

Studebaker

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South Bend, Ind.

SERVICE BULLETIN

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NO. 316



1956

ENGINE DETONATION - GOLDEN HAWK 56J MODELS

Please record this article on the Service Bulletin Reference page at the end of the Electrical and Engine sections of your 1956 Passenger Car Shop Manual.

Engine detonation has been encountered in some 56J models because octane ratings of premium gasolines in many areas have not been consistently high enough to prevent detonation.

Auto-Lite Distributor Conversion Kit, Part No. 6484609 is now available from the Parts Depot for use on the 56J models to eliminate detonation.

Kit Installation

1. Remove the distributor assembly.
2. Remove the spark modifier diaphragm link lock ring, plain washer, and felt washer. Remove the retaining screws and remove the unit from the distributor.
3. Remove the rotor. Disconnect the contact arm cable from the primary terminal stud. Remove the breaker plate assembly and clip retaining screws and lift the assembly from the base.
4. Remove the felt from the top of the cam. Remove the cam lock ring. Lift the cam off the shaft, remove the antirattle spring and discard the cam.
5. Remove the weak weight spring and discard. Install the new weak spring. Remove the heavy weight spring and discard. Install the new heavy spring.
6. IMPORTANT: Remove the name plate. Install the new name plate with the drive screws provided. This is necessary for future identification. With the installation of the kit, as is noted on the plate, the distributor becomes Model No. IBJ-4001F.
7. Lubricate the weight pins and the yoke slots of the cam with light grease.

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8. Install the antirattle spring on the new cam with the hook of the spring on the same side of the cam as the rotor flat. Install the cam on the shaft so that the antirattle spring bears against the pin of the weight controlled by the weak spring. Do not install the lock ring in the cam until the position of the cam on the shaft is checked.

Place the rotor loosely in position on the cam. If properly assembled the rotor segment should point to the same side as the punch mark on the bottom of the shaft gear. If the rotor is turned 180° from the correct position, it may be difficult to time the engine.

9. Position the breaker plate assembly in the distributor base and install the retaining screws and cap retaining clips. The large retaining clip support also locates the

position of the cap and must be installed next to the primary terminal. Install the spark modifier assembly on the base. Place the felt washer and plain washer on the diaphragm link pin and install the lock ring.

10. Remove the modifier suction fitting. To prevent twisting the housing and disturbing the diaphragm seal, use a wrench on the hexagonal portion to hold the housing when loosening or tightening the suction fitting. Then, remove and discard the modifier spring, washers, and fitting gasket. Install the new parts from the kit and tighten the suction fitting securely.
11. Lubricate the distributor by putting about 3 drops of medium oil on the felt under the rotor; one drop of light oil on the modifier link pin and one drop of light oil on the breaker arm pivot pin. Operate the breaker arm once or twice then wipe off the excess oil. Apply a light film of high temperature grease on the cam. Install the rotor.
12. Test the distributor in a suitable tester to make certain that it checks to the following specifications:

Breaker Point Gap. .017"
 Cam Angle28° to 34°
 Governor Advance. .Starts at 600 Engine Rpm
 16° at 1800 Rpm
 24° at 4000 Rpm
 28° at 5000 Rpm

(Crankshaft Degrees and Engine Rpm)

If the governor advance is more than 2° (crankshaft degrees) at 750 engine rpm, increase the tension on the weak spring by bending the spring post. If the advance checks too low at this rpm, decrease the tension on the weak spring.

If the governor advance checks too high at 4000 engine rpm, increase the tension on the heavy spring by bending the heavy spring post. If the advance checks too low at this rpm, decrease the tension on the heavy spring.

Vacuum Advance.Starts at 8" Hg.
 - Crankshaft Degrees 12° at 12" Hg.
 - Crankshaft Degrees 20° at 16" Hg.

It may be necessary to add or remove spark modifier calibrating washers to obtain the proper advance. Be sure to use a wrench to hold the modifier when removing or replacing the modifier suction fitting.

13. Install the distributor on the engine and set the timing to 5° BTDC. Depending on the mileage and the carbon deposits, some detonation may still be present after the installation of the kit. It may be corrected

by setting the timing slightly retarded from the recommended 5° setting. If it can not be corrected with the installation of the kit and timing, it is undoubtedly caused by excessive carbon formation, rough combustion chambers or sharp edges in the cylinder heads. Obviously these conditions must be corrected to entirely eliminate the detonation.

