

Studebaker

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SERVICE BULLETIN

MAY

NO. 314



1956

ENGINE NOISE - 56J (GOLDENHAWK)

Please record this article on the Service Bulletin Reference page 114 in the Engine section of your 1956 Passenger Car Shop Manual.

Engine noise complaints experienced on the 56J models are generally confined to the valve train mechanism. Some of the points that may be a source of noise in the valve train are worn push rod end sockets in the rocker arms, bent push rods, valve keepers improperly installed, worn valve spring retainers, sticking valves, insufficient lubrication at the rocker arm push rod end, and improper operation of the hydraulic valve lifter.

The hydraulic type valve lifters in this engine are designed to maintain zero valve lash. Although they are simple in design and positive in action, quiet operation is dependent on a number of factors which are oftentimes overlooked. In addition to the lifter being mechanically sound and clean, the lubrication system must be operating properly, and the oil must be clean and of the recommended viscosity and type.

The valve lifter is designed so that in operation there is a small amount of oil leakage between the lifter cylinder and the plunger to automatically compensate for expansion or contraction in the valve train, allowing positive valve seating. When the engine is at rest, oil will bleed out of the lifter chamber, particularly on those lifters which rest on the nose of the cam and are holding a valve open. The amount of leakdown and resultant valve clearance will, of course, depend on the amount of time the engine is idle. When the engine is restarted, it is possible to experience some lifter noise. *This noise is normal provided it disappears shortly after the engine is started.*

Dirt, chips, and varnish generally cause only a few of the lifters to be noisy at one time. If an individual lifter is definitely noisy, the lifter should be serviced. A loud

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clicking noise is usually the result of the plunger being stuck below its normal operating position; or the check valve may not be seating due to dirt or a damaged seat. A light clicking noise indicates that the lifter plunger is operating only slightly below its normal position due to a slight leakage of the check valve or plunger.

Intermittent valve tappet noise usually can be traced to air in the oil pump interrupting the oil flow or low oil pressure to the valve tappets. Service procedures for correction are outlined in Studebaker Passenger Car Service Letter No. 936, subject: Engine Oil Pump Relief Valve Tube Kit For Correction of Hydraulic Valve Tappet Letdown - 56J Goldenhawk.

HEADLINING PULLING AWAY FROM REAR QUARTER WINDOW MOULDINGS - 5-PASSENGER COUPE AND 2-DOOR SEDAN - 1956 MODELS

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

Where a condition is found on a 5-passenger or a 2-door sedan of the headlining having pulled loose from the body opening around the rear quarter window, the following procedure may help effect a correction without replacing the headlining assembly.

In most cases, the headlining cement has loosened and the headlining, having been stretched, pulls against the moulding retainer screws until it is loose. Usually, recementing the headlining in place with trim cement is all that is required. Where it appears that the headlining edge is too short, the following procedure may be applied:

1. Remove the rear quarter window moulding or assembly.
2. Select a suitable length of 2" adhesive tape and apply it to the back side of the headlining, leaving about 1-1/4" of the adhesive side exposed over the edge of the headlining.
3. Fold the tape and stick the exposed adhesive tape side so that it will lap the edge of the headlining about 1/2". Then press the tape firmly on the headlining edge.
4. Pull the headlining into position and trim the new edge as required.
5. Cement the headlining edges into place securely.
6. Install the rear quarter window moulding or assembly.

CAR LEANING ON LEFT SIDE - 56B AND 56H MODELS

Please record this article on the Service Bulletin Reference page at the end of the Springs and Shock Absorbers section of your 1956 Passenger Car Shop Manual.

A new spring shackle 3-1/2" long for the left rear spring has been released for production and service. This longer shackle will help maintain a level condition, compensating for the additional weight of the left side of the car.

