

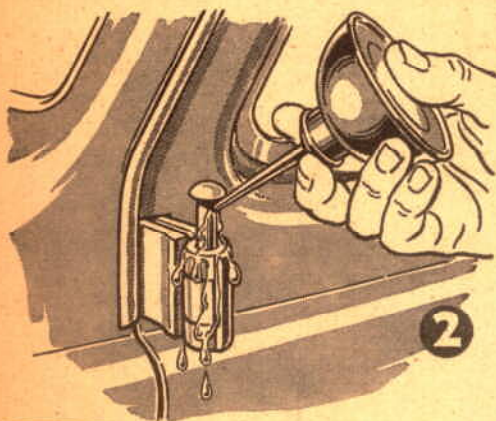


Hints From the



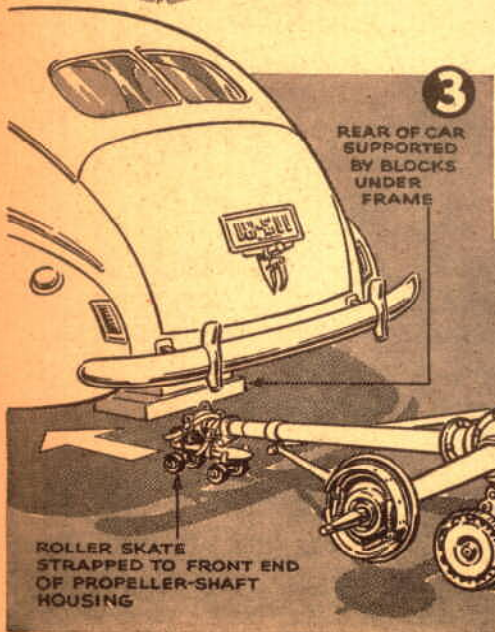
1. A flashlight is handy for repairs at night, but it may force you to work with one hand. A chap who stopped in the Model Garage had solved the problem neatly by keeping a heavy rubber band on the light.

With this, he can strap the light to his forearm, freeing both hands for work. He also keeps a supply of tape wrapped around the light—so he needn't hunt for it in the dark.



2. Drive Out Hinge-pin to Oil.

In the older cars with exposed hinges, Marion L. Rhodes, of Knightstown, Ind., finds it's best to drive the pin out halfway when oiling. Then apply a penetrating oil and allow to soak about five minutes. Unless the pin is loosened, even excessive oiling may not stop a persistent squeak.



3. Mower Used as Dolly.

While doing a rear-end job in his backyard, G. A. Miller, Jr., of Atherton, Calif., found an unexpected use for his lawn mower. Since there was little room to work under the car, he wanted to do as much as possible of the job in the open. This, he figured, could include attaching the propeller shaft to the differential if there were some way of returning the assembled unit to position. He solved the problem with the mower and a roller skate.

Drawings by Stewart Rouse

DIFFERENTIAL HOUSING ROPED TO MOWER

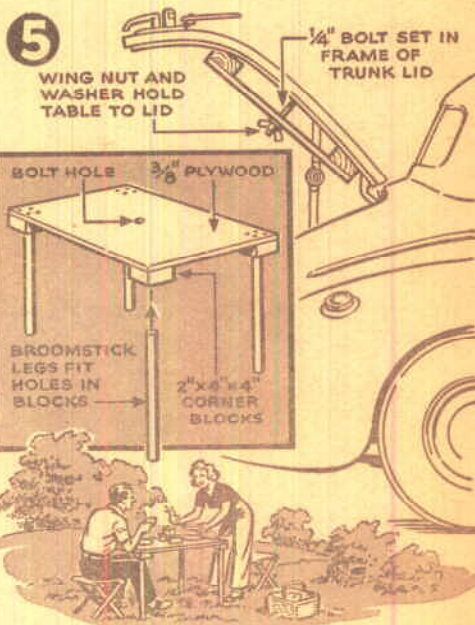
ROLLER SKATE STRAPPED TO FRONT END OF PROPELLER-SHAFT HOUSING

Model Garage

4. Paint the Hood Inside. Heat from the sun and engine may cause the finish on the hood to deteriorate. As a precaution, W. Van Sandt, of Long Branch, N. J., recommends making use of the fact that light colors reflect heat. White enamel or silver paint applied inside the hood will reflect part of the engine heat and keep the hood cooler.



