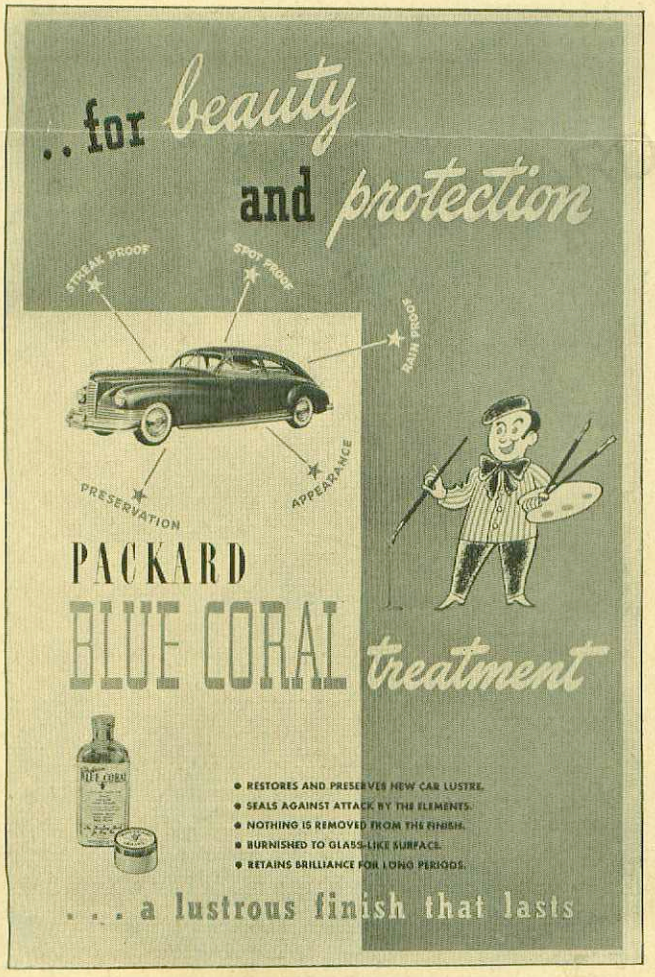
PACKARD
Service Counselor
PARTS ★ ACCESSORIES ★ PRODUCT ★ PROFITS
INSTITUTIONAL PROMOTIONAL
APPROVED Packard SERVICE

VOL. 20, NO. 7 JULY, 1946

FIRST REPORT ON BLUE CORAL CONTEST

Some Zones have gotten off to a flying start on the Contest. Since the first reporting period covers ten days, at least one tenth of the total quota should be in the bag.



IS YOUR POSTER ON DISPLAY?

Nine Zones have reached or passed their ten day quota and that's a good running start. Other Zones have left the post but not with a flying start. They will have to gain speed as they go. There are two answers. Dealers who are in push harder and more dealers get into the contest. Send entries to zones.

June 20 to June 30 Standing

Zone	*Sales*	*Per Cent to Quota*
Phoenix	16	28.0
Cincinnati	178	24.5
Boston	160	21.9
Salt Lake City	15	16.1
San Francisco	30	15.1
Minneapolis	25	11.5
Albany	28	11.4
Cleveland	54	10.7
Philadelphia	88	10.7
St. Louis	45	9.8
Reno	3	9.0
St. Paul	10	8.8
New York	194	8.8
Chicago	114	8.5
Atlanta	68	8.1
Portland	12	7.4
St. Johnsbury	5	7.3
Milwaukee	14	5.0
Washington	32	4.8
Detroit	46	4.4
Seattle	10	4.2
Kansas City	27	3.4
Buffalo	18	2.8
Pittsburgh	11	1.6
Dallas	8	0.9
Los Angeles	No Report	0.0

STEERING GEAR ASSEMBLY
21st SERIES

One of the more prominent changes in the 21st Series Clipper is the use of a steering gear assembly incorporating a three-tooth roller type of cross shaft.

Previous models were equipped with a gear assembly using a double tooth roller rotating on two preloaded ball bearings whereas the roller in the present type assembly rotates on a double row of needle bearings of greatly increased capacity.

An important feature of this new gear assembly is that the adjustment of the cross shaft is now accomplished by means of an adjusting screw accessible from the outside of the gear case. Formerly, it was necessary to remove the cross shaft from the gear case and to remove or add shims in order to obtain proper adjustment.