**FAN BLADE ASSEMBLY -
 CRACKS AND BREAKAGE -
 56J MODELS**

Please record this article on the Service Bulletin Reference page at the end of the Cooling System section of your 1956 Passenger Car Shop Manual.

Some fan breakage has been experienced on the 56J models because of cracks developing at the rivets. A new fan, constructed of heavier metal (15 gauge instead of 17) and with blades held to the hub by 8 rivets instead of 4, has been released. The new Fan Blade Assembly, Part No. 1542138-P entered production effective with Serial No. 6033140.

If unusual fan vibration or noise is encountered on the 56J models check the condition of the fan blades. If there is any evidence of cracks extending from the rivets, replace the assembly. The Parts Depot will stock only the latest assembly Part No. 1542138-P and will substitute for Part No. 1540160-P.

**MOISTURE IN DISTRIBUTOR CAP -
 ENGINE FAILS TO START -
 56J MODELS**

Please record the article on the Service Bulletin Reference page at the end of the Electrical section of your 1956 Passenger Car Shop Manual.

Certain atmospheric conditions may result in an accumulation of moisture inside the cap and the engine misfires or may not start.

Remove and inspect the cap. First, make sure that the cap is not cracked. Obviously if cracks are present the cap must be replaced.

If the inspection reveals the presence of moisture or corrosion, the cap must be carefully cleaned and thoroughly dried. If the center carbon contact and the high tension contacts are badly corroded, the cap should be replaced. Then, to prevent recurrence of the condition, the distributor must be vented.

1. Remove the tachometer drive unit assembly and drill two 7/64" holes through the unit in the groove adjacent to the outer rim. (See Fig. 1).

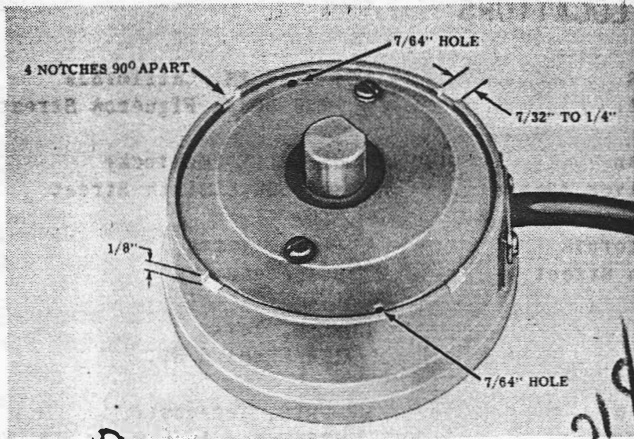


FIG. 1

2. File 1/4" notches in the rim of the unit (See Fig. 1). Install the tachometer drive unit and assemble the rotor and distributor cap and wires.

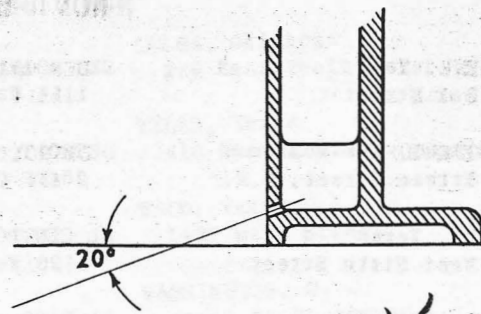


FIG. 3

3. Then, with a No. 53 (or 1/16") drill, drill the hole from the inside of the air horn into the pocket at an angle of approximately 20° (see Fig. 3).
4. Make sure all chips are removed and the air horn is clean. Then reassemble and install on the carburetor body.

BACKFIRING - 4 BBL. CARBURETOR - 259 and 289 CU. IN. ENGINES

Please record this article on the Service Bulletin Reference page at the end of the Gasoline System section of your 1956 Passenger Car Shop Manual.

Under certain conditions raw gasoline accumulates in the carburetor air horn pockets in which the bowl vents are located. A backfire could ignite the gasoline in the pockets and result in severe damage to the carburetor. Therefore, to lessen the possibility of damage to the carburetor if repeated backfiring is encountered, drain holes can be provided to prevent the accumulation of gasoline.

1. Remove and disassemble the air horn.
2. Four drain holes are required, two in each pocket, (one on each side of the mounting screw hole). The location of each hole should be 3/8" from the centerline of the air horn and 5/32" from the gasket surface (see Fig. 2).

