STUDEBAKER-PACKARD CORPORATION

Service Bulletin

MAY 1959 NO. 347

SOUTH BEND 27, INDIANA

Studebaker

GASOLINE TANK FILLING - LARK MODELS

Gasoline tank filling is considerably influenced by variations in the level of the car due to car loading or the surface upon which the car is standing at the time the tank is filled. Because of these variations it is not always possible to completely fill the tank with fuel and expel all of the air. Under certain atmospheric conditions and parking conditions the expansion of the air that is trapped in the tank may cause some of the gasoline to be forced out through the filler pipe.

To assure that the filler pipe is always the highest point, under any reasonably level conditions, spacers have been added in production to the left side tank brackets to lower the left side of the tank. These spacers can be installed on previously produced cars. The parts required are:

1	1544141	Spacer - installed between gas tank and left front hanger
*1	1549453	Spacer - installed between gas tank and left rear hanger
2	G-181374	Bolt**
2	G-103026	Nut
2	c-103321	Lock Washer

* Spacer, Part No. 1549453, is a new part and will not be available for several weeks from your Parts Depot stock. In the meantime, Spacer, Part No. 1544141, can be substituted and used by reducing its length to 9/16". The spacer lengths are: Part No. 1544141 - 25/32"; Part No. 1549453 - 9/16".

**On cars with dual exhaust, both bolts must be installed upward and a plain washer used under the lock washer.

THREE SPEED TRANSMISSION IDENTIFICATION - 59S-Y MODELS

The standard 3-speed transmission for the 59S-Y Taxicab is a Warner T90-B, Part No. 1548177. This T90-B Transmission was assembled in a case having 'T86' cast in the side. As a result some confusion occured in the field as to the correct identity of the transmission assembly

To provide a means of identification of the transmission model, a metal tag is now attached to one of the cover cap screws.

T90-B, Part No. 1548177, used with the 9-1/4" clutch is tagged 'EE'.

T90-B, Part No. 1546523, used with the 10-1/2" clutch is tagged 'L'.

In this issue

CHOKE PISTON FOR CARTER 4-BARREL CARB. 59V MODELS

A new choke piston is now available for the 59V models equipped with the 4-barrel carburetor to eliminate stumble or hesitation which may occur following a cold engine start.

The improved choke piston, Part No. 1548241 (carter No. 160-117) is interchangeable with the original piston, Part No. 1543191 (Carter No. 160-159).

Where the new choke piston is installed better choke operation is obtained by setting the choke one or two notches to the "Rich" side of the index mark.

PAINT FORMULATIONS FOR INTERIOR COLORS - 1959 PASSENGER CAR MODELS

#1089 - BDM - Silvertone Dark Gray, O'Brien's S-16135 Gloss Instrument Board Enamel
(Alkyd-Melamine Vehicle)

Titanium Dioxide.	89.5%
Carbon Black.	6.6%
Iron Oxide Yellow	2.8%
Iron Oxide Red.	1.1%
	100.0%

11090 - BDN - Emerald Green - O'Brien's S-1682 Gloss Instrument Board Enamel
(Alkyd-Melamin Vehicle)

Titanium Dioxide.	52.7%
Phthalocyanine Green.	9.3%
Dark Chrome Green	35.5%
Phthalocyanine Blue	2.5%
	100.0%

#1091 - BDC - Marine Blue, O'Brien's S-1691 Gloss Instrument Board Enamel
(Alkyd-Melamine vehicle)

Titanium Dioxide. -	77.6%
Phthalocyanine Blue -	19.6%
carbon Black. -	2.8%
Thio-Indigo Red-Tinting	
	100.0%

1092 BDP- Flame Red - O'Brien's S-1726 - Gloss Inst. Board Enamel
(Alkyd-Melamin Vehicle)

Lithol Rubine Red	49.1%
Molybdate orange.	49.1%
Titanium Dioxide.	1.8%
Burt Umber . Tinting	
Iron Oxide Red - Tinting	
	100.0%

11095 - BDS - Hawaiian Dark Green Satin Enamel- O'Briend's S-j.6136
(Alkyd-urea Vehicle)

Dark Chrome Green	74.0%
Light Chrome Yellow	7.5%
Iron Blue	18.5%
	100.0%

81096 - BDT - Alaskan Dark Blue, O'Brien's S-1692 satin Finish Instrument Board Enamel
(Alkyd-Urea Vehicle)

Chinese Blue.	53.0%
Titanium Dioxide.	38.0%
Light Chrome Yellow	9.0%
	100.0%

13072 - LCF - Marine Light Blue Wheelhouse Lacquer O'Brien's L-2457
(Nitrocellulose Base)