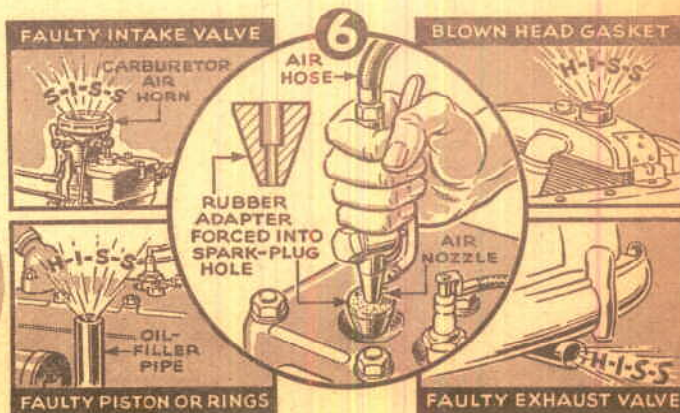
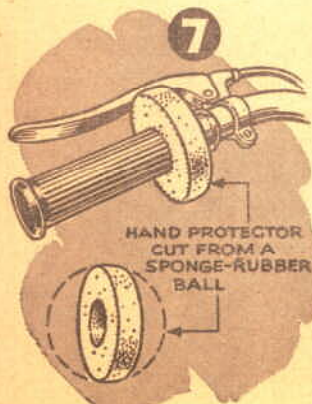
5. Table Always With You. Now that picnic time is here again, you may want to follow in the footsteps of H. C. Marhoff, of Chicago, and build this convenient table. When not in use, it takes up little space.



6. Air Spots Compression Leak. When an engine loses compression on one cylinder, Robert Brunt, of Lakewood, Ohio, diagnoses the trouble with an air hose. After removing the plug and setting the piston on firing position, he applies air to the spark-plug hole. If air hisses from the carburetor air intake, the trouble's in the intake valve; if from the exhaust pipe, in the exhaust valve; if from the oil filler, it's the piston or rings; if from the radiator, a blown gasket.

7. Cushions Rider's Hand. On long runs, the front-brake lever may chafe a motorcyclist's hand. A sponge-rubber disk slipped over the grip will prevent this.

Gus Wilson



HOW TO FORM GOOD DRIVING HABITS

AT MODERN highway speeds you may not have time to think about the *right* way of meeting an emergency. You must rely on habit, carefully formed, to do the right thing for you. Good driving habits can save you and your car from serious damage in a tight spot. And the right kind of habits can save you time, trouble and money every time you roll out of your garage.

According to suggestions furnished through the courtesy of General Motors, there are seventeen habits you can form that will stretch your gasoline mileage and help prolong the useful life of your car.

Starting the Engine. Always keep the clutch pedal pressed down when starting the engine. This lets the engine turn over without turning the transmission gear; it saves the battery extra work and provides faster starting—thus cutting gasoline waste. Besides, it's a fine way to avoid accidents that may happen if you start with the transmission in gear.

Hand Choke. If you have one, use it sparingly! Too much choking can waste enough gas to drive your car for several blocks—and may dilute your crankcase oil with gasoline to boot. Choke just long enough for the engine to begin firing smoothly; then push it all the way in.

Warm-up Period. Don't race the en-

gine until it is warm—it takes time for the oil to circulate and lubricate the moving parts.

Clutch. A good rule to remember: Keep your feet off the clutch pedal unless you want to shift gears. Some drivers have the bad habit of "riding" the clutch, a surefire way to wear away the clutch lining rapidly. Others "slip the clutch"—let the pedal part way up to keep the car from rolling backwards on a grade. Both habits can involve you in unnecessary clutch repairs.

Gear Shifting. Shift into second, and from second into high, as soon as you have attained speed. On a level, you can shift from low to second in a single car length; most good drivers shift from second to high before they have reached 25 miles per hour. Prolonged driving in low gears wastes gas and rubber, and subjects your engine to unnecessary wear.

Starting on Ice. This is the exception to the general rules of starting. On slippery surfaces, don't use low gear at all! Start in second, and go easy on the accelerator. And when you want to stop on icy roads, shift into second and let the engine help you do your braking.

Acceleration. When you step on the gas, a charge of raw gas is squirted into the intake manifold, and much of it is wasted. Your car probably has

plenty of quick pick-up—but you'll save money if you don't use it to the limit.

Braking. Racing up to a traffic signal and slamming on the brakes is a well-known mark of the poor driver. You have spent money in the form of gasoline to build up that speed; you waste that money when you brake too suddenly, and you give your brakes a needlessly wearing workout besides. It is better, too, to form the habit of braking gently and preferably with a series of light "snubbing" actions—it may be important to you under conditions of extra heavy brake useage, such as going down a long hill.

