

Service Bulletin

MARCH

1959

NO. 344

SOUTH BEND 27, INDIANA



ABNORMALLY SLOW ENGAGEMENT OF FRONT AND REAR CLUTCH - ALL MODELS EQUIPPED WITH FLIGHTOMATIC TRANSMISSION

Sometimes a complaint may arise due to the front and rear clutch requiring an abnormal length of time to apply with the engine at idle. This particular complaint condition may be noted at a time when the manual selector lever is shifted to a position that requires application of either the front or rear clutch with the car standing still, and at idle. This condition is usually noticeable only with the transmission fluid at normal operating temperature.

Generally, some hesitation is evident when shifting manually from one position to another with the car standing still, and must be regarded as normal. However, when a manual shift is made from Drive to Reverse range, for instance, and reverse fails to engage unless engine speed is increased considerable above prescribed idle, then this condition is not normal and should be investigated as follows:

1. Perform the diagnosis steps outlined under 'Initial Engagement Delay' in the Flightomatic section of your Shop Manual.

2. Check control pressure at both 1,000 rpm and idle with a pressure gauge. This must be done at a time when the complaint condition is noticeable, and comparative readings made in all ranges. Adjust throttle linkage, if necessary, to obtain correct control pressure at 1,000 rpm. With the engine at idle, if one of the ranges shows a definite drop in pressure, it should be noted as to which combination of clutch and band applications is affected.

Further comparative study between the various ranges should help point out whether a leak exists in either of the clutch circuits or

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in one of the band servo circuits. In Reverse range, the offending unit can be isolated to the rear clutch or rear band areas merely by experimentally adjusting the rear band so that it mechanically locks the rear drum. If the difficulty is overcome by this procedure, it indicates leakage or failure within the rear band servo. If the complaint difficulty remains, it indicates that the problem is in the rear clutch circuit. If the pressures are low in all ranges at idle, it indicates either a leak in the front pump circuit or a weak front pump.

3. If the above procedures do not correct the complaint but indicate a pressure leak in

either the front clutch or rear clutch circuits, proceed as follows:

a) Remove and disassemble the transmission. Inspect the clutch discs and plates, seals, and other components. All passages must be checked to make certain there are no obstructions. Particular attention should be given the piston ring type sealing rings and their respective bores. The bores should not be scored or nicked in any way. The sealing rings from the primary sun gear shaft should have .002" to .009" gap when positioned in their respective bores. The sealing rings from the output shaft should have a gap of .002" to .006" when positioned in the oil distributor sleeve.

b) Inspect the sealing ring grooves in the primary sun gear and output shafts. These grooves should be free of any scoring or nicks. Particularly, the ring grooves should not have a prominent shoulder worn into the side of the groove. Such a shoulder will interfere with sealing and can cause a fluid pressure leak.

c) Install the sealing rings into their respective grooves. The rings should rotate freely in the grooves. Check the sealing ring-to-groove side clearance with a feeler gage; this side clearance should not exceed .008".

d) If the sealing ring grooves are damaged or have a shoulder worn into them, it will be necessary to replace that particular shaft assembly. Likewise, if the sealing ring-to-groove side clearance exceeds .008" and a new sealing ring does not correct this condition, that particular shaft assembly should be replaced.

HIGH RANGE DRIVING CLUTCH PLATE - ULTRAMATIC, 1955-56 PACKARD AND 56J GOLDEN HAWK

Please record this article in your 1955-56 Packard Service Manual and your 1956 Studebaker Shop Manual.

A new heavy duty high range clutch driving plate is available for service under Part No. 1548382. Test results have shown that this plate provides longer service life while the shift quality is equal to the present driving plate.

Only five of the new driving plates are used per transmission in contrast to six per transmission required with the old type, Part No. 421128. It will be necessary to use eight (8) steel driven plates (unlined) in conjunction with the five new plates.

Installation Instructions

1. Install one steel driven plate (unlined) against the high range clutch operating piston.
2. Next, install a driving plate (lined).
3. Alternately, install a driven plate and a driving plate until five of each type are installed.
4. Then, install the three additional steel driven plates.

Under no circumstances should the new driving plate (Part No. 1548382) and the old type (Part No. 421128) be installed mixed in any clutch assembly.

The heavy duty plate is not being substituted for Part No. 421128, therefore, both plates are available. This is necessary since the new type has not been released for models prior to 1955 models.

Although the new heavy duty driving plate has a longer life it is not a cure-all for all high range clutch failures. Relative factors important to obtaining the best results from high range clutch performance, as previously covered in Service Bulletins and Service Counselors, should still be strictly followed. The importance of proper linkage adjustments must not be overlooked.

