1969-74 DODGE ELECTRIC 2-SPEED

Dodge
"B" Series (1970-74)
All Other Models (1969-74)

DESCRIPTION

Two speed wiper motors have permanent magnet fields and are controlled by feeding power to different brushes for low and high speed. For low speed operation, current flows through torque limiting resistor and then to low speed brush. For high speed operation, current is fed directly to high speed brush. Motor speed is selected by rotating switch knob clockwise. A circuit breaker protecting wiper system is integral with wiper switch.

TROUBLE SHOOTING

Wiper Inoperative – Binding linkage. Faulty wiper switch. Open or grounded wiring. Faulty motor.

Motor Draws Excessive Current (Circuit Breaker May Cycle) – Shorted motor or park switch. Jammed gearbox mechanism. Shorted or burned armature. Defective bearings. Broken brushholder.

Motor Runs One Speed Only – Open circuit in red or brown wiring. Defective wiper switch. Low speed torque limiting resitor open. Defective brush, brush spring or holder.

Motor Runs But Output Crank Does Not Turn – Stripped intermediate gear or output gear. Output gear slips on output shaft. Crank arm not fastened properly to output gear shaft.

Blades Will Not Park – Motor park switch open. Faulty instrument panel switch. Arm set at incorrect position.

Motor Does Not Shut Off – Defective armature brake switch. Broken brush holder. Faulty park mechanism.

TESTING

MOTOR

1) Disconnect motor leads at motor and connect jumper wire from battery positive terminal to motor terminal "H". Motor should run at high speed. *NOTE – Motor is grounded through brass strip on one mount bolt.* Ensure that connection is good. Remove jumper.

2) Connect jumper wire from battery positive terminal to resistor terminal. Connect a second jumper from terminal "L" to second resistor terminal. Motor should run at low speed. Remove jumpers.

3) *NOTE – Following test procedure is applicable to "B" series only.* Connect jumper from battery positive terminal to motor terminal "P1". Connect a second jumper from motor terminal "P2" to terminal "L". Motor should go to park position.

WIPER SWITCH

Use continuity tester or ohmmeter to check for continuity between contact terminals of switch as shown in table. For test purposes, first position is "OFF"; "LOW" is first detent from "OFF" position; "HIGH" is second detent from "OFF" position. Ground is the case of wiper switch.

Switch Continuity

Off	Low	High
B to B/U	B to B/U	B to B/U
B to P1	B to P1	B to P1
A to P2	B to A	B to H
H-Open	P2-Open	P2-Open
	H-Open	A-Open

REMOVAL & INSTALLATION

WIPER MOTOR

"B" Series (1970-74) – Remove wiring harness connectors from motor, then remove motor retaining bolts. Lower motor enough to gain access to drive link retainer. Remove retainer, link and wave washer. Remove motor. To install, reverse removal procedure.

All Other Models (1969-74) – Disconnect negative battery cable, remove wiper arm and blade assemblies, then remove air cowl grille. Remove nut retaining left link to intermediate crank arm and felt washers from crank arm pin. Carefully pry link and intermediate crank arm from crank arm pin. Leave link and intermediate arm in chamber. Disconnect motor harness connector and remove left defroster hose from heater outlet. Remove motor attaching nuts and remove motor. To install, reverse removal procedure.

OVERHAUL

MOTOR

Disassembly – Hold wiper motor in a vise and remove mounting grommets and spacers, bulkhead seal, then drill rivets from gear housing cover and remove cover. Remove intermediate gear and wave washer. Remove housing through bolts, then remove housing and armature assembly. Remove flat washers and one spring washer. Remove output shaft seal from housing cover, snap ring and washers. Remove output gear and flat washer from cover assembly.

Reassembly – 1) Lubricate output gear teeth and inner and outer cams. *CAUTION – Keep grease off park switch contacts.* Install flat washer on output shaft and slide gear into cover. Place flat washer, spring washer and large flat washer on output shaft. Install snap ring. Pack seal with grease and install over output gear shaft.

2) Install a flat washer, spring washer and a flat washer on armature shaft. Position armature in brush holder assembly. Release brush leads from brush holder notches and check that brushes are spring loaded against commutator. Hold armature pinion so magnets in motor housing do not pull armature out of brush holder and line up motor housing assembly with brush holder and place over armature. Install motor housing and through bolts. Gently tap motor with mallet to align bearings.

3) Contact gap and alignment must be checked and adjusted as follows: Alignment of contacts on brass dogleg, copper switch blade and steel bearing retainer must be within 90% of total point contact. Adjust by bending dogleg or retainer. *CAUTION – Do not bend or make any adjustment to copper switch blade.* Adjust point gap between brass dogleg and copper switch blade to obtain a clearance of .050" between switch blade and bearing retainer. Adjust by bending dogleg in straight section of dogleg.

4) Lubricate intermediate gear shaft, install wave washer (convex side toward gear) and intermediate gear on shaft. *CAUTION – Rotate output shaft so outer cam does not contact park switch while installing cover assembly.* Install cover ensuring locating pins are aligned with holes in gear housing. Install mounting grommets, spacers and bulkhead seal. Bench test unit before installation in vehicle.