Parking Brake. Form the habit of setting it *firmly* when you park—then you won't be able to drive off with it partly engaged, wearing out your linings.

Parking on a Hill. As an extra safeguard, turn the front wheels so that they will roll *into* the curb—not *away* from the curb—in case it should start to move. And leave the car in gear in case the brake should be released accidentally.

Coasting Downhill. Don't try to save money by coasting down hills in neutral. Even on the longest hill, not much gas is saved. And you may need the extra control and stopping power that leaving the engine in gear will give you.

Skidding. If the car starts to skid, *gradually* take your foot off the accelerator and at the same time turn the front wheels in the same direction the rear end is skidding. If you've begun to skid because of braking on a slippery surface, release the brake for a moment and let the wheels roll.

Use of the Horn. Experts estimate that 80% of the horn blowing is entirely unnecessary. In the country, you may have to lean on your horn to be heard at highway distances. But in the city one or two short taps will usually be enough. Frequently a long blast will have the wrong effect, by "freezing" or startling an unseasoned driver or pedestrian.

After a Hard Drive. If your engine is hot, let it idle for a moment before shutting off the ignition. It will help keep your radiator water from boiling, and protects against vapor lock.

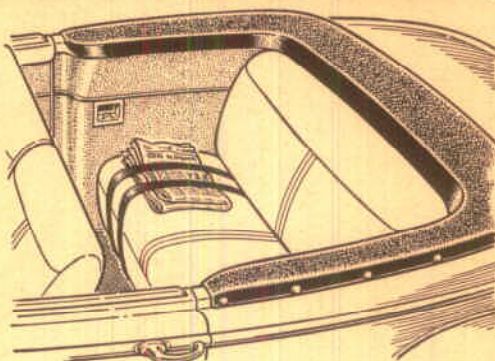
Passing Other Cars. Never try to pass unless you're *sure* you have plenty of room ahead. Passing a car going forty miles an hour is just like passing a standing string of cars 300 feet long or longer, depending on your own speed. Don't take chances. And when you have passed, be sure you can see the car you have just passed in your rear-view mirror before moving back to the right lane.

In Rounding Turns, always keep to your own side of the road and don't drive too fast. Brake *before* you enter the turn. Take a leaf from the book of professional racing drivers: They slow down when *approaching* a turn and accelerate as they begin to come out of it.

Tire Blow-Outs. The natural inclination is to twist the wheel to compensate for the drag, or to slam on the brakes. Neither is safe. Take the foot off the accelerator and let the car slow down, holding the wheels straight. Brake only gently. The same is true when one wheel runs off the pavement—let it roll until you can *safely* brake or bring it back onto the road.



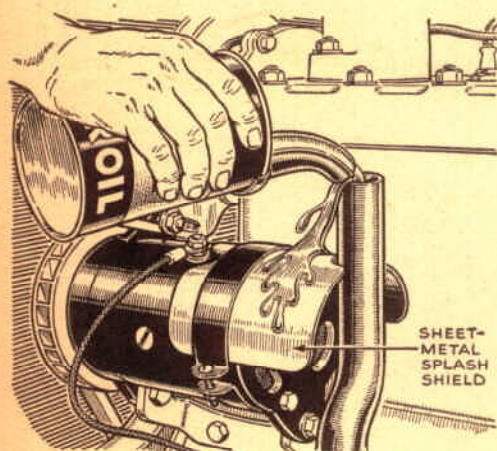
Hints from the Model Garage



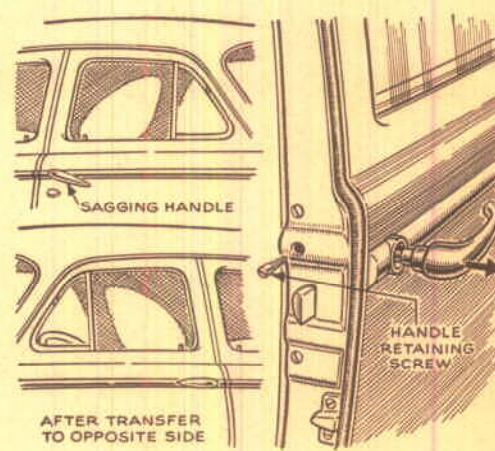
Prevent Overinflation. The new low-pressure tires are sometimes overinflated through carelessness. As a reminder to service-station attendants, paint the correct pressure on the rim beside each valve stem with white enamel, or apply waterproof adhesive tape with the figure inked on. You can also buy markers for your caps.

Straps Hold Back-Seat Items.