Titanium Dioxide.	100%
Tinting Colors:	Iron Blue, carbon Black, Light Chrome Yellow

#3073 - LCW - Tahiti Light Coral wheelhouse Lacquer O'Brien's L-2456
(Nitrocellulose Base)

Titanium Dioxide.	100%
Tinting Colors:	Iron Oxide Red, Carbon Black, Light Chrome Yellow

#3074 - LCX - Silvertone Light Gray Wheelhouse Lacquer O'Brien's L-2454
(Nitrocellulose Base)

Titanium Dioxide.	100%
Tinting colors:	Carbon Black and Light Chrome Yellow

63075 - LCY - Light Emerald Green wheelhouse Lacquer O'Brien's L-2455
(Nitrocellulose Base)

Titanium Dioxide.	100%
Tinting colors:	Light Chrome Yellow Iron Blue, Phthalocyanine Green

#3076 - LCZ - Marine Blue Wheelhouse Lacquer O'Brien's L-2452
(Nitrocellulose Base Vehicle)

Titanium Dioxide.	91.0%
Phthalocyanine Blue	9.0%
	100.0%

#3077 - LDA - Flame Red wheelhouse Lacquer
O'Brien's L-2490
(Nitrocellulose Base vehicle)

Lithol Rubine Red	50.0%
Molybdate Orange.	48.0%
Titanium Dioxide.	2.0%
	100.0%

#3079 - LDC - Silvertone Dark Gray Wheelhouse Lacquer
O'Brien's L-2451
(Nitrocellulose Base Vehicle)

Titanium Dioxide.	94.5%
Carbon Black.	5. 5%
	100.0%

#3080 - LDD - Emerald Dark Green Wheelhouse Lacquer
O'Brien's L-2449
(Nitrocellulose Base Vehicle)

Titanium Dioxide.	63.0%
Iron Blue	10.0%
Phthalocyanine Green.	2.4%
Primrose Yellow	24.6%
	100.0%

CLIMATIZER HEATER AND DEFROSTER MANUAL CONTROL - LARK MODELS

There are two types of Climatizer heater and defroster manual control used on the Lark models. The type can be determined by the escutcheon on the control, see Fig. 1.

The operation is as follows:

TYPE A - Turning the knob to the right (clockwise) will open the water control valve to admit the flow of water to the Climatizer core. Pulling the knob out about halfway will direct hot air to both the windshield and inside the car. If defroster action is not necessary, the knob may be pulled out all the way. In this position, all air is directed into the car. For maximum defroster action, the knob should be moved fully inward.

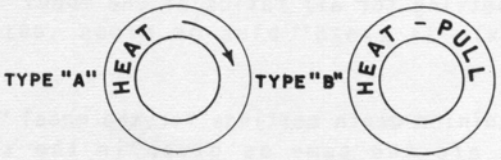

Fig. 1

TYPE B - Pulling the knob will open the water control valve to admit full flow of water to the Climatizer core. Turning the knob so that it is midway in its travel will direct air to both the windshield and inside the car. If the defroster action is not necessary, the knob may be rotated clockwise to its stop and all air is directed into the car. For maximum defroster action, turn the knob counterclockwise to its stop.

The service replacement parts, as listed in the Parts Book, are the same for both types of control except the Heater Valve Control and Conduit Assembly, Defroster Valve Control Cable and Conduit Assembly and, the Heater and Defroster Manual Control Escutcheon.

The following assemblies are details of the Type B only:

Part No. 1549153 - Heater Valve Control and Conduit Assembly
Part No. 1549157 - Defroster Valve Control Cable and Conduit Assembly
Part No. 1549161 - Heater and Defroster Manual Control Escutcheon

The part numbers for these same details for the Type A unit areaslisted in the Parts Book.

BACKUP LIGHT AND TAILLIGHT CLIPS - 1959 D AND C MODELS

Retaining clips are now available for the backup light and taillight wires at the rear fender of the station wagon and coupe models. Installation of the clips will hold the wires close to the fender and panel and greatly reduce the possibility of the wires being pulled out of place especially from the accumulation of mud, ice or snow.

Two clips shown in Fig. 2 (left side) and Fig. 3 (right side) are to be used on the coupe models as a field service correction.

