

Tune Your Car for a Carefree Vacation

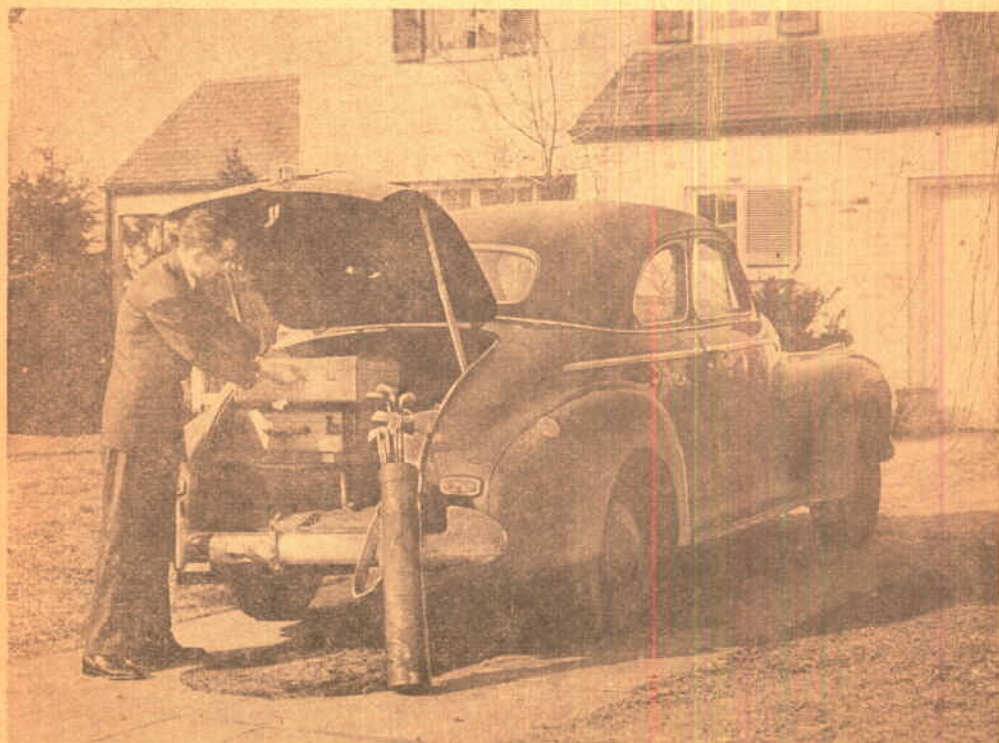
By R. P. STEVENSON

PSM Photos by ROBERT F. SMITH

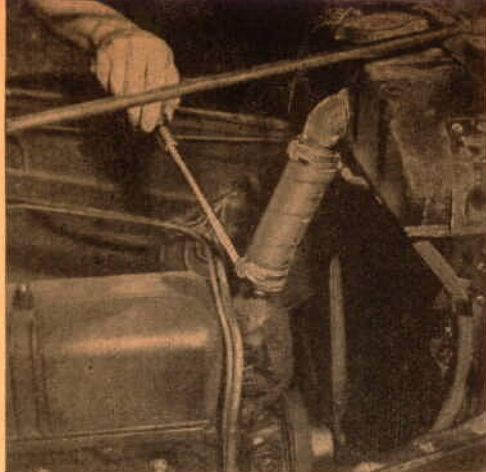
VACATIONS always are more restful and interesting if free of the cares of your everyday life. For this reason, it will pay you to become a worry wart for a week or two ahead of time; if you are planning a motor trip this summer, and check over your car to see that it is in the best possible condition. For some of the more difficult jobs, you probably will want to take it to your serviceman, but there are many things you can do yourself, some of them minor and routine but all adding up to greater effi-

ciency for your car and more travel comfort for yourself.

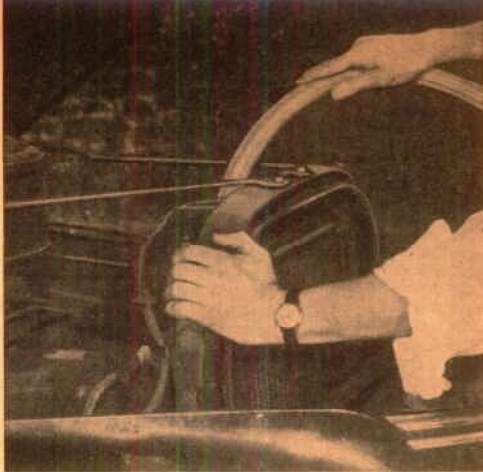
Such a pre-vacation checkup is particularly advisable if you are planning several days of steady driving, for minor defects that may not amount to much in short trips around home are apt to turn into major repair jobs under the stress of long runs. For example, you may have been getting along with brakes that are not quite equalized, or a grabbing clutch. On a long trip, bad brakes may damage your tires and it is possible that a grabbing clutch could magnify itself into a smashed transmission, rear end, or universal joint.



