

Studebaker

# SERVICE BULLETIN

MARCH

NO. 249



1951

## CYLINDER BLOCK WATER MANIFOLD COMMANDER SIX ENGINES

Please record this article on page 107 of your 2R Series Trucks Shop Manual and on page 143 of your 1950 Passenger Car Shop Manual.

As a result of the critical shortage of brass it has been necessary to return to the use of Toncan metal for the manufacture of the cylinder block water manifold (distribution tube) used in the 245.6 cu. in. six cylinder engines used in 2R6, 2R11, 2R14, 2R16A, and 2R17A model trucks and for replacement in Commander models from A through 17A. The Toncan metal tube entered production with Truck Serial No. 4R-27312.

Toncan metal is corrosion and rust resistant to some degree, but it is not as efficient in those respects as brass. Therefore, for subsequent use as a replacement part, it will be expedient for dealers to remove the brass water manifold from any of these engines or cylinder blocks that are being replaced or salvaged.

## USE AC-1476 CEMENT TO SECURE ROCKER ARM COVER GASKETS - H MODELS

Please record this article on the Service Bulletin Reference page of the Engine section of your 1951 Passenger Car Shop Manual.

To insure proper installation of new gaskets in the rocker arm cover of 1951 Commander (H) engines it is necessary to place the gasket in the cover in such a manner that it will maintain its position until the cover is fastened to the cylinder head.

After many tests of various types of materials the following procedure has been developed.

1. Wipe cover clean of all traces of oil.
2. Apply a light coat of AC-1476 cement to the cover side of the gasket.
3. Place gasket in position in cover and allow at least three minutes for cement to set. NOTE.--If both covers are being installed, position gasket in one cover, then position other gasket in other cover. By this time the first cover is

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ready for installation. After installing first cover, second cover will be ready for installation.

4. Install cover on cylinder head.

The importance of our recommending AC-1476 gasket cement is that it is quick drying. For that reason it is packaged in 2 oz. bottles (good for about 8 gasket applications) which are priced to dealers at \$0.12 per bottle in cartons of 12 bottles to the carton.

## BORG CLOCK SERVICE STATION ADDRESSES

Two addresses of the Borg clock service stations have been changed since the listing in Service Bulletin No. 244, p. 3. We are also listing the service station at Haifa, Israel to correct the spelling of the street name.

Graf's Automobile Clock Company  
1074 E. Colorado Street  
Pasadena 1, California

Graf's Automobile Clock Company  
6730 Sunset Boulevard  
Los Angeles 27, California

Markovits Brothers  
17, Neemanim Street  
Haifa, Israel

### RACING ENGINE WITH INOPERATIVE AUTOMATIC DRIVE

One of the functions of the front pump of the Automatic Drive is to provide continuous circulation of the oil to and through the torque converter and the transmission. Where this flow is interrupted by a stuck valve or front pump failure the action of the unit is impaired or rendered inoperative. But, of even greater importance, the internal parts of the converter and transmission will be operating without adequate and sufficient lubrication - especially in cases of excessive engine speed.

Racing the engine, with an inoperative front pump, tends to throw the oil in the converter to the outer shell - leaving the bearings and other internal parts of the converter and transmission "dry." Naturally, such a condition would lead to abnormal heating and probably would result in unnecessary and excessive damage to either or both of these units.

With this in mind, excessive racing of the engine should be avoided if and when front pump failure is encountered.

### FORMULAS FOR THREE NEW 1951 COLORS

Please record this article on the Service Bulletin Reference page of the Body section of the 1951 Shop Manual and also on page 37 of your 2R Series Trucks Shop Manual.

Below are the paint formulations of the new colors used on the 1951 passenger cars and trucks and also two colors used on 1950 models.

#### COOK'S NO. 8448 RIO GREEN BAKING ENAMEL, SYMBOL W-VY

Rutile Non-Chalking TiO <sub>2</sub>	84.30%
Chrome Oxide	14.49
Yellow Iron Oxide	1.21
	<u>100.00%</u>

#### DUPONT'S NO. 8452 MAUI BLUE BAKING ENAMEL, SYMBOL W-VZ

29 ounces White . . . . .	DuPont No. 246-097
2 ounces Black . . . . .	DuPont No. 246-025
3/4 ounce Blue . . . . .	DuPont No. 246-095
1/4 ounce Green . . . . .	DuPont No. 246-0785

