

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

WILLYS
Motor Cars

GENERAL LETTER NO. 752

TO All Distributors and Dealers

FROM D. A. Walters

DATE September 21, 1945

SUBJECT: CJ-2A Lubrication Specifications

Lubrication specifications covering the Universal 'Jeep' - Model CJ-2A originally followed Army procedure, specifying standardized lubricants used by the Army. More suitable lubricants are available for civilian use and it is requested that the following grades be used in place of previous recommendations:

Front Axle King Pin Bearings and Universal Joints

Winter - - - N.L.G.I. #0 Universal Joint Lubricant

Summer - - - N.L.G.I. #1 Universal Joint Lubricant

Steering Gear Housing

All Seasons - S.A.E. #140 Steering Gear Lubricant

Wheel Bearings (Front and Rear)

All Seasons - N.L.G.I. #2 Wheel Bearing Lubricant

It is suggested that the above changes be noted in Shop Manuals for reference.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 754

WILLYS
Motor Cars

TO All Distributors and Dealers

FROM D. A. Walters

DATE September 21, 1945

SUBJECT: Tire Pressures

Since our Maintenance Manual and various literature has gone to the press, we have received recommendations from our Engineering Department and the Tire Manufacturers concerning tire pressures where a majority of a certain kind of work is done. Using the following tire pressures will enable your owner to obtain the maximum tire life, and at the same time give the best performance under the conditions listed.

Farm work, such as: plowing, cultivating - 18-20 Lbs. Inflation etc., when the Jeep in operating over soft ground and carrying no extra load.

Passenger car service on the highway - 20-22 Lbs. Inflation

Full payload (approximately 1800 Lbs. on the rear axle, and 1668 Lbs. on the front axle). - 28-30 Lbs. Inflation.

Once tire pressures are reduced, there may be a tendency to continue using these low pressures when the vehicle is carrying heavy loads. This should be guarded against to avoid tire failure.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 756

TO All Distributors and Dealers

FROM D. A. Walters

DATE October 19, 1945

SUBJECT "Winterizing"

WILLYS
Motor Cars

With the approach of Winter, it is imperative that every Willys-Overland Distributor and Dealer contact each Willys owner in the immediate territory, and show due interest in the protection of his car, truck or Jeep. Many operations in the preparation of a vehicle for Winter driving can be accomplished without extensive labor.

It is a good policy to set up two or three group "specials" of associated operations which can be sold to your owners in accordance with their requirements. Prices can be established for these "specials" in accordance with your local labor rate.

Following are some of the operations which may be classified as Winterizing Operations:

MOTOR

- Check cylinder compression.
- Drain old oil and refill with winter grade.
- Tighten cylinder head.
- Clean oil pan and screen.

IGNITION

- Clean and adjust distributor breaker points.
- Test distributor condenser.
- Test ignition coil.
- Check condition of ignition wires.
- Clean and check condition of distributor cap and terminals.
- Check spark plugs and adjust points.
- Check ignition timing--set if necessary.

FUEL SYSTEM

- Clean fuel pump bowl and screen.
- Clean out fuel lines.
- Drain dirt and water out of fuel tank.
- Clean dirt and water out of carburetor--set float level and adjust carburetor.
- Clean air cleaner.

To All Distributors and Dealers

October 19, 1945

COOLING SYSTEM

Drain and flush entire cooling system.
Clean radiator core outside.
Check thermostat for operation.
Check hose connections.
Check cooling system for leaks.
Check water pump for leaks.
Check fan belt--adjust if necessary.

BATTERY-GENERATOR-STARTER

Hydrometer test battery.
Add water to battery--if necessary.
Clean and tighten battery connections.
Clean generator commutator--adjust output--if necessary.
Clean starter commutator and check operation.

CLUTCH-TRANSMISSION-AXLES

Adjust clutch pedal play--if necessary.
Change transmission (and over-drive) lubricant.
Change rear axle lubricant.
Check front wheel bearings--lubricate if necessary.

ACCESSORIES

Check heater operation--connect up if necessary.
Check windshield wipers and hose connections.

ADJUST BRAKES--LUBRICATE CAR--ALIGN WHEELS

List these operations in a letter to all Willys owners, or by using a post card inform them of the established price. Advise them that your employees can handle Winterizing of Willys cars, trucks and Jeeps efficiently, and that you as an Authorized Willys-Overland Distributor or Dealer, have a vital interest in the performance of Willys vehicles.

Through frequent contact with your owners in this manner you will get better acquainted and build owner confidence. Beyond this, when your owners bring in their car, truck or Jeep for a "special" which you may be featuring, it will give your Service Manager an opportunity to bring to the customer's attention many other items which should be cared for and thus increase your service and parts gross profit as well as improve the appearance and dependability of the vehicle.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 757

TO All Dealers and Distributors

FROM D. A. Walters

DATE October 31, 1945

SUBJECT Carburetor Restrictors

WILLYS
Motor Cars

In the building of the Jeep Model CJ-2A Engine, we place a restrictor between the carburetor and the intake manifold. The purpose of this device is to limit the top speed of the vehicle to 40-45 miles per hour, during the initial miles it is driven.

We definitely do not want this restrictor removed by Driveaway Company employees, nor drivers obtaining cars for distributors or dealers, until the vehicle has accumulated 500 miles.

This device is installed as a matter of protection to assure the Driveaway Company, distributor and dealer, that the vehicle has not been driven at excessive speeds. Distributors and dealers receiving cars from Driveaway Companies, should check for any evidence of the restriction having been removed and replaced during driveaway and if so, a complaint should be filed with the carriers.

When the vehicle has been driven 500 miles, the restrictor can be removed by loosening the nuts holding the carburetor to the intake manifold, after which the restrictor can be drawn out. The holes for the manifold studs are slotted enabling removal to be made in this manner, after which the carburetor should be tightened securely in place.

Prospective purchasers and the public in general, notice these vehicles on the road and especially when they are driven at higher speeds. Therefore, it is most important that they be driven at or below a governed speed until the initial mileage is covered.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 759

TO All Distributors and Dealers

FROM D. A. Walters

DATE December 28, 1945

WILLYS
Motor Cars

SUBJECT Tire Pressures - Model CJ-2A Jeep

General Service Letter No. 754 gave tire pressures which would enable the Jeep to obtain maximum traction and tire life under various operating conditions.

From correspondence being received, apparently that information has not been passed on to owners and operators of these vehicles. A special point should be made to call this information to their attention and particularly stress the importance of proper tire pressures for highway use.

The recommended tire pressures were given as follows:

Full pay load	-	28-30 Lbs.
Passenger Car Service	-	20-22 Lbs.
Farm work	-	18-20 Lbs.

We do not approve 18-20 pounds tire pressure as standard practice except when there is a single passenger in the vehicle and the Jeep is doing agricultural work on soft ground; and even then only under such conditions as very sandy or muddy soil. In all ordinary operations the tire pressure should be normal as specified above.

Operators should be warned against the use of 4-wheel drive on hard surfaced roads, under any conditions, except where traction is poor or bad. This could be on an icy highway, on soft ground or driving in mud. Four-wheel drive should never be used on hard surfaced, dry roads.

With the open tread type tire used on the Jeep it is recommended that all tires be switched to different wheel positions if irregular tire wear begins to appear. This switch should be made at least each 5,000 miles, which is the common practice recommended by most tire manufacturers to obtain maximum tire life. The recommended tire switch is to move the rear wheels and tires to the opposite front positions; the front wheels moved straight back and the spare wheel substituted for the one which was at the right front before the switch was made.

Kindly make a special effort to get this information to all parties concerned.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 760

TO All Distributors and Dealers

FROM D. A. Walters

DATE January 25, 1946

SUBJECT 1946 Flat Rate Manual

WILLYS
Motor Cars

Herewith is issued a copy of the new 1946 Flat Rate Manual which includes the Universal Jeep, Model CJ-2A and other Willys vehicles back to including the 1937 series Model 37.

Proper time studies have been made of all operations. Due consideration has been given to many variables such as mechanic's ability, shop facilities, vehicle condition, etc., and proper allowance has been made for the mechanic to "spot" the car where it is to be worked on, obtain his tools and secure parts from parts stock. While it is expected that these time quotations may not cover every individual job because of some conditions, on the average you will find that they favor you and your mechanic particularly if you have available the complete set of Willys Special Service Tools as recommended in Service Letter No. 758. We cannot stress too much the importance of having these tools on hand and attractively displayed so your customer may see that your Service Station is prepared to take care of his car by comparison with other stations so equipped. Because of labor rates not being uniform throughout the country, jobs are specified by "time" and the selling price can be obtained by referring to the proper price column on Pages 7 and 8.

Additional copies of this Flat Rate Manual may be ordered direct from the Factory Service Department. Do not order more than your immediate requirements.

As your Service Personnel use this manual and become better acquainted with it, we would like to know if you differ with any of the time quotations.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 761

TO All Distributors and Dealers

FROM D. A. Walters

DATE February 22, 1946

SUBJECT Model CJ-2A Manual Change

WILLYS
Motor Cars

In the Model CJ-2A Jeep Maintenance Manual a change should be made in the illustration and text covering the Transmission Assembly. This is due to a change in Transmission design since the manual was printed.

The exploded view of the transmission assembly, on Page 68, shows the low and reverse sliding gear No. 24 assembled with the shift shoe groove, toward the rear of the assembly. This gear should be reversed in the illustration. In the later design in all production vehicles it is assembled with the groove toward the front.

In paragraph 9, Page 69, of the instructions covering the assembly of the transmission it is specified that this gear should be assembled with the groove toward the rear. Correct this text to read - "With the shift shoe groove toward the front".

It is suggested that you correct your copies to make them accurate for reference.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 763

TO All Distributors and Dealers

FROM D. A. Walters

DATE February 25, 1946

SUBJECT: Proper Torque Specifications

WILLYS
Motor Cars

Accompanying this letter is a Torque Chart giving specifications for tightening numerous parts of Willys-Overland vehicles.

It is recommended that this chart be displayed in a conspicuous place in the shop where it can be readily seen by the shop mechanics.

The proper tightening of bolts and nuts is important to obtain maximum efficiency, particularly from the engine where improper tightening might contribute to distortion of the cylinder block and cylinder bores. In addition to the correct tightening of cylinder head nuts, this operation should be done in proper sequence as given below:

15	9	5	7	13
10	3	1	2	12
11	6	4	8	14

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Encl.

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 765

WILLYS
Motor Cars

TO Distributors and Dealers

FROM D. A. Walters

DATE March 7, 1946

SUBJECT: Clutch Changes - Model CJ-2A

Our attention has been called to some difficulty which apparently has resulted from fatigue in the clutch hub caused from absorbing engine torque reaction. In practically every instance this trouble has occurred in vehicles which make an abnormal number of stops and starts, and vehicles which operate in high gear at speeds between 12 and 15 miles per hour, which is a speed range where this torque reaction is at the maximum.

The hub of the clutch driven plate has been increased in thickness from .140" to .200". The torque reaction springs have been changed in strength to a spring of heavier tension and painted lavender for identification. The long side of the clutch hub has a daub of blue paint on it for identification and this clutch driven plate is available under Part No. 642918.

A few instances have occurred where some transmission trouble has been experienced caused by the clutch "dragging" or failing to disengage completely, primarily because the owner does not ordinarily push the pedal all the way down to the floor board, so, this condition has been eliminated by reducing the "crush" of the plate.

The clutch assembly has been modified so that it exerts a pressure of 1015 pounds instead of 1250 pounds, so Clutch Assembly, Part No. 640106, is superseded by Part No. 642622, which started in production with Car Serial No. 14125.

With these changes, the clutch control lever and tube assembly was changed to locate the .318-.316" reamed hole in the lever (at the frame end) at 1-13/32" from the center of the tube instead of 1-5/8". The new lever and tube carries Part No. 642624. This change will give the same pedal pressure and at the same time will cause quicker clutch release and engagement.

All stock clutch driven plates, Part No. 640629 and 640108 should be returned to the Factory Parts Department for credit or replacement by Part No. 642918.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 766

TO Distributors and Dealers

FROM D. A. Walters

DATE March 7, 1946

SUBJECT: Exhaust System - Model CJ-2A

WILLYS
Motor Cars

It has been found that certain changes in the exhaust system were desirable to have this part of the vehicle prove more satisfactory under certain adverse operating conditions.

The exhaust pipe flexible tube has been discontinued and replaced with a solid exhaust pipe and the muffler is now mounted under the body between the two rear frame cross members for greater protection from damage. This change went into production with Car Serial No. 18638 on February 14, 1946.

An Exhaust System Service Kit, Part No. 642641, is available through the Factory Parts Department and can be obtained by Dealers through their Distributors. Attached you will find an instruction sheet showing this installation.

We assume no obligation to furnish this Service Kit for vehicles built prior to Serial No. 18638, for we must necessarily reserve the right to make changes in the vehicle whenever a design is developed to improve it.

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Attach.

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 770

WILLYS-OVERLAND
Motor Cars

TO All Distributors and Dealers

FROM D. A. Walters

DATE April 24, 1946

SUBJECT: Clutch Model CJ-2A

Reference is made to General Service Letter No. 765 giving information about changes incorporated in the Jeep clutch and driven plate, also the change made in the clutch control parts.

Beginning with vehicle Serial No. 12315 on January 8, 1946 the clutch control cable Part No. 640124 was changed in length from 11" to $10\frac{1}{4}$ " to obtain the maximum range of clutch adjustment. The same part number is retained.

The present clutch driven plate Part No. 642918 went into production with Car Serial No. 21653 on February 27, 1946 and can be identified by the lavender colored coil springs, also a daub of blue paint on the long side of the hub which goes towards the transmission. This plate has less "crush" to obtain more complete disengagement with less foot pedal travel.

If clutch assembly Part No. 642622 is installed as a replacement part in place of Part No. 640106, and clutch driven plate Part No. 642918 is used, install the new clutch control tube and lever assembly Part No. 642624 or braze closed the hole in the lever at the pedal rod end, redrill the hole $1\text{-}13/32$ " from the center of the tube and ream it $.318\text{'--}.316\text{'}$.

The clutch pedal free travel should be increased to $1\frac{1}{2}$ " thereby increasing the clearance between the clutch fingers and the face of the release bearings to $1/8$ ". This permits a longer period of service before another clutch pedal adjustment is required, also assuring full clutch engagement and complete disengagement of the clutch release bearing.

Therefore, on vehicle Serial No. 14126 and up, adjust the clutch pedal free travel to $1\frac{1}{2}$ " instead of 1".

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 772

TO All Distributors and Dealers

FROM D. A. Walters

DATE May 1, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: "Jeep" Model CJ-2A Trans-
mission and Transfer Case

A new Transmission Assembly (Part #641730) and Transfer Case Assembly (Part #641729) started in production with Serial #24196 on March 13, 1946 - - The differences in the new Assemblies are as follows:

The rear face of the transmission is drilled with two 7/16" holes, and two 1/4" holes, and the front face of the transfer case is drilled with two 7/16" holes to correspond with the 7/16" holes in the transmission. This allows oil circulation between the two units.

To lengthen the life of the transfer case intermediate shaft and bearings, the size was increased from .750" to 1.125" beginning with our Serial #24196. In the new transfer case assembly, Part #641729, the following parts are affected:

Intermediate Shaft -	Part #642188	supersedes	Part #A-998
Intermediate Gear Bearing -	" 642190	"	A-924
Thrust Washer -	" 642191	"	A-1000
Intermediate Gear -	" 642189	"	A-15042
Transmission to Transfer Case Gasket -	" 641731	"	640129
Transfer Case -	" 642187	"	640299

There were a few transfer cases drilled for oil circulation prior to the change in intermediate shaft and bearings.

When making replacement of a transmission assembly (or transmission case), it is very important to ascertain if oil circulating holes have been drilled in the transfer case face which attaches to the transmission.

If this new drilled transmission assembly (or transmission case, Part #642819), is used for replacement with a transfer case drilled for oil circulation do the following:

Assemble the new transmission to the transfer case using the new gasket, Part #641731. Fill both the transmission and the transfer cases with lubricant to the filler plug level. You will then have the circulating type system between these two units.

May 1, 1946

- 2 -

General Letter No. 772

If the new transmission assembly or case is used for replacement with a transfer case without holes drilled for oil circulation, the rear main shaft bearing oil seal, Part #A-15428, must be installed as follows:

Remove transmission case cover and place special tool W-135 transmission main shaft retainer in position in the rear of second speed gear, or refer to Maintenance Manual, Page 67 - Paragraph 4, under heading 'Disassembly of Transmission', and use this method to hold gear. Remove main shaft rear bearing adapter and bearing, remove bearing from adapter. Install main shaft rear bearing oil seal, Part #A-15428 in bearing adapter with the lip edge of the leather towards inside of transmission.

Remove the bearing spacer from main shaft and examine center surface, it must be free from roughness; if necessary install a new spacer, Part #640402. Install spacer with chamfered inside edge towards the transmission in oil seal by pushing it in from the rear to avoid damage to the oil seal leather.

Install adapter, oil seal and spacer in transmission. Install rear main shaft bearing in adapter with the sealed side of bearing toward transmission. Install oil retaining washer, Part #A-410, on shaft.

Remove special tool, W-135 or wire and install transmission cover, either the one with breather or without.

Install transmission to transfer case with new gasket (either gasket - Part #640129 old style, or #641731 new style) making sure transmission counter shaft and reverse idler gear shaft locking plate is driven down in position.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER

TO All Distributors with Territory in Pennsylvania

FROM D. A. Walters

DATE May 8, 1946

SUBJECT Headlamp Beam Tell-Tale Signal Lights for the Universal Jeep

WILLYS-OVERLAND
MOTOR CARS

A Headlamp Upper Beam Signal Light is required by law in the State of Pennsylvania. Such a light has been designed and will soon be installed as standard equipment on the instrument panel of the Universal Jeep.

To facilitate installation of a signal light on Jeeps which you and your dealers have received, the required parts have been made into a 'Kit', which is Part No. 642543. As these kits are available for shipment, we request that you place an order to cover your requirements without delay.

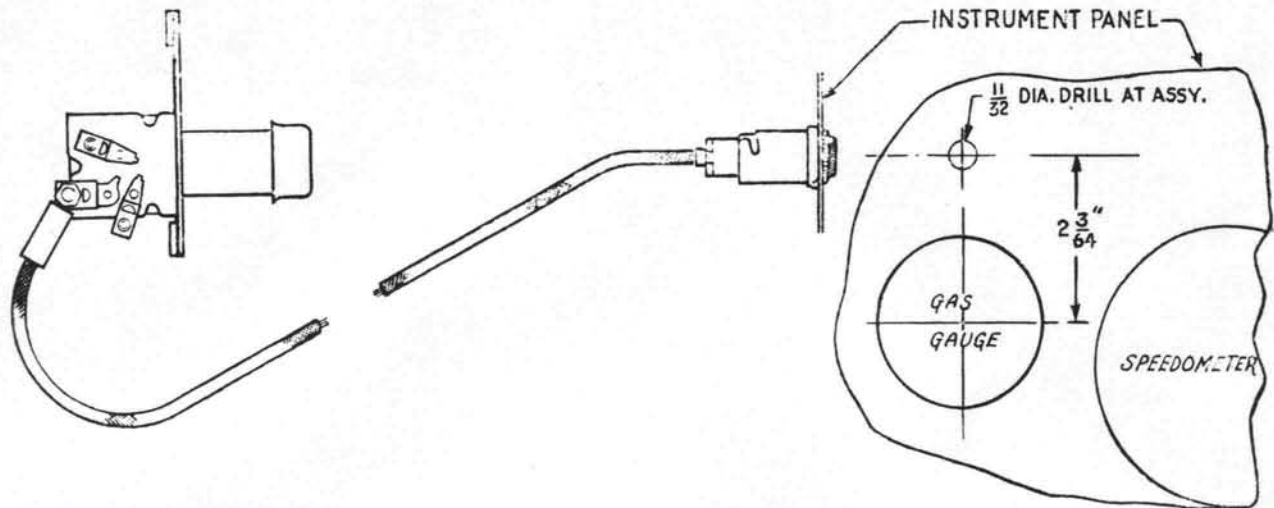
These parts will be supplied without charge, however, no labor allowance will be made as very little time is required to make the installation.

For your information we are enclosing a copy of the installation instruction sheet, one of which will be enclosed with each kit shipped.

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Enclosure

INSTALLATION PROCEDURE HEADLAMP TELL-TALE LAMP



MODEL CJ-2A

This lamp is a safety feature which indicates when the HIGH BEAM lights are being used.

The indicator is installed in the instrument panel and connected with the foot dimmer switch. The installation is very simple.

Measure 2-5/64" up from the instrument panel fuel gauge and center punch. Drill an 11/32" hole.

Pass the threaded end of the light socket through the hole from the rear side of the instrument panel and attach it with the lockwasher and threaded chromium plug containing the red lens or indicator. Pass the light cable through the opening where the wiring harness goes through the dash and attach it to the high beam terminal on the foot switch. Attach the socket with the bayonet type lock at the back of the instrument panel.

Test the installation by turning on the lights and operating the dimmer switch. When the lights are switched to the high beam, the tell-tale lamp should light.

Service Dept.

Form 642543 3M Para.

WILLYS-OVERLAND MOTORS, INC.

TOLEDO, OHIO

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 774

TO All Distributors and Dealers

FROM D. A. Walters

DATE June 6, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: 'Jeep' Model CJ-2A Rear Springs

Starting with Serial #35467 all Model CJ-2A 'Jeeps' will be equipped with eleven (11) Leaf Rear Springs, Part #A-15728, and Longer Spring Clips, Part #642987.

After Serial #42967 the Standard (9 Leaf) Rear Spring, Part #A-614, and Standard Clips, Part #640933, will be used.

When replacing a Rear Spring it is important to note the number of Leaves to insure installation of a proper Spring to have the vehicle set correctly.

The substitution will serve satisfactorily, and is necessary in order to maintain 'Jeep' production.

The above should be brought to the attention of your Service and Parts Men.

DAW...ema

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 775

TO All Distributors and Dealers

FROM D. A. Walters

DATE June 10, 1946

SUBJECT: Synthetic Engine Oil

WILLYS-OVERLAND
MOTOR CARS

A number of inquiries have been received regarding the use of Synthetic Oils in Willys Engines.

The Synthetic Oil Tests we have conducted have influenced us to withhold any recommendations to use it at this time.

The use of high grade lubricants in the 'Jeep' is particularly desirable in view of the diversified service the 'Jeep' is called upon to perform.

We, therefore, suggest that you continue to follow the lubrication recommendations contained in the Maintenance Manual, selecting a mineral oil of established quality.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 778

TO All Dealers

FROM D. A. Walters

DATE June 28, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Propeller Shaft Guard Field Kit

A Propeller Shaft Guard Field Kit is now available for installation on vehicles used for field work. This kit consists of a set of guards to prevent hay, straw or other material from wrapping around both the front and rear propeller shafts and universal joints.

Complete kits may be ordered through the Parts Department, under Part #641744, for installation on vehicles equipped with the full floating type rear axle; and Part #641760, for those vehicles equipped with semi-floating axle. The list price is \$11.15, Dealer's net \$7.81.

These kits will not be installed at the factory on new vehicles, however, by following the instructions on the attached sheet, a copy of which will be placed in each kit, the installation can be made in approximately two hours,

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Attach

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 779

TO All Distributors and Dealers

FROM D. A. Walters

DATE July 3, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT Ignition Switch

Some dealers have been replacing complete coil assemblies instead of the switch only when that part is at fault.

Our Parts Department is now in a position to supply ignition switch parts as follows:

Part No. 642073, Ignition Switch, which includes the housing, lock cylinder and two keys.

Part No. 661949, Cylinder and one key.

Part No. 640870, Key S-1000 to S-1249.

The availability of these parts will, of course, make it unnecessary to replace the complete coil assembly.

The above parts are used on all except 2,100 Model CJ-2A vehicles, in which the coil was mounted on the engine to facilitate production. On these vehicles the following parts were used having just the switch mounted on the instrument panel.

Part No. 643160, Ignition Switch Complete with Two Keys.

Part No. 116827, Cylinder and one Key.

Part No. 116828, Key -- These keys are supplied in several series which must be mentioned along with the key code number when ordering individual keys. Following are the series:

Series W)Yale & Town
Series RD)

Series JL)
Series JH)Briggs & Stratton
Series RD)

Series 11132A to 33332A...Independent
Lock Co.

The key blanks for these locks are not the same as used in our regular production.

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 779
Supp.

TO All Distributors and Dealers

FROM D. A. Walters

DATE August 8, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Ignition Switch (Mod. CJ-2A)

Supplementing our General Service Letter No. 779, kindly be guided by the following information instead of that given previously.

Our Parts Department is now in a position to supply ignition switch parts as follows:

- Part No. 642073, Ignition Switch, which includes the housing, (Yale and Towne)
lock cylinder and two keys.
- Part No. 661949, Cylinder and one key. (Yale and Towne)
- Part No. 640870, Key S-1000 to S-1249, (Yale and Towne)
- Part No. 644001. Ignition Switch and two keys. (Hurd Lock and Mfg. Co)
- Part No. 644000, Cylinder and one key. (Hurd Lock and Mfg. Co)
- Part No. 643999, Key (Series W-100 to W-499 inc. (Hurd Lock and Mfg. Co)

The availability of these parts will, of course, make it unnecessary to replace the complete coil assembly, Part 640135.

The above parts are used on all except approximately 4,900 Model CJ-2A vehicles, in which the coil was mounted on the engine to facilitate production. On these vehicles the following parts were used having just the switch mounted on the instrument panel:

- Part No. 643160, Ignition Switch Complete with two keys.
- Part No. 116827, Cylinder and one key.
- Part No. 116826, Key - - These keys are supplied in several series which must be mentioned along with the key code number when ordering individual keys. Following are the series:
 - RD 750 to RD 999 inc.
 - JL 500 to JL 999 inc.
 - 11132A to 33332A

The key blanks for Key Part No. 116828 is not the same as used in making Keys Part Nos. 640870 and 643999.

When placing orders for keys always indicate number stamped on switch cylinders.

DAW:rp

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 780

TO All Distributors and Dealers

FROM D. A. Walters

DATE July 8, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Propeller Shaft Guard Field Kit

Supplementing our General Letter #778, Subject: Propeller Shaft Guard Field Kit, it is suggested that you immediately canvass all of the purchasers of 'Jeeps' in your territory, who are engaged in agricultural work, and arrange if possible with the owners for the immediate installation of one of the above mentioned Kits.

With the approach of the Harvesting Season it is doubly important that you take immediate action, as we have already received a few letters calling our attention to the winding of hay, wheat, etc. around the Propeller Shafts.

It is further suggested that you install on all 'Jeeps' delivered for agricultural use one of the above Kits, working up a flat charge covering both material and labor at the lowest possible price, and secure the order for this Kit at the time the 'Jeep' is sold.

We emphasize again the importance of this in order to avoid complaints of long stemmed crops wrapping up on the Propeller Shafts.

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 784

TO All Distributors and Dealers

FROM D. A. Walters

DATE August 13, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Cylinder Head Gaskets
"Jeep" Model CJ-2A

In order to facilitate production a quantity of Cylinder Heads, Part #639660, are being used instead of the Standard Head, Part #640161.

There is a slight difference in the shape of the Combustion Chamber of these two heads.

The compression ratio is the same, but different Head Gaskets are required.

Cylinder Head #639660 requires Gasket #A-8558
Cylinder Head #640161 requires Gasket #638540

The two Heads may be identified by the part number which is cast in the top of the Head at the front end.

Installation of the Gasket should be made dry. Do not use Gasket Compound, Grease, Shellac, etc.

Tighten the Cylinder Head Nuts to 60 to 65 ft. lbs. in the sequence shown in the chart below - -

15	9	5	7	15
10	3	1	2	12
11	6	4	8	14

It is important to call this deviation to the attention of all concerned so that they may be governed accordingly.

DAWsaa

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 787

TO All Distributors and Dealers

FROM D. A. Walters

DATE Sept. 6, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT Vehicle Changes and Information

The following information is furnished so that you may be informed of vehicle changes and data concerning the servicing of our vehicles.

Engines - A quantity of new Military Jeep engines manufactured by Willys-Overland have been purchased from the Government and changed over to Model CJ-2A specifications for use in the Universal Jeep. See General Service Letter #784 about cylinder head gaskets. Service parts for this engine are the same as for the Universal Jeep.

Cylinder Head Gaskets - During the production of the Model CJ-2A Jeep we have used some Cylinder Heads, Part No. 639660, repurchased from Government stock. These heads have a slightly different shaped combustion chamber than the cylinder head of the standard Model CJ-2A and is identified by the Part No. 639660 cast on the top of the head at the front. This head requires the use of Cylinder Head Gasket, Part No. A-8558. See General Service Letter No. 784 for further details.

Valve Seats - The inlet valve seats as cut in the cylinder block were reduced to 1/16" wide to increase valve seat life, which has been affected by instances of poor gasoline made available today. This reduced valve seat width can be obtained by using a 15° valve seat cutter to narrow the seat from the lower edge.

Generator - Due to present conditions in obtaining materials and parts, there will be used on some Model CJ-2A engines, the 35 ampere generator and voltage regulator furnished as equipment on the Military Jeep. It is important to watch for this because Voltage Regulator, Part No. A-15255 (Auto-Lite #VRY-4203G) must be used with this generator, Part No. A-10048 (Auto-Lite #GEG-5101D, stamped on plate top of generator). The regular Model CJ-2A generator Part No. 640151 (Auto-Lite #GDZ-4817A) cannot be used with this voltage regulator because Part No. A-10048 Generator is an internally grounded unit, while Part No. 640151 is grounded in the regulator.

Water Pump - The water pump body on the Model CJ-2A is now drilled and tapped for the installation of a water heater, eliminating the necessity of this operation being done after the vehicle is built. A 3/8" plug is easily removed when a heater installation is required.

Engine Crankshaft Bearings - All bearings in addition to being marked standard or undersize will be rubber stamped on the inside and outside conspicuously.

Carburetor Manifold Gasket - A carburetor to manifold gasket is placed on each side of the restrictor plate to assure no leakage of air into the manifold. The extra gasket can be removed with the restrictor at the end of the first 500 miles of vehicle travel.

Oil Bath Air Cleaner - Donaldson oil bath type air cleaner will be used on some Model CJ-2A vehicles instead of the Oakes Cleaner.

Sept. 6, 1946

Pistons - Brass plating of pistons is an optional procedure to provide a hard bearing surface for cylinders and piston pins.

Timing Gears - Effective with Vehicle Serial No. 43282 and Engine No. 44417 on July 9, 1946 timing gears replaced the timing chain to operate the camshaft.

The following engines have gear driven camshafts prior to Engine No. 44417:

43713	44056	44097	44170	44228
43829	44059	44131	44205	
43834	44060	44168	44219	

The following engines have chain driven after Engine No. 44417:

44441	44442	44443	44491
-------	-------	-------	-------

Engines Nos. 47201 to 48537 inclusive have chain driven camshafts as are other Willys engines purchased from Government surplus property.

Oil Pump - Oil Pump Part No. 641046 (Eaton type) supersedes Part No. 637636. This pump is attached with two screws Part No. 51858 and one screw Part No. 5146 using lockwashers Part No. 52510. This pump is interchangeable with the old style, on chain driven camshaft jobs by installing driven gear Part No. 637425 having the teeth cut the opposite way or using pump assembly Part No. 641293 which includes the gear.

Counterweighted Crankshafts - Beginning with Model CJ-2A Engine #55137 and Model 4-63 Engine #10346, crankshaft Part No. 641128 went into production on August 19, 1946. This crankshaft has the counterbalances bolted to the crankshaft permitting much better balancing of the shaft. With this shaft the engine rear plate, Part No. 642280 is used having a larger hole so as to clear the counterweights when assembly is made in production.

Connecting Rods --When installing connecting rod assemblies in gear driven camshaft engines be sure to see that the rods clear the toe of the exhaust cam for No. 2 cylinder; if not, the rod should be removed and filed or ground off at the side of the head of the connecting rod bolt, just enough to clear the cam.

Replacement Engines - Part No. 643953 is the part number to be used when ordering the present engine assembly, equipped with gear driven camshaft, for installation in vehicles Model 37-38-39-48-440-441 and 442. When replacing the front engine plate, the old plate will have to be ground or cut out to clear the camshaft thrust plate and oil distributing jet for the timing gears.

Headlamp - Parking Lamps - Tail Lamps - Rims on the Model CJ-2A are to be chrome plated, started with Serial No. 45723 on July 16, 1946 for the tail lamp; started with Serial No. 45680 on July 17, 1946 for the parking lamps and also used on Serial No. 45157 to 45254 inclusive, except Serial No. 46990 to 47040 inclusive. Headlamps with chrome plated doors 100% with Serial No. 38687 on June 17, 1946 and were used on numerous other vehicles shortly before that time.

It is important that this information be available to your shop and parts personnel. Please see that they are advised.

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 793

TO All Distributors and Dealers

FROM D. A. Walters

DATE October 8, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Improved Timing Case Cover

During the Spring days of this year complaints of water and mud entering the engine causing premature wear were received from areas where roads were extremely bad and streams had to be forded. Investigation proved that this mud was wearing out the Crankshaft Front Oil Seal located in the Timing Case Cover.

To eliminate this condition an improved timing case cover has been developed having baffles which will keep mud or water away from the oil seal.

It is not our desire or intention to inaugurate a general replacement program but we do want you to make a survey of your owners. An order should be placed for sufficient new timing case covers to replace the older ones on those 'Jeeps' operating on backwoods, unimproved roads or used under adverse conditions, such as in rural mail service. When installing the new cover be sure that the fan pulley hub is smooth; if not, smooth with fine emery cloth, or if this cannot be done install a new pulley and hub assembly.

When placing orders give the serial numbers of the 'Jeeps' for which the new covers are desired. This is necessary since we would like to have a record of these 'Jeeps' changed over, also due to there being two types of covers used as listed below:

Part #644425 Used on engines equipped with Timing Chains and Sprockets.

Part #643842 Used beginning with engine #62045 equipped with Timing Gears.

The covers will be furnished to Distributors with the understanding that full credit will be allowed upon return of the old covers. They are to be furnished gratis to owners providing they will assume the expense of installation, which should not exceed 2-1/2 hours. It is important for owners of 'Jeeps' to give their engines the added protection of these improved parts.

Dealers are to place their order with their distributors and not direct with the factory.

DAW...ema

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 794

TO All Distributors and Dealers

FROM D. A. Walters

DATE October 24, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Front Axle Vent Leakage,
Model CJ-2A

A few cases have been reported of lubricant leaking through the vent in the front axle of the Model CJ-2A 'Jeep'.

This condition is confined to those 'Jeeps' between Serial Numbers 40361 and 42913 in which the vent is horizontal and points forward. The air flow around the cap on the vent creates a low pressure area or vacuum immediately back of the cap and will when the vehicle is driven extremely fast, draw heavy oil vapors through the vent.

The correction is to install a 90° street elbow, Part Number 644542 so that the vent will stand vertical after assembly.

The elbows will be furnished no charge if Distributors will send in a list of their territory requirements by serial numbers. Dealers should place their orders with their Distributors in the same manner.

Steps are being taken to make the same change on future production 'Jeeps'.

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 795

WILLYS
Motor Cars

TO All Distributors and Dealers

FROM D. A. Walters

DATE October 30, 1946

SUBJECT: VEHICLE CHANGES AND INFORMATION

The following information has developed within the last several weeks, which we believe will prove of interest in the servicing of our vehicles:

ENGINES - In order to have more room to stamp the engine number, beginning with Model CJ-2A Engine No. 44417, the model prefix was changed from "CJ-2A" to "J". This was the start of the gear driven camshaft on July 9th. The Model 4-63 engine prefix letter is "U" and was used from the start of production.

GENERATORS - In General Service Letter No. 787, reference is made to the generator used on the Military Jeep engine; this generator and the Military voltage regulator was used on vehicles, Serial Nos. 46601 to 47111 inclusive.

TIMING CASE COVER - Reference is made to General Service Letter No. 793 covering the timing case cover changes relative to the oil seal and installation of baffles. This change went into production beginning with Jeep Engine Serial No. 62054 on September 24th, and on Model 4-63 Station Wagon, Engine No. 11080 on October 8th.

LUBRICATORS - Spring shackle bushing lubricators have been changed from the threaded type Part No. 638792 to the drive-in type Part No. 634327 on the Jeep Model CJ-2A, so Part No. 635532 Spring Shackle Bushing, L. H., replaces Part No. A-8255, and Part No. 634432 Spring Shackle Bushing, R. H., replaces Part No. A-8256. Part No. 635532 went into production with vehicle Serial No. 63585 on October 7th and Part No. 634432 went into production with vehicle Serial No. 53773 on August 22nd.

FRONT SPRINGS - Supplementing General Service Letter No. 774 on Jeep rear springs, it has been necessary for us to use in production a quantity of Front Springs, Part No. A-8463 in place of Serial Nos. A-612 and A-8464. With these springs it is necessary to use spring clips as follows:

Part No. A-8291 in place of Part No. A-1097
Part No. A-8289 in place of Part No. A-574

General Letter No. 795

October 30, 1946

FUEL GAUGE - Due to some difficulty experienced in obtaining the proper reading of the fuel gauges on the Jeep, it has been necessary to remove the loom from around the gasoline line under one of the clips, holding the line to the frame. In this way we get a better ground circuit for the fuel gauge and obtain the proper reading. This became effective with vehicle Serial No. 49911 on August 5th.

WINDSHIELD WIPERS - A dual windshield wiper kit has been added to the parts list as extra equipment to replace the present passenger hand wiper. The new kit is Part No. 667007.

CORRECTION - Service Letter No. 786, Part Nos. 651004 and 651005 should be Part Nos. 641004 and 641005 respectively.

DAW...wrw

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 797

TO All Distributors and Dealers

FROM D. A. Walters

DATE November 13, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Transmission Idler and
Countershaft Lock Plate

The Idler Gear and Countershaft Lock Plate, Part No. 640421 was changed in design and is covered by Part No. 644316.

The transfer case was changed by casting a recess in the front face where it attaches to the transmission to accomodate the new lock plate. See attached sketch.

This change effects the part number of the transmission and transfer case assemblies only. The component parts are the same in both units except for the transfer case only, which is covered by new Part No. 644319 due to the cast recess.

Lock Plate Part No. 640421 can be used with either Transfer Case Part No. 641729 or 644318. Lock Plate Part No. 644316 can only be used with Transfer Case No. 644318.