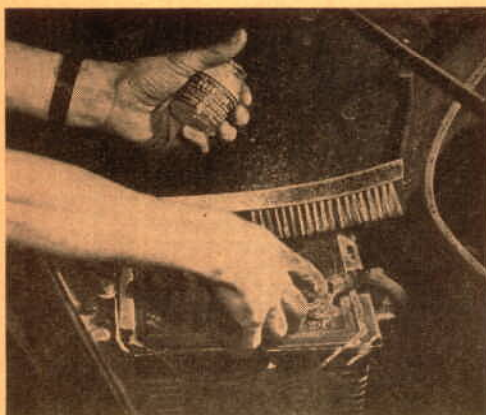
Before you set out, check the car thoroughly so it will not turn your trip into a series of garage stopovers. A can of motor oil stored with the luggage will help guard against burned-out bearings.



Hot weather and fast driving place a heavy burden on the cooling system. So tighten the hose clamps and adjust the fan belt, or replace it if frayed.



Also flush out the cooling system. Reverse flushing is more effective in cleaning out the corrosion, but a hose used in the old way will help a great deal.



With a wire brush, clean off the corrosion from the battery terminals. Then apply a light coating of petroleum jelly. Also check over the cables and be certain each one is making good contact.



Remove the mesh filter from the air cleaner and wash the dirt from the filter with gasoline. Then dip it into a container of light oil and allow to drain for some time before returning to its place.

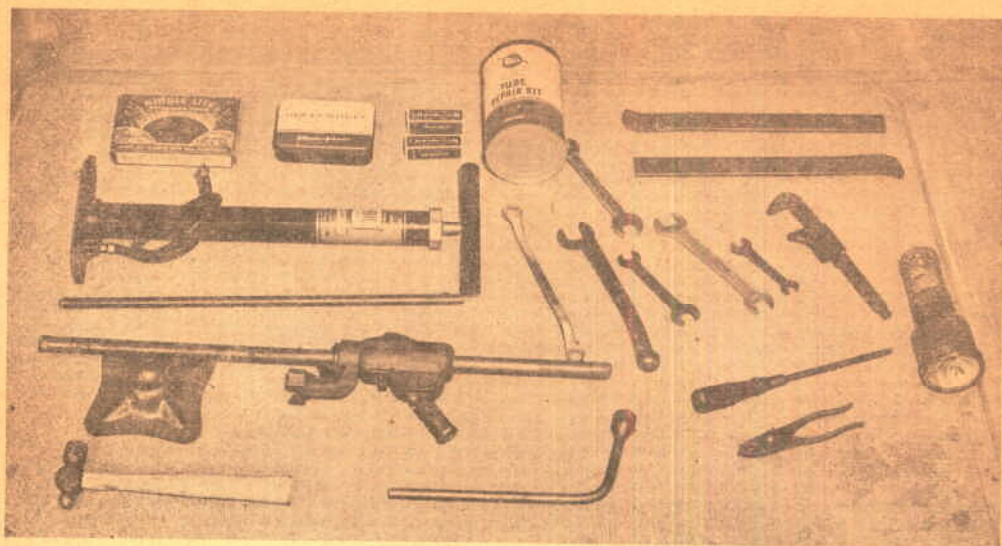
Before settling down to a consideration of the more serious jobs, like checking the brakes, adjusting the carburetor to give the best mixture for summer driving, cleaning the spark plugs, flushing the cooling system, and inspecting the tires, it would be well to give a thought to a few things that are so obvious that they could easily be overlooked.

You may *think* you are adequately prepared to handle a task such as changing a tire on the road—but are you? Check to be sure you actually have a jack, tire pump, lug wrench, tire iron, and tube-repairing kit in the car. Such equipment has a habit of getting left in the garage or cellar after being used for other jobs. Even at the last moment, you better take a look at the tire pump again, since Junior may have bor-

rowed it to inflate his bike tires or football.

While you are making sure of your tools, think about storing a gallon can of motor oil in the luggage compartment. It's sometimes a long distance between service stations—and that oil reserve could easily be the means of preventing your bearings from burning out. Incidentally, keep a close watch on the oil consumption for the first few hundred miles driven at good speed, for the car may have developed into an oil hog since your last long trip without showing it in routine day-to-day driving.

Before you set out, give your battery the same kind of check that you should anyway about every two weeks. See that the water level in each cell is at least $\frac{3}{4}$ " above the plates, adding distilled water if necessary;



Are you prepared for any emergency that might arise on the trip? Spread out your tools and equipment on the driveway and check them over to see that nothing essential is missing. In addition to the items seen here, a provident driver will take along chains, spare fuses, and extra bulbs for the accessory lights.

and take a hydrometer reading of each cell. Fully charged, the battery should have a specific gravity reading of 1.280 to 1.300. If the reading is below 1.250, have the battery recharged.

At the same time, clean any corrosion from the battery terminals with a wire brush, wash the posts and lugs with baking soda and water, and rinse with fresh water. A coating of petroleum jelly will help keep them clean. Go over the cables and be sure that they are in good condition, and that they make firm, low-resistance connections.

Unless you have done so quite recently, it would be well to change the crankcase oil and the transmission and rear-end lubricants, and have the car lubricated throughout. It's a good plan to refill the shock absorbers, too, and to replace any defective links. At the same time this is being done, make a painstaking inspection of the brakes, looking particularly for leaks in the hydraulic system. Have the linings replaced if you suspect they are worn to, or almost to, the rivets.

