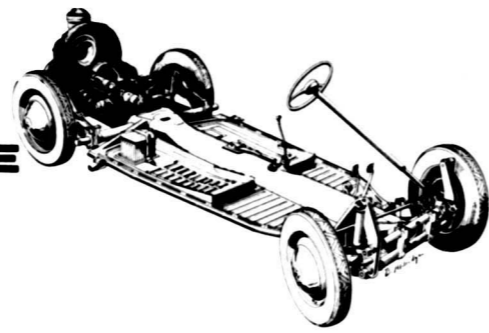


HOW-TO FEATURE

BODY FOR A BEETLE

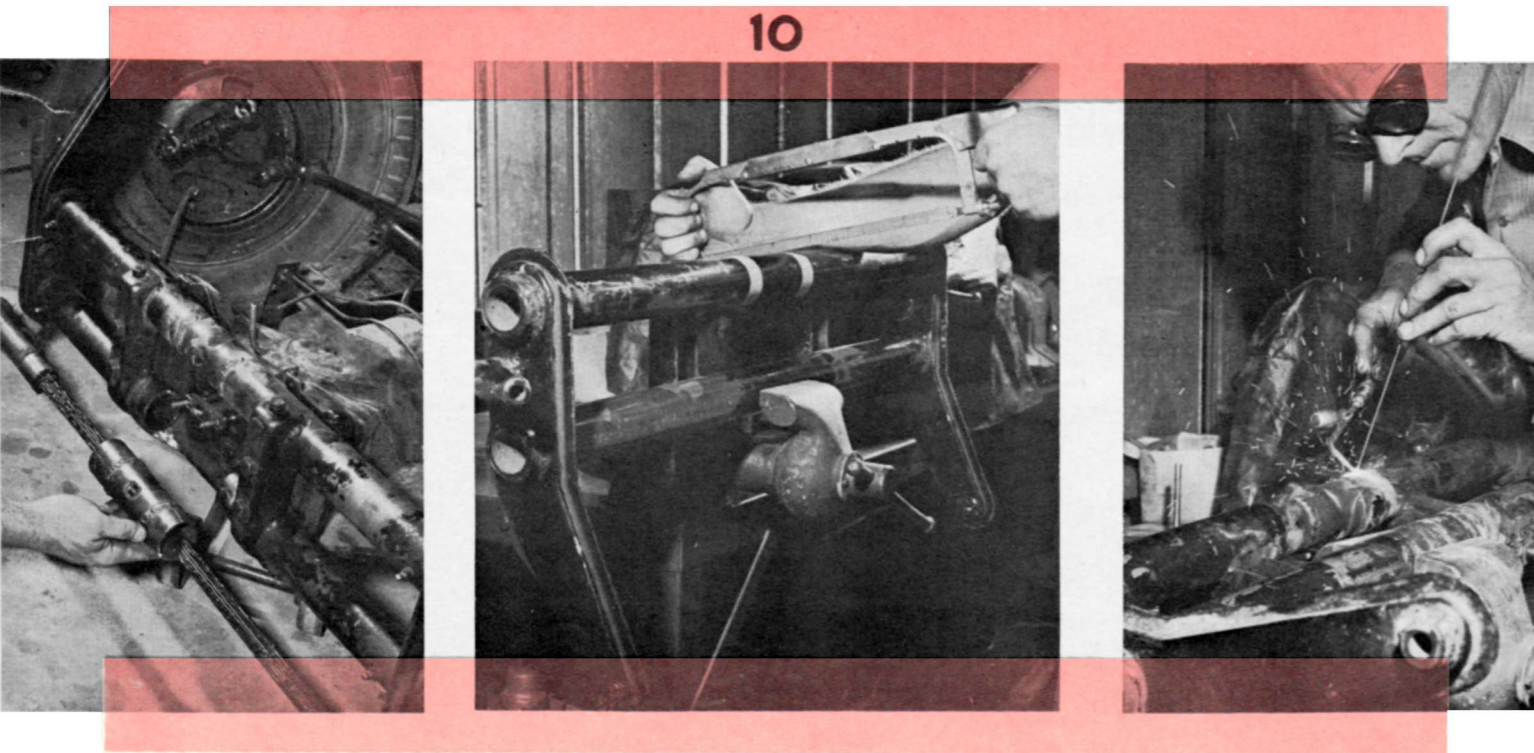
VW - Devin PART II

by Bob Behme



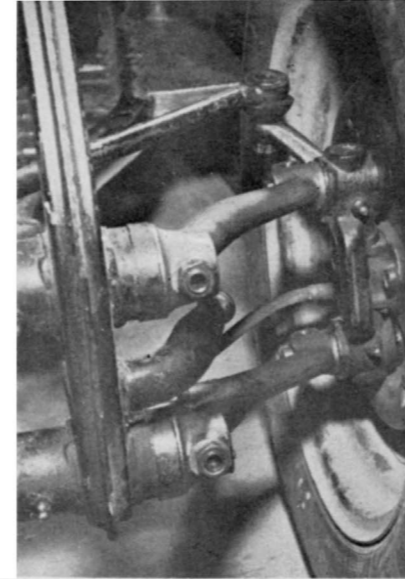
Because the Devin body is lighter than the original sedan, and also because ground clearance is not the important factor that it is on a family car, the front suspension should be lowered. You can't do it by torching the springs or chopping off a coil though. Instead, you must carefully determine how many inches less clearance you want and how much difference the lighter body will make. The total change in height can be translated into an angular change in the static position of the trailing arms. At the front

this can be done by repositioning the fixing clamps at the center of the torsion bar tubes. The purists will want to lower both the upper and lower bars equally so that stresses are equally distributed, but if you're in a hurry, you can move just one (the Tech Ed. says that in this respect at least, he's a purist). Buckland was a purist, too, until he discovered he'd lowered too far, so he sacrificed purity for ground clearance, putting the lower tube back to stock as shown in these pictures. Going or coming, the process is the same.



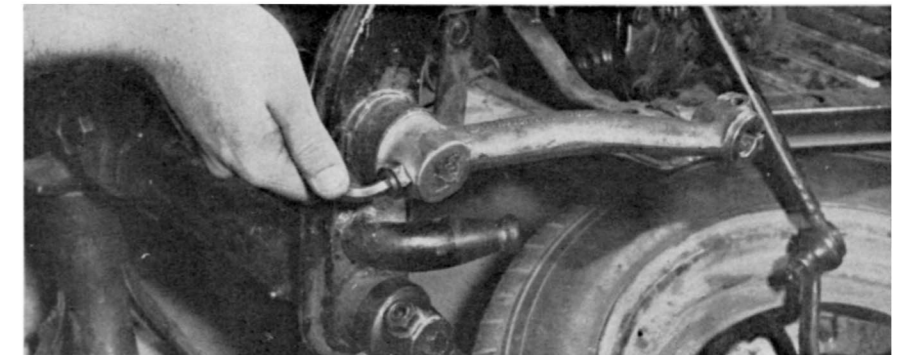
Jack up the front end so the wheels hang free. Brace the chassis securely. Remove wheels, brakes, backing plates, stub axles and trailing arm links. Measure distance from each trailing arm to floor for checking later on. Now remove the trailing arms, the torsion bars and finally the tubes (which are part of a welded-up front cross member). Scribe a straight line on the tube(s) to be cut. Cut through only one tube at a time (or you'll be a very puzzled purist), cutting out a section about four inches long at the center of the tube. Make sure that the cut is exactly square, so that the piece you've removed can be easily repositioned. On Buckland's VW, after a bit of the old cut-and-try, the lower bar was left in its stock position and the upper tube was rotated 35°

(forward at the top) which raised the static position of the trailing arm three inches, measured at the link pin hole. This gave a net drop of about an inch and one half. This will not be the best figure for each VW-Devin conversion, as VW front springs gradually settle, especially with a lot of hard driving. Remember, about 24° per inch of drop if you cut only one tube, and half that if you cut both. Twelve degrees works out to a quarter-inch gap between what are now two scribed lines. After tack welding the center piece in its new position, clamp the front suspension beam to the frame, slip the torsion bar in place, attach the trailing arm and measure the distance to the floor and compare with your previous measurement. When you've got just the right drop, finish weld the joint.