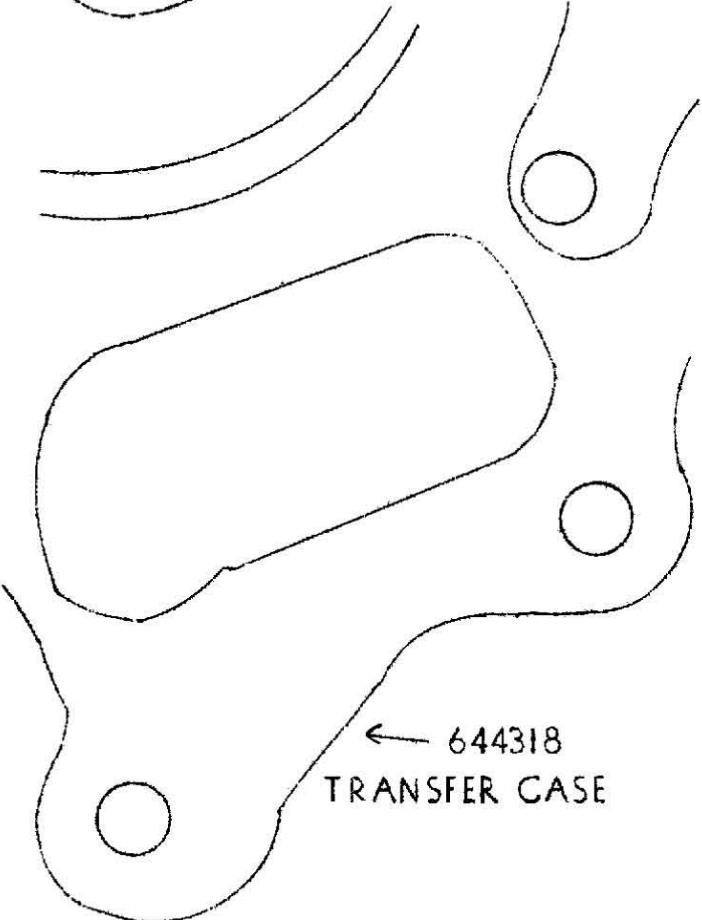
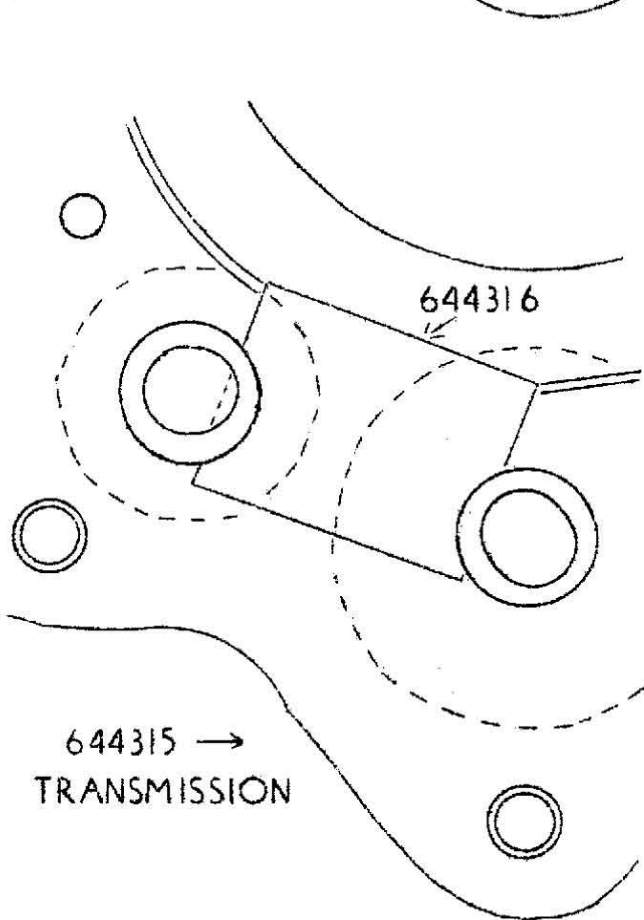
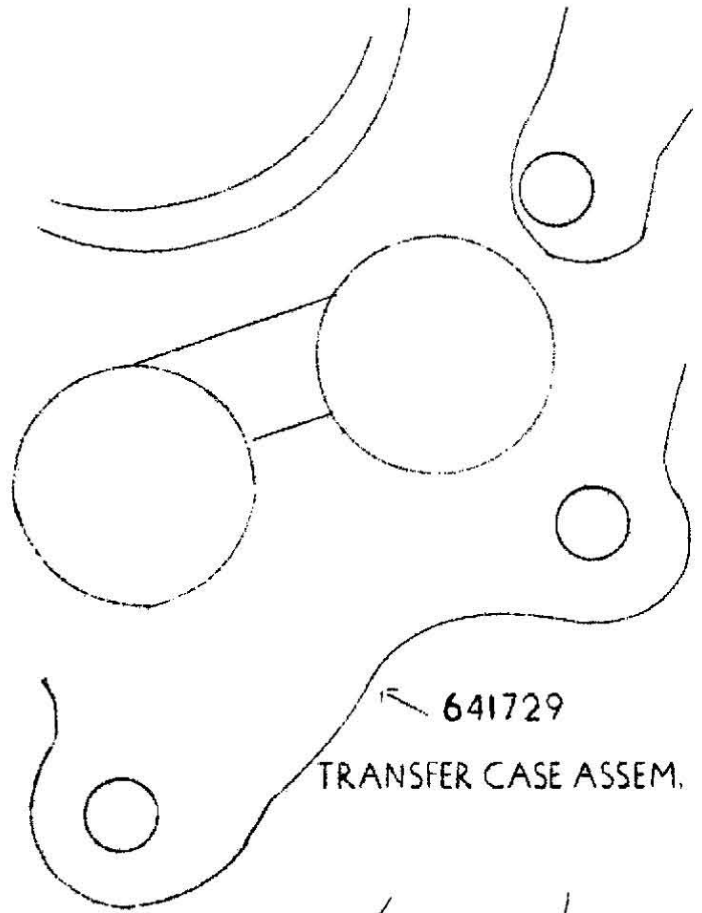
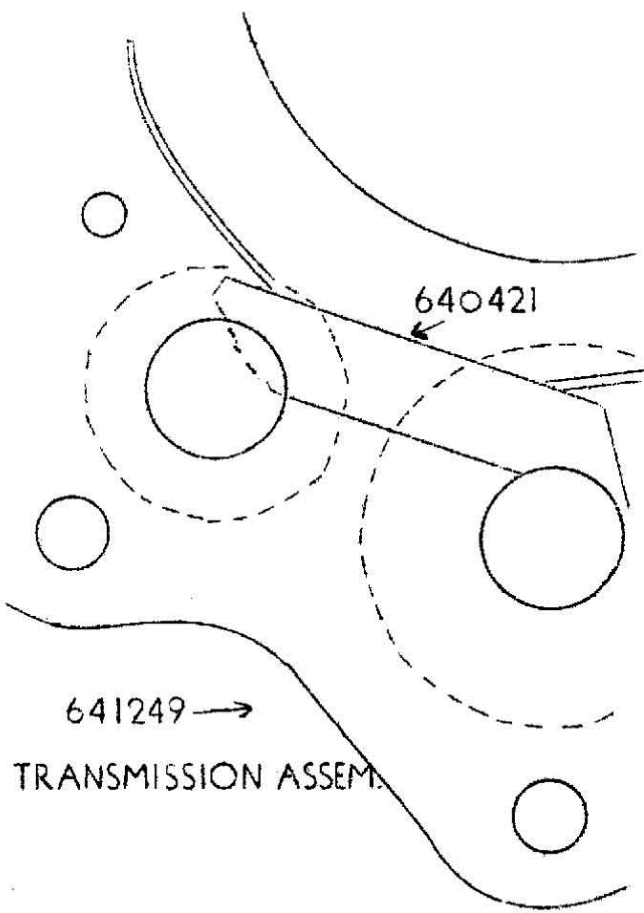
When using Lock Plate No. 644316 in place of Lock Plate No. 640421, it will be necessary to drive the reverse idler gear shaft and the countershaft out about 1" and rotate the shafts to bring the lock plate slots in their proper relation to each other.

This change in lock plates requires a new transmission to transfer case gasket. New gasket Part No. 644122 can be used for service on all CJ-2A vehicles and supersedes Gasket Part No. 641731. Gasket No. 641731 cannot be used in any vehicle having the new lock plate. You should, therefore, order No. 644122 for all service requirements.

To prevent the lock plate from slipping down when assembling the transfer case to the transmission, simply tap in on the two shafts until the plate is held tightly in place against the transmission.

The first vehicles equipped with the above changes entered production with Car Serial No. 65327, however, both types of combinations will be used in Production for a short time.

DAW...saa
Attach



SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 798

TO All Distributors and Dealers

FROM D. A. Walters

DATE November 15, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Crankshaft Kits

Very shortly our Parts Department will begin to ship in Crankshaft Replacement Kits, Part No. 642969 consisting of Crankshaft Part No. 641128 of the current type, having the counterweights attached to the crankshaft, and also two flywheel attaching bolts Part No. 116295, nuts Part No. 52804 and washers Part No. 52330.

When this new crankshaft is to be installed in place of the Old Style Shaft Part No. 638121, with integral counterweights, due attention must be given to see that it clears several points in the crankcase and oil pan.

After installing the crankshaft in the crankcase, turn the shaft slowly and see that it clears the pipe plug in the crankcase main oil line at the rear of the oil pump; if not, install the new slotted, headless plug, Part No. 53354 or grind off the head and slot the present plug.

On gear driven camshaft engines, check the clearance of the connecting rod bolt head with the camshaft intake cam for No. 2 cylinder, when the cam is toward the crankshaft. If interference is experienced or the clearance is too close, grind off the edge of the bolt head to give about .046" clearance with the cam.

After installation of the floating oil intake, check to make sure that the crankshaft clears this device with the float in the raised position.

Before installing the oil pan, it may be necessary to bend the rear main bearing oil return pipe slightly toward the flywheel in order to clear the crankshaft rear counterweight.

After installing the oil pan temporarily, turn the crankshaft and check to see that the crankshaft front counterweight does not hit the oil pan front end, if so it will be necessary to bend the end of the pan forward to obtain clearance.

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 800

TO All Distributors and Dealers

FROM D. A. Walters

DATE November 24, 1946

SUBJECT Carburetor Change-Nov
Governor CJ-2A

WILLYS-OVERLAND
MOTOR CARS

A new governor, just released for production, is now being installed on the CJ-2A "Jeep" and this governor also required change in the carburetor throttle control your Service Men must be familiar with.

This governor (Novi Type) is designed to run at all times and does not have a disengaging clutch. To operate the vehicle in the conventional manner without governor control, it is only necessary to push the governor hand control handle all the way in to the dash. When governor control is desired it is only necessary to pull the governor hand control handle out to the notch which gives the desired engine speed. When operating the engine with governor control, the controlled engine speed may be exceeded at any time by depressing the foot accelerator to secure a greater throttle opening than that provided by the governor hand control setting.

The governor hand speed control notch positions are the same as used with the other governors; all the way in to the dash is idle speed of 600 rpm. - first notch approximately 1000 rpm. and each notch increases the speed 200 rpm, until the maximum controlled speed of 2600 rpm. is reached in the 9th notch.

Before attempting governor adjustment, disconnect the accelerator spring and eliminate any bind or stiffness in the carburetor throttle shaft, throttle connections and carburetor linkage. Be sure that the throttle opens and closes fully. After checking, reconnect the accelerator spring.

On all previous CJ-2A productions the carburetor throttle lever and throttle bell crank had one hole through the bell crank and a screw was used to "lock" the bell crank to the throttle lever when no governor was installed on the vehicle. When a governor was used the screw was removed.

On the present carburetors you will find three holes in the bell crank (engine side of throttle shaft). When no governor is installed on the vehicle the screw goes into the center hole and through the throttle lever locking the two parts as a unit. When the Novi Governor is used the screw is placed in the lower hole in the bell crank and below the throttle control lever. When the King-Seeley or Monarch governors are used the screw is placed in the top hole of the bell crank and above the throttle lever. IMPORTANT - Only when no governor is used are the bell crank and lever positively locked together with the screw. (See attached sketch).

November 24, 1946

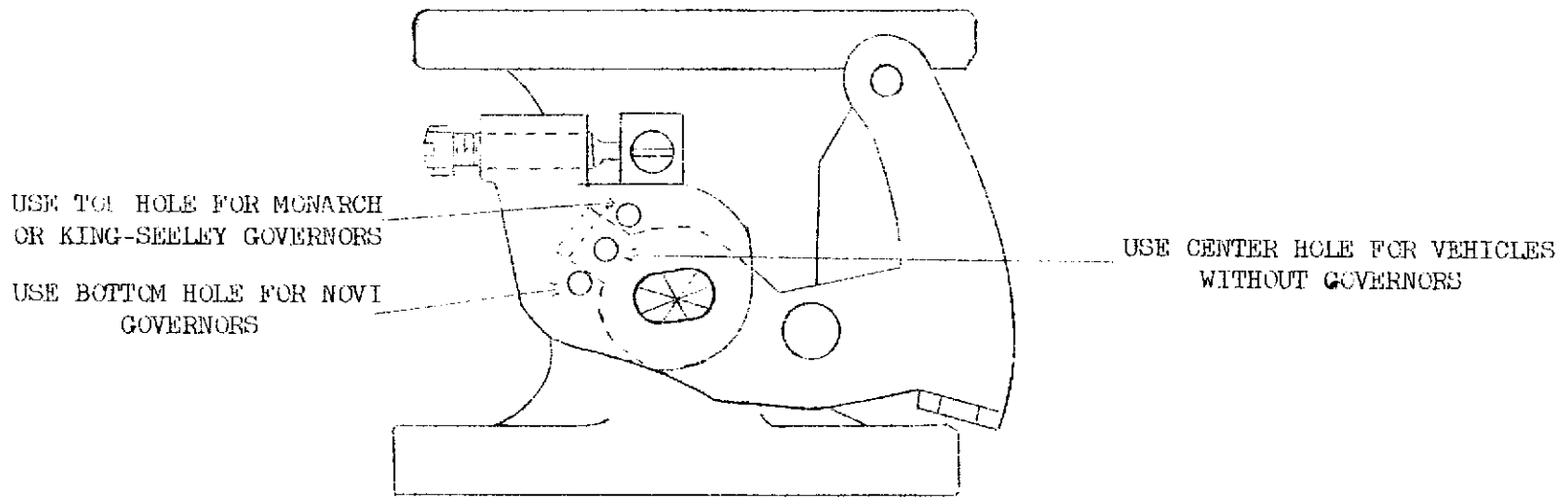
The carburetor throttle is connected to the governor operating arm with an adjustable rod which is not spring loaded when the Novi governor is used and which cannot be used with the other type governors. The length of this connecting rod must be adjusted to assemble between the governor and the throttle arms when the hand governor control handle is pulled out to the 9th notch and the carburetor throttle is fully open. The adjusted length is approximately 6-3/4" between centers of the ball studs.

To check the governor adjustment, first start the engine and allow it to run until operating temperature is reached. Set the throttle idle stop screw to provide an idle engine speed of 600 to 650 rpm.

The governed engine speed is controlled by the upper or long governor control arm, the position of which is adjusted by the clevis connection to the governor hand control cable.

Pull the governor hand control handle out to the first notch and adjust the clevis to position the governor control arm to give an engine speed of from 900 to 1000 rpm. In the absence of electrical tachometer equipment determine the engine speed by the speedometer. Safely jack up the rear wheels and be sure the front wheel drive is not engaged. When driving the rear wheels in direct transmission gear, the speedometer will read from 14 to 15 miles per hour at an engine speed of 900 to 1000 rpm.

DAW...saa
Attached



SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 801

TO All Distributors and Dealers

FROM D. A. Walters

DATE November 25, 1946

SUBJECT 'Jeep' Front Axles Damaged
During Driveway

WILLYS-OVERLAND
MOTOR CARS

We have had a number of Front Axles, returned to the Factory for credit, which upon inspection showed every indication of having been damaged due to lack of lubrication.

Investigation has developed that some Driveway Companies and Dealers, drive Jeeps away from the Factory in tandem and tow the trailed Jeep backwards. When this is done the Pinion Shaft Bearings do not receive sufficient lubrication, which results in considerable damage.

We cannot extend credit for axles damaged in this manner, therefore, please instruct those who handle your driveways that they are not, under any circumstances, to tow Jeeps backwards, unless the front wheel driving flanges are removed so that the differential gears will not turn while the Jeep is being towed.

Care should be taken to see that the Shims between the hub and drive flanges are carefully removed, tied together and marked so that they will be reassembled on the same wheels from which they were removed.

We are making every effort to stop the above practice and will appreciate your help in stopping it completely.

DAW/fh

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 802

TO All Distributors and Dealers

FROM D. A. Walters

DATE December 4, 1946

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Clutch Driven Plate and Hub
Assembly Models CJ-2A
and 4-63

Some question has been raised with reference to interchangeability of the Clutch Driven Plate and Hub Assemblies, Part #642939 (Model 4-63), and Part #642918 (Model CJ-2A).

While in general external appearance the two Plates seem alike and will fit in either vehicle -- they should not be interchanged.

Part #642939 (Model 4-63) can be identified by alternate lavender and yellow clutch hub damper springs.

Part #642918 (Model CJ-2A) can be identified by the clutch hub damper springs all being painted lavender, and in addition there is a spot of "blue" paint on the long side of the hub.

The compression of the clutch hub damper springs is different in the two plates, and also, the "crush" (built-in compression between the two facings) is different.

To interchange the two plates will result in improper dampening of engine torque, uncertain clutch action and possible failure of the plate.

WW

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SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 808

TO All Distributors and Dealers

FROM D. A. Walters

DATE January 17, 1947

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Vehicle Changes and Information

The difficulties encountered in producing vehicles, under present day conditions, makes it very important that all Distributors and Dealer Service and parts personnel give due attention to General Service Letters sent out by the factory. Changes in production and temporary deviations from standard practice affect parts and service procedures. Through General Service Letters you are kept advised of these changes. We suggest that these letters be filed in a binder, such as described in letter No. 791, and reviewed occasionally.

Attached you will find an index covering the letters issued during 1946. We suggest that you put this index in the front of your binder and index new letters as they are received.

The following are some late changes of which you have not been previously advised.

FAN AND GOVERNOR DRIVE PULLEY - To distinguish between the old pulley and the new pulley with the polished hub, for use with the new leather oil seal in the timing case cover, Part No. A-6414 is superseded by Part No. 644548. This part can be used in place of Part No. A-6414 but the old part, Part No. A-6414 should not be used with the new seal unless the hub is polished before installation.

GEAR SHIFT LEVER BALL - The style was changed from a round ball, Part No. A-971 to a spheroid type, Part No. 644233 for better appearance.

CARBURETOR - The throttle lever was changed to accommodate the Novi governor control beginning with Model CJ-2A, Serial No. 69589 on October 31, 1946, except Serial Nos. 75787 to 75984 inclusive.

GENERATOR BRACE - The Generator Brace, Part No. 640155, has been superseded by Part No. 641082 to make this part interchangeable with the Station Wagon. This change started with Jeep Model CJ-2A, Serial No. 37217, and Station Wagon Model 4-63, Serial No. 14988, On December 4, 1946.

January 17, 1947

REAR SEAT - The Jeep rear seat was made wider and the padding and filler changed for better riding comfort. Started with Model CJ-2A, Serial No. 77568, on December 12, 1946.

HOOD BUMPERS - To eliminate the vibration of the front end of the hood on the Model 4-63 Station Wagon, a higher hood bumper, Part No 667095, was adopted, superseding Part No. 664606 beginning with vehicle Serial No. 15426. This subject will be covered in a separate Service Letter which will be sent to you immediately.

WINDOW LOCK - A special Washer, Part No. 666786, has been added to the window lock to keep the lock in place in the body side panel for better support, starting with vehicle Serial No. 13639 on November 18, 1946.

REAR VIEW MIRROR BRACKET - This bracket, without change of part number, was lengthened and revised to give better vision and adjustment. Started with Station Wagon Model 4-63, Serial No. 15235.

WINDOW GLASS RUNWAYS - Sealer has been added in back of the window runways to prevent water seepage from getting into the Station Wagon body from driving rains and car washings. A filler is used to build up between the body sides and the runways. Started with Serial No. 14695. The Sealer is Part No. 666416, and the Glass Runway Filler is Part No. 667515. The procedure to follow in making this installation will be described in a Service Letter to be released immediately.

SPEEDOMETER CABLE - Some instances of speedometer cable breakage have been experienced on the Model 4-63 Station Wagon caused by a sharp bend in the cable under the holding clip on the front left side of the dash at the cylinder head. And new clip has been designed and will be available soon under Part No. 644649. Until such clips are obtainable we recommend that this "kink" in the cable be relieved as much as possible.

Please see that all personnel concerned are advised of these changes to facilitate proper service

DAW...ema
Attach.

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 810

TO All Distributors and Dealers

FROM D. A. Walters

DATE February 14, 1947

SUBJECT : Improved Timing Case Cover
and Fan Drive Pulley

WILLYS-OVERLAND
MOTOR CARS

Kindly refer to General Letter #793 on the above subject,

Orders received in our Parts Department for these Covers to date indicate there has not been a careful survey of owners in your territory to determine the quantity of Covers required.

It is imperative that all CJ-2A vehicles below Engine #J62054, being operated in rural areas or off the highway where mud and water is encountered, be equipped with the double baffled cover.

Since you received General Letter #793 a new type Fan Drive Pulley has been developed, which gives added protection to the Seal in the Timing Case Cover. The new Pulley is covered by Part #64451C.

We suggest that you use the new Pulley when installing the new type Timing Case Cover.

There are two types of Covers - one for engines equipped with Timing Chains; the other for engines using Timing Gears. We suggest that you place your order now for the quantity of these parts that you will require, which are as follows:

- Part No. 644425, Cover used on engines equipped with Timing Chains and Sprockets.
- Part No. 643842, Cover used beginning with engine #62045 equipped with Timing Gears.
- Part No. 644548, Fan and Governor Drive Pulley interchangeable in both types of engines.

We will allow credit for the older parts when they are returned to the factory in the usual manner, but we cannot allow this policy to remain in force indefinitely, therefore, we urge you to get your local situation taken care of promptly.

Improve Dealer-Customer relations and hold the owner's goodwill by giving this matter your immediate attention.

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 812

TO All Distributors and Dealers

FROM D. A. Walters

DATE February 25, 1947

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Vehicle Changes and Information

The following data will prove helpful to your Parts and Service personnel, and should be made available for their information.

CYLINDER BLOCK - The valve cover screw bosses in the Model CJ-2A cylinder block, were increased in height and ribbed to improve and strengthen the block. This change reduced the length of the two valve cover screws: Part No. 645093 Valve Cover Front Screw supersedes Part No. 632158, Part No. 645094 Valve Cover Rear Screw supersedes Part No. 639052. This change became effective with Engine No. 89011, except Engine Nos. 89016, 89111, 89117, and 89119. This change also went into the Model 4-63 Station Wagon starting with Engine No. 18030.

FUEL PUMP - On the Model 4-63 Station Wagon a combination Fuel and Vacuum Pump Part No. 644423 was adopted to provide better windshield wiper operation on advanced throttle opening. Effective in production with Engine No. 16985. See General Service Letter No. 805 for exchange plan.

STEERING COLUMN BRACKET - This bracket was revised to make it adaptable to the Truck Models; Part No. 643453 supersedes Part No. 644038. Effective with Station Wagon, Serial No. 16524.

SPEEDOMETER CABLE CLIP - A new Holding Clip, Part No. 644649 was adopted in place of Part No. A-5598 to eliminate the kinking of the cable, where it is held to the front of the dash, which has resulted in some shaft breakage. Started in production with Model 4-63 Station Wagon, Serial No. 15779, also used on Serial No. 15678 to 15707 inclusive. See General Service Letter No. 809.

TIMING CASE COVER - Review General Service Letters No. 793 and 795, and 810, about the installation of timing case covers with the baffles and new type oil seal. Wherever a Jeep is used to any extent on unimproved roads, this change should be made to prevent excessive engine wear, particularly now that many of the Jeeps sold are now out of the warranty period.

OVERDRIVE CABLE LUBRICATION - It has been brought to our attention that under certain operating conditions the overdrive cable is rusting at the lever end. When a Station Wagon is lubricated, we suggest that a few drops of oil be placed on the cable at the lower end and in the cable tube at the upper end.

Vehicle Changes and Information

February 25, 1947

FRONT SUSPENSION - On the Model 4-63 Station Wagon, starting with Serial No. 16365 in the front suspension knuckle arm frame bracket, the contact surface against the frame was raised 1/8". This has reduced the number of shims that are necessary to obtain the correct wheel camber of 1°, and, provide a better selection of shims.

ELECTRICAL WIRING - It has been necessary for us to use wires in which the color, of the fabric covering and tracers, has deviated from standard. Therefore, when tracing wires through the wiring system, it will be necessary to follow wires according to each individual vehicle, using as a guide, the wiring diagrams given in the Maintenance Manual, Operation and Care Booklet, and General Service Letters.

DAW/fh

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 814

TO All Dealers

FROM D. A. Walters

DATE March 20, 1947

SUBJECT Air Cleaner and Oil Filter
Model 4-63

WILLYS-OVERLAND
MOTOR CARS

We have received quite a number of inquiries, especially from dusty regions, regarding Oil Bath Type Air Cleaners, also Oil Filters for installation in the Model 4-63 Station Wagon.

The engine used in the Station Wagon, as well as all other models, is equipped with a Floating Type Oil Intake as standard equipment, which in itself goes a long way to provide clean lubricant to the internal moving parts. This patented device along with the standard Dry Type Air Cleaner, if kept clean and well oiled, will give the engine satisfactory protection under normal operating conditions.

Under adverse conditions, such as encountered in some sections of the country, an Oil Bath Type Cleaner can be used to advantage, in that it is more efficient and will not require as much attention as the Dry Type.

Your requirements for the above equipment can be secured through your Distributor by ordering as follows:

<u>Description</u>	<u>Part No.</u>	<u>List Price</u>	<u>Dealer Net</u>
Oil Filter Field Kit	640531	\$ 7.50	\$ 5.23
Oil Bath Air Cleaner Field Kit	644019	13.25	8.61

No allowance will be made for the Dry Type Cleaner.

DAW:jm

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 815

TO All Distributors and Dealers

FROM D. A. Walters

DATE March 26, 1947

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Lubrication of Model CJ-2A

Lubrication recommendation for the Model CJ-2A Front Axle Universal Joints and King Pins, as shown in the Operation and Care Manual, calls for Universal Joint Lubricant No. 0 for Winter, and No. 1 for Summer.

It has come to our attention that Oil designated as "Universal Joint Lubricant" is not available in all sections of the country, as most oil refineries are reducing the number of "designated" types in favor of more "general purpose" lubricants.

An oil designated as "Universal Joint Lubricant" is used in production for the original filling of the Universal Joint Housings. Should this oil be unavailable it will be satisfactory to refill those housings with No. 0 chassis lubricant in Winter, and No. 1 in Summer.

DAW:ah

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 817

TO All Distributors and Dealers

FROM D. A. Walters

DATE April 10, 1947

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: CJ-2A Governor Installation
and Adjustment Instructions

We are attaching hereto instruction and adjustment instructions covering the three (3) types of Governors used on the Model CJ-2A 'Jeep', which are as follows: - "Novi", "King Seeley", and "Monarch".

The attached instructions will be included in each Governor Kit shipped by our Parts Department. If the instructions are carefully followed no difficulty will be experienced in connection with the installation and proper adjustment of these units.

DAW:ma
Attach.

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 822

TO All Distributors and Dealers

FROM D. A. Walters

DATE May 5, 1947

WILLYS-OVERLAND
MOTOR CARS

SUBJECT Protection of Engines in Inactive
Vehicles

Occasional reports have been received by the Factory about valves sticking in the engines of vehicles that are inactive on show room floors.

This trouble is apparently due to oversight on the part of the Service Department not taking the ordinary precautions when a vehicle is left inoperative for any length of time.

The fact that the vehicle is new makes it necessary to provide adequate protection until the "break-in" period has been run.

It is strongly recommended that any vehicle to be placed on the show room floor or inactive for any period of time have about a pint of "break-in" oil similar to "CASITE" put in the crankcase and the engine operated ten minutes to be certain the oil has a chance to circulate thoroughly.

It is also advisable to pour in about one-half pint of the special oil through the intake of the carburetor just before the engine is stopped, prior to placing the vehicle on inactive display.

DAW/wrw

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 823

TO All Distributors and Dealers

FROM D. A. Walters

DATE May 13, 1947

SUBJECT 1947 Flat Rate Manuals

WILLYS-OVERLAND
MOTOR CARS

You will receive, by separate mailing, your copy of the 1947 Flat Rate Manual. This is a revised Manual which includes Willys-Overland Models CJ-2A, 4-63, 2-T and 4-T.

There have been some changes made in the time estimates for a few of the operations on the Model CJ-2A. These are in keeping with suggestions received from our Distributors and Dealers and from time studies made in our own Service operations.

We invite your comments or any suggestions for the improvement of this Manual or any changes in the time quotations you feel should be made. You will find in the back of the Manual forms to be used in submitting suggested changes.

Additional copies of the 1947 Flat Rate Manual can be secured by addressing your request to this Department.

DAW...ems

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 829

TO All Distributors and Dealers

FROM D. A. Walters

DATE June 23, 1947

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Vehicle Changes and Information

The following data will prove helpful to your Service and Parts Personnel in the handling of service and parts matters.

CARBURETOR RESTRICTOR PLATE - Carburetor restrictor plate, Part No. 635467, was removed from Model CJ-2A Jeeps beginning with vehicle Serial No. 106783.

INTAKE MANIFOLD - The intake manifold was changed eliminating two extra 1/8" tapped holes and plugs. Part No. 645361 supersedes Part No. A-1166.

POWER TAKE-OFF SHIFT LEVER GROMMET - Shift lever grommet has been changed from leather to rubber. This grommet is part of the power take-off shift handle cover assembly Part No. 640707 which has been changed to Part No. 666610 and went into production with Model CJ-2A vehicle Serial No. 118629.

RADIATOR FILLER CAP GASKET - This gasket Part No. A-1216 has been made of another material and obtained from a different source of supply to overcome tight radiator caps caused by the gasket swelling. New gasket carries same part number and started in production with Model CJ-2A vehicle Serial No. 97484 on May 14, 1947 and on Model 4-63 vehicle serial No. 11196 on May 13, 1947.

RADIATOR AIR DEFLECTOR SEALS - These parts were cancelled in production as not being necessary for the proper operation of the Model 4-63 beginning with vehicle Serial No. 27136.

FRAME ASSEMBLY - New design frame, Part No. 644086, with heavier body outriggers, gussets and tie plates on Model 4-63 went into production with vehicle Serial No. 14735 on December 5, 1946 superseding Part No. 641568. This new frame requires a new fuel line Part No. 644025 which supersedes Part No. 642132, and brake tubes Part No. 643972 and No. 643973 supersede Part No. 642652 and 642694.

REAR AXLE DIFFERENTIAL - To meet our production requirements, the type of differential side gear and pinion teeth were changed in the Model 4-63 by the axle manufacturer. For Service requirements these gears are replaceable and interchangeable in sets only as follows:

- Part No. 644147 Differential Side Gear and Pinion Mate Set -
Formate type.
- Part No. 644148 Differential Side Gear and Pinion Mate Set -
Revacycle type.

This change represents two different methods of cutting the teeth, giving the teeth a shape which will not permit their running together.

FUEL TANK VENT ALARM - A baffle is now incorporated in the vent alarm whistle located on top of the fuel tank to eliminate the noise from the whistle caused by the movement of gasoline in the tank. Started with Model 4-63 vehicle Serial No. 22272 on March 11, 1947.

ACCELERATOR RETRACTING SPRING - This spring was relocated and made stringer to give smoother and more positive action. Spring Part No. 644067 supersedes 633011. Started with Model 4-63 vehicle Serial No. 22491 on March 12, 1947.

STARTER RETRACTING SPRING - Retracting spring Part No. 641705 used on the starter arm of the Model 4-63 was increased in tension to assure the prompt return of the control hook-up. The new spring, using the same part number, has a free length of 3 3/16" from inside to inside of the hook ends. Any springs of this part number in your parts stock, which do not meet this dimension, should be returned through your distributor accompanied by your claim for replacement. This later spring started in production with vehicle No. 22066 on March 10, 1947

PARKING LAMPS - The Model 4-63 style of parking Lamps replaced the type which was used on Model CJ-2A. This change started with Model CJ-2A vehicle Serial No. 97740 on March 3, 1947.

BODY TOP - Numerous changes made in the body front top, cowl side panel, door frame and door lower hinge sockets to improve top appearance and fit of doors. Started on Model CJ-2A vehicle Serial No. 114949 on May 12, 1947.

INSTRUMENT PANEL LIGHT SWITCH - The instrument panel light switch is eliminated from the vehicle equipment and the light is now connected to and controlled by the main light switch. Effective with Model CJ-2A vehicle Serial No. 116421 on May 12, 1947.

FUEL TANK FILLER NECK GROMMET - New design pad type filler neck grommet was used in production beginning with Model 4-63 vehicle Serial No. 22552 on March 13, 1947. Grommet, Part No. 667067 supersedes No. 654758.

SPEEDOMETER - On Model 4-63 speedometer with 70 mile per hour face is superseded by 80 m.p.h. speedometer, Part No. 643272, beginning with vehicle Serial No. 23512 on March 21, 1947.

NAME PLATE - New Willys-Overland name plates added to rear lower gate to the Model 4-63 Station Wagon beginning 100% with vehicle Serial No. 26756 on April 25, 1947. The following parts were added:

Part No. 667598 Name Plate "Willys"
Part No. 667599 Name Plate "Overland"
Part No. 667597 Tubular clip (total 6 required)

These name plates make a good accessory item for your Parts Department because installation can be made easily by drilling panles with No. 6 (.161") drill.

SUN VISOR - The sun visors are equipment at extra cosst on the Model 2 WD trucks beginning with vehicle Serial No. 10179 on May 2, 1947.

So that this information may be used to proper advantage, please see that all parties concerned are advised.

DAW:ceg

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 832

TO All Distributors and Dealers

FROM D. A. Walters

DATE July 3, 1947

WILLYS-OVERLAND
MOTOR CARS

SUBJECT: Carburetor, Part No. 640304

Attention: Parts and Service Managers

Carburetor Assembly, Part No. 640304 was used on the early Model CJ-2A Jeeps up to Vehicle Serial No. 69588 and on Serial No. 75787 to 75984 inclusive. This carburetor was designed for use with the King-Seeley and Monarch Governors, however, with the installation of the following parts, this carburetor can also be used when installing the Novi Governor.

Remove the old throttle shaft and throttle lever and make the installation of Parts No. 116847 Throttle Shaft, also Part No. 116849 Throttle Lever.

These parts carry the regular parts discount and dealers should place their orders through their distributors.

DAW/fh

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 833

TO All Distributors and Dealers

FROM D. A. Walters

DATE August 13, 1947

SUBJECT Lubrication of Steering
Connecting Parts

WILLYS-OVERLAND
MOTOR CARS

The examination of parts returned from the field show evidence of "lack of lubrication". This applies particularly to Steering Connection Parts, such as Steering Rod Ball Sockets, and other steering connections.

It is of utmost importance to see that these important parts are religiously lubricated at the intervals indicated in the Operation and Care Manual.

When vehicles are submitted to unusual road conditions, such as gravel, mud, etc., these parts should be given more frequent lubrication attention. The new lubricant injected will force out the old lubricant, which may be contaminated with grit and abrasives that soon wear out the parts.

Please see that special instructions are issued to your men who do the lubrication jobs, and also impress upon customers the importance of proper lubrication to prolong the life and increase the safety, especially of steering connecting parts.

DAW...ems

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 835

TO All Distributors and Dealers

FROM D. A. Walters

DATE August 13, 1947

WILLYS-OVERLAND
MOTOR CARS

SUBJECT Propeller Shaft Guard Field Kit

On June 28, 1946, in General Letter #778, we advised all Distributors and Dealers of the availability of "Propeller Shaft Guard Field Kit", Part #641744.

This Kit was developed for the purpose of preventing hay, straw, and other material from wrapping around both the Front and Rear Propeller Shafts and Universal Joints.

On July 28, 1946, in General Letter #780, we advised all Distributors and Dealers that with the approach of the harvesting season it was doubly important to see that these Guards were installed on 'Jeeps', especially those engaged in agricultural work.

Reports from the field indicate that many 'Jeeps' are engaged in agricultural work that are not equipped, and no effort made to see that the Kits are sold and installed.

There is a fire hazard when long stemmed crops wrap around Propeller Shafts, and since we are in the Harvest Season we emphasize again the importance of contacting your customers to see that these Guard Kits are installed immediately.

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 842

"AMERICA'S MOST
USEFUL VEHICLES"

TO All Distributors and Dealers

FROM D. A. Walters

DATE October 8, 1947

SUBJECT: Auxiliary Step Kit, Part No. 646150
For Model CJ-2A

An auxiliary step service kit, No. 646150, has been developed for those Jeeps not standardly equipped.

The list price of the kit, which includes the required material for both right and left steps is \$8.50, subject to regular parts discounts. Dealers should place their orders through their distributor.

To install these steps, measure 5-1/8" to the rear from the rear face of the body bracket on the left side of the frame under the front compartment floor. Mark the frame at this point. Measure up 2-9/16" from the bottom of the frame and center punch where the marks cross. Drill a 21/64" hole at this point. Assemble the step to the brace and bolt the step to the frame through the front hole in the step brace.

Using the step brackets as a template, drill the other required holes, 21/64". Care should be used when drilling the floor at the fuel tank to avoid puncturing the tank. When installing the bolt at this point, use the stud plate inside the body as a reinforcement.

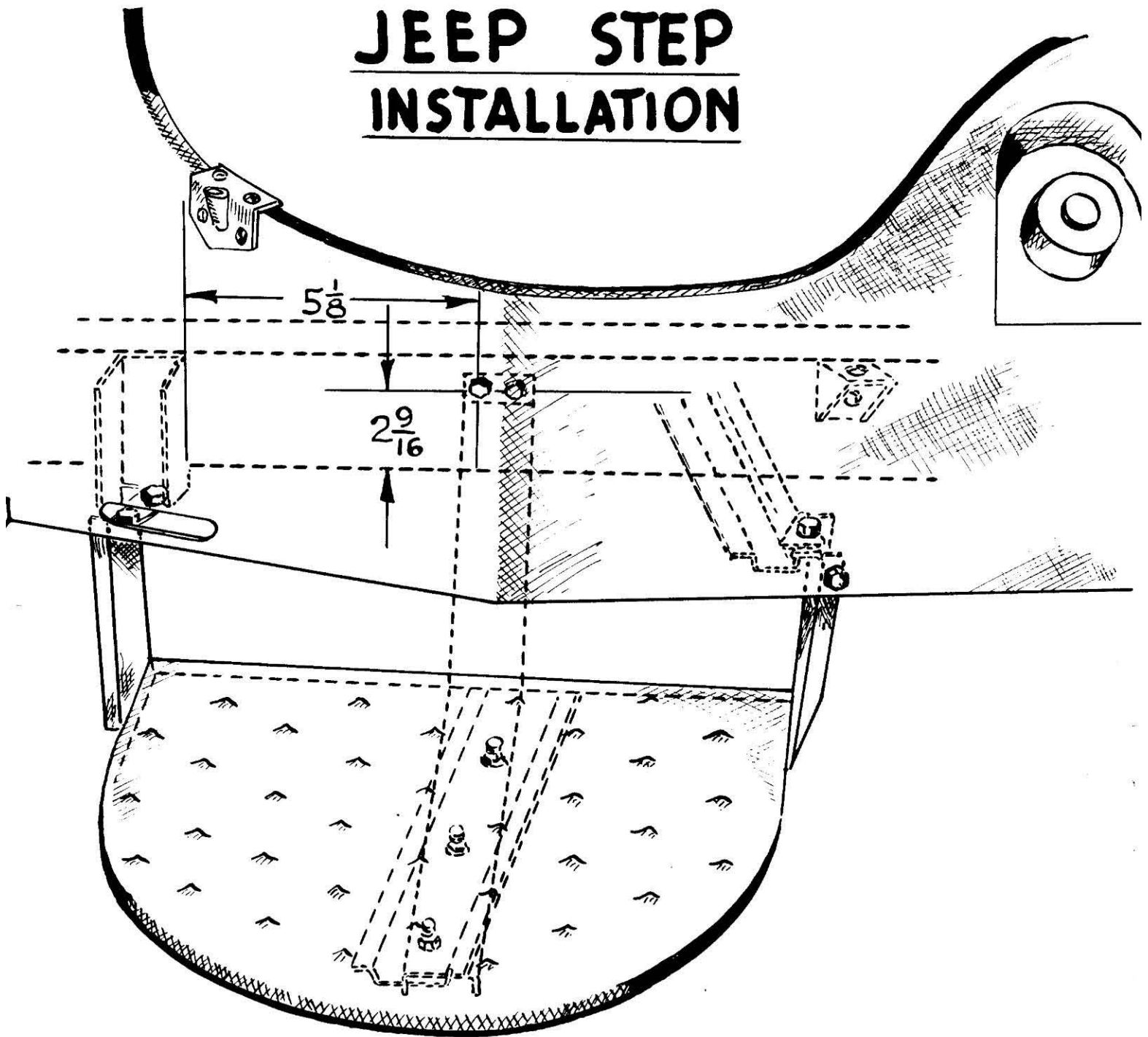
When installing the outside body bolt, use the spacer to take care of the body bottom flange. The other bolts are installed in the customary manner with lockwashers and nuts.

