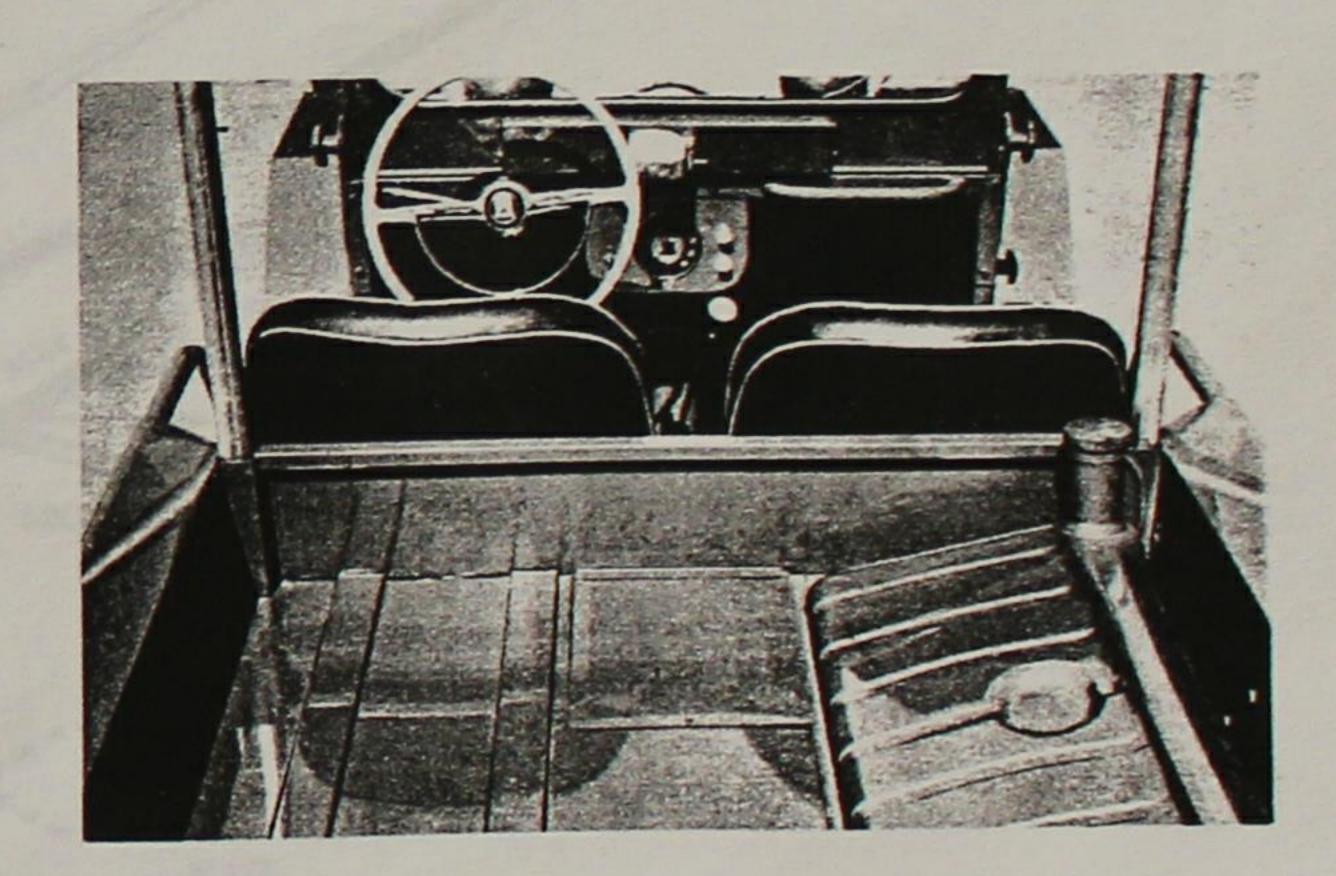


ground clearance, we recommend that you remove the junction boxes and heater assemblies. The standard exhaust system is not usable because of the low position. The EMPI high clearance exhaust system is made to fit exactly the 1961 and later VW engines and with a little bending, it may be used on the earlier engines. The exhaust system may be mounted either before or after the engine is mounted to the transmission.

