

# Studebaker

# SERVICE BULLETIN

FEBRUARY

NO. 201



1948

## .040" OVERSIZE PISTONS AND RINGS FOR CHAMPIONS, COMMANDERS, AND TRUCKS

Please record this article on page 91 of 1947 Shop Manual.

In order to increase the range of oversize pistons and piston rings carried for our engines, sets of .040" oversize pistons fitted with piston pins and individual Perfect Circle custom ring sets containing a compression ring, a plain ring, and an oil ring for the .040" oversize piston are now available from your parts depot under the following parts numbers:

Part No.	Part Name	Models
522112	.040" Oversize Piston & Pin Assembly Set -- Champion Type Engines	2G through 7G; M5, M15, M15A
522119	.040" Oversize Piston & Pin Assembly Set -- Commander Type Engines	9A through 15A; K10, K15, K15B, K15M; M16
522695	.040" Oversize Perfect Circle Custom Ring Set for Service	2G through 7G; M5, M15, M15A
522702	.040" Oversize Perfect Circle Custom Ring Set for Service	9A through 15A; K10, K15, K15B, K15M; M16

## HORN PUSH BUTTON RATTLE - 6G, 14A

Please record this article on page 60 of 1947 Shop Manual.

To eliminate a rattle in the horn push button, an insulating washer, Part No. 524083, is now available for installation between the horn contact cup and plain washer beneath the heads of each of the three attaching screws.

To install the insulating washers, remove the plastic emblem from the horn button, the three attaching screws and plain washers, place the new insulating washers on the screws, and reassemble.

## WILLARD BATTERY GUARANTEE POLICY

Willard batteries used in Studebaker passenger cars are fully covered by two policies of the Willard Storage Battery Company. One is a

## In this issue

	PAGE
BATTERY TIPS FOR COLD WEATHER OPERATION	3
DUST, WATER, AND AIR LEAKS - 6G, 14A	
CONVERTIBLES . . . . .	3
HORN PUSH BUTTON RATTLE - 6G, 14A . . . . .	1
MODIFICATION OF TRANSMISSION	
SYNCHRONIZER RING PROTECTOR - 15A . . . . .	4
.040" OVERSIZE PISTONS AND RINGS. . . . .	1
PROPELLER SHAFT VIBRATION - M15A, M16	
SINGLE SPEED AXLE . . . . .	2
STEERING GEAR ARM STUD PLAIN WASHERS-6G	4
STEERING IDLER LEVER - 6G . . . . .	4
WILLARD BATTERY GUARANTEE POLICY. . . . .	1

service guarantee and the other an adjustment policy, both of which are described below.

To get the most out of a storage battery it is of prime importance that it be kept fully charged. Over-or under-charge can quickly ruin any storage battery. The Willard company has asked us to stress the fact that the majority of storage battery claims are the result of failure of owners or service men to keep batteries fully charged at all times.

### Willard Service Guarantee

The service guarantee reads as follows: "If a Willard Storage Battery becomes unserviceable in normal use within 90 days of purchase, or within 4,000 miles, whichever occurs first, the purchaser is entitled, at the option of the Willard Company, to a new battery of a comparable size and type, without charge, or to the necessary repairs, without charge for either labor or materials. Repairs may be obtained through any Willard Dealer. Transportation, recharges, the use of rental batteries, or towing charges are not classed as repairs, and the battery owner is expected to pay for such services."

This policy is effective whether or not the battery has been registered with a Willard Dealer so long as the owner can produce evidence of the date of purchase such as certificate of title, Bill of Sale, or copy of invoice.

**Willard Adjustment Policy**

The adjustment policy reads as follows: "If a Willard Storage Battery becomes unserviceable in normal use after the expiration of the Service Guarantee, but before the expiration of the Adjustment Policy period, a new Willard Battery of a comparable size and type will be furnished to the original purchaser, on a pro rata basis, in exchange for the unserviceable battery, the purchaser paying only for the service received plus transportation charges. The Adjustment Units of Service defined below are published on Willard Price Sheets and conform to the recommendations of the Association of American Battery Manufacturers. The batteries supplied in production of 6G, 7G, 14A, and 15A Studebaker passenger cars is Model WH-1-100 which carries 15 adjustment units. M Series trucks are produced with Model SW-1-90 battery which carries 12 adjustment units. Optional equipment battery for the M16 truck is Model SR-153 which carries 21 adjustment units.

