



RIDING OUT THE ROUGH SPOTS

BY JOHN CHRISTY

Inexpensive improvements bring ruggedness for the back road and add to handling qualities in the bargain

IN RECENT YEARS, at least since 1949, manufacturers have incorporated a startling amount of interchangeability in their various lines. The only difference in the parts is that some are built for heavier duty than others. It is this interchangeability and difference that makes it possible for you to rebuild your car for the rough road without in any way limiting its ability to provide ordinary day-to-day transportation. In fact, as we'll see, there can actually be an improvement in many respects.

Almost all the low and medium priced cars include in the line a station wagon, ranch wagon, estate wagon, call it what you will. The suspension parts for these wagons are designed to be heavier than are those of the rest of the passenger cars in the same line. In short, here is a wonderful supply of genuine dealer parts which will, with almost no effort, allow us to convert the family car into a stable, solid vehicle capable of taking on some exceedingly rough roads.

Let's take, as an example, the Ford line, although any of the other manufacturers' setup will be similar in all but details such as axle ratios and so forth.

It's well known that Ford makes a nifty little item called a Ranch Wagon. What isn't so well known is that the wagon is very different in several respects from its more prosaic brethren in that both front and rear springs are stiffer and the front stabilizer (anti-sway) bar is considerably heavier. Both springs and sta-

bilizer will fit the passenger-car with no change. The difference this exchange makes is positively amazing. We once lived on a dirt road in the back-of-beyond and our well-used convertible was about to come apart at the spring perches when these minor changes were made. The result was instantaneous; the car felt like an entirely different vehicle. Bumps and potholes that had previously threatened to tear the car apart were less hazardous with most of the bounce ironed out.

Interestingly enough the changes paid off on the highway, too. The car cornered as if it were on rails; highway dips had nowhere near the bottoming effect that they had had at one time. Although the ride was stiffer, the increased stiffness was barely noticeable and was completely offset by the new pleasure in the handling department and lack of shimmy over the bumpy dirt roads.

That was as far as we went but there is more that could have been done. The station wagons of all lines have several optional gear ratios that will interchange in any rear end of the equivalent make of passenger car. The rear end with its 3.2 or 3.54 gearing that is so nice on the smooth highway can be nothing but a nuisance in dirt or soft sand. If your car has a conventional shift, the high (low numerical) ratio rear end actually can cause damage to clutch, gearing and driveline if subjected to rough going, particularly where soft ground or loose sand is encountered.

Thanks again to the wagon, gear ratios as low as 4.2 are available, with 4.1 being the logical choice. This gearing, designed to allow the wagon owner to haul fairly heavy loads, will take much of the strain off the driveline of any car.

An immediate objection might be raised that such a reduction in gearing would cause a definite drop in top speed and mileage. Actually such is not the case; top speed will drop some but only by about two or three miles per hour. Mileage at highway speeds will drop by about half a mile per gallon and almost none at all in city driving due to the fact that you can get into high gear or drive range sooner in traffic. You'll get additional dividends in quicker acceleration at normal driving speeds, too. If your car has overdrive you can forget this part; standard third is low enough.

The shock absorbers on the average passenger car are designed to do a job for daily transportation on a car of that weight. Most of these are either single acting or, if double acting, are what is known as 70/30 shocks. That is, 70 per cent of the dampening action is in one direction and only 30 per cent in the other. Also, most are preset by the manufacturer for a specific degree of stiffness designed to produce a nice boulevard ride. As was pointed out before, the boulevard ride is not for the back country. Consequently a change is in order.

There are several brands of replacement shock absorbers on the market that

will do the job. Some of these are available from the dealers' shelves such as the big, hefty 60/40 Silver E units available through Ford and Mercury dealers. These were designed as heavy duty shocks for Ranch Wagons and commercial vehicles and will do the job of handling rough country work beautifully. If, on return, they seem a bit stiff, you can remove them in an hour or so and replace them with the original units.

