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## COME BACKS



There may be several things that upset Mr. Average Owner but one that belongs near the top of our list is our old friend the "come back" job. If a man has a particularly complicated condition develop in his car and brings it in for you to correct he may not be greatly upset if you don't get it the first time, but even this owner won't be any too kindly toward the idea of bringing the car back the **third** time to have it fixed.

What do you do to prevent the "come back?" Naturally the man who talks to the customer is a very important part of this procedure. Let's say you had a rather finicky job come in. You put it in the shop and after it comes out the shop foreman says, "We've set that job up standard and our road test yesterday showed that it was all right. This morning we went out again, and while it seems to be all right I'm not 100% satisfied with it. He wants the car this morning and I haven't time to do anything else with it. **Let's tell the customer** we would like to have him take it and try it out. Tell him that we are not absolutely sure of it; ask him to be patient with us, try it out today and let us call him and find out just how it acts. It would be better to do this rather than turn it over to him and let him think that it is all right and have him find out different; and by the way, be sure to tell the cashier to hold up that invoice until we have word from the owner that we have fixed the car. If we send him a bill or try to collect for it now and it still isn't fixed, we sure will have him upset."

Next is that old stunt of having a rubber stamp made to print a star about a half-inch across. When a service salesman writes an order on a "come back" he stamps the star at the top of the order. This is an indication to the man who is to work on the job that his inspection should be particularly thorough. Every job with a star on it ought to be turned back to the service salesman by the foreman. They ought to check it together to make sure that it is right. If necessary, call in the service manager. In fact the service manager who is really on the job should insist upon having called to his attention every order that has a star put on it so that he can personally check to make sure that the car is right.

Should a car come back the third time two stars should be placed on top of the order, and in this case the man who writes the order, the shop foreman, and the service manager should get together and make absolutely certain that the condition is corrected. There ought to be very few jobs with two stars on them. If sufficient attention is paid to the one star job there ought not to be any two or three star orders.

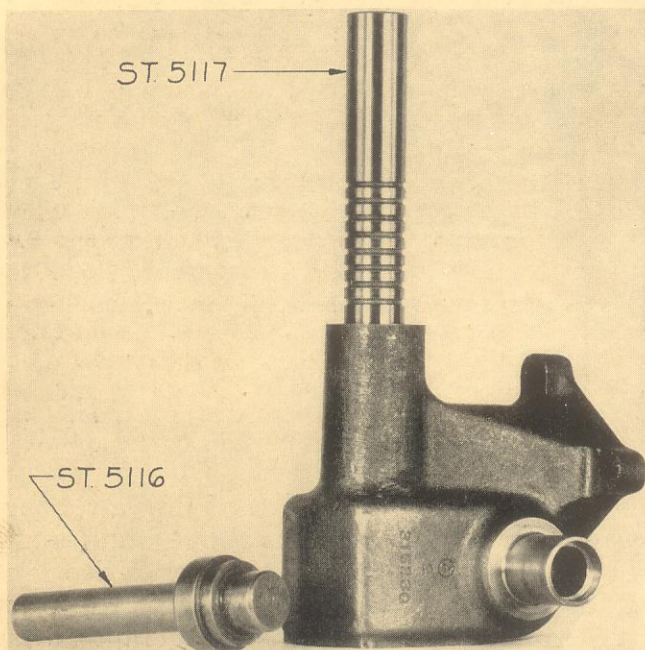
If you can't find such a rubber stamp in your place, get one made in a hurry and buy a red ink pad to use with it. Get a good lively red and a good big star. Explain to all the boys what they are and what they mean. Pay particular attention to your inspection on these jobs, handle the customer frankly and you will find your second and third "come backs" few and far between.

*It is not the hours you put in, but what you put into the hours that counts!*



## STEERING GEAR CASE RECONDITIONING TOOLS

120, B, C, 115-C, 1600



Tool No. ST-5116 Steering Gear Case Bushing Replacer Suggested Price \$4.00

Tool No. ST-5117 Steering Gear Case Bushing Burnisher Suggested Price \$10.00

The shaft end of the steering gear bushing driver is used for driving out old bushings and the large end is used for pressing the new bushings in place. The tool is made with three different dimensions so that when the new bushing is driven in place with ST-5116, both bushings are then 1/32 inch below case surface, to insure proper cross shaft clearance.

The picture shows tool ST-5117 steering gear bushing burnisher. Place the small end of this burnisher into the bushing and under an arbor press; use fast, even strokes, pushing the tool clear through. The pilot of the tool insures complete alignment, making the hole up to size without reaming.

## TIGHTENING CYLINDER HEAD NUTS

Water leaks at the cylinder head, burned and blown-out cylinder head gaskets, cracked cylinder heads, and even excessive oil consumption and low gasoline mileage, are often caused by improper tightening of the cylinder head nuts. To avoid these troubles several precautions should be taken.