#### JONES-DABNEY NO. 8444 SAHARA SAND BAKING ENAMEL SYMBOL W-VX

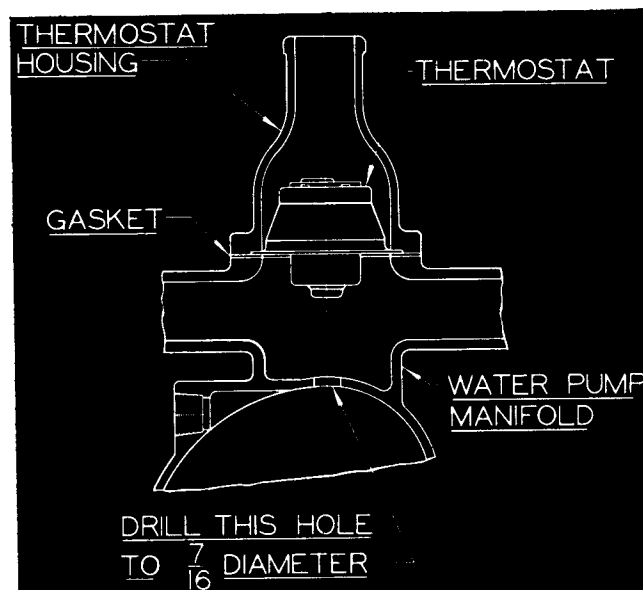
% Pigment Composition	% Vehicle Composition
92.0 Titanium Dioxide	92.0 Alkyd Resin
1.0 Zinc Yellow	8.0 Melamine
6.9 Ferrite Yellow	<u>100.0%</u>
.1 Lamp Black	
<u>100.0%</u>	Total Non-Volatile - 44%

#### NO. 8401 SHENANDOAH GREEN BAKING ENAMEL - W-VO JONES-DABNEY

% Pigment Composition	% Vehicle Composition
74.0 Titanium Dioxide	92.0 Alkyd Resin
6.0 Zinc Yellow	8.0 Melamine
15.0 Ferrite Yellow	<u>100.0%</u>
2.0 Lamp Black	
3.0 Organic Green	
<u>100.0%</u>	Total Non-Volatile - 44%

#### NO. 8293 CONCORD BLUE BAKING ENAMEL - W-UN JONES-DABNEY

% Pigment Composition	% Vehicle Composition
35.0 Titanium Dioxide	92.0 Alkyd Resin
30.0 Inorganic Maroon	8.0 Melamine
22.0 Alkali Resistant Blue	<u>100.0%</u>
13.0 Iron Oxide	
<u>100.0%</u>	Total Non-Volatile - 44%



### WATER LOSS - COMMANDER V-8 ENGINE

Please record this article on the Service Bulletin reference pages at the end of the Cooling and Engine sections of the 1951 Passenger Car Shop Manual.

In the V-8 engine, if a situation of continued water loss during warm-up (before the thermostat opens), cannot be corrected in the usual manner of eliminating air binds, leaks at gaskets or hose connections, etc., the following correction will, in most cases, apply:

1. Remove the thermostat housing and the thermostat.
2. Enlarge the 5/16" by-pass hole with a 7/16" drill (see illustration).

This procedure will better equalize cooling between the right and left cylinder banks. The 7/16" by-pass hole entered production with Engine No. V-27454.

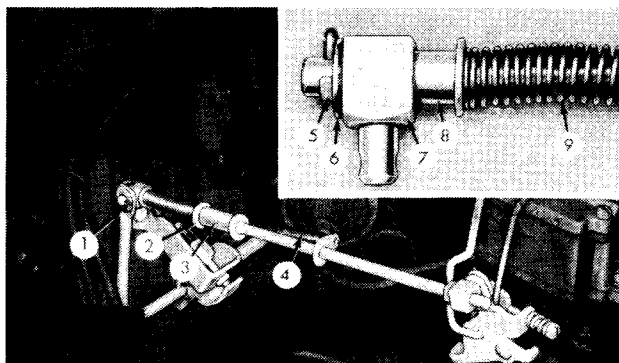
## RELIEVING FLOODED CONDITION - COMMANDER (H) WITH AUTOMATIC DRIVE

This article is a reprint of Service Letter No. 848 which may now be discarded. Please record this article on page 36 of your Automatic Transmission Preliminary Shop Manual and on the Service Bulletin Reference page of the Gasoline section of your 1951 Shop Manual.

In order to assure manual opening of the choke valve by depressing the accelerator pedal to the floor board, the tension of the throttle rod overtravel spring on the cross shaft-to-carburetor rod has been increased on the Commander engines equipped with Automatic Drive. This change became effective in production with Serial No. 8129080.

The tension of the overtravel spring on cars before Serial No. 8129080 can be increased by installing a spacer and an additional washer on the cross shaft-to-carburetor rod.

