

# SERVICE COUNSELOR

PACKARD MOTOR CAR COMPANY



# counselor

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## World-Wide Ultramatic Training Schools

International interest is rapidly growing for Packard's revolutionary Ultramatic Transmission!

Export Service Representative, Ralph Hayne, is pictured here directing one of his Ultramatic School training classes in far-away Hong Kong for The Oriental Motor Car Company.

Observe the improvised bench the class members are using for dismantling the transmission.



Ralph apologized for this, saying this equipment was the best they could obtain under the circumstances.

In spite of extreme handicaps in training personnel in some of our Export Distributor Zones, the Ultramatic School shown in this photograph is another proof of fullest cooperation between our Export Distributors and their Dealers.

None of the boys in Ralph's "unique" Training School can speak a single word of English except the Service Manager, the stalwart chap in the white coat next to Ralph.



We hope you like these pictures and the little human interest note. This may give you a better understanding of what Packard is doing in cooperating with every Dealer to place the Ultramatic, the world's finest automatic transmission, into First Place all over the world—and *KEEPING* it there!

## May Is National Car Safety-Check Month

NOW! JOIN THE ANNUAL NATIONAL CAR SAFETY-CHECK PROGRAM IN COOPERATION WITH THE NATIONAL SAFETY COUNCIL AND THE INTER-INDUSTRY HIGHWAY SAFETY COMMITTEE.

WHEN YOU SELL SAFETY ♦ YOU SELL SERVICE.

YOUR ZONE OFFICE HAS ALL THE DETAILS.

## Pump Check Valve Noise

### Ultramatic

When the rear pump takes over the function of the front pump on 23rd and 24th Series Ultramatic Drive transmissions, there sometimes is a tendency for the pump check valve to pulsate or flutter.

A spring-type pump check valve has been released to correct this clicking, or fluttering condition, which caused a very disturbing noise at about 20 to 30 MPH or when the direct drive clutch engages or disengages.

The spring-type pump check valves are adaptable *only* to the die-cast valve bodies and cannot be installed in valve bodies produced previous to the die-cast type.

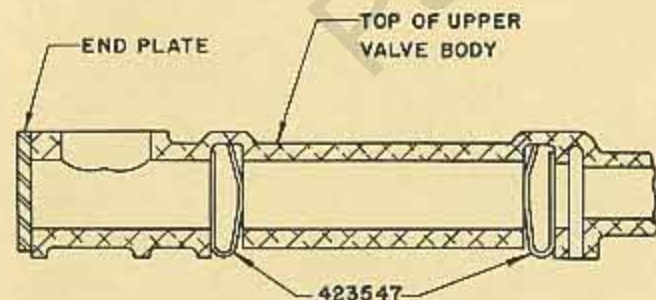
The die-cast valve bodies started in production with transmission serial numbers 115750 and 7988. There may be some of the die-cast valve bodies installed on early transmissions in service.

The valve bodies can be identified as follows:

The die-cast body has a very smooth finish, does not have the cast iron converter relief valve retainer, part number 421939, and does not have the converter feed tube assembly (copper tube) as installed on the early type body, which also has a very rough finish.

The procedure for installing the spring-type pump check valves is as follows:

- Drain the Ultramatic oil and remove the pan.
- Remove the valve body assembly.
- Separate the valve bodies.
- Remove the four Phillips screws and remove the plate from the end of the body that holds the pump check valve in its bore.
- Discard the old cylindrical-type pump check valve and reinstall the plate and four Phillips screws.



SECTION THRU PUMP CHECK VALVE BORE

- Install the two spring-type pump check valves as shown in the illustration. They are installed in the two slots cross-wise of the valve bore from the lower side of the upper valve body. Be sure that the flat side of the two valves are opposite each other as shown.
- Reassemble the valve bodies to each other, and install them on the transmission. Torque

tighten the valve body attaching screws to 10 to 12 ft. lbs. Be sure to clean the inlet oil screen.

(h) Install a new pan gasket and the oil pan.

(i) Fill the transmission with Ultramatic oil as described in the Service Manual.

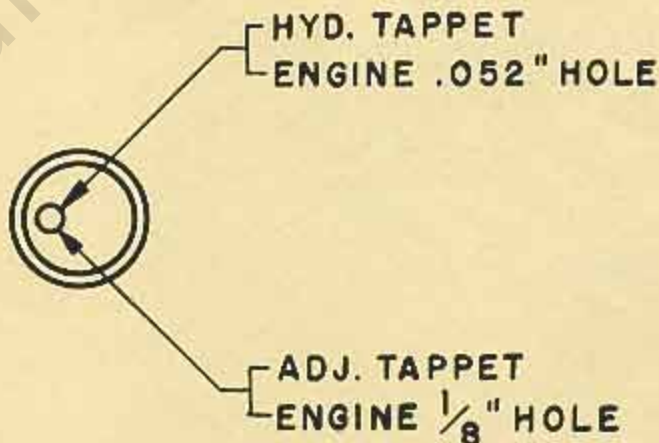
Part No. 423547 pump check valve (2 required) are available at your Zone Warehouses.

The spring-type pump check valves operate as follows: When the front pump is operating, the flat side of the front pump check valve is forced from its seat and allows oil to pass through. This oil pressure forces the flat side of the rear valve against its seat. When the rear pump pressure overcomes the front pump pressure, the flat side of the rear check valve is forced from its seat allowing oil to pass through. This oil pressure forces the flat side of the front valve against its seat.