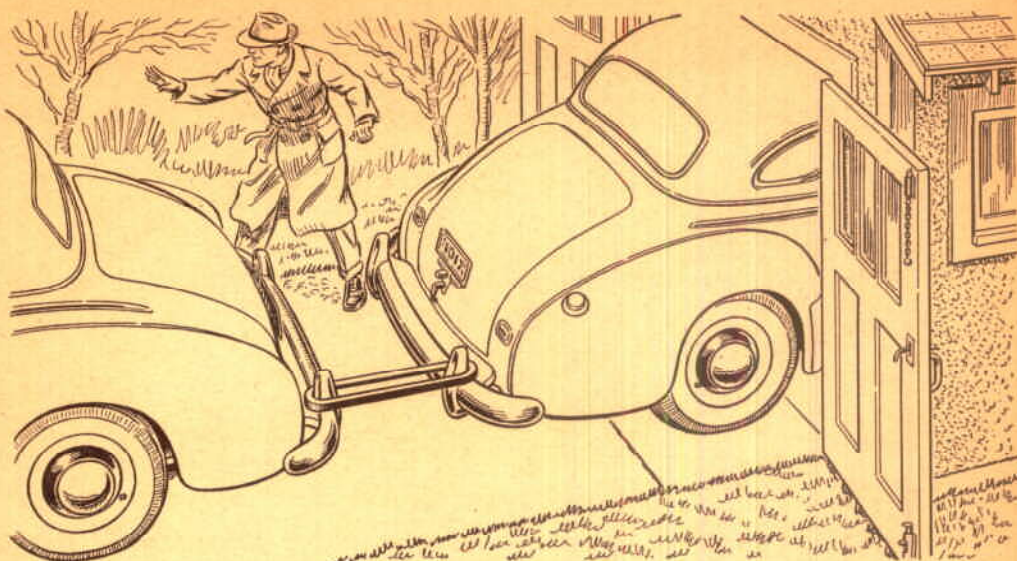
If you own a convertible, here's a hint that may be useful. David A. Wallace, of Ada, Mich., suggests that one or more elastic straps placed around the rear cushion will keep papers or loose clothing from blowing out while the top is down. The straps won't interfere with passengers.



Shield Protects Generator. While filling up with oil, you may have noticed that the attendant sometimes allows a little to slop over the filler tube. Ray Wolfram, of Chicago, writes that he finally traced a mysterious generator trouble to such carelessness. Spilled over the generator, the oil had fouled the brushes. To prevent this from happening again, he installed a metal shield as shown.



Reverse Sagging Handles. On some cars the door handles eventually wear enough so that they sag below the chrome strip they were designed to parallel. Don E. Braman, of Little Rock, Ark., found a simple solution for this on his 1941 Chevrolet. Removing the handles, he transferred each to the door on the opposite side. There, since the worn part was up, the handle didn't sag. Three minutes did the job.

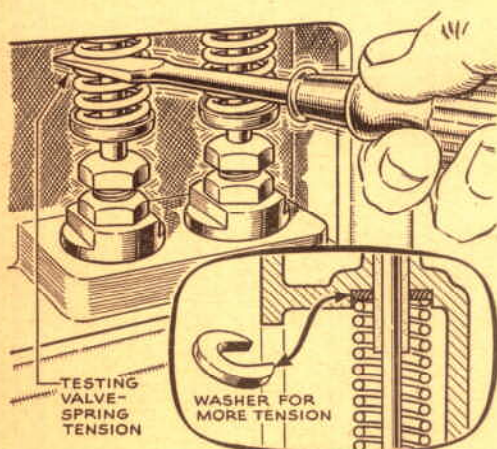


Fan Belt Gives Tow. Forrest F. Starr, of Columbus, Ohio, makes a suggestion that may help you out of a tough spot.

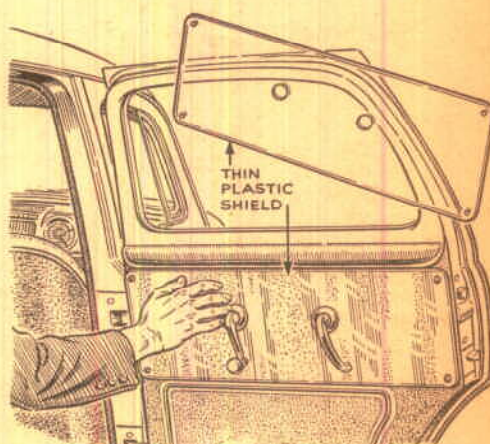
"My neighbor's car was stuck in soft ground," he writes. "Having no suitable rope or chain, I used an old fan belt. It

worked surprisingly well, for the stretch in the belt got the car started to rocking without any sharp jerks. I've carried the belt ever since for just such emergencies."