HYDRAULIC VALVE LIFTERS - 1955-56 PACKARD AND 56J GOLDEN HAWK

Please record this article in your 1955-56 Packard Service Manual and your 1956 Studebaker Shop Manual.

When the present supply of Hydraulic Valve Lifters, Part No. 476060, is exhausted, Part No. 1548927 will be substituted.

These assemblies are interchangeable. The new lifter, Part No. 1548927 has an overall length of 1-53/64", whereas Part No. 476060 is 2" in overall length. The overall length has no effect on the function of the lifter.

HAVE YOU COMPLETED YOUR
AS2876-S CARTER CARBURETOR
MODIFICATIONS?



PAINT FORMULATIONS FOR 1959 MODEL PASSENGER CARS AND TRUCKS

*** Cook's #1085 Tahiti Coral, Symbol BDI**
- Their #832-N-705

Non-Chalking Titanium Dioxide	84.83%
Burnt Sienna	14.73%
Indo Maroon	.44%
	<u>100.00%</u>

*** Dupont #1083 Alaskan Blue, Symbol BDG**
- Their #289-76239

289-1953	White	55.3%
289-0630	Ferrite Yellow	27.6%
289-0284	Black	1.6%
289-0505	Blue	0.5%
B-547	Base	10.0%
B-614	Base	5.0%
		<u>100.0%</u>

*** Dupont #1084 Velvet Black, Symbol BDH**
- Their #289-2247

289-2247	Straight Black	100.0%
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Jones-Dabney #1082 White Sand,
Symbol BDF

% Pigment Composition	% Vehicle Composition
99.30 Titanium Dioxide	76.0 Alkyd Resin
.68 Ferrite	24.0 Melamine Resin
.02 Tinting Colors	100.0%
100.00%	Non-Volatile - 56.0%

O'Brien's S-1681 Silvertone Gray,
Symbol BDJ - 1086

Vehicle - Alkyd - Melamine
 Non-Volatile - 50 ± 2%
 Volatile - Aromatic Hydrocarbon
 Minor amount Butanol
 Vis. (Studebaker Cup) 35 - 40 sec.
 Wt. per gallon 8.9 ± .1 pound
 Pfund Cryptometer - 831 sq. ft./gal.

Pigment

Non-Chalking Titanium Dioxide	- 96.9%
Carbon Black	- .5%
Nickel Titanium Oxide	- 2.6%
	<u>100.0%</u>

*** TRUCK COLOR**

*** Niles Chemical Co's. #1073 Orana Orange.**

Symbol BCW

Medium Chrome Yellow	33 lbs.
Molybdate Orange	12 lbs.
Soya Resin - 50% Solids	278 lbs.
MM 55 Melamine 50% Solids	26 lbs.
Solvent	77 lbs.

The above formulation is for a 50 gallon batch.
 Weight per gallon 8.64
 Viscosity 38 seconds #4 Ford Cup.

Rinshed-Mason #1081 Campfire Red
Symbol BDE E21R066

Pigment	Dry Wt. of Pigment
Indo Red	18.0%
Moly Orange	77.0%
TiO ₂ Titanium	5.0%
	<u>100.0%</u>

*** O'Brien's #1087 Hawaiian Green - Their S-1680**
- Symbol BDK

Vehicle - Alkyd - Melamine
 Non-Volatile - 50 ± 2%
 Volatile - Aromatic Hydrocarbons
 Minor amount of Butanol
 Viscosity (Studebaker Cup) -
 50 - 55 sec.
 Wt. per gallon 8.7 ± .1 pound
 Pfund Cryptometer - 727 sq. ft./gal.

Pigment

Non-Chalking TiO ₂	91.0%
Phthalocyanine Blue	2.1%
Phthalocyanine Green	2.1%
Yellow Iron Oxide	4.8%
	<u>100.0%</u>

Cook's #1071 Taxi Cab Yellow, Symbol BCU

Pigmentation

Chrome Yellow Lemon	55.0%
Chrome Yellow Medium	45.0%
	<u>100.0%</u>

*** TRUCK COLOR**

USE OF WAX ON 'SUPER' ENAMEL - 1959 PASSENGER CAR MODELS

All of the 1959 passenger car paint is of the type commonly referred to as 'Super' Enamel. These enamels have a greater resistance to elements of the atmosphere and weather, and consequently retain their appearance and lustre much longer than regular enamels. 'Super' enamels do not require wax to maintain their high lustre. Frequent washing with a good

neutral detergent is all that is required to maintain a good appearance.