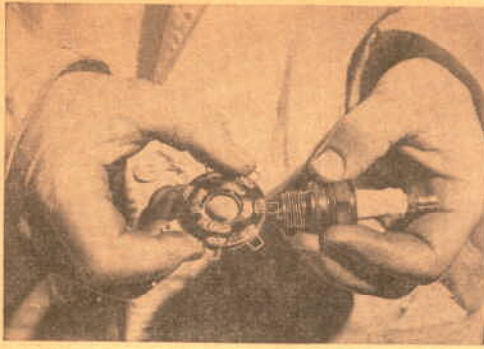
Go over each tire carefully for cuts, bruises, nails, and worn spots that may indicate unbalanced wheels, uneven brake action, or shimmy. Make this tire inspection after removing the wheels, and then transfer each to another position to get more even wear. On your pre-vacation visit to the service station be sure to have the wheels

checked for alignment, for there is nothing that will ruin your tires more quickly than improper front-end alignment.

On a long trip at high speed, the cooling system must work at its best. Hence, the radiator should be flushed thoroughly to remove any corrosive deposits that might eventually work loose and clog the system. There is a difference of opinion whether the permanent antifreeze mixtures should be removed during the summer, but even if you want to leave the mixture in, it is a good idea to remove it temporarily, flush the system, and replace the mixture. While working on the cooling system, also adjust the fan belt to the proper tension. Replace the belt if it shows any sign of raggedness or is oil soaked.

While it may be best to have an expert set the carburetor for the most economical performance, there is one seasonal adjustment on many carburetors that anyone can make with ease. This is an adjustment that in winter causes the acceleration pump to shoot an extra charge of gasoline to your cylinders when you step on the gas. For summer, this should be set to pump a smaller amount.

If your car has an automatic choke, as it probably has, you will find a tiny wire-mesh air filter inside the choke housing. Remove this and clean with carbon tetrachloride—or if it looks hopeless, throw it away and get a



After scraping carbon from the spark plugs, check the gap on each with a wire gauge. If adjustment is necessary, bend only the side electrode.

new one. Also remove the filter from the air cleaner, wash out the dirt with gasoline, dip the filter in light oil, and drain before replacing. Clean the oil-filler cap in the same way. The sediment bowl in the fuel pump is still another cleaning job you should take care of.

Spark plugs are deserving of special attention. Before touching them, however, carefully brush away all dirt so it will not fall into the cylinders when the plugs are removed. If a plug is found to be cracked, badly worn, or oxidized, replace it. If it's still in good condition, scrape the accumulated carbon from the electrodes and check the gap with a wire gauge, bending the side electrode only if any adjustment is needed.

Next, turn to the distributor, inspecting the housing for cracks. If the points are pitted, smooth them with a coil file or replace, remembering that an accurate setting is required for smooth functioning of the engine. It is essential, too, that the timing (that is, the distributor vacuum-advance) be exactly right since this is a prime factor in good performance, and good performance will be especially important to your peace of mind during a vacation.

On a long trip, it is remarkable how annoying you may find a little squeak that you scarcely notice while driving around home. So locate it if you can—and tighten up the joint or apply a little oil. In any case, apply a little graphite lubricant to the wedge-plate and dovetail assemblies of the doors. You may be surprised at what a difference this makes in giving you a quieter ride.

In addition to the tools and equipment previously mentioned, consider taking along

a good set of chains—for on side trips in some rural areas you still may get bogged down in mud or sand. And speaking of weather, you undoubtedly are hoping that the sun will shine throughout the trip. However, it may not. So why not check the windshield-wiper hose for leaks right now—and be prepared?

A provident driver, especially if the trip is to be in lonely country, also would have on hand such things as flares, duplicate fuses, and spare bulbs for the taillight, backup light, and dash light. A duplicate set of keys—door and trunk or spare—is another good idea, but don't carry them yourself. Give them to a companion—or wire them to some inconspicuous place on the car that's accessible from the outside to someone who knows where to look.

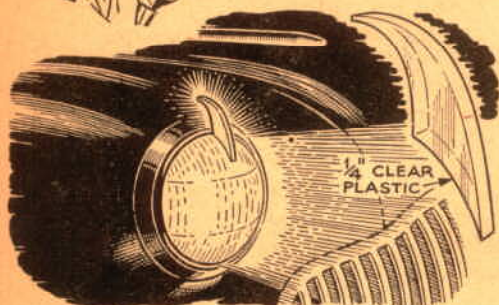
Lastly, if you are like most other people, your glove compartment probably could stand some attention. Clean out the mixture of bobbie pins, gum drops, old envelopes, and other debris that probably finds a haven there, and replace with insurance papers, several up-to-date maps, a flashlight, some spare matches and cigarettes, and any other personal items that will help bring you back alive and in good spirits. END



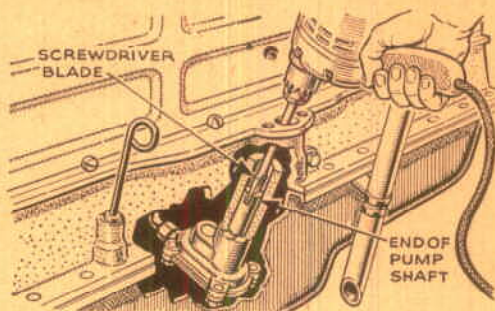
On a pre-vacation visit to your service station, have the wheels aligned. It is estimated that a tire $\frac{1}{8}$ " out of line is dragged sideways 87' each mile, reducing life of the tire 20 to 50 percent.



