

Service Department

Technical Service Bulletin



Of Interest ☐ General Manager ☐ Sales Manager ☐ Service Manager ☐ Parts Manager ☐ Service Technicians

February 17, 1971

No. D71-8-5

If you encounter a Chrysler Corporation built windshield wiper motor that fails to operate or has erratic operation, this motor may be repaired in most cases by following the diagnosis chart and outlined repair procedures in this bulletin.

POLICY: Information only

J. D. Morton

Manager - Technical Services

U. S. AUTOMOTIVE SALES AND SERVICE

(Over)

ELECTRICAL

Two Speed
Wiper Motors

MODELS: All
Equipped With
Corporate
Wiper Motor

P-429-C

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Dodge



CHALLENGER / CHARGER / CORONET / DART / MONACO / POLARA

DIAGNOSIS

	<u>Possible Cause</u>	<u>Correction</u>
1. Output crank does not turn but motor runs.	A. Stripped intermediate gear.	A. Replace gear see "Gear Replacement."
	B. Stripped output gear.	B. Replace gear.
	C. Output gear slips on output shaft.	C. Replace gear.
2. Motor draws excessive current, thus cycling instrument panel switch circuit breaker.	A. Shorted armature.	A. Replace armature.
	B. Burned armature.	B. Replace armature.
	C. Defective Park switch.	C. Replace gear housing, brush holder and Park switch assembly.
	D. Seized armature bearing.	D. Replace armature and motor housing or gear box, brush holder and Park switch housing.
	E. Bearings loose in housing.	E. Replace motor housing or brush holder and Park switch assembly.
	F. Loose or chipped magnets and loose clips or chips interfering with armature.	F. Replace motor housing, check for burned armature.
	G. Broken brush holder.	G. Replace brush holder and Park switch assembly.
3. Motor runs on one speed only.	A. Brush sticking in holder.	A. File or emery cloth the brush sides or replace brush holder and Park switch assembly.

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	<u>Possible Cause</u>	<u>Correction</u>
	B. No brush spring.	B. Replace brush holder and Park switch assembly.
	C. Broken brush holder.	C. Replace brush holder and Park switch assembly.
4. Motor will not run when testing motor as described in service manual	A. Common brush stuck.	A. Sand or file brush sides or replace brush holder and Park switch assembly.
	B. Open circuit in armature (at commutator).	B. Replace armature.
	C. Spring off common brush.	C. Replace brush holder and Park switch assembly.
5. Motor does not park or continues to run after being parked.	A. Open blue or green wire circuit or faulty instrument panel switch.	A. Repair or replace as necessary.
	B. Open Park switch.	B. Replace brush holder and Park switch assembly.
	C. Defective armature brake switch.	C. Replace brush holder and Park switch assembly.
	D. Broken brush holder.	D. Replace brush holder and Park switch assembly.
	E. Bent motor terminals.	E. Replace brush holder and Park switch assembly.

Replacement of Armature or Motor Housing
In Two Speed Wiper Motor (With Concealed
or Non-Concealed Wipers).

Disassembly

1. Mount wiper motor as shown in Fig. 1.
2. Remove motor housing through bolts.
3. Remove the motor housing and armature assembly.
4. Remove two flat washers and one spring washer.

Assembly

5. Clean brush assembly and commutator. (Clean commutator with ink eraser).
6. Hook the brush leads in brush holder notches.
7. Install a flat washer, spring washer and flat washer on armature shaft. Place armature in brush holder assembly.
8. Release brush leads from brush holder notches (Check to see brushes are spring loaded against the commutator).
9. Rotate the armature counter clockwise against the intermediate gear so the magnets in the motor housing do not pull the armature out of the brush holder.
10. Line motor housing assembly with brush holder and place over the armature. Install motor housing.
11. Install motor housing through bolts. Gently tap motor housing with small mallet to align bearings.
12. Bench test motor for proper operation.

Replacement of Gear Housing and Brush
Holder Assembly in Two Speed Wiper Motor
(With Concealed or Non-Concealed Wipers).

Disassembly

1. Mount wiper motor as shown in Fig. 1.
2. Remove the mounting grommet spacers.
3. Remove the mounting grommets.
4. Remove the bulkhead seal from motor.
5. Drill out the rivets (6) from the gear housing cover and remove cover.
6. Remove the intermediate gear and wave washer from the gear housing.
7. Remove motor housing through bolts.
8. Remove the motor housing and armature assembly.
9. Remove the flat washers and one spring washer.