As seen above, the belt is especially good when you can't push the stalled car.



Washer Quiets Knock. A knock may occur at idling speed if the camshaft gear is worn and one or more valve springs do not have sufficient tension. W. M. Dierks, of Chicago, says such knocking usually can be quieted in the following way. With the engine idling, insert a screwdriver into each spring. When the knock stops, you've found the faulty one. Force a horse-shoe washer 1/16" thick under the seat.

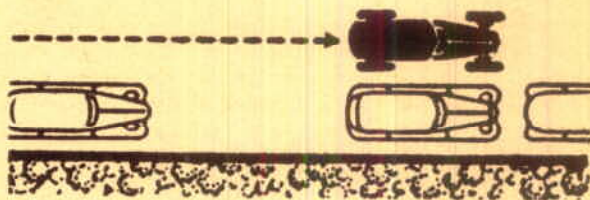


Plastic Keeps Door Clean. Most everyone these days installs seat covers in a new car, but few give any thought to the door areas, where hands frequently soil the covering material. Frank J. Montemuro, of Philadelphia, is one person who does. Cutting a sheet of clear plastic to fit, he installed it as a shield around the door and window handles on each door. The plastic is easily wiped clean.

HOW TO PARK IN A TIGHT PLACE

FIRST, and of greatest importance, remember that traffic may be approaching from the rear, so always look back and make sure the road is clear before even attempting to park.

SECOND: Drive up in a straight line and stop even with *and fairly close to* the car in front of the space where you are going to park. Most trouble in parking comes from a wrong beginning—from not pulling far enough ahead or not getting close enough to the car in front—or *both*.



THIRD: Turn the wheels *sharply*—shift into reverse—and back the rear end of your car in toward the curb.



FOURTH: As your rear wheels near the curb—you can determine this by lining up your outside REAR fender with the outside FRONT fender of the car behind—continue backing slowly and at the same time swing your front wheels in the opposite direction so as to bring the front of your car in toward the curb.



FIFTH: Now pull yourself ahead into parking position. But don't try to park *too close* to the curb because that makes it difficult to get your car back out again. In most cities you are allowed 6 inches.