It is recommended that you perform this service correction on all 1951 Commander passenger cars with Studebaker Automatic Drive prior to Serial No. 8129080 in accordance with the following instructions:



1. Loosen the clamp screw and remove the carburetor air cleaner. Disconnect the pullback spring (4). Remove the swivel cotter pin (1), flat washer, and spring washer. Disconnect the cross shaft-to-carburetor rod from the cross shaft. Remove the cotter pin (5, see inset) from the end of the cross shaft-to-carburetor rod. Remove flat washer (6), swivel (7), flanged sleeve (8), and spring (9).
2. Install spacer (3) 3/4" long made of tubing with 1/4" inside diameter and a 1/4" flat washer (2) on the rod. Install the spring, flanged sleeve, swivel, flat washer, and cotter pin. Connect the cross shaft-to-carburetor rod to the cross shaft. Then install the spring washer, and cotter pin (1), and connect the pullback spring (4).

3. Check the adjustment of the pullback spring. This should be adjusted so there will be just enough tension to insure the full closing of the throttle. Be certain there is no interference present.
4. Depress the foot accelerator inside the car to full throttle opening. There should now be a minimum of 1/8" opening of the choke valve in the carburetor throat. If not, make the necessary adjustments. Refer to page 20 of the Gasoline System Section, 1951 Passenger Car Shop Manual.
5. Install the air cleaner assembly and tighten the clamp screw. Check the choke operation manually to be sure that it moves freely.

# T



# TRUCK

# SERVICE

# Information

## ENGINE ASSEMBLY CHANGES - 2R5, 2R10, 2R15 MODELS

Please record this article on page 107 of your 2R Series Trucks Shop Manual.

Effective with Engine Serial Nos. 1R-95492, (H1R-3256 for Canadian production) (2R5, 2R10) and 2R-12076 (2R15), several changes were made in the engine assembly.

These changes were in the oil pan assembly, oil strainer support, oil level gage, generator mounting bracket, left engine support bracket, engine support bracket studs, and engine support bracket reinforcing strip.

Part numbers for use in service of trucks carrying above or later engine serial numbers are as follows:

Part No.	Part Name
530862	Stripped engine assembly (service only)
529264	Oil pan assembly
680204*	Oil level gage with cap
2-203-0628	Engine support bracket studs, left
680180	Engine support bracket reinforcing strip
679477	Engine support bracket, left
527042	Generator bracket

\* The Part No. 680204 oil level gage measures 2 3/32" from bottom to FULL mark as against 1 7/8" for this measurement on the former gage.

## DISTRIBUTOR ASSEMBLY - RADIO INSTALLATION 2R5, 2R10, 2R15 TRUCKS

Please record this article on page 73 of your 2R Series Trucks Shop Manual.

A radio suppressor built in the distributor cap entered production of 2R5, 2R10, and 2R15 model trucks effective with the following Engine Serial Nos. (U.S. production): 1R-94733 (2R5, 2R10) and 2R-12058 (2R15); (Canadian production) H-R5-3038 (2R5).

When installing radios in 2R5, 2R10, and 2R15 model trucks built after the above serial numbers do not install a noise suppressor for the distributor.

The new distributor cap and rotor brush are different from those formerly used and can be identified as follows: The carbon resistor in the cap is spring loaded and the rotor brush is a solid plate without any spring. The suppressor is incorporated in the spring loading of the cap carbon resistor. If a new type cap is to be used on a distributor produced before above serials, it is also necessary to install the new type rotor.

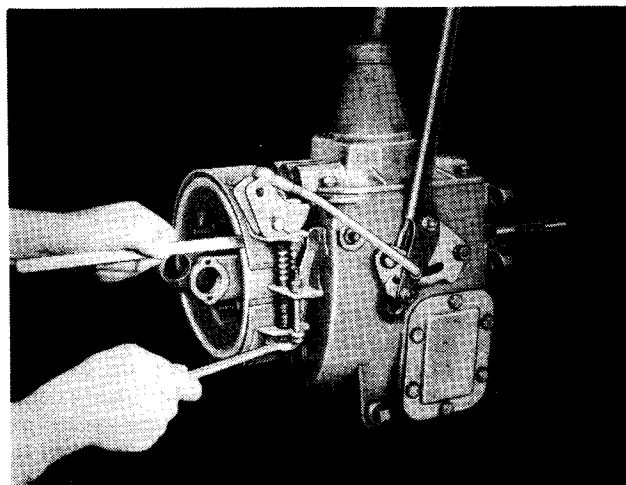
On Models 2R6, 2R11, 2R14, 2R16A, and 2R17A it is still necessary to add a noise suppressor (10 ohm) for the distributor.