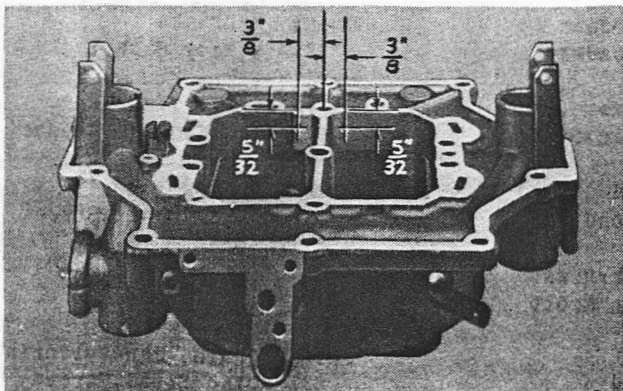


FIG. 2

NOVI AIR CONDITIONING SERVICE STATIONS

Please record this article on the Service Bulletin Reference page at the end of the Climatizer, Defroster, and Air Conditioning section in your 1956 Passenger Car Shop Manual.

In providing service outlets for Novi Air Conditioning equipment as used on 1955 and 1956 Studebaker cars, the Novi Equipment Company now has approximately 90 Novi Service Stations to service Studebaker factory installed Novi Air Conditioners and who will handle warranty service in the regular way.

During the warranty period - 90 days or 4000 miles, whichever first occurs - you can get warranty service on parts and labor at any of the Novi service stations listed in this Service Bulletin.

Should you, for reasons of proximity or convenience, have an air conditioner serviced during warranty by a reputable refrigeration mechanic other than an authorized Novi serviceman, any parts replaced by such mechanic should be sent to the nearest Novi branch for warranty claim consideration. Such parts must be accompanied by clear and specific information similar to that called for on our B866 Claims Part Tag. Adjustments by Novi for defective parts replaced by other than Novi service stations will not include labor of replacement.

The following is a revised list of Novi branch locations of Novi Sales & Service Co., Inc., which supersedes the lists given in Service Bulletins Nos. 300 and 307.

NOVI BRANCH LOCATIONS

* ABILENE, Texas 312 Oak Street	DES MOINES, Iowa 1114 Walnut St.	LOS ANGELES, California 1830 South Figueroa Street
ALBUQUERQUE, New Mexico 618 Truman Street, N.E.	DETROIT, Michigan 20405 Grand River Avenue	LOUISVILLE, Kentucky 836 South Sixth Street
* AMARILLO, Texas 403 West Sixth Street	EL CENTRO, California 1123 West Main Street	LUBBOCK, Texas 904 Avenue "H"
ATLANTA, Georgia 16 Third Street, N.E.	EL PASO, Texas 501 Montana	LUFKIN, Texas 116 Shepard St.
AUSTIN, Texas 2026 N. Interregional Hwy.	FORT WORTH, Texas 1101 Norwood Street	MEMPHIS, Tennessee 475 Union Avenue
BAKERSFIELD, California 1400 - 17th Street	FRESNO, California 1819 Amador Street	MIAMI, Florida 2840 N.W. 7th Avenue
BALTIMORE, Maryland 2216 Division Street	GALVESTON, Texas 2219 Church Street	MIDLAND, Texas 3508 West Wall
BATON ROUGE, Louisiana 4365 Florida Street	GREENSBORO, North Carolina 1813 Spring Garden Street	* MONTGOMERY, Alabama 859 Bell Street
BEAUMONT, Texas 101 Ewing Street	HARLINGEN, Texas 521 West Jackson	MOBILE, Alabama 998 Fulton Road
BIRMINGHAM, Alabama 2517 - 8th Court North	HARRISBURG, Pennsylvania (soon to be opened)	NASHVILLE, Tennessee 1211 Broad Street
CHARLESTON, South Carolina 203 Jackson Street	HOBBS, New Mexico 213 North Leach Street	NEW ORLEANS, Louisiana 4204 Washington Avenue
CHARLOTTE, North Carolina 2114 Hutchison Avenue	HOUSTON, Texas 2121 Hussion Street	NEW YORK CITY, New York (soon to be opened)
CHICAGO, Illinois 4934 West Madison Street	INDIANAPOLIS, Indiana 750 Massachusetts Avenue	NORFOLK, Virginia (soon to be opened)
CINCINNATI, Ohio 2512 Gilbert Avenue	JACKSON, Mississippi 808 South State Street	OAKLAND, California 683 - 26th Street
CLEVELAND, Ohio 2929 Prospect	JACKSONVILLE, Florida 346 East 11th Street	ODESSA, Texas 100 North Grant
COLUMBIA, South Carolina 1222 Lady Street	KANSAS CITY, Missouri 3437 Main Street	OKLAHOMA CITY, Oklahoma 28 Northwest 10th Street
COLUMBUS, Ohio 3192 West Broad Street	KNOXVILLE, Tennessee 4440 North Broadway	OMAHA, Nebraska 2212 Harney Street
CORPUS CHRISTI, Texas 1715 Mesquite	LAS VEGAS, Nevada 1325 South Main Street	ORLANDO, Florida 917 West Central Avenue
DALLAS, Texas 2308 Main Street	LAWTON, Oklahoma 211 South Second Street	PAMPA, Texas 828 South Hobart Street
DAVENPORT, Iowa 323 Harrison Street	LITTLE ROCK, Arkansas Cor. Capitol & Scott	PECOS, Texas 304 South Cedar
DENVER, Colorado 3300 East Colfax	LONGVIEW, Texas 211 West Methvin	PHILADELPHIA, Pennsylvania 831 North Broad Street

