



ELECTRO-MOTIVE DIVISION • GENERAL MOTORS CORPORATION

MAINTENANCE INSTRUCTION

AIR PRESSURE WINDSHIELD WIPER

DESCRIPTION

The air pressure-type windshield wiper, Fig. 1, is ruggedly constructed, requires very little attention, and should give long service with ordinary care.

Many failures are caused by forcing the wiper arm against pressure and past the normal stroke position. Undue forcing of the arm may result in damage to the valve mechanism.

In order to obtain proper wiper operation, it is necessary to keep the air supply free from excess oil, water, dirt, grit, or other foreign matter. A clean air supply ensures against rust, gumming, or premature wearing of the piston or valve parts. An air strainer or filter should be located within the air line, and operating properly.

MAINTENANCE

When difficulty is encountered with the windshield wiper motor, the air supply should be checked to be sure there is an adequate supply at

the correct pressure. For wiper speed adjustment, see the applicable Locomotive Service Manual.

Whenever it becomes necessary to disassemble the motor, all parts should be carefully checked for wear and lubricated before reassembly. All worn parts should be replaced. See Figs. 2 and 3 for breakdown of motors and identification of parts.

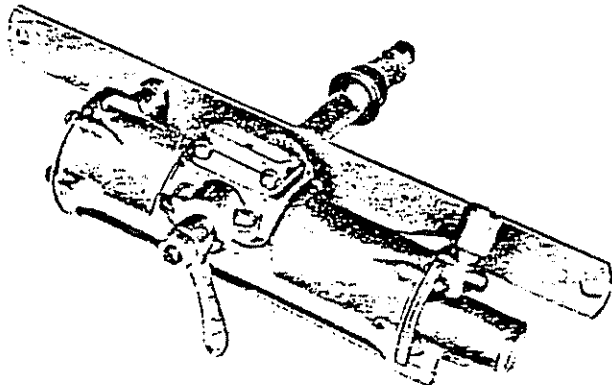
INSPECTION

Periodically, the air lines should be checked for plugged fittings, kinked tubing, or leaks. Make sure that all connections are tight. Check air line screens, strainers, or filters for cleanliness.

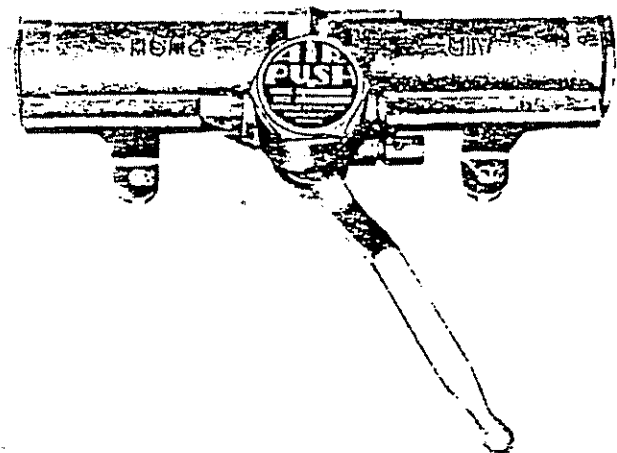
WIPER MOTOR DISASSEMBLY

TRICO-TYPE MOTOR

Turn wiper shaft handle to bring gear rack assembly as near as possible to the head assembly. Remove six screws and lockwashers from the head assembly. Remove head assembly by unhooking connecting rod from pin on head, Fig. 4.



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Fig. 1 - Air Pressure Windshield Wiper Motor

*This bulletin is revised and supersedes previous issues of this number.