**Limitations**

Failure in service due to fire, wreckage, explosion, freezing, deliberate abuse, use of battery 'dopes', or the use of a battery of a group size smaller than that of the battery used by the car manufacturer as original equipment, is not covered by the Willard Service Guarantee and Adjustment Policy."

ADJUSTMENT UNITS OF SERVICE - DEFINED		
Type of Battery	Type of Service	Unit of Service
Automotive	Passenger Car	1 Month or 1000 Miles
	Salesmen's Passenger Cars, Commercial Cars, Taxi Cabs, Light to Medium Weight Trucks, Highway Tractors, Buses	1/2 Month or 1000 Miles
	Off-the-Highway Equipment, Contractors' Equipment, Farm and Industrial Tractors, Fire Apparatus, Gas or Diesel Engine Starting, Stationary, Marine and Aircraft Ground Cranking Service	1/2 Month
Heavy Duty Transport and Motor Coach and Bus	Heavy Trucks, Highway Tractors, Buses	1/3 Month or 1000 Miles
	Off-the-Highway Equipment, Contractors' Equipment, Farm and Industrial Tractors, Fire Apparatus, Gas or Diesel Engine Starting, Stationary, Marine & Aircraft Ground Cranking Service	1/4 Month
	Diesel Engine Powered Trucks, Highway Tractors, Buses	1/2 Month or 1000 Miles

The service received from a Willard Battery is measured in terms of months or fractions thereof, or thousands of miles, whichever shall occur first.

Refer to the Willard Catalog for other types and services not listed.

The Willard Service Guarantee and Adjustment Policy is administered by any Willard Dealer, regardless of where the battery was originally purchased.

**Registration of Willard Batteries**

As stated in the paragraph on the Willard Service Guarantee, the owner need have only some visible evidence of the date of purchase of the battery to receive full consideration under either the Service Guarantee or the Adjustment Policy by the Willard Company or its authorized service stations.

Registration of the battery on a card similar to the specimen reproduced on page 3, Service Bulletin No. 183 is, however, much to be desired for it gives all the information the Willard service station will require in settlement of a claim by the owner and avoids any question or embarrassment regarding purchase date, mileage, and the like.

Every Willard outlet is equipped with books of these numbered registration cards and can supply the purchaser of a Willard battery with one. New car purchasers can obtain a card from the Willard station but it has always been our suggestion that Studebaker dealers have new car batteries registered for the owner as a courtesy when preparing the car for delivery. The card can then be presented and its provisions explained by the service manager when turning over the keys to the new car owner.

The Service Guarantee and Adjustment Policy are printed in full on the back of the registration card for the benefit of the owner.

**PROPELLER SHAFT VIBRATION - M15A AND M16 SINGLE SPEED REAR AXLE**

This is a reprint of Truck Service Letter No. 71, December 18, 1947, which may now be destroyed.

*Please record this article on goldenrod page titled REAR AXLE in M Series Shop Manual.*

A vibration in M15A and M16 trucks equipped with single speed rear axles which is traceable to the propeller shaft can very often be eliminated as follows:

1. Disconnect the universal joint at the differential flange.
2. Remove the universal joint flange. Use Tool No. J2046.
3. Remove the key from the differential pinion shaft.
4. Thoroughly examine the pinion shaft and universal joint flange and remove any high spots or burrs.
5. Align universal joint flange keyway with the keyway in the pinion shaft. Tap the universal joint flange lightly onto the taper of the pinion shaft.
6. Drive the key in flush with the pinion shaft shoulder.
7. Install the nut and tighten to the recommended torque.
8. Connect the propeller shaft universal joint to the flange.

Check the propeller shaft for run-out. Should the run-out exceed .030", the propeller shaft should be replaced. Be sure that the paint is removed from the propeller shaft at the point of measurement. The arrows on the universal joint spline yoke and propeller shaft should point toward each other, indicating proper alignment.