* New building now under construction.

NOVI BRANCH LOCATIONS-Cont'd.

PHOENIX, Arizona 714 West Buchanan	SAVANNAH, Georgia 2521 East Gwinnett Street	TULSA, Oklahoma 210 East Tenth
PITTSBURGH, Pennsylvania 2046 West Liberty Avenue	SHREVEPORT, Louisiana 241 Aero Drive	TYLER, Texas 418 East Erwin
RICHMOND, Virginia 214 South Fifth Street	SPRINGFIELD, Illinois 120 North First Street	WACO, Texas 1427 Mary Street
SACRAMENTO, California 430 "R" Street	SPRINGFIELD, Missouri 300 South Kimbrough	WASHINGTON, D. C. (soon to be opened)
SALT LAKE CITY, Utah 1552 South Second West	ST. LOUIS, Missouri 5625 Gravois	WICHITA, Kansas 315 South St. Francis
SAN ANGELO, Texas 108 North Pierce	TALLAHASSEE, Florida 1447 South Adams Street	WICHITA FALLS, Texas 1301 Scott Avenue
* SAN ANTONIO, Texas 301 Broadway	TAMPA, Florida 1101 Tampa Street	YUMA, Arizona 1495 Third Avenue
SAN BERNARDINO, California 348 North "G" Street	TOLEDO, Ohio 213 - 12th Street	WEST PALM BEACH, Florida 517 - 25th Street
SAN DIEGO, California 135 "E" Street	TUCSON, Arizona 610 West Sahurgo	* New building now under construction.

DOW CORNING 4 SILICONE COMPOUND FOR BODY NOISES AND SQUEAKS

DOW Corning 4 Silicone Compound, available from your Parts Depot under Part No. N-0908, is highly recommended for use in eliminating squeaks caused by the movement of the door against the weatherseal or in other places where rubber-to-metal contact results in squeaks. It is also very effective in eliminating many general body noises which are difficult to locate. Very often they are the result of the door sticking to the weatherseal. When the door sticks to the weatherseal it remains firm enough so that the door mechanisms tend to move independently and set up vibrations. In this case, application of the compound to the weatherseal will permit the door to "float" and prevent internal vibrations.

The compound is like petroleum jelly in appearance and consistency. It is nonmelting, odorless and translucent, and retains its grease-like consistency even after long exposure to extreme temperatures. It is water repellent and chemically inert and, will not rot the surfaces to which it is applied.

It is easy to apply. Clean the surface thoroughly. Smear it with the fingers over the contact area of the rubber. A thin coat is all that is necessary so apply it sparingly. Rub off the excess compound with a cloth.

CHANGES IN FRONT PUMP AND RELATED PARTS- ULTRAMATIC TRANSMISSION

Please record this article on the Service Bulletin Reference page at the end of the Transmission - Ultramatic section of your 1956 Passenger Car Shop Manual.

These changes consist of: (1) a new converter pumpshaft which has the outside diameter of the splines controlled to provide an improved spline fit and, (2) a new front pump rotor which has 40 splines instead of 20.

The following are the numbers of the parts involved:

Early Type	Latest Type	
6480303	6489368	Front Pump Assembly
6479085	6489485	Torque Converter Assembly
450257	6489467	Converter Pump Shaft Assy.