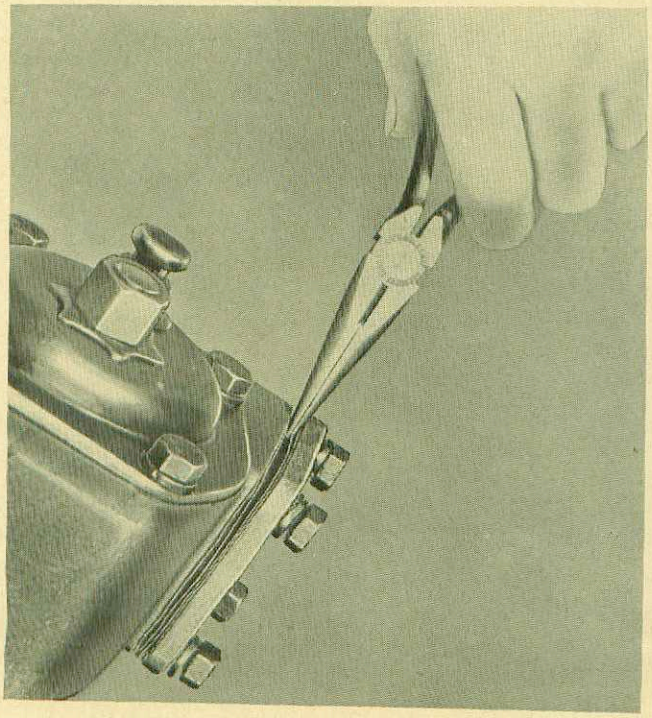
The inspection and adjustment of the new gear assembly is as follows:

INSPECTION AND ADJUSTMENT

Before changing any steering gear adjustments it is advisable to jack up the front end of the car and check for stiffness or lost motion in the steering linkage and the front suspension.

STEERING GEAR ALIGNMENT

Loosen the steering gear case to frame bolts to permit the gear to align itself to the height determined by the steering column to instrument panel bracket, then retighten the bolts. Loosen the instrument panel bracket, and if necessary, shift the bracket to align the steering column laterally.

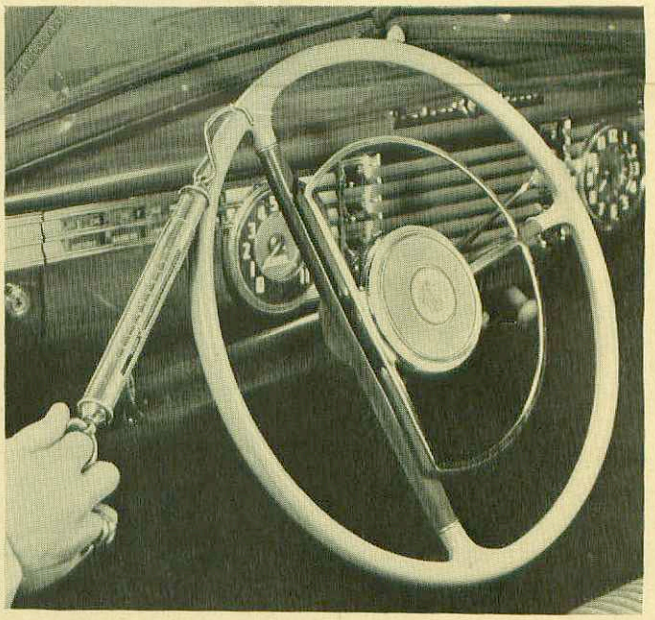


WORM BEARING INSPECTION

Disconnect the steering connecting rod from the cross shaft lever or pitman arm. Turn the steering wheel to either stop, then back up approximately $\frac{1}{8}$ turn. At this point, the effort or pull required to turn the steering wheel should be not less than $\frac{1}{2}$ and not more than 1 pound. If less than $\frac{1}{2}$ pound, adjustment is necessary.