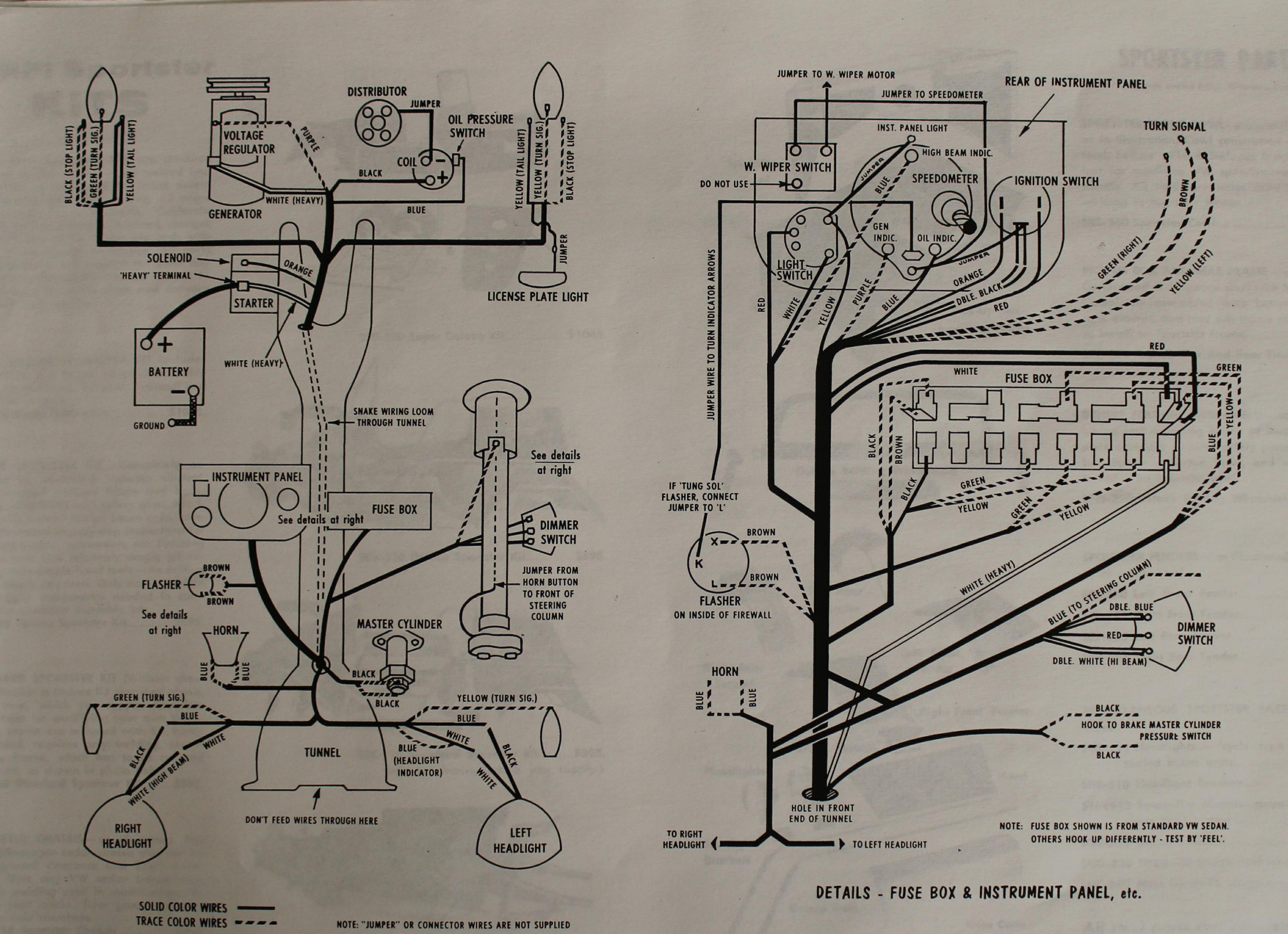


STEP 8. INSTALL THE SKID PLATE using the bolts furnished. Be sure to fasten center bolt in the front of skid plate.

or EMPI special seats may be used. If you are using the normal VW sedan seats, it will be necessary to shorten the seat frame for a lower seating position as the floor in the Sportster is higher than the VW sedan. Cut seat frame tubes and reweld in place as shown. Slide seats in place on tracks as in normal VW sedan.



('61 VW up). The gas tank is held in place using the clips from a VW sedan and the special locking bolts furnished. The gas tank is a close fit between the roll bar support brackets in the Sportster rear section and in some instances the corners of the tank must be notched to fit roll bar bracket to enable the gas tank to fit into place. Connect the gas line to the gas tank, fill with gas, check your engine oil, your transmission oil, bleed and adjust brakes, check front end alignment. Start it up and have fun!



WIRING DIAGRAM - EMPI 'SPORTSTER" - Using SWH-450 EMPI Wiring Loom as applied to '61 and later models. P. O. BOX 668 RIVERSIDE, CALIF. 92502



EMPISportster KITS

The EMPI Sportster® Kits are precision built of quality steel, heliarc welded and reinforced to withstand the most severe use. Primed, ready for painting. All prices are quoted F.O.B. Riverside, California factory and if crating is required, charges for crates are extra. Terms are cash with order or an receipt of invoice. All parts and accessories are shipped the same day from stock. Assembled kits are subject to prior orders. Write for price and delivery on completed vehicles.

SUPER DELUXE SPORTSTER KIT includes
SDK-110 Kit (see below) plus Roll Bar, Skid
Plate, Dyna-Tuned Exhaust System, and
Wide-Rim Wheels.

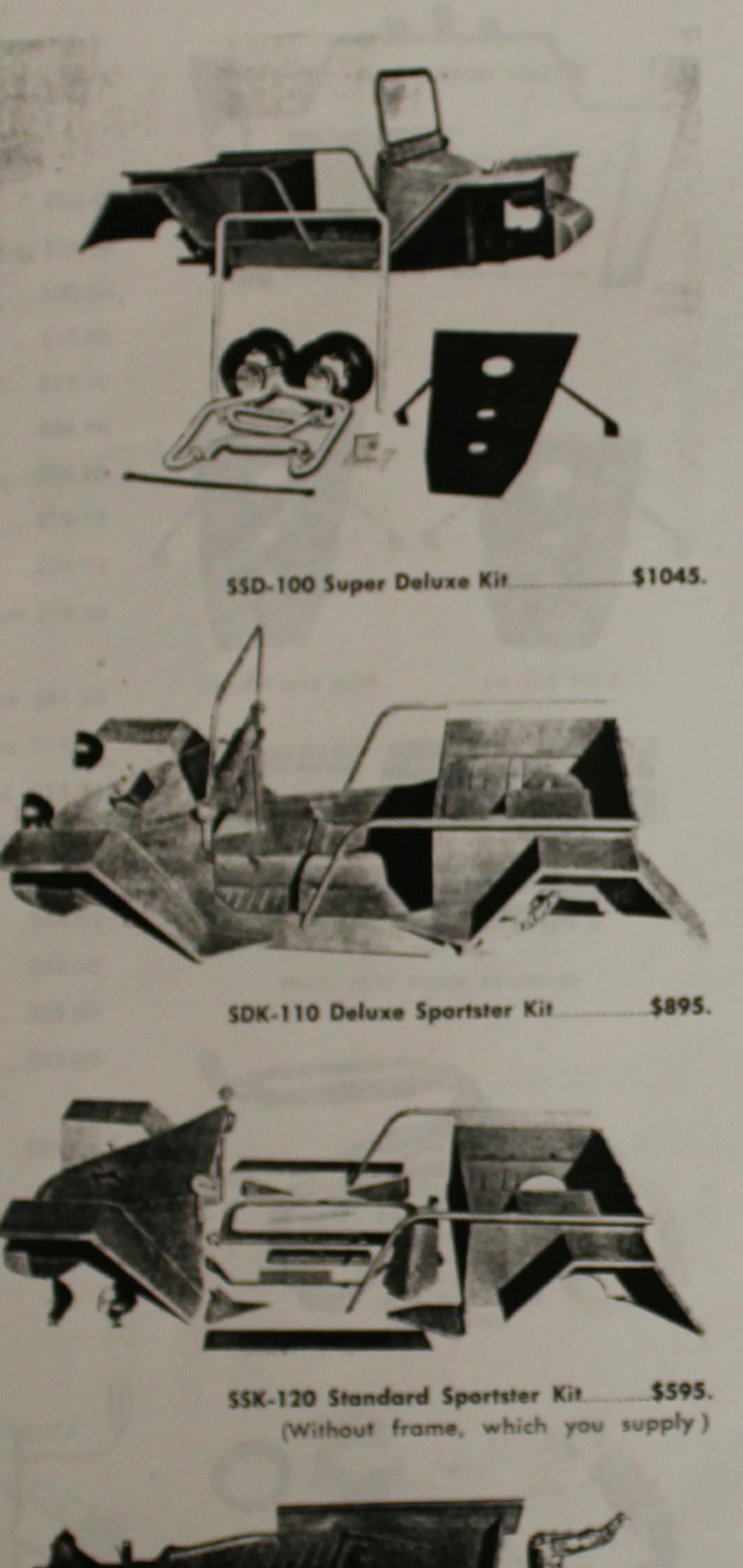
SSD-100 Super Deluxe Kit \$1045.