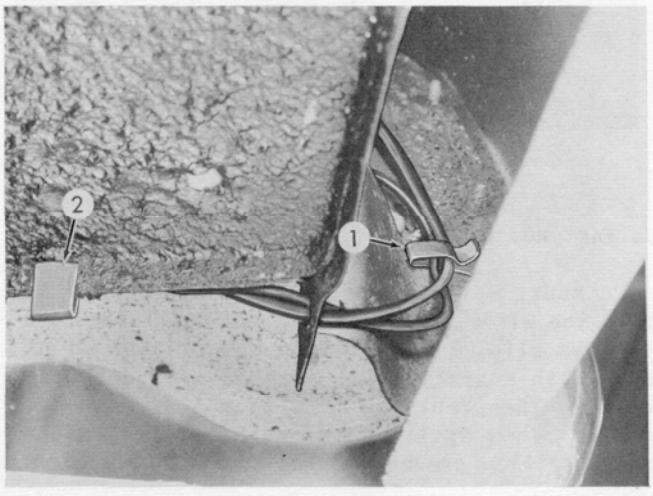

Fig. 2 - Left Side

1. Part No. 53795 2. Part No. 510606

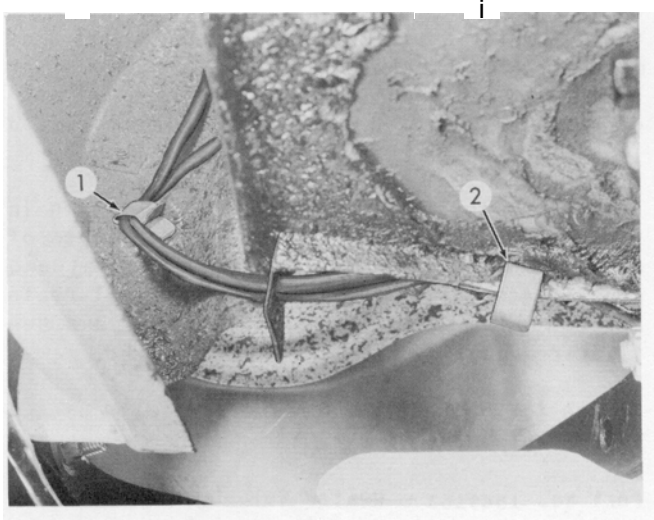

Fig. 3 - Right Side
1. Part No. 536795 2. Part No. 510606

One clip is used in current production station wagon models. About June 1st an additional clip will be used as shown in Fig. 4.

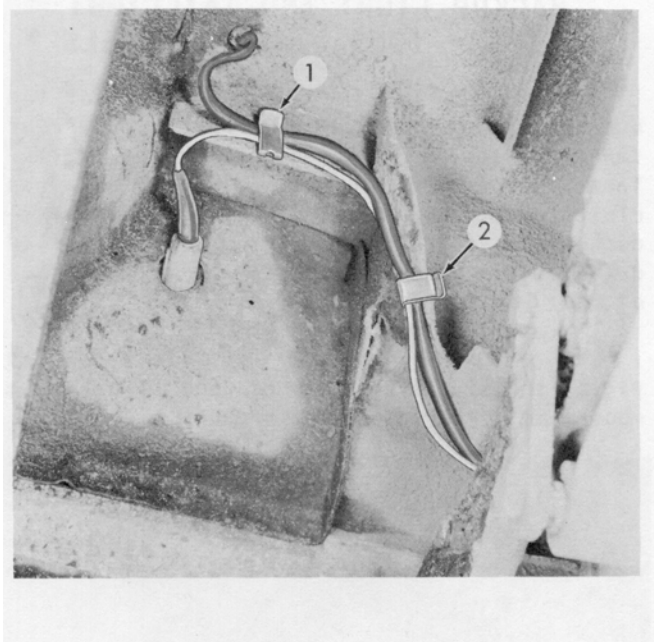

Fig. 4
1. Part No. 536795 2. Production Clip

C MODEL - Clip Part No. 536795 is used to hold the wires to the panel. To drill the hole for the clip, first, locate and drill a pilot hole with a small drill such as 1 / 8 " drill. Then, enlarge it with a 1/4" diameter drill. When drilling the hole to size, use a sharp drill to prevent making the hole oversize.

Clip Part No. 510606 is mounted over the flange of the floor and deck opening lower panel.

Install the clips and wires as shown in Figs. 2 and 3.