## Oil Gallery Metering Plug

All 25th Series engines have a metering hole in the tappet oil gallery front plug which is located directly back of the camshaft gear.

The plug has a .052" (No. 55 drill) hole when the engine is equipped with hydraulic tappets and has a  $\frac{1}{8}$ " hole when the engine has adjustable screw-type tappets. See illustration.



Prior to this change, a blank or undrilled plug was used on 24th Series engines with hydraulic tappets, and only engines equipped with adjustable tappets incorporated a plug with a metering hole. The .052" hole was added in the plug for hydraulic tappet equipped engines to provide an oil spray to the crankshaft front oil seal, thereby improving lubrication of the seal.

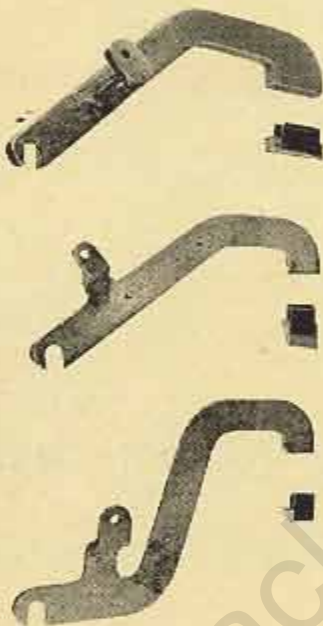
Whenever the engine is disassembled, it is recommended that a .052" (No. 55 drill) hole be drilled in the blank plug of earlier hydraulic tappet engines; (if No. 55 drill is not available, a  $\frac{3}{64}$ " drill may be used) if those parts have been removed to make the plug accessible. Coating the drill with grease will prevent chips from falling into the plug hole.

## Throttle Linkage Tools—Adapters

23rd Series

In the January issue Volume 26, Number 1, of the Service Counselor, a change in the linkage adjustment for the 23rd Series Ultramatic was described. This change in adjustment affects the pressure to the high range clutch.

In order to facilitate this change of adjustment and permit quick, accurate adjustments, adapters or extensions are now provided for the raised end of the Throttle Linkage Gauges, PU-312, 332 and 333. These extensions snap on the end of the gauges and are held securely in place by flat springs. When installing and lining up the extensions on the gauges, make sure the extension lines up with the ends of the gauge. This is particularly true at the forward end of the flat surface of the gauge.



The three extensions are sold under tool number PU-378. They are available from K. R. Wilson, 217 Main Street, Buffalo 3, New York. The price of the three gauges ordered in the group package, PU-378, is \$2.75.

## Motor Flywheel

24th and 25th Series

Motor flywheels Part Numbers 421757 and 423422 for the 2301-02-32-2401-02-06-13-31 models have been superseded by a service flywheel Part Number 423483.

The 9" converter or the 11 $\frac{1}{4}$ " converter can be used with this service flywheel Part Number 423483.

Models 2306-33 will still be serviced by flywheel assembly Part Number 421755, which is standard for the 11 $\frac{1}{4}$ " converter assembly.

The chart for your ready reference shows the part numbers for the converters and flywheels as used in production, and also shows the combination that can be used in service.

## Torque Converter and Flywheel Application Chart

23rd-24th-25th Series

| Model                      | 11 $\frac{1}{4}$ " Conv. | Flywheel | 9" Conv. | Flywheel |
|----------------------------|--------------------------|----------|----------|----------|
| 2301-02-32 (Prod.)         | 421940                   | 421757   |          |          |
| 2301-02-32 (Service)       | 421940                   | 423483   | 423430   | 423483   |
| 2401-02-06-13-31 (Prod.)   | 421940                   | 421757   | 423430   | 423422   |
| 2401-02-06-13-31 (Service) | 421940                   | 423483   | 423430   | 423483   |
| 2501-02-06-13-31 (Prod.)   | 421940                   | 423483   | 423430   | 423483   |
| 2501-02-06-13-31 (Service) | 421940                   | 423483   | 423430   | 423483   |
| 2306-33 (Prod.)            | 421940                   | 421755   |          |          |
| 2306-33 (Service)          | 421940                   | 421755   |          |          |

## Governor Vent Valve and Support Ultramatic

A newly designed and improved Ultramatic governor vent valve and valve support are now used in production.

The improvements were made to reduce the sticking condition that has been encountered with previous governors.

When replacement of either one of the early type vent valves or valve supports is necessary, they cannot be replaced individually with either one of the new valves or supports, but must be replaced as a set or kit.

Part Number 436266 transmission governor vent valve and valve support kit. The kit consists of:

Part Number 434378 Transmission Governor Vent Valve

Part Number 434379 Transmission Governor Vent Valve Support

The new vent valve has a flush head instead of being counterbored as is the old type vent valve.

The new valve support does not have the two annular grooves in the inner diameter as does the old type support.

## Chrome Plating

(Correction)

Please make the following correction in Service Counselor, Volume 25, Number 14, December 1, 1951.

In the article, "Chrome Plating," the fourth paragraph should read:

The enamel coated parts can be polished and protected with any wax type sealer. Never use an abrasive cleaner or lacquer thinner to clean these parts.