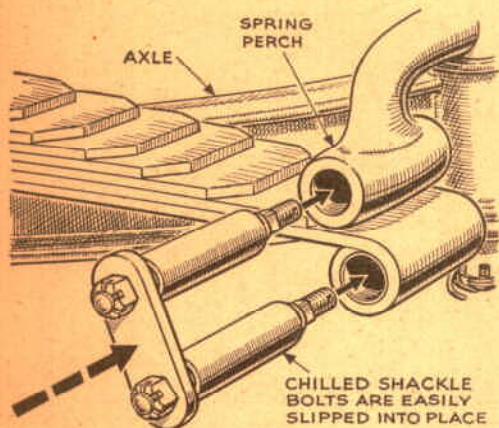
Hints From the Model Garage



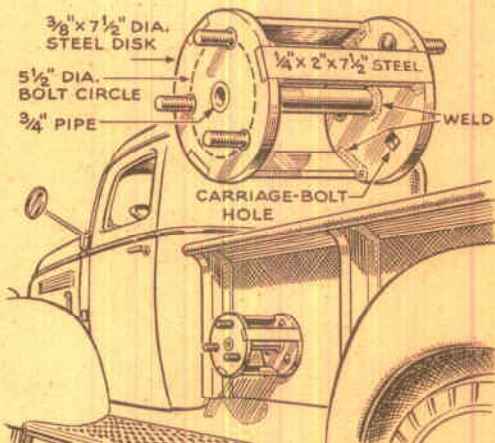
Plastic Shows Lights Are On. If a headlight burns out, you'll know it without leaving the car. Edge-lighted along the lower surface, a horn-shaped indicator cut from plastic carries the illumination up where you can see it. A good cement job will hold it on, or a metal strip screwed to rear corner can be clamped by lamp rim.



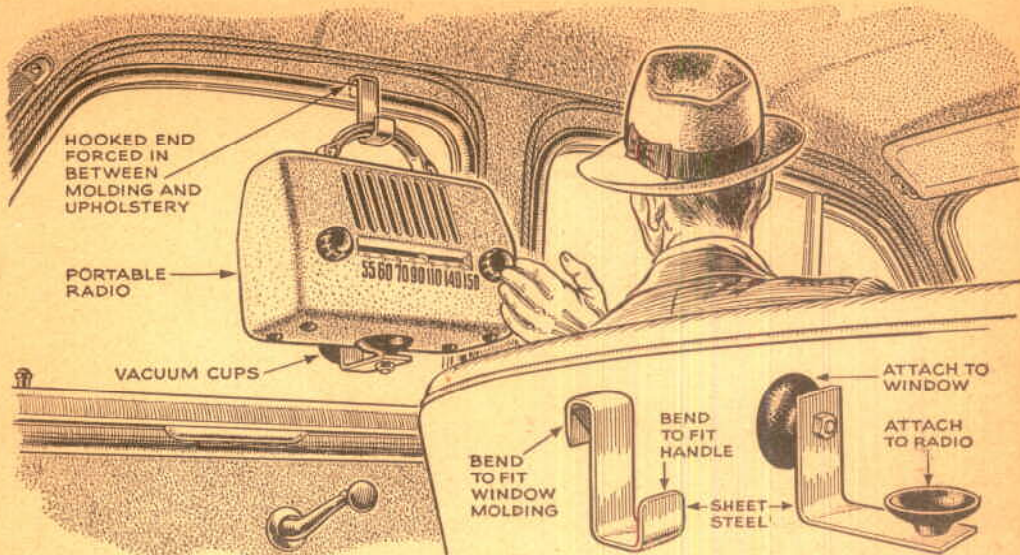
Drill Primes Pump. When an engine is started after an overhaul, oil pressure must come up fast to protect dry, tight wearing surfaces. Reader George Pedley, working on a Chevrolet engine, used an electric drill to run the pump until the oil gauge showed pressure. Then he finished assembly, timed the engine, and started it.



Cold Shackle Goes in Easily. Since cold contracts metal and hardens rubber, Robert Douglas, of Rochester, N. Y., suggests that you take advantage of this when installing Ford or similar spring shackles. Put the new ones into the freezing compartment of a refrigerator and leave for about half an hour. Then you'll find they have contracted enough to go into place with much less difficulty.



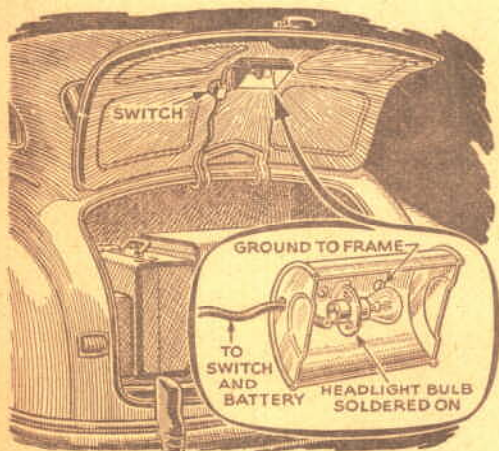
Carrier for Truck Tire. When Edward S. Barrows, of Philadelphia, bought a pickup, the spare-tire carrier was missing. He remedied this by building the one illustrated from scrap materials. He writes that he finds this more convenient than the usual carrier under the box and that it doesn't interfere with any use of the truck. Should you want to carry an extra spare, a carrier like this might be the answer.