## BATTERY TIPS FOR COLD WEATHER OPERATION

### Sulphation Correction

If a relatively new battery is in a repeatedly "run down" condition and refuses to hold a charge, particularly in cold weather when hard starting places added burdens on the battery, and the current-voltage regulator has been determined to be functioning correctly, *do not condemn the battery*. It is probably somewhat sulphated.

To correct this condition, completely discharge the battery at a *slow rate*, then *slowly recharge it*. This is known as "cycling", which will disintegrate the sulphation and return the battery to normal operation.

### Specific Gravity Compensations

Because the temperature of the electrolyte in the storage batteries affects the true specific gravity, dealers are urged to use compensation-type hydrometers when testing battery readings.

The association of American Battery Manufacturers states that "no hydrometer reading is strictly correct until a temperature correction has been applied." At extreme temperatures, correction is considered important, for in very hot weather the hydrometer reading will register lower than the actual acid content remaining in the battery solution and, conversely, in extremely cold weather, the hydrometer will indicate a higher specific gravity than is actually the case.

This discrepancy between hydrometer and actuality is caused by the fact that the hydrometer floats are set for a standard temperature, around 80° F., and in hot weather the acid expands, becomes less dense and thus gives a low reading, although the quantity of acid has not changed. In very cold weather the acid has contracted and become more dense, causing the float to rise higher and thus give a reading higher than the true quantity of acid.

Compensation-type hydrometers incorporate a thermometer and adjustment scale so that actual readings in any extreme of acid solution temperature can be correlated to the true reading as at normal temperature.

## DUST, WATER, AND AIR LEAKS ON CHAMPION AND COMMANDER CONVERTIBLE MODELS

Please record this article on page 18L of your 1947 Shop Manual.

### Leaks at Top of Door Window

1. Diagnosis: Door out of adjustment.  
Correction: See page 8 of the 1947 Shop Manual.
2. Diagnosis: Door window out of adjustment for tilt, level, or tight seal.  
Correction: See page 18D of 1947 Shop Manual for adjustment of the door window.
3. Diagnosis: Top side rail out of alignment.  
Correction: Alignment of the top is given on page 18K of the 1947 Shop Manual.
4. Diagnosis: Weatherseal not properly positioned.  
Correction: The weatherseal along the top side rail is set in a chromium retainer held to the side rail by screws in slotted holes. To position the weatherseal snugly against the closed window, remove the weatherseal from the retainer, loosen the retainer to side rail screws and move the retainer until, with the weatherseal loosely inserted, the weatherseal fits snugly against the window. Remove the weatherseal, tighten the retainer screws, and replace the weatherseal in the retainer.

### Leaks Around Rear Window

To eliminate leaks around the rear window glass, seal with approved sealer between the glass and outside moulding from the upper left hand corner down the left side along the bottom and up the right hand side to the upper right corner of each rear window glass. It is not necessary to apply sealer under the top edges of the mouldings and glasses.

### Between Top Header and Windshield

Installation of rubber weatherstrip, Part No. 1862X45½, will help to prevent leakage of water between the top header and the top of the windshield. Installation procedure is as follows:

1. Lower top.
2. Place a thin layer of weatherstrip cement along the peak panel. (This panel is formed by the two vertical thicknesses of sheet metal which run the length of the top of the windshield header.)
3. Place the new weatherstrip, Part No. 1862X45½, over peak panel and press in place.
4. Raise the top.

## Rear Quarter Window Flaps

Installation of flaps will help to eliminate possibility of leaks between the top of the body, the canvas top, and the rear quarter window on 6G and 14A convertibles. These flaps are put up in kits, made from top fabric, and should be ordered from parts depots under one of the following part numbers: Part No. 289130 for black tops and Part No. 289131 for tan tops.