sembled as illustrated. Includes all-steel, heliarc-welded unitized frame and body, folding windshield with safety glass, headlights with six-volt sealed beam units, complete illustrated step-by-step instructions for installing engine, suspension, etc. Finishing the Sportster is a relatively simple job requiring only simple hand tools — no drilling or welding is required. Only easy-to-obtain Volkswagen components needed to complete the pleasant assembly job.

SDK-110 Deluxe Sportster Kit \$895.

sportster CHASSIS — as illustrated. This is a Valkswagen sedan chassis modified for high ground clearance and 82%" wheelbase. Uses any VW sedan transmission. Heliarc welding used in modifications. Includes seat tracks, flaar pans, and bassection side members.

Above prices quoted FOB Riverside, Calif.





SCH-230 Sportster Chassis....

\$295.



SPORTSTER PARTS

All prices quoted F.O.B. Elverside, Colif.

sportster front cowl—completely assembled as in illustration. Cowl constructed of 20-gauge steel, heliarc welded. Includes instrument panel (cut for mounting VW speedometer) and grab handle. All necessary holes drilled. Ready for welding to Sportster frame.

SFC-260 Sportster Cowl \$126.

Constructed of 18-gauge steel with heliars welds.

Completely assembled with battery box, gastank mounts, and rear sub-frame mounts. Ready to install on Sportster frame.

SPB-350 Pick-Up Box And Rear Frame \$132.

hinges and adjusting knobs as illustrated. Complete assembly includes safety glass and mounts for rear-view mirror, visor, and wiper. Ready to install on Sportster cowl.

SFW-290 Deluxe Folding Windshield \$124.

SPORTSTER FENDERS — as illustrated. Constructed of 20-gauge steel.

SFF-270 Left Front Fender	\$32
SFF-271 Right Front Fender	\$32
SRF-390 Left Roor Fender	\$24
SRF-391 Right Rear Fender	\$24

MISCELLANEOUS SPORTSTER PARTS - OS Illus-

SHL-320 Headlights - 'cycle type sealed beam units	Pair \$36.
SHB-310 Headlight Brackets	Pair \$3.
STM-440 Spare-Tire Mounts-mounts spare tire on cowl	wheel and
SGR-300 Guard Rails	
SHO-330 Hood-20 gauge steel const	
SNC-340 Nose Cone-12 gauge steel	