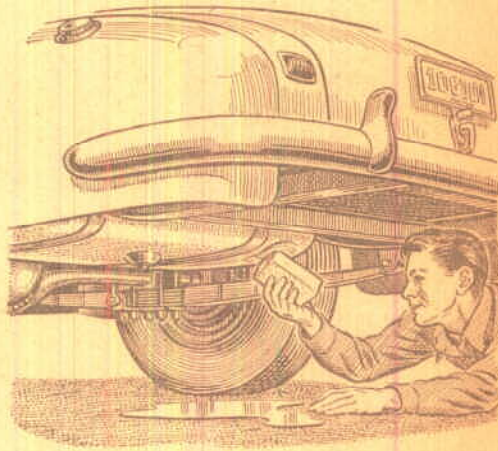
Portable Used in Car. Installed as shown, a good portable can double as a car radio. You'll notice that it can be quickly dismounted to serve in its original function.

With some sets two lower brackets may be necessary to provide firm support. Be

sure to moisten the suction cups before applying to the glass. Most portables will not equal the performance of a good car radio, of course, but an installation like this has been found perfectly satisfactory in areas where stations are not too distant.



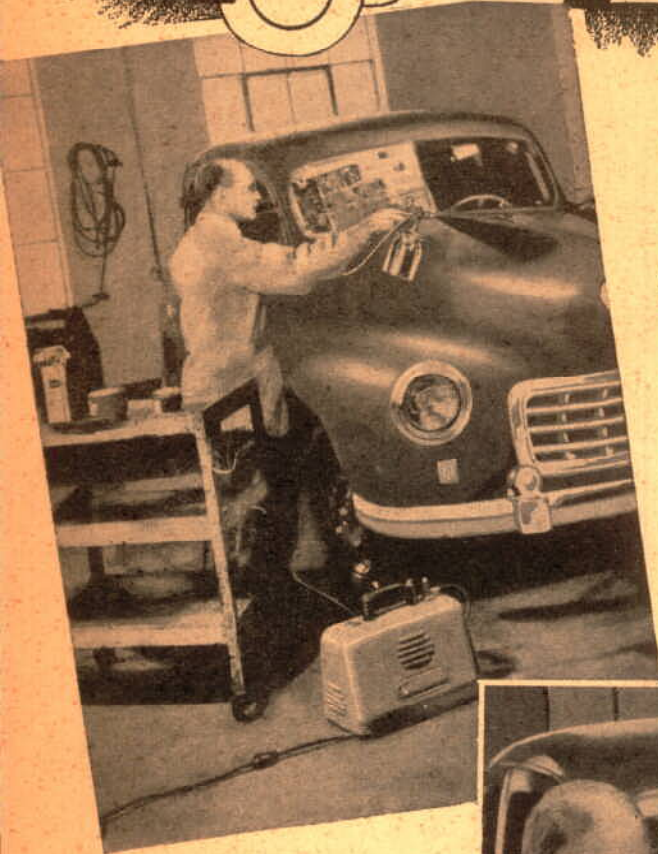
Light Works Automatically. If your luggage compartment hasn't a light, here's one that you can install at little expense. Mount a mercury switch under the lid to close the circuit and turn on the light automatically when you lift the lid. Drop the lid, and it goes off. Tap a taillight wire for the hot lead, and provide a good ground contact from the reflector to the car. A tin can cut in half makes a good reflector.



Soap Stops Gas Leak. If carefully applied, a bar of soap will make an emergency roadside repair for a small leak in your gas tank. After locating the hole, wipe off surrounding dirt and grease and rub the soap firmly over the spot several times. Since gasoline will not readily dissolve soap, this temporary fix will usually last until you can get to a garage and have the tank repaired or replaced.

HOW TO TOUCH UP
DAMAGED SPOTS OR APPLY
A NEW COLOR COAT OF LACQUER OR ENAMEL

Repainting Your Car



Spraying on the finish coat. The windows and all chrome-plated trim or other bright work must be masked by using masking tape and newspapers

At right, the preliminary coats of primer-surfacer, which have been sprayed on, are being rubbed with waterproof paper and water

AUTO refinishing today is a most diversified business. The actual space and equipment needed for the work, as well as the requisite heat and light, are readily available, but other things are also essential. These are skill in matching colors, knowledge of how to do the work, and the proper technique in handling spray guns, abrasive papers, and rubbing compounds. All require experience, and unless a car owner has some ability along these lines, it is better by far to have the work done by a reputable painter and finisher. For successful refinishing, you should preferably have portable spray equipment and, of course,



suitable materials for the work. A warm, bright day is necessary, and a clean garage. If you do not have a sprayer, you can still do the work satisfactorily provided you have good, clean brushes that have been properly kept in liquid brush keepers. You can then use the new four-hour, synthetic-resin type auto enamels and turn out a good job at considerable saving in cash. Don't attempt it, however, unless your garage is not only clean and well lighted, but can also be kept free of flies on a warm, bright day.