The same procedure should be followed when making the installation on the right side of the frame. The attached sketch will be of further assistance.

Approximately 1-1/2 hours are required to make the installation.

DAW...fh
Attach.

JEEP STEP INSTALLATION



SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 850

"AMERICA'S MOST
USEFUL VEHICLES"

TO All Distributors and Dealers

FROM D. A. Walters

DATE November 14, 1947

SUBJECT: Model CJ-2A Carburetor

To maintain production it was recently necessary to use in production a quantity of Military type carburetors, Part No A-1223 in place of standard carburetor, Part No. 643337. These carburetors were installed only on vehicles not equipped with governors and are the same excepting the throttle control levers and the lower body flange assembly (the body flange assembly is not equipped with a stop for the governor control arm).

To install a centrifugal type governor assembly on engines equipped with carburetor A-1223 it is necessary to install a new body flange assembly Part No. 116846. This assembly includes the necessary new throttle shaft, Part No. 116847, and throttle lever, Part No. 116849, also required to install a governor.

Should a governor be sold for installation on an engine equipped with carburetor A-1223, the new body flange assembly is to be given the purchaser without charge. Upon the return of the old carburetor part on claim in the regular manner, credit will be issued for the new part.

DAW...ema

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 852

TO All Distributors and Dealers

FROM D. A. Walters

DATE November 21, 1947

"AMERICA'S MOST
USEFUL VEHICLES"

SUBJECT Ignition Cable Terminal

The ignition cable terminal at the spark plug, used on all models, is of the elbow type and has a prong which pierces the insulation to make contact with the cable conductor.

Recently we have observed a missing condition in a few engines at higher vehicle speeds. Investigation has shown that the connecting prong is not bent down into the cable insulation to make a satisfactory connection, thus building up too high resistance for satisfactory operation at the higher engine speeds.

Should this difficulty be experienced, remove the terminal and make a satisfactory connection when re-installing by making certain that the prong is bent straight down into the cable to contact the conductor.

DAW/mhs

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 853

"AMERICA'S MOST
USEFUL VEHICLES"

TO All Distributors and Dealers

FROM D. A. Walters

DATE November 25, 1947

SUBJECT: Vehicle Changes and Information

The following information should be retained on hand for reference by your Service and Parts Personnel in the handling of service and parts matters :

VENT WINGS - An adjustable type ventilating wing went into production on the Model 4-63 with Vehicle Serial No. 40818 on September 29th. This vent wing is obtainable in kit form under Part No. 669595. This same kit is used to make the installation on Model 2-WD prior to Vehicle Serial No. 11197 and Model 4-WD prior to No. 10342.

FRONT SPRING - To improve the steering geometry of the Model 4-63 there was released a flatter Front Spring, Part No. 645696, having 2-11/16" camber instead of 3-1/4" camber. A new Spring Bumper, Part No. 645543, is necessary for use with this spring at each frame side rail. This change started with Model 4-63 Serial No. 36457. See General Service Letter No. 840 for further details.

GOVERNOR - The velocity type of governor was discontinued on the Model 2-WD as standard equipment but is available as special equipment on the vehicle or through out parts department. This installation requires longer fuel and vacuum lines, intake manifold studs and throttle control rod.

SHOCK ABSORBERS - New Monroe non-adjustable shock absorbers, permitting a wider range of action without bottoming, went into production beginning with Model CJ-2A Serial No. 131054; Model 4-63 Serial No. 27465 (fronts) and Serial No. 27593 (rears); Model 2-WD Serial No. 12348 and on Model 4-WD Serial No. 11491 on October 1, 1947.

INSULATOR CAP - The Spark Plug Insulator Cap, Part No. A-1096, was discontinued in production beginning with Model CJ-2A Serial No. 138334; Model 4-63 Serial No. 39379; Model 2-WD Serial No. 12124 and Model 4-WD Serial No. 11018 as being unnecessary for the proper operation of the vehicle.

SCUFF PLATES - Scuff Plates (running boards) have been discontinued on the Model 2-WD and Model 4-WD as standard equipment beginning with Vehicle Serial No. 11866 on the Model 2-WD and Vehicle Serial No. 10647 on the Model 4-WD. These scuff plates are available as an accessory through the Parts Department in a Kit, Part No. 646150, at \$8.50 list and subject to the regular discount.

CARBURETOR - To overcome a "flat spot" in engine performance at about 1000 r.p.m., the Carter Carburetor Company has now made a change in their carburetor so that the low speed jet is enlarged from No. 71 drill to No. 69 drill size. This new jet is covered by our Part No. 117109 (Carter No. 11-186S) and is effective on Models CJ-2A, 2-WD and 4-WD.

STARTING CRANK - Because the starting crank is not furnished with Model 2-WD and Model 4-WD vehicles, the starting crank nut on the front of the crankshaft is superseded by crankshaft pulley nut having no pin for the starting crank. The starting crank and the nut can be obtained as a kit under Part No. 646022. This change started with Model 2-WD Engine No. 12012 and Model 4-WD Engine No. 10832. This change will go into production on the Model CJ-2A and on the Model 4-63 approximately December 15, 1947.

WINDSHIELD WIPER - Beginning with Model 2-WD Serial No. 11911 and Model 4-WD Serial No. 10830, one windshield wiper was made standard equipment. The passenger's windshield wiper is obtainable as extra equipment under Part No. 668569 as a kit.

GENERATOR DRIVE PULLEY - A pressed steel generator drive pulley (Auto-Lite part) superseded the cast iron pulley beginning with Model CJ-2A Engine No. 142018; Model 4-63 Engine No. 37974; Model 2-WD Engine No. 11852 and Model 4-WD Engine No. 10781.

HORN - The dual horn as standard equipment was adapted on the Model 4-63 Station Wagon starting with vehicle Serial No. 38071. Starting with Model 2-WD Serial No. 11461 and Model 4-WD Serial No. 10516, the horn relay was mounted on the dash instead of on the horn bracket to facilitate production.

ARM REST - To provide a more comfortable position for the driver and the passenger on Models 4-63, 2-WD and 4-WD the door arm rests were raised one and one-half inch beginning with Model 4-63, Vehicle Serial No. 38261; Model 2-WD Serial No. 12265 and Model 4-WD Serial No. 11382.

VENT ALARM WHISTLE - The vent alarm whistle and vent tube was removed from the gasoline tank beginning with Model 2-WD Serial No. 12440 and Model 4-WD Serial No. 11666. This device will be eliminated on the Model 4-63 shortly.

GOVERNOR BELT - The governor belt on the Model CJ-2A and on the Model 4-WD was revised and shortened to give more adjustment. This change started with Model CJ-2A, Vehicle Serial No. 143441 and on Model 4-WD, Vehicle Serial No. 11617 on October 8th.

CLUTCH PLATE AND HUB - A new Clutch Plate and Hub Assembly, Part No. 645669 (identified by two ivory and two orange colored dampener springs) supersedes Part No. 642939 to eliminate possible propellor shaft, rear axle and transmission rattle on the Model 4-63. With this change the Clutch Pressure Plate Return Spring, Part No. 646027, superseded Part No. 638153. This change went into production beginning with Engine No. 27287 on the Sedan Delivery and on the Model 4-63 Station Wagon beginning with Engine No. 34171 on July 15, 1947.

DUST PROOFING - Dust proofing of the Model 4-63 started with Vehicle Serial No. 40317 on September 23rd. Shortly you will receive a General Service Letter giving you complete information as to the procedure to follow, also the part number covering the parts which make up a kit for this installation.

REAR AXLE WEDGES - On the Model 2-WD and the Model 4-WD, 3° Axle Wedges, Part No. 645777, have been installed between the rear springs and the spring seats on the axle to raise the front end of the axle. This change aids in eliminating clutch rattle experienced in some vehicles, by giving a more direct drive thereby reducing drive line noise. Two Part No. 645776, Axle Bumper

November 25, 1947

Spacers, are required to prevent propellor and frame cross member interference, at full jounce and four Part No. 645780, Spring Clips, are required because of the thickness of the tapered wedges. This change went into production with Model 2-WD Serial No. 12108 and Model 4-WD Serial No. 10989 on September 2nd. Very shortly the angularity of the spring seat on the axle will be changed and these wedges will not be required. You will be advised when this change goes into effect.

POWER TAKE-OFF PROPELLOR SHAFT - A new power take-off rear propellor shaft has started in production beginning with Model 4-WD Serial No. 10990 on October 20, 1947. This propellor shaft has a higher speed capacity to eliminate any possibility of failure. The diameter of the shaft was increased from 2" to 3".

WINDSHIELD WIPER HOSE CONNECTION - The windshield wiper hose connection has been changed on the intake manifold on the Model CJ-2A beginning with Engine No. 143679 on September 19th, also Model 2-WD Engine No. 11318 and Model 4-WD Engine No. 10442 on July 16, 1947. Elbow, Part No. 384569 supersedes Part No. 387891 in new Intake Manifold, Part No. 644373, which has two 1/4" tapped holes eliminated for windshield wiper tubes.

STEERING GEAR BRACE - The brace from the instrument panel to the steering column bracket has been eliminated in the instrument panel and the reinforcement revised to take care of the steering column, on the Model 4-63 beginning with Serial No. 40506 on September 25th.

CARBURETOR - It has been necessary to use on Model CJ-2A Jeeps, not equipped with a governor, a quantity of Part No. A-1223 Carburetors insted of Part No. 643337 Carburetor, due to the inability of the manufacturer to supply these in sufficient quantity. If the owner of a Jeep so equipped decides to make the installation of a governor, after the vehicle has left the factory, it will be necessary to install the carburetor body flange and throttle parts which are obtainable as an assembly by ordering Body Flange Assembly, Part No. 116846. This assembly is to be furnished at no charge to the owner when he purchases a Governor Kit, Part No. 645313. The old assembly can be returned to the factory on a claim for credit in the regular way, providing such replacement is made within a reasoble length of time after the vehicle is sold.

TOOLS - The Tool Equipment consists only of a Jack and Handle, Screw Driver, Pliers and Wheel Nut Wrench, beginning with Model CJ-2A, Vehicle Serial No. 142122; Model 4-63 Serial No. 38310; Model 2-WD Serial No. 11938 and Model 4-WD Serial No. 10846 on September 4, 1947.

DAW/mhs

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 855

"AMERICA'S MOST
USEFUL VEHICLES"

TO All Distributors and Dealers

FROM D. A. Walters

DATE December 10, 1947

SUBJECT: Vehicle Changes and Information

The following information concerning changes should be made available to your Service and Parts Personnel to facilitate repairs and the ordering of parts.

DOOR OUTER HANDLE - To improve the operation of the door outer handles used on Model 4-63, 2-WD, and 4-WD, Part No. 668834 Locking Type Door Handle (Outer) supersedes Part No. 663866; Part No. 668835 Plain Type Door Handle (Outer) supersedes Part No. 663865. There is no material difference in the external appearance of the old and new parts.

STEERING KNUCKLE TIE ROD - A Dust Shield (metal) Part No. 643575 and a Dust Shield (rubber) Part No. 645134 have been added to the Model 4-63 Tie Rod Assemblies to give better protection and keep water and dirt out of the sockets. This change started with Model 4-63 Vehicle Serial No. 42450 on October 15, 1947. See General Service letter No. 838.

GOVERNOR BRACKET - The Governor Bracket and Warning Plate Assembly, Part No. 640236, has been changed to eliminate the Governor Mounting Spacers, Part No. A-6824, and now carries Part No. 644094. This change went into production with Model CJ-2A Vehicle Serial No. 139011 and Model 4-WD No. 11084 on September 17, 1947.

FUEL TANK VENT ALARM - The vent alarm was discontinued on the Model 4-63, starting with Vehicle Serial No. 42673 on October 16, 1947.

BODY BRACKET - A body angle corner bracket (left side only) was added to the side panel and front of the pick-up box to give added strength to carry the weight of the spare wheel and tire. Effective with Model 2-WD Vehicle Serial No. 11547 and 4-WD No. 10578 on August 12, 1947. This installation should be made on all Model 2-WD and 4-WD pick-up boxes in your territory as per Factory Service Department Letter No. 833-D to Distributors who received vehicles produced prior to this change.

WINDSHIELD WIPER CABLES - The length of the windshield wiper cables were increased 3/16" to relieve excessive cable tension and eliminate the use of Shims, Part No. 669053, between the tensioners and dash. The same part numbers (Nos. 664817-8) are retained for the windshield wiper pivot shafts (complete) left and right, of which this cable is a part. Effective with Model 4-63 Vehicle Serial No. 38430; Model 2-WD Serial No. 12011 and Model 4-WD Serial No. 10912 on September 2, 1947.

General Letter No. 855

December 10, 1947

SHOCK ABSORBERS - Non-adjustable shock absorbers were adopted to give a longer range of travel. Beginning with Model CJ-2A Vehicle Serial No. 131054 Part No. 645795, Shock Absorber, Front, supersedes Part No. 642229; Part No. 645796 Shock Absorber, Rear, supersedes Part No. 642230. On Model 4-63 Vehicle Serial No. 27465, Part No. 645606, Shock Absorber, Front, supersedes Part No. 641025; on Vehicle Serial No. 27593, Part No. 645607, Shock Absorber, Rear, supersedes Part No. 641184. On Model 2-WD Vehicle Serial No. 12348 and Model 4-WD Vehicle Serial No. 11491, Part No. 645761, Shock Absorber, Rear, supersedes Part No. 642149; Part No. 642343 Shock Absorber, Front, was changed, but the same part number was retained.

SEAT TRIM MATERIAL - The new slate gray seat trim material was adopted for use with Paint Options No. 4 (Michigan Yellow) and No. 9 (Luzon Red) to improve the appearance beginning with Jeep Model CJ-2A Vehicle Serial No. 145005 on October 15, 1947. Part No. 668047 Gray Coated Fabric (50" wide) supersedes Part No. 663272.

CARBURETOR - A positive stop for the accelerator linkage was provided to avoid pressure on the fast idle linkage. This change went into production beginning with Model CJ-2A Vehicle Serial No. 146344; on Model 2-WD, No. 12582; and Model 4-WD No. 12075 on Oct 22, 1947.

DASH PANEL REINFORCEMENT - A reinforcement was added to the front side of the dash panel for better support of the battery. Part No. 669492, Dash to Battery Box reinforcement was added beginning with Model 2-WD Vehicle Serial No. 12652 and Model 4-WD No. 12405 on November 3, 1947.

CORRECTION - In General Service Letter No. 853, in the paragraph relative to Scuff Plates, delete the last line and add "per Page 78 in Model 2-WD and 4-WD Parts List".

DAW...ema

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 856

"AMERICA'S MOST
USEFUL VEHICLES"

TO All Distributors and Dealers

FROM D. A. Walters

DATE December 15, 1947

SUBJECT: Transmission Main Drive Gear Oil
Seal, Models CJ-2A and 4-WD

Transmission main drive gear oil seal, Part No. 645980, is now used in production of both Models CJ-2A and 4-WD transmissions, replacing the old type cork seal, Part No. 640892. The new seal is laminated felt and rubber and the following precautions must be taken when installing it:

The rubber face of the seal must be installed against the gear (toward the transmission case). Friction of the rubber causes the seal to turn with the shaft and as the seal becomes saturated with oil the felt is thoroughly lubricated for contact with the front bearing retainer.

Dealers must place orders with their Distributor for their requirements of this seal. When the new type parts are received, return your stock of the old type seals on a claim through the regular channel, and credit will be allowed for those returned.

DAW...ema

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-5

TO ALL DISTRIBUTORS AND DEALERS

DATE February 9, 1948

CRANKCASE VENTILATOR
Models 4-63 & 2-WD

Our attention has been called to some cases of excessive oil consumption and upon checking into the trouble we found that crankcase pressure builds up due to the crankcase ventilator screen being clogged with sludge. This has occurred on vehicles not equipped with an oil filter, and when used under certain driving conditions where the engine does not have an opportunity to remain hot enough to evaporate any moisture in the engine oil.

This clogged screen prevents the proper removal of crankcase vapors through the crankcase ventilating system, and, due to the system being sealed, pressure is created in the crankcase forcing oil by the piston rings and through the intake valve guides and in some instances, past the crankshaft oil seals.

Whenever excessive oil consumption is noted, this screen should be removed. At the same time clean the suction line from the valve chamber cover to the ventilator valve in the manifold. The valve should also be cleaned to make sure that it functions.

DAW:cg

DEAN A. WALTERS
General Service Manager

"America's Most Useful Vehicles"

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-12

TO ALL DISTRIBUTORS AND DEALERS

DATE February 24, 1948

VEHICLE CHANGES AND INFORMATION

ENGINE STAY CABLE - To make a more satisfactory installation, the stay cable has been reversed by removing one flywheel housing bolt and substituting the thread end of the cable. The stay cable bracket has been removed from the engine and attached to the frame cross member. Effective with Model CJ-2A, Engine No. 164505.

ENGINE LOCATION - On Model 2-WD and 4-WD, the engine front end was raised 1/4" and moved 1/4" to the left side of the vehicle requiring changes in the engine mounting brackets and an adaptor plate. This was done to provide more clearance between the front axle and the engine and brackets when the vehicle springs are under full compression. When ordering parts be sure to give vehicle serial number. Effective with Model 2-WD vehicle Serial No. 12778 and on Model 4-WD Serial No. 12784.

VALVE SPRINGS - The valve spring test specifications were changed beginning with springs having Heresite rust resisting coating. These are identified by a daub of red or green paint on the spring. These springs have a pressure of 53 pounds plus or minus 3 pounds at 2-7/64" (valve closed) and 124 pounds plus or minus 4 pounds at 1-3/4" (valve open). Effective with Model CJ-2A, Engine No. 152292; Model 4-63, Engine No. 43046; Model 2-WD, Engine No. 12583 and Model 4-WD, Engine No. 12208.

SPRINGS - Wrap up of second leaf was increased around the spring eye of the main leaf on Model 4-63 front spring, Part No. 645696, to provide higher safety factor in case of main leaf breakage. Started with Model 4-63 vehicle Serial No. 44375. No change was made in the part number of the spring.

OIL PUMP - Aluminum oil pump body adopted in place of cast iron Part No. 645631 supersedes No. 641046 and are interchangeable. Started with Model CJ-2A, Engine No. 163075; Model 4-63, Engine No. 46012; Model 2-WD, Engine No. 12866 and Model 4-WD, Engine No. 12909.

PROPELLER SHAFT - A two unit propeller shaft with center support bearing was adopted for the Model 2-WD to reduce wear and strain on universal joints. Effective with vehicle Serial No. 12974 on December 1, 1947.

GOVERNOR - The velocity type governor was removed from the Model 2-WD as standard equipment and is now special equipment. Effective with vehicle Serial No. 13060 on December 4, 1947.

WIRING HARNESS - To facilitate installation and insure against faulty operation, the wiring harness was changed on Model 4-63, 2-WD and 4-WD. When ordering wiring harness be sure to specify the vehicle serial number. Numerous part numbers have been changed. Started with Model 4-63 vehicle Serial No. 42025; Model 2-WD No. 12910 and Model 4-WD No. 13141. Additional changes were made to prevent chaffing of wires beginning with Model 4-63 vehicle Serial No. 42423.

"America's Most Useful Vehicles"

No. 48-12
February 24, 1948

VEHICLE CHANGES AND INFORMATION

HOOD PROP - The improved Model 4-63 hood prop was adopted for Model 2-WD and 4-WD. Hood Prop Assembly, Part No. 669258, supersedes Part No. 666192, beginning with Model 2-WD vehicle Serial No. 13156 and Model 4-WD No. 13516 on December 9, 1947.

CRANKSHAFT - The oil hole and oil groove at the front end of the crankshaft has been removed so the present 4 cylinder crankshaft cannot be used for both the timing chain and gear driven camshaft engines. Part No. 646318, Crankshaft is used for gear type jobs and Part No. 641127, Crankshaft for timing chain jobs. Part No. 646318 started in production with Model CJ-2A, Engine No. 165476; Model 4-63, Engine No. 47132; Model 2-WD, Engine No. 13004 and Model 4-WD, Engine No. 13263.

BUMPER GUARDS - A new bumper guard field kit has been released for Model 2-WD and 4-WD. This kit started in production with Model 2-WD vehicle, Serial No. 13317 and Model 4-WD No. 13742 on December 16, 1947, as extra equipment, installed by request at extra cost.

HOOD LOCK - Outside hood lock replaced the Bowden control type for better operation on Model 2-WD and 4-WD, starting with vehicle Serial No. 13472 and Serial No. 13875 respectively on December 22, 1947.

RADIATOR - The mounting of the radiator on the Model 4-63 was changed to the side mounted type for better support and stability. This change involved alterations in the frame, radiator, hood and hood lock, hood prop and radiator guard. Effective with vehicle Serial No. 49035 and on No. 48135. Exceptions are Serial Nos. 49201 to 49265 inclusive and Serial Nos. 50614 to 50875 inclusive.

HEATER - A heavy duty Burd heater for Model 4-63 vehicles to obtain more efficient heating went into production with vehicle Serial No. 49430 on December 19, 1947; upon request as extra equipment at extra cost. Heater and defroster kit complete, Part No. 669438 supersedes Part No. 664820.

FLYWHEEL MARKS - Flywheel marks have been changed so all current model flywheels are stamped 5° before top center to be used as a guide in setting the ignition on all current 4 cylinder models. One other mark is stamped on the flywheel for top center. The same flywheel assembly is used for all current models except the Model CJ-2A, which has a 97 tooth starter ring gear; the other models have a 124 tooth ring gear. Effective in production beginning with Model CJ-2A, Engine No. 175402; Model 4-63, Engine No. 51379; Model 2-WD, Engine No. 13887 and Model 4-WD, Engine No. 14251. All Model 6-63s are marked the new way, but the 5° mark should not be used in setting the ignition timing. An ignition timing mark is provided on the vibration dampener, at the front end of the crankshaft on the Model 6-63 engine.

TRANSMISSION OIL SEAL - A combination rubber and felt oil seal in place of the cork seal was adopted for the transmission main drive gear. Part No. 645980 supersedes Part No. 640892 Transmission Front Bearing Retainer Oil Seal. Care should be exercised when installing the new seal to place the rubber faced side against the shoulder on the shaft so the felt side will bear against the bearing retainer. This seal should be installed in instances where there is evidence of transmission oil coming out of the flywheel housing and getting on the under

No. 48-12
February 24, 1948

VEHICLE CHANGES AND INFORMATION

TRANSMISSION OIL SEAL (cont.) - frame skid plate. Effective with Model CJ-2A vehicle Serial No. 158748 and Model 4-WD No. 13165. See General Service Letter No. 856.

SIDE PANELS - A new finish of embossed leather grain supersedes plain finish for inside panels of panel delivery and cabs of trucks. Started with Model 6-63 vehicle Serial No. 52052; Model 2-WD, Serial No. 14144 and Model 4-WD, Serial No. 14399 on January 12, 1948.

ACCELERATOR SPRING - Part No. 644067 Accelerator Retracting Spring supersedes Part No. 633011 on Model CJ-2A to improve accelerator action and to use the same spring as used on other models. Started with Model CJ-2A vehicle Serial No. 167127 on January 27, 1948.

BUMPER - The name "Willys-Overland" was incorporated in the face of the rear bumper and the name plate was removed from the rear tail gate beginning with Model 4-63 Station Wagon Serial No. 49576 on January 14, 1948. A number of jobs were equipped with the name plate after this serial number. Change was effective 100% beginning with vehicle Serial No. 52107.

DEAN A. WALTERS
General Service Manager

DAW:amd

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-13

TO ALL DISTRIBUTORS AND DEALERS

DATE March 3, 1948

COOLING SYSTEM LEAKAGE

Several instances have been brought to our attention where cooling solution leakage has occurred and accumulated in the spark plug wells. This solution has on some occasions caused a fire; the alcohol anti-freeze becoming ignited from a spark down the outside of a spark plug.

It is important all parties concerned in the conditioning, inspection, or overhauling of vehicles be cautioned to see that the cylinder water outlet attaching screws are tightened to 20-25 foot-pounds torque and be sure that there is no leakage at radiator or heater hose connections.

Handle alcohol solutions carefully - alcohol is inflammable!

DAW:amd

DEAN A. WALTERS
General Service Manager

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 48-14

DATE March 5, 1948

STARTER RETRACTING SPRING

A new stiffer Starter Retracting Spring, Part No. 646627, has been released by the Engineering Department to supersede Spring, Part No. 641705. This will relieve the tendency of the Starting Motor Pinion to remain engaged with the fly-wheel ring gear teeth after the engine starts.

This is especially true if the linkage between the starting button and the switch is not kept well lubricated and free of friction.

It is recommended that you return immediately, through the regular channels, your stock of Spring #641705, and order your requirements of Spring #646627. When installing the new springs make sure that the linkage is free of friction, well lubricated, and also that there is no interference between the starting switch arm and switch body on the top of the starting motor, as covered in our General Letter No. 821.

Please give this your prompt attention.

DEAN A. WALTERS
General Service Manager

DAW:amd

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-15

TO ALL DISTRIBUTORS AND DEALERS

DATE March 5, 1948

VEHICLE CHANGES AND INFORMATION

MODEL NUMBER - The model numbers 2T and 4T were changed on the body name and patent plate to 2WD and 4WD respectively to avoid confusion as "T" designation usually denotes tonnage. Started on Model 2WD Vehicle Serial No. 15200 on February 19th, and on Model 4WD No. 15251 on February 10th, 1948.

REMOTE CONTROL - To simplify assembly, the Woodruff key in the remote control bracket was changed to a dowel pin for proper positioning on Model 2WD and 4WD. Part No. 645596 bracket supersedes Part No. 640603 and Part No. 645466 steering gear assembly supersedes Part No. 642999. Effective with Model 2WD Vehicle Serial No. 15250 and Model 4WD No. 15568 on February 19, 1948, also used on Model 2WD No. 15205 to 15240 inclusive and on Model 4WD No. 15504.

SPRINGS - To standardize the vehicle springs used on the Model CJ-2A, heavy duty springs were adopted. Part No. 645548 front spring superseded Part No. A-8463 and Part No. 645864, rear spring superseded Part No. A-15728 beginning with Vehicle Serial No. 169923 on February 9, 1948.

RADIATOR HOSE - To provide more flexibility for engine movement, the radiator hoses were changed from a metal tube and two pieces of hose to a one piece hose. Effective with Model CJ-2A Vehicle Serial No. 170064; Model 2WD, No. 14900 and Model 4WD No. 15200 on February 9, 1948. Part No. 645746 covers the new radiator hose, upper, and Part No. 645902 covers the radiator outlet hose (lower) assembly. Four new hose clamps (1-15/16") are required, Part No. GM-111619. This change may be used for service replacement.

CLUTCH - A revised clutch driven plate with different facings and torque reaction springs went into production on the Model 6-63. Beginning with Vehicle Serial No. 10384 the spring change was made on February 10, 1948, and Part No. 647037 clutch driven plate assembly superseded Part No. 645669. The new "AMCO" clutch facings started with Serial No. 10528 on February 19, 1948 without a change in the new part number.

TIE ROD SOCKETS - A change was made in the Model 4-63 and 6-63 tie rod socket assemblies to include a hardened floating spherical bushing. Socket assembly Part No. 646583 supersedes Part No. 642386. Started with Model 4-63 Vehicle Serial No. 56134 and Model 6-63 No. 10419 on February 12, 1948.

NO. 48-15

DATE March 5, 1948

VEHICLE CHANGES AND INFORMATION

PROPELLER SHAFT - The power take-off propeller shaft on the Model 4WD was increased in diameter from 2" to 3" to provide a more satisfactory shaft for continuous high speed operation. This change included a depression added in the 3rd intermediate crossmember and the addition of two rear axle to frame bumper spacers Part No. 645776. The new shaft Part No. 646208 supersedes Part No. 643035. Effective with Model 4WD Vehicle Serial No. 15284, on February 11, 1948.

FLOOR PAN - Sound deadening material is sprayed on front floor pan which quietens road noise and prevents the mat from slipping out from under the scuff plates. Started with Model 4-63 Station Wagon Vehicle Serial No. 53387 and Model 6-63 No. 10483.

WINDSHIELD WIPER - Dual windshield wipers were adopted as standard equipment on Model 2WD, 4WD and also on Model 4-63 Panel Delivery at no extra cost. Effective with Model 2WD Serial No. 15350 on February 19, 1948; on Model 4WD Serial No. 15443, February 17, 1948 and on Model 4-63 Panel Delivery Serial No. 55535 on February 9, 1948.

SUN VISOR - The sun visor on the driver's side of Model 2WD and 4WD was made standard equipment beginning with Model 2WD Serial No. 15351 on February 20, 1948, and on Model 4WD Serial No. 15415 on February 16, 1948.

STARTER SPRING - A stronger starter retracting spring, to secure more prompt release of the starter pinion from the flywheel ring gear went into effect with Model 4-63 Vehicle Serial No. 57287; Model 2WD No. 15382; Model 4WD No. 15629 and Model 6-63 No. 10504 on February 23, 1948. Part No. 646627 starter retracting spring (3-5/16" inside hook to hook) supersedes Part No. 641705 (3-3/8"). Parts Department stock of Part No. 641705 should be returned to Factory to be replaced by Part No. 646627.

SERVICE LETTER INDEX - Attached for General Service Letters issued during 1947.

DEAN A. WALTERS
General Service Manager

DAW:amd

Attach.

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-18

TO DISTRIBUTORS AND DEALERS

DATE April 2, 1948

UNNECESSARY REPLACEMENT OF FUEL PUMPS

In a report received from the manufacturer of the fuel pumps used on Willys-Overland vehicles they advise that 80 per cent of the fuel pump replacements on vehicles under the warranty were not necessary or the pumps were old units on which claims should not have been made.

Before the fuel pump is replaced on a vehicle, particularly new vehicles under warranty, it should be thoroughly tested for correct pressure (3 3/4 to 4 1/2 pounds), which can be determined by using the combination vacuum and pressure gauge, C-785, listed in the Miller Manufacturing Company tool folder. All units returned for credit to the manufacturer are carefully inspected, and if found to be o.k., credit will be declined and the pump will be returned to the distributor or dealer who sent the unit in.

The whole-hearted cooperation of both distributors and dealers in the prevention of unnecessary fuel pump replacements will be appreciated.

DEAN A. WALTERS
General Service Manager

DAW/and

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO DISTRIBUTORS AND DEALERS

NO. 48-19

DATE April 2, 1948

POWER TAKE-OFF INSTALLATION ON CJ-2A JEEP

It has been found that the Bumper Spacer, Part No. 640207, two (2) required per vehicle, is advisable when installing a power take-off assembly to prevent the power take-off propeller shaft from striking the axle on full spring deflection.

A number of power take-off units, Part No. 640869, Rear Power Take-off Assembly; 647043, Rear Power Take-off Complete Kit; and 640726, Power Take-off Complete Kit, have been sold through our Parts Department in which was not included the necessary Bumper Spacer, Part No. 640207, and the attaching Bolts, Part No. GM-100018, 5/16-24 x 2".

These bumper spacers and attaching bolts are available through the Parts Department and should be installed on all Jeeps in which power take-off installations have been made locally. These spacers and attaching parts are now included in kits furnished by the Parts Department.

The necessary bumper spacer has been installed on all Jeeps equipped with Factory installed power take-offs; therefore, these Jeeps will not require any further attention.

DEAN A. WALTERS
General Service Manager

DAW/amd

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-20

TO DISTRIBUTORS AND DEALERS

DATE April 16, 1948

MODEL CJ-2A HYDRAULIC PUMP AND LIFT

Before placing orders with the factory for Monroe Hydraulic Pump and Implement Lift equipment, the requirements of each individual vehicle must be carefully analyzed.

Material required for installation of Hydraulic Pump and Lift equipment on vehicles before Serial No. 178936:

1 Front End Conversion Kit	Part No. 646679
1 Hydraulic Pump and Lift Kit complete	" " 646377
Heavy Duty 10 Leaf Front Springs and Clips (If vehicle is not so equipped)	

After Serial No. 178936:

1 Hydraulic Pump and Lift Kit complete	Part No. 646377
1 Draw Bar Kit (If vehicle is not so equipped)	" " 640528
1 Governor Kit (If vehicle is not so equipped)	" " 645313

When the Monroe Hydraulic Pump and Implement Lift is sold, regardless of production date of the vehicle, it is urgently recommended that the following additional kits be sold if possible. The increased satisfaction and utility will be well worth the additional cost.

Part No. 647184 - Quick Disconnect Hose Fitting Set - Very convenient and desirable.
Part No. 640724 - Front Bumper Weight.
Part No. 642855 - Propeller Shaft Weed Guard for Semi-floating Rear Axle (After Serial No. 13453). OR
Part No. 641744 - Propeller Shaft Weed Guard for Full-floating Rear Axle (Before Serial No. 13453).
Part No. 645864 - (2 required) Heavy Duty Rear Springs, which require four Spring Clips, Part No. 642987, for the semi-floating type rear axle (After Serial No. 13453) or four Spring Clips, Part No. A-8578, for the full-floating type rear axle (Before Serial No. 13413).

Before selling or ordering the heavy-duty rear springs, check the spring equipment on the vehicle for many vehicles were so equipped in production. The heavy-duty springs have eleven leaves.

Attached is a parts list of the Hydraulic Pump and Lift Equipment.

DEAN A. WALTERS
General Service Manager

DAW/amd
Attach.

April 5, 1948

HYDRAULIC PUMP AND IMPLEMENT LIFT KIT

FOR VEHICLES BUILT AFTER SERIAL NO. 178936

1 No. 646377 KIT, HYDRAULIC PUMP AND IMPLEMENT LIFT, COMPLETE

Includes:

- 1 No. 646676 LIFT, IMPLEMENT, COMPLETE
- 1 No. 646675 UNIT, HYDRAULIC, COMPLETE

No. 646676 LIFT, IMPLEMENT, COMPLETE

Includes:

- 1 No. 646696 DRAWING, installation, implement lift
- 1 No. N.P.N. INSTRUCTION, body drilling for implement lift
- 1 No. 646639 SUPPORT, back, main housing
- 2 No. GM-119910 BOLT, hex, hd. 7/16"-20 x 1-1/2") (Back
- 1 No. 53143 BOLT, hex, hd. 7/16"-20 x 1") (support
- 2 No. 52164 NUT, hex, 7/16"-20) (to
- 3 No. 53044 LOCKWASHER, 7/16") (frame)
- 1 No. 646645 ANGLE, mounting, assembly
- 1 No. 53143 BOLT, hex, hd. 7/16"-20 x 1") (Mounting
- 2 No. 53050 BOLT, hex, hd. 5/16"-24 x 1") (angle
- 1 No. 52164 NUT, hex, 7/16"-20) (to
- 1 No. 53044 LOCKWASHER, 7/16") (frame)
- 1 No. 646721 PACKAGE, implement lift

No. 646721 PACKAGE

Includes:

- 2 No. 646631 BOLT, shoulder, 5/8"-18 with 3/4" O.D. shoulder for implement lift
- 2 No. GM-138559 LOCKWASHER, 5/8" int. for shoulder bolt
- 2 No. 646657 CHAIN, limit, implement lift, assembly
- 1 No. 646650 CYLINDER and HOUSING, implement lift, assembly
- 3 No. 646654 BOLT, hex, hd. 1/2"-13 x 1-3/4", pointed) (Cylinder and Housing to
- 3 No. GM-123174 LOCKWASHER, 1/2") (Mounting Brackets)
- 1 No. 646651 LEVELING, left side, assembly
- 1 No. 646661 LINK, implement lift, lower left, assembly
- 1 No. 646662 LINK, implement lift, lower right, assembly
- 1 No. 646646 LINK, implement lift, upper, assembly
- 2 No. 646641 MOUNTING, clevis lower

No. 646721 PACKAGE (Cont'd.)

2 No. 646635	BOLT, hex, hd. 5/16"-18 x 1-1/2" drilled)	(Clevis mounting to
2 No. 53187	NUT, hex, 5/8"-18 slotted) (draw
2 No. 52944	PIN, cotter, 5/32" x 1-3/8") (bar)
2 No. 646637	PIN, clevis, implement lift, draw bar	
1 No. 646636	PIN, implement lift, upper	
1 No. 646632	PIN, implement lift, upper lifting link	
2 No. 646630	RING, snap, implement lift	
3 No. 646635	RING, and PIN, implement lift, assembly	
1 No. 646642	ROD, implement lift, right side, assembly	

1 No. 646675 UNIT, HYDRAULIC, COMPLETE

Includes:

1 No. 646695	DRAWING, installation, hydraulic unit	
1 No. 646633	DRIVE, flexible, hydraulic unit	
1 No. 646644	HOSE, pressure, hydraulic 19-7/8" long	
1 No. 646640	HOSE, suction, hydraulic 19-1/2" long	
1 No. N.P.N.	INSTRUCTION, body drilling, hydraulic unit	
1 No. 646648	PUMP and SUPPORT, hydraulic unit, assembly	
6 No. GM-115705	BOLT, hex, hd. 5/16"-18 x 1-1/4" (Support and Oil Pan to Cyl. Block)	
1 No. 646653	RETAINER, hydraulic tube	
1 No. GM-106696	SCREW, truss head, No. 10-24 x 1/2" (Clip to	
1 No. 53386	NUT, hex No. 10-24) (air cleaner
1 No. 52221	LOCKWASHER No. 10) (shield)
1 No. 646647	TANK and VALVE, hydraulic assembly	
4 No. GM-123438	BOLT, hex, hd. 1/4"-28 x 5/8" (Tank and	
4 No. GM-427315	NUT, hex, 1/4"-28) (valve to
4 No. 53058	LOCKWASHER 1/4") (floor)
1 No. 646638	TUBE, hydraulic pressure line	
1 No. 646643	TUBE, hydraulic suction line	

Optional equipment provided for quick disconnection of hydraulic lines from control and valve unit for the Monroe Hydraulic Implement Lift.