The early type Pump Shaft Part No. 450257 as well as the latest type Part No. 6489467 had 40 splines. However, only one-half of the splines were used because the rotor had only 20 splines. Now with the greater number of splines on the rotor and having a controlled fit on the shaft, the rotor and pump shaft spline life will be improved. These parts entered production effective with Transmission Serial No. S-2463.

Two kits with the latest parts have been released for service only. These are:

6484523. Rotor Assembly and Pump Shaft Kit
6484524 Pump Assembly and Pump Shaft Kit

Whenever it is necessary to replace the early type front pump or a converter pump shaft, use the latest kits. These kits will service either Front Pump Assembly Part No. 6480303 or Part No. 6489368.

Torque Converter Part No. 6479085 should be used when replacing only a converter in a car with a transmission prior to Serial No. S-2463.

The following parts will be carried in Parts Depots service stock:

6479085 & 6489485 Torque Converter Assemblies
6489467 Converter Pump Shaft
Assemblies
6484523 Rotor Assembly and Converter Pump Shaft Assy.
6484524 Pump Assembly and Converter Pump Shaft Assembly

The Front Pump Assembly Part No. 6480303 has been cancelled and superseded by Part No. 6489368.

The Converter Pump Shaft Assembly Part No. 6450257 has been cancelled and superseded by Part No. 6489467.

GASKET AND SEAL KITS - FLIGHTOMATIC (WARNER GEAR) TRANSMISSION

Please record this article in the Service Bulletin Reference page at the end of the Transmission-Flightomatic section in your 1956 Passenger Car Shop Manual and the Automatic Transmission section of your 2E Series Trucks Shop Manual.

Gasket and seal kits have been released for the Flightomatic (Warner Gear) transmission. The kits consist of all the gaskets and seals required for a complete overhaul of the transmission.

Gasket and Seal Kit, Part No. 1541703 will provide the items necessary to service the 56G models (equipped with the Flightomatic) and 56B models; Gasket and Seal Kit, Part No. 1541704 will service the 56H models.

Gasket and Seal Kit, Part No. 1541703 plus Part No. 1541256 and Part No. 1687320 will provide the items necessary to service the automatic transmission (Warner Gear) used in the 2E7 and 2E12 model truck.

The kits are available at your Parts Depot.

NEW TORQUE CONVERTER ASSEMBLY - 56G PASSENGER CARS WITH FLIGHTOMATIC TRANSMISSION

Please record this article on the Service Bulletin Reference page at the end of the Flightomatic Transmission section of your 1956 Passenger Car Shop Manual.

A new torque converter, Part No. 1541550, was released for the 56G car equipped with the Flightomatic Transmission. A new impeller assembly is used in the new converter which provides improved performance. It is important to note that the stall speed is reduced to 1400-1500 rpm.

The new torque converter Part No. 1541550 will be substituted for the old converter, No. 1539090, when present stock is exhausted.

The new converter will have a starting serial number (converter) of 1001 CD. It will be daubed with orange paint for identification.

STATOR SUPPORT AND BACKING PLATE ASSEMBLY - FLIGHTOMATIC (WARNER GEAR) TRANSMISSION

Please record this article on the Service Bulletin Reference page at the end of the Transmission - Flightomatic section of your 1956 Passenger Car Shop Manual and the Automatic Transmission section of the 2E Series Trucks Shop Manual.

Up to the present time the front pump stator support was not serviced separately. If the stator support was damaged it would be necessary to replace the entire Front Pump Assembly, Part No. 1540917. It is now available as a separate item from the Parts Depots as the Front Pump Stator Support and Backing Plate Assembly, Part No. 1540923.

The pump body and gears will continue to be serviced only as an assembly and will not be available without the stator support.

It's a DRY DUSTY SUMMER

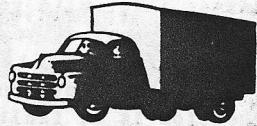
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SERVICE AIR CLEANERS

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T TRUCK SERVICE Information



AUTOMATIC TRANSMISSION FLOOR PAN COVER - 2E7 AND 2E12 MODELS

Please record this article on the Service Bulletin Reference page at the end of the Transmission - Automatic (Warner Gear) section of your 2E Series Truck Shop Manual.

Effective in production with Serial Nos. E7-7049 and E12-2815 the floor pan cover is provided with a cover plate (see Fig. 4) to permit access to the automatic transmission oil level dipstick.