If your car was originally finished in lacquer, the same type of finish can be used again. A simple way to test the old finish is to sand a small section with dry sandpaper. If the paper gums up, the finish is lacquer, if not, it is enamel. If you decide to refinish with lacquer, it will have to be sprayed on, not brushed. Lacquer is a hard drying and relatively inflexible coating with powerful solvents that attack the undercoats, so it can be used only over lacquer-base coatings. Enamel, which is made on an oil-resin base, can be applied over any sound, tight base coating, whether lacquer, enamel, or varnish.

If the first finish on your car was enamel, then that alone should be used for the new coat. As conditions warrant, it may be applied with either the gun or brushes, except that in the latter instance a special thinner must be purchased to slow up the initial set of the enamel to allow the brush marks to flow out properly.

What you Save

Materials required for a typical touch-up lacquer job on a damaged car door:

2 sheets No. 180 abrasive paper.....	\$0.10
3 sheets No. 280 abrasive paper.....	.15
1 tack rag35
1/2 pt. primer-surfacer.....	.40
1 pt. colored lacquer.....	1.00
1 pt. first-grade thinner.....	.35
1 lb. No. 2 rubbing compound.....	.40
Owners' Cost	\$2.75
Average price quoted by five garages.....	\$6.75
Owner Saves	\$4.00

Materials for a typical recolor job in lacquer:

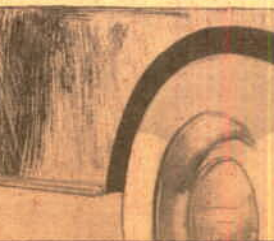
7 sheets No. 280, and 3 No. 320.....	.50
1 pt. primer-surfacer.....	.75
1/4 lb. glazing putty.....	.25
1 tack rag35
2 qt. body color (for 2 coats).....	4.00
2 lb. No. 2 rubbing compound.....	.75
1 qt. fender body color (for 2 coats).....	2.00
1 package 1" masking tape.....	1.25
2 qt. thinner.....	.75
Owners' Cost	\$10.00
Average price quoted by five garages.....	\$35.00
Owner Saves	\$24.00

Materials for a typical recolor job in enamel:

7 sheets No. 280, and 3 No. 320.....	.50
1/4 lb. glazing putty.....	.25
1 pt. primer-surfacer (if needed).....	.75
1 tack rag35
2 qt. body color (for 2 coats).....	2.50
1 qt. fender body color (for 2 coats).....	1.25
1 package 1" masking tape.....	1.25
4 qt. special thinner.....	1.15
Owners' Cost	\$25.00
Average price quoted	\$33.00
Owner Saves	\$17.00



STEPS IN TOUCHING UP A DAMAGED DOOR

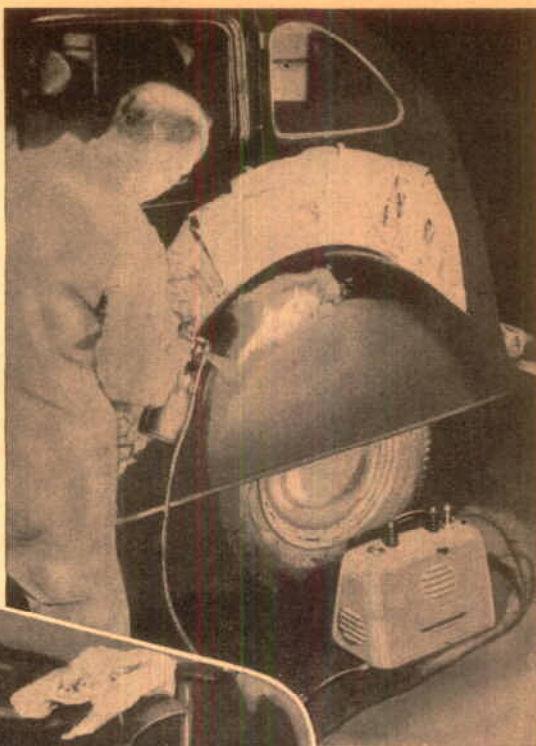


In each instance it is necessary to mask all windows and chromium-plated or other bright work as shown in the photos.

Car refinishing naturally divides itself into three classes: Touch-up jobs, recolor jobs (top coat only), and the hand-brushed auto enamel finish. The necessary materials are listed in the tabulation marked "What You Save." Prices may vary to some extent. The estimates mentioned were obtained from five garages which specialize in auto paint-



The final coat, if lacquer, is allowed to dry for half a day, then rubbed carefully with No. 2 rubbing compound



Above, spraying metal primer on a mud guard which had been so badly scratched in places that it was necessary to wet-sand part of it down to the bare metal

ing and are located in the writer's home city, Syracuse, N. Y.

TOUCH-UP JOBS

1. Sand all chipped or scratched areas to the bright metal with fine abrasive papers, preferably No. 180 or 5/0 waterproof abrasive paper and water. Sponge clean. Polish the surrounding areas with No. 2 rubbing

compound, or any standard abrasive liquid polish (such as No. 7) to bring up the color.

2. Feather the edges of the paint down with No. 280 or 8/0 waterproof abrasive paper and water. Sponge clean. Dry.

3. Wipe quickly with a clean cloth dampened but *not wet* with denatured alcohol, or use the commercial cleaning solution supplied by the maker of the lacquer you are using. Do

not touch any surfaces with the hands after this alcohol wipe, and do not use gasoline at any time.