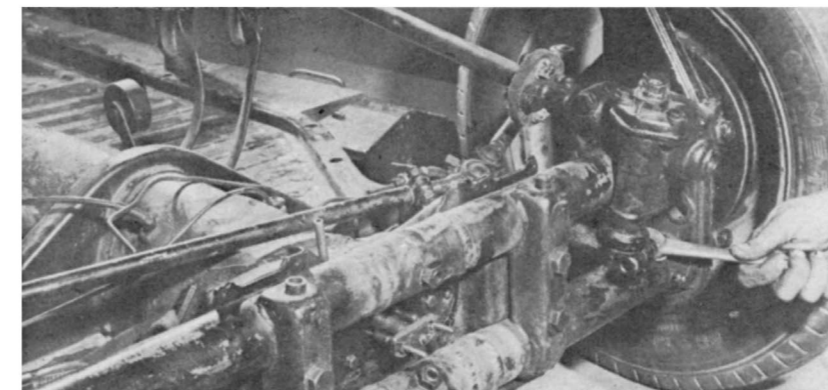
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If the lowering is all done on the upper bar, this is what the trailing arms look like in their free position. Install the link pin in the unchanged arm first, then lower the weight of the chassis onto wheel, deflecting that bar to permit easy insertion of the other link pin.



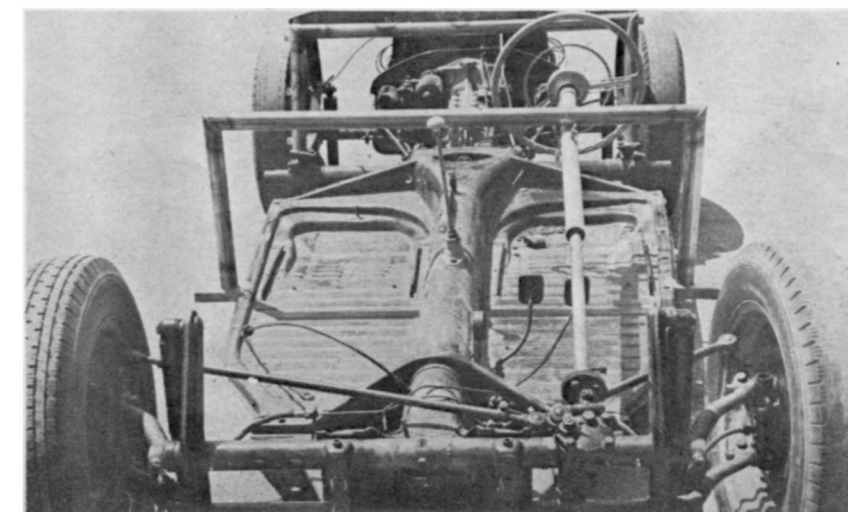
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Lowering the rear suspension is much easier than the front. Remove the sheet steel trailing arm from the swing axle tube and then from the torsion bar tube. This exposes the rear torsion bar, which has 44 splines at the outer end and 40 at the inner, permitting angular adjustments in increments of 50'. Buckland reset his to get zero camber at the rear wheels. Small negative camber, as on the Porsche Spyders, is quite permissible, the important thing being to have the same setting on both sides. As at the front end, the bars may have settled, so each car will be an individual case. Be sure the transmission is firmly bolted in place before making this adjustment.