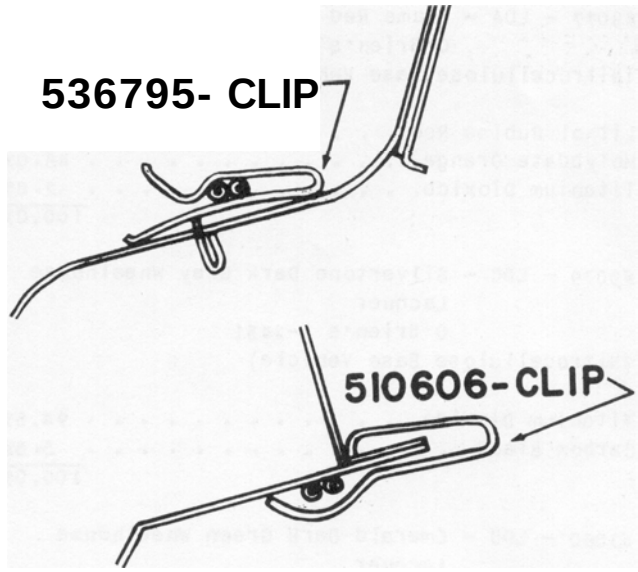

Fig. 5

D MODEL - At the location shown in Fig. 4 drill a 1/4" diameter hole, using a sharp drill to prevent drilling the hole oversize. Install the Clip, Part No. 536795, and place the wires under the clip. Make sure that the wires are also placed securely under the other clip which had been installed in production.

On the right side (gas tank side), drill the panel by working over the top of the gasoline tank filler tube.

REAR AXLE PINION DEPTH SETTINGS - 1953-59 MODEL STUDEBAKER

Checking or adjusting the pinion depth with the Pinion Setting Gauge J-6381 as covered in the 1959 Passenger Car Shop Manual, Group IV - Rear Axle Section, applies and should be used in servicing the rear axle of Studebaker models 1953 through 1959. The procedure differs only in respect to the zero pinion depth setting for a given axle ratio.

As stated in the shop manual the zero pinion depth setting for all ratios of the model "44" rear axle is 2.625" plus or minus .0015".

The pinion depth settings for the model "23" ratios are the same as given in the shop manual, however, there were two axle ratios used in the previous years which are not shown in the shop manual. These are the 4.56-1 and 4.88-1. The depth setting for these ratios is 2.250" plus or minus .0015".

The setting for a given ratio is the same whether the axle is of the conventional type or Twin-Traction.

TRUCKS

4E40 MODEL HEAVY DUTY TRUCK - SPECIAL ORDER

Effective with Serial Number E40-2787 a heavy duty 4E40 model truck entered production as a special order vehicle. This truck is equipped with a 7,000 lb. ground rated front axle and a 16,000 lb. ground rated rear axle. Braking efficiency is increased by larger wheel cyl i nder, master cyl inder, and Hydrovac. All frames except the 131" wheel base are f ishplated. The Gross Vehicle Weight rating is 23,000 lbs.

The front axle is a Clark Model 700. Servicing instructions are the same as given in the 2E Series Shop Manual on pages 8 through 10 of the Steering and Front Axle sect ion. The caster, camber and toe-in specifications are the same as given for the E40 Model. The king pin inclination on the Clark 700 axle is, 8-1/2°. The steering reach rod ball ends are prelubricated and sealed. There are no grease fittings in the reach rod ends.

The Timken single speed rear axle Model H-140 is standard equipment. A P-speed rear axle Timken Model H-340 is optional equipment at extra cost. Servicing procedures for the single speed rear axle are the same as those given on pages 15 through 21 of the Rear Axle sect ion of the 2E Series Shop Manual. Servicing procedures for the 2-speed rear axle H-340 are the same as given on pages 31 through 38 of the Rear Axle section except for the adjustment of the differential and gear assembly preload. To adjust the different ial and gear assembly proceed as follows:

1. Temporarily install the differential with bearings and cups in the carrier housing and center it between the carrier leg grooves.

2. Insert a thin split ring, making certain that there is clearance between the bearing cup faces and rings. Do not install the bearing caps.

3. Use a dial indicator and measure the end play of the differential assembly by Shifting the assembly back and forth between the rings with a pair of pinch bars placed between the carrier legs and the spur gears.

4. Remove and measure the thickness of the rings. To the total thickness of the rings add the amount of end play obtained in para. 3. Then, add .017"-.022" to obtain the total thickness of the rings required for proper bearing preload.

For exampl e " If the temporary thin rings used to measure the end play were .290" each they would total .580" . Assuming the end Play was .005" then , this amount added to the total thickness of the temporary rings would total .585" or zero end play.

To obtain the proper bearing preload .020" more should be added thus bringing the total thickness of the rings to be used as .605". This amount should be divided between the two rings such as .300" and .305". The rings are available in .005" increments.