Car-Top Carrier Adds Outside Luggage Space

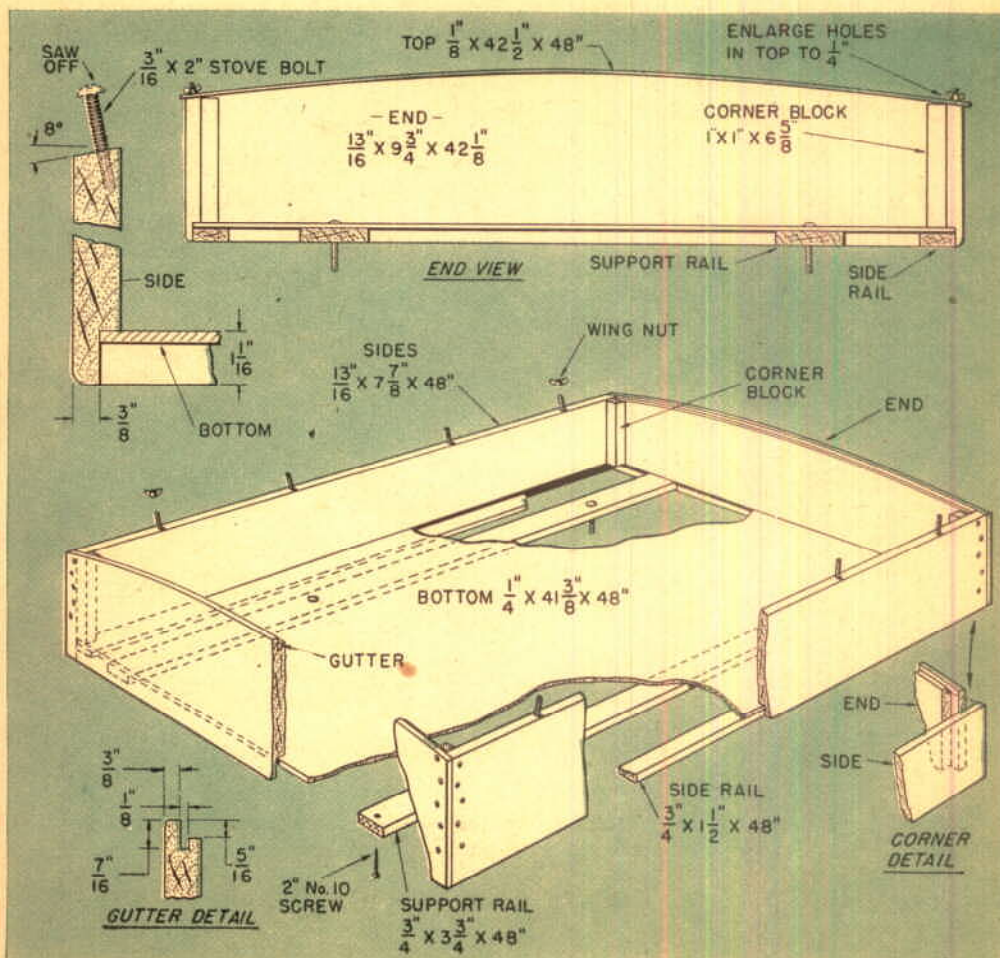


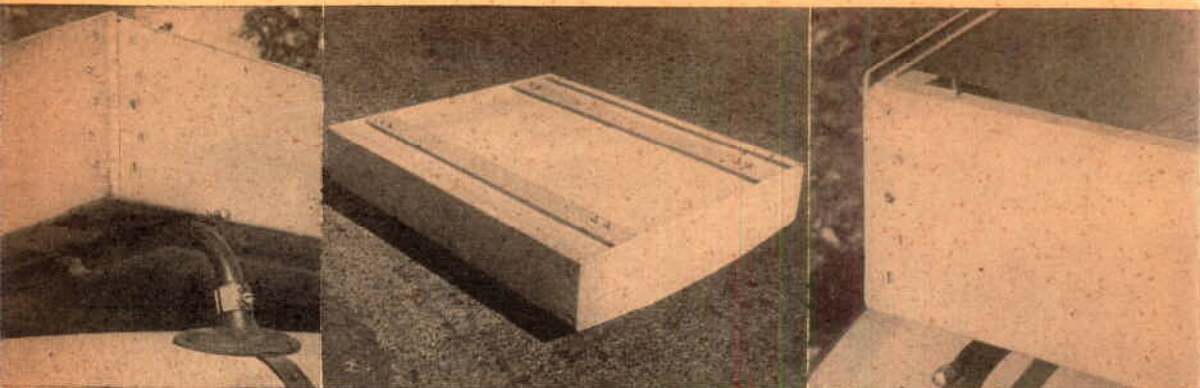
THERE'S little chance that rain will damage luggage in this carrier. Wind can't drive rain in, for the curved top panel rests below the ends. Drainage gutters in the ends carry off any seepage.

Make the ends and sides first, using white

pine. Joint one edge of the stock and cut the pieces to finished length. Lay out the curve on each end and bandsaw to outline. Then clamp the pieces together and sand or plane smooth any irregularities.

Forming the gutters is easy on a shaper,





A rack to hold the box on the car top may be purchased. Attach the box with carriage bolts and pipe straps. A drainage gutter in each of

the endpieces (right) carries off any surplus water. Note that a small notch should be cut in the sides in line with the gutters.

or with molding cutters on a drill press. Lacking that, use a dado head on the circular saw. Hold the stock vertically against the rip fence and rock it as you work. Make the shoulder for the top panel by holding the work flat on the saw table. Take several cuts at a tangent first. For the finish cut, rock the work against a guide line marked on the fence at the center of the blade.

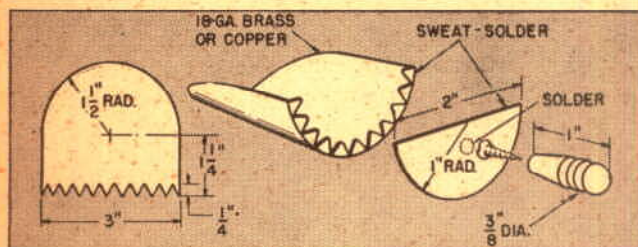
Cut a rabbet inside the bottom edge of all four pieces, using the same saw setting for each. Next, saw rabbets in the endpieces to take the sides. Then make a trial fitting of one end and side to determine the angle at which the sides should be beveled.

Assemble the ends and sides with 1½" No. 10 flathead wood screws, driven into the corner blocks. Angle iron may be sub-

stituted for the blocks if desired. Cut the bottom plywood panel to fit the rabbets. Attach with ¾" No. 6 flathead screws.