1 No. 647486 SET, QUICK DISCONNECT FITTINGS

Includes:

1 No. 647480	PLUG, disconnect (3/8" female)
1 No. 647481	PLUG, disconnect (1/4" male)
1 No. 647479	SOCKET, disconnect (3/8" male)
1 No. 647482	SOCKET, disconnect (1/4" female)

1 No. 646679 KIT, FRONT END CONVERSION FOR MONROE HYDRAULIC PUMP AND IMPLEMENT LIFT (Cont'd.)

- 1 No. A-8289 CLIP, front spring, 3-5/16" wide
- 1 No. 638513 NUT, crankshaft pulley
- 1 No. 646698 PULLEY, drive, fan and governor
- 2 No. 646671 SPACER, front axle bumper
- 2 No. 645548 SPRING, front assembly

Optional equipment provided for quick disconnection of hydraulic lines from control and valve unit for the Monroe Hydraulic Implement Lift.

1 No. 647486 SET, QUICK DISCONNECT FITTINGS

Includes:

- 1 No. 647480 PLUG, disconnect (3/8" female)
- 1 No. 647481 PLUG, disconnect (1/4" male)
- 1 No. 647479 SOCKET, disconnect (3/8" male)
- 1 No. 647482 SOCKET, disconnect (1/4" female)

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-21

TO ALL DISTRIBUTORS AND DEALERS

DATE April 26, 1948

MODEL CJ-2A STEERING BELL CRANK SHAFT LOCK

A more satisfactory service type Steering Bell Crank Lock is now available for the Model CJ-2A. This lock consists of a threaded tapered pin, a special washer to obtain flat seating of the retaining nut, a lockwasher and retaining nut.

The following parts are required to complete the installation in one vehicle:

- 1 - No. 645421 Bell Crank Tapered Lock Pin
- 1 - No. 645430 Special Washer
- 1 - No. 52708 Lockwasher
- 1 - No. 54243 Hex Nut - 3/8"

To install these parts, first drive out the old pin: align the flat on the new pin with the flat on the bell crank shaft and drive the new pin into place. Position the special washer over the end of the pin, seating it against the bell crank support bracket with the outer face forming the flat seat for the nut and lockwasher. Install the lockwasher and nut drawing the nut tight.

DEAN A. WALTERS
General Service Manager

and

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-22

TO ALL DISTRIBUTORS AND DEALERS

DATE April 27, 1948

MODEL CJ-2A HARRISON HEATER

Effective with Model CJ-2A, Serial No. 181175, a more efficient heater was adopted. This heater is supplied as a kit under Part No. 669747. Installation is made on the right side of the dash under the cowl. Knock-out plugs are provided to facilitate installation on all vehicles produced after the above-mentioned serial number.

To make the installation on later type vehicles equipped with knock-out plugs, first remove the three plugs at the lower right hand end of the dash. Remove the lower left and the upper right clinch nuts used for attachment of the air cleaner. Mount the heater on the dash with the two upper studs passing through the two air cleaner brackets to attach both the air cleaner and heater. Tighten the three attaching nuts securely. Connect the hose from the upper heater connection to the water pump and the other hose to the connection at the rear end of the cylinder block. Use the twin clamp to support the hoses against the right fender splashers, locating it to eliminate the slack in the hoses and to provide clearance between the lower hose and the air cleaner.

The electrical connections are made in the conventional manner. Mount the switch directly below the hand brake handle.

As a guide when drilling the dash of vehicles not equipped with knock-out plugs, use the attached template, which is self-explanatory.

DEAN A. WALTERS
General Service Manager

DAW:amd
Attach.

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 48-23

DATE April 29, 1948

NOVI GOVERNOR SERVICE

In order to facilitate warranty and service repairs on Novi governors, the following policy and procedure will be observed.

Novi governors, which require service or parts replacements, are to be shipped, transportation charges prepaid, direct to the Manufacturer, Novi Equipment Company, Novi, Michigan.

If, due to defective material or poor workmanship on the part of the manufacturer, the governor should fail within ninety days or 4,000 miles, the governor will be repaired or replaced at the discretion of the manufacturer, without charge, and shipped to the sender f.o.b. Novi, Michigan.

If a governor requires repairs which are not the responsibility of the manufacturer, or if they are required between the expiration of the warranty and a maximum period of two years, the manufacturer will repair the unit at a fixed charge f.o.b. Novi, Michigan. In this event, your check in the amount of \$5.00 should be mailed to the manufacturer with a letter advising them of the shipment and the attention required.

The manufacturer will not be responsible for repairs required because of lack of proper lubrication, abuse or damage even though this condition should occur during the warranty period. In such event, any repairs will be performed at the fixed charge of \$5.00 f.o.b. Novi, Michigan.

Please observe this Service Policy and handle all Novi governor repairs direct with the manufacturer.

DAW:mad

DEAN A. WALTERS
General Service Manager

"America's Most Useful Vehicles"

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 48-26

DATE May 20, 1948

MONROE HYDRAULIC SYSTEM OIL SUPPLY TANK

It has come to our attention that in some cases there is a slight build up of pressure in the Monroe Hydraulic System oil supply tank.

As a precaution it has been decided to vent these tanks to atmospheric pressure. This will be done in production at an early date, however, we feel that tanks on vehicles in the field should also be vented. This may be accomplished by drilling a No. 50 drill size hole through the edge of the tank filler neck directly below the filler cap gasket seat. Position the hole so that it will be covered by the flanged edge of the filler cap.

DEAN A. WALTERS
General Service Manager

DAW:amd

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WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-27

TO ALL DISTRIBUTORS AND DEALERS

DATE May 25, 1948

VEHICLE CHANGES AND INFORMATION

The following information should be made available to all personnel concerned:

CARBURETOR - To eliminate the possibility of the gasket between the governor and carburetor, being installed so it would extend into the throat opening, on the Model 2WD and 4WD, Part No. 646059, Carburetor Gasket supersedes Part No. 630889. Effective with Model 2WD, Serial No. 15576, when velocity type governor is used on Model 4WD, Serial No. 15870 on February 27, 1948.

OVERDRIVE - To prevent the overdrive wiring harness being pinched and shorted between the cylinder head and dash, a new Overdrive Wiring Harness, Part No. 646952, supersedes Part No. 646209. Part No. 646953 Coil Negative Terminal to Kickdown Switch "B" Terminal Cable supersedes Part No. 646249; Part No. 646954 Relay Solenoid Terminal to Overdrive Solenoid No. 4 Cable supersedes Part No. 646250 and Part No. 646955 Relay Ignition Terminal to Kickdown Switch "A" Terminal Cable supersedes Part No. 646251. Effective with Model 4-63, Serial No. 58265 on March 1, 1948.

TRANSMISSION - The transmission in the Model 4-63, Sedan Delivery, has been changed by having a housing and main shaft extended to the same length as the overdrive type transmission so the same propeller shaft and speedometer cable may be used on all Model 4-63 vehicles. Effective with Model 4-63, Sedan Delivery vehicle Serial No. 59197 on March 8, 1948.

FUEL PUMP - A special front bolt, Part No. 645487, supersedes Part No. 644396 to mount the fuel pump on the cylinder block of the Model 2WD and 4WD to facilitate removal and replacement. Effective with Model 2WD vehicle Serial No. 16063 and on Model 4WD vehicle Serial No. 16416 on March 11, 1948.

WHEEL STUD NUT AND WRENCH - The nuts on the Model CJ-2A, 2WD and 4WD were changed to the same size as used on the Model 4-63 so as to standardize this part, also the bend of the Model 4-63 wheel nut wrench was reduced from 6" to 5" and a new one made available for Model CJ-2A, 2WD and 4WD (same as Model 4-63 except length of handle). Part No. 645609 Wheel Nut Socket Wrench supersedes Part No. A-348; Wheel Nut (L.H. thread) Part No. 636035 supersedes Part No. 641952 and Wheel Nut (R.H. thread) Part No. 635516 supersedes Part No. 641953. Effective with Model CJ-2A vehicle Serial No. 168642 on February 3, 1948; Model 2WD Serial No. 14887 and Model 4WD Serial No. 15132 on February 9, 1948; also used on Model 2WD Serial No. 14687 to 14721 inclusive and Model 4WD Serial No. 14972 to 14979 inclusive. The change in the Model 4-63 Wheel Nut Wrench Part No. 635517 became effective on Model 4-63 Serial No. 59240, and on Model 6-63 Serial No. 10652 on March 8, 1948.

HORN - The horn cable contact brush and contact ring on the steering gear was discontinued and the cable brought out through the bottom of the steering gear by using a steering gear end cover and tube assembly on Model CJ-2A. Effective with Model CJ-2A Serial No. 178361 on March 15, 1948, also used on Serial No. 178317.

"America's Most Useful Vehicles"

VALVE - The valves and valve spring retainers were changed to facilitate assembly on Model 6-63 engines. Part No. 646993 Inlet Valve supersedes Part No. 643335; Part No. 646994 Exhaust Valve supersedes Part No. 643336; Part No. 646995 Valve Spring Retainer - lower, supersedes Part No. 642556 and Part No. 646996 Valve Spring Retainer - lower lock, supersedes Part No. 643334. Effective with Model 6-63 Engine No. 10932 on March 22, 1948.

CLUTCH LEVER - The clutch release lever fulcrum length was increased to give greater clutch plate separation; the Part No. 630068 was not changed. Effective with Model CJ-2A vehicle Serial No. 180117; Model 4-63 vehicle Serial No. 60611, Model 6-63 vehicle Serial No. 10858; Model 2WD vehicle Serial No. 16353 and on Model 4WD vehicle Serial No. 16899 on March 19, 1948.

OIL LEVEL INDICATOR ROD - The marking on the oil level indicator rod Part No. 64550 was changed, to agree with five quart oil level in the six cylinder engine. The part number was not changed. Effective with Model 6-63 vehicle Serial No. 10853 on March 15, 1948.

MONROE LIFT - A front axle bumper spacer, new front shock absorbers, new heavy-duty front springs and a new fan and governor drive pulley were adopted so the Monroe Lift might be installed, also necessary holes were added to the draw bar. Effective with Model CJ-2A vehicle Serial No. 178936 on March 17, 1948. The front axle bumper, heavy duty springs and shock absorbers went into production with the draw bar change and was also used on Serial No. 177910. The new fan and governor drive pulley, Part No. 646698 superseded Part No. 644548 on Model CJ-2A engine Serial No. 190234 on March 10, 1948, also used on Model 4WD starting with engine Serial No. 16787 on March 15, 1948. The new style pulley is also used on Model CJ-2A Engine No. 189949 to 189963 inclusive.

CLUTCH - A two piece clutch control linkage was adopted to eliminate clutch chatter experienced under certain operating conditions on the Model 6-63 Station Sedan. Effective with Model 6-63 vehicle Serial No. 10949 on March 25, 1948, and also used on Serial No. 10796, 10868 and 10874; adopted on Model 4-63 Serial No. 65144 on May 5, 1948, and also used on Serial No. 63557 to 63787 inclusive.

DOME LAMP - The dome lamp was reinstated in the Model 2WD and 4WD cabs beginning with Model 2WD vehicle Serial No. 17109 and Model 4WD Serial No. 18111 on April 9, 1948.

HAND BRAKE - The Model CJ-2A hand brake handle and ratchet tube have been changed to facilitate production beginning with vehicle Serial No. 183498 on April 5, 1948. Part No. 646141 Handle and Ratchet Tube Assembly supersedes No. A-15150; Part No. 646144 Ratchet Tube supersedes Part No. A-15135 and Part No. 646142 Cable and Conduit Assembly (front) supersedes Part No. 640353.

PROPELLER SHAFT - The propeller shaft, with universal joints assembled, as used on the Model 6-63 was changed from Spicer to Universal Products make; Part No. 647033 supersedes Part No. 642351 beginning with Model 6-63 vehicle Serial No. 11494 on April 21, 1948.

BRAKE MASTER CYLINDER - The master cylinder was changed from cast iron to aluminum beginning with Model 4-63 vehicle Serial No. 52903 and Model 6-63 vehicle Serial No. 10105 on January 21, 1948; on Model 2WD No. 15604 and Model 4WD No. 15983 on March 2, 1948.

CRANKSHAFT OIL SLINGER - A new oil slinger Part No. 647005 supersedes Part No. 642476 to increase the clearance to the gear cover assembly beginning with Model 6-63 Engine No. 11422 on April 15, 1948.

GAS TANK CAP - The locking type gasoline tank cap, Part No. 643644 was discontinued on the Model 4-63 and transferred to accessories furnished on demand at extra cost. The standard cap Part No. 642634 began with Model 4-63 vehicle Serial No. 61373 on March 29, 1948.

OVERDRIVE SUPPORT - The overdrive support, insulator and attaching parts, was discontinued as it was not required on the Model 4-63 and 6-63. Effective with Model 4-63 vehicle Serial No. 61919 and Model 6-63 vehicle Serial No. 11090 on April 1, 1948.

SHOCK ABSORBER - The shock absorber bushing rubber specifications were changed to give the part increased life, without changing the part number. Effective with Model CJ-2A vehicle Serial No. 180684; Model 4-63 No. 60879; Model 6-63 No. 10896; Model 2WD No. 16435 and Model 4WD No. 17051 on March 22, 1948.

BATTERY - A reinforcement, Part No. 669492, was added to the front side of the dash panel at the battery support brackets for added strength on the Model 4-63 Sedan Delivery, beginning with vehicle Serial No. 62100 on April 3, 1948.

SPARE TIRE - The spare tire mounting on the Model CJ-2A was changed from the right to the left side to comply with the law in a few States. This change became effective with vehicle Serial No. 176061 on March 3, 1948, with some exceptions. This change was not advantageous causing too much concentration of weight on the left side of the vehicle (off-set engine, steering gear, fuel tank and driver) causing it to set low so the right hand mounting was readopted beginning with vehicle Serial No. 185769 on April 14, 1948, with certain exceptions. A spare wheel mounting kit is now available under Part No. 670504 to mount the wheel on the tail gate in States where this is required.

HEAT CONTROL - A new heat control valve bi-metal spring, Part No. 647042 supersedes Part No. 637208 to provide a spring which will stand a higher degree of heat without taking a set. Effective with Model CJ-2A, Engine No. 200201; Model 4-63 Engine No. 64378; Model 2WD Engine No. 17598 and Model 4WD Engine No. 18887 on April 20, 1948.

HORN - To standardize production, the same horn, Part No. A-17715 horn assembly (Auto-Lite) or Part No. 645461 horn assembly (Sparks-Worthington), were adopted for the Model CJ-2A, 2WD and 4WD starting with Model CJ-2A Serial No. 191720; Model 2WD No. 16120 and Model 4WD No. 16551 on March 12, 1948.

REMOTE CONTROL - Reference is made to Service Bulletin No. 48-15, second paragraph; change Part No. 645596 to 645597 and Part No. 640603 should be changed to No. 640604. Part No. 645467 steering remote control shaft assembly supersedes Part No. 645911 and Woodruff key Part No. 50768 is superseded by Part No. GM-141190 dowel pin.

SPRINGS -(CORRECTION) - In Service Bulletin No. 48-15, the third paragraph should read "and Part No. 645864 heavy-duty rear spring supersedes Part No. A-15728 (heavy-duty rear spring)." These rear springs are furnished only when ordered on the vehicle.

The Model CJ-2A vehicle and engine numbers apply to Toledo built vehicles; Pacific Coast vehicles should be checked individually for changes.

DEAN A. WALTERS
General Service Manager

SERVICE BULLETIN

NO. 48-28

TO ALL DISTRIBUTORS AND DEALERS

DATE June 15, 1948

MONROE HYDRAULIC LIFT

Since the issuance of Service Bulletin No. 48-20, there have been certain changes made in the ordering and servicing of Monroe Lifts, both when installed at our factory and in kit form from our Parts Department. In order that there may be no confusion, the following information should be carefully noted by all concerned. Service Bulletin No. 48-20 is no longer effective and is superseded by the following information.

As stated in Sales Bulletin No. 48-19, the Monroe Auto Equipment Company, Monroe, Michigan, has taken over the warranty responsibility and the supplying of spare and replacement parts, parts books and maintenance manuals, both for factory installed units and kits furnished as an accessory installation. Any questions about difficulty with the lift or service, should be directed to the lift manufacturers. All inquiries and follow-ups on replacement parts orders originally placed with Willys-Overland should be directed to Monroe Auto Equipment Company, Monroe, Michigan.

Only one kit is required to obtain the hydraulic pump and implement lift complete for any Model CJ-2A Jeep, and should now be ordered direct from Monroe Auto Equipment Company, Monroe, Michigan, under their Part No. 60003. If quick disconnecting fittings are desired they are obtainable as a kit under Monroe Part No. 60213.

The following Jeep parts will be furnished in each hydraulic lift kit by Monroe Auto Equipment Company:

- 1 Part No. 60534 - Fan and Governor Drive Pulley (W.O. #646698)
- 1 Part No. 60535 - Crankshaft Pulley Nut (W.O. #638513)
- 2 Part No. 60594 - Front Axle Bumper Spacer (W.O. #646671)
- 4 Part No. GM 428423 - Axle Bumper and Spacer to Frame Bolt (G.M. #428423)

If the installation is to be made on a Jeep prior to vehicle Serial No. 178936, Front End Conversion Kit, Willys-Overland Part No. 646679 should be ordered from the Willys-Overland Parts Department through your Distributor. This kit consists of the following listed parts:

- 2 W.O. Part No. 646658 - Front Shock Absorber Assembly
- 3 W.O. Part No. A-8291 - Front Spring Clip (2-3/4" wide)
- 1 W.O. Part No. A-8289 - Front Spring Clip (3-5/16" wide)
- 2 W.O. Part No. 646648 - Front Spring Assembly (eleven leaves)

These parts may be ordered individually if an examination of a particular vehicle indicates that some of them have been installed.

June 15, 1948

If the vehicle, on which the lift is to be installed is not equipped with a governor and hand control governor kit, Willys-Overland Part No. 645313 should be ordered. If the vehicle is not equipped with a draw bar, it will be necessary to install Draw Bar Kit, Willys-Overland Part No. 640528. Bumper Bar Weight, Willys-Overland Part No. 640724, should be installed to assure equalized the traction of the front and rear wheels under high draw bar pull. Propeller Shaft Weed Guard Kit, Willys-Overland Part No. 641760, should be installed on both semi-floating and full-floating rear axle jobs.

The serial numbers given apply to Toledo built vehicles only; Pacific Coast vehicles will have to be checked individually.

DEAN A. WALTERS
General Service Manager

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WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-29

TO ALL DISTRIBUTORS AND DEALERS

DATE June 15, 1948

MONARCH GOVERNOR SERVICE

In order to facilitate warranty and service repairs on Monarch governors, the following policy and procedure will be observed.

Monarch governors, which require service or parts replacements, are to be shipped, transportation charges prepaid, direct to the Manufacturer, Monarch Governor Company, 1832 West Bethune Avenue, Detroit 6, Michigan. If, due to defective material or poor workmanship on the part of the manufacturer, the governor should fail within ninety days or 4,000 miles, the governor will be repaired or replaced at the discretion of the manufacturer, without charge, and shipped to the sender f.o.b. Detroit, Michigan.

If a governor requires repairs which are not the responsibility of the manufacturer, or if they are required between the expiration of the warranty and a maximum period of two years, the manufacturer will repair the unit at a fixed charge f.o.b. Detroit, Michigan. In this event, your check in the amount of \$5.00 should be mailed to the manufacturer with a letter advising them of the shipment and the attention required.

The manufacturer will not be responsible for repairs required because of lack of proper lubrication, abuse or damage even though this condition should occur during the warranty period. In such event, any repairs will be performed at a fixed charge of \$5.00 f.o.b. Detroit, Michigan.

Please observe this Service Policy and handle all Monarch governor repairs direct with the manufacturer.

DEAN A. WALTERS
General Service Manager

DAW:en

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WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 48-36

DATE July 22, 1948

KING-SEELEY (HANDY) GOVERNOR SERVICE

In order to facilitate warranty and service repairs on King-Seeley (Handy) Governors, the following policy and procedure will be observed.

King-Seeley governors which require service or parts replacement are to be shipped, transportation charges prepaid, direct to the nearest King-Seeley governor central distributor (see attached Service Station Directory).

WARRANTY: If a governor fails within 90 days, or 4,000 miles, whichever occurs first, due to defective material or poor workmanship on the part of the manufacturer, it will be repaired, or replaced, at the discretion of the authorized King-Seeley distributor, without charge, and shipped to the sender f.o.b. authorized central distributor. Warranty returns should be accompanied with a true statement of the mileage and/or date of delivery of the vehicle to the original purchaser, and a description of the nature of the defect, or defective operation, in as complete detail as possible.

Service required beyond the warranty period will be performed by the authorized King-Seeley central distributor on his regular time and material basis. These distributors are equipped with King-Seeley factory calibration machines, and staffed with trained personnel for this service.

The manufacturer, through the authorized distributors, will not be responsible for repairs required because of abuse, damage, or tampering, even though this condition may occur within the warranty period.

Please observe this service policy and handle all King-Seeley (Handy) Governor service direct with the authorized King-Seeley distributors.

DEAN A. WALTERS
General Service Manager

Attach.

DAW:ceg

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-43

TO ALL DISTRIBUTORS AND DEALERS

DATE August 31, 1948

VEHICLE CHANGES AND INFORMATION

The following information should be made available to all personnel concerned:

DRAIN TUBE - The crankshaft rear bearing drain tube, Part No. 630294, has been removed because it is not required with the crankcase ventilating system. Effective with Model CJ-2A Engine Serial No. 207665; Model 4-63 Engine No. 67053; Model 2-WD Engine No. 18421; Model 4-WD Engine No. 20767 on May 17, 1948.

STEERING KNUCKLE BEARING - The steering knuckle bearing, Part No. 639640, with a vertical grease fitting is now equipped with an angle fitting to provide easier access. The revised bearing and fitting assembly carries Part No. 647018. Effective with Model 4-63 Vehicle Serial No. 64819 and on Model 6-63 Serial No. 11682 on April 29, 1948.

CHOKE CONTROL - To standardize the choke control on the Model 4-63, 2-WD and 4-WD, Part No. 646258 supersedes Part No. 643802. Effective with Model 4-63 Vehicle Serial No. 63151; on Model 2-WD Serial No. 17209 and Model 4-WD Serial No. 18178 on April 13, 1948.

FRONT SPRING - A new front spring and front spring clip plate went into production to improve the mounting and assure positive positioning and clamping of the spring in Model 4-63 and 6-63. Part No. 646626 front spring supersedes Part No. 645696; Part No. 646605 spring clip plate supersedes Part No. 641020. (A heavy duty spring Part No. 647094 (Export only) supersedes Part No. 646159.) Effective with Model 4-63 Vehicle Serial No. 65974 and Model 6-63 Serial No. 12098 on May 13, 1948.

DRAIN TROUGH - A drain trough, Part No. 670345, is now attached under the hood hinge of the Model CJ-2A to prevent water from the cowl dripping into No. 4 spark plug well. A seal strip, Part No. 669709, is used between the seal and the cowl. Effective with Model CJ-2A Vehicle Serial No. 193800 on May 18, 1948.

WHEEL TRIM RINGS - A new wheel trim ring, Part No. 647006, is now available to fit the 15 x 4½"-"K" ring wheel in place of ring, Part No. 643173, made for the 15 x 4.00 - "E" wheel. The new ring will fit the present wheels on the Model 4-63 and 6-63 and can be used for service on both wheels. Effective with Model 4-63, Vehicle Serial No. 65455 and on Model 6-63, Serial No. 11868 on May 6, 1948.

DRIVER'S SEAT - The adjustable driver's seat (with seat track) as used on the Model 6-63 was adopted for the Model 4-63 Station Wagon instead of the manual type. Effective with Model 4-63, Vehicle Serial No. 65105 on May 3, 1948. (Serial No. 65291 on May 5, 1948 for right-hand steer cars.)

TIRES - 6.70 x 15 - 4 ply black super-cushion tires on Model 6-63 have been adopted instead of 6.00 x 15. Part No. 646870 rim and disc assembly (15 x 4½"-"K") supersedes Part No. 642705; Part No. 644365 hub cap assembly supersedes Part No. 643161. Effective with Model 6-63, Vehicle Serial No. 12183 on May 14, 1948 also used on Serial Nos. 12147, 12150-1-2, 12156, 12171, 12175 and 12176. On Model 4-63, Part No. 646705 rim and disc assembly (15 x 4½"-"K") supersedes Part No. 642705. Effective with Model 4-63, Vehicle Serial No. 66088 on May 14, 1948.

WATER PUMP SEAL - To prevent any water pump leaks, a new design water pump seal, Part No. 646731, for all four cylinder engines supersedes Part No. 640031. Effective with Model CJ-2A Engine Serial No. 203291; Model 4-63 Engine No. 65550; Model 2-WD Engine No. 18040 and Model 4-WD Engine No. 19443 on April 29, 1948.

ACCELERATOR ROD FLOOR SEAL - A redesigned seal, Part No. 646073 supersedes Part No. 642273 to permit more accelerator pedal travel. Effective with Model 4-63, Vehicle Serial No. 64317; Model 6-63, Serial No. 11581; Model 2-WD, Serial No. 17682 and Model 4-WD, Serial No. 18935 on April 26, 1948.

DISTRIBUTOR - A revised distributor and vacuum control assembly, Part No. 646715 supersedes Part No. 646160 on the Model 6-63 to avoid an electrical short during adjustment of the spark advance. This change affects Part No. 645418 ignition coil to ammeter cable which is now Part No. 640288. Effective with Model 6-63 Engine Serial No. 12448 on May 26, 1948.

BEARING CAP PACKING - To prevent oil pan leaks caused by excessive swelling of Part No. 642627 crankcase bearing cap packing - rear, the length was changed from 2-5/8" to 2-17/32", shortening the part by 3/32" with no change in the part number. Effective with Model 6-63, Engine Serial No. 11708 on April 28, 1948.

STEERING BELL CRANK - The steering bell crank was redesigned and the pin and bearing size increased from 3/4" to 7/8" for longer life. The seals were changed to get better sealing against water and dirt entering the bearings. The new bell crank avoids any twisting movement on the steering bell crank pin in the bracket and the pin is positively locked in the bracket to avoid looseness. To change over to the new style parts, it is necessary to install the frame cross member Part No. 647310, with the new bracket welded to it. Part No. 647007 steering bell crank assembly, supersedes Part No. 643577; Part No. 645664 bell crank bearing supersedes Part

No. A-857; Part No. 645663 bell crank seal supersedes Part No. A-858; Part No. 646618 steering connecting rod assembly - complete supersedes Part No. 640182. One each of the following new parts are also required:

645662 - Inner Race Spacer
GM-103347 - Washer 7/8"
GM-103345 - Washer 5/8"
GM-126025 - Nut Hex-Lock 5/8"-18 thd.
GM-106293 - Bolt 7/16"-20 x 2-1/4"
GM-103322 - Lockwasher 7/16" Std.
GM-218570 - Nut 7/16"-20 Hex

This change was effective with Model CJ-2A Vehicle Serial No. 199079 on June 11, 1948 and also used on Serial No. 198482.

AIR CLEANER - The oil bath type air cleaner, Part No. 642825, was superseded by a dry type air cleaner and silencer, Part No. 641294, as standard equipment on the Model 2-WD. The oil bath type cleaner is now extra equipment at extra cost and compulsory in some areas. Effective with Model 2-WD, Vehicle Serial No. 19307 on June 18, 1948.

FLOOR MAT - In the Model 2-WD and 4-WD the floor mat was extended in width and length to include the design and area of the scuff plates. Part No. 670069 front floor mat (2-WD - L.H.D.) supersedes Part No. 666595; Part No. 670071 front floor mat (4-WD - L.H.D.) supersedes Part No. 666597. This change went into production mixed between Vehicle Serial No. 18622 (Model 2-WD) and Serial No. 18883; and, between Model 4-WD Vehicle Serial No. 20672 and Serial No. 21645 in June, 1948.

BRAKE MASTER CYLINDER - A new type valve assembly, spring assembly and piston assembly has been adopted in the brake master cylinder Part No. A-556 on the Model CJ-2A. With this new design the rubber is prevented from blowing out of the retainer in the valve assembly and the secondary cup ring is eliminated. Part No. 647286 piston, supersedes Part No. 637591; Part No. 637584 check valve and Part No. 637587 spring and retainer are removed and Part No. 647492 valve, spring and retainer assembly is added. Effective with Model CJ-2A, Vehicle Serial No. 196662 on May 28, 1948.

RADIATOR TUBE - On the Model 4-63 the tube between the upper radiator hoses has been shortened 3" and each hose lengthened 1-1/2" to permit more flexibility and eliminate engine movement from damaging the radiator upper water box. Part No. 647643 radiator water inlet connecting tube supersedes Part No. 645922; Part No. 647644 radiator hose - upper supersedes Part No. A-6373. Effective with Model 4-63, Vehicle Serial No. 68205 on June 24, 1948. Whenever a vehicle is received for service it is recommended that the metal tube be shortened to permit more flexibility of the connections.

PANEL LIGHTS - To provide better illumination of the instrument cluster the lamp bulb was changed from No. 51 (1 cp.) to No. 55 (2 cp.). Part No. GM-125588 supersedes Part No. GM-115273 beginning with Model 4-63, Vehicle Serial No. 67036; on Model 6-63 Serial No. 12386; on Model 2-WD Serial No. 18830 and on Model 4-WD Serial No. 18806 on June 1, 1948.

August 31, 1948

TOP BOW TUBING - Rubber tubing was adopted on the Jeepster No. 1 top bow to eliminate slapping of the deck material on this bow. Part No. 671076 top bow tubing started with Model 4-63 - VJ-2A, Vehicle Serial No. 68526 on June 30, 1948.

OVERDRIVE - To protect the overdrive governor-to-manual switch wire from abrasion a 12" piece of loom has been added bearing Part No. 647151. Effective on Model 4-63 with Vehicle Serial No. 68688 and on Model 6-63, Serial No. 12836 on July 2, 1948.

WINDSHIELD WIPER - On Models 2-WD and 4-WD the passenger side windshield wiper was discontinued beginning with Model 2-WD, Vehicle Serial No. 19535 and on Model 4-WD, Serial No. 24499 on July 8, 1948.

HEATERS - The installation of heaters on the Jeep production line was discontinued with Model CJ-2A, Vehicle Serial No. 204386. These heaters are now to be available in kit form Part No. 669747 from our Parts Department.

CRANKSHAFT - The four cylinder type crankshaft assembly Part No. 646316 with two special bolts, nuts and lockwashers (for gear driven camshaft engines) is obtainable in a kit, Part No. 647078. (Caution: This shaft should not be used on chain driven camshaft engines.) Crankshaft assembly Part No. 641128 with two special bolts, nuts and lockwashers (for chain driven camshaft engines) is obtainable in a kit, Part No. 642969. The difference between the two crankshafts is in the drilled end of Part No. 641128 to lubricate the timing chain from the crankshaft front bearing. Refer to General Service Letter No. 48-12 and change the paragraph on "Crankshaft" so Part No. 646318 reads 646316 crankshaft assembly; Part No. 641127 change to 641128 crankshaft assembly.

PROPELLER SHAFT WEED GUARD - Propeller shaft weed guard kit, Part No. 641760 now is used for Model CJ-2A both full floating and semi-floating rear axle equipped jobs. Kit Part No. 641744 is discontinued.

DEAN A. WALTERS
General Service Manager

DAW:amd

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 48-44

DATE August 31, 1948

CHAIN DRIVEN CAMSHAFT ENGINES

In order to keep our production lines going in the face of a curtailed supply of camshafts for our engines, it was necessary to use 2,355 chain driven camshafts. These parts are the same as used in our engines prior to the adoption of the gear drive.

These chain driven engines are mixed in engine numbers and can be identified by the camshaft thrust plunger stud riveted into the timing chain cover.

In the Model CJ-2A production, these engines are mixed between Engine No. 212689 and Engine No. 227427 inclusive; in Model 4-63 production, between Engine No. 69270 and Engine No. 72066, and, also in the following Jeepster engines:

70304	71018
70568	71019
70969	71020

It is suggested that your Service and Parts Personnel be advised of this deviation from our standard production.

DEAN A. WALTERS
General Service Manager

DAW:amd

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 48-52

DATE September 30, 1948

VALVE TAPPET SCREW CLEARANCE

Our Engineering Department advises that on both four and six cylinder models the intake and exhaust valve tappet clearance is now being specified at .016" instead of .014".

This change is being made to be positive that there is no chance of valve trouble where engines are operated under severe conditions or at sustained high road speeds. This increased tappet clearance will encourage better valve head cooling and positive seating of the valves under all operating conditions.

If it is found that the valves are noisy when set to .016" tappet clearance, the clearance can be closed up to .014".

DEAN A. WALTERS
General Service Manager

DAW:amd

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-60

TO ALL DISTRIBUTORS AND DEALERS

DATE October 28, 1948

FRONT AXLE BUMPER SPACERS
MODEL CJ-2A

When special equipment is installed, such as the Monroe Hydraulic Pump and special drives for winches and water pumps, it has been necessary to install Front Axle Bumper Spacers, Part No. 646671, in order to prevent interference with the front axle on full spring compression.

Beginning with Model CJ-2A, Serial No. 178936, on March 17, 1948, Part No. 646671 Front Axle Bumper Spacers were installed in regular production. After this serial number, the insertion of additional spacers, when installing front power take-off drive equipment, is not necessary.

Now, due to a recent change in the Model CJ-2A frame, further use of the Front Axle Bumper Spacers is not required. This new frame started with Model CJ-2A, Serial No. 215648, on September 20, 1948. Precautions should be taken, therefore, not to install front axle bumper spacers on vehicles after this serial number, because the new frame has taken care of this requirement.

DEAN A. WALTERS
General Service Manager

DAW:mlg

"America's Most Useful Vehicle"

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-61

DATE November 10, 1948

TO ALL DISTRIBUTORS AND DEALERS

AIR DRY TOUCH-UP ENAMELS

Air dry type enamel, of all colors used in production, is available through the Factory Parts Department. It is suggested that requirements for stock be ordered in the regular way under the part numbers shown on the attached list of paints, with the code number assigned to each color.

We are also listing below a list of the manufacturers of all paints used. In an emergency, these paints may be secured direct from the manufacturer, manufacturer's branch or from many of his dealers, by quoting the correct code number.

Acme White Lead & Color Co.
732 Fisher Building
Detroit 2, Michigan

The Arco Company
7301 Bessemer Avenue
Cleveland 4, Ohio
(and)
Los Angeles, Calif.

Andrew Brown Company
5400 District Blvd.
Los Angeles 22, Calif.

Cook Paint & Varnish Co.
3301 Bourke Avenue
Detroit 21, Michigan

Dibble Color Company
1497 E. Grand Blvd. at Canton
Detroit 11, Michigan

Ditzler Color Division
8000 W. Chicago Avenue
Detroit 4, Michigan

E. I. DuPont de Nemours Co., Inc.
Finishes Division
General Motors Bldg.
Detroit 2, Michigan

The Glidden Company
11001 Madison Avenue
Cleveland 2, Ohio

Jones-Dabney Company, Inc.
c/o Truscon Laboratories
Caniff & GERR
Detroit 11, Michigan

Rinshed-Mason Company
5935-71 Milford Street
Detroit 10, Michigan

Zac-Lac Paint & Lacquer Co.
350 Simpson St., N. W.
Atlanta, Ga.

Automotive Finishes, Inc.
6450 Wyoming St.
Detroit, Michigan

"America's Most Useful Vehicle"

ALL DISTRIBUTORS AND DEALERS

-2-

Service Bulletin #48-61
November 10, 1948

American Lacquer Solvents Co.
Perkiomen Junction
Phoenixville, Pa.

Western Press
740 W. 10th Place
Los Angeles 15, Calif.

Sewall Paint & Varnish Co.
Div. of American Marietta Co.
1009-17 West 8th Street
Kansas City 7, Mo.

Ferbert Schorndorfer
12815 Elmwood Place
Cleveland, Ohio

DEAN A. WALTERS
General Service Manager

DAW:amd
Attach. (2)

November 10, 1948

AIR DRY ENAMEL FOR REPAINT OR TOUCH-UP JOBS
FOR ALL MODELS IN PRESENT PRODUCTION

<u>W-O Part No.</u>	<u>Description</u>	<u>Model</u>	<u>Body</u>	<u>Wheels</u>	<u>Mfg.</u>	<u>Mfg. Part No.</u>
116768	Enamel, Autumn Yellow	CJ-2A		X	Ditzler	DQE-80112
671038	Enamel, Clear Finish	6-63 S.S.			Ditzler	DCE-352
666758	Enamel, Clear Maple	4-63 S.W.	X		Jones Dabney	702
670816	Enamel, Emerald Green	CJ-2A	X		Ferbert-Schorndorfer	7516
671036	Enamel, Fiesta Yellow	4-63, VJ-2	X		Dupont	99-70930
671532	Enamel, Harbor Blue	6-63 S.S.	X	X	-	-
666759	Enamel, Harvard Red	4-WD CJ-2A 4-63 U.W.	X	X	Ditzler or Dupont	DQE-70163 99-54789
664523	Enamel, Harvest Tan	CJ-2A	X		Jones Dabney	7212
666755	Enamel, Jungle Green	4-63 S.W.	X	X	Jones Dabney	602
666677	Enamel, Luzon Red	CJ-2A 2-WD, 4-WD 4-63 P.D. 4-63, VJ-2	X X X X	X X	Ditzler or Dupont	DQE-70028 99-70138
666757	Enamel, Mahogany Brown	4-63 S.W.	X		Cook	802-R-160
666678	Enamel, Manila Blue	2-WD, 4-WD 4-63 P.D.	X X		Jones Dabney or Dupont	8223 99-70136
666760	Enamel, Michigan Yellow	CJ-2A 2-WD, 4-WD	X X		Dupont	99-54751
666754	Enamel, Normandy Blue	CJ-2A 4-63	X X		Dupont	99-70139
667723	Enamel, Olive Drab	CJ-2A 4-63 S.W.	X X	X X	Ferbert-Schorndorfer or Cook P.V.Co.	4811 832-6-375
664524	Enamel, Pasture Green	CJ-2A	X		Dupont	99-6984

<u>W-O Part No.</u>	<u>Description</u>	<u>Model</u>	<u>Body</u>	<u>Wheels</u>	<u>Mfg.</u>	<u>Mfg. Part No.</u>
666697	Enamel, Pickett Gray	CJ-2A	X		Dupont	99-1090
671035	Enamel, Pine Green, Metallic	6-63 S.S.	X	X	Ditzler	DQE-40414
670067	Enamel, Potomac Gray	CJ-2A	X		Dupont	99-55166
666781	Enamel, Princeton Black	4-WD CJ-2A	X	X	Dupont	99-70281
		4-63, VJ-2		X		
671039	Enamel, Saranac Gray	4-63 U.S.	X		-	-
670815	Enamel, Shasta Green	4-63	X		Ditzler	DQE-40608-W
		6-63 S.W.	X			
116767	Enamel, Sunset Red	CJ-2A		X	Cook	803-R-69
666679	Enamel, Tarawa Green	2-WD, 4-WD	X		Dupont	99-70135
		4-63 P.D.	X			
644438	Enamel, Tropical Silver	2-WD, 4-WD) 4-63 S.W.) 6-63)		(ROOF ONLY)	Dupont or Rinshed Mason	612-702 DQE-50127
666756	Enamel, Tunisian Red	4-63 S.W.	X	X	Ditzler	DQE-50127
		6-63 S.S.	X	X		
		4-63 P.D.	X			
		CJ-2A		X		
670824	Enamel, Universal Beige	CJ-2A		X	Ditzler	DQE-80364
		2-WD, 4-WD		X		
		4-63 P.D.		X		
666676	Enamel, Wake Ivory	CJ-2A		X	Cook	802-1-44
		4-WD, 2-WD	X	X	or	
		4-63 P.D.	X	X	Dupont	99-70137
641240	Thinner, Gen. Purpose	ALL			Grow Solvent	GS-#2
669064	Primer Surfacer, Synthetic Sanding Air Dry	ALL			Dupont	65-1051

SERVICE BULLETIN

NO. 48-64

TO ALL DISTRIBUTORS AND DEALERS

DATE November 15, 1948

VEHICLE INFORMATION AND CHANGES

This information should be made available to Parts and Service personnel to facilitate rendering of service repairs and ordering of replacement parts.