The use of wax on 'Super' enamel may result in hazing the lustre of some colors. In this case it would be necessary to carefully remove all of the wax with turpentine and thoroughly dry with clean cloths.

The use of Lustur-Seal and Haze Cream has been tested by our laboratory and only these products are approved for these enamels.

VALVE CLEARANCE SETTING - 59S PASS. CAR AND 4E1, 4E5 TRUCK MODELS

The valve clearance specification for the engine used in the 59S passenger car and, 4E1 and 4E5 truck models is .018" and the adjustment is made with the engine cold. Tests prove that the engine will operate more efficiently and without noise at this setting.

Although the valve covers are stenciled "Valve Clearance .016" Cold", the clearance is set at .018". When present stock of valve covers is exhausted, the new covers will carry the new specification.

ENGINE REAR SUPPORT INSULATOR - 59S-Y1 TAXICAB

A new engine rear support insulator, Part No. 1548995 has been released for use with the three-speed transmission in the 59S-Y1 model. The new insulator entered production with Serial No. 59S-38215.

The new insulator has a durometer hardness of 40; whereas the former insulator, Part No. 1547196, has durometer hardness of 60. The change in durometer hardness provides for smoother engine operation.

RADIATOR UPPER INLET REINFORCING COLLAR - 1958 CHAMPION AND SCOTSMAN MODELS

Please record this article in your 1958 Studebaker Supplement to the 1956 Passenger Car Shop Manual.

A reinforcing collar has been released for the radiator upper inlet as a service part. The Reinforcing Collar, Part No. 1548404 is designed to fit all 1958 G model passenger cars. Application of the reinforcing collar should minimize complaints of the radiator upper inlet cracking or coming loose where it

fastens to the upper radiator tank. The collar should be cut through on one side to enable it to pass over the enlarged portion of the inlet tube. It should then be positioned firmly against the upper tank, and soldered securely to the radiator upper tank and upper inlet.



BRAKE PISTON SEAL RETAINER - PART NO. 423084 - ULTRAMATIC TRANSMISSION

The Brake Piston Retainer, Part No. 423084, used in the low and reverse brake piston in the Ultramatic Transmission prior to gear start, should have a thickness of .035" plus or minus .004". Retainers which do not measure within these limits should not be used and should be scrapped.

THROTTLE CONTROL ROD ADJUSTMENT - 56TH SERIES TWIN ULTRAMATIC TRANSMISSION

Please note this change in Service Bulletin No. 340.

In Service Bulletin No. 340 on page 7 in the illustration, Fig. 6, we gave the Throttle Control Rod Adjustment length as 25 15/16" for the 55th Twin Ultramatic. This measurement is the same for the 56th Series Transmission. The caption should read '25 15/16" - 55th and 56th Twin Ultramatic'.

REAR BRAKE WEAR - 1956 PACKARD CLIPPER MODELS

Certain conditions and types of operation may result in premature wear of the rear brake linings on the 5640-60-70 models. Some cases have been satisfactorily corrected by modification and adjustment of the hand brake assembly to prevent dragging and by installation of one inch wheel brake cylinders. To provide further improvement a service replacement rear brake drum assembly Part No. 1544138 has been made available.

Before installing the new service brake drums, make sure that all factors effecting the condition have been checked and corrected, if necessary, as outlined in the procedure below:

1. If the rear wheel brake cylinders have not been changed to the one inch type, install Rear Brake Wheel Cylinder, Part No. 426536 (right) and Part No. 426535 (left).

2. Install new brake shoes and linings, Part No. 474038. This part number includes a set for both rear wheels.

3. If the retracting springs have lost their tension, they must be replaced. On the Clipper models they are the same for the primary and secondary shoes under Part No. 315838 and four are required. If the shoe adjusting screw spring requires replacing, it is Part No. 458029; one is required for each wheel.

4. Clean the hand brake cable equalizer so that the cable can slide freely in the equalizer. Disconnect the rear cable and equalizer from the equalizer lever to properly clean the unit. Clean the slot in the X member so the equalizer lever slides easily. Make sure the brake cables are not binding in the cable conduits. All these parts may be lubricated with Lubriplate.

5. Be sure the front cable operates freely and adjust the front cable so that the equalizer lever just touches the rear of the slot in the X member.

6. Adjust the star wheel in the rear brakes until the wheels can just be turned by hand. Then, back-off the adjustment so that the wheels turn freely.

