ELECTRO-MOTIVE DIVISION • GENERAL MOTORS CORPORATION
SERVICE DEPARTMENT

MAINTENANCE INSTRUCTION

AIR PRESSURE WINDSHIELD WIPER

DESCRIPTION

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

Many failures are caused by unnecessary forcing of 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 it is advisable to first check that the proper air pressure is being received by the wiper motor. For manual control valve adjustment see Section 5 of the 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 Fig. 2 for breakdown of motor and identification of parts.

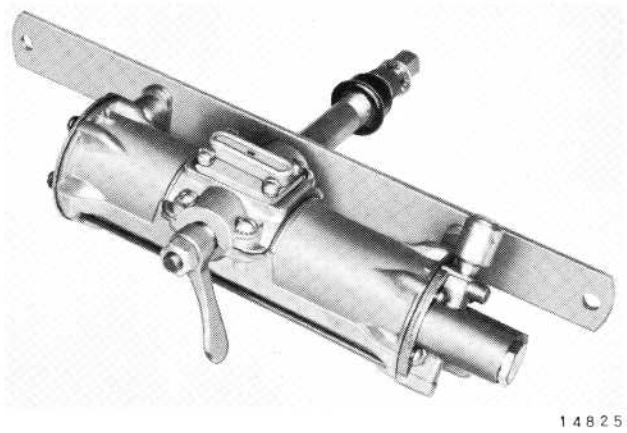

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Fig. 1 — Air Pressure Windshield Wiper Motor

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

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 valve stop unit assembly from pin on head, see Fig. 3. Observe angle of head at time of unhooking connecting rod as same angle is needed to replace connecting rod to pin. 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..

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

NOTE: Information contained herein is applicable to equipment being produced as of the date of publication.

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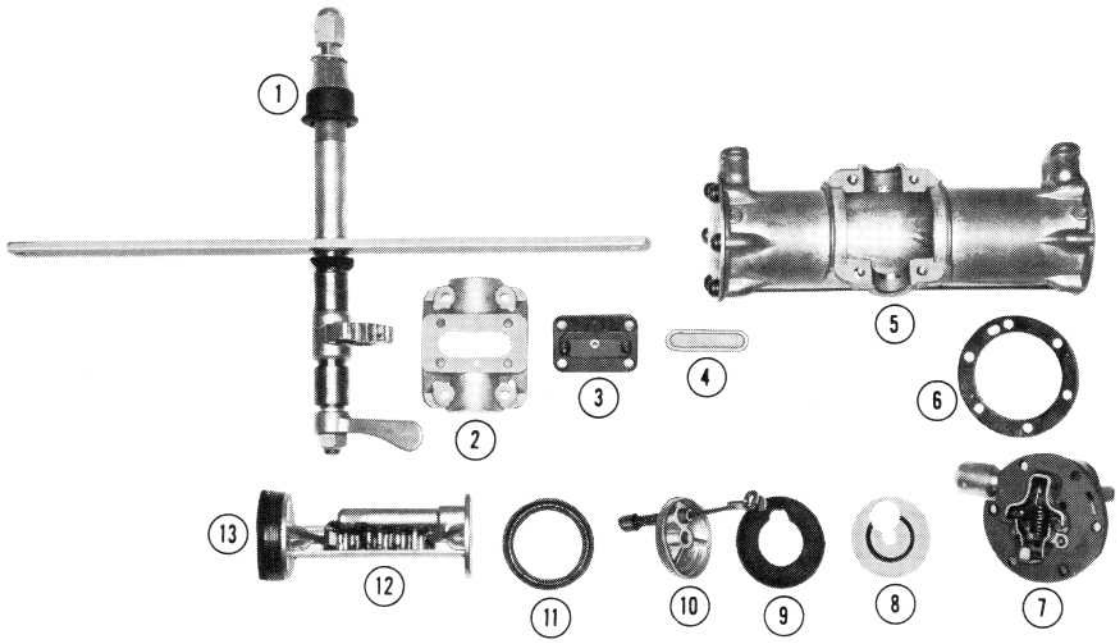

1. Gear Assembly And Shaft
2. Top Cover
3. Stop Screw Housing
4. Top Cap
5. Gear Rack Housing
6. Head Gasket
7. Head Assembly
8. Retaining Washer
9. Felt Washer
10. Valve Stop Unit Assembly
11. Piston Packing
12. Gear Rack
13. Piston Head

Fig. 2 — Windshield Wiper Motor Breakdown

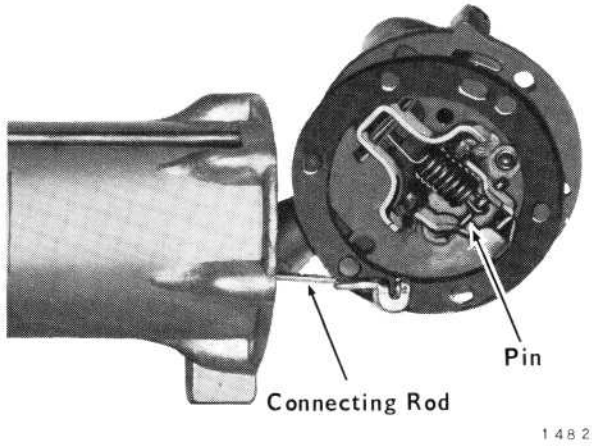

Fig. 3 — Head Assembly Removal

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, see Fig. 4.