REAR SPRING - Beginning with Model 4-63 Station Wagon and Sedan Delivery, Serial No. 72862 and Model 6-63 Serial No. 12837, Part No. 646575 eight leaf rear spring, left hand, superseded Part Nos. 644786 and 641301. Part No. 646576 eight leaf rear spring, right hand, superseded Part Nos. 644787 and 641302. This change was made to standardize on springs.

TAIL LAMP - The tail lamp and license plate brackets were redesigned so the rays from the tail lamp would illuminate the plate better. Effective with Model CJ-2A Serial No. 209951. Part No. 646594 tail and stop lamp assembly, superseded Part No. 643726, and a new bracket, Part No. 669879 was adopted. Beginning with Model 4-63 Station Wagon, Serial No. 65939, and Model 6-63 Serial No. 12076 on May 13, 1948, Part No. 664456 tail light and license bracket assembly was revised; Part No. 664799 bracket, was revised on the Model 4-63 Sedan Delivery, beginning with Serial No. 67605.

REAR SEAT - The rear seat of the Model 4-63 VJ-2 Jeepster had an offset plate added to act as an additional hinge stop to prevent the seat back from going beyond the stop, due to slight variations in the body width. A "Huglock" type nut was adopted to prevent the nut from coming off. Effective with vehicle Serial No. 71762. See General Service Bulletin No. 48-42 for the service procedure.

FRONT AXLE - A revised front axle was adopted on the Model 2WD Trucks. This axle has 1/2" longer king pin, new knuckles with king pin, bosses lengthened 1/4" and new knuckle bushings 1/4" longer to use standardized parts. Front axle assembly, Part No. 647561 supersedes Part No. 644353. Steering knuckle assembly, L.H., Part No. 647563 supersedes Part No. 644439; Part No. 647564 steering knuckle assembly R.E., supersedes Part No. 644440; steering knuckle bushing, Part No. 647567 supersedes Part No. 643783. Effective with Model 2WD Serial No. 19845.

TIRE CARRIERS - The spare tire outside stiffeners, Part No. 666036 (front) and Part No. 666077 (rear), were extended from the top of the floor to the bottom edge of the side sill to reinforce the left-hand side panel on the Model 2WD and 4WD pick-up box. Effective with Model 2WD Serial No. 19810 and Model 4WD Serial No. 25329.

TIRES - Effective with Model 2WD Serial No. 19773, 6.00 x 16 - 6 ply tires replaced 6.50 x 16 - 6 ply on the front wheels of this model. The 6.50 x 16 - 6 ply tires are continued on the spare and rear wheels.

"America's Most Useful Vehicles"

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 49-1

TO ALL DISTRIBUTORS AND DEALERS

DATE January 27, 1949

VEHICLE INFORMATION AND CHANGES

NUMBER PLATE - The vehicle serial number plate on the Jeepster has been changed from the inside of the dash to the underside of the cowl in the driver's compartment just above the glove compartment door, beginning with Serial No. 77656. This was done because the heater installation covered the plate in the previous location.

STEERING ARM - Model 2WD steering arm, Part No. 644339 supersedes Part No. 644407 on the Model 4WD to simplify service and reduce steering effort. Effective on left hand drive Model 4WD Serial No. 30174. (Part No. 644374 supersedes Part No. 644498 on right hand drive).

DASH PANEL - A reinforcement was added to the front of the dash panel at the center support brackets to strengthen the dash against vibration of the battery and supports on adverse road conditions. Part No. 669492 dash to battery box reinforcement, was added beginning with Model 4-63 Serial No. 62100. This plate is welded to the dash beginning with Model 4-63 Serial No. 68277 (Serial No. 65246 on right hand drive jobs) and on Model 6-63 Serial No. 12384.

TOP - To prevent the Jeepster top cover from flapping against the rear top bow, a fastener, Part No. 674334, was added to the bow on each side along with two studs, Part No. 666312, two eyelets, Part No. 666314 and four screws, Part No. GM-133-15. This change became effective with Model 4-63 VJ-2 Serial No. 81927.

ANTI-FREEZE - Anti-freeze specifications have been changed so vehicles are protected against an unusual turn in the weather in northern states on Haulaways and driveaways. Vehicles are now protected to 0° between October 15 and December 1, also from March 15 to April 15, From December 1 to March 15 the vehicles are protected to 10° below zero. Effective with Model CJ-2A Serial No. 221751; Model 4-63 Serial No. 83381; Model 6-63 Serial No. 13462; Model 2WD Serial No. 21631 and Model 4WD Serial No. 32569.

BRAKES - The brake shoe eccentric adjustment was changed to the type used on the Model CJ-2A to overcome "freezing" and tightening of riveted type. New type has hardened square end for the wrench and an added projection for accessibility. Effective with Model 4-63 Serial No. 82487; Model 6-63 Serial No. 13371; Model 2WD Serial No. 21470 and Model 4WD Serial No. 51969.

"America's Most Useful Vehicles"

No. 49-1

TO ALL DISTRIBUTORS AND DEALERS

January 27, 1949

CLUTCH - A softer clutch facing was adopted on the Model 4-63, 2WD and 4WD to reduce the tendency of the clutch to chatter on engagement. Part No. 648404 clutch driven plate and hub assembly supersedes Part No. 645669 beginning with Model 4-63, Engine No. 82311; Model 2WD, Engine No. 21573 and in Model 4WD, Engine No. 31371.

HAND BRAKE SPRING - On the Model 4-63 and 6-63 the hand brake retracting spring, Part No. 641728, has been shortened from 15-11/16" to 14" to provide a better return for the hand brake beginning with Model 4-63, Vehicle Serial No. 85138 and Model 6-63, Serial No. 13652. There is no change in the part number for service parts.

DEAN A. WALTERS
General Service Manager

DAW:mlz

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 49-5

DATE February 18, 1949

SERVICING OF MONROE HYDRAULIC LIFT

On June 15, 1948, in Bulletin No. 48-28, we advised you that the warranty responsibility and supplying of spare parts of the Monroe Hydraulic Lift would be handled by the Monroe Auto Equipment Company of Monroe, Michigan.

We have been advised that this activity has been transferred to their subsidiary, The Newgren Company at Butler, Pennsylvania. Therefore, all correspondence regarding this warranty, servicing, parts, etc., should be addressed to The Newgren Company of Butler.

The above is for your information.

DEAN A. WALTERS
General Service Manager

DAW:mlm

"America's Most Useful Vehicles"

SERVICE BULLETIN

NO. 49-7

TO ALL DISTRIBUTORS AND DEALERS

DATE March 14, 1949

VEHICLE CHANGES AND INFORMATION

The following information is of assistance to service and parts personnel because it gives starting points in our production and will help in the ordering of the correct service parts.

SEAT - A single unit seat has been adopted in the Model 2WD and 4WD Truck Cabs in place of the driver and separate passenger seats. This change became effective with Model 2WD Vehicle Serial No. 22346 except Serial No. 22347 to No. 22359 inclusive; No. 22361 to No. 22363 inclusive, and Serial No. 22369 and No. 22378. On Model 4WD this became effective with Serial No. 34678 except Serial No. 34680.

TAIL LIGHT - To standardize tail lights, the body of the lights are painted black and the rim is chrome. Effective with the Jeepster, Model VJ-2, Serial No. 68914; Model 2WD, Serial No. 20852; Model 4WD, Serial No. 30095; Model CJ-2A, Serial No. 224391; Model 4-63, Serial No. 85646; and Model 6-63, Serial No. 13721.

NAME PLATES - The position of the name and number plate and the name and patent plate has been reversed to facilitate attachment on the finished vehicle. Effective with Model 2WD, Serial No. 20713 and Model 4WD, Serial No. 28414.

FUEL PUMP - In view of the fuel pump manufacturer standardizing on the valve cage assemblies in their pumps the following part numbers have been changed on the Model 4-63, 2WD and 4WD pumps. On the Model 4-63, Part No. 648553 fuel and vacuum pump assembly supersedes Part No. 638929; on Model 2WD and 4WD, Part No. 648554 supersedes Part No. 644422.

CIGAR LIGHTER - An improved cigar lighter has gone into production on the Model 6-63 Station Sedan and Model VJ-2 Jeepster and is also available as an accessory from the Parts Department for other models. Part No. 672102 cigar lighter complete, started in production with Model 6-63, Serial No. 13257 and Model VJ-2, Serial No. 81478.

PAINT & TRIM - Universal beige paints replaced Wake Ivory in all places on Model 4-63, 2WD and 4WD to improve appearance. (Vynalite welt was added to seat trim and arm rests in Model 4-63 Station Wagon) effective with Model 4-63 Station Wagon, Serial No. 73335; Model 4-63 Sedan Delivery, Serial No. 73346; Model 2WD, Serial No. 20242 and Model 4WD, Serial No. 26746.

ALL DISTRIBUTORS AND DEALERS

No. 49-7
March 14, 1949

- HOSE - The lengths of the radiator outlet hoses have been changed to give more clearance from the governor belt; 3/4" was added to the 1-11/16" hose and 5/8" removed from the 9-1/2" length. Effective with Model CJ-3A, Serial No. 10755; Model 2WD, Serial No. 22860 and Model 4WD, Serial No. 36205.
- TRANSMISSION - The cane shift type transmission was adopted in the Model 2WD and 4WD vehicles. Effective with Model 2WD, Serial No. 22536 (Serial No. 22804 RHS.) and in Model 4WD, Serial No. 34787 (Serial No. 35855 RHS.).
- OVERDRIVE - A change has been made in the overdrive of the Model 4-63, VJ-2 and 6-63 to simplify and improve the unit. The forward main shaft bearing, just ahead of the speedometer and governor drive gears, has been eliminated; a spacer is substituted and the overdrive case has steady rests added. Transmission and overdrive assembly (Service) Part No. 648575 supersedes Part No. 647936. Effective with Model 4-63 Serial No. 91904 and on Model 6-63 Serial No. 14822. Effective serial on Model VJ-2 will be advised later.
- CYLINDER BLOCK - A by-pass tube has been added in the water pump by-pass channel to the cylinder block water passage at the front end to eliminate the possibility of pressure build up in the cooling system resulting in loss of coolant through the radiator overflow pipe on the Model 6-63. This change went into production on Engine Serial No. 14855.
- CRANKSHAFT GASKET - The crankshaft oil slinger gasket has been discontinued because it is not required with the timing gear type front end. Effective with Model CJ-2A Engine No. 264163; Model CJ-3A Engine No. 10503; Model 4-63 Engine No. 91129; Model 2WD Engine No. 22921 and Model 4WD Engine No. 35314.
- STEERING ARM - To use the same steering arm Part No. 644339 on the Model 4WD as used on the Model 2WD superseding Part No. 644407. Effective with Model 4WD Vehicle Serial No. 30174; Part No. 644347 steering arm, supersedes Part No. 644408 on right hand steering jobs.
- HEATER - A new Harrison heater became effective on Model 4-63 Vehicle Serial No. 94235 when ordered as extra equipment at extra cost; this change is also effective on Model 6-63 Serial No. 15611.
- ASH RECEIVER - A new relocated ash receiver and change in location of the windshield wiper knob became effective with Model 4-63 Station Wagon, Serial No. 93837; Model 4-63 Sedan Delivery, Serial No. 94212; Model 6-63 Station Wagon, Serial No. 15135; Model 6-63 Station Sedan, Serial No. 15509; Model 2WD, Serial No. 23534 and Model 4WD, Serial No. 37627. No old style ash receivers were used after the above serial numbers, however, some new style receivers were used prior to these numbers.
- WINDOW - The tail gate window division bar was reduced in width to give better vision through larger windows when using the rear view mirror. Effective with Model 4-63 Station Wagon, Serial No. 93946; Model 6-63 Station Sedan, Serial No. 15554 and Model 6-63 Station Wagon, Serial No. 15571.

ALL DISTRIBUTORS AND DEALERS

No. 49-7
March 14, 1949

CONNECTING ROD NUT - A Huglock nut was adopted on the engine connecting rod bolts for better locking of the nut effective with Model CJ-3A Engine No. 13984; Model 4-63 Engine No. 96263; Model 2WD Engine No. 24122 and Model 4WD Engine No. 38566.

STEERING COLUMN FLOOR SEAL - A new steering column floor seal to simplify assembly was adopted beginning with Model 4-63 Station Wagon Serial No. 80066 and Station Sedan Serial No. 80201, also in Model 6-63 Vehicle Serial No. 13159 except green jobs which started with Serial No. 13202.

POWER TAKE-OFF - The power take-off gear ratio in the rear unit was changed from 20-24 tooth gears to 22-22 ratio, beginning with Model CJ-3A Vehicle Serial No. 13639.

HUB CAP - To standardize hub caps the large hub cap of the Model 6-63 was adopted for the Model 4-63. Effective with Model 4-63 Station Wagon Serial No. 94583 and Model 4-63 Sedan Delivery Serial No. 94610.

OIL PAN - The oil pan design on the Model 6-63 was revised to give more clearance between the oil level and the connecting rod ends. Effective with Model 6-63 Engine No. 16346. This change affects the oil level indicator; Part No. 647767 oil filler cap and level indicator supersedes Part No. 645500.

DEAN A. WALTERS
General Service Manager

DAW:mlm

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 49-10

DATE March 31, 1949

LEAKY CYLINDER BLOCK REPORT FORM

We are having extreme difficulty in getting detailed information on complaints concerning leaky cylinder blocks.

In order that we may be in a position to give our Engineering, Production and Inspection Departments the exact location of leaks due to sand holes and other causes, it is requested that you use the attached form in reporting cylinder block defects.

We are attaching 5 copies of this form. You can be of great assistance to us if you will religiously fill in a report on each car, whether a "4" or a "6", with cylinder block difficulty, and mail the report to us promptly. This applies to vehicles within and beyond the limits of the warranty.

However this should not be construed as authority for a warranty claim against the factory - such claims must be handled through the regular channels.

DEAN A. WALTERS
General Service Manager

DAW:mlm
Attach.

"America's Most Useful Vehicles"

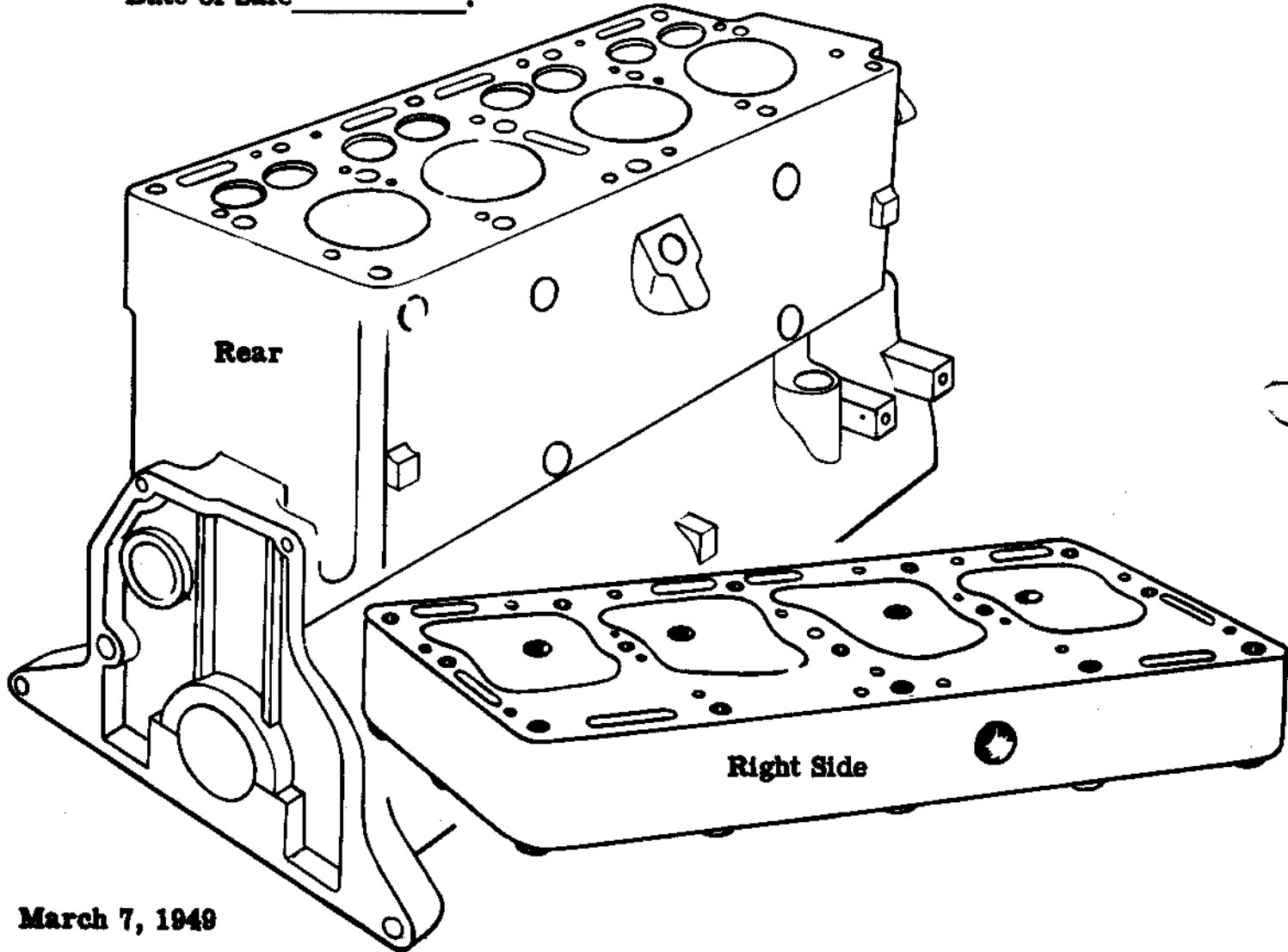
CYLINDER BLOCK OR HEAD LEAKS

For engineering information kindly mark on the sketches below (and reverse side of sheet) the location of cracks or sand holes found in cylinder blocks or heads also please fill in the serial number and mileage data.

In the case of a six cylinder engine use the four cylinder sketches but further localize crack or sand hole by indicating cylinder number.

Model _____ Serial No. _____ Engine No. _____ Mileage _____

Date of Sale _____



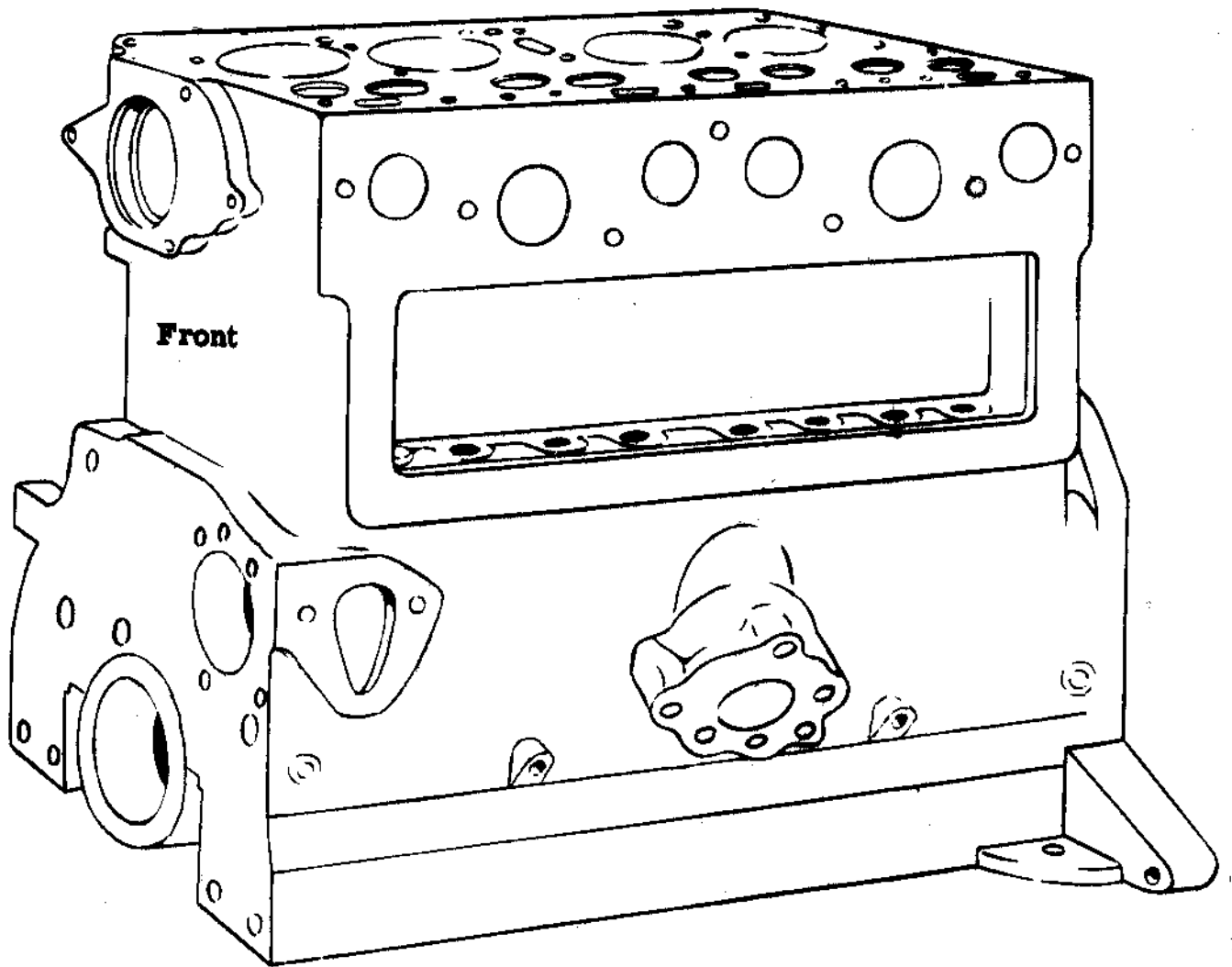
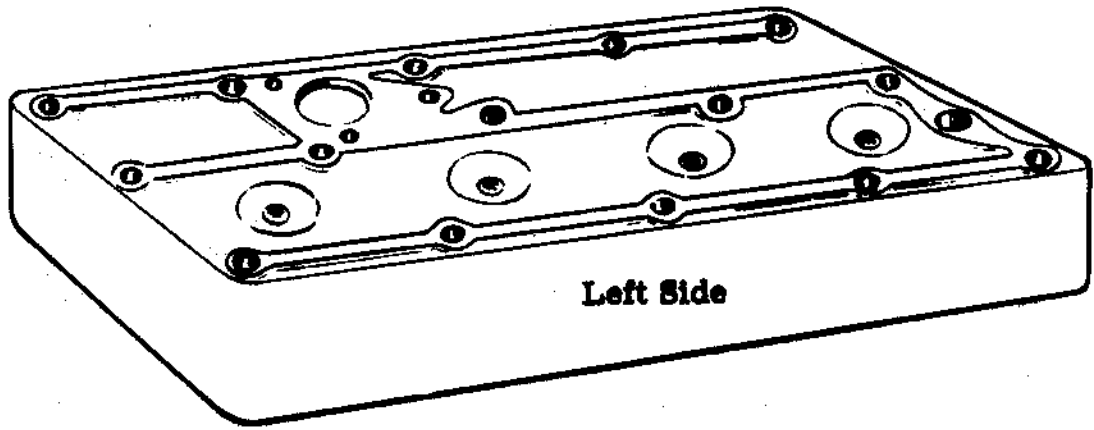
March 7, 1949

Distributor's Name _____
Address _____

Signature _____

WILLYS-OVERLAND MOTORS, Inc.

D. A. Walters
General Service Manager



SERVICE BULLETIN

NO. 49-16

TO ALL DISTRIBUTORS AND DEALERS

DATE May 2, 1949

REPLACEMENT OF 4-CYLINDER ENGINES USING PARTIAL ENGINE ASSEMBLY, PART NO. 647711

To simplify stocking of engine assemblies, we have made available a partial engine assembly, Part No. 647711, which can be used for replacement of all 4-cylinder engines of the gear-driven camshaft type.

This partial engine assembly consists of a cylinder block, crankshaft, with pistons, rings, connecting rods, valve mechanism, camshaft and timing gears. The unit is rust-proofed and enclosed in a waterproof paper envelope before shipment.

The following is a list of the external parts which must be transferred from the old engine to the new when making installation:

1. All outside units and accessories
2. Front and rear engine plates
3. Cylinder head
4. Flywheel (for installation instructions, see Mechanic's Manual, Page C-35)
5. Timing gear cover
6. Floating oil intake and oil pan
7. Oil pump assembly
8. Water pump assembly
9. When assembling, use an engine overhaul gasket set, Part No. 648590

When there is a warranty obligation and authority is received from the factory or from a factory representative to make an engine replacement, it is our desire that the above described partial engine assembly, Part No. 647711, be used for replacement. Distributors are to hold the replaced engine for disposition by our field service representative when he arrives.

When using the No. 647711 partial engine assembly for replacement in a car within the limits of the warranty, and in those cases where the factory assumes the labor expense in connection with the installation, you are authorized to add five hours to the flat rate covering the installation of an engine assembly. This is the labor allowance for the time required to transfer the above-mentioned units from the faulty engine to the new replacement partial engine assembly.

D. A. WALTERS
General Service Manager

DAW:mlm

"America's Most Useful Vehicles"

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 49-21

DATE May 16, 1949

VEHICLE CHANGES AND INFORMATION

NAME PLATE

The background color on the hood side name plates has been changed from body color to black enamel. This has resulted in a change in the part numbers. Until part numbers are furnished by the Parts Department, specify background color when ordering hood name plates. Effective with Model 2WD vehicle Serial No. 21999; on Model 4WD No. 34330; on Model 4-63 S.D. No. 91203; on Model 4-63 S.W. No. 93536; on Model 6-63 S.S. No. 15681 and on Model 6-63 S.W. No. 14023.

CONNECTING ROD NUT

The Hug lock nut has been cancelled on the 4-cylinder connecting rods to eliminate stripping of threads on removal. Former connecting rod cap bolt nut Part No. 641769 and stamped nut, Part No. 3M-107828 supersedes Hug lock nut Part No. 648567, beginning with Model CJ-3A Engine No. 15478; Model 4-63 Engine No. 97103; Model 2WD Engine No. 24457 and Model 4WD Engine No. 39048.

CYLINDER BORES

To reduce piston ring wear and decrease oil consumption, the cylinder bore finish specification has been changed from 12-20 to 20-30 micro-inch. This gets away from the mirror finish cylinder wall finish and retains oil better for the lubrication of the rings. Effective with Model CJ-2A Engine No. 236872; Model 4-63 Engine No. 75207; Model 2WD Engine No. 20656; Model 4WD Engine No. 27884 and Model 6-63 Engine No. 17179. See General Service Bulletin #49-13 on Cylinder Finish.

PISTONS

The piston fit in all 4-cylinder engines has been changed from .004" clearance to .003" clearance using a thickness gauge stock .003" x 1/2" with a 5 to 10 pound pull. Effective with Model CJ-3A Engine No. 16367; Model 4-63 Engine No. 97593; Model 2WD Engine No. 24511 and Model 4WD Engine No. 39310. The Miller Manufacturing Company will now furnish their Piston Fitting Gauge and Scale Tool No. W-173 with one thickness gauge stock .003" thick for 4-cylinder engines and one gauge .0015" thick for 6-cylinder engines.

RADIATOR GUARD

A radiator guard field kit, with legal headlights, has been made available to take care of a demand to furnish replacement guards for the Military Jeep (Model MB). This kit is available under Part No. 673023.

DEAN A. WALTERS
General Service Manager

DAW:amd

"America's Most Useful Vehicles"

WILLYS OVERLAND MOTORS, INC

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 49-22

DATE May 18, 1949

AUBURN CLUTCHES

On November 29, 1948, we started using a new type Auburn Clutch Pressure Plate Assembly in production. The new assembly is equipped with Neoprene rubber inserts at the sides of the driving lugs on the pressure plate to eliminate a "seltzer" or fizzing noise when the clutch is disengaged. The friction caused by the rubber insert in some cases prevents the pressure plate from being pulled back to give a clean disengagement. A slight drag will cause the gears to grate when shifting from neutral into low or reverse.

A new flat return clip spring, Part No. 649337, formed to proper shape, has been developed which will not only insure a clean disengagement, but will also prevent the rattling or "seltzer" noise mentioned above in the older type Auburn Clutch which is not equipped with the rubber inserts.

Attached hereto is a sketch showing how to install the new return clip spring which can easily be inserted through the inspection hole in the bell housing without dismantling the clutch or any other part of the vehicle.

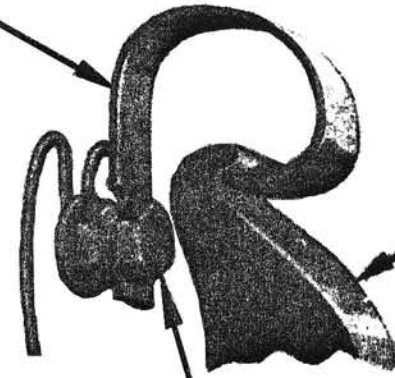
It is recommended, however, that a light thread or string be attached to the return clip springs when making installation to prevent them from dropping down into the bell housing, which will cause a waste of time in fishing them out.

Distributors should order an ample supply of these return clip springs immediately so that they can be in a position to meet their dealers' requirements. Three springs are required for each job.

DEAN A. WALTERS
General Service Manager

DAW:amd
Attach

**HALF SECTION SPECIAL CLUTCH
PRESSURE PLATE RETURN CLIP
PART NO. 649337**



**CLUTCH
RELEASE
LEVER**

**CLUTCH RELEASE LEVER
ADJUSTING SCREW**

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 49-23

DATE May 25, 1949

CLUTCH RELEASE BEARING CARRIERS
PART NOS. 637919, 639654 and 644366

Three different clutch release bearing carriers have been used in production since the Model 4-40 was produced. These parts are very similar and can be easily mixed in stock with the possibility of installing the incorrect part, which will result in the failure of the clutch to release or cause poor operation.

The possibility of mixing these carriers is increased because all three have the casting No. 637919 embossed on the side.

Sketches are attached which will enable you to correctly identify each part.

These carriers are listed below with the model vehicle on which each should be used:

Part No. 637919	Models 4-41 and 4-42 Passenger Cars
Part No. 639654)	(Models CJ-2A and 4-63. These parts
Part No. 644366)	(are interchangeable for the above two
	(models, however, when buying new stock
	(order Part No. 644366.
Part No. 644366	Models 6-63, 2-WD and 4-WD

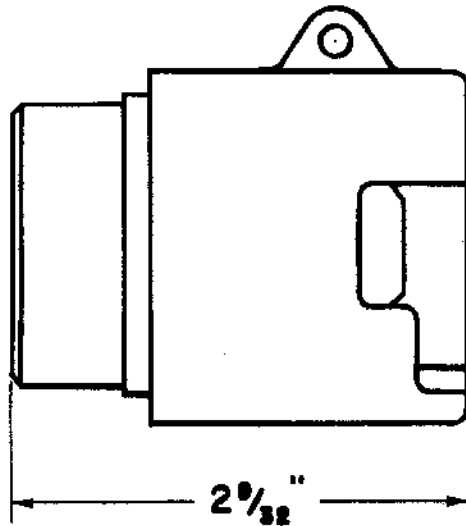
It is important that you check your stock and correctly tag these parts to avoid selling or installing the incorrect part.

DEAN A. WALTERS
General Service Manager

DAW:amd
Attach.

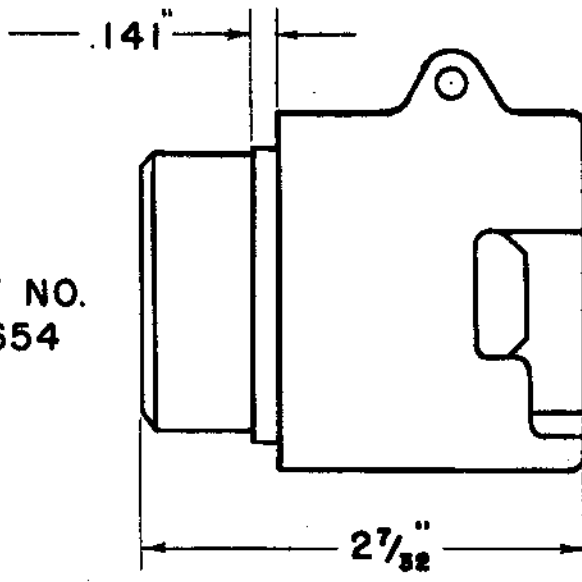
IDENTIFICATION OF CLUTCH RELEASE BEARING CARRIERS

PART NO.
637919



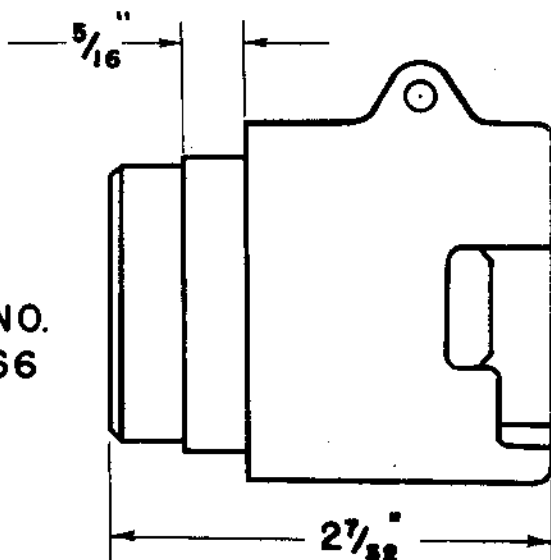
Use on Models 4-41 and
4-42 passenger cars only.

PART NO.
639654



Use optionally on Models CJ-2A
and 4-63 with Part No. 644366.
When buying new parts order
Part No. 644366.

PART NO.
644366



Use on Models CJ-2A, CJ-3A,
4-63, 6-63, 2-WD and 4-WD.

Dimensions of the three bearing carriers are the same
excepting those shown above. All three parts have casting
number 637919 embossed on sides.

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 49-24

DATE May 20, 1949

SPARE TIRE VIBRATION DAMPENER

In order to reduce the vibration of the spare tire on the Model CJ-3A Jeep, a hard wood spacer can be installed on the side of the body as per the attached sketches. The thickness of this block depends upon the size of the tire used on the vehicle, whether 7.00-15 or 6.00-16. The thicker block is used with the 6.00-16 tires.

Where vehicles are used in rough territory, it is suggested that you interest your owners in the installation of this vibration dampener. It can be purchased under Part No. 671158 for the 7.00 tire and Part No. 671157 for the 6.00 tire, or made locally and installed in accordance with the template attached, by using the following parts:

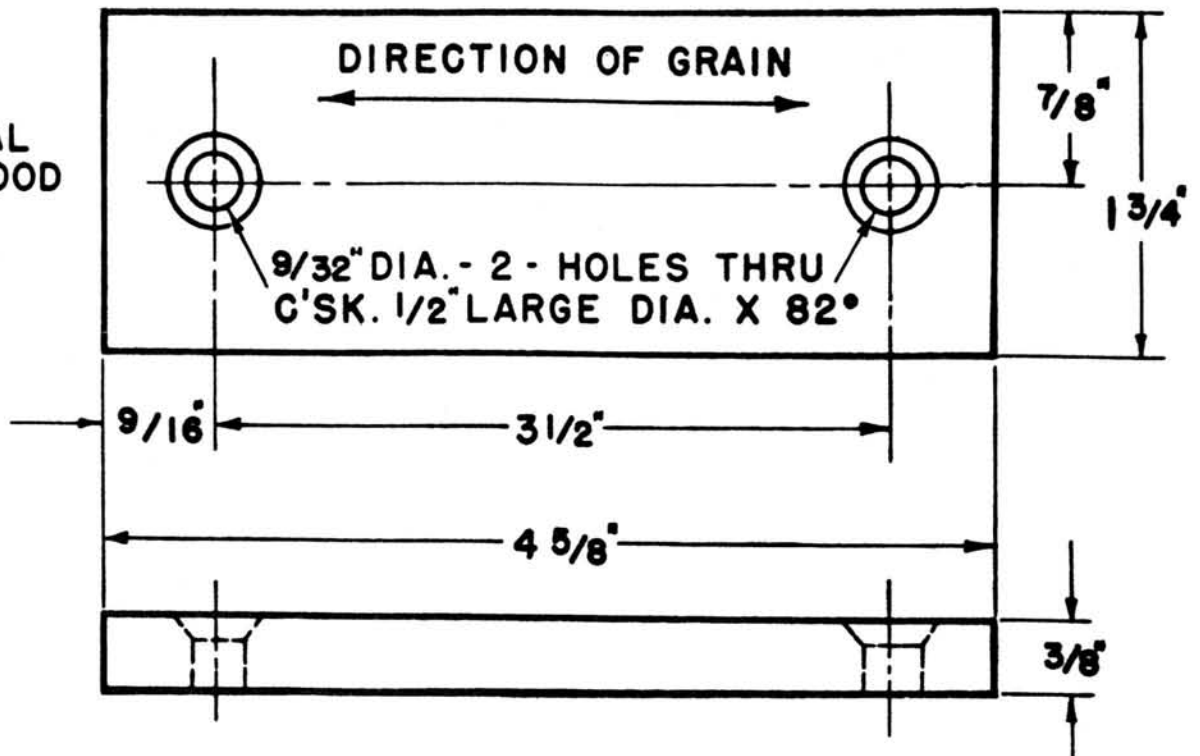
2	GM-120629	Screw	(7.00-15 tire)
2	GM-133784	Screw	(6.00-16 tire)
2	GM-120386	Washer	
2	GM-120380	Lockwasher	
2	GM-120375	Nut	

This installation can also be made on the Model CJ-2A in the same manner, using the same dimensions. The installation of this dampener will materially lengthen the life of the spare tire mounting.