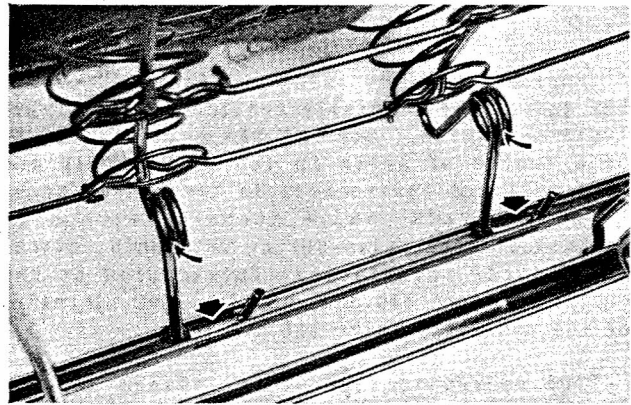
The new shackle may be obtained by ordering from your Parts Depot under Part No. 529168.

SEAT CUSHION JACK SPRING LUBRICATION

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

If a squeak in a seat cushion is encountered, it is probable that it originates at the jack springs (see Fig. 1), either at the pivot point or where the coils rub together.

A lubricant such as "Lubriplate" may be used at these points to eliminate the squeak without soiling upholstery.



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FIG. 1

RADIO SERVICE - 1956 PASSENGER CARS AND TRUCKS

In the event of a car radio complaint, the dealer should make first-aid checks in his own shop before sending the radio out to a Warranty Radio Service Station for repairs. It is recommended that the dealer apply the following procedure:

1. Check the fuse.
2. Check the antenna.
 - a. Disconnect the lead from the radio.
 - b. Substitute a test antenna by plugging in and holding it out the window.
 - c. If the trouble is weak reception, adjust the antenna trimmer as per instructions on the radio.
3. Make sure that the owner's complaint is not based on a lack of knowledge of how to operate the radio.
4. If the complaint is noise, determine whether or not the motor noise suppression equipment is properly installed.

If the trouble is not found by making the above checks, remove the radio from the car or truck and send it to the Authorized Radio Service Station.

Proceed as follows:

DELCO - 1956 MODEL PASSENGER CARS

1. Fill in the yellow "Auto Radio Repair Tag" UMS form No. A-6527 in complete detail, including the owner's comments and check list.
2. Detach the lower half of the tag and retain as the claim check.
3. Tie the remaining portion of the tag securely to the radio before the radio is taken to an authorized Delco Electronics Service Dealer Radio Service Station. NOTE: Refer to the United Motors Service Directory.

MOTOROLA - 1956 MODEL TRUCKS

1. Fill in the Customer's "Warranty Policy Tag", Motorola Part No. 54P538527-0-CL in complete detail.
2. Attach the warranty tag securely to the radio before the radio is taken to an authorized Motorola Warranty Service Station. NOTE: Refer to the Motorola Official Directory.
3. Detach the stub portion of the tag and retain as the claim check.

NOTE: Export dealers in markets not listed in the directory for authorized radio distributors and service stations should write Export Division Service Department, South Bend, giving full details on the problem encountered.

TRANSMISSION FRONT CLUTCH FRICTION DISC - FLIGHTOMATIC

Please record this article on the Service Bulletin Reference page 102G at the end of the Flightomatic Transmission section of your 1956 Passenger Car Shop Manual.

A sintered metal type (copper base) front clutch friction disc has been recently released for production. The sintered metal friction disc is an optional release and some Flightomatic transmissions will continue to use the composition friction disc.

The sintered metal and composition discs are interchangeable in sets only, and must not be mixed in the same clutch assembly. Parts depots are carrying only the composition discs at present. If a sintered metal friction disc requires replacement, it will be necessary to replace all the friction discs in the front clutch with composition discs.

NOISE IN POWER STEERING GEAR - 1956 MODELS

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

It has been found that in some cases the location mark (T) on the steering gear flange is not located properly in respect to the mid-position or "high-spot" of the gear.

When this condition exists, the pitman arm will not be at the proper angle, the steering bell crank will not be centered, and the left tie rod will be short with the right tie rod longer than normal. The steering gear will be operating off the "high-spot" with the wheels in the straight-ahead position, causing gear chuckle.

If excessive gear chuckle is evident, and all steering linkage parts are determined to be normal, the tie rods should be measured to check for this condition. Unequal tie rod lengths indicate an off-center steering gear.