WIPER MOTOR REASSEMBLY

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

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.

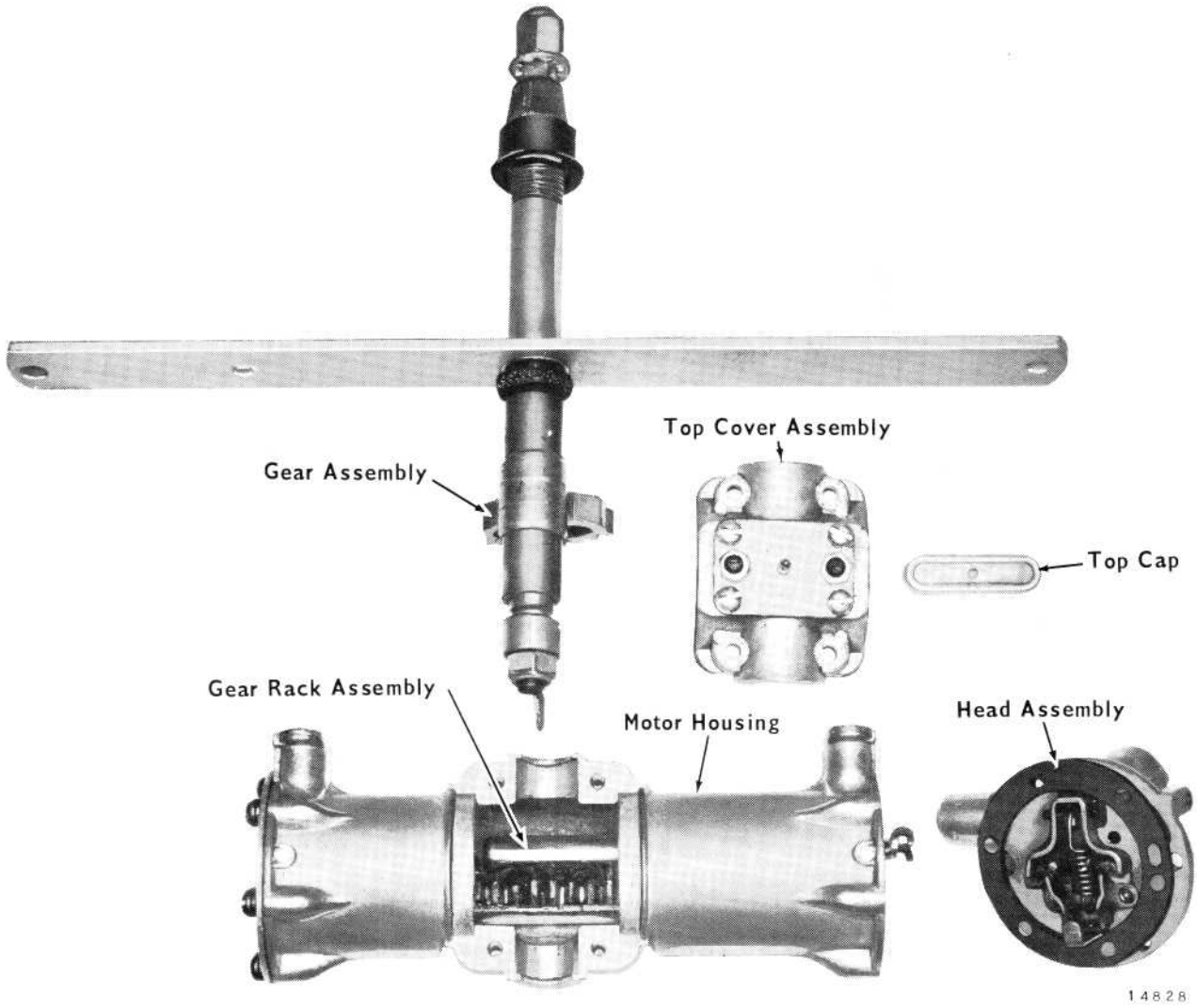

Fig. 4 — Gear Rack Disassembly

Apply grease to teeth and assemble top cover, making sure it is in the same position as when removed.

STOP SCREW ADJUSTMENT

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

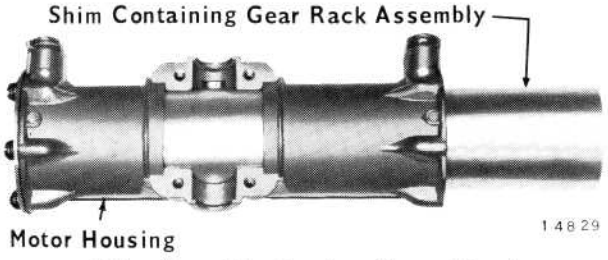

Fig. 5 — Replacing Gear Rack Assembly In Cylinder

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