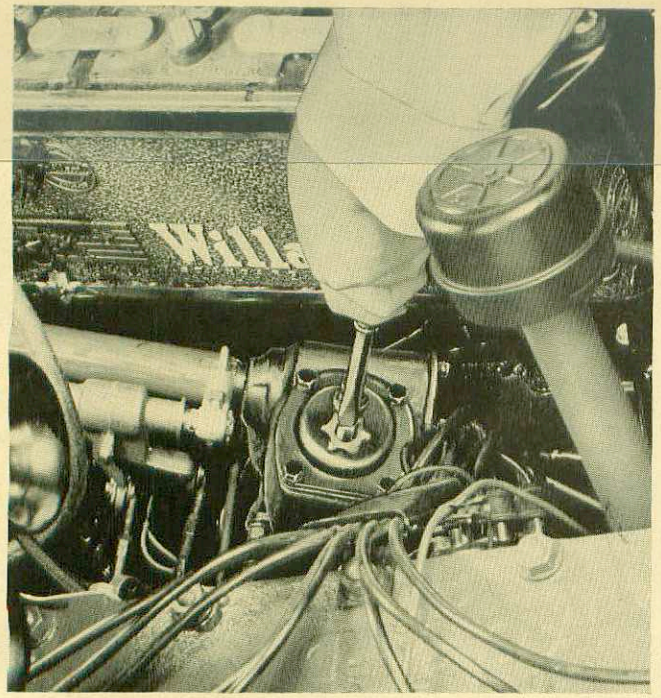
WORM BEARING ADJUSTMENT

Loosen the four cover screws $\frac{1}{8}$". Separate and remove a .003" shim, exercising care to avoid mutilating the remaining shims. If necessary, remove the cover to separate the shims. The shims are of three thicknesses, .003, .005 and .010 inch. Do not remove shim stock in excess of .003" without first rechecking the steering wheel effort or pull.



CROSS SHAFT INSPECTION

Turn the steering wheel $\frac{1}{4}$ turn to either side of the straight ahead or "high-spot" position. By means of a suitable scale attached to a spoke at the steering wheel rim, pull the wheel through the "high-spot". When approaching the "high-spot", the effort or pull should increase and should decrease when the "high-spot" is passed. If the pull does not increase at least $\frac{3}{4}$ pound an adjustment is necessary. The total effort or pull should not exceed 2 pounds.



NOTE: No adjustment of the cross shaft should be made unless the worm bearing adjustment and steering column alignment are known to be correct.

CROSS SHAFT ADJUSTMENT

Place the steering wheel in the straight ahead or "high-spot" position. Remove the adjustment screw lock nut and raise the lock plate enough to clear the boss on the cover. Turn the adjusting screw until the effort or pull required to pull the wheel through the "high-spot" position is from $1\frac{1}{2}$ to 2 pounds. Do not overtighten. When properly adjusted, the effort or pull required to move the steering wheel through the "high-spot" should not exceed 2 pounds.

RECHECK

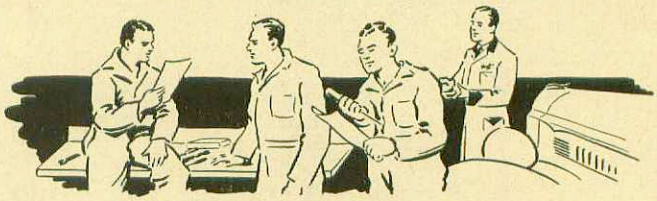
Before connecting the steering connecting rod, turn the steering wheel through its entire range to check for any stiffness or tight spots. If roughness or tight spots are noted, the cross shaft and cover should be removed and the worm and cross shaft roller checked for damage or rough bearings.

LUBRICATION

Change steering gear oil each spring using SAE 140 straight mineral oil. In the fall change to SAE 90 straight mineral oil or dilute with kerosene. Maintain the oil level flush with the bottom of the filler plug hole at all times.

"QUIZ TEST"

HOW MANY DO YOU KNOW— without looking at the answers?

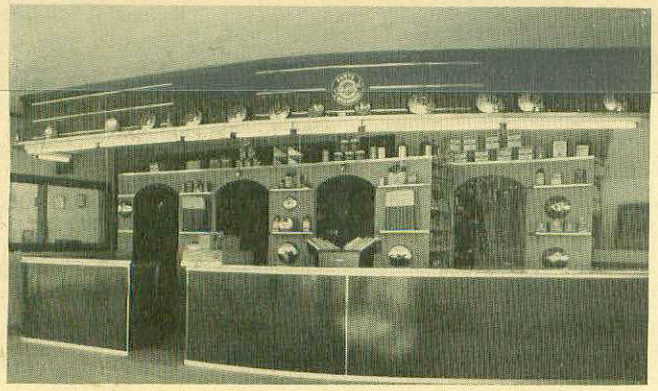


1. On a car equipped with an Electromatic clutch, when the Electromatic lockout switch is "pushed in", the clutch should automatically disengage before the car comes to a stop. If the clutch does *not* disengage and the engine stalls as the car stops, the cause may be:
   (a) The accelerator switch improperly adjusted. ☐ (b) A faulty governor switch. ☐
   (c) Not enough free play in the clutch pedal. ☐
   (d) Engine not creating enough vacuum to operate the power cylinder and disengage the clutch. ☐

