

# ackard SERVICE

## TECHNICAL



56T-14 Dealer 11 April 3, 1956

To: ZONES AND DEALERS

Subject: ENGINE DETONATION - 56TH SERIES

Engine detonation in the 56th Series has been a significant complaint because octane ratings of premium gasolines in many areas have not been consistently high enough to prevent detonation in our engines. We, therefore, have made certain changes in the distributors used with our engines to accommodate the premium gasolines now generally available and thereby eliminate the engine detonation condition.

We detail below the changes which have been made in production and outline the corrections developed for Service use:

#### 5680 MODELS:

Starting in production March 5, 1956, with engine serial number D-6895, the Delco distributor part number 6480363 (Delco 1110865) was discontinued in this model. It was replaced by Delco distributor part number 6489847 (Delco 1110880). The specifications covering this new distributor are listed later in this article.

For Service, we have released a Delco Distributor Conversion Kit for 5680 models, part number 6484596. This conversion kit is available through your Parts Warehouse. Therefore, when you encounter a condition of engine detonation in 5680 models and you have determined that this detonation is present when using premium gasoline marketed by a reputable company, one of these conversion kits should be installed. Instructions for the proper installation of this conversion kit follows:

- 1. Remove the distributor assembly.
- Remove the distributor drive gear pin and gear. Remove the vacuum unit and the breaker plate assembly. Remove the distributor shaft and cam assembly from the housing.
- 3. Clamp the shaft and cam assembly in a vise with the rotor slot on the cam toward the right side of the vise. Remove two nuts, tab-washers and cover plate that holds cam and weights on the distributor shaft. Remove the weight spring from the right side and retain this spring to reinstall on the new cam. Remove and discard the left spring. Remove the weights, do not mix up the weights.
- 4. Place the new distributor shaft in a vise with the numbers 716 on the plate toward the right side of the vise.

Place the weights on the shaft plate in proper order. Install the new cam with its long spring pin toward the left side and the rotor slot on the cam toward the right side.

Install the new weight spring on the left side and the right spring removed from the original unit is reinstalled on the right side.

- 5. IMPORTANT: Remove the distributor housing identification number plate and install the new one with drive pins furnished in the kit. This is necessary for future service identification.
- 6. Reassemble the distributor using the new vacuum unit.
- 7. Lubricate the distributor and set the point gap to .016".

Test the distributor in a suitable tester to make certain it checks up the following specifications:

| Breaker Point Gap                                   |
|---|
| Cam Angle   |
| Governor Advance Starts @ 1000 Eng. R.P.M.          |
| (Crankshaft Degrees) 100 Advance @ 2200 Eng. R.P.M. |
| (Crankshaft Degrees) 16° Advance @ 3600 Eng. R.P.M. |
| Vacuum Advance Starts @ 7 in. hg.                   |
| (Crankshaft Degrees) 20° Advance @ 13 in. hg.       |

- 8. Reinstall the distributor drive gear using the new pin. Rivet over both ends of the pin.
- 9. Install the distributor on the engine and set the timing at 10° BTDC.

  In some rare cases depending on mileage and carbon deposits, it may be necessary to retard the timing to 7° BTDC or in an extreme case to 5° BTDC.

If engine detonation is still present after installation of the kit and setting the timing as described under (9), it undoubtedly will be due to excessive carbon formation, rough combustion chambers or shaft edges in the cylinder heads. Obviously, then, any such conditions must be corrected to entirely eliminate the detonation.

You may present a claim to us for the installation of Distributor Conversion Kits using the customary RFA form. Credit will be allowed for your cost of the kit plus 1.3 hours labor to cover removal and replacement of the distributor, kit installation and testing, and setting ignition timing.

### 5640-5660-5670 MODELS:

Starting in production on March 5, 1956, with engine serial number A-11542 on 5640 models and engine B-4497 on 5660 and 5670 models, we are using Delco equipment in place of Auto-Lite. The distributor being used in part number 6480363

Delco 1110865) the same as previously used on 5680 models. The specifications for this distributor are shown in Service Counselor Volume 29, No. 13. A revision in the Auto-Lite distributor previously used on these models is being worked out and at a later date we will return to the use of Auto-Lite equipment on these models.

For Service, an Auto-Lite Distributor Conversion Kit is being developed and will be released for use on 5640 and 5660 models built prior to March 5 to eliminate detonation. We will give you details just as quickly as possible.

In the meantime, if you encounter any very critical engine detonation complaints on Clipper models where premium gasoline from reputable refiners is being used, we recommend that you install a Delco distributor, part number 6480363, and set the ignition timing at 5° BTDC. We prefer that you hold complete distributor replacements to a minimum since we expect to be able to supply you with the Auto-Lite Distributor Conversion Kits reasonably soon.

#### 5688 MODELS:

Based on our experience, engine detonation has not been a problem on 56th Series Caribbean models. However, if you should encounter any instances of engine detonation on Caribbean models where premium gašoline from reputable refiners is used, then we recommend the installation of the Delco Distributor Conversion Kit, part number 6484596.

Very truly yours,

J. W. Neitney,

Service Technical Manager

RBB:bjm