DEAN A. WALTERS
General Service Manager

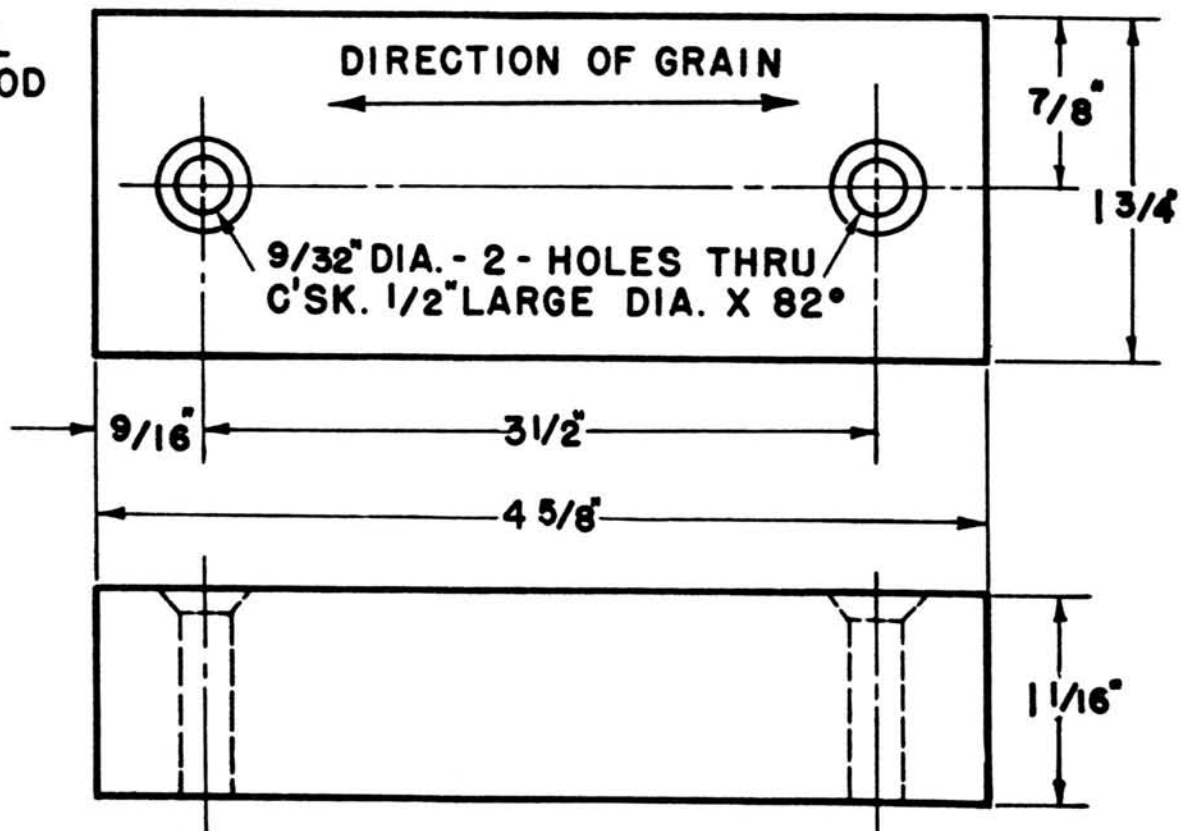
DAW:amd
Attach.

MATERIAL
HARD WOOD



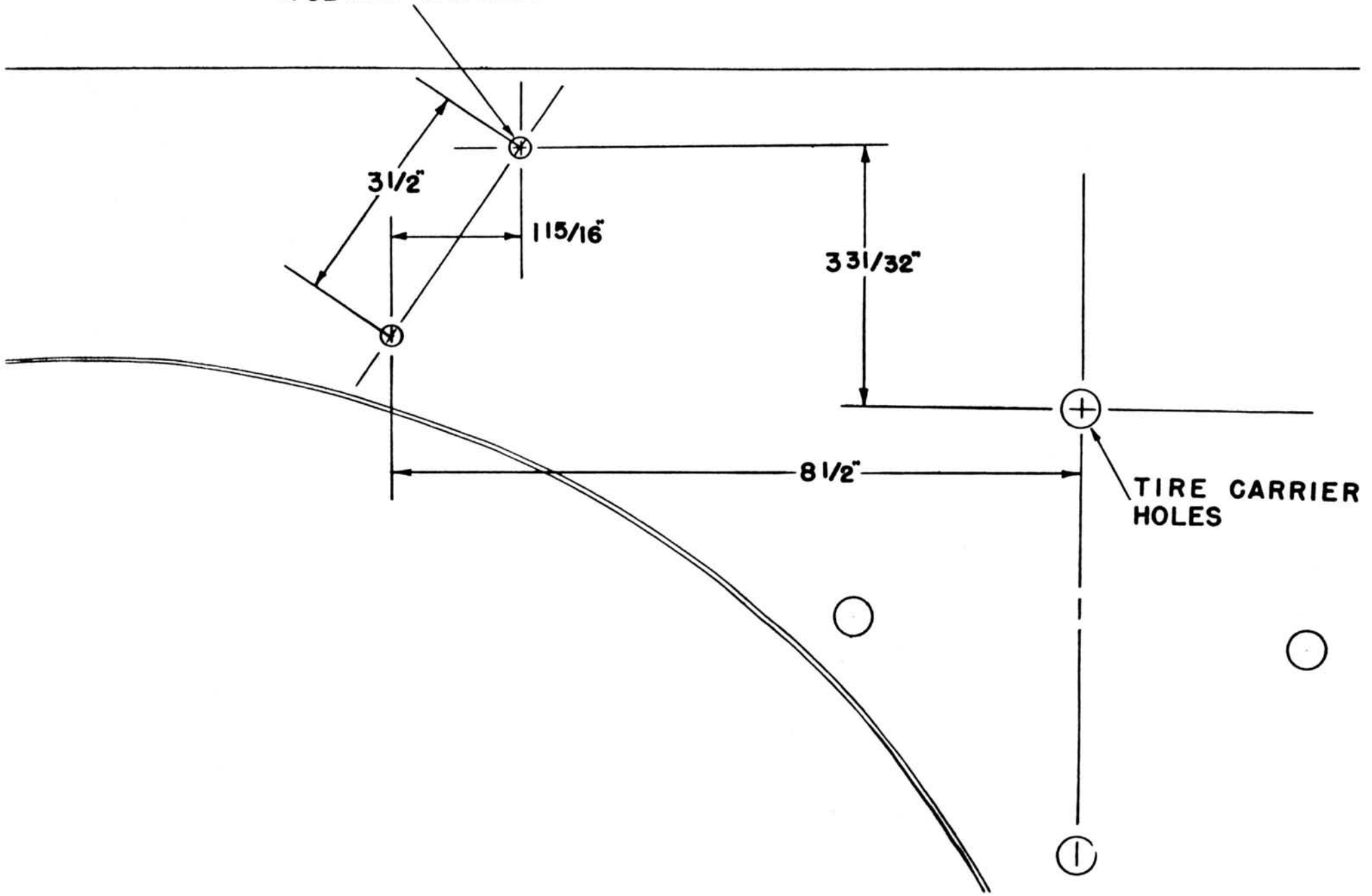
FOR 7:00 - 15 TIRES

MATERIAL
HARD WOOD



FOR 6:00 - 16 TIRES

9/32" DIA. 2 HOLES



WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 49-29

TO ALL DISTRIBUTORS AND DEALERS

DATE June 16, 1949

MODELS CJ-2A AND CJ-3A DRAW BAR

It has come to our attention that in some cases, when vehicles are used for exceptionally hard service, draw bar support straps have pulled from the frame intermediate cross member, resulting in the draw bar being damaged or pulled from the vehicle.

This condition has been corrected in production by changing the attaching bolts from 3/8" to 9/16" and the use of an additional reinforcing plate at each attaching point. It was also found that the standard nuts with lockwashers will loosen slightly to increase the trouble, so they have been superseded by Hug Lock type nuts.

Parts Required for One Vehicle

- 2 Pieces - Part No. GM-123917 - Bolt 9/16" x 1-1/2"
- 2 Pieces - Part No. GM-443342 - Hug Lock Nut
- 2 Pieces - Part No. 640648 - Reinforcement Plate

To make this change, first disconnect the draw bar support straps from the frame intermediate cross member. Enlarge the holes in cross member, the support straps and the two reinforcing plates from 13/32" to 19/32". Install the new 9/16" bolts with the old reinforcing plate next to bolt head and one of the new plates next to the nut. Install the new Hug Lock nut firmly without a lockwasher. The manner of making the installation is clearly shown in the attached sketch.

To avoid owner dissatisfaction, you should install these parts on all new vehicles before delivery. Arrangements should also be made to make the installation on cars in owners' hands, should you feel there is any possibility that draw bars will be pulled loose due to the manner in which they are being used. A labor credit of one hour will be allowed for this change, plus the parts, on all vehicles that are within the guarantee period.

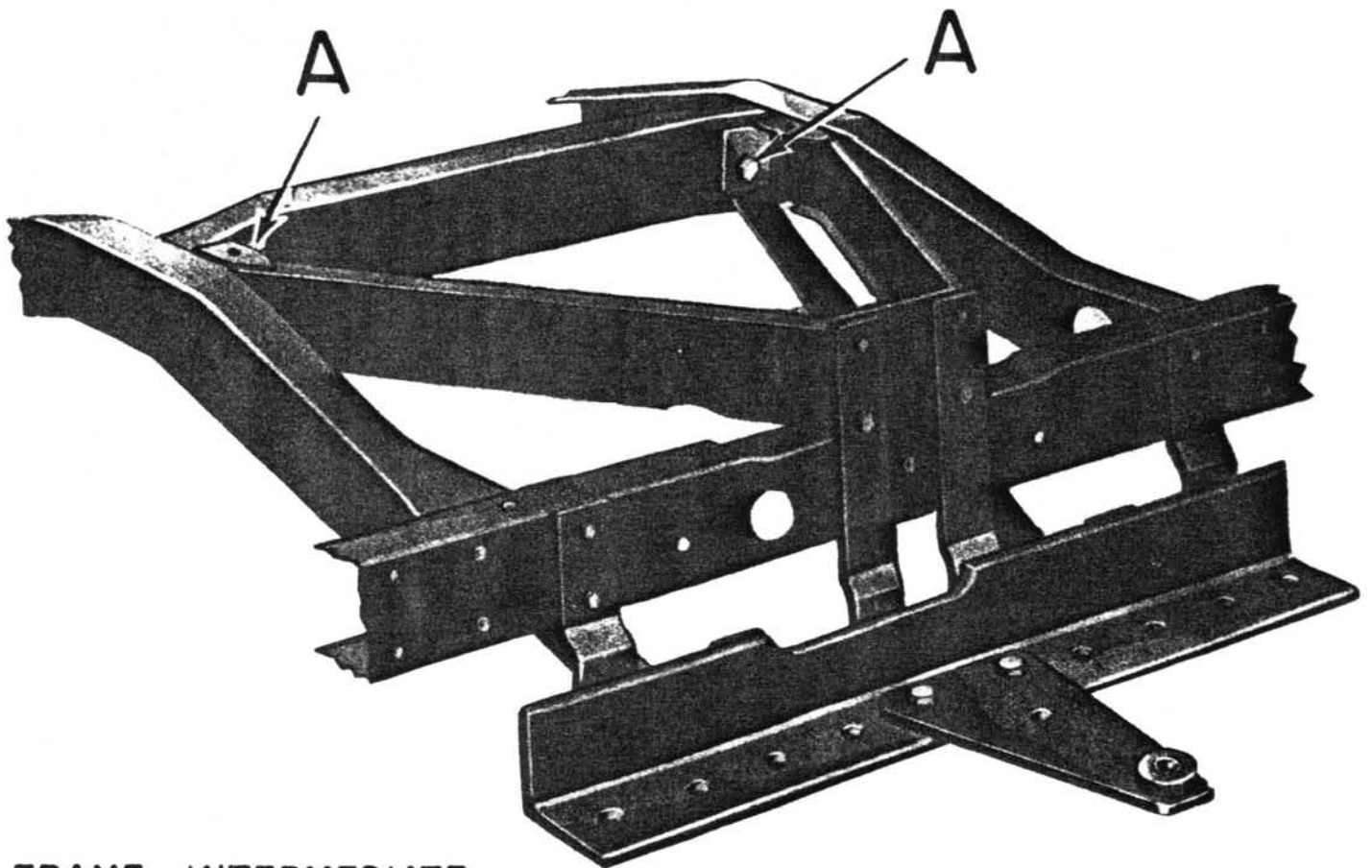
Estimate your requirements of the necessary parts and place order for them without delay. Dealers are to place their orders with their distributor.

DEAN A. WALTERS
General Service Manager

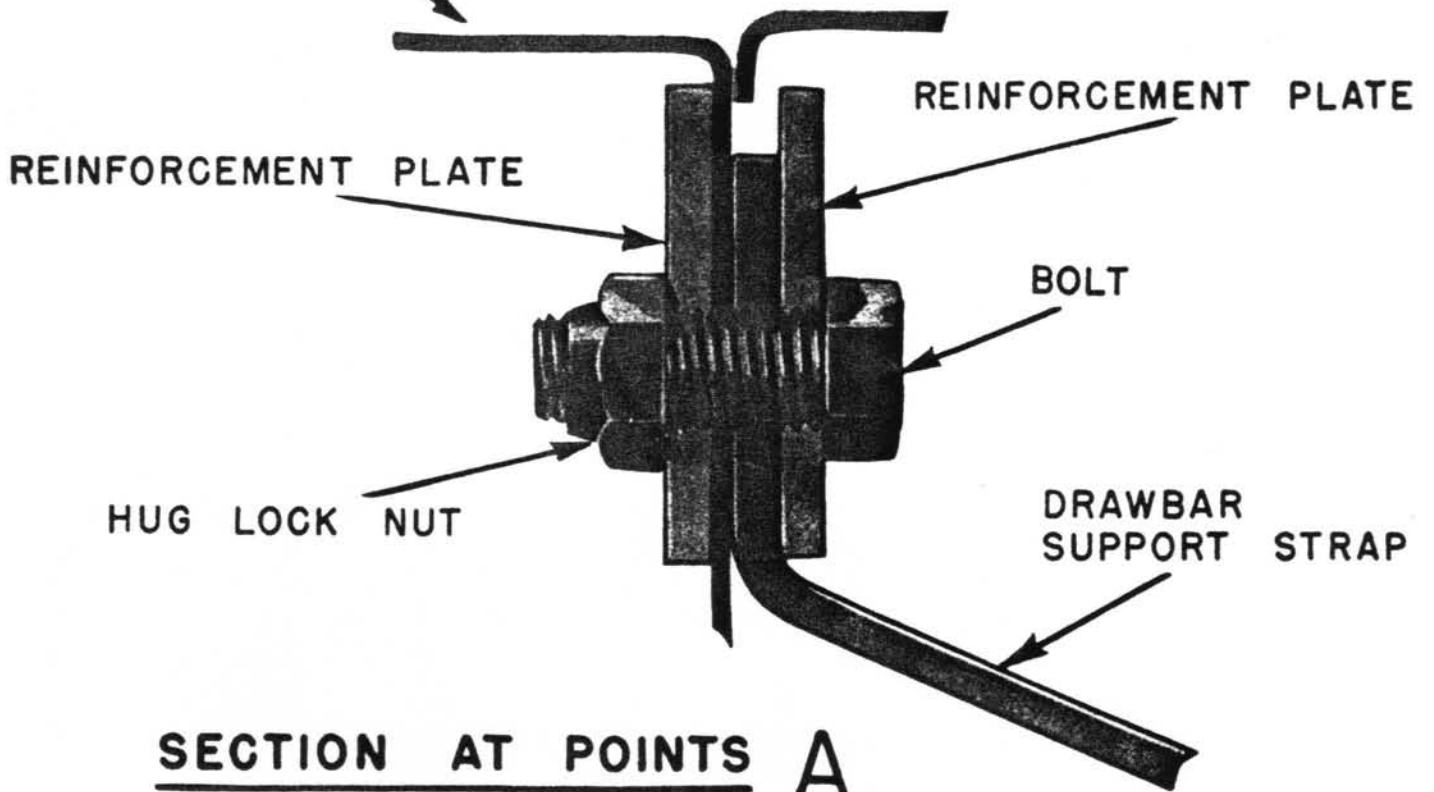
DAW:mfl
Attachment

DRAWBAR REINFORCEMENT

MODELS - CJ-2A CJ-3A



FRAME INTERMEDIATE
CROSS MEMBER



SECTION AT POINTS A

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 49-30

DATE June 21, 1949

CANE TYPE SHIFT TRANSMISSION
JUMPING OUT OF ENGAGEMENT
CJ2A - CJ3A - 2WD - 4WD

When a complaint of jumping out of second speed is received, the following procedure should be of assistance in locating and correcting the difficulty:

1. Tighten nut on end of main shaft. CJ2A - CJ3A - 4WD. Road test.

If trouble is not overcome, continue as follows:

2. Remove control tower assembly. Check shifting forks for looseness on shaft. If loose, replace shifting fork with new one, making sure it is tight on shaft.
3. Carefully check shifting fork to make sure it is not bent or twisted. This can be detected by uneven wear on tips of fork where it contacts the groove in the clutch sleeve.
4. Hold control tower in vise and shift into second speed. Note if shaft is in locked position. If not, remove shaft and note poppet ball mark on shaft to see if ball bottoms in groove. If not, carefully grind the groove in shaft not more than .010.
5. Check fit of second speed gear to shaft. If loose, new bushing, Part No. 640400 or second speed gear, Part No. 640398, should be installed. There should be .003 to .014 end play between rear face of gear and shoulder on shaft when gear is pressed toward front of transmission, so that clutch hub is against snap ring.
6. The clutch sleeve must engage second speed gear to a depth of 1/8" beyond the chamfered edge of teeth. If less, new spacer, Part No. 643621, or a .030 shim should be installed between spacer and shoulder on shaft for CJ2A, CJ3A, and 4WD. On the 2WD the .030 shim should be installed between the rear bearing and shoulder of shaft.

We are sure that any case of second gear slipping out of mesh can be corrected by making one or all of these adjustments.

D. A. WALTERS
General Service Manager

DAW:mlm

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 49-34

TO ALL DISTRIBUTORS AND DEALERS

DATE July 29, 1949

VEHICLE CHANGES AND INFORMATION

TAIL GATE LOCK

A new cam type lower tail gate lock has been adopted beginning with Model 4-63 Vehicle Serial No. 98813 and on the Model 6-63 Serial No. 18213. This lock permits easier manipulation and a quieter lock when closed.

SHOCK ABSORBERS

A new design "Type S" non-adjustable Monroe shock absorber has been adopted on the front starting with the model CJ-3A Vehicle Serial No. 14954; on Model 4-63 Serial No. 95459; on Model 6-63 Serial No. 16034. This change in shock absorber design became effective on the rear beginning with Model 4-63 Serial No. 96144; on Model 6-63 Serial No. 16297. This change involves a change in part numbers which will be furnished by the Parts Department and are interchangeable as assemblies. (This type shock absorber was used on the rear of the Model CJ-3A from the start of production.)

SHIFT LEVER

The shape of the shift lever was changed and the length increased one inch on the transmission and ve inches on the transfer case to provide easier shifting and better clearances on the Model CJ-3A transmission beginning with Vehicle Serial No. 18829 and on the Model 4WD beginning with Serial No. 39531; in production on the transfer case beginning with Model CJ-3A Serial No. 21712 and on the Model 4WD Serial No 39865. This transmission lever change was adopted on the Model 2WD Serial No.25565. Transmission shift lever Part No. 648593 supercedes Part No. 643916 and transfer case shift lever Part No. 648589 supercedes Part No. A-1506 on the Model CJ-3A and Model 4WD. Transmission shift lever Part No. 648953 supercedes Part No. 643916 on the Model 2WD.

TRANSMISSION-OVERDRIVE

The transmission and overdrive assembly has been improved in design eliminating the bearing in the back of the overdrive free wheeling unit. The free wheeling unit is now supported in the overdrive housing. This change was effective with Model 4-63 Vehicle Serial No 91904; on Model 6-63 Serial No. 14822 and on all Models VJ3 and VJ3-6.

ARM REST

A new door arm rest went into production on the Model 2WD and Model 4WD beginning with Model 2WD Vehicle Serial No. 25435 and Model 4WD Serial No. 41056.

"America's Most Useful Vehicles"

TO ALL DISTRIBUTORS AND DEALERS

No. 49-34

July 29, 1949

BRACE ROD

A new dash to radiator grille tie rod has been adopted beginning with Model 4-63 Vehicle Serial No. 98212; Model 6-63 Serial No. 17724; Model 2WD Serial No. 25184 and Model 4WD Serial No. 40952

SPRING CLIP

To simplify parts stock, spring clip Part No. A-575 has been increased 1/8" in length eliminating the necessity of carrying Part No. A-8291. Effective with Model 4-63 Vehicle Serial No. 99969; Model 6-63 Serial No. 18897 and Model CJ-3A Serial No. 26040.

UPHOLSTERY

Trim option No. 2 (Slate Gray) supercedes Trim Option No. 1 (Red) in the Model 4-63 Panel Delivery. With this change the headlining is now of embossed soft wood fibre board (instead of woven paper) extending to the back of the side doors. Effective with Model 4-63 Panel Delivery Vehicle Serial No. 99947.

OIL PUMP GASKET

To use the same oil pump to cylinder block gasket on all current 4-cylinder models, Part No. 646147 revised and supercedes Part No. 630394. The oil passage hole was increased from 15/32" to 17/32" and the center hole was increased from 1-3/8" to 1-17/32". Effective with Model CJ-3A Engine No. 25610; Model 4-63 Engine No. 100176; Model VJ-3 Engine No. 100176; Model 2WD Engine No. 25144 and Model 4WD Engine No. 40751.

RADIATOR

A side mounted radiator has been adopted on the Model 2WD Vehicle Serial No. 24614 and Model 4WD Serial No. 40144 and also on Model 4WD Serial No. 40098

HEADLINING

A new softer woven paper headlining has been adopted on the Model 4-63 starting with Vehicle Serial No. 100622 and on the Model 6-63 with Serial No. 19480.

HOOD NAME PLATES

The hood name plates have been discontinued on all models.

CORRECTION

Correct the typographical error in the last paragraph of General Letter No. 49-28: Part No. 654854 should be Part No. 645854.

TRANSMISSION

In the transmission of the Model 4-63, Model 6-63 and Model VJ3, the main shaft bearing has been changed from a shielded to non-shielded type so it will be the same as used in the transmissions with the extension instead of the overdrive unit. Part No. 646568 supercedes Part No. 641447 for Service.

TO ALL DISTRIBUTORS AND DEALERS

No. 49-34

July 29, 1949

DIFFERENTIAL

To eliminate differential ring gear bolt breakage the specifications of the bolt have been changed. Part No. 649454 supercedes Part No. A-871 on all current vehicles, except the Models 2WD and 4WD, which use Timken axles.

HOT CLIMATE RADIATOR

Beginning with the side mounted radiator on the Model CJ-3A all radiators are of the hot climate type, however, the standard radiator cap pressure is four pounds. When the vehicle is used under adverse operating conditions, a seven pound cap, Part No. 648360, should be installed. These caps are identified by the pressure number stamped on the cap top.

DEAN A. WALTERS
General Service Manager

DAW:mlm

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 49-36

TO ALL DISTRIBUTORS AND DEALERS

DATE August 11, 1949

2-WD AND 4-WD STEERING GEARS

Our attention has been called to excessive wear of the steering gear bushings, also the shaft to which the steering gear arm is attached.

Upon investigation of this complaint, it was found that water and dirt were getting into the steering gear housing, causing this excessive wear and requiring early replacement of parts. It has been found that there is a possibility of water and dirt getting into the steering gear case along the lever shaft, past the oil seal and also into the top of the housing through a slot in the steering column tube. This condition has been more noticeable on Model 4-WD because of the "off-the-road" operation. Changes are being made in the construction of the steering gear to overcome this condition.

In order to overcome this difficulty or when a steering gear is overhauled on vehicles now in use, wind a layer of friction tape over the slot in the tube. (Remove the remote control bracket on the steering column just above the steering gear case on units so equipped, then replace the bracket and tighten securely.)

To prevent dirt from entering along the lever shaft and destroying the oil seal and bushings, a new oil seal should be installed with the lip of the seal toward the outside, instead of toward the inside of the case.

With these two changes, the life of the steering gear parts will be materially increased.

DEAN A. WALTERS
General Service Manager

DAW:mLm

"America's Most Useful Vehicles"

Willys-Overland Motors, Inc.,

Makers of America's Most Useful Vehicles

ALL DISTRIBUTORS AND DEALERS

CLUTCH CONTROL LEVER
HOLE COVER

When our vehicles are operated under adverse road conditions, some difficulty has been experienced with dirt getting into the flywheel housing, particularly when the vehicle is in "off-the-road" operation, and where mudholes are encountered. This dirt accumulating in the flywheel housing has caused improper engagement of the starter gear in the flywheel ring gear.

In order to prevent this trouble, we suggest closing the hole in the right side of the housing. We are making available Part No. 649553, Clutch Control Lever Hole Cover Assembly. This cover can be used to close both the large opening in the present housings, as well as the small opening previously used.

This cover will be a standard factory installation on all four-wheel drive vehicles in the near future.

It is our suggestion that you order in a reasonable quantity of these covers to take care of your requirements. They will be furnished without charge for service purposes and the installation can be made in a few minutes' time.



DEAN A. WALTERS
General Service Manager

DAW:amd

service

SPECIAL
November 8, 1949

Willys-Overland Motors, Inc.,

Makers of America's Most Useful Vehicles

ALL DISTRIBUTORS AND DEALERS IN MAINE,
NEW HAMPSHIRE, VERMONT, MASSACHUSETTS,
NORTHERN NEW YORK, MONTANA, WYOMING,
NORTH DAKOTA, SOUTH DAKOTA, MINNESOTA,
CENTRAL AND NORTHERN WISCONSIN, CENTRAL
AND NORTHERN MICHIGAN

ENGINE OILS FOR EXTREMELY COLD CLIMATES

A number of oil companies have made available a light engine oil for use in very cold climates. Climates where the temperatures remain below 10 to 20° F for long periods of time and on occasion remain as low as -40° F for several days. These oils are to be marketed by some of the better known oil companies this fall in Maine, New Hampshire, Vermont, Massachusetts, Northern New York, Montana, Wyoming, North Dakota, South Dakota, Minnesota, Central and Northern Wisconsin, and in Central and Northern Michigan.

These oils will be marketed as an SAE 5 or 5W motor oil.

Our Engineering Department has tested these oils thoroughly and find that they are entirely satisfactory as engine lubricants for our vehicles.

The use of the above described light oil will be beneficial under cold weather operations, particularly in starting.

The above is for your information.



DEAN A. WALTERS
General Service Manager

DAW:amd

Willys-Overland Motors, Inc.,

Makers of America's Most Useful Vehicles

ALL DISTRIBUTORS AND DEALERS

DIFFERENTIAL DRIVE GEAR BOLTS WORKING LOOSE

Models 4-63, 6-63, VJ-2, VJ-3, VJ-3-6

The purpose of this letter is to inform you that a change has been made in the rear axle drive bolt, the original number of which was No. A-871 - the new number is No. 649454. The change is in material and heat-treatment. Tests have proved that the new bolt will not stretch, work loose or break if properly tightened. The new bolt went into production with the following serial numbers:

<u>Model</u>	<u>Serial No.</u>	<u>Model</u>	<u>Serial No.</u>
4-63	102924	VJ-3	12179
6-63	20765	VJ-3-6	10120
VJ-2	(All have old type bolts.)		

It is our recommendation that you return to the factory through the regular channels for full credit any of the old type bolt, Part No. A-871, which you may have in stock, and place your order for a sufficient quantity of the new bolts, Part No. 649454, so that you will be in a position to service vehicles as required. Eight (8) bolts are required for each vehicle.

It is suggested, particularly on cars used for commercial purposes, that you install the new bolts with the understanding that we will accept the older bolts for full credit, and we will also accept a labor claim for one-half hour covering the operation, regardless of whether the car has been in operation beyond the limits of the warranty or not.

Since this difficulty apparently has only developed in production in connection with cars manufactured just prior to the adoption of the new type bolt, we would suggest the above labor policy be applied only to those cars in the hands of purchasers one year or less.

In the event the installation is made in vehicles that have been in the hands of the purchaser in excess of one year, we are willing to supply the bolts gratis, but no labor allowance will be made.

The new bolts should be pulled up snugly to 30-40 ft. lbs. torque. Also make sure the locks are in good condition and carefully and properly installed to prevent the locks from turning out.



DEAN A. WALTERS
General Service Manager

P.S. The new style bolt, Part No. 649445, supplied by the Parts Department, may be identified by a daub of 'yellow paint' on the head of the bolt.

WILLYS-OVERLAND MOTORS, INC.
SERVICE BULLETIN

TO All Distributors & Dealers

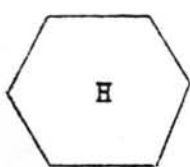
NO. 49-52 Supplement

DATE December 28, 1949

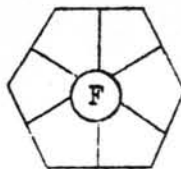
Differential Drive Gear Bolt
Part No. 649454, Models 4-63, 6-63, VJ-2, VJ-3, VJ-3-6

The purpose of this bulletin is to enable you to identify the Harden type ring gear bolt in production vehicles.

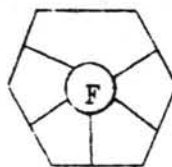
The Harden Bolt, Part No. 649454, can be identified by the marking on the head.



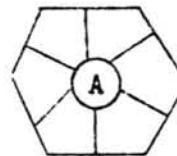
Letter H



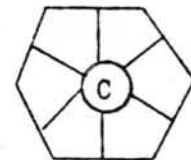
F six lines



F five lines



A six lines



C six lines

Any bolts that do not bear the above marking must be replaced, following instructions given in General Letter No. 49-52.

New Bolts, Part No. 649454, obtained from the Factory Parts Department bear the same above marking plus a daub of yellow paint for quick identification.

DAW:emk


DEAN A. WALTERS
General Service Manager

Willys-Overland Motors, Inc.,

Makers of America's Most Useful Vehicles

ALL DISTRIBUTORS AND DEALERS

NEW TYPE FRONT AXLE SHAFT ASSEMBLY

A change in design of the front axle of all four wheel drive vehicles has been placed in production. In the new design the front axle shaft outer splined end floats in the wheel driving flange and is not retained by a nut and lockwasher as originally used. With this construction it is no longer necessary to install shims between the driving flange and wheel hub to provide the correct end float of the axle shaft universal joint.

The new construction, when using the Bendix type axle shaft, is shown in illustration, Fig. No. 1. Note that the end float of the Bendix type joint is predetermined in manufacture by the position and flange thickness of bushing No. 1 and of thrust washer No. 2. These parts are so positioned and of the correct thickness to provide .088" maximum end float of the universal joint and also to allow the center point of the joint to operate at the center line of the spindle pivot pins. With the correct joint end float controlled by the bushing flange and thrust washer, it is no longer necessary to install shims between the driving flange and wheel hub, a gasket only being used.

The new type Bendix axle shaft and universal joint may be readily installed in an old type axle by installing the new type flanged bushing. When this is done, discard the shims previously installed between the driving flange and wheel hub, installing a gasket only. The installation of the flanged bushing will provide correct clearances and position of the joint. The flanged bushing requires no reaming as it is so designed that when it is pressed into the spindle it will be compressed to provide correct running clearance. Coat the inner surface of the bushing with chassis grease before installing the spindle.

The axle construction is similar for installation of the Rzeppa joint, illustration, Fig. No. 2. The thrust washer No. 2 is not necessary although it is installed in all axles to allow installation of the Bendix type shaft if it is so desired. As the thrust washer is not effective, a snap ring No. 3 is installed at the outer end of the shaft to control end float.

Either Bendix or Rzeppa old type axle shafts may be installed in the new type axle. It is advisable, however, to make the installation in the same manner as in the past, installing shims and checking end float as outlined in the Mechanic's Manual.

ALL DISTRIBUTORS AND DEALERS

The parts necessary to install new type axle shaft assemblies in old type axles have been made into kits, the part numbers of which are listed below:

<u>Part No.</u>	<u>Models CJ-2A and CJ-3A</u>
800611	Bendix Type Left Assembly
800612	Bendix Type Right Assembly
800613	Rzeppa Type Left Assembly
800614	Rzeppa Type Right Assembly
<u>Part No.</u>	<u>Models 4-WD and 4x4-63</u>
800615	Bendix Type Left Assembly
800616	Bendix Type Right Assembly
800617	Rzeppa Type Left Assembly
800618	Rzeppa Type Right Assembly

New type axles were placed in production effective with Serial No. 37549 on Model CJ-3A, Serial No. 44070 on Model 4-WD, and Serial No. 14284 on Model 4x4-63.



DEAN A. WALTERS
General Service Manager

DAW:amd

Willys-Overland Motors, Inc.,

Makers of America's Most Useful Vehicles

ALL DISTRIBUTORS AND DEALERS

VEHICLE CHANGES AND INFORMATION

Due to obtaining effective serial numbers there must necessarily be some lapse of time in furnishing vehicle change information, however the following information will prove helpful in the Parts and Service Departments. Part numbers and prices will be furnished in Parts Department letters to distributors and dealers. These changes should be given consideration, as spare parts are required for servicing our vehicles and emphasizes the importance of specifying serial and engine numbers when ordering parts for any certain vehicles.

VALVE TAPPET - You will be receiving valve tappets Part No. 642538 without the oil groove. The oil groove has been removed from the tappets in the Model 6-63 engine to reduce oil consumption beginning with Engine No. 20405. The part number remains the same.

TRANSMISSION & OVERDRIVE - The transmission overdrive has been revised in design so support points in the overdrive case help to steady the free wheeling unit. This change eliminates the overdrive shaft bearing to the rear of the free wheeling unit. Effective with Model VJ-3 Serial No. 12010; Model 4-63 Serial No. 91904 and Model 6-63 Serial No. 14822.

TRANSMISSION CASE GASKET - As service information, the transmission case to bell housing gasket has been eliminated because a gasket is not required at this point. Effective with Model CJ-3A Vehicle Serial No. 11890; Model 4-63 Serial No. 93514; Model 6-63 Serial No. 15362; Model 2WD Serial No. 23471 and Model 4WD Serial No. 37469.

VENT WING - The stainless steel vent wing frames and division bar were superseded by black enameled parts on the Station Wagon beginning with Model 4-63 Vehicle Serial No. 103608; Model 6-63 Serial No. 20902 and Model 4x4-63 Serial No. 10208.

FOOT RESTS - Foot rests were removed from standard equipment on Station Wagons and now furnished as an accessory kit from the Parts Department under Part No. 670586. Effective with Model 4-63 Vehicle Serial No. 102869; Model 6-63 Serial No. 20739 and Model 4x4-63 at start of production.

TIRES - The tire size on the Model VJ-3 and VJ-6 was changed from 5.90-15 to 6.40-15 because of the limited supply of these tires available from the tire manufacturers outlets. Effective with Model VJ-3 Serial No. 12128 and on the VJ-6 from the start of production.

ALL DISTRIBUTORS AND DEALERS

Service Bulletin No. 49-57
December 6, 1949

TOOL KIT - Two straps have been adopted on the rear floor of the Jeepster to secure the tool kit to the rear floor pan to prevent the tools from bouncing and rattling. Effective on Model VJ-3 Vehicle Serial No. 12120 and on Model VJ-6 Serial No. 10124.

TRANSMISSION - The transmission oil retaining washer assembled between the transmission main shaft rear bearing and the hub of the transfer case mainshaft gear has been discontinued, as not required. Effective with Model CJ-3A Vehicle Serial No. 29511; Model 4WD Serial No. 42145 and Model 4x4-63 Serial No. 10203.

STEERING GEAR - To prevent dirt and water from "tracking" into the steering gear case the slot in the steering column at the case has been shortened and the steering column oil hole cover eliminated. Effective with Model 2WD Vehicle Serial No. 26610; Model 4WD Serial No. 42238 and Model 4x4-63 Serial No. 10230.

SEAT - The width of the Station Wagon intermediate seat back has been reduced one inch to provide more clearance for the larger tires used on the Station Wagons. Effective with Model 4-63 Vehicle Serial No. 103672; Model 6-63 Serial No. 21358 and Model 4x4-63 from the start of production.

FUEL LINE - The gasoline tube from the fuel pump to the carburetor is now clipped to the crankcase ventilator tube and the vacuum tubes are clipped in two places to reduce vibration and the chance of breakage. This change involves a new gasoline tube. Effective with Model CJ-3A Vehicle Serial No. 29257; Model 2WD Serial No. 26212; Model 4WD Serial No. 42227 and Model 4x4-63 Serial No. 10886.

SPARE WHEEL - A stabilizer block has been added to the right side of the body to reduce vibration of the spare wheel and tire thereby reducing the possibility of breakage of the spare wheel bracket on the Model CJ-3A. Block Part No. 671157 is used for 6.50-16 tires and block Part No. 671158 is used for 7.00-15 tires. Effective with Vehicle Serial No. 31254.

RADIATOR - The side mounted type radiator superseded the bottom mounted type to give better protection to the radiator assembly on the Model CJ-3A beginning with Vehicle Serial No. 31374 also on Model 2WD Serial No. 25467 and Model 4WD Serial No. 41182. A few vehicles were produced after these serial numbers with the bottom mounted radiator.

RADIATOR HOSE - A moulded radiator inlet hose Part No. 649341 supersedes hose Part No. 645746 beginning with Model CJ-3A Vehicle Serial No. 31374; Model 2WD Serial No. 26257; Model 4WD Serial No. 42766 and Model 4x4-63 Serial No. 10683.

ALL DISTRIBUTORS AND DEALERS

Service Bulletin No. 49-57
December 6, 1949

GOVERNOR - The "Novi" governor has been adopted as standard when a governor is called for as an accessory; effective with Model CJ-3A Vehicle Serial No. 32429 and Model 4WD Serial No. 42842.



DEAN A. WALTERS
General Service Manager

DAW:amd

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MONROE HYDRAULIC LIFT

It is believed that some pump trouble complaints can be eliminated if the distributors, dealers and owners will follow the suggestions which are compiled here as a result of examining returned pumps. Suggested remedies are also given:

1. Foreign Matter In Tank

Inspect tank before adding fluid to make sure it is clean. Dirt or scale will clog filter back of the valve and starve the system, causing pump after pump to fail unless corrected. All tanks are now rustproofed (usually indicated by black film inside tank). On a few early lifts, the tank was not rustproofed and, if these lifts were kept in stock for a period of time before oil was introduced, a thick, scaly, rust may have developed. If dirt or scale is present, the tank should be removed and thoroughly cleaned before adding the fluid.

2. Running Without Oil

When pump is installed, the engine should not be run until hydraulic lines are connected and fluid introduced into the system. Running a pump without fluid will burn it out in a very short time.

3. Faulty Alignment of Pump Drive

Make sure pump drive is in correct alignment after assembly to the motor. Mis-alignment will result in excessive seal and bearing wear, causing leakage. To insure good alignment, loosen bolts that hold pump bracket to engine, start the engine and allow it to idle slowly. Observe the pump drive in relation to the fan pulley. When the drive is adjusted to run smoothly, retighten the bolts securely. See Service Bulletin No. 50-4.