Another shock introduced only this spring offers what might seem to be an even better solution. This one is the Gabriel Adjustomatic which gives three ranges of stiffness from soft through medium to hard merely by extending the shock to its limit and twisting the two halves. Thus you can set the sort of ride you want before, during and after your trip to the backwoods.

All this may seem as if we were setting you up for a fast trip in the upcoming Carrera PanAmericana and, in effect, we are. The Carrera puts strains on the underpinning of a car that are fantastic and the cars must be able to take it. The main point here is that the object is to keep the wheels on the road. Any hopping or skipping puts additional strains on running gear that will soon tear the car apart. Further, such skipping will get you stuck quicker than anything else to say nothing of the added risk of a sudden skip or skid tossing you completely off the road.

Next on the list are wheels and tires. If your planned trip is to the north country where the back roads are mostly of dirt or rock and dirt in combination, you'll need a tire that can take it and at the same time one that will afford traction on rocks or mud.

The easy way out here is to use a set of commercial grade mud and snow tires. Choice of tread is important. Rather than the knobby grip, it is best to use the cleated tread similar to that used on army jeeps or on some of the all-weather tires currently manufactured. If expense is an item, practically new jeep and commer-

cial vehicle tires are available at ridiculously low prices through various mail order surplus houses. In any event, if you live in an area where winter means snow, you can always use the tires for winter travel as well as for vacation time, so the purchase is not merely a short term investment.

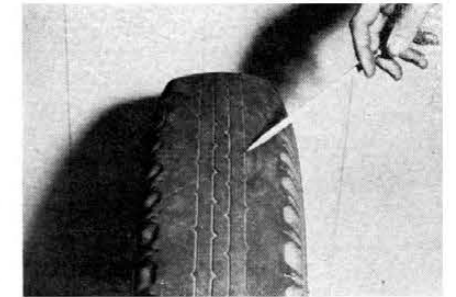
If, however, the desert, American or Mexican, is your choice of an ideal vacation spot, the choice of boots your car will wear is a bit different. It would seem that the cleated tire mentioned above would be just as good for sand as it is for mud. This, unfortunately, is not the case. Sand is tricky and the cleated tire will dig you in deeper than will an ordinary passenger tire.

Here we can take a tip from some people who are acknowledged masters of the art of driving on sand, Arizona's "dune bug" drivers. In years of traversing some of America's most desolate deserts, these men have amassed a knowledge of sand traveling that cannot be ignored. The main thing, they say, is to be able to stay on top of the stuff, to "float" on it, so to speak. Never use a tread or tire that will cut into the surface.

Consequently a very wide, soft tire is indicated. The cheapest and easiest way out is to go to any large tire shop and ask for a set of nearly bald tires of at least 7.10 by 15 or 16 depending on your wheel size. The larger 8.20 size is to be preferred even more, but in some instances these won't fit the wheel compartment space available. The tire should have some tread but not much. Actually, if nothing but pure sand were to be encountered, it would be much better to have no tread at all. However, you'll have to do some highway driving to get where you're going and most deserts are loaded with scrub brush which, when dead, breaks off in splinters that can pierce a treadless tire quite easily. In no case should a six-ply tire be used since the thick sidewall will not flex properly, (Continued on page 65)



For rocky going, bar tread should be used since rocks would tear blocks from knobby treads. Cuts show the problem.

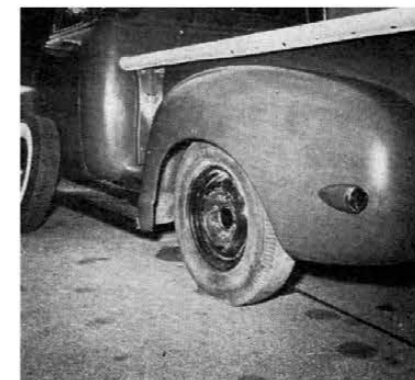


Little tread is necessary for sandy road. Knobby or bar tread would cause tire to dig into surface with disastrous results.