2. When brakes which have been operating properly, develop a dragging condition, the condition can be caused by: (a) The master cylinder being overfilled. ☐
   (b) The pedal to master cylinder connecting rod out of adjustment. ☐
   (c) The wheel brake shoe adjustment slipping. ☐
   (d) Failure of the master cylinder primary cup to completely uncover the compensating port. ☐

For Answers, See Back Page.

MOBERLY, MO. PPCP



TRAFFIC SAFETY CHECK REPORT INDICATES SERVICE NEEDS

One out of every three vehicles examined during the first ten days of the Police Traffic Safety Check program failed to meet minimum safety standards.

The report is based upon early reports from 23 states. A total of 163,567 vehicles were checked in these states. Police found 57,804 vehicles—a total of 35.3 per cent—with defective brakes, tires, lights, horns, windshield wipers or other parts.

A total of 81,742 defects were found in the vehicles tested. Of these, inadequate brakes accounted for 11,075, or 13.5 per cent; defective tires, 4,087, or 5 per cent; faulty front lights, 18,383, or 22.5 per cent; rear or stop lights, 24,480, or 29.9 per cent; windshield wipers not operating, 7,802, or 9.5 per cent; defective horns, 7,218, or 8.8 per cent. Other obvious and hazardous defects totaled 8,698 to account for 10.6 per cent of the total defects.

The Traffic Check has shown that motorists are exposing themselves to traffic accidents, death and serious injury because thousands of irresponsible drivers are using worn-out vehicles which they do not, or cannot, keep in safe operating condition. The age of vehicles now being used upon streets and highways makes it absolutely necessary for every driver to check constantly for needed repairs, and, above all, to drive with added caution so long as these old vehicles are in use.

Reports from the other states and Canada, now being received, are expected to increase the percentage of vehicles failing to pass the check.

All Dealers should cooperate in this program.

OIL FILTER EQUIPMENT

CLIPPER SIX and EIGHT

The connecting tubing for the Six and Eight oil filter equipment is not interchangeable due to the difference in tube length and shape.

The filter outlet tube, when installed on the Six, passes between the cylinder block and the oil filler tube whereas on the Eight, the outlet tube is installed on the outside of the oil filler tube.

The filter assembly or the cartridge can be used on either model but particular attention should be paid to the tube part number when filter tubes are ordered or sold.

Part numbers for the tubes are as follows:

Six	Oil Filter Inlet Tube	378580
	Oil Filter Outlet Tube	378581
Eight	Oil Filter Inlet Tube	378582
	Oil Filter Outlet Tube	378583

QUIZ QUESTION ANSWERS

1. ANSWER: (a) and (b). The governor and accelerator switches are connected in series to provide a ground for the direct speed solenoid valve circuit. Current flowing through the direct speed solenoid energizes it, causing the valve to open, making the Electromatic mechanism operative. A poor contact anywhere in the circuit, whether it be a faulty governor switch or improperly adjusted accelerator switch, may either break the circuit or reduce the flow of current to such an extent that the direct speed solenoid is not energized. Thus, the direct speed solenoid valve is not opened and consequently the Electromatic mechanism is inoperative. See Service Letter 12-15-42.

2. ANSWER: (b) and (d). The master cylinder to brake pedal connecting rod should be adjusted so that the brake pedal has $\frac{1}{4}$" to $\frac{1}{2}$" free play. This is to be sure that the primary cup will uncover the compensating port to permit return of excess fluid in the lines to the reserve chamber.

Swelling of the primary cup, or a connecting rod that is adjusted too long will prevent the primary cup from uncovering the compensating port, thus the fluid cannot return to the reserve chamber, and the brakes cannot release fully. See Service Counselor 1-44.

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