4. Leaks in System

If all connections in the hydraulic lines are properly treated with sealing compound when assembled, there should be no leaks. As soon as the system is connected, run the motor and check immediately for leaks in the lines. Leakage in the suction lines can be detected by air bubbles or foam in the tank. Correct all leaks by adding sealing compound and retightening the joints securely. Aeration in the system will cause premature pump failure, but not immediate failure.

All Distributors and Dealers

50-3
February 17, 1950

It has been found that a major cause for pump field failure can be traced to lift operators allowing the control handle on the valve assembly to remain in the extreme rear or lift position, rather than return it to the neutral position after the implement has been fully raised. This means that the pump is working under extremely high pressure during the transport of an implement and will cause overheating of the pump. This often causes premature seal failure.

Sometimes the operator finds it necessary to leave the control handle in the lift position, in order to keep the implement elevated. If this is necessary, it means that the valve assembly is undoubtedly out of adjustment or the hydraulic cylinder is leaking.

On the other hand, the valve and cylinder assemblies may be working properly, but through lack of instructions or neglect the operator may allow the handle to remain in the rear or lift position.

We would appreciate your passing this information on to all parties concerned.



DEAN A. WALTERS
General Service Manager

DAW:ath

service

50-4 Revised
April 4, 1950

Willys-Overland Motors, Inc.,

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ALL DISTRIBUTORS AND DEALERS

DESTROY PREVIOUS
LETTER

INSTALLATION OF MONROE HYDRAULIC LIFT PUMP ON MODELS CJ-2A and CJ-3A

Some difficulty has been experienced with the installation of the Monroe Hydraulic Lift Pump on the front end of the Jeep engine. The following information will enable you to make the correct application:

On Model CJ-2A vehicles up to Serial No. 199079, inclusive, you may use either Hydraulic Pump, with the original (high) manifold or the revised (low) manifold. In order to identify the two types of hydraulic pump manifolds, we are attaching a sketch for your convenience.

The pumps are stamped with No. 051012-023 and a suffix No. -01, -02, -03, or -04. Pumps having the suffix -01 as part of the number were supplied with the original type manifold; those having the suffix -02, -03, and -04 are supplied with the later manifold. Suffix -03 designates the incorporation of the "O" ring type seal in the manifold and the -04 designates the incorporation of dry-seal threads in the manifold. All pumps stamped with the letter "S" have been factory inspected and brought up-to-date in all respects including the later type of sealing ring member.

After Serial No. 199079, hydraulic pumps with the suffix -01 should NOT be used. They will not have sufficient clearance for the revised steering bell crank mounting on the frame cross member, when the bell crankpin size was increased from 3/4" to 7/8" diameter.

On all Model CJ-2A vehicles up to Serial No. 215649, at which time a redesigned frame went into production, two front Axle Bumper Spacers, Part No. 646671, are required to prevent damage to the hydraulic pump by striking the front axle housing. If this occurs, the pump brackets may become bent, causing excessive wear of the pump seals, because of misalignment of the pump with the crankshaft pulley.

On Model CJ-2A vehicles, after Serial No. 215649 and on all Model CJ-3A vehicles, these front axle bumper spacers are not required.

During the production of the Model CJ-3A with the side mounted radiator, it was necessary to use a quantity of bottom mounted radiators. When installing the hydraulic pump on these bottom mounted radiator vehicles,

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50-4
April 4, 1950

remove the two bolts holding the radiator to the radiator support brackets on the tubular cross member and add enough Radiator Mounting Shims, Part No. A-4413 or A-4414 so there is about a 3/4" pad, or, bend the lower part of the radiator shroud sufficiently to clear the hydraulic pump. Care should be exercised that the shroud is not bent enough so that the fan will strike it.

See Service Bulletin No. 50-3 for general information concerning hydraulic pumps.



DEAN A. WALTERS
General Service Manager

DAW:ath
Attach.

Willys-Overland Motors, Inc.,

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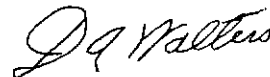
ALL DISTRIBUTORS AND DEALERS

DISTRIBUTOR CAPS

Available through Auto-Lite Parts Distributors are two distributor caps, Auto-Lite Part Nos. IGB-1241A and IGB-1241 which are possible to install on our current 4 cylinder vehicles with the exception of the Model CJ-3A.

When ordering distributor caps from Auto-Lite Parts Distributors, insist on cap Part No. IGB-1241A. This distributor cap has a vent hole in one side only which is located on the lower side of the distributor.

In some cases cap No. IGB-1241 has been substituted. This cap has two holes, one of which is located on the top side of the distributor which permits moisture and dirt to enter the distributor and should not be used.



DEAN A. WALTERS
General Service Manager

DAW:ath

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VEHICLE CHANGES AND INFORMATION

The following information should be brought to the attention of your Parts and Service personnel:

CLUTCH - To standardize the clutch on all models, a new Auburn clutch assembly has been adopted in production. The new clutch assembly, less pressure plate, is covered by Part No. 801300, which supersedes Clutch Part No. 641964. Following are the breaking points when the new clutch went into production: Model 4x4-63 Engine No. 15788; Model 4-WD Engine No. 46223; Model 4-73 Sedan Delivery Engine No. 13274; Model 4-73 Station Wagon Engine No. 13736; Model 4-73 HT Engine No. 11841; Model 6-73 Station Wagon Engine No. 11886; Model CJ-3A - not yet in production; will supersede Clutch Part No. 642622 in that Model at a later date. This new clutch is interchangeable with Rockford Clutches, Part Nos. 648538 and 648539.

STEERING BELL CRANK - The parts necessary to change over the steering bell crank and bracket to the larger shaft on the Model CJ-2A and CJ-3A up to Vehicle Serial No. 21656 as covered in Service Bulletin No. 50-12 can be obtained under Part No. 801847 as a service repair kit.

IGNITION COIL - To standardize and provide a hotter spark to insure easier starting, a new "High Voltage" Ignition Coil (Auto-Lite CR-6009) has been adopted on Model CJ-3A Vehicle Serial No. 48537; Model 4x4-63 Serial No. 17018; Model 4-WD Serial No. 47540; Model 4-73 Station Wagon and Sedan Delivery Serial No. 11889; Model 4-73 VJ Serial No. 10830; Model 4-73 HT Serial No. 10647; Model 4-73 4-WD Serial No. 10907; Model 6-73 Station Wagon Serial No. 10994 and Model 6-73 VJ Serial No. 10530. These coils must be obtained from local Auto-Lite dealers for replacement purposes.

DEFROSTER - The inner frame of the windshield has been changed adding two additional defroster openings one on each side of the center of the Jeepster models to improve defrosting. Effective with Model 4-73 VJ Vehicle Serial No. 11031 and Model 6-73 VJ Serial No. 10574. No change in part numbers.

HOOD EMBLEM - The hood emblem has been changed from "4" to "W-0". Part No. 674782 Hood Emblem Assembly supersedes Part No. 673733. Effective with Model 4-73 Station Wagon and Sedan Delivery Vehicle Serial No. 14616; Model 4-73 VJ Serial No. 11915; Model 4-73 HT Serial No. 11693 and Model 4-73 4-WD Serial No. 11964.

ALL DISTRIBUTORS AND DEALERS

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July 17, 1950

FRONT SPRING - To give more service adjustment for front wheel camber, the Front Spring Part No. 649514 has been lengthened 1/4". Effective with Model 4-73 Station Wagon and Sedan Delivery Serial No. 14903; Model 4-73 VJ Serial No. 12014; Model 6-73 Station Wagon Serial No. 12383 and Model 6-73 VJ Serial No. 11083.

LIGHT SWITCH - A new combination head lamp, parking lamp, instrument lamp (with rheostat for instrument lamps) and dome lamp switch supersedes two light switches previously used. The new Light Switch Assembly is Part No. 801274. Effective with Model 4-73 Station Wagon Serial No. 15728; Model 4-73 Sedan Delivery Serial No. 15960; Model 4-73 VJ Serial No. 12316; Model 4-73 HT Serial No. 12096; Model 4-73 4-WD Serial No. 12270; Model 6-73 Station Wagon Serial No. 12734 and Model 6-73 VJ Serial No. 11174.

PISTON - To provide greater strength and heat conductivity in the F-Head Engines the piston head thickness has been increased from 3/16" to 1/4". Care must be exercised in replacing pistons to get the correct parts if they are replaced singly or in sets otherwise engine vibration may result due to unbalanced pistons. Effective in production with Model 4-73 Station Wagon and Sedan Delivery Engine No. 16862; Model 4-73 HT Engine No. 13869; on Model CJ-3A Engine No. 50705 and Model 4x4-63 Engine No. 16140. Piston and Pin Assembly (standard) Part No. 801376 supersedes Part No. 637038. Identification of the 3/16" Head Piston is by Part No. 636954 cast inside the piston skirt; the 1/4" Head Piston has Part No. 601248 cast in the same location.

FUEL PUMP - The F-Head Engine fuel pump (and attaching parts) was adopted for the Model CJ-3A Engine beginning with Vehicle Serial No. 51411. Part No. 800866 Fuel and Vacuum Pump Assembly supersedes Part No. 647911.

HEAD LAMP - A die cast Head Lamp Door Part No. 649518 has been adopted in place of a Stamped Door Part No. 642676. When used on head lamps made by Auto-Lite use two Head Lamp Door Screws Part No. GM-179349. Effective with Model 4-73 Station Wagon and Sedan Delivery Vehicle Serial No. 14840; Model 4-73 VJ Serial No. 11995; Model 4-73 HT Serial No. 11772; Model 4-73 4-WD Serial No. 12042; Model 6-73 Station Wagon Serial No. 12370 and Model 6-73 VJ Serial No. 11073.

CARBURETOR - A new Carter "YF" Carburetor Assembly (Carter No. 768SA) Part No. 801828 supersedes Part No. 649575 to overcome loading at idle speeds by eliminating the accelerating pump check valve and adding "flats" on the metering rod. Effective with Model 4-73 Station Wagon and Sedan Delivery Vehicle Serial No. 15478; Model 4-73 VJ Serial No. 12233; Model 4-73 HT Serial No. 11892 and Model 4-73 4-WD Serial No. 12191. See General Service Bulletin No. 50-21 for Service Procedure.

HOOD SEAL - A new hood seal has been adopted replacing the hood bumpers on the radiator guard to reduce hood flutter. This seal is the same as the door weather strip and carries Part No. 668992. See General Service Bulletin No. 50-19 for the Service Procedure. Effective in production with Model 4-73 Station Wagon and Sedan Delivery Vehicle Serial No. 14697;

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July 17, 1950

Model 4-73 VJ Serial No. 11939; Model 4-73 HT Serial No. 11739; Model 4-73 4-WD Serial No. 12001; Model 6-73 Station Wagon Serial No. 12327 and Model 6-73 VJ Serial No. 11057.

FLOOR SLATS - Floor slats 1/2" narrower have been adopted in the Station Wagons and Sedan Deliveries beginning with Model 4x4-63 Serial No. 17234; Model 4-73 Station Wagon Serial No. 13236; Model 4-73 Sedan Delivery Serial No. 13238 and Model 6-73 Station Wagon Serial No. 11790. This involves a change in part numbers.

STEERING COLUMN BEARING - A new improved steering column bearing at the steering wheel has been adopted as released by the Ross Gear Company. Part No. 801422 supersedes Part No. 639190 on Model CJ-3A Vehicle Serial No. 46358; Model 4x4-63 Serial No. 16646; Model 4-WD Serial No. 47539; Model 4-73 Station Wagon and Sedan Delivery Serial No. 10429; Model 4-73 VJ Serial No. 10088; Model 4-73 HT Serial No. 10131; Model 4-73 4-WD Serial No. 10264; Model 6-73 Station Wagon Serial No. 10141 and Model 6-73 Serial No. 10043.

GENERATOR - A new generator is now in production. This change requires a different brace and support as well as front engine plate. The engine front plate was effective in production with Model CJ-3A Engine No. 50551; Model 4-73 HT Engine No. 14908 and Model 4-73 4-WD (June 1). The generator change was effective with Model CJ-3A Serial No. 51951; Model 4x4-63 Serial No. 17471; Model 4-73 Station Wagon and Sedan Delivery Serial No. 16857; Model 4-73 VJ Serial No. 12562; Model 4-73 HT Serial No. 12330; Model 4-73 4-WD Serial No. 12727; Model 6-73 Station Wagon Serial No. 13233 and Model 6-73 VJ Serial No. 11286.

STARTER - Changes have been made in the starting motor to standardize production. This change became effective with Model CJ-3A Vehicle Serial No. 51911; Model 4x4-63 Serial No. 17471; Model 4-73 Station Wagon and Sedan Delivery Serial No. 16857; Model 4-73 VJ Serial No. 12562; Model 4-73 HT Serial No. 12330; Model 4-73 4-WD Serial No. 12727; Model 6-73 Station Wagon Serial No. 13233 and Model 6-73 VJ Serial No. 11286. A new Starter Rod Assembly, Part No. 801170, is required for the above change, which supersedes Starter Rod, Part No. 647941.

DISTRIBUTOR - Changes were made in the ignition distributor to standardize parts which required changes in the vacuum control tubes. Effective with Model 4-73 Station Wagon and Sedan Delivery Serial No. 16102; Model 4-73 VJ Serial No. 12443; Model 4-73 HT Serial No. 12257; Model 4-73 4-WD Serial No. 12454; Model 6-73 Station Wagon Serial No. 13038 and Model 6-73 VJ Serial No. 11260.

DA Walters

DEAN A. WALTERS
General Service Manager

DAW:amd

Willys-Overland Motors, Inc.,

Makers of America's Most Useful Vehicles

TO ALL DISTRIBUTORS AND DEALERS


TORQUE CHART

New Vehicle Inspection Reports show that servicemen are tightening many cylinder head nuts, wheel nuts, and axle spring clips.

With General Service Bulletin No. 763, dated February 25, 1946, we mailed to all dealers and distributors a torque chart showing just how tight the various nuts should be drawn down, and recommending a torque wrench for this purpose.

Each dealer must be equipped with a 100 foot-pound torque wrench (Miller Manufacturing Company's Part No. C-524, or equivalent) so that proper torque can be exerted on the various nuts and cap screws used in assembly.

Attached is supplementary information to the torque chart. In the event you do not have the torque chart we will mail you a new one upon request. We recommend that it be followed very carefully when preparing new cars for delivery as well as when doing repair work in your shop.



DEAN A. WALTERS
Technical Service Manager

DAW:amd
Attach. (1)

WILLYS-OVERLAND
TORQUE SPECIFICATIONS
(ADDITIONAL TO CHART)

<u>Application</u>	<u>Torque In Foot-Pounds</u>
Camshaft Gear Screws	30-35
Camshaft Sprocket Screws	20-25
Camshaft Thrust Plate Screws - (4 Cylinder)	20-25
Camshaft Thrust Plate Screws - (6 Cylinder)	15-18
Rocker Arm Bracket Nuts	30-35
Connecting Rod Cap Bolt Nuts - (3/8" with Pal Nut)	35-40
Connecting Rod Cap Bolt Nuts - (3/8" with Huglock Nut)	40-45
Connecting Rod Cap Bolt Nuts - (7/16")	50-55
Spark Plug	26-30
Clutch Control Ball Stud - (7/16" to Bell Housing)	30-45
Clutch Control Ball Stud - (9/16" to Bell Housing)	70-85
Spring Mounting Nuts - (Front Suspension U-Bolts)	70-75

Willys-Overland Motors, Inc.,

Makers of America's Most Useful Vehicles

TO ALL DISTRIBUTORS AND DEALERS

STEEL SUBSTITUTED FOR BRASS IN
UPPER RADIATOR TANKS

To comply with Government control regulations it has been necessary to substitute steel for brass in the manufacture of Harrison radiator upper tanks, inlet tubes and overflow tubes. This change became effective in production on April 8, 1951.

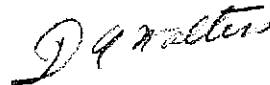
Radiators of steel construction may be identified by a code stamped on the right end of the upper tank when viewed from the front. As an example, those built in April are stamped "1-SD." The "1" designates the year, 1951, "S" indicates the use of steel, and "D" the fourth month, or April. The last letter will be changed each month to provide a true indication of date of manufacture.

Another quick method of determining whether the tank is steel or brass can be done by scraping the top of the tank with a sharp edge tool which will then disclose whether the tank is steel or brass.

The steel used in the production of these parts is treated to prevent corrosion. An inhibitor is also placed in the cooling systems at the factory as an additional safeguard.

Should it be necessary to drain the cooling systems of vehicles equipped with steel radiator parts be sure that an inhibitor is reinstalled. When delivering new vehicles so equipped, advise the purchasers the reason for the change and point out that as a precaution, cooling systems should be flushed each spring and fall and an inhibitor installed.

Any inhibitor of a well known brand is satisfactory although the type having a soluble oil base is preferred. When installing, follow the manufacturer's instructions.



DEAN A. WALTERS
Technical Service Manager

DAW:amd

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ALL DISTRIBUTORS AND DEALERS

TORQUE SPECIFICATIONS

Shortly after the issuance of our General Service Bulletin No. 51-8 concerning torque charts and specifications, our supply of these charts became depleted.

In order to make this information available immediately, we have compiled it in the accompanying torque specification chart which has been revised and brought up to date.

It is important that this information be known in the shop and it is suggested that these specifications be posted where they can be referred to easily.



DEAN A. WALTERS
TECHNICAL SERVICE MANAGER

DAW:dbg
Attach.

**WILLYS-OVERLAND
TORQUE SPECIFICATIONS**

APPLICATION	TORQUE IN FOOT POUNDS
CAMSHAFT SPROCKET SCREWS	20-25
CAMSHAFT GEAR SCREWS	30-35
CAMSHAFT THRUST PLATE SCREWS - 4 CYLINDER	20-25
CAMSHAFT THRUST PLATE SCREWS - 6 CYLINDER	15-18
CONNECTING ROD CAP BOLT NUTS - 7/16"	50-55
CONNECTING ROD CAP BOLT NUTS - 3/8" WITH PALNUT	35-40
CONNECTING ROD CAP BOLT NUTS - 3/8" WITH HUG LOCKNUT	40-45
CYLINDER HEAD SCREWS	65-75
CYLINDER HEAD STUD NUTS	60-65
ENGINE MOUNTING CENTER BOLT NUT	38-42
EXHAUST MANIFOLD STUD NUTS	31-35
FLYWHEEL TO CRANKSHAFT BOLT NUTS	36-40
INTAKE MANIFOLD STUD NUTS	31-35
MAIN BEARING CAP SCREWS	65-70
OIL PAN TO CYLINDER BLOCK SCREWS	10-14
ROCKER ARM BRACKET STUD NUTS	30-35
SPARK PLUGS	26-30
WATER OUTLET TO CYLINDER HEAD SCREWS	20-25
WATER PUMP TO CYLINDER BLOCK SCREWS	12-15
CLUTCH CONTROL BALL STUD TO BELL HOUSING - 7/16"	30-45
CLUTCH CONTROL BALL STUD TO BELL HOUSING - 9/16"	70-85
BRAKE BACKING PLATE BOLT NUTS	25-30
DIFFERENTIAL CARRIER SCREWS	38-42
GENERATOR BRACKET SCREWS	31-35
SPRING U-BOLT NUTS	50-55
SPRING MOUNTING (FRONT SUSPENSION U-BOLT) NUTS	70-75
SPRING PIVOT BOLT NUTS	27-30
STARTER SCREWS	20-25
STEERING GEAR TO FRAME BOLT NUTS	36-40
UNIVERSAL JOINT U-BOLT NUTS	15-18
WHEEL TO HUB NUTS	60-70

Foot Pounds of Torque with threads clean and dry. If threads are clean and oiled, reduce torque specification about 10%.

INSTALLATION OF DUAL TAIL LAMP

UNIVERSAL JEEP - MODEL CJ-2A

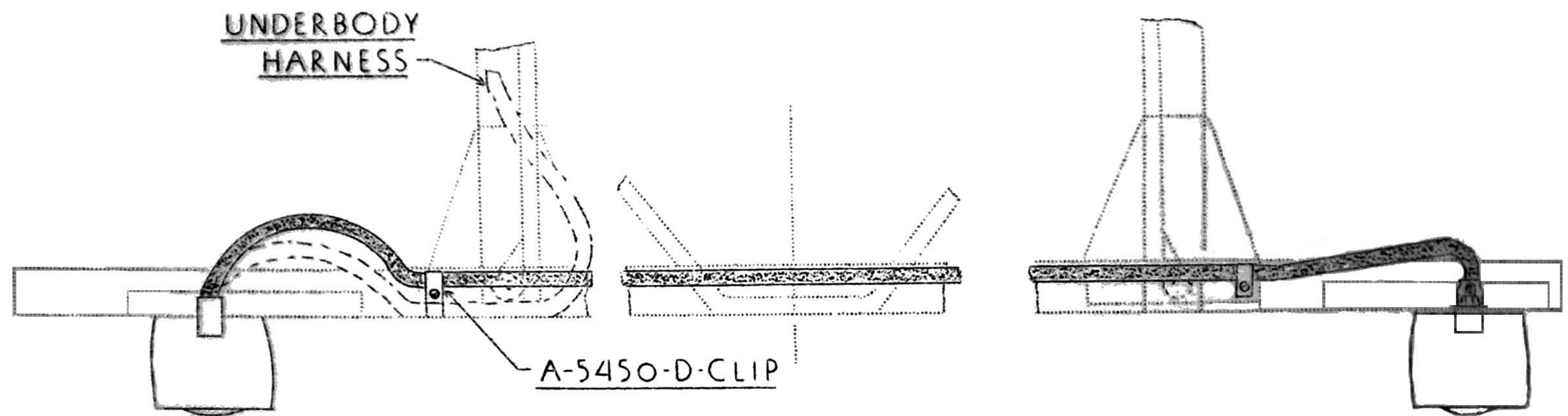
Installation of a second tail and stop lamp to secure dual rear lights may be readily accomplished by reference to the attached sketch which shows the method of attachment and wiring.

First locate the center for the auxiliary light. To locate this point, measure up $2 \frac{5}{8}$ " from the lower edge of the right rear quarter panel and $2 \frac{1}{2}$ " to the left from the seam at the right edge of this panel. Center punch at the intersection of these two measurements. Measure 1" directly up and 1" directly down from the center punch mark to locate the centers of the attaching screw holes. Drill the center hole $1 \frac{1}{8}$ " in diameter and the two attaching screw holes $\frac{9}{32}$ ".

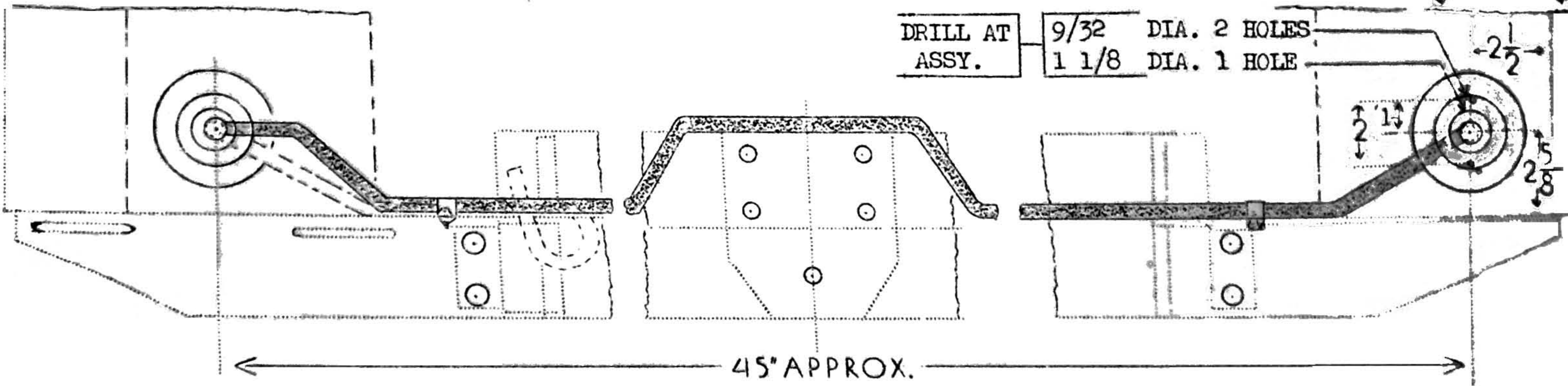
Mount the lamp assembly in position with the license tag window down, attaching it with the two $\frac{1}{4}$ " nuts supplied, using one internal lockwasher and one plain lockwasher under each nut.

Remove the connector plug from the left lamp and remove the wires from the plug. Twist the bare loose ends of the wiring harness, contained in the kit, to the bare ends of the wires removed from the plug and connect both sets of wires to the connector plug. Replace the connector plug in the left lamp socket. Lay the new harness across the rear frame cross member as shown and insert the connector plug in the right hand lamp socket. Turn on the lights and depress the brake pedal to check the beams. It may be necessary to reverse the connector plugs so that both stop lights will burn in unison when the brake pedal is depressed and both tail lights will burn when the head lights are turned on.

When tests show that the connections are correctly made, attach the harness to the rear frame cross member with the two clips and screws supplied, as shown in the sketch. The holes for the clips were drilled at the factory.



BODY PANEL - RIGHT SIDE
 BODY PANEL - REAR RIGHT



INSTALLATION - DUAL TAIL LAMP

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 843

TO All Distributors and Dealers

FROM D. A. Walters

DATE October 7, 1947

"AMERICA'S MOST
USEFUL VEHICLES"

SUBJECT Special Tools

Herewith you will find a copy of the Miller Manufacturing Company's new Willys-Overland Special Tool Catalogue and Price Sheet. This catalogue furnishes the latest information about the current tools. The price sheet is an order form which can be used to obtain such tools as you require.

The importance of being properly equipped with special tools should be given immediate attention by all Distributors and Dealers. When available for the mechanics to use as service jobs appear, they save valuable time, patience, and reduce the cost of doing the job, as well as, improve the quality of the work with the assurance that the work is done right.

When properly displayed to the customer's view, special tools prove a valuable service-sales asset. Reference is made to the tool display board illustration and building instructions with General Service Letter No. 788. Service tools are a reliable barometer of your general service attitude and your desire to improve your service facilities, likewise render proper service.

The Miller Manufacturing Company is now able to take care of your requirements from a very complete stock, so no delay will be experienced in filling Willys-Overland Dealers' orders.

Check your tool requirements now. Replace any worn or damaged tools so, when a repair job requiring special tools comes in, you will have the proper tools available and not cause the owner to lose the use of his vehicle. Use the enclosed price list as a parts order as soon as possible so the manufacturers may compute their requirements to keep a stock of tools on hand for immediate shipment.

DAW...fh
Encl.

WILLYS ESSENTIAL AND SPECIAL SERVICE TOOL ORDER

Mail Original Direct to: MILLER MANUFACTURING CO., 5919 Tireman Ave., Detroit 4, Michigan. Retain Copy for Your Files.



Date _____ 19____

Order No. _____

Charge to _____ Ship to _____

Address _____ Address _____

City _____ Zone _____ State _____ City _____ Zone _____ State _____

TERMS

C. O. D. _____ **CHECK ATTACHED** _____

5% DISCOUNT FOR CASH

5% Cash Discount is allowed only when check for full amount of order (over \$10.00) is attached to original order.

Ship Via _____ Representative _____ Region _____

Unless specified, we will ship Parcel Post, Express or Freight as our Judgment indicates.

(Print Name)

(No. of Sets) _____

COMPLETE Sets Willys ESSENTIAL and SPECIAL Service Tools (less C-319 and C-693) @ \$592.70 _____

Less 5% For Cash (see note) _____

C-693 Timing Light 16.00 NET

Net Total _____

EVERY Willys Distributor and Dealer should have ALL the tools in this list to compete economically with other modern service organizations. They have been carefully checked by Willys Factory Service Engineers and found to be necessary for safe, quick, profitable service. They are ALL especially adaptable to Willys. Those without the asterisk prefix are also very helpful for efficiently servicing other makes of cars.

(No. of Sets) _____

MINIMUM ESSENTIAL Sets Willys SPECIAL Service Tools (All * Tools Listed On Reverse Side of Form) @ \$236.45 _____

Less 5% for Cash (see note) _____

Net Total _____

(*) These are the MINIMUM ESSENTIAL Willys Service Tools required by EVERY Willys Distributor and Dealer.

ALL WILLYS TOOLS INDIVIDUALLY LISTED AND PRICED ON REVERSE SIDE OF FORM

All prices Net F. O. B. Detroit and subject to change without notice. All tools will be invoiced according to prices prevailing at time of shipment.

Signed _____
Dealer

By _____
Title

WILLYS ESSENTIAL AND SPECIAL SERVICE TOOL ORDER

Mail Original Direct to: Miller Manufacturing Co., 5919 Tireman Ave., Detroit 4, Michigan. Retain Copy for Your Files.

Qty.	Tool No.	DESCRIPTION	Price	Total
	C-38	REAMER, Valve Guide—Spiral Flute Expansion Size .375"	\$ 3.75	
	*W-99	TOOL SET, Pinion and Ring Gear Setting (Contains following three tools in metal case). Adaptable to full or semi-floating rear axles	43.00	
	W-100	Puller, Pinion Shaft Front & Rear Bearing Cups Removing & Installing		
	W-101	Gauge, Pinion to Ring Gear Setting		
	W-102	Gauge Set, Differential Ring Gear Backlash Checking (Including 1/1000" dial Gauge)		
	*W-104	PULLER, Axle Shaft, Pinion Shaft & Diff. Case Tapered Bearing Cone—Set includes 3 sets of Adapter Plates for full & semi-floating rear axles	16.50	
	*W-115	PULLER, Water Pump Fan Hub	3.10	
	*W-116	PULLER, Water Pump Impeller	6.35	
	C-119	GAUGE, Cylinder Bore Test	17.50	
	*W-126	DRIVER, Differential Drive Pinion Shaft Front Bearing Cup Installing	2.20	
	*W-128	INSTALLER, Diff. Car'r End Oil Seals	3.40	
	*W-129	SPREADER, Diff. Carrier (Required to remove and install diff. ass'y.)	20.50	
	*W-130	THIMBLE and DRIVER, Transfer Case Shifter Rod Oil Seal Installing	2.30	
	*W-131	THIMBLE and DRIVER, Pinion Shaft Rear Bearing Cone, also Transfer Case Output Shaft Snap Ring and front and rear bearing cone installing driver.	3.50	
	*W-133	DRIVER, Speedometer Drive Pinion Bushing Installing	.75	
	*W-138	DRIVER & ADAPTER, Front Axle King Pin Brg. Cup Removing & Inst.	2.75	
	*W-139	DRIVER, Transfer Case Output Shaft Front Bearing Cone Removing	3.95	
	*W-141	RING, Transfer Case Output Shaft Front Bearing Cup Removing	1.75	
	*W-142	DRIVER, Diff. Case Bearing Cone	2.25	
	*W-143	DRIVER, Transfer Case Output Shaft Front and Rear Oil Seal Installing	2.50	
	*W-144	WRENCH, Wheel Bearing Adjusting	3.95	
	*W-146	ADAPTER, Universal Joint Flange Dust Shield Removing (Use with W-116 Puller)	.75	
	*W-147	DRIVER, Pinion Shaft Oil Seal	2.60	
	*W-148	CLAMP & ADAPTER, Universal Joint Bearings Removing and Installing	6.60	
	*W-161	PULLER, Front Axle Shaft Hub Cap Complete with Standard Sock-O Type Axle Shaft & Oil Seal Puller. Includes 3/4", 13/16", 7/8" and 1" Axle Shaft Adapters.	7.75	
	*W-162	TOOL, Universal Joint Flange Installing	3.70	
	*W-163	PULLER, F. Axle Shaft Drive Flange	2.15	
	*W-164	DRIVER, Front and Rear Wheel Hub Inner Oil Seal Installing for CJ-2A	2.35	
	*W-165	PULLER, Transfer Case Output Shaft Front and Rear Oil Seal Removing, also Pinion Shaft Oil Seal	5.50	
	*W-166	ARBOR & SLEEVE, Trans. Cluster Gear Needle Bearing Assembly	1.35	
	*W-167	WRENCH, Trans. Front Bearing Retainer Flange and Oil Collector Nuts	.05	
	*W-171	GAUGE, Clutch Pressure Plate Adj'ing	\$.75	
	*W-172	PULLER, Crankshaft Gear, Camshaft Sprocket, Universal Joint Flange and Parking Brake Drum	5.40	
	*W-173	GAUGE & SCALE, Piston Fitting—(Contains 30 lb. accurate Scale and 3 lengths of .004" x 1/2" gauge stock)	8.95	
	*W-175	PULLER, Crankshaft Fan Pulley	5.85	
Total				

Qty.	Tool No.	DESCRIPTION	Price	Total
Total Carried Forward				
	*W-176	PULLER & Socket, Transfer Case Shift Rod Oil Seal	4.40	
	*W-177	DRIVER, Valve Guide Removing and Installing	2.00	
	*W-179	WRENCH, Brake Cam Adjusting	1.00	
	*W-186	DRIVER, Rear Axle Shaft Oil Seal (Semi-Floating Rear Axles)	1.75	
	*W-188	DRIVER Diff. Case Bearing Cone Installing for Semi-Floating Axles	2.25	
	W-189	GAUGE, Cylinder Compression—with Flex. Hose, Rubber Cone Adapter and Spark Plug Fittings	10.00	
	*W-190	DRIVER, Front Wheel Hub Oil Seal	2.25	
	W-191	HONE, Brake Cylinder Refinishing	15.00	
	*W-192	PILOT PIN Transfer Case Intermediate Gear Thrust Washer (This is New Double Piloted Pin Adaptable to Early and Late Models)	1.50	
	*W-193	ARBOR, Trans. Cluster Gear Ass'y	2.10	
	*W-194	PLATE, Trans. Main Shaft Retaining	3.60	
	*W-198	TOOLS, Shock Absorber Rubber Grommet Installing (pair)	9.00	
	C-259	TOOL, Piston Ring—Size 3 1/8"	2.25	
	C-311	GUN, Radiator and Engine Flushing	7.75	
	C-312	PLIERS, Brake Spring Installing	2.50	
	*C-319	PULLER, Rear Wheel and Hub (5 Stud Type) for Semi-Floating Rear Axles (not Req'd. if C-675 Set is Ordered)	6.20	
	C-360	ARBOR, Clutch Driven Plate Aligning	4.75	
	C-362	REFILLER, Brake Master Cylinder	5.30	
	C-385	COMPRESSOR, Universal Piston Ring	.95	
	C-416	CLAMPS (Set of 4), Brake Cylinder	1.00	
	DD-428	GAUGE, Camber, Caster and K. P. I.	52.25	
	DD-435	TURNTABLES, Pair—Full Floating (Used with DD-428 for Front Wheel Alignment Service)	68.00	
	C-482	LIFTER, Valve Spring	1.85	
	*C-484	PLIER, Snap Ring	2.25	
	C-486	TOOL, Valve Spring Lock Installing	1.95	
	C-524	WRENCH, 100 Foot Pound Torque	14.95	
	*C-551	REFACER, Water Pump Housing Seat	7.50	
	*C-552	JIG & BUSHING, Power Take-off Shaft U. Joint Pin Removing and Installing	5.30	
	C-557	CLAMP, Brake Lining Installing	9.00	
	C-636-S	REAMER, Cylinder Ridge	12.50	
	C-647	FIXTURE, Clutch & Valve Spring Checking (Torque Wrench extra)	17.75	
	C-675	PULLER SET, Universal Wheel (C-319 Not Req. if This Set Ordered)	28.95	
	C-695	GAUGE & SCRIBER, Front Wheel Toe In Checking (Wheel Scriber is used to make center line on wheel)	17.00	
	C-710	FIXTURE, Connecting Rod Aligning	38.50	
	C-711	TOOL SET, Connecting Rod Straightening. Contains 1 Bending Tool and 1 Pair Twisting Tools)	11.00	
	C-712	TANK, Hyd. Brake System Bleeding	18.00	
	*C-784	WRENCH, U-Joint Flange Holding	5.90	
	*C-785	GAUGE, Combination, Vacuum and Fuel Pump Pressure Checking	6.95	
Total (Less C-693)				
Less 5% Cash Discount (if check is attached)				
NET BALANCE				
	C-693	LIGHT, Ignition Timing (Sun Power Type)	16.00	NET
NET TOTAL				

SERVICE DEPARTMENT

WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

GENERAL LETTER NO. 847

TO All Distributors and Dealers

FROM D. A. Walters

DATE November 11, 1947

"AMERICA'S MOST
USEFUL VEHICLES"

SUBJECT "Sealzit" Waterproof Sealer

"Sealzit" is a fluid type sealer which penetrates into minute cracks and crevices between the rubber weather strip and the glass of windshields and windows, also the body flanges and provides a practically invisible seal of any possible water leaks.

"Sealzit" has been tested by the factory and does not have any detrimental effect on rubber because it dries quite rapidly. It is non-inflammable, tough and resilient like live rubber and does not become brittle until temperatures about -40°Fahrenheit are reached. In order that windshields and windows may be quickly sealed, "Sealzit" must be used on dry surfaces.

This product should be a good item for your Accessory and Parts Department to sell to other automobile dealers and independent garages.

The Dealer discount is 40% from the prices given in the enclosed literature, F.O.B. Philadelphia, Pennsylvania. Your order may be placed with your Distributor under your customary credit arrangements or direct with the manufacturer, accompanied by your check or shipment may be made C.O.D. in the quantities specified.

DAW...ems
Encl. (1)

FOR ALL WINDOW LEAKS

WINDSHIELD SEALZIT



Additional Uses

**Ignition and Wiring Insulation.
Water Hose Connection Seal.
Door Stripping Adhesive.
Gasket Sealer.
Battery Terminal Coating.
Running Board Moulding Adhesive.**

- EASY TO APPLY
- DRIES QUICKLY
- LASTING RESULTS
- ECONOMICAL

2-OZ. BOTTLE
WITH APPLICATORS
(eye-dropper and brush)

85¢ ea.

FOSTER & KESTER COMPANY
INCORPORATED

AUTOMOTIVE PRODUCTS DIVISION
READING NORTH BROAD ST. STATION BLDG.
PHILADELPHIA 32, PENNSYLVANIA



- NOT A GLUE
- NOT A LACQUER
- NOT A SHELLAC
- NOT A VARNISH

Windshield **SEALZIT** is a **LIQUID GLASS-SEAL**

Windshield **SEALZIT** is a transparent liquid glass-seal easily applied by means of the medicine dropper or brush that is furnished with each 2 oz. bottle. The motorist can apply Windshield **SEALZIT** and seal leaks in a matter of a few minutes. It hardens quickly, yet remains in a flexible condition.

Windshield **SEALZIT** DOES NOT PEEL OR BREAK OFF.

It is a well known fact that in time rubber will draw away from a window or windshield and allow water to seep through under the glass.

The outmoded method of correcting this annoying condition was application of an overlay which afforded only a temporary seal. Vibration, shrinkage and atmospheric conditions draw the overlay away from the glass.