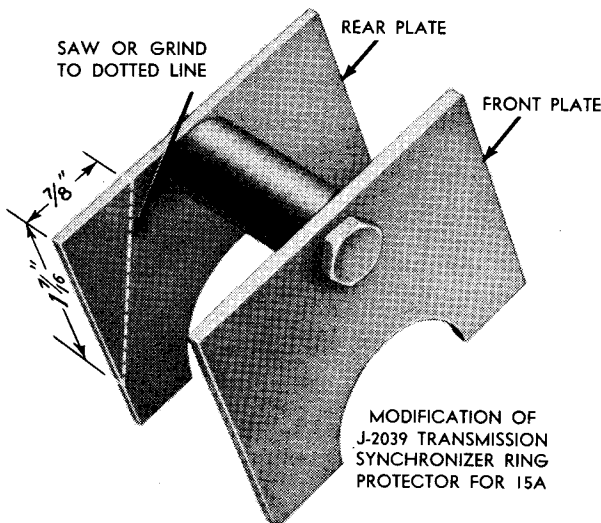
To install the flap:

1. Unsnap rear corner of top cover next to the rear quarter window.
2. Cut threads holding binding tape to top cover upward from body belt line sufficiently far to permit insertion of unsewn edge of flap between inside of top cover and binding.
3. Resew the binding.
4. Lower rear quarter window and snap top fasteners.
5. Place the flap in the rear quarter window channel and raise the window so that flap is between rear side rail and window.
6. Repeat the above procedure on the other side of the car.

## MODIFICATION OF TRANSMISSION SYNCHRONIZER RING PROTECTOR - 15A

The accompanying illustration shows how the transmission synchronizer ring protector, Tool No. J-2039, can be modified for use with the 1948 Commander and Commander Land Cruiser models. This modification in no way affects the utility of the tool for transmission work on earlier Commander models.

The 15A transmission has an oil pick-up trough running the full length of the case which makes it necessary to insert the Trans-



mission Synchronizer Ring Protector (Thrust Yoke) at a slight angle. This cannot be done without cutting the upper left corner of the rear plate (facing the tool with the semi-circles downward), as shown, to clear the lip of the case at the center cap screw hole.

Tool No. J-2039 modified as described above may be obtained direct from the Kent-Moore Organization, Detroit, for \$5.80.

## STEERING GEAR ARM STUD PLAIN WASHERS - 6G

Please record this article on page 111 of 1947 Shop Manual.

Improved steering arm stud rubber insulators on the 6G Champion are provided which are more effective in reducing movement or lost motion noticeable at the steering wheel. The new cupped washer which replaces the old flat washer was used in production starting with Serial No. 282429.

A kit, Part No. 523209, is available which consists of the following parts:

Qty.	Part No.	Part Name
1	519627	Steering Gear Arm Bushing
1	523207	Steering Gear Arm Stud Cup Washer - Upper
1	523208	Steering Gear Arm Stud Cup Washer - Lower
1	41X519	Steering Gear Arm Stud Plain Washer

The parts are assembled with the cupped face of the washer toward the insulator and the plain washer, Part No. 41X519, between the fastening nut and the cup washer.

## STEERING IDLER LEVER - 6G

Please record this article on page 111 of 1947 Shop Manual.

A steering idler lever of new design entered production of 6G Champions with Serial Nos. G-265643 (LHC) and G-267693 (RHC). It is necessary to change the support and the grease seal in order to use the new idler lever. The parts are interchangeable only as complete units and new type parts only will be carried in service stock. It will be necessary, therefore, if parts are required for cars produced before this change, to supply the complete steering idler lever, support, and grease seal assembly, Part No. 522758 (LHC) or Part No. 522767 (RHC). These assemblies will be substituted by parts depots on part orders for individual parts of early design.

On cars manufactured after the above serial numbers, the various units may be serviced individually. The attaching bolts remain the same for both types.

A complete list of the new parts follows:

Part No.	Part Name	6G Model
522758	Steering Idler Arm, Support, and Grease Seal Assy.	Left Hand Control
522749	Steering Idler Lever Support	Left or Right Hand Control
522750	Steering Idler Arm Assy.	Left Hand Control
521867	Steering Idler Grease Seal	Left or Right Hand Control
522767	Steering Idler Arm, Support and Grease Seal Assy.	Right Hand Control

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