Assembly

10. Using new gear housing and brush holder assembly. Hook the brush leads in brush holder notches.
11. Clean commutator with ink eraser, install a flat washer, spring washer and flat washer on armature shaft. Place armature in brush holder assembly.
12. Release brush leads from brush holder notches (check to see brushes are spring loaded against the commutator).
13. Hold the armature pinion so the magnets in the motor housing do not pull the armature out of the brush holder. Line motor housing assembly with brush holder and place over the armature. Install motor housing.
14. Install motor housing through bolts.
15. Gently tap motor with mallet to align bearings.
16. Lubricate intermediate gear shaft, install the wave washer (convex side of washer must face gear) and the intermediate gear on the intermediate shaft.
17. Install the park cam, (the park cam Vee notch must face output gear) flat washer and coil spring (small end first) on the output gear shaft. (With concealed wipers).

18. Rotate park cam so that it does not contact park switch or intermediate gear while assembling the cover assembly. (With concealed wipers).
19. Rotate the output gear so the cam does not contact the park switch while assembling the cover assembly. (With non-concealed wipers).
20. Install cover using screws, lock washers and nuts furnished. Be sure the two cover locating pins are aligned with their hole in the gear housing.
21. Install the mounting grommets.
22. Remove the resistor and ground strap from old gear housing and install on new gear housing.
23. Bench test motor for proper operation.
24. Install the mounting grommet spacers. (Be sure ground strap is under one spacer).
25. Install the bulkhead seal on motor.

Replacement of Intermediate Gear
or Output Gear in Two Speed Wiper
Motor (With Concealed Wipers).

Assembly

Disassembly

1. Mount wiper motor as shown in Fig. 1.
2. Remove the mounting grommet spacers.
3. Remove the mounting grommets.
4. Remove the bulkhead seal from motor.
5. Drill out the rivets (6) from the gear housing cover and remove cover.

To Replace Intermediate Gear

6. Remove the damaged intermediate gear and wave washer from the intermediate gear shaft.
7. Clean the grease and plastic chips from housing and armature shaft.
8. Lubricate the new intermediate gear teeth and bore with grease furnished in package (Keep grease off park switch contacts).
9. Install the new wave washer (convex side of washer must face gear) and the intermediate gear on intermediate shaft.

To Replace the Output Gear

10. Remove the park cam, flat washer and coil spring from output gear shaft.
11. Remove the output shaft seal from the gear housing cover.
12. Remove the snap ring from the output shaft. Remove washers (3).
13. Remove the output gear and flat washer from cover assembly (remove burrs from output gear shaft if trouble is encountered removing from cover).
14. Lubricate the output gear teeth and inner and outer cams (keep grease off the park switch contacts).

Assembly

15. Install flat washer on output gear shaft and slide output gear shaft into cover assembly.
16. Place small flat washer, spring washer and large flat washer on output gear shaft. Install snap ring.
17. Clean seal (pack with grease) and install over output gear shaft.
18. Install the park cam, (the park cam Vee notch must face the output gear) flat washer and coil spring (small end first) on the output gear shaft.
19. Rotate park cam so that it does not contact park switch or intermediate gear while assembling the cover assembly.
20. Install cover using screws, lock washers and nuts furnished. Be sure the two cover locating pins are aligned with their hole in the gear housing.
21. Bench test motor for proper operation.
22. Install the mounting grommets.
23. Install the mounting grommet spacers. (Be sure ground strap under one spacer).
24. Install the bulkhead seal on motor.

Replacement of Intermediate Gear,
or Output Gear in Two Speed Wiper
Motor (With Non-Concealed Wipers).

Disassembly

1. Mount wiper motor as shown in Fig. 1.
2. Remove the mounting grommet spacers.
3. Remove the mounting grommets.
4. Remove the bulkhead seal from motor.
5. Drill out the riverts (6) from the gear housing cover and remove cover.

To Replace Intermediate Gear

6. Remove the damaged intermediate gear and wave washer from the intermediate gear shaft.
7. Clean the grease and plastic chips from housing and armature shaft.
8. Lubricate the new intermediate gear teeth and bore with grease furnished in package (keep grease off park switch contacts).
9. Install the new wave washer (convex side of washer must face gear) and the intermediate gear on intermediate shaft.

To Replace Output Gear

10. Remove the output shaft seal (if so equipped) from the gear housing cover.
11. Remove the snap ring from the output shaft. Remove washers (3).
12. Remove output gear and flat washer from cover assembly (remove burrs from output gear shaft if trouble is encountered removing from cover).
13. Lubricate the output gear teeth and inner and outer cams (keep grease off the park switch contacts).

Assembly

14. Install flat washer on output gear shaft and slide output gear shaft into cover assembly.
15. Place small flat washer, spring washer and large flat washer on output gear shaft. Install snap ring.