All steel parts rust-proofed, primed -ready for painting

EMPI MEANS PRODUCT INTEGRITY

PRICES AND SPECIFICATIONS SUBJECT TO CHANGE

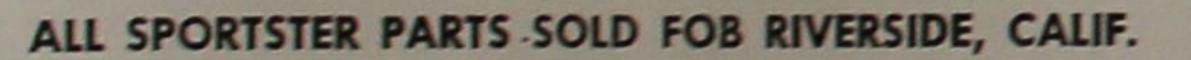


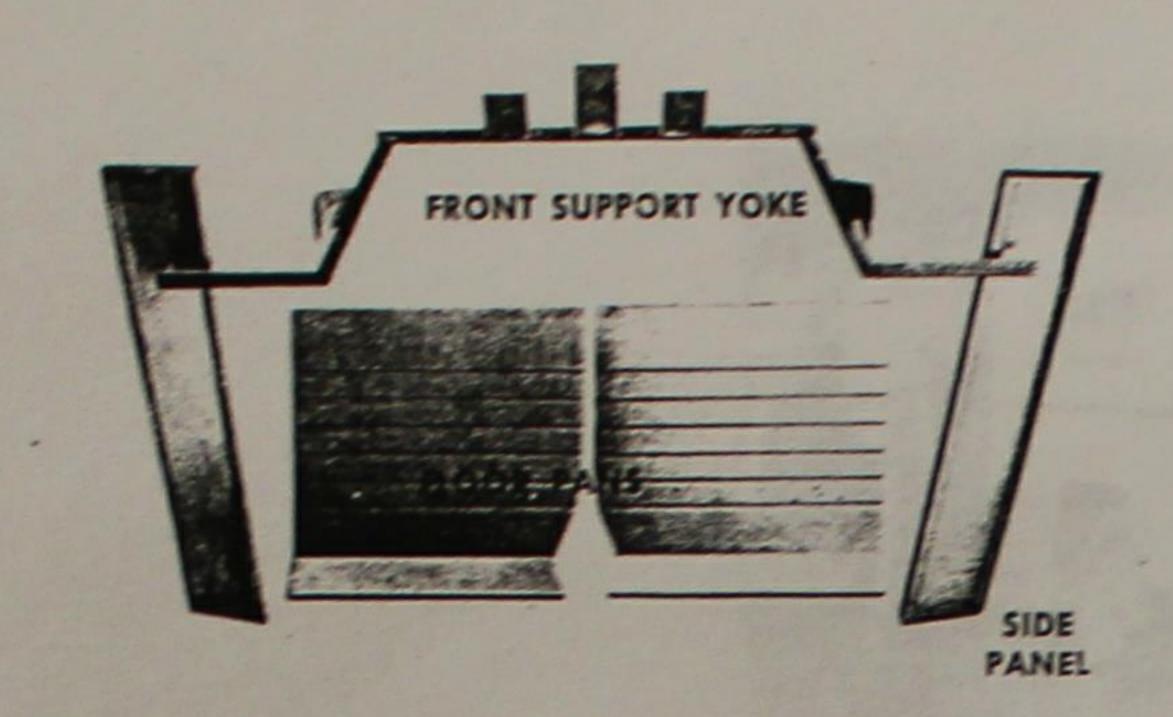
ENGINEERED MOTOR PRODUCTS, IN

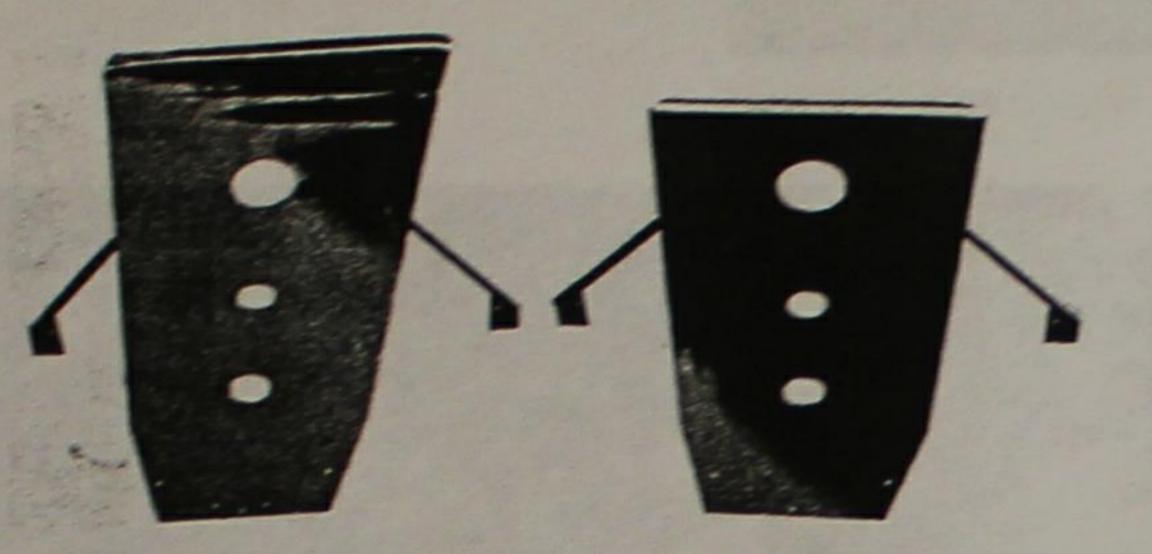
P. O. BOX SER, RIVERSIDE, CALIF. 92502

EMPI SPORTSTER PARTS (cont'd.)

SSP-400 Side Panel, left	\$24.00
SSP-401 Side Panel, right	\$24.00
SSY-410 Front Support Yoke	
SFP-280 Floor Pan, left	
SFP-281 Floor Pan, right	
SPL-370 Skid Plate, VW engine	
SPL-371 Skid Plate, Corvair engine	
SRB-385 Roll bar, not plated	
SRB-386 Roll Bar, chrome	
SWW-460 Wide-Rim Wheels (7 1/4 x 14) each	
STI-430 800 x 14 Armstrong Tires	
(includes Excise Tax)each	\$31.50
HSAV-130 Heavy-Duty Shock Absorbers, frontea.	
HSAV-131 Heavy-Duty Shock Absorbers, rearea.	
SXS-470 EMPI designed Extractor Exhaust System -	
Fits all VW engines. Boosts power 7-10%.	
Eliminates back pressure.	\$54.95
SAE-200 Corvair Engine Adapter Plate	
SAS-220 Corvair Engine Starter Adapter	\$25.00
SAF-210 Corvair Engine Flywheel Adapter	
5WH-450 Wiring Harness	
	\$29.80