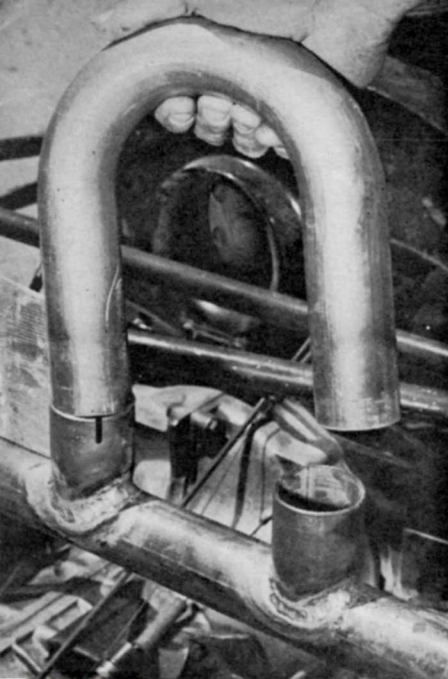
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Steering box must be tilted slightly because the column is lowered as well as lengthened. Just loosen the clamping screws a little and rotate the box so that it lines up with the steering column. At this time the column should be wired to the underside of the front roll bar. Do not move the box sideways as this will alter the wheel alignment in corners. After tightening the clamping bolts, check the toe-in: it should be between 1/16th and 1/8th of an inch, measured at the wheel rim.

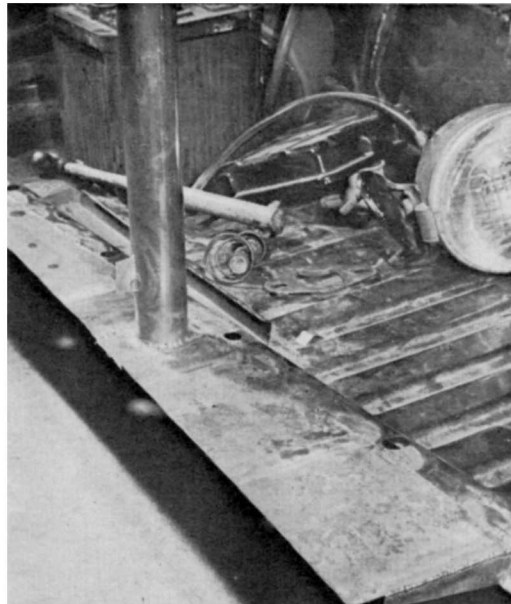


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This is what your de-shelled beetle should look like now. Next major step is building up a tuss-work of tubes to add rigidity to the frame and provide mounting points for the fiberglass skin. While you're waiting for your torch to warm up, you might get your local VW dealer to check the alignment of the front trailing arms, making sure that the ten shims per link pin are properly distributed.

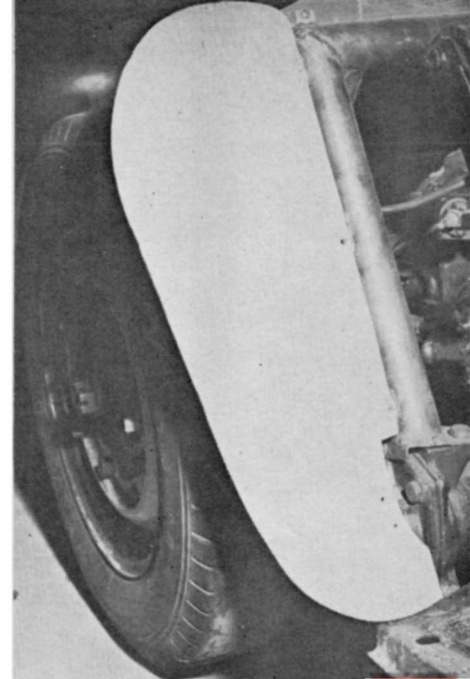


15 A standard U-shaped piece of ready-bent tube is ideal for the headrest. Collars of one-size-larger diameter tube are welded to the rear roll bar; later the U-tube can be fitted in them and welded at exactly the right height to fit the fiberglass headrest fairing.



An extension of 18 gauge steel is welded to the floor panels to provide a lap joint with the edge of the Devin body. Width of extension is determined by fitting body to the car and measuring.

