



# Service Bulletin

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## Studebaker and Packard Clipper

### POWER STEERING PUMP SERVICING - ALL MODEL STUDEBAKERS AND 1957 AND 1958 PACKARD MODELS

Please record this article on the Service Bulletin Reference page of your 1957 Studebaker and Packard Supplements.

To insure proper servicing, the following instructions and precautions must be observed:

1. Extreme care to be used when assembling the drive shaft in the pump housing to prevent damage to the shaft seal.
2. The pump rotor must be assembled with the countersunk side toward the drive shaft pulley. Improper assembly will result in bending of snap ring with resulting premature failure and permits excessive axial movement of the shaft.
3. To prevent damage to the thrust surfaces and retaining ring, do not pry or pound the pulley when installing or removing it.

### UNIVERSAL JOINT CROSS AND BEARING KITS - 1957 AND 1958 MODELS

In late 1957 model production, universal joints without grease fittings were used on some models. In some cases, propeller shafts were used with mixed universal joints, i. e., universal joints on the same propeller shaft with and without grease fittings. In 1958 model production, universal joints without grease fittings are used.

When it is necessary to replace a universal joint, the replacement should be made of the same type as removed. The Parts Depots will supply both types of universal joint kits; Part No. 1544541 - without grease fitting and Part No. 1541448 - with grease fitting.

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### TESTING NOVI TRUNK INSTALLED AIR CONDITIONER

Please record this article on the Service Bulletin Reference Page at the end of the Climatizer, Defroster and Air Conditioning section of your 1958 Studebaker Passenger Car Shop Manual.

The following specifications developed by our Engineering Department will assist you in testing trunk installed Novi Air Conditioners for proper performance.

At 90° ambient air temperature and 2000 rpm engine speed, the air conditioner should maintain an average car inside temperature

of 70°. The evaporator discharge temperature should be 40° maximum. Compressor suction and discharge pressure should be 20% minimum and 190% maximum respectively.

### REPLACEMENT OF CLIMATIZER AND DEFROSTER MOTORS - 1956-1957 STUDEBAKER AND 1957 PACKARD CLIPPER MODELS

*Please record this article on the Service Bulletin Reference page at the end of the Climatizer, Defroster and Air Conditioning section of your 1958 Studebaker Passenger Car Shop Manual.*

In the event of a climatizer or defroster motor failure, do not replace the complete blower and motor assembly. The motors are available as separate units and should be serviced accordingly.



### VIBRATION NOISE - 58G SCOTSMAN WITH O. D. TRANSMISSION

In some of the first production 58G Scotsman models, you may encounter a drive line disturbance which might be considered objectionable. The condition is confined to overdrive transmission equipped cars and might be described as a rhythmic beat vibration which becomes apparent at 32-40 MPH in overdrive on a smooth road surface.

It has been determined that a 2° change in angularity of the rear propeller shaft universal joint affords an acceptable correction. To accomplish this, the spring pad angle on rear axle assemblies Part No. 1544503 (3.54-1 Ratio), Part No. 1544504 (4.10-1 Ratio), and Part No. 1544505 (4.56-1 Ratio) has been changed. Axles thus modified will be identified by yellow paint on one of the spring pads. This change entered production with car serial number G-1408561 on cars with overdrive transmission.

This condition can be corrected in the field by the installation of a 2° angle wedge plate, 1-5/8" wide, between the rear spring and the rear axle spring pad. This will accomplish the desired change in rear joint angularity.

A small quantity of 2°, 1-5/8" wedge plates (John Bean No. 77) are available thru your Zone Service Manager. However, 2° wedge plates can be purchased locally from jobbers or wheel alignment stations in most cities.

### WEDGE PLATE INSTALLATION

Raise the car to remove the load from the rear springs and place a jack or support under both frame side rails. Disconnect the rear shock absorbers. Loosen the rear spring-to-rear axle clip nuts sufficiently to permit installation of the 2° wedge plates. Slide the wedge plates in position between the rear axle spring pads and the spring with the thick end of the wedge plate to the front of the car. Make sure the plates are properly aligned with the spring pads and spring center.

Tighten the spring clip nuts. Connect the shock absorbers.

### VALVE SPRING AND SPRING RETAINER - 185 CU. IN. ENGINE

*Please record this article on the Service Bulletin Reference page of your 1957 Studebaker Supplement and 3E Series Trucks Supplement.*

Valve Spring, Part No. 514236, which has been used in the 185 cu. in. engine has been cancelled and Part No. 512074 is now used in production. Part No. 514236 has a flat ground on the lower coil; this has been eliminated on the new spring. The Spring Retainer, Part No. 514235, has a locking flat to match the spring. Since this is no longer necessary, a new retainer, Part No. 194505 without the locking flat, has been released.