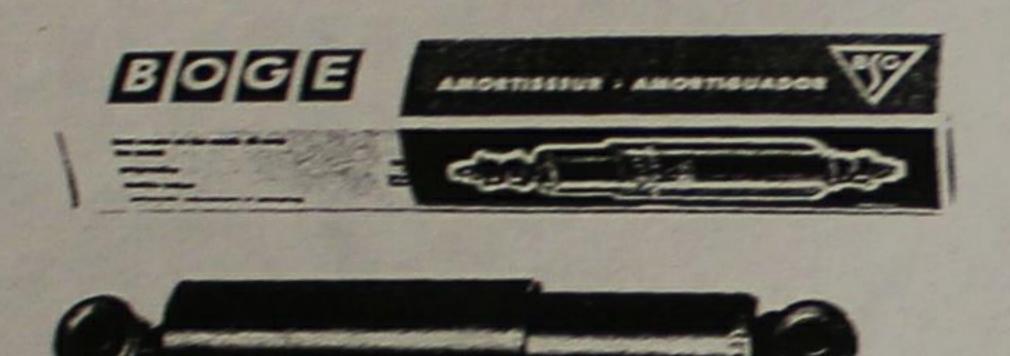




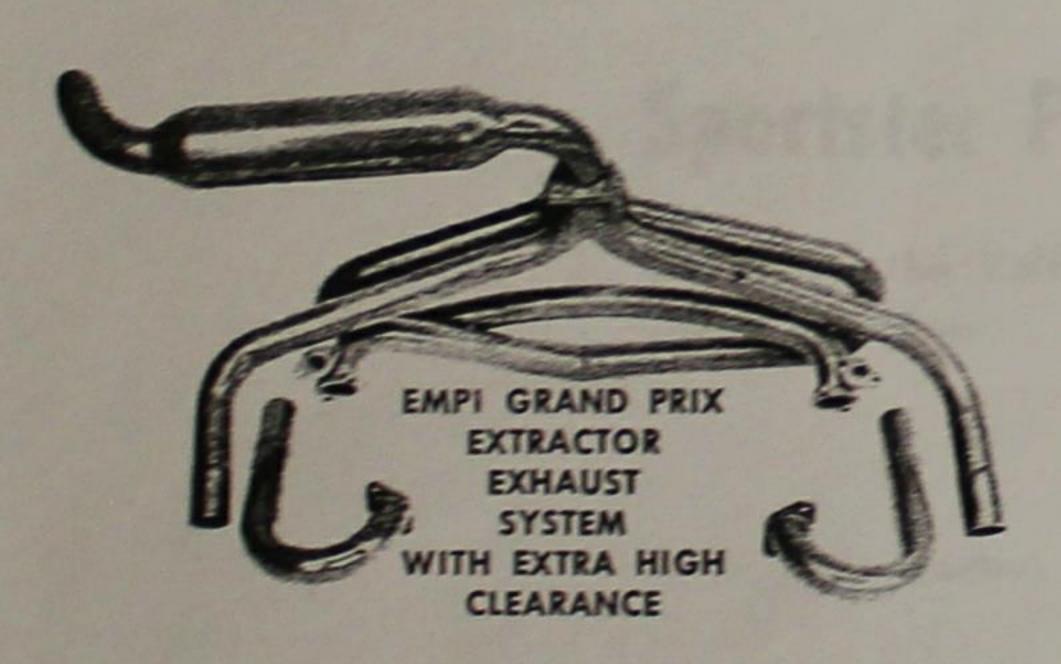


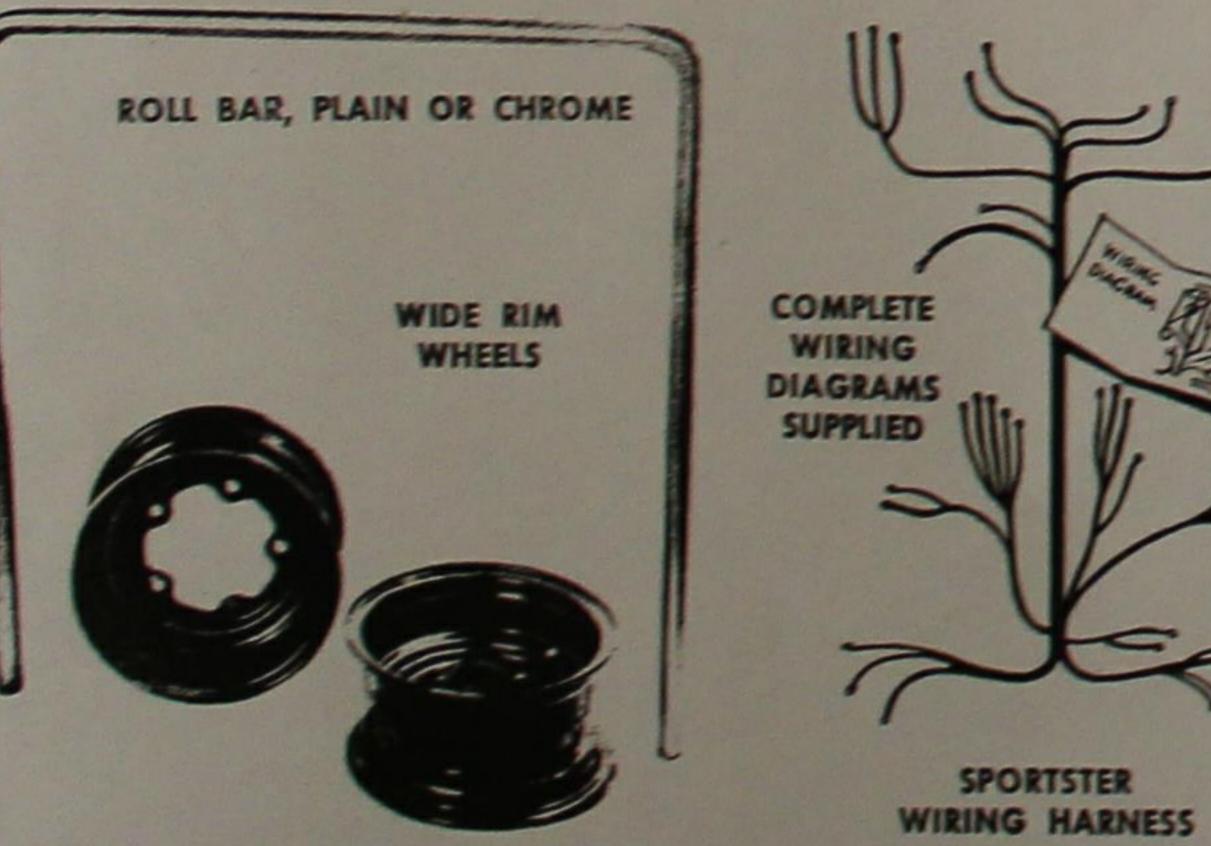
CORVAIR SKID PLATE

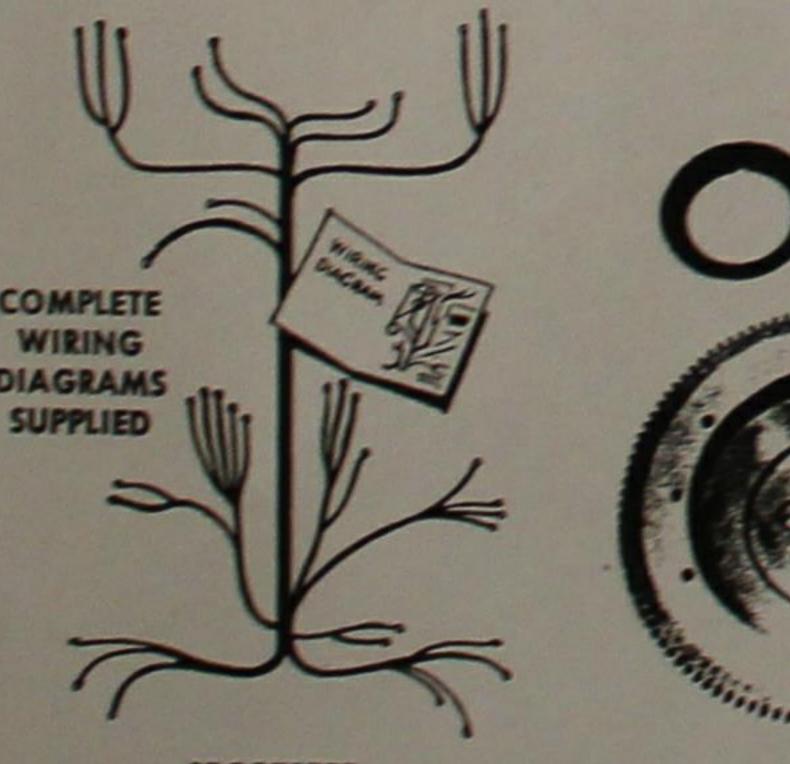
VW SKID PLATE

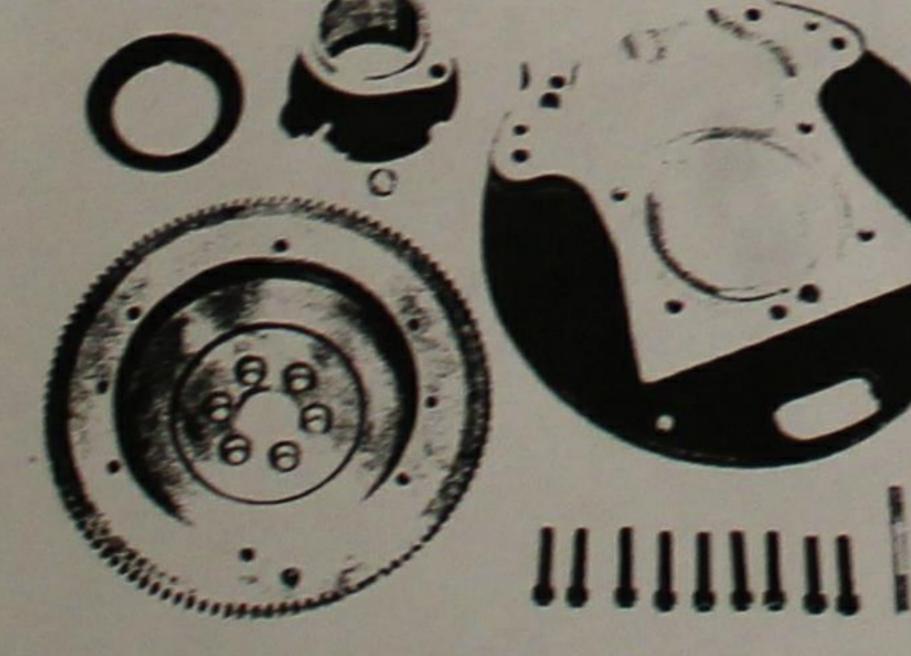


HEAVY DUTY SHOCK ABSORBERS









CORVAIR ENGINE ADAPTERS