On models equipped with Warner Gear Automatic Transmission prior to the above serial numbers, the floor pan cover can be modified and the new Cover Plate, Part No. 1654362, installed. Use the cover plate as a template, positioning it as shown in the sketch (see Fig. 5). Scribe around the plate and locate the retaining screw holes. Cut out the floor pan cover to permit a plate overlap of 1/2" on the sides and top, and 1/4" on the bottom. Drill the four holes with a 1/8" drill. Then install the cover plate using four G-161860 screws.

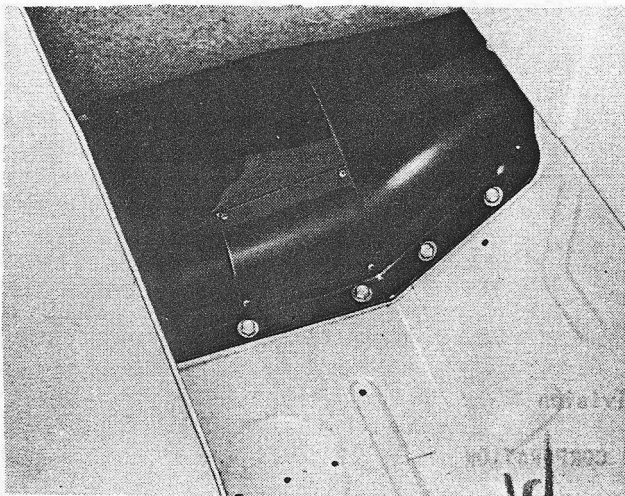


FIG. 4

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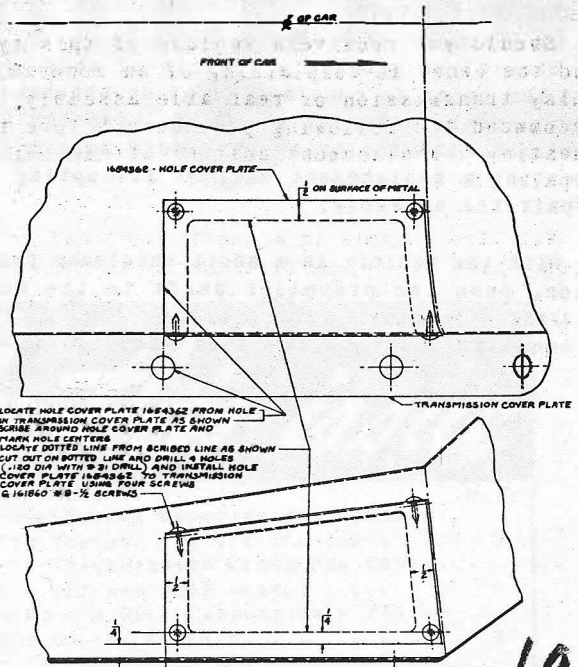


FIG. 5

2E13 MODEL TRUCKS MODIFIED FOR HOUSE TRAILER TOWING

Please record this article on the Service Bulletin Reference page at the end of the Transmission and Rear Axle sections of your 2E Series Trucks Shop Manual.

A considerable number of 2E13 model trucks have been modified in the field so that the truck has a short wheelbase when towing a house trailer; yet can be lengthened to the normal wheelbase for operation without the trailer.

In some instances a noise develops at approximately 40-45 mph. It has been diagnosed in the field as transmission noise, rear axle noise, or a combination of both.

An investigation of this condition indicates that as long as the truck is being accelerated the noise is not present. However, when acceleration has eased up or the vehicle reaches the "float" position a noise enters which is quite similar to that which could be caused by a bad mainshaft rear bearing in the transmission.

To afford ease in shortening or lengthening the wheelbase the concern making the modification has provided two propeller shafts. These shafts have splines on each end. Therefore, when the vehicle reaches the "float" position the propeller shaft is free to move forward

with the result that a severe universal joint disturbance occurs.

Should you receive a vehicle of this type and the owner is complaining of an abnormally noisy transmission or rear axle assembly, we recommend the following procedure before requesting a replacement unit or attempting to repair the assembly:

With the vehicle in a short wheelbase position, push the propeller shaft to the most rearward position. Place a hose clamp tightly around the front spline area as near to the

universal joint slip yoke grease seal collar as possible. A test drive of the unit will quickly indicate whether the noise is caused by propeller shaft movement or whether the assembly in question is at fault. Always be sure to remove the hose clamp from the propeller shaft before returning the vehicle to the owner.

In those cases where an installation of the hose clamp indicates that the majority of the noise is caused by propeller shaft movement, inquiries toward the correction of the propeller shaft difficulty should be directed to the concern that made the modification.



Studebaker Division

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