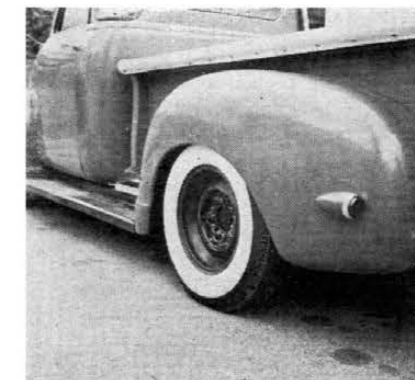


Tire for use on sand should be deflated to approximately six psi. In absence of gauge, softness is judged by one-in. flex.

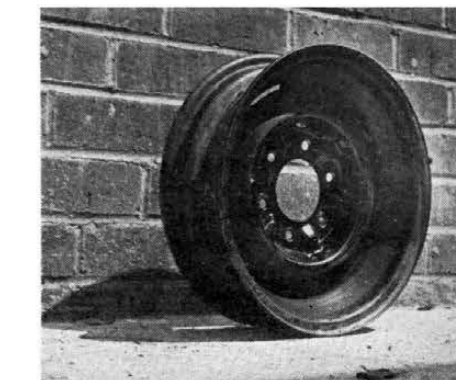
Before widening the rim, quite a bit of room can be seen between outer edge of tire and the inside bead of the fender.



Widening process moves tire much closer to fender bead. Measure carefully before widening, be sure of ample room.



Rivets must be removed, rim reversed on wheel before widening can be accomplished, equal clearance on all wheels.



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THE ROUGH SPOTS

(Continued from page 25)

forcing the tire into the sand instead of allowing it to bulge and ride over the surface.

Some cars have wide-base rims to allow the use of low pressure tires, others do not. If your car has the narrow rims the situation will have to be remedied. In many cases you will be able to trade your narrow-base wheels in at a wrecking yard for wider rims with the same bolt pattern and wheel diameter. This will not affect your standard tires materially; in fact, it may aid stability since the wider base will keep the tire, even the high pressure type, from swaying under side stress in a hard turn.

If you want to get really fancy and are willing to purchase a set of extra rims, you can have these widened at any wheel shop. The process is simple; the outer section of rim is carefully severed and a new strip of metal is added. Then the severed section is rewelded to the new metal with the result that you now have a rim that is a full eight inches wide.

This should be done only if you have room in your wheel wells for these monsters. The advantage is that the air pressure in the tires can be reduced to about five lbs. per square inch without too much loss of stability and with the result that an eight-inch square patch of rubber is placed on the surface of the sand. In this case one safety precaution should be mentioned. A trick used by dune bugs and midget racers alike is that of fastening the head of the tire to the rim. This can be accomplished by drilling from two to four small holes in the outer rim of the wheel and, after the tire is mounted, driving short sheet metal screws into the tire bead. This prevents the tire from coming loose and also keeps the wheel from spinning inside the tire with consequent damage to the valve stem.

All of the above sounds pretty formidable, almost as if the entire car has to be rebuilt to take a simple trip over a few rough roads. Actually it isn't so bad; about the only outside help that is needed is in replacing the springs and rear end gears and sometimes, particularly in the case of older model cars, this won't be necessary. The stabilizer bars can be replaced by anyone who can handle a wrench and who isn't afraid to get his hands dirty. The same applies to shock absorbers. In many cases where springs are deemed insufficient for the job, Air Lift spring boosters can be installed or helper springs used. Tires are tires, be they large or small, smooth or cleated; they all mount the same way.

Although the idea is to get the car ready for rough going, the real payoff is in vastly increased roadability and more pleasure in ordinary driving to say nothing of reduced running gear wear. •

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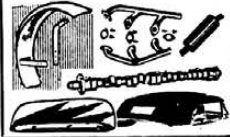


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