16

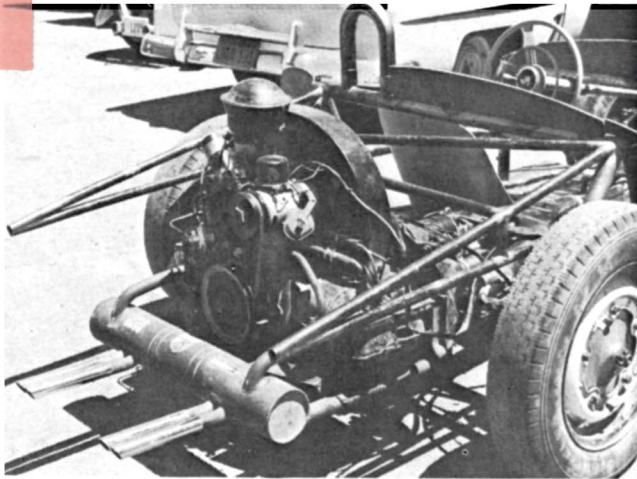


Rear body former is also made by fitting and measuring. Use plywood, metal, or even cardboard laminated with fiberglass and resin.

17

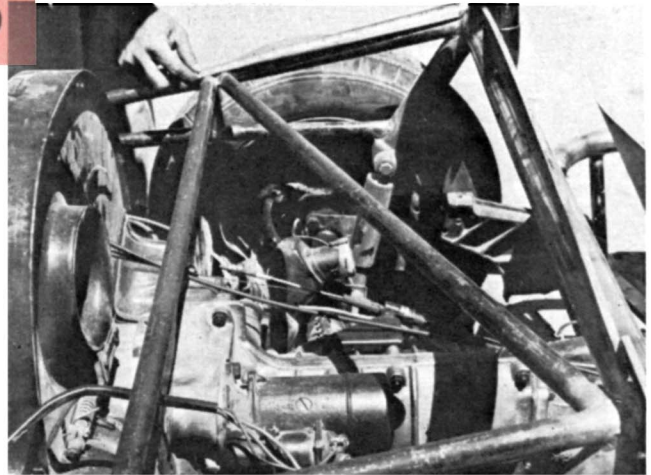
Aft body supports are made of one inch diameter, 20 gauge tubing welded to the rear roll bar structure.

18



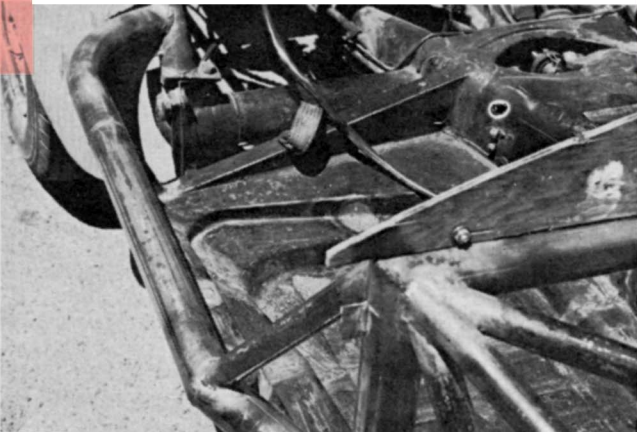
Two transverse tubes brace body supports 17 in behind the roll bar without interfering with engine's accessibility.

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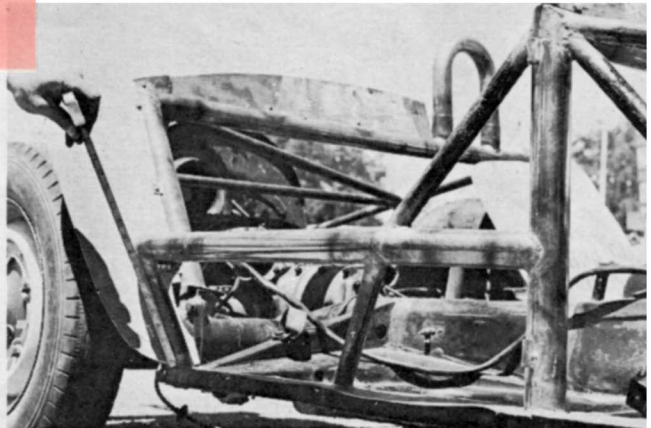
1.75 in tubing is used to make door sill. It is supported by intermediate struts of one inch tubes. Commercially bent tube may be used but it isn't necessary.

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Height is again determined by the body shell. Ends of tube can be trimmed with 1 3/4 in hole-saw to give neat joint against the roll bars.

21



Concluded next month