Fasten the side and support rails to the ends with 2" No. 10 flathead screws. Attach the bottom panel to the rails with ¾" screws. Cut the top panel so that it just drops between the ends and extends beyond the sides about ¼".

With the top panel in position, lay out and drill four bolt holes. These should be small enough so that 3/16" by 2" stove bolts may be threaded into the sides. Saw off the heads afterward and equip the bolts with wing nuts. Enlarge the holes in the top panel to slip over the bolts easily. Sand the box smooth, and paint or lacquer it to harmonize with the finish of the car.—*Glenn A. Wagner, Delmar, N. Y.*



Scoop Fills Tobacco Pouch Without Spilling

THIS little scoop finally ended a long family feud. With it, I can now fill my tobacco pouch from a humidor or 1-lb. can—and get none on the floor.

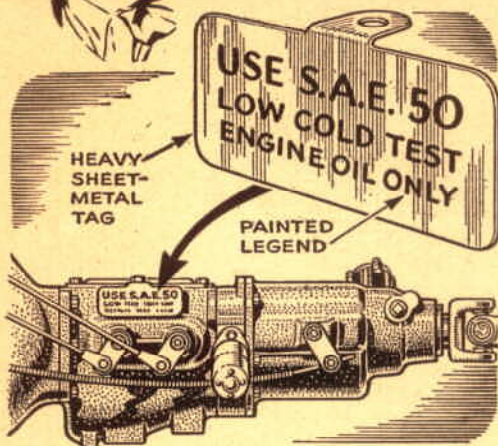
Cut the body to shape with tin snips, notching one edge as indicated. Bend in these projections, and sweat-solder the semi-

circular end to them. Turn or carve a small ornamental wood handle, drill it for a flat-head wood screw, and solder the screw head to the end of the scoop.

I tried to buy a suitable scoop. All were too long to fit inside the humidor. This one isn't.—*A. Zanelli, Clifton, N. J.*

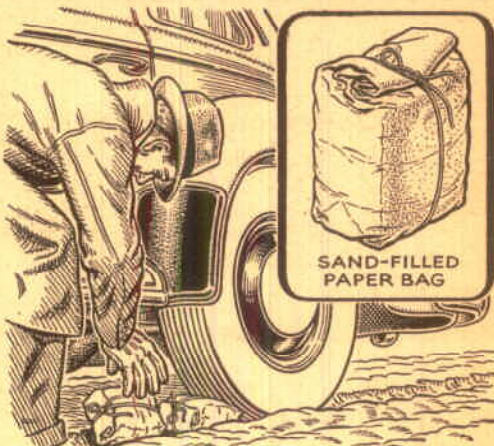


Hints from the Model Garage



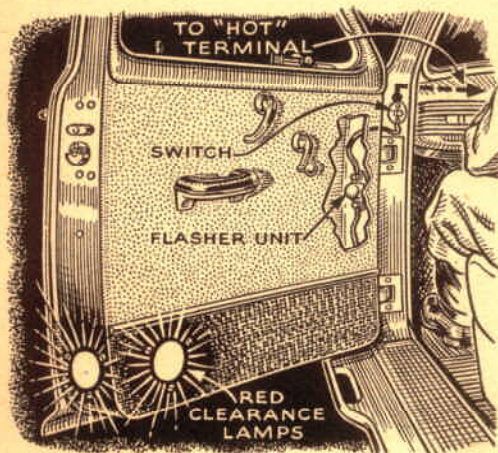
Tag Shows Proper Lubricant.

In some new cars, a heavy motor oil is specified for the transmission instead of grease. To prevent careless errors, paint the oil recommendation on a metal tag and attach it near the transmission filler plug.

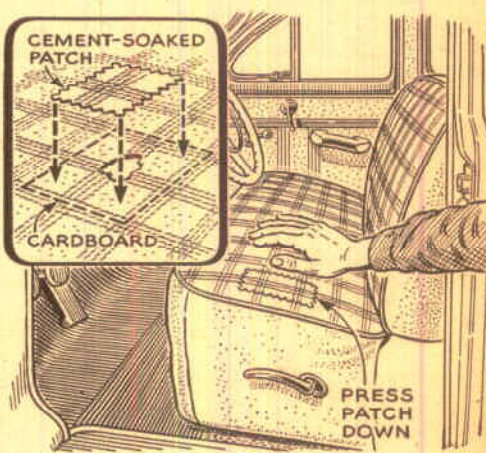


Sand "Bombs" Overcome Ice.