4. Prime with spray coats of primer-surfacer. This material protects the metal, insures adhesion, and builds up a level surface. When sprayed on in *light*, successive coats, the primer-surfacer allows cutting down with abrasive papers to a true surface. Let each coat dry until flatted, or free

of gloss from the thinners. Apply at least two coats. Dry for half an hour.

5. Wet-sand lightly with No. 280 or 8/0, or No. 320 or 9/0, waterproof paper—just enough to cut down any dust nibs. Level and feather out all edges. Avoid cutting through to the metal. If this occurs, recoat as needed.

6. If the old finish is lacquer, recoat with lacquer color to match. This can usually be obtained from auto refinishing stations if you give the make and color of the car and the year of manufacture. If the old finish is enamel, use a similar new material instead. Wipe off the surfaces carefully with a purchased or homemade tack rag before applying any finish coats. A tack rag is merely a lintless cloth which has been rendered slightly tacky with varnish so that it will pick up the dust.

7. Spray a light, even coat and let it dry in order to judge the color match. Tint the color, if necessary, by using japan or lacquer colors, which can be purchased in tubes or 1-lb. cans as needed. For very small areas that require matching, you can use artists' tube colors. It is often best to spray an entire fender or door rather than try to match perfectly a small patch. If this is done, any small difference in color is not likely to be noticed.

8. Apply a mist coat. Let this set from five to ten minutes, and then give a double coat (one up and down, the other from left to right) just wet enough to obtain a good flow and level out properly, but not enough

to cause any sags. Watch this very carefully in the case of enamel coats.

9. Let dry half a day in summer, or at 75 to 80 deg. F. in winter, then rub out with No. 2 compound for lacquer coats. Do not rub enamel, but leave in full gloss.

RECOLOR JOBS

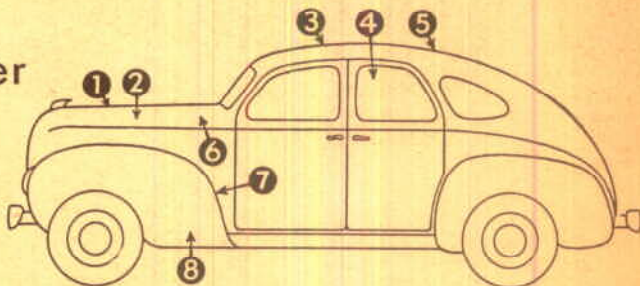
1. Wash the car clean with warm water and a half cupful of trisodium-phosphate powder to a pail of hot water. Hose off clean.

2. Sand all scratches and defects down to the bright metal. Cut the entire finish down dull, using water and No. 280 or 8/0 waterproof paper to level out all parts of the surface. Now apply spot putty on all dents and abrasions not cut down by the sanding. These auto-glazing putties are specially prepared and cannot very well be made at home. They are sold in tubes or cans and can be purchased locally or directly from finishing manufacturers. Keep all putty spots thin and light, and rely on successive coats for building up a dent rather than one heavy application, which might shrink on drying. Dry hard between applications, then water-sand down level.

3. Spray all puttied spots and bare portions with primer-surfacer in successive light coats. Dry thirty minutes and sand level with No. 320 or 9/0 waterproof paper and water. Dry carefully.

4. After carefully dusting car with a brush, go over it again with a commercial

Here's the Order to Follow When Using Lacquer



1. Sand from top down on hood, cowl, and right side complete.

2. Repeat on left side. Blow the dust out of the window frames and all body seams.

3. Wash top with special cleaning fluid or diluted alcohol.

4. Mask all windows and chrome trim.

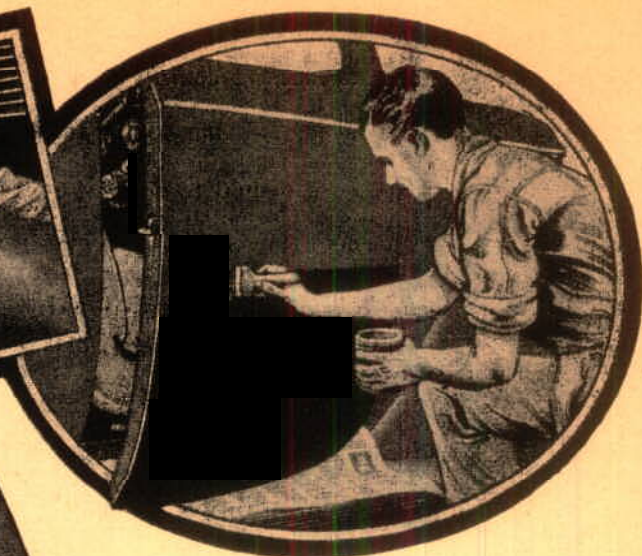
5. Dust off turret top with tack rag. Start to spray on front right corner to belt lines, across and over. Repeat immediately on left side. Give two coats, one following the other.