To correct, center the front wheels, remove the steering wheel and reposition it 90° clockwise in relation to the existing mark. Install the retaining nut and horn ring. Turn the steering wheel back to the horizontal position which should place the steering gear in the mid-position on the "high-spot". This should also center the steering bell crank. Readjust the tie rods to obtain a straight-ahead front wheel setting and adjust toe-in.

INTERFERENCE BETWEEN BODY BOLT AND FRONT OF REAR SPRING - 1956 MODEL PASSENGER CARS

Please record this article on the Service Bulletin Reference page at the end of the Spring and Shock Absorbers section of your 1956 Passenger Car Shop Manual.

Occasionally a noise may be encountered at the rear of the car that is the result of interference of the rear spring front eye and the body bolt above it.

Where this occurs, it is possible that the 1/2" thick shim at that body bolt location had not been installed which permitted the bolt to extend beyond its normal position. If interference results, a shim, Part No. 311446X6, or a similar shim improvised from tire stock should be installed.

If there is still interference with the proper shim in place, the body bolt should be cut off 1/8".

**LOW RANGE BRAKE INFORMATION -
ULTRAMATIC**

Please record this article on the Service Bulletin Reference page 168 at the end of the Transmission section of your 1956 Passenger Car Shop Manual.

Early Ultramatic transmissions incorporated two coil springs in the low range brake assembly: an inner spring and an outer spring.

In later production units, the inner spring was eliminated and the design of the valve body manifold separator plate was changed. These modifications went into effect with transmission serial number S-2463. The reason for these changes was to overcome possible occurrences of engine "flare" or "run-away" during the transmission upshift from low range converter to high range converter.

Transmissions incorporating the foregoing changes, in some instances, were found to be susceptible to a harsh or noisy low range brake band application on deceleration at approximately 7 mph. The low range brake inner spring recently was reinstated to overcome the possibility of noisy band application. Engineering tests indicated that the late design separator plate, Part No. 6489478, would adequately minimize engine "flare" with the two springs in the low range brake. The inner spring was reinstated in transmissions starting with serial number S-4028.

The foregoing data may be summarized as follows:

GROUP 1

Two Springs and Early Separator Plate Prior to:
S-2463

Engine "run-away" or "flare" might occasionally be encountered in Group 1 transmissions. If so, install only the latest design separator plate, Part No. 6489478.

GROUP 2

One Spring and Late Separator Plate Between
S-2463 - S-4028

If harsh band application is encountered in Group 2 transmissions, install the low range brake inner spring, Part No. 470183.

GROUP 3

Two Springs and Late Separator Plate After
Number S-4028

**NOISE AT FRONT SUSPENSION -
ALL MODELS**

Please record this article on the Service Bulletin Reference page at the end of the Steering and Front Suspension section of your 1956 Passenger Car Shop Manual. This supersedes the article in Service Bulletin No. 312 on page 4 under the title of Control Arm Bushing Retainers - All Models.

The plain washers formerly installed on the control arm inner shaft bushing retainer capscrews are no longer used in production. They are shown as item 3, Fig. 8, on page 4 and item 5, Fig. 12, on page 6 of the Front Suspension and Steering section of the 1956 Passenger Car Shop Manual. Therefore, it is necessary and important that the bushing retainer capscrews be torqued to the proper specification.

Noise at the front suspension may result from bushing looseness at the upper control arm inner shaft. This can be caused by: the retaining screw having backed out leaving the bushing loose, the bushing retainer being worn and not holding the inner sleeve of the bushing, or the bushing itself being worn.

Remove and inspect the bushing retainer. The inner side of the retainer should have 6 serrations in good condition. The outside of the retainer should not have pronounced galled spots from the lock washer. Replace the retainer if necessary. Then, be sure to tighten the capscrews to the specified torque.

If the retaining screw has worked loose, install a "Nylok" self-locking screw which has been released under Part No. 1541700. Also a plain washer, Part No. G446211, has been released for service to replace the original lock washer used in production. It is recommended that this screw and washer be installed in all cases where the original production retaining screw has loosened and a noise condition exists. The new screw should be tightened to the proper torque of 35 ft. lbs.