The old spring will operate satisfactorily with either retainer and the new retainer can be used with either spring. The new spring can not be used with the old retainer. Therefore, the Parts Depots will carry only the old spring (514236). After the stock of old retainer (514235) has been exhausted they will substitute the new retainer (194505).

The new parts entered production with the following serial numbers:

57G -- 1219958  
57G (Canada) -- 73995  
3E5-10 -- 11974

### INTERFERENCE - FRONT END OF PROPELLER SHAFT AND BODY FLOOR PAN - 58HC AND 58HK HAWK MODELS

On some first production Silver Hawk V8 models before serial 7211198 or Golden Hawk models before serial 6104735 cars, noise may occur because of interference between the front end of the propeller shaft and the body floor pan clearance tunnel.

With the car standing on the floor or supported on a hoist on all four wheels, there must be a minimum of 5/16" (7,94 mm.) clearance between the propeller shaft and the floor pan. To eliminate any interference, mark the spot on the floor pan where there is less than 5/16" clearance. Disconnect the rear end of the propeller shaft. Remove the propeller shaft by pulling it out of the transmission. Bump out the floor pan tunnel at the point of interference to provide the additional clearance. Install the propeller shaft. Recheck to be sure there is ample clearance between the propeller shaft and the floor pan tunnel.



**PAINT FORMULATION -  
1957 PACKARD CLIPPER**

\*1049 Slate Mist Metallic Baking Enamel -  
Symbol BBY

Non-Leafing Aluminum. . . . .	30.0%
Titanium Dioxide. . . . .	59.0%
Indo Blue Toner . . . . .	7.0%
Lamp Black. . . . .	4.0%
	100.0%

**INSTRUMENT BOARD CRASH PAD - -  
57L MODELS**

*Please record this article on the Service Bulletin Reference page of your 1957 Packard Clipper Supplement.*

Following the replacement or installation of a new instrument crash pad, you are sometimes faced with the problem of slight wrinkles or roughness in the surface of the pad. The wrinkles or unevenness may be removed by means of heat application. A hair dryer is most effective for this purpose. Simply, allow the heat to blow over the affected area, moving the dryer back and forth while holding the dryer approximately six to eight inches from the pad. Extreme care must be taken to prevent overheating the pad by applying excessive heat on a concentrated area. In some cases, satisfactory results may be obtained by placing the car so that the sun will strike the wrinkled area.

**REAR AXLE PINION DEPTH SETTING -  
1956 PACKARD AND CLIPPER MODELS**

*Please record this article in the Rear Axle section of your 1955-56 Packard Service Manual.*

To secure and maintain proper adjustment and

to insure quiet operation of the 1956 Packard and Clipper models rear axle differential, the pinion depth setting checks should be made while the pinion bearings are preloaded within the allowable tolerances.

The following pinion depth setting procedure supplements the information outlined in the 1955-56 Packard Service Manual. Figure and page number references in this article are to the Rear Axle section of the 1955-56 Packard Service Manual.

Before taking any measurements, make sure all lubricant and foreign matter has been removed from the pinion housing. Clean the shims, bearing cups and bearings of excessive lubricant to prevent erratic readings when determining the depth measurements. A light film of oil may be applied on the external surface of the bearing cups to facilitate driving them into place. Be sure the rear pinion bearing is always in its full rear position on the shaft (toward the gear) before every installation of the pinion in the housing. If the pinion bearings have been in service, be sure to make careful check for roughness or chipped rollers; also inspect the cups. Do not use rough or badly worn pinion bearings or cups.

The pinion and bearing assembly is installed and checked as described and illustrated on pages 19 and 20.

Determine the initial shim pack to install ahead of the rear pinion bearing cup as outlined on page 18 and install the shim pack and cup in the housing.

Install the front bearing cup and assemble the pinion in the housing. Install the companion flange nut. Do not install the shims originally required for the bearing preload. Then, tighten the pinion companion flange nut only as required to establish the pinion bearing turning preload of 10-20 inch pounds (0,115-0,23 kg-m). Refer to page 20, Fig. 60. Shims to set the preload will be determined later.