5. After selecting the correct split ring, insert one of the rings in the carrier leg grooves with the split up. Move the differential assembly over so that the face of the bearing cup is held tightly against the inserted ring.

Install the second split ring (split up) by tapping it into the groove using a blunt end drift and tapping on the lower inside diameter of the ring.

Position the differential bearing caps in place making sure they are properly aligned. Install the carrier leg cap screws and tighten to 180 – 235 ft. lbs. torque.

The front wheel brake assemblies (Wagner Type F) and the rear wheel brake assemblies (Wagner Type FR-3) are the same as used on the regular 4E40 model. The wheel cylinders, (front and rear), master cylinder, and Hydrovac are, however, larger. The front wheel cylinders (upper and lower) are 1-1/4" diameter instead of l-118". The rear wheel cylinders (upper and lower) are 1-3/4" diameter instead of 1-5/8". The master cyl inder has been increased from 1-1/2" to 1-3/4" diameter and the power stroke of the Hydrovac has been increased from 4-9-16" travel to 6-1/4" travel. Service instructions are the same as given in the Brake section of the 2E Series Shop Manual.

OVERDRIVE TRANSMISSION RELAY - 4E MODEL TRUCKS

Effective with the serial numbers listed below the overdrive transmission relay was removed from the overdrive wiring circuit. This is now the same arrangement as used on the 1959 Passenger cars. For service information on the wiring circuit refer to page 29 in Group 1 of the 1959 Passenger Car Shop Manual.

El-3213	E3-6 29	E6-17926	Eli-13694
E2-588	E5-126939	E7-11932	E12-4120

REAR AXLE ASSEMBLY, TIMKEN MODEL B140 - 4E13 AND 4E14 MODEL TRUCKS

A Timken, Model B140 single speed hypoid rear axle entered production with serial numbers E13-2883 and E14-3130. Essentially it is the same as the Timken, Model B100, axle previously used. The major difference is in the mounting andadjustment of the drive pinion.

To disassemble the pinion on the 8140 model it is necessary to do the following:

1. Remove the propeller shaft and propeller shaft drive flange.

2. Remove the carrier from the axle housing.

3. Remove the differential case and gear assembly.

4. Push the pinion out of the carrier housing.

To install the pinion, reverse the procedure.

The preload on the pinion bearings should be 5 to 25 inch pounds torque and is adjusted by varying the length of the spacer between the two bearing cones.

Pinion depth into the ring gear is adjusted by shims located behind the pinion bearing cups. Removing shims from behind the inner bearing cup and placing them behind the outer bearing cup will move the pinion toward the ring gear. Reversing the procedure will move the pinion away from the ring gear.

All other adjustments are the same as described on pages 15 through 19 of the Rear Axle section in the 2E Series Shop Manual.

The following is a parts list for the B140 axle; parts not shown here are the same as listed in the 3E Series Parts Catalog for the Bloo axle.

PART NO.	DESCRIPTION	NO. REQ'D.
1691929	Diff. carrier w/Caps	1
1691932	Diff. Bearing Adj. Nut - Right	1
1691933	Diff. Bearing Adj. Nut - Left	1
1691934	Lock, Adj. Nut	2
1691935	case, Diff. (Consists of Right and Left Halves)	1
1691936	Rivet, Gear to Case	12
1691937	Gear and Pinion - 4.86 Ratio } Matched Sets	1
1691938	Gear and Pinion - 5.14 Ratio } Matched Sets	1
1691939	Gear and Pinion - 5.83 } Matched Sets	1
1691940	Drive Pinion FWD. Brg. cone	1
1691941	Drive Pinion FWD. Brg. Cup	1
1691942	Drive Pinion FWD. Brg. Oil Seal Assembly	1
1691943	Drive Pinion FWD. Brg. Shim - .003"	AR
1691944	Drive Pinion FWD. Brg. Shim - .005"	AR
1691945	Drive Pinion FWD. Brg. Shim - .010"	AR
1691946	Drive Pinion FWD. Brg. Shim - .030"	AR
1691947	Drive Pinion Rear Brg. Cone	1
1691948	Drive Pinion Rear Brg. Cup	1
1691949	Drive Pinion Rear Brg. shim - .003"	AR
1691950	Drive Pinion Rear Brg. Shim - .005"	AR
1581851	Drive Pinion Rear Brg. Shim - .010"	AR
1691952	Drive Pinion Nut (Flange)	1
1691953	Drive Pinion washer	1
1691954	Companion Yoke and Slinger Assembly (Flange)	1
G444752	carrier Filler Hole Plug	1

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