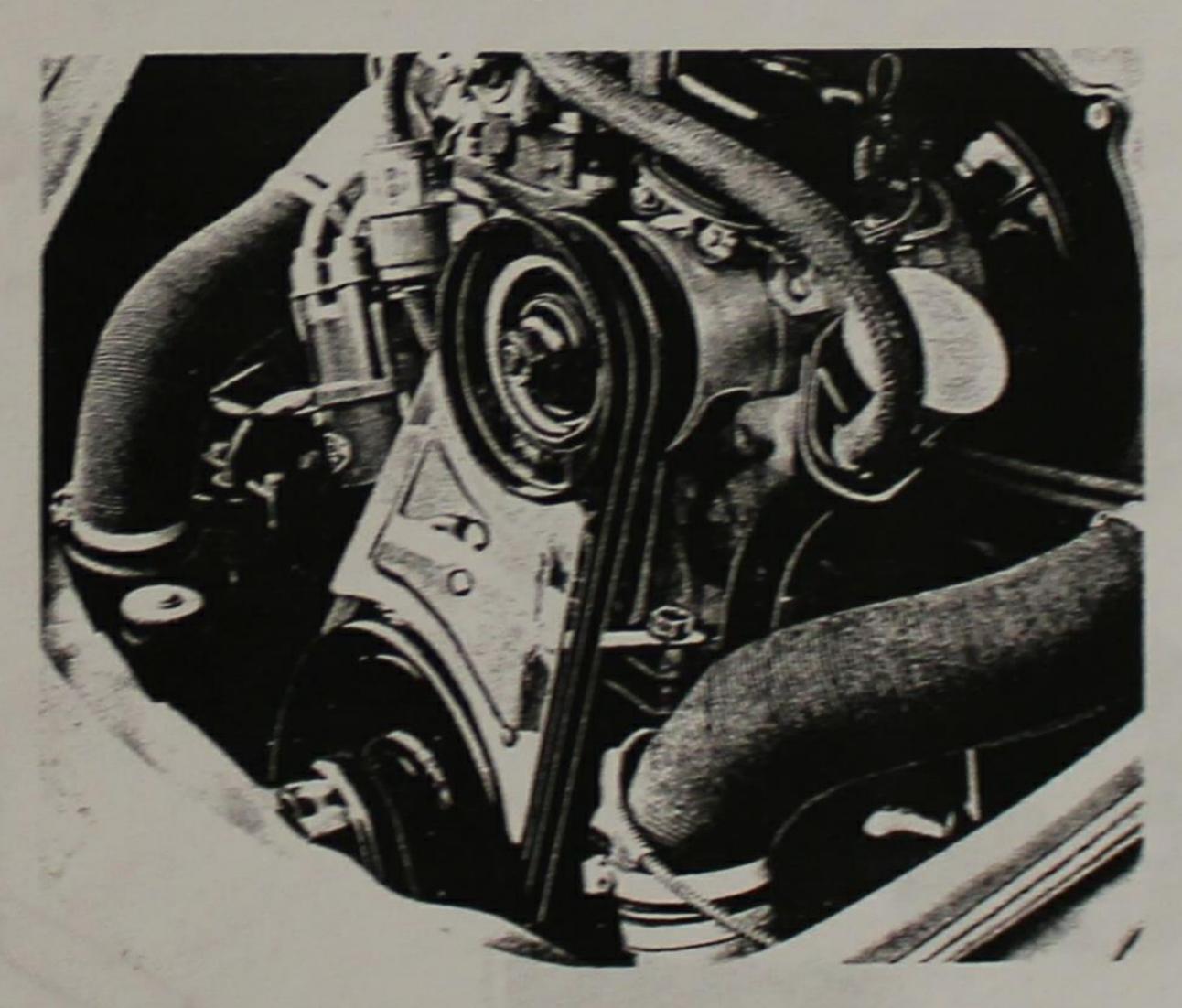
ACCESSORIES for the SPORTSTER



CANVAS TOP - with or without doors

For protection from rain, snow, sun, wind, tree branches, etc., you'll need one of these neat canvas tops, available with or without side doors. Strong white canvas. Fastens from roll bar to windshield.