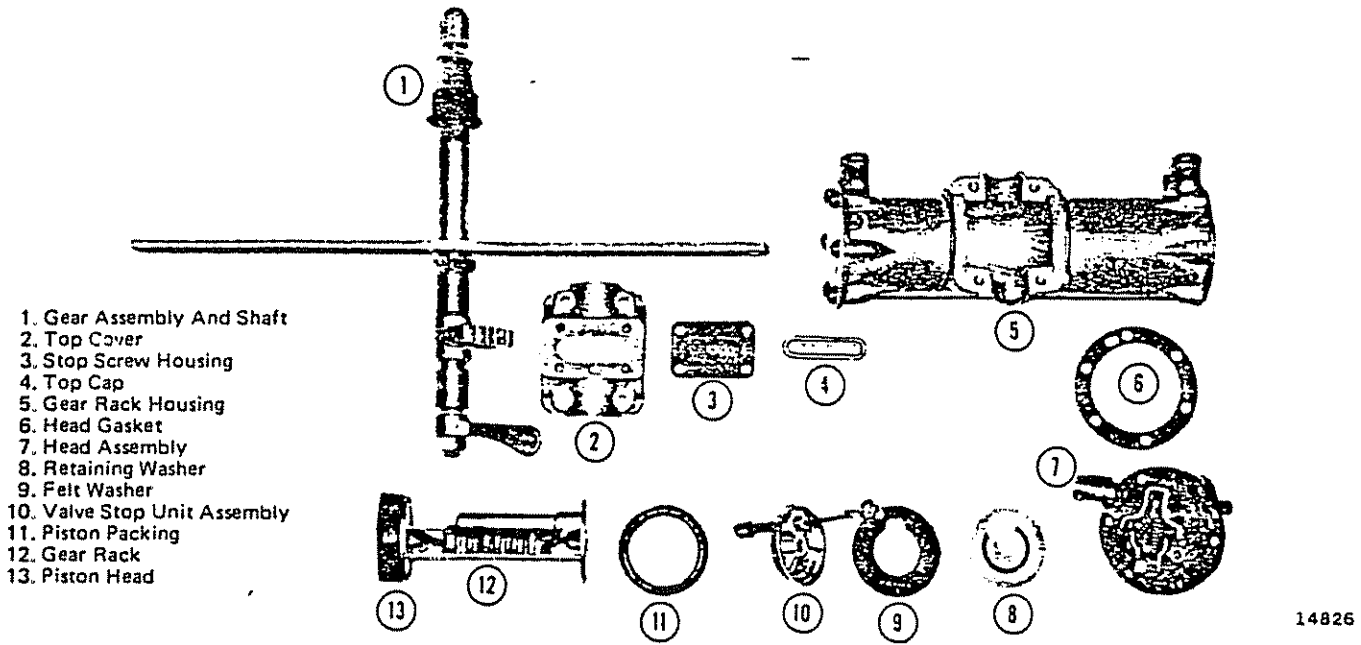


Fig. 2 - Windshield Wiper Motor Breakdown - Trico Motor

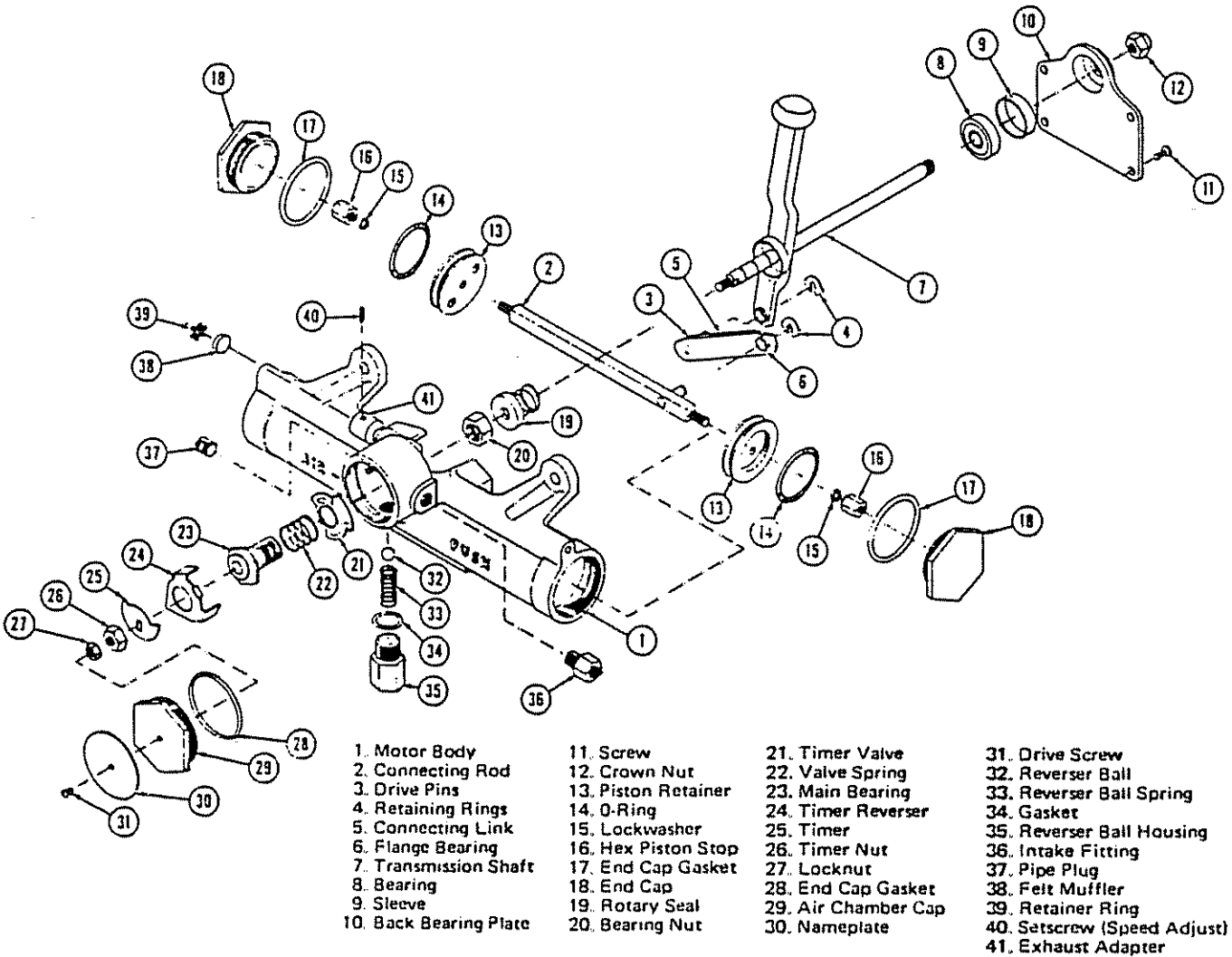


Fig. 3 - Windshield Wiper Motor Breakdown - Sprague Motor

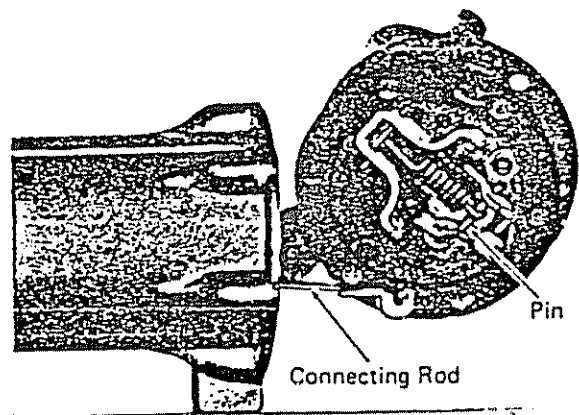


Fig. 4 - Head Assembly Removal

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Observe angle of head when unhooking connecting rod, as same angle is needed when assembling parts. Gasket can now be removed. A new gasket should be used when replacing the head assembly, also place a small amount of grease on all moving parts of the head assembly. For grease specifications see M.I. 1756.

NOTE: In reassembly of head, make sure that air passage in head is directly opposite air tube in cylinder.

Remove top plate by removing four screws and lockwashers holding top plate to motor housing. Observe position of top plate before removal so that, when reassembling, it will be in the same position. Next remove the shaft and gear assembly. The gear rack assembly can now be withdrawn from the motor housing by sliding out through the open end.

The gear rack assembly can be dismantled further to replace defective parts by removing screw and lockwasher in center of piston.

SPRAGUE-TYPE MOTOR

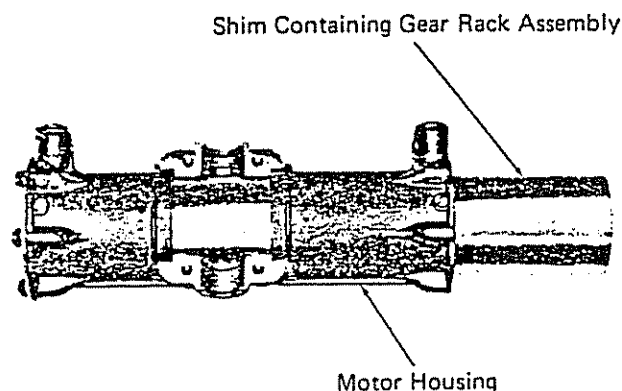
Remove the air chamber cap, cylinder end caps, and gaskets. Also remove the back bearing plate by removing four screws. Now remove connecting link retaining rings, timer nut, and locknut. The timer valve assembly and transmission shaft may now be removed. The piston and connecting rod assembly can also be withdrawn from the motor housing by sliding through the open end.