16. Clean seal (pack with grease) and install over output gear shaft (if so equipped).
17. Rotate the output gear so the outer cam does not contact the park switch while assembling the cover assembly.
18. Install cover using screws, lock washers and nuts furnished. (Be sure the two cover locating pins are aligned with their hole in the gear housing).
19. Bench test motor for proper operation.
20. Install the mounting grommets.
21. Install the mounting grommet spacers. (Be sure ground strap under one spacer).
22. Install the bulkhead seal on motor.

NOTE: The variable and three speed windshield wiper motor repair is covered in Technical Service Bulletin Seq. No. 68, dated March 10, 1969, No. 69-8-14, 1969.

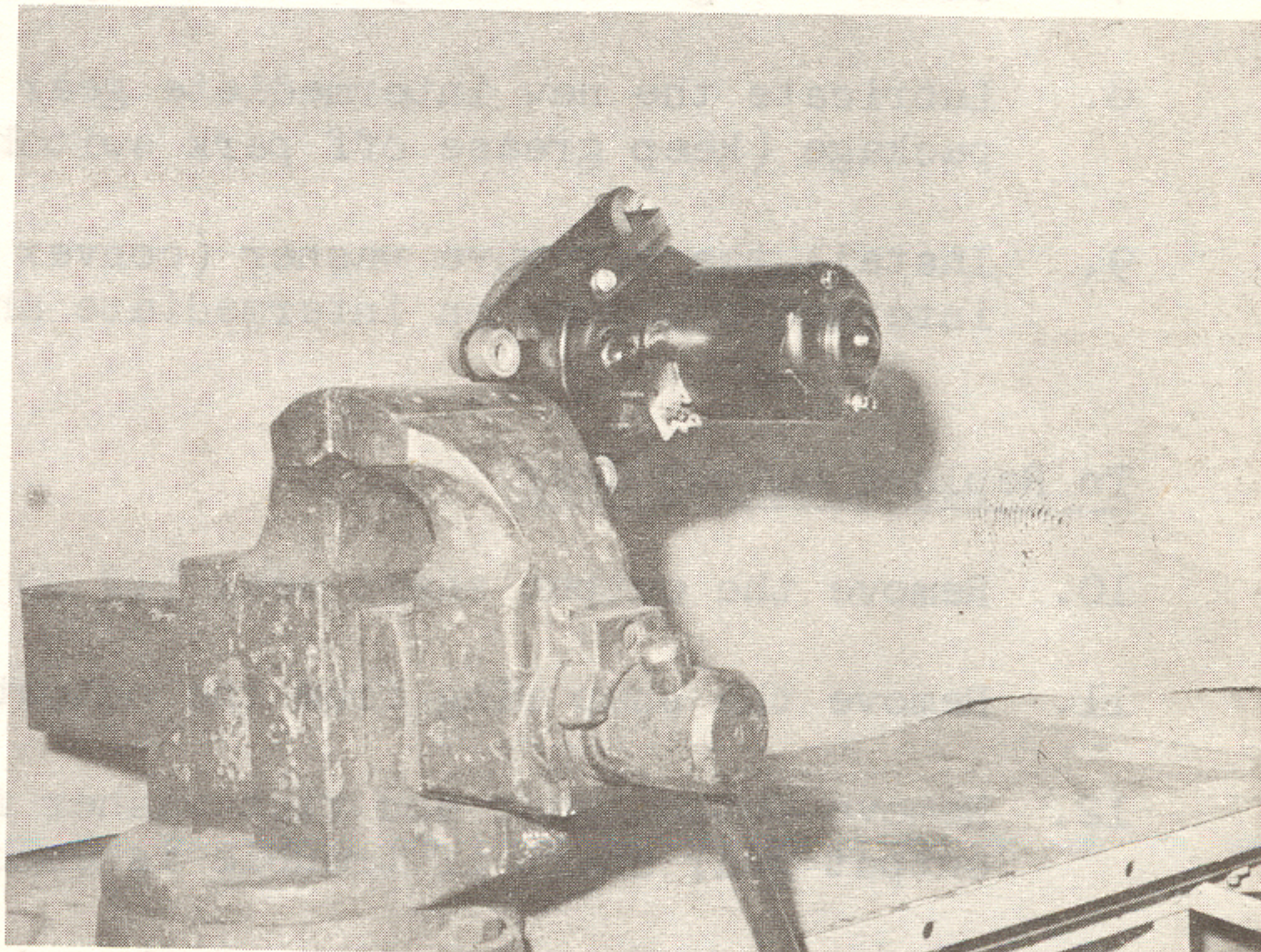