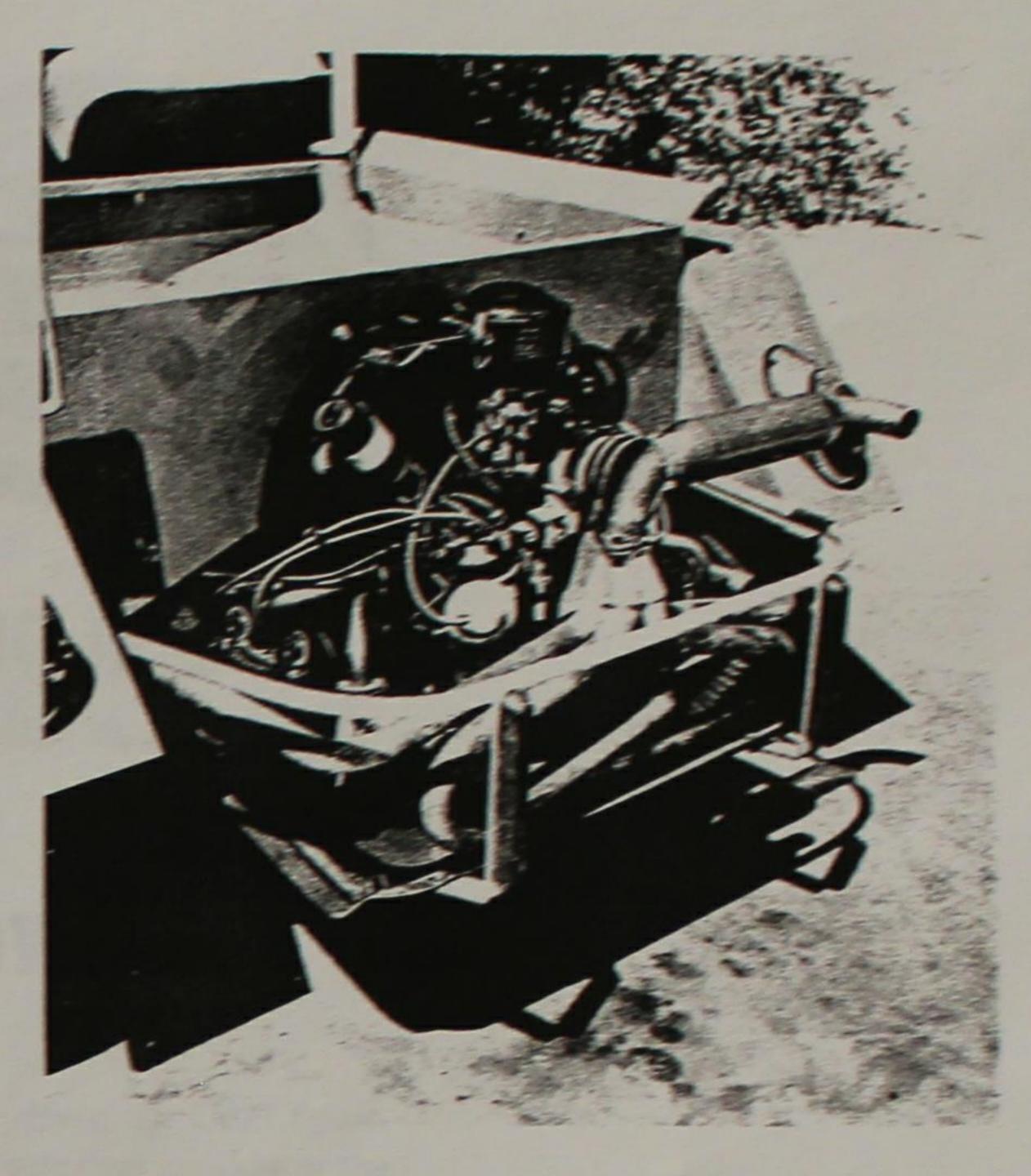
SCT-240	Canvas Top, without side doors	
	(includes roll bar and bows)\$110.00	
SCT-241	Side doors only pair 90.00	



FAN BELT GUARD

For protection plus smart appearance, you'll want one of EMPI's new chromed fan belt guards. Enhances the appearance of any motor and positively prevents accidental injury. Fits all 1200 model VW's and 1500 Transporter engines with fan belts.

\$4.95 EFGV-145 Fan Belt Guard

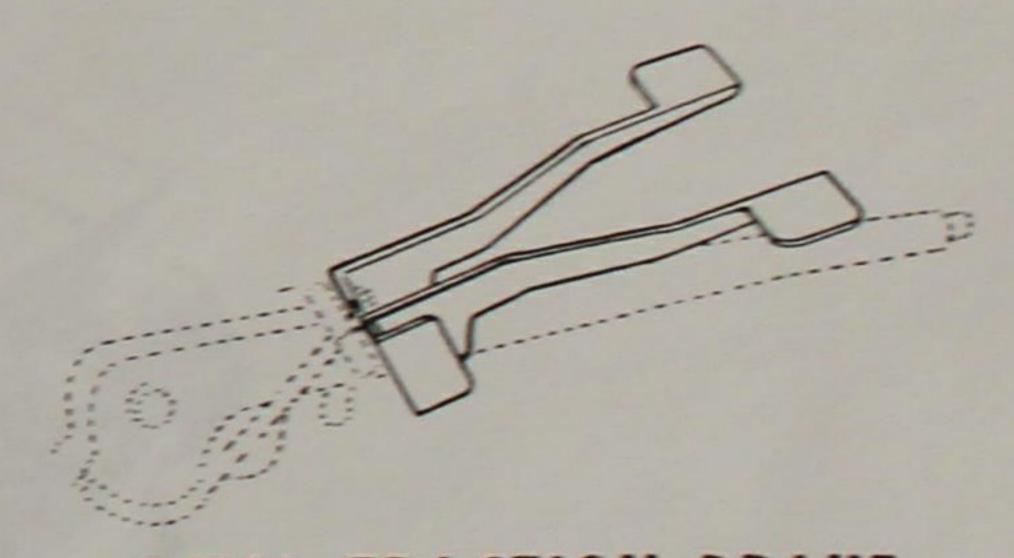


WRAP-AROUND REAR BUMPER

Protect your exposed engine with this neat wraparound bumper, made from strong ¾" steel tubing, complete with heavy rubber bumper blocks. Bolts on through skid plate holes.