Check the depth of the pinion setting using the gauge, see page 19, Figs. 55 and 56. If the depth setting is not within the allowed limits, remove or install shims ahead of the rear pinion bearing cup to obtain a measurement within the limits. During the check the pinion bearing preload must be maintained within specifications which at this time is determined only by the tightness of the companion flange nut. The depth setting on Clipper Models 5640-60-70 is 2,825" (6,868 cm.) plus or minus .002" (0,051 mm.) and on Packard models

5680-88 is 2.688" (6,828 cm.) plus or minus .002" (0.051 mm.).

With the pinion assembly set to the specified depth, remove the pinion companion flange. Remove the front bearing assembly from the pinion shaft. Install the original shim pack and, re-install the bearing, companion flange and nut. Tighten the nut to 200-220 ft-lbs. (27,7-30,4 kg-m). This is important. Then, check the rotating torque. It should be between 10 to 20 inch-pounds. If not within limits, shims must be added to or taken from the front shim pack until the desired preload is obtained. Each time the preload is checked, the companion flange nut must be tightened to the required torque of 200-220 ft-lbs. The shims adjust and set the preload, the nut merely secures the assembly. This is the difference between the 1956 rear axle and the rear axles used on previous Packard models. On previous models the nut not only secured the companion flange but, the amount it had been tightened determined and set the preload.

After the proper preload is secured, remove the companion flange and install the oil slinger, seal gasket and new pinion oil seal. (See page 21, Fig. 61).

## SERVICING PACKARD ANTENNAS - 1955-1956-1957 MODELS

*Please record this article on page 5 of your Service Bulletin No. 328.*

The details for the Electric Front Fender Antenna, Part No. PA-472078, and servicing of this equipment apply to all 1955 and 1956 Packard models as stated in Service Bulletin No. 328. However, in addition to the parts listed, the following are also available:

- 439806 Antenna Dome Nut
- 439807 Antenna Nut Insulator

Two types of antennas were used on the 1957 Packard Clipper models; the Pioneer and Casco. They were, however, installed always as matched pairs of the same make in production.

The Pioneer unit, Part No. 469540, and the Casco unit, Part No. 439545, may be identified on the car through the chrome domed nut on top of the fender. The Pioneer has a domed nut

that measures approximately 1 1/16" (2,699 cm.) in diameter at its external base. The Casco nut measures approximately 1 5/16" (3,334 cm.) at its external base.

The two types are illustrated in Figure 1.

When a 57L model is equipped with the Pioneer dual antennas, service and apply the detail parts as listed in Service Bulletin No. 328 for PA-475160 when such servicing requires component parts.

When a 57L model is equipped with dual antennas of the Casco type, the following components apply:

- 439545 Antenna Assembly
- 439806 Antenna Dome Nut
- 203905 Clip
- 415772 Grommet
- 439903 Switch
- 472052 Lead-in Cable
- 1543747 Cable Extension
- G128270 Screw
- 439807 Dome Nut Insulator
- 475134 Rear Antenna Cable to Operating Switch

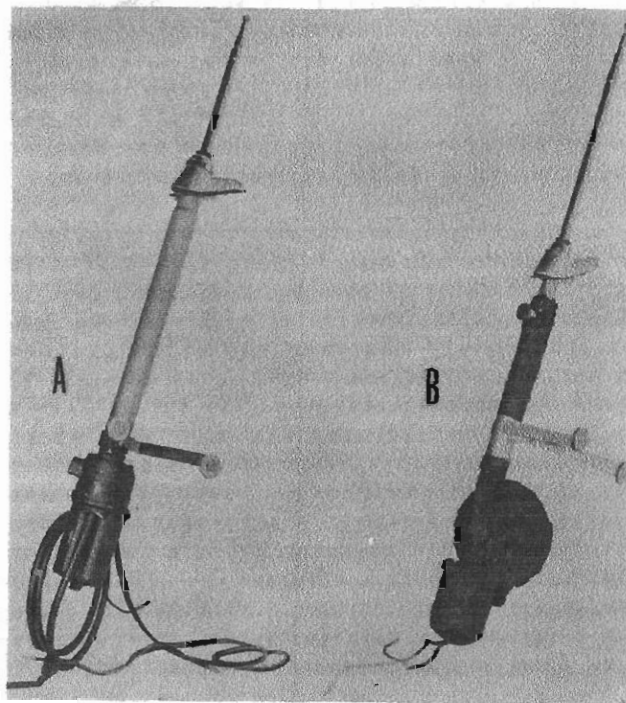


Fig. 1

- A. Casco
- B. Pioneer

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