WIPER MOTOR REASSEMBLY

TRICO-TYPE MOTOR

When reassembling the gear rack assembly into the cylinder, wrap the entire rack in a steel shim,

Fig. 5. Slide rack and shim into cylinder far enough to pass opposite end of opening. Push the rack down as far as it will go, while holding the shim. Now hold the rack in place with a screwdriver, and remove the shim. Grease the end of the cylinder when replacing the head.



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Fig. 5 - Replacing Gear Rack Assembly On Cylinder

To install the shaft and gear assembly, move rack to the center of the cylinder. Make sure the teeth of the gear match those in the rack. The last tooth on either end of the gear should go into the last tooth at either end of the rack. Apply grease to teeth and assemble top cover, making sure it is in the same position as when removed.

SPRAGUE-TYPE MOTORS

Some older sprague wiper motors may have leather cup piston seals, however, all sprague wiper motors are now equipped with "O"-ring piston seals. When reassembling the piston and connecting rod assembly into the motor body, simply slide the assembly into place. The position of the timer mechanism will be fixed by the square hole in the timer reverser and the corresponding square pilot on the transmission shaft.

STOP SCREW ADJUSTMENT (Trico-Type Motor Only)

Remove the top cap by prying up with a screwdriver. Operate wiper at slowest possible speed. Loosen the locknut and turn the stop screw down until wiper stops, then back out screw until wiper just starts to operate again. Repeat this same adjustment for other stop screw.

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