SRB-380 Rear bumper ... Each \$19.95

EMPI MAKES SUBSTITUTIONS ONLY WITH YOUR PERMISSION



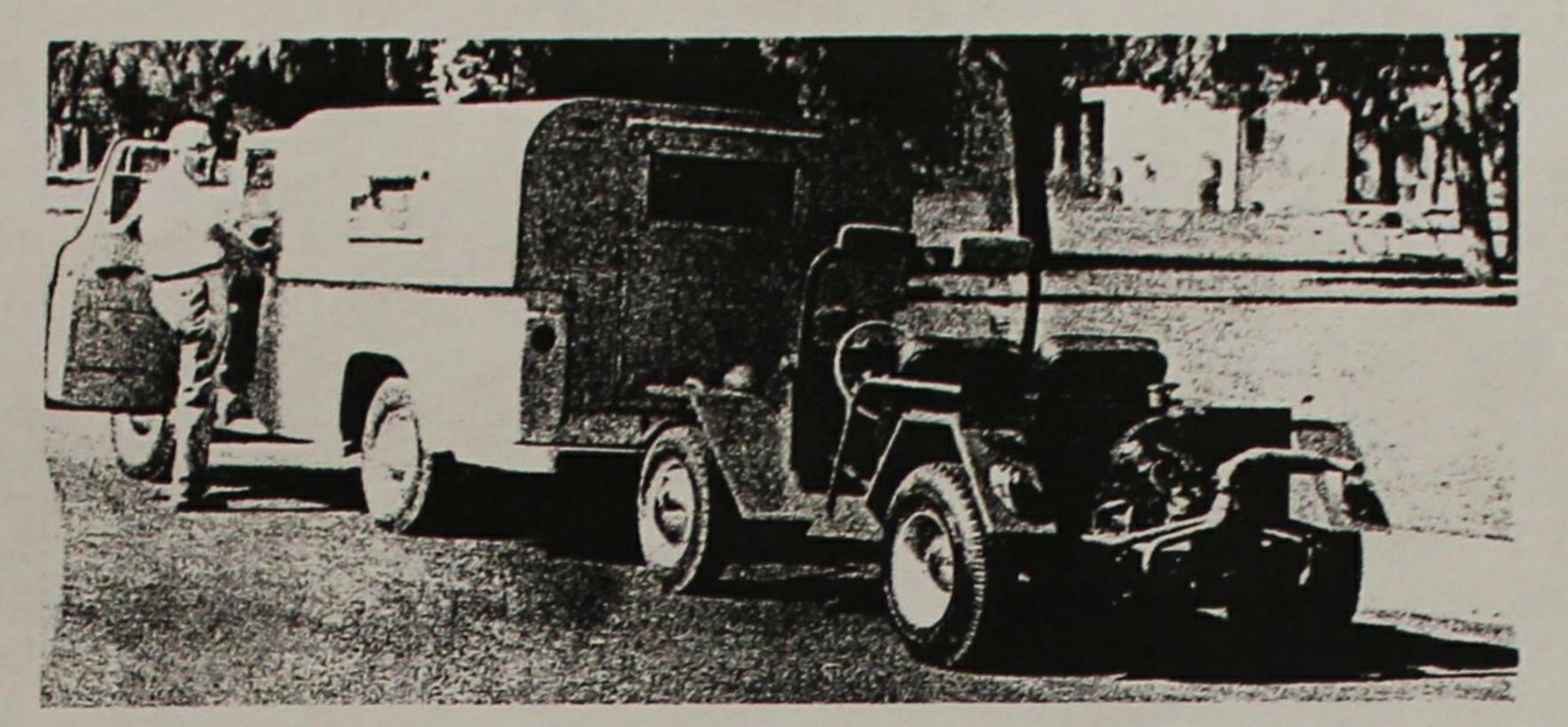
DUAL TRACTION BRAKE for control of either rear wheel

Specially designed dual traction brake permits driver to control either rear wheel, left or right, by applying hand pressure to these levers that fit over the emergency brake handle. You can pull the Sportster out of any tough spot with this brake control.

SDT-250 Dual traction brake ...

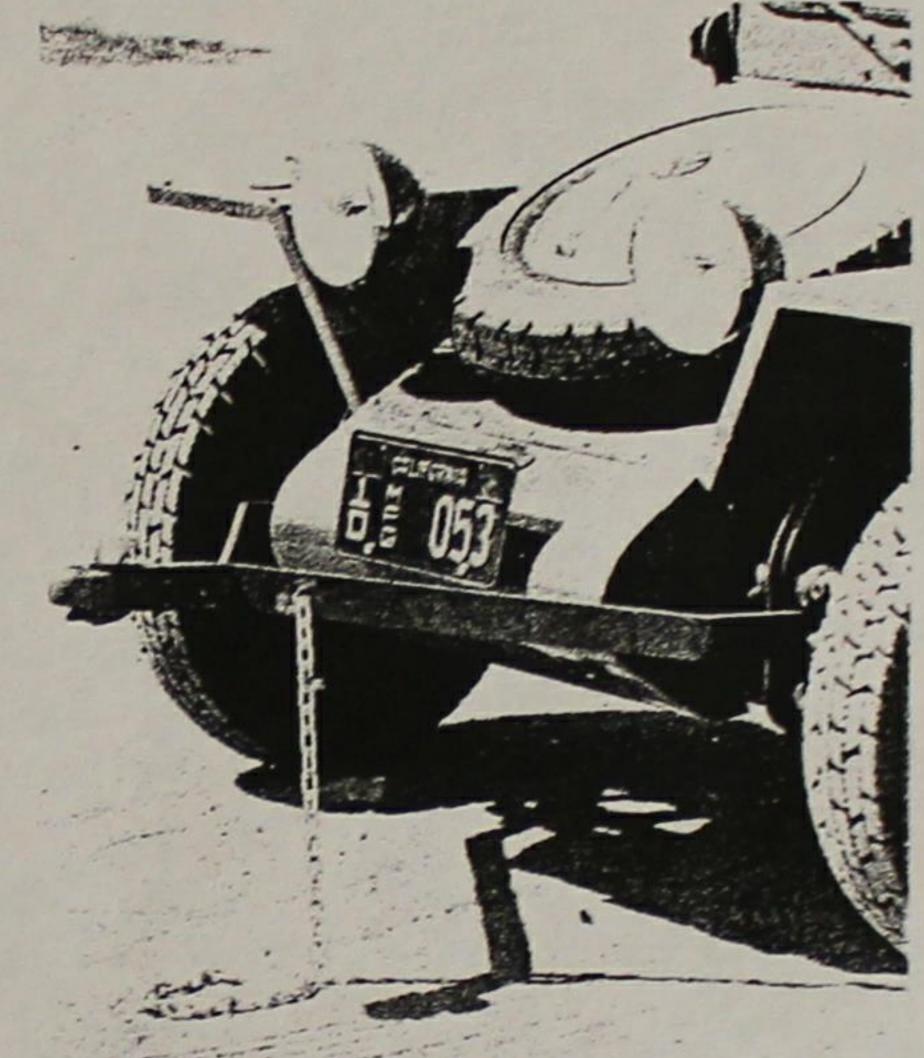


Each \$24.95



Hitch or unhitch . . . in just a minute . . . then you are ready to go.







TOWING IS EASY... with the

EMPI Sportster TOW BAR

The specially designed EMPI Sportster Tow Bar attaches quickly to the front axle assembly. Fits standard ball bumper hitch for any car. No heavy lifting . . . one adult can handle the hook-up easily. Pulls without strain. Tracks truly, without sidesway or snaking.

STB-420 Sportster Tow Bar \$29.95

Sportster POWER OPTIONS

Use either the Volkswagen power plant or a Corvair engine

Corvair Engine (below)