Windshield **SEALZIT** acts immediately to seal the leak. It acts as a water repellent and binder between glass and rubber. Windshield **SEALZIT** is not affected by vibration or temperature changes. **IT SEALS THE LEAK AT THE SOURCE.**



*Windshield **SEALZIT** is an approved product. It is being used extensively by manufacturers, railroads, service stations, bus and truck operators, and motorists.*

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 48-6

DATE February 9, 1948

LEAKAGE TESTER

Attached you will find descriptive matter in regard to the Nelson Leakage Tester which has been tested in our Service Garage and found to be a piece of equipment which you may use to good advantage in many ways, including the tracing down of intermittent and partial short circuits in wiring systems.

We suggest that you give consideration to this tester, for we are sure the cost will soon be returned in time saved and revenue obtained.

Orders for this tester should be placed direct with the Nelson Tester Company, 904 West 2nd Street, Cedar Falls, Iowa.

DEAN A. WALTERS
General Service Manager

DAW:amd
Attach.

"America's Most Useful Vehicles"

The **NEW** NELSON LEAKAGE TESTER

GROWLER MODEL

Size— 12x3 3/4 x5 inches



LOCATES
ELECTRICAL TROUBLES
NO OTHER TEST
EQUIPMENT CAN FIND

PORTABILITY MAKES
THIS UNIT PRACTICAL
FOR ELECTRICAL
TESTING

DOES NOT DUPLICATE
ANY EQUIPMENT
YOU MAY HAVE

USED AND RECOMMENDED
BY MANY LARGE
ELECTRICAL, AUTOMOTIVE
AND IMPLEMENT
MANUFACTURING COMPANIES



REGULAR MODEL

Size— 9 3/4 x 3 3/4 x 5 in.

GREATEST
ADVANCEMENT IN THE
AUTOMOTIVE ELECTRICAL
TESTING FIELD

Your Shop, Large or Small, Cannot Afford to be Without This **NELSON TESTER**

THE ANSWER TO ALL YOUR ELECTRICAL TROUBLES

1

A portable unit that indicates and locates for you leaks and cracks in spark plugs, ignition wires, magneto caps, distributor arms, caps, point breaker arms, rotors, batteries and other units. Checks of this kind can be made right on the tractor or automobile.

2

Leaky or grounded wiring and switches that cause batteries to run down or blow fuses in lighting circuits can easily be detected with this unit.

3

Checks complete generators (except internal grounded fields) and starters on tractor or automobile. Locates and will show trouble that growlers, test lights and ammeters cannot show. Will also check individual parts of disassembled units.

4

Shows leaky insulated bearings in magnetos.

5

Ready for immediate delivery.

REGULAR MODEL
ONLY **\$59⁵⁰**

GROWLER MODEL
ONLY **\$69⁵⁰**

F. O. B. CEDAR FALLS, IOWA

Price Subject to Change Without Notice

6

Opens, leaks, shorts or grounds in any electrical part of your tractor or automobile can be easily located and shown with this unit.

7

Fully illustrated instructions come with each model.

8

Constructed with 20 gauge steel case, baked crackle finish and mounted on rubber. Handle on each model.

9

Completely guaranteed for one year. Operates on any 60 cycle, 110 A. C. current. 25 cycle, or 6 volt Battery Model also available.

10

Checks electronic shifts and overdrives in automobiles.

MANUFACTURED BY
NELSON TESTER COMPANY

904 WEST 2ND ST.

CEDAR FALLS, IOWA

PRINTED IN U. S. A.

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

TO ALL DISTRIBUTORS AND DEALERS

NO. 48-34

DATE July 22, 1948

MILLER TRUCK WHEEL STEP

The Miller Manufacturing Company, 5919 Tireman Avenue, Detroit, Michigan, has developed a wheel step which makes a very nice addition to any service station equipment. We all know the difficulty a great many mechanics have in servicing certain parts of the motor due to the fender preventing them from getting close enough for parts to be adjusted. In some shops there are stools or boxes for mechanics to stand on in such cases, but the Miller Wheel Step Kit replaces these makeshifts.

Attached hereto is a circular describing the wheel step, and enumerating many other services in which a step can be utilized.

Orders for the wheel step should be placed directly with the Miller Manufacturing Company.

DEAN A. WALTERS
General Service Manager

DAW:ceg
Attach.

"America's Most Useful Vehicles"

Save Time!

SERVICING TRUCKS

WITH A

MILLER TRUCK WHEEL STEP

PAT. APP'D FOR



Necessary for Making Fast, Efficient Engine Adjustments or Repairs on All Modern Trucks

- Fits Over All Sizes of Truck Tires
- Quickly Adjustable for Tall or Short Mechanics
- Fast—Safe—Easy to Use
- Eliminates Use of Dangerous, Unsightly Boxes or Benches
- Helps Protect Fenders From Scratches During Preparation for new Customer Delivery
- Great For Showrooms—Makes it Easy for Prospect to See New Engine Features
- Needed by all Modern Truck Dealers and Fleet Owners Including:

FORD • DODGE • CHEVROLET •
INTERNATIONAL • GENERAL MOTORS, etc.

Miller Step Plates save many times their modest cost through time saved. A mechanic who must stretch and strain to service engines is not comfortable and an uncomfortable man does not usually do good work. Order a Miller Step Plate for each truck mechanic today.

**SAFETY LIP PREVENTS
ACCIDENTALLY BACKING OFF**

**BIG
SAFE
10" x 26"
WORKING
AREA**

**RUGGED $\frac{3}{16}$ " THICK STEEL PLATE
WITH SAFE, SKID-PROOF SURFACE
(Same Covering Used on Navy Vessels)**

**DOUBLE HOOK BARS FIT OVER
ALL SIZES OF TIRES**

**QUICKLY ADJUSTABLE FOR
TALL OR SHORT MECHANIC**

**OUTRIGGER BARS LAY
AGAINST TIRE • GIVE
STABILITY ON TIRES
OF ALL SIZES**

INDIVIDUALLY
PACKED IN
ILLUSTRATED
CARTON

Shipping Weight 22 lbs.

DD 948

\$18¹⁵
Each
ORDER NOW



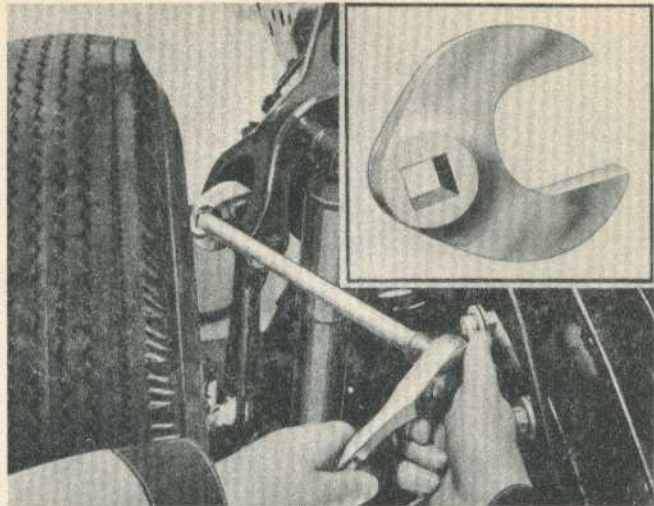
Manufactured By **MILLER MANUFACTURING CO.**
5919 Tireman Avenue • Detroit 4, Michigan



CAMBER WRENCHES For PLYMOUTH • DODGE • DESOTO and CHRYSLER CARS EQUIPPED WITH NEW, WIDE SUPER CUSHION TIRES

NEW WRENCH DESIGN SERVICES THESE CARS WHEN EQUIPPED WITH EITHER STANDARD OR WIDE TIRES

- Earlier design wrenches (C-611 and C-619) are not suitable for servicing the new Plymouth, Dodge, DeSoto and Chrysler cars because of the limited working clearance between the upper control arm assembly and the new wider wheel and tire.
- These new drop-forged, heat-treated, milled opening wrenches are used with any standard mechanic's 1/2" square drive socket wrench extension as illustrated. Two sizes fit all models including the seven passenger types.
- Every Dodge, DeSoto and Chrysler dealer and service shop needs several sets of these time-saving special camber wrenches. Front end alignment shops and front end service men will also need and want their own sets.



C-829—Camber Adjusting Wrench for all 1941 Thru 1948 Plymouth, Dodge, DeSoto and Chrysler 6-cylinder models. Seven passenger models excepted. . \$1.50 ea. Total shipping weight of six of each size wrench—4 lbs.

C-830—Camber Adjusting Wrench for all 1941 Thru 1948 Chrysler, 8-cylinder models. Also 1941 Thru 1948 Plymouth, Dodge, DeSoto and Chrysler seven-passenger model cars. \$1.60 ea.

SAFETY RIM TIRE TOOL!

For PLYMOUTH • DODGE • DESOTO • CHRYSLER

Works with wheel OFF or ON the car! Does not chafe or damage tire or wheel



● Car dealers' service shops, tire stores, gas stations and many car owners and mechanics have found this small but rugged tire removing tool ideal for their needs. It is designed and built for heavy duty service, yet is small enough to be easily packed with other small tools for emergency or road service.

This Miller tool also provides a quick, simple method of removing rusted tires from standard wheels.



MILLER TOOL

NO. C-610

Patent No. 2293467

PRICE \$4.40 ea.

Individually Packaged

Shipping weight for six tools, 30 lbs.

Manufactured by
MILLER MANUFACTURING CO.

5919 TIREMAN AVE. • DETROIT 4, MICHIGAN

WILLYS OVERLAND MOTORS, INC.

SERVICE BULLETIN

NO. 48-48

DATE September 13, 1948

TO ALL DISTRIBUTORS AND DEALERS

**THIS NEW EQUIPMENT WILL HELP
INCREASE YOUR SPARK PLUG BUSINESS**

A Spark Plug Cleaner is a good tool, but a poor salesman. We want to tell you about a machine that is a Spark Plug Cleaner AND Spark Plug Salesman. Willys can now supply to you the new Champion Spark Plug Company's #500 Series Service Unit with the Sparking Comparator.

The Cleaning Unit of this Merchandiser gives a fast, efficient, dust-free, three second cleaning. The Sparking Comparator, with its dial and mirror, will show the full, fat spark of a new plug in comparison with the weak, wavering spark of a badly worn plug. The customer can see and understand this test, and usually buys without the need of a sales talk. This unit will speed up your Spark Plug Service and Sales.

Both Cleaner and Comparator are assembled in a heavy, durable, easily cleaned Grey Enameled Steel Cabinet which has a built in water-trap, single air connection, and storage space for adapters and gaskets. We are attaching hereto some descriptive literature which will give you further details.

Testimonial letters from Car Dealers, Garage Men, and Service Station Operations show that this unit increases spark plug sales up to 200%. It is a valuable selling tool.

Send your order to your Distributor, and shipment will be made promptly. The net price is only \$49.00 each, f.o.b. Montclair, N.J.

DEAN A. WALTERS
General Service Manager

DAW:amd
Attach.

"America's Most Useful Vehicle"

CHAMPION CLEANER AND COMPARATOR

SECTION No. 1A



Champion Complete Service Unit Part No. 500

COMPARATOR—New, improved 115 volt 60 cycle AC high voltage electrical system provides balanced current for testing spark plugs—no adjustment is necessary. The new "Sparking Comparator" obsoletes all former methods of testing—simplifies retail merchandising—builds customer confidence. Equipped with stainless steel mirror—heavy duty needle type air valve—new plastic high tension lead eliminates loose wires and protects against accidental electric shock—built-in switch button—steel adapters for all popular size spark plugs.

CLEANER—A new spark plug cleaner equipped with streamlined abrasive shield—four different sizes of flexible rubber adapters—adapter clamp—rubber nozzle tip—replaceable steel nozzle jet—new type abrasive and air blast valves—single air connection for both cleaner and tester—built-in water trap. Designed to eliminate objectionable dust and provide 3 to 5 second cleaning of the average dirty spark plug.

CABINET (bench type)—Heavy gauge steel finished in synthetic enamel, equipped with rubber mats for convenient working spaces—two hinged doors for storage of cleaner and tester adapters and spark plug gaskets. 200 gasket assortment and spark plug tray included.

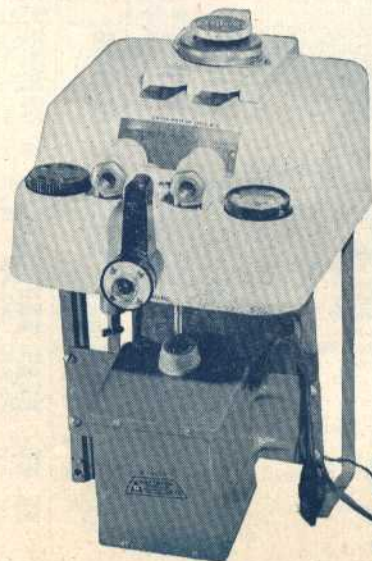
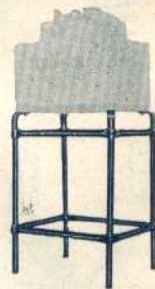
SPECIFICATIONS—HEIGHT 18½", WIDTH 18¾", DEPTH 16", SHIPPING WEIGHT 60 LBS., ELECTRICAL REQUIREMENTS 115V-60 CYCLE AC, COMPRESSED AIR REQUIREMENTS 120-150 LBS. PER SQ. IN.

Dealer Price \$49.00 each {Plus transportation from Montclair, N. J.}

Steel Stand for Champion "500" Series Service Unit (Part No. 585-A)

A steel stand that fits all "500" Series Service Units that are equipped with bench type cabinets. It is constructed of sturdy 1" steel tubing, finished in black baked enamel and designed to be attached (as illustrated) directly to the steel cabinet of the service unit. Strongly braced for stability and equipped with rubber feet to prevent marring or scratching floors. The specifications are: height 27"; width 20½"; depth 15¾"; shipping weight 14½ lbs. The stand is shipped knocked down, complete with instructions and necessary bolts and nuts for assembly.

Dealer Price \$8.00 each {plus transportation from Montclair, N. J.}



Champion Cleaner and Comparator Assembly Part No. 500-A without Cabinet

The compact Champion Spark Plug Cleaner and Comparator Assembly Only is now available for installation on your own service bench. Has all the features of the 500 Complete Service Unit, but without the cabinet or 200 spark plug gasket assortment.

Recommended only for use on a sturdy bench of sufficient width and height to accommodate the following overall dimensions: That part of assembly including control knob above bench: Width 10¼", Height 6¾", Depth 15¾", Requires bench top opening 12" x 9¾".

That part of assembly below top surface of bench requires space 12" x 9¾" x 10". Installation diagram included with each assembly.

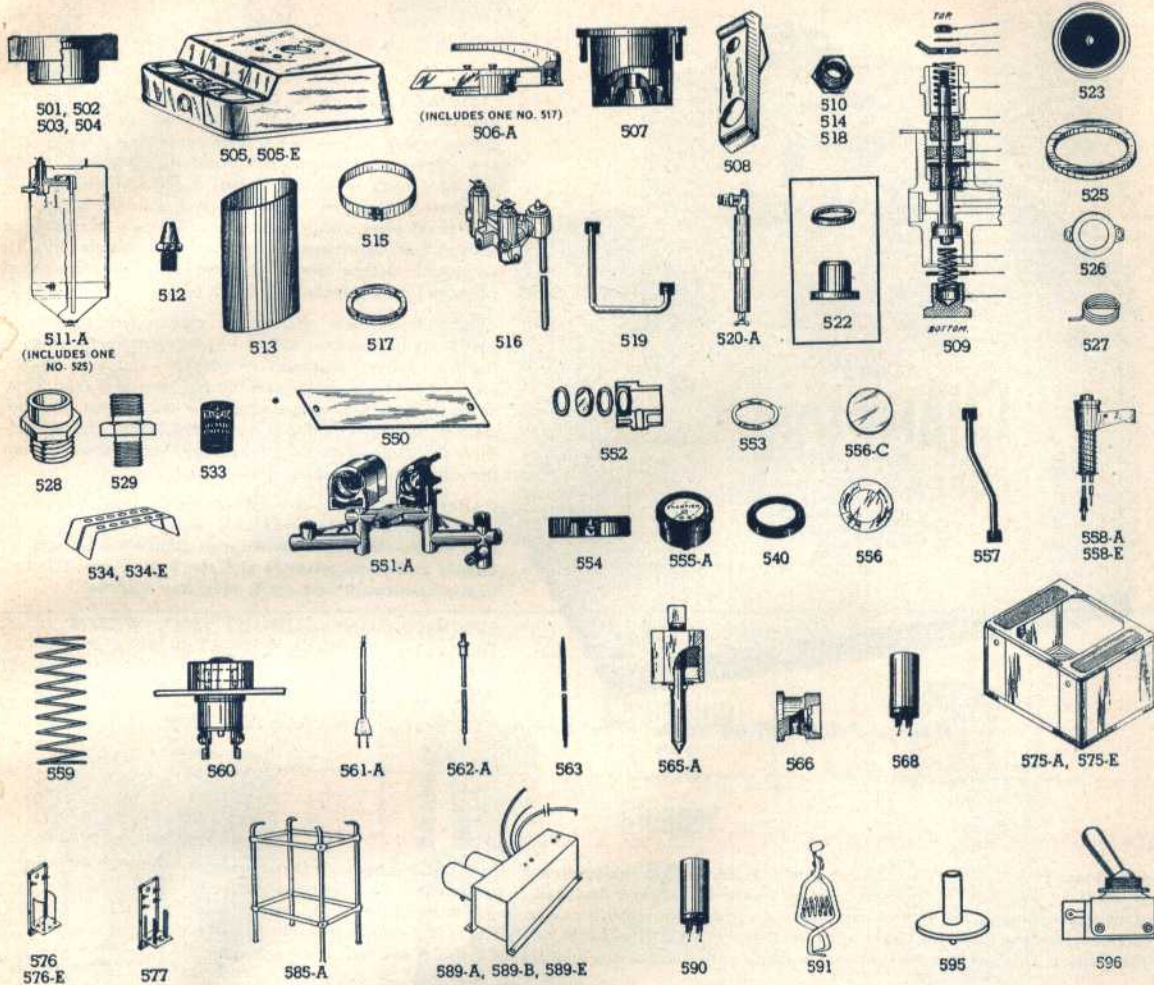
Complete with rubber cleaner adapters and steel comparator adapters for all popular size spark plugs, spark plug tray, new type transformer, "Sparking Comparator", etc.

SPECIFICATIONS: SHIPPING WEIGHT 45 LBS. ELECTRICAL REQUIREMENTS 115V-60 CYCLE AC, COMPRESSED AIR REQUIREMENTS 120-150 LBS. PER SQ. IN.

Dealer Price \$43.00 each {Plus transportation from Montclair, N. J.}

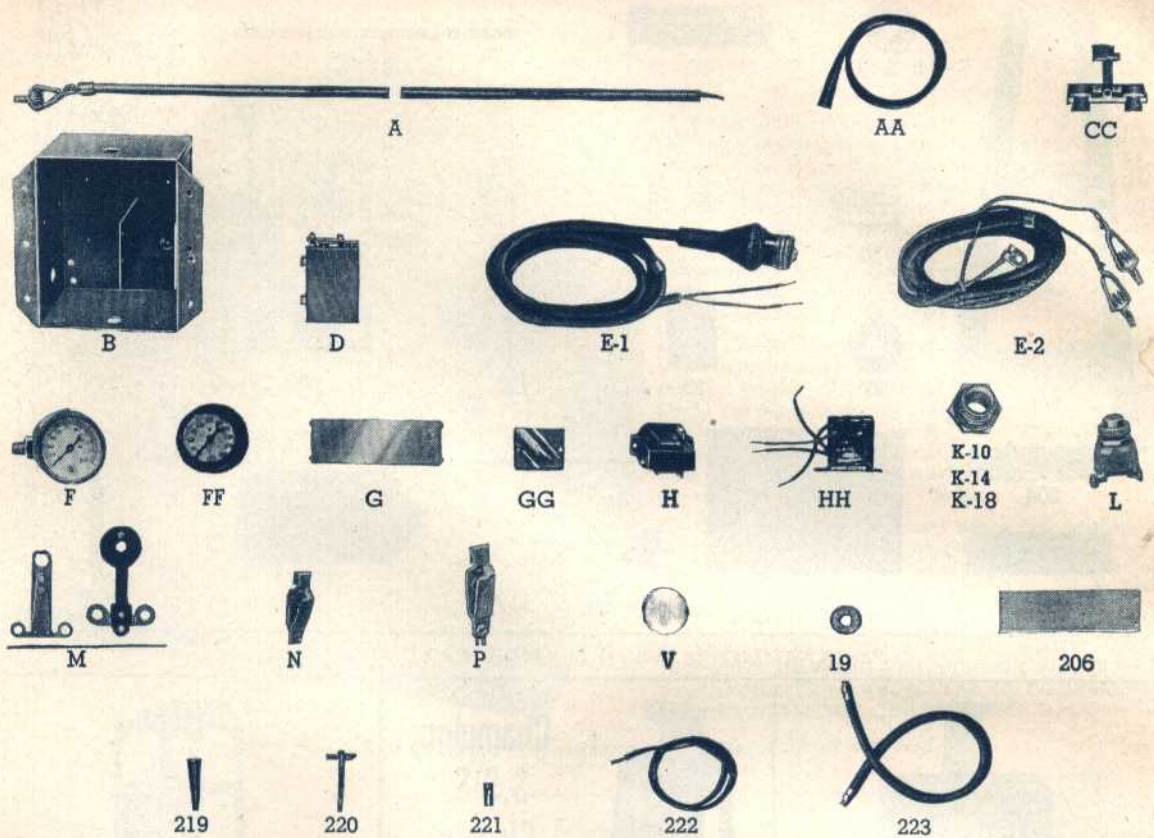
CHAMPION SERVICE UNIT PARTS LIST

FOR ALL 500 SERIES MODELS

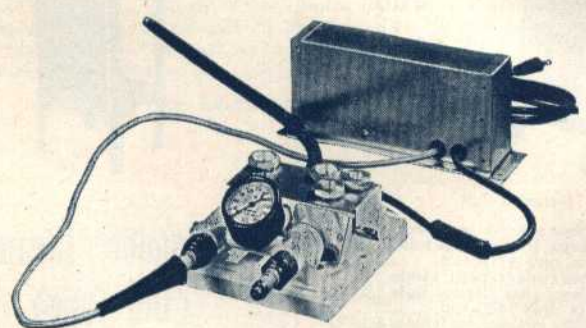


NAME OF PART	Price Each	PART NUMBER			NAME OF PART	Price Each	PART NUMBER		
		500 Regular 115V-60 Cyc.	500B Battery 6V-D.C.	500E Aircraft 115V-60 Cyc.			500 Regular 115V-60 Cyc.	500B Battery 6V-D.C.	500E Aircraft 115V-60 Cyc.
Rubber Cleaner Adapter (10mm)	\$.50	501	501	501	Mirror	\$.20	550	550	550
Rubber Cleaner Adapter (14mm)	.50	502	502	502	Compression Chamber Assembly	3.55	551-A	551-A	551-A
Rubber Cleaner Adapter (18mm)	.50	503	503	503	Comp. Chamber Glass Repair Kit	.20	552	552	552
Rubber Cleaner Adapter (3/8")	.50	504	504	504	Adapter Housing Gasket	.12	553	553	553
Cleaner-Comparator Housing	5.85	505	505	505-E	Comparator Valve Knob	.24	554	554	554
Abrasive Shield Assembly	2.55	506-A	506-A	506-A	Sparkling Comparator Complete	3.55	555-A	555-A	555-A
Adapter Housing	.60	507	507	507	Glass & Decal for Metal Rim Comparator	.55	556	556	556
Cleaner Valve Lever	.60	508	508	508	Clear (Clear) for Plastic Rim Comparator	.30	556-C	556-C	556-C
Cleaner Valve Repair Kit	1.00	509	509	509	Comparator Air Line	.55	557	557	557
Steel Comparator Adapter (10mm)	.12	510	510	510	Control Knob Assembly Complete	4.85	558-A	558-A	558-E
Cleaner Bag Frame and Valve Assy.	6.46	511-A	511-A	511-A	Control Knob Spring	.20	559	559	559
Nozzle Jet	.16	512	512	512	Comparator Button Switch and Plate	1.35	560	560	560
Cleaner Bag	.55	513	513	513	Socket-to-Comparator Cable Assembly	.55	551-A	561-A	561-A
Steel Comparator Adapter (14mm)	.12	514	514	514	Hi-Tension Cable	.80	562-A	562-A	562-A
Bag Clamp	.26	515	515	515	Cable to Button Switch	.35	563	563	563
Cleaner Chamber Casting Assy.	3.75	516	516	516	Comparator Valve Assembly	.55	565-A	565-A	565-A
Shield Base Gasket	.20	517	517	517	Comparator Knob Contact	.35	566	566	566
Steel Comparator Adapter (18mm)	.12	518	518	518	Control Knob Contact	2.25	568	568	568
Cleaner Air Line	.55	519	519	519	Vibrator for 6 volt Battery System	10.00	575-A	575-A	575-E
Water Trap Assembly	3.00	520-A	520-A	520-A	Bench Cabinet, Complete	1.48	576	576	576-E
Rubber Nozzle Tip and Cleaner Chamber Gasket	.10	522	522	522	Door, Left Hand	1.80	577	577	577
Abrasive Drain Cap	.24	523	523	523	Door, Right Hand	8.00	585-A	585-A	585-A
Cleaner Bag Frame Gasket	.24	525	525	525	Steel Stand	8.80	589-A	589-A	589-A
Adapter Hold-Down Cap	.27	526	526	526	115V, 60 Cycle System Complete	7.75	589-B	589-B	589-E
Abrasive Shield Spring	.10	527	527	527	6 Volt System Complete	8.80	590	590	590
Cleaner Valve Bushing	.25	528	528	528	115V, 60 Cycle System Complete	2.25	590	590	590
Airline Coupler Screw	.25	529	529	529	Vibrator for 115V 60 Cycle System	.16	591	591	595
Abrasive Compound, per can	.50	533	533	533	Battery Clip (each)	.40	595	595	595
Metal Spark Plug Tray	.25	534	534	534-E	Contact, Shielded Aircraft Plug	.55	596	596	596
Plastic Comparator Rim (Not Interchangeable with Metal Rim)	.22	540	540	540	Toggle Switch				

CHAMPION TESTER PARTS AND PRICE LIST



PARTS NOT LISTED SHOULD BE CONSIDERED UNAVAILABLE



CHAMPION S.S.S. TESTER

No.	Name of Part	Price Ea.
AA	High tension cable assembly to spark plug	.30
CC	Compression chamber assembly	1.00
D	Coil, special	2.00
E-1	Socket to tester cable assembly	.40
E-2	Socket to tester cable assembly	.60
FF	Pressure gauge	1.00
GG	Mirror, each	.20
HH	Transformer, 110v, 50-60 cycle	1.20
HH	Transformer, 220v, 50-60 cycle	1.20
HH	Transformer, (special) 110v, 25 cycle only	1.50
HH	Transformer, 110V, 25-60 cycle	1.50

No.	Name of Part	Price Ea.
K-10	Adapter, 10mm	.12
K-14	Adapter, 14mm	.12
K-18	Adapter, 18mm	.12
L	Button switch	.40
M	Vibrator points, set of 2	.30
N	Spring clip for plug cable	.10
P	Spring clip for battery cable	.10
V	Glass for gauge (approx. 2" dia.)	.20
19	Rubber grommet	.15
206	Transformer box cover	.20
219	Rubber cover for "N" spring clip	.15
220	Air valve needle	.30
221	Air valve gland	.20
222	Cable from coil box to button switch	.20
223	Rubber hose assembly from airline to tester	.80

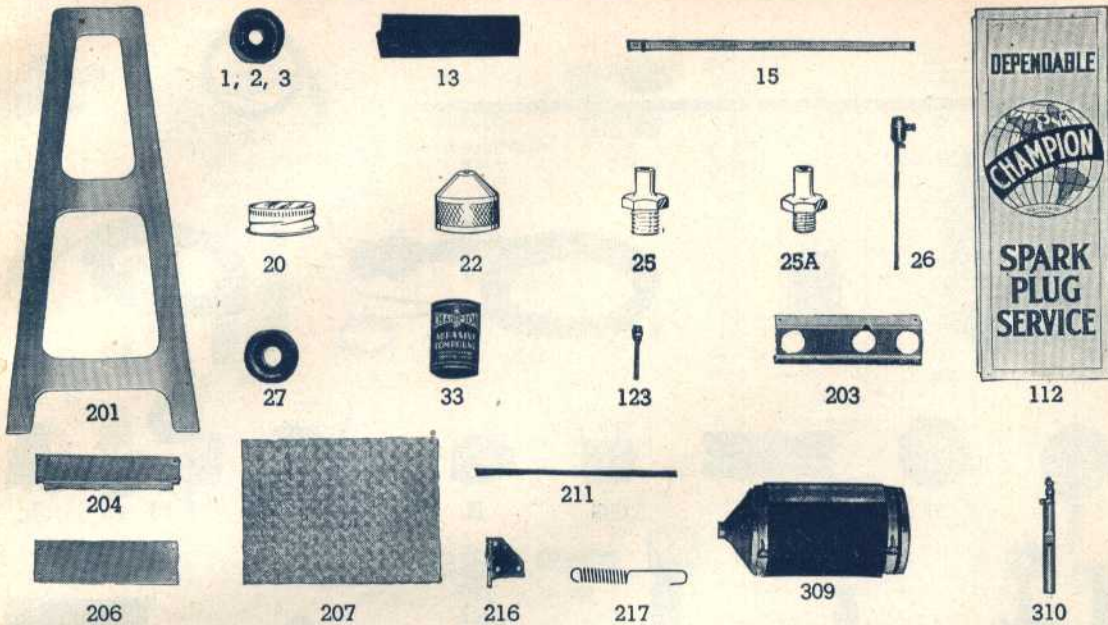


CHAMPION BOX TYPE TESTER

No.	Name of Part	Price Ea.
A	High tension cable assembly to spark plug	.20
B	Tester case only	.50
D	Coil, special	2.00
E-1	Socket to tester cable assembly	.40
E-2	Socket to tester cable assembly	.60
F	Pressure gauge	1.00
G	Mirror	.30
H	Transformer, 110v 50-60 cycle	1.20
H	Transformer, 220v 50-60 cycle	1.20
K-10	Adapter, 10mm	.12
K-14	Adapter, 14mm	.12
K-18	Adapter, 18mm	.12
L	Button switch	.40
M	Vibrator points, set of 2	.30
N	Spring clip for plug cable	.10
P	Spring clip for battery cable	.10
V	Glass for gauge (approx. 2" dia.)	.20
19	Rubber grommet	.15

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CHAMPION CLEANER PARTS AND PRICE LIST



PARTS NOT LISTED SHOULD BE CONSIDERED UNAVAILABLE



Champion Bench - Type Cleaner

No.	Name of Part	Price Ea.
1	Rubber adapter for 10mm plugs (fits cleaner hole 1 3/4" dia. only) flat top.....	.50
2	Rubber adapter for 14mm plugs (fits cleaner hole 1 3/4" dia. only) flat top.....	.50
3	Rubber adapter for 18mm & 7/8" plugs (fits cleaner hole 1 3/4" dia. only) flat top.....	.50
13	Cleaner bag.....	.50
15	Bag clamp.....	.15
20	Abrasive hopper cap.....	.15
22	Nozzle tip.....	.10
25	Chuck nipple to cleaner.....	.15
25A	Chuck nipple to blow-out.....	.15
26	Nozzle housing (with tube).....	.90
33	Abrasive compound, per can.....	.50
123	Water trap chuck nipple.....	.30
309	Cleaner unit complete with nozzle housing etc.....	4.20
310	Water trap assembly.....	1.20



Champion S.S.S. Cleaner 300 Series

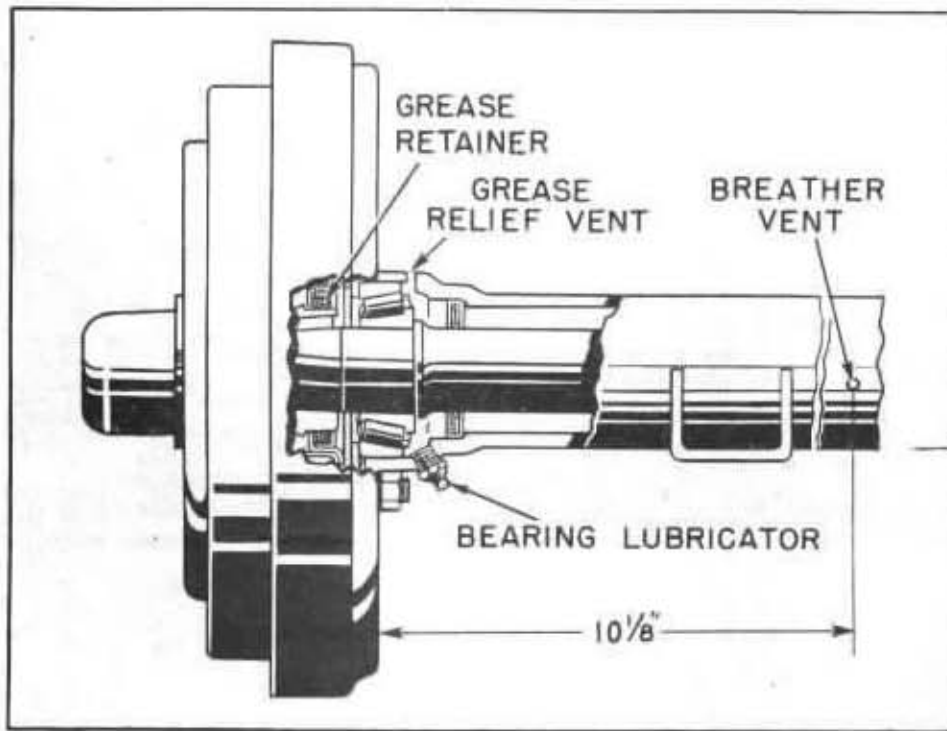
No.	Name of Part	Price Ea.
1	Rubber adapter for 10mm plugs (fits cleaner hole 1 3/4" dia. only) flat top.....	.50
2	Rubber adapter for 14mm plugs (fits cleaner hole 1 3/4" dia. only) flat top.....	.50
3	Rubber adapter for 18mm & 7/8" plugs (fits cleaner hole 1 3/4" dia. only) flat top.....	.50
13	Cleaner bag.....	.50
15	Bag clamp.....	.15
20	Abrasive hopper cap.....	.15
22	Nozzle tip.....	.10
25	Chuck nipple to cleaner.....	.15
25A	Chuck nipple to blow-out.....	.15
26	Nozzle housing (with tube).....	.90
33	Abrasive compound, per can.....	.50
112	Sign front.....	.60
123	Water trap chuck nipple.....	.30
201	Side frame.....	1.50
203	Spark plug shelf.....	.30
204	Brace, front.....	.20
206	Brace, rear middle.....	.20
207	Bottom shelf.....	.60
211	Cleaner cover gasket.....	.15
216	Cleaner guard hinge (left or right) each.....	.15
217	Cleaner guard spring each.....	.15
309	Cleaner unit, complete with nozzle housing.....	4.20
310	Water trap assembly.....	1.20

All prices subject to change without notice.



Champion Cleaner (Old-Type)

No.	Name of Part	Price Ea.
1	Rubber adapter for 10mm plugs (fits cleaner hole 1 3/4" dia. only) flat top.....	.50
2	Rubber adapter for 14mm plugs (fits cleaner hole 1 3/4" dia. only) flat top.....	.50
3	Rubber adapter for 18mm & 7/8" plugs (fits cleaner hole 1 3/4" dia. only) flat top.....	.50
13	Cleaner bag.....	.50
15	Bag clamp.....	.15
20	Abrasive hopper cap.....	.15
22	Nozzle tip.....	.10
25	Chuck nipple to cleaner.....	.15
26	Nozzle housing (with tube).....	.90
27	Rubber adapter, metal insert (fits cleaner hole 2 3/4" dia. only) for 7/8" plugs.....	.50
310	Water trap assembly.....	1.20



Hi Fellas:

THE OTHER DAY Bill, one of our regular customers came in for an oil change and a grease job. Well we got to talkin' and he told me some yarns about his time in the Navy way back in the first World War.

Bill was tellin' me how they used to gripe 'bout all the polishing that hadda be done on board ship. Now he kinda figures that was the best safety precaution they had. Old Bill was a stoker on one a them old four stackers an' said neglecting to keep everything polished up could getta guy put in irons. For one thing down in the stoke-hole, not keepin' the safety valve clean might even blow up the ship!

Well sir - just about then I got to think-in' that this is pretty much like greasing one of our cars. Now we sure can't polish the grease fittings under a car, but, wip-in' road dirt off 'em before you lube is pretty important too.

Just as a fouled safety valve could blow up a ship, a dirty and plugged vent opening on a rear wheel bearing could cause a car to be wrecked. This vent or grease relief hole, is located in the rear axle housing directly above the bearing lubricator. I made a drawin' of them so you'd see exactly where they are.

When that important little vent is packed tight with dirt you can't tell when the bearing chamber is filled. Then a guy's

likely to force some extra grease in past the grease retainer. When the lubricant can't come out through the vent, which is really a safety valve, then the extra is forced past the retainer and works its way on to the brakes. You know how much trouble that can mean.

It seems like a little thing but see-it's really important! Always be sure to clean out that vent before you lubricate the bearing. A small nail or piece of wire does the trick. When that vent's clean be sure to check the rear axle breather hole. You can find it on the back of the left axle tube about ten inches in from the wheel flange and it's just a little below the center line of the axle tube. Breather vents are important too and must be kept open.

Remember fellows it's the little things that make a big difference on a battleship or in a good service department.

Be seein' ya.

Yer fren.

Willy

Willy

WILLYS OVERLAND MOTORS, INC.

SALES BULLETIN

NO. 48-38

TO ALL WILLYS-OVERLAND DISTRIBUTORS & DEALERS

DATE October 30, 1948

1949 SERIAL NUMBER BREAKING POINT

In accordance with our letter of October 4, 1948, the beginning 1949 Serial Numbers for each model vehicle are listed below for your information:

<u>Model</u>	<u>Starting 1949 Serial Number</u>
CJ-2A Jeep.....	219589
463 (Station Wagon Panel Delivery Jeepster).....	79716
663 Station Sedan.....	13119
2WD.....	21011
4WD.....	30576

These Serial Numbers will enable you to distinguish between the 1948 Series and the 1949 Series vehicles.

H. O. LUND
General Sales Manager

WILLYS-OVERLAND MOTORS, INC.

TOLEDO 1, OHIO

October 13, 1949

ALL DISTRIBUTORS AND DEALERS

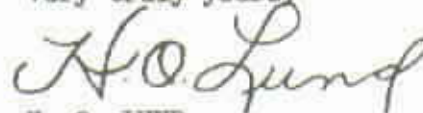
We regret that, for obvious reasons, we will be unable to furnish 1950 serial plates in exchange for 1949 serial plates on any 1949 models which have been discontinued or superseded.

The models for which no new plates can be furnished are:

663	Station Sedan
VJ-2	Jeepster
CJ-2A	Universal Jeep

The above listed models are no longer in production and hence it will be impossible for any 1950 serial plates to be furnished for those models.

Very truly yours,



H. O. LUND
General Sales Manager

HOL/amd
No. 73