To insure a good seal always use a new gasket when replacing a cylinder head. Coat both sides of the gasket with Perfect Seal or other good gas-

ket paste and coat the cylinder head studs with the paste to prevent corrosion and facilitate future removal. Always tighten the cylinder head nuts in

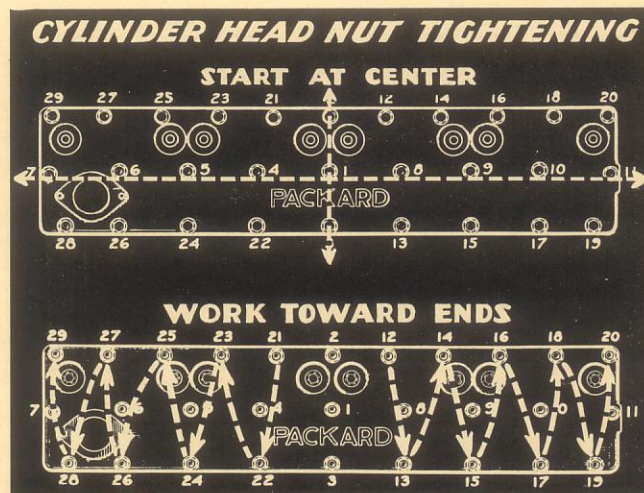


Figure 1

the proper order, as shown in Fig. 1, and tighten them all to the same uniform tension. If the nuts are not tightened in the proper order or if some are tightened more than others, the cylinder head cannot expand uniformly when hot, causing it to crack. The final tightening and checking of the cylinder head nuts should be done with the engine warm on both cast iron and aluminum heads.

Too much tension, or uneven tension, on the cylinder head nuts may pull the cylinder bores out of round. This distortion may be enough to prevent the piston rings seating properly and so cause excessive oil consumption, lack of compression, and generally poor performance. Cylinder head nuts should be tightened with the Tension Indicating Wrench ST-999, and drawn down to a uniform tension of 150 to 160 as indicated on this wrench. These tensions apply to all models, Six, Eight, Super Eight and Twelve, and supersedes figures printed in the Special Tool Catalog and in the Service Letter, February 15, 1937, under the heading, "Tightening Cylinder Head Nuts."

In using the Tension Indicating Wrench, it will be found that an initial high reading of force required to start the nut will be shown, followed by a second reading of the force required to turn it. The second is the true reading.

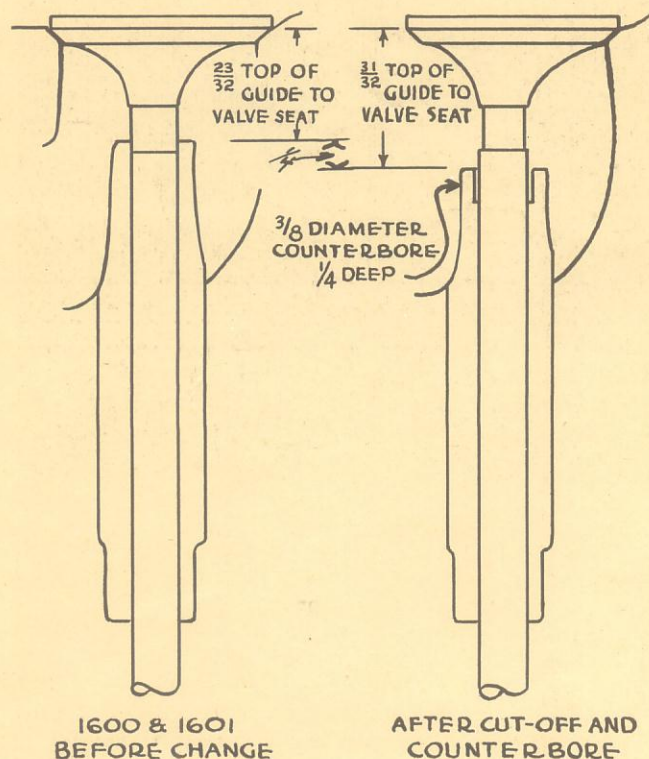
In using the wrench, use a long, slow stroke and stop when the desired tension is shown on the dial.

The heat of the engine and the pressure of the cylinder head cause the gasket to compress and become thinner, thus reducing the tension of the cylinder head nuts. This makes it necessary to run the engine and then recheck the tension of the cylinder head nuts again after tightening. Road test the car or if that is not possible, run the engine for at least 20 minutes, allowing it to reach a good operating temperature and then recheck the tension of the cylinder head nuts.

After the installation of a new cylinder head gasket the tension of the cylinder head nuts should be rechecked after the car has been in use a few days.



## STICKING VALVES 1600-1601



This should not be expected to prevent sticking of valves caused by the formation of gum left by the gasoline. The effect of gum in the gasoline has been described in the Service Letter several times by Mr. W. H. Graves, Chief Chemist. All gasoline contains some gum. When gasoline is allowed to stand, the gum content increases so that after standing, particularly in a heated building, as in the tank of a car in storage, enough gum may be formed to cause serious trouble through sticking of valves and piston rings.