7. Connect the rear cable and equalizer to the equalizer lever and adjust to take the slack out of the cable without causing a brake drag at either rear wheel.

It is important that the rear brake shoes rest on the anchor pin when the brakes are released. Otherwise, the shoes will contact the drums and cause overheating and premature wear.



DELCO-REMY ELECTRICAL EQUIPMENT - 4E1 AND 4E5 MODEL TRUCK

Starting with Engine No. 1E-15783, a Delco-Remy starter was released for production of the 4E1 and 4E5 trucks. The starter and Bendix drive assembly is Part No. 1691555 (Delco-Remy No. 1107749). The servicing procedures are the same as for the Delco-Remy starter used on the V8 engine.

Use of the Delco-Remy starter on a 4E1 or 4E5 truck necessitates a change in the rear engine support plate, flywheel, clutch housing,

oil pan and breather tube. The part numbers when used with the Delco-Remy starter are:

1691544 - Rear Engine Support Plate
1691540 - Flywheel and Ring Gear
1691542 - Clutch Housing
1691556 - Oil Pan Assembly
1691557 - Breather Tube

A Delco-Remy distributor assembly, coil, generator and voltage regulator were released for the 4E1 and 4E5 truck and entered production with Engine No. 1E-16160. The following is a brief description of these parts:

1). Generator Assembly, Part No. 1541275 (Delco-Remy No. 1102005) which is the same as the generator used on the 59V models.

2). Voltage Regulator, Part No. 1539579 (Delco-Remy No. 1119123) which is the same as used on the 59V models.

3). Distributor Assembly, Part No. 1548982 (Delco-Remy No. 1110229) has the following specifications:

Point gap - .022"

Cam angle - 31 to 37 degrees

Max. Centrifugal Adv. (Crankshaft degrees)-16

Max. Vacuum Adv. (Crankshaft degrees) - 16

4). The Ignition Coil is Part No. 1686956, (Delco-Remy No. 1115043). This coil is installed with the high tension cable tower upwards.

No resistor is used in the ignition primary circuit between the battery and the coil. In order to insure proper operation the correct distributor and coil combination must be used. Also, the correct generator and voltage regulator combination must be used. Do not substitute the Auto-Lite counterpart of any of the above Delco-Remy Assemblies.

ADJUSTABLE REACH ROD ASSEMBLIES FOR SERVICE - TRUCKS WITH POWER STEERING

Adjustable reach rod assemblies have been released for service for trucks equipped with power steering. When present stock of Part No. 1688242 (E13 model) is exhausted, Part No. 1689414, Reach Rod Assembly, will be substituted. When present stock of Part No. 1688225 (E28, E38, E40 model) is exhausted, Part No. 1689415, Reach Rod Assembly, will be substituted.

TWIN-TRACTION REAR AXLE ASSEMBLY - 3/4 TON TRUCK MODELS

Twin-Traction rear axle assemblies are now available for 3/4 ton truck models as optional equipment at extra cost. The ratios available and part numbers are as follows:

Assembly Part No.	Ratio
1690817	4.88 - 1
1690818	4.10 - 1
1690819	4.88 - 1 (4 Wheel Drive)

Differential Case Assembly Part No.	Ratio
1690816	4.88 - 1
1690815	4.10 - 1

BORG PRODUCTS DIVISION THE GEORGE W. BORG CORPORATION AUTHORIZED SERVICE STATIONS

This list cancels and supersedes the list printed in Service Bulletin No. 333, dated January, 1958.

ARIZONA -- Phoenix
Smith's Clock Shop
1512 N. 7th Avenue

CALIFORNIA -- Long Beach
Snow's Clock Co.
1639 East Anaheim Street

-- Los Angeles
Graf's Automobile Clock Co.
5920 Sunset Boulevard

Speedo Electric Co.
1155 South Olive Street

-- Oakland
Jacobs Automobile Clock Co.
1211 5th Avenue

-- Pasadena
Graf's Automobile Clock Co.
1074 E. Colorado Street

COLORADO -- Denver
Deluxe Speedometer and Radio Service
1410-12 Speer Boulevard

FLORIDA -- Jacksonville
Clock Service Center
10 East Church Street

-- Miami
Electric Clock Service
3101 N. W. 7th Avenue

GEORGIA -- Atlanta
Speedometer Service Co.
960 Spring Street, N. W.

ILLINOIS -- Chicago
Automotive Instrument Service
3017 Irving Park Road

International Speedometer and Clock Service
878 N. LaSalle Street

-- Highwood
Cal's Radio and TV Sales and Service
550 Waukegan Avenue

IOWA -- Cedar Rapids
Schaefer Clock Service
216 Third Street, S. E.