Under no circumstances should there be any lubricant applied to the bushing or retainer to cure a noise condition at this point.

**FRONT PUMP RESTRICTION -
ULTRAMATIC TRANSMISSION -
56J MODEL**

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

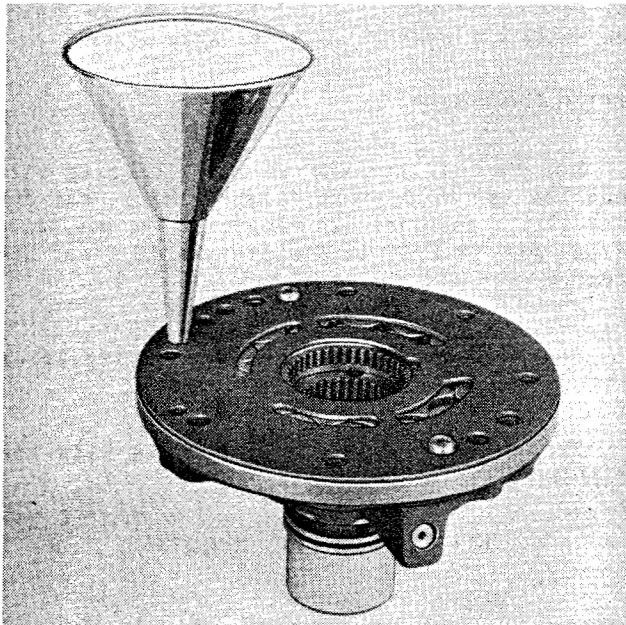
A few cases have been found of a restriction in the high range clutch oil passage in the front pump of Ultramatic transmissions. This restriction is caused by the core shifting when

the pump housings are cast. If the passage is restricted, possible engine raceaway on low range converter to high range converter upshifts may occur, or the high range clutch may burn out prematurely.

It is advisable when replacing a burned out high range clutch or on a complaint of engine raceaway under the conditions described, that an oil flow test be made to determine if any restriction exists in the oil passage.

The oil flow test may be made as follows:

Place the complete front pump assembly in a shallow pan with the pump plate upward and in a horizontal position. Use a small funnel with the end reworked to obtain a close fit in the high range oil circuit hole of the pump plate as shown in Fig. 2.



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FIG. 2

Use only Automatic Transmission Fluid during the test. To obtain accurate results, it is important that the temperature of the fluid is between 65° F. and 75° F. Pour enough fluid in the funnel to fill the high range passage in the pump, allow the fluid to drain down to a level slightly above the funnel spout. At this time, pour an additional 1/2 pint of transmission fluid in the funnel and observe the time required for the fluid level to reach the predetermined level.

If it requires more than 2 minutes and 15 seconds for passage of the 1/2 pint of fluid, it will indicate the passage is restricted and the pump should be replaced. Repeat the test if restriction is indicated before replacing the pump.

SAFETY LATCH AND HOOD LOCK - 1956 HAWK SERIES

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

Safety latches and hood lock parts of improved design are now used in production on 1956 model Hawk series cars, (Flight Hawk, Power Hawk, Sky Hawk, and Golden Hawk.) These parts provide maximum positive engagement of the safety latch and lock parts under all types of operation.

Operation of the hood lock and safety latch is similar to Sedan and Station Wagon Models. To release the hood lock pull the lever in the left grille panel as far out as it will come. This releases both the hood lock and safety latch.

The new lock parts entered production with passenger car serials:

| MODEL | SOUTH BEND PRODUCTION | LOS ANGELES PRODUCTION |
|-----------------------|-----------------------|------------------------|
| 56G Flight Hawk Model | G-1372345 | G-938532 |
| 56B Power Hawk Model | 8446295 | 8852293 |
| 56H Sky Hawk Model | 7185283 | 7811490 |
| 56J Golden Hawk Model | 6032692 | 6800250 |