Gum in gasoline is like an infectious disease. Once a storage tank has become infected with it, it will contaminate otherwise good gasoline put into it.

In order to insure against gum formation all cars put in storage should have all gasoline drained out and a small amount of aviation gasoline or a mixture of half benzol and half gasoline put in and the engine run a few minutes to work all gasoline out of the fuel lines and carburetor before storing it.

In the case of cars that have become slightly gummed through standing, filling the tank with a mixture of  $\frac{1}{2}$  benzol and  $\frac{1}{2}$  gasoline and running it out will in most cases clean out the gum.

A recent production change in the exhaust valve guide to reduce valve sticking may be made in the field. Cutting off the top of the exhaust valve guide with a large drill and counterboring with a  $\frac{3}{8}$ " drill to the dimensions shown in the illustration, will definitely reduce the possibility of valve sticking. We recommend that this be done on all 1600 and 1601 engines at the first valve grind or whenever the valves are out for any reason.

Difficulty will be experienced reaching the rear valves with the drill due to interference with the dash. Where the necessary offset equipment is not available the rear guides may be counterbored only using a  $\frac{3}{8}$ " drill and ratchet.

Valve sticking is aggravated by the presence of excess oil on the valve stems. Use of the valve cover assemblies having oil baffles on the inner face, which were described in the article on Oil Consumption in the March 1, 1938 Service Letter, will reduce the amount of oil thrown on the valve stems and so will reduce any tendency toward sticking.

In cases where trouble is experienced with sticking valves we suggest that new valve cover plates be installed.

Model	Name	Piece No.	Req.
1600	Valve Cover Assembly front	327956	1
	Valve Cover Assembly rear	330021	1
1601	Valve Cover Asb. front-rear	327958	2

## POSTER ON HEADLIGHT USE



The National Safety Council has prepared a one-sheet poster in two colors. It was designed for use in conjunction with the Headlight Maintenance and Use Campaign for display in dealer showrooms and service stations. These are now available at eight cents each and may be ordered by distributors from the Packard Service Promotion Department.



## LUBRICATION

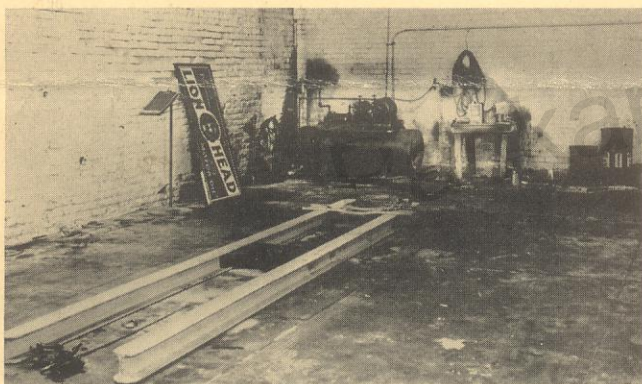
Many dealers have made a determined drive for additional lubrication business. They realize that the modernization of their lubrication department costs little in relation to the increase it will bring in service profits.

The "before and after" views of the Frank H. Whitten set up of Marysville, California, is a good example of this.

Lubrication is a most frequently purchased service, and it is the best possible way of maintaining customer contact. An attractive, properly equipped department is the best way to bring them back. Appearance and environment are important.

Your lubrication department should be a feeder for all other service requirements. The day of the grimy grease rack is gone. The modern, well managed department not only gets more of the lubrication business, but assists in getting the increase in sales that bring in the profits required.

After the appearance has been corrected it is a question of volume. Steady volume is best, and the answer to this is coupon books. This plan means "paid in advance" lubrication business and that is the best kind. Many reports are received of 50 and 60% of owners on the Coupon Book "paid in advance" plan. If you are not familiar with the details of this plan write the Service Promotion Department.



BEFORE



AFTER

## PACKARD RUST PREVENTIVE



As long as they last an attractive counter display for Packard Rust Preventive as illustrated is available without charge with each order for a dozen pints of this fast moving profitable item. Dealers should place their orders through the distributors under whom they operate.

The logical time to renew Packard Rust Preventive is in the spring and fall when changing to or from anti-freeze.

Cooling systems that have not been treated continuously with rust preventive should first be flushed out thoroughly. The best results are obtained by removing the radiator and thermostat and forcing water under pressure in the opposite direction of normal circulation. Renew all old hose connections when reattaching the radiator. Pour into it a pint of Packard Rust Preventive and fill up with either clear water or an anti-freeze solution as the weather dictates.

Available in following sizes:

98317—Pint, Suggested List Price .....	.40
98318—Quart, Suggested List Price .....	.70
98319—Gallon, Suggested List Price .....	1.70
98320—5 gallon drum	320546—15 gallon drum
320537—30 gallon drum	98321—55 gallon drum

Prices on request for drum lots or quantity lots of smaller sizes.

SUGGESTIONS OR QUESTIONS ARE ALWAYS WELCOME. ADDRESS—N. A. LULL—EDITOR PACKARD SERVICE LETTER