6. Clean spray dust off of the cowl, lower part of body, and rear fenders. Wipe with tack rag. Spray these sections.

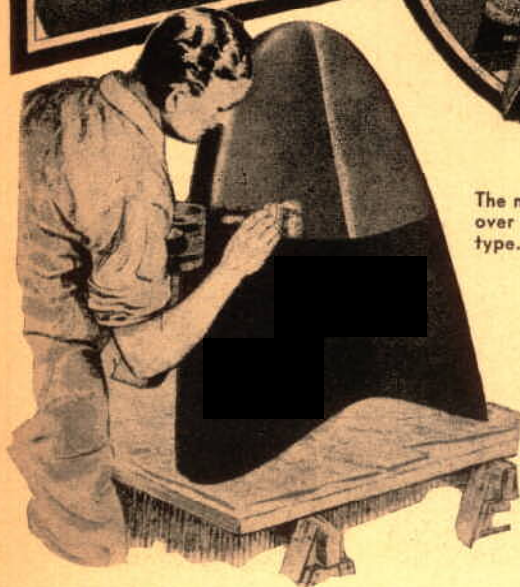
7. Clean spray dust off front fenders and hood, use tack rag, and spray the finishing coat on rear fenders and lower part of body.

8. Spray cowl, front fenders, and hood. Let set fifteen minutes, then apply the finishing coat.

9. Let harden half a day, and then rub with No. 2 compound and polish.



The new synthetic-resin auto enamels can be brushed on over an old finish of either the lacquer or the enamel type. Sketch at upper left shows spot-glazing a dent



HAND-BRUSHED AUTO ENAMEL

1. Clean the garage. Wet overhead and the side walls to keep down all traces of dust.

2. Clean the car and wash it ready for painting. Avoid soap powders. Use the trisodium type, which makes no suds yet easily removes all traces of wax and oil.

3. Wet-sand all parts with No. 280 or 8/0 abrasive papers to cut the old surface down clean and smooth. Wet-sand to the bare metal as necessary over any deep scratches. Dry thoroughly.

4. Prime the exposed metal surfaces with an oil-base metal primer, which is the only type that can be brushed. Dry four hours, then sand with No. 280 or 8/0 and water. Dry off and tack-rag, then recoat. Dry hard and resand with No. 320 or 9/0 paper and water. Cut down level, and feather out all edges. Dry thoroughly.

5. Spot with glazing putty as needed. Dry hard. Sand level with No. 280 or 8/0 paper and water. Dry thoroughly.

6. Apply a brush coat of primer-surfacer to all the putty spots. Dry hard and wet-sand with No. 280 or 8/0.

7. Inspect the entire job and spot-sand as required. Before starting the enamel work, sprinkle the garage floor again. It pays to keep walls dampened down, too. Dust off and tack-rag just ahead of the brush work.

8. Use brushes freshly cleaned in pure turpentine or special thinner made for reducing the enamel to brushing consistency. The special thinner must be obtained in any

or homemade tack rag to insure the complete removal of all traces of dust.

5. Spray on an undercoat of light to medium weight on the spot-sanded areas only, just as for a new finish, whether lacquer or enamel. Dry thirty minutes for lacquers and four hours for enamel undercoatings. Water-sand lightly to remove any nibs, using No. 320 paper and water. Dust off and tack-rag again.

6. Spray two good, wet coats without inducing any sags or drips. For enamels, let set not less than ten to fifteen minutes, and then spray on a full-bodied coat within an hour, so as to give good anchorage, coverage, and body, but without inducing sags, especially on vertical surfaces. For lacquer coatings, let set half a day and then rub out with No. 2 compound. Finish with an abrasive liquid polish, if available, and dry cloths. (No. 2 and No. 7 serve about the same purpose and either will do.) Wax the finish, if desired, to obtain an extra bright gloss.

case, since the enamel itself, if made for auto finishing, is made to be used in the spray gun and, therefore, has too fast an initial set or surface hardening to flow out readily under the brush unless mixed with the thinner. Thin the enamel and work the brushes in a small portion of it until the bristles are satisfied and all traces of the thinner have left the heel of the brush. Then discard this small amount of paint.

9. Apply coatings of the thinned enamel solidly and evenly to the car. Do the portions farthest away first, and fenders and the like last. Plan the work carefully before starting and use a tack rag on separate areas just ahead of the brush. Avoid sags on the vertical areas. Be sure to study the accompanying illustrations carefully before starting work.

10. Keep all coated work clean by lifting out any lint or bristles. For this work use a ball of burnt varnish on the end of an applicator stick or wire to touch the lint while the enamel is still wet and flowing. To pre-

pare the picking stick, cook six to eight parts of brown rosin and one part of varnish in a clean vegetable can until a hot droplet falls on a cold glass plate cools and forms a stiff pill. Take a ball of this about the size of a shoe button, shape it round with wet fingers, and apply it to any specks of lint in the still wet enamel coating. The enamel flows together again as the lint is lifted out.

11. Dry hard and wet-sand with No. 320 or 9/0 paper and water if a second coat is needed to obtain full depth and color. Dry thoroughly after washing clean. Tack rag off and recoat as needed.

12. Allow the final coat two days to dry before putting car in service.

13. Wheels can be washed, sanded wet, dried, and brush-coated or sprayed as needed. For this work they are removed, and some method of supporting them about 36" from the floor should be used in order to see better the progress of the work and also eliminate tiresome bending over.

WINTER DRIVING FACTS

Cold Weather Hints to Save Your Car... or Your Life!