KANSAS -- Kansas City
Kansas Speedometer Service
431 Minnesota Avenue

LOUISIANA -- New Orleans
Specialty Sales and Service
635 Baronne Street

MAINE -- Portland
The Watch Shop
285 Cumberland Avenue

MARYLAND -- Baltimore
Goldbell Service Company
3610 W. Cold Spring Lane

MASSACHUSETTS -- Boston
Boston Speedometer Service Co.
116-120 Brighton Avenue

MICHIGAN -- Detroit
Clark Brothers Instrument Co.
10300 Whittier Avenue

MINNESOTA -- Minneapolis
Empire Clock Co.
1016 Marquette Avenue

-- St. Paul
Empire Clock Co.
93 East Fifth Street

MISSOURI -- St. Louis
Jack Harrison's Speedometer Service
2833 Olive Street

MONTANA -- Billings
The Old Clock Shop
P. C. Box 1431

NEBRASKA -- Omaha
Beacon Time Service
703 South 16th Street

NEW YORK -- Bronx

Automotive Clock Repair Co.
814 Southern Boulevard

-- Brooklyn

Lapina and Monaco
616 Classon Avenue

-- Buffalo

Hopple's
1339 Jefferson Avenue

-- Woodside, Long Island

Boulevard Instrument Company
54-02 Broadway

NORTH CAROLINA -- Charlotte

Charlotte Instrument Service Co.
724 Seigle Avenue

OHIO -- Cincinnati

Abinger-Keller Clock Shop
3962 Montgomery Road

-- Cleveland Heights

Cleve-Hio Instrument Service Co.
2190 Lee Road

OKLAHOMA -- Tulsa

Tick of Time
220 E. 4th Street

OREGON -- Portland

Sturgill Instrument Co.
1504 S. E. 8th at Hawthorne

PENNSYLVANIA -- Philadelphia

Auto Clock Service
Div. Precision Instrument Service
106-08 South 7th Street

-- Youngwood

Stewart's Auto Clock Service
110 South Third Street

RHODE ISLAND -- Providence

Edwin Olson
7 Dyer Street

TENNESSEE -- Knoxville

George McNutt Service
813 Market Street

-- Memphis

Tolbert Auto Clock and Instrument Service
1791 Lamar Avenue

TEXAS -- Dallas

Long's Automobile Clock Service
2304 Cedar Springs Avenue

-- Fort Worth

Speedometer Service Company
911 Macon Street

TEXAS -- Houston

The Garnett Watch Shop
1720 Yale Street

-- San Antonio

Sweeney Radio and Clock Co.
110 Elm Street

UTAH -- Salt Lake City

Time and Instrument Co.
57 Richards Street

VIRGINIA -- Oceana

Tidewater Electronics Co.
P. O. Box No. 24

WASHINGTON -- Seattle

Huletz-Beezer, Inc.
2017 7th Avenue

WASHINGTON, D. C.

Auto Clock Shop
1105 21st Street, N. W.

WISCONSIN -- Delavan

Borg Products Division Service Station
902 Wisconsin Street

-- Milwaukee

Schreiber Clock Service
1612 W. Center Street

CANADA

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Toronto 5, Canada

Auto Electric Service (Pacific) Ltd.
1025 Howe Street
Vancouver, B. C., Canada

Auto Electric Service (Western) Ltd.
170 Fort Street
Winnipeg, Manitoba, Canada

Hutton's Limited
131 11th Avenue West
Calgary, Alberta, Canada

Auto Electric Limited
342 St. Denis Terrace
Montreal, Quebec, Canada

Loveseth, Ltd.
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Edmonton, Alberta, Canada

Lone Star Auto Electric Service
146 Avenue A North
Saskatoon, Saskatchewan, Canada

Auto Electric Service Ltd.
1845 Broad Street
Regina, Saskatchewan, Canada

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Honolulu 13, Hawaii

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Mexico City, D. F., Mexico

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London SE 11, England

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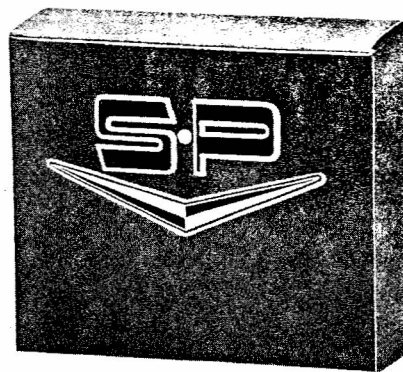
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