If you frequently must drive on ice, keep sand in your luggage compartment, packaged in paper bags tied with string. Carry the bags in a cardboard box. Then, when stuck, drop bags under the rear wheels.



Door Lights Flash Warning. Before getting out the driver's door in traffic, it's always a good idea to look both ways. John W. Bell, of Des Moines, Iowa, has provided additional safety with this warning system. When the door is opened, a normally-off push switch in the door jamb shoots current to the flasher unit. An auxiliary switch on the dash cuts off the system if you want to keep the door open.

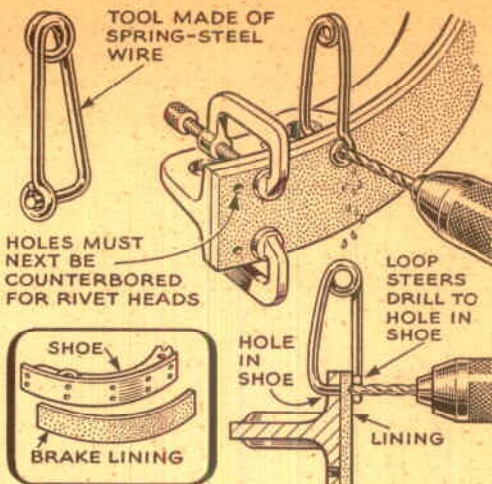


Patching Seat Covers. You can repair a worn area or tear in fiber seat covers by cementing on a patch. Cut the patch from a hidden part of the cover, using pink-ing shears if available. Put cardboard between the worn area and the upholstery to protect the latter, saturate the patch with clear model-airplane cement, wait until it is tacky, and press firmly in place. Let the patch dry overnight.

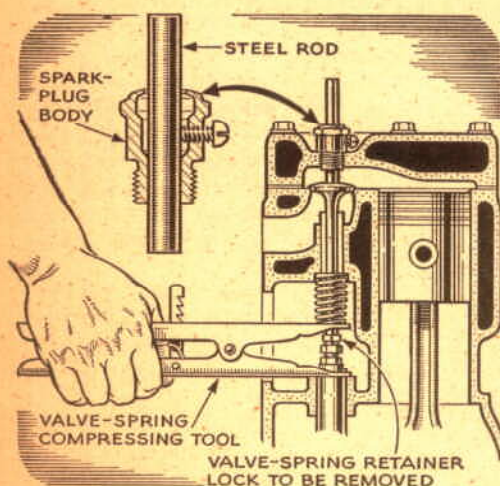
MORE Hints from the Model Garage



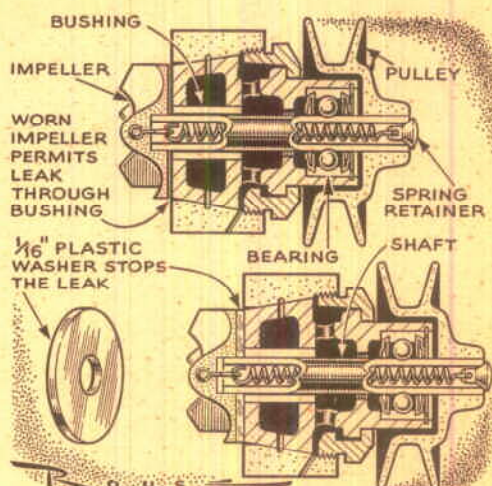
Turn Creeper by Tilting. On rough garage floors, it's often difficult to turn the usual shop creeper when you want to move to a new position. The creeper will work better if you set one pair of wheels back 12" or so from the end. Then, by shifting your weight, you can tilt the creeper slightly when you want to turn.



Aligning Holes in Lining. If you cut and fit lining to brake shoes, this tool will help you align the rivet holes in the lining. After the lining has been cut, attach it securely to the shoe. Then place the prong of the tool in the shoe rivet hole and drill through the tool eye. Counterbore for the rivet heads.



Replacing Valve Springs. This tool makes it easier to replace an intake-valve spring on an L-head engine without removing the head. It's used by adjusting the steel rod until it bears on the head of the closed valve. Turn the body into the spark-plug hole without forcing it. The spring can now be compressed and the retaining key removed. Marion L. Rhodes, Knightstown, Ind., developed the tool.



Washer Tightens Worn Pump. In overhauling a Ford "60" water pump, John Salzillo, of Brooklyn, N. Y., found that the edge of the plastic impeller had worn so much that the spring couldn't pull it snug against the pump housing. To take up the slack, he removed the impeller, and slipped a plastic washer on the shaft. This had the effect of building up the worn impeller. He cut the washer from 1/16" plastic.