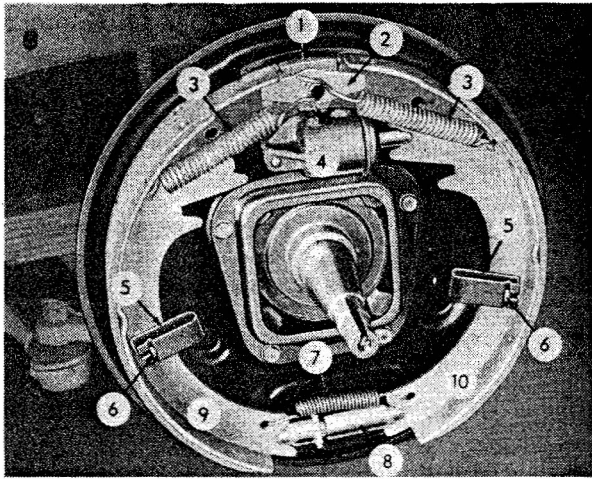
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TRUCK
SERVICE

CHANGES IN 2E11 AND 2E12 MODEL TRUCKS

Please record this article on the Service Bulletin Reference pages at the end of the Steering and Front Axle, Brake, and Wheels and Tires sections of your 2E Series Trucks Shop Manual.

To improve the product and to provide for the use of tubeless tires, changes have been made in front axle steering knuckles, brake assemblies, hub and drum assemblies, and wheels.

A Wagner self-energizing type brake with a star wheel adjustment between the lower ends of



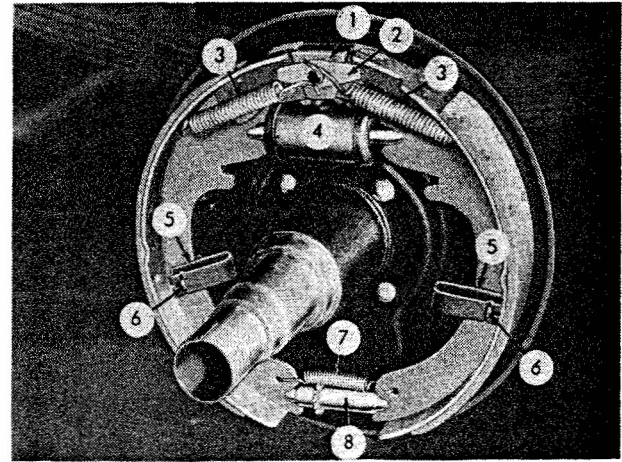
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FIG. 3

- | | |
|-------------------|----------------------|
| 1. ANCHOR BLOCK | 6. GUIDE PIN |
| 2. ANCHOR PLATE | 7. ADJ. SCREW SPRING |
| 3. RETURN SPRING | 8. ADJ. SCREW |
| 4. WHEEL CYLINDER | 9. REVERSE SHOE |
| 5. SPRING CLIP | 10. FORWARD SHOE |

the shoes is now being used. The front brake has the single piston in the wheel cylinder, the rear brake two pistons in the wheel cylinder. This is the same type brake used on the 2E13 model (see Figs. 3 and 4). Servicing procedures are the same as described for the 2E13 model.

The inner bearing area of the steering knuckle has been increased in diameter from 1-1/4" to 1-5/16". An improved radius at the inner bearing plus the 1/16" increase in diameter of the steering knuckle gives a substantial increase in strength to this part. The outer wheel bearing remains the same as in



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FIG. 4

- | | |
|-------------------|----------------------|
| 1. ANCHOR BLOCK | 5. SPRING CLIP |
| 2. ANCHOR PLATE | 6. GUIDE PIN |
| 3. RETURN SPRING | 7. ADJ. SCREW SPRING |
| 4. WHEEL CYLINDER | 8. ADJ. SCREW |

prior production.

Due to the increase in wheel bearing size and the use of different type brakes, the hub and drum assemblies are changed. The new brake drums are 12-1/8" in diameter, both front and rear.

The new wheels have eight mounting holes instead of the six previously used.

These changes became effective with the following serial numbers:

E11-12196

E12-2732

ANTIFREEZE - DOMESTIC CARS AND TRUCKS

Effective May 1, we discontinued the injection of antifreeze into the cooling system of the passenger cars and trucks for this season.

Studebaker Division

STUDEBAKER-PACKARD CORPORATION

South Bend 27, Ind.