## CHANGES IN BAND-TYPE PARKING BRAKE ON FOUR-SPEED TRANSMISSIONS - 2R SERIES TRUCKS

Please record this article on page 30 of your 2R Series Trucks Shop Manual. It is suggested that these serial numbers be written in the space provided on page 259 (Supplement III) of your 2R Series Trucks Shop Manual.

Effective with Truck Serial Nos. R17A-20060, R16A-30676 (T97 optional transmission), R16A-30880 (standard T9A transmission), R14-378, and R11-1774 the arrangement of the linkage of the band-type parking brake has been changed to eliminate interference at the power take-off.

The operating cam is now located on the brake band flange at the upper ends of the adjusting link, pin, and springs. The new arrangement can be installed on prior production trucks by using the following procedure:



1. Remove propeller shaft, transmission main shaft rear flange, brake band assembly, and brake drum.
2. Remove transmission case rear flange with bushing (Part No. 674893).
3. Remove brake rod from band brake lever.
4. Remove nut and stud that supports rear end of brake sector and install cap screw, Part No. 1-0616, with lock washer, Part No. 384-06. Coat threads with Permatex to prevent oil leak.
5. Install new transmission case rear flange with bushing, Part No. 680436.
6. Replace brake drum and flange and assemble brake band with the operating cam on the top and the cam bolt adjusting nut at the bottom.
7. Install 1/4" brake band adjusting bolt in original position.
8. On Models 2R5, 2R6, 2R10, 2R11, 2R14, 2R15 and 2R16A use new band brake rod, Part No. 680444; on Models 2R17A, and those 2R16A equipped with T97 Transmission, use new rod, Part No. 680446, and rod spacer, Part No. 680445. The spacer should be installed on the outside of brake lever to provide clearance between rod and cap screw in brake sector.
9. Adjust brake as outlined in 2R Series Shop Manual, page 259 (Supplement III).

*"Lubricate for Safety  
Every 1,000 Miles"*



**WRITE-UP DESK  
MERCHANTISER A  
BARGAIN AT \$97.50**

We have been advised by Display Corporation of Milwaukee that the low price of \$97.50 for the special write-up desk accessory merchandiser will remain in effect despite the present increase in basic prices of steel and other component parts.

This merchandiser, illustrated herewith, is in every way a desirable addition to the service department reception area. It provides roomy write-up space for two service salesmen. It offers two large, brilliantly lighted display panels for accessories. There are two big drawers for stocking supplies and materials used by service salesmen. There are even special compartments for storage of hydrometers, cloths, and the like.

The desks are finished in glossy white trimmed with brushed chrome and topped by a formed Duron canopy. The ped-board-display panels, also made of reinforced Duron wood composition, lend themselves to almost an infinite variety of accessories displays in keeping with seasonal or special sales. The rugged 3/4" plywood desk surface is colored a restful red.

Orders for these desks should be mailed directly to Display Corporation, 521 Broadway, Milwaukee 2, Wisconsin together with a check for \$97.50 to cover f.o.b. price of the desk. Advise Display Corporation on your order regarding your choice of transportation (rail freight or truck). Pay your local transportation agent for shipping costs.



## *Refresher Questions and Answers*

1. When removing the vacuum shifter shaft from the two-speed rear axle assembly, is it necessary to remove the entire differential carrier assembly to loosen the shifter fork set screw and locknut?

- (a) \_\_\_ Yes.  
(b) \_\_\_ No.

(See Service Bulletin No. 226, P. 2)

2. When the manifold heat control valve does not operate correctly, it will

- (a) \_\_\_ result in poor engine performance.  
(b) \_\_\_ prevent easy starting of engine when cold.  
(c) \_\_\_ result in poor engine performance at high speeds only.

(See 1951 Shop Manual, P. 22 and 56 of Engine Section)

3. When the overdrive gear cuts in on the 1941-51 models, it automatically reduces engine speed below that of conventional high gear approximately

- (a) \_\_\_ 45%.  
(b) \_\_\_ 25%.  
(c) \_\_\_ 30%.

(See 1951 Shop Manual, P. 9 of Transmission Section)

4. Crankshaft end play of the Commander V-8 engine is checked using a

- (a) \_\_\_ small scale.  
(b) \_\_\_ micrometer.  
(c) \_\_\_ dial indicator.

(See 1951 Shop Manual, P. 33 of the Engine Section)

5. On complaints of excessive gasoline consumption, the first step taken should be:

- (a) \_\_\_ replace the carburetor.  
(b) \_\_\_ to tune the engine.  
(c) \_\_\_ conduct a test run using an accurate gas mileage tester.

(See 1951 Shop Manual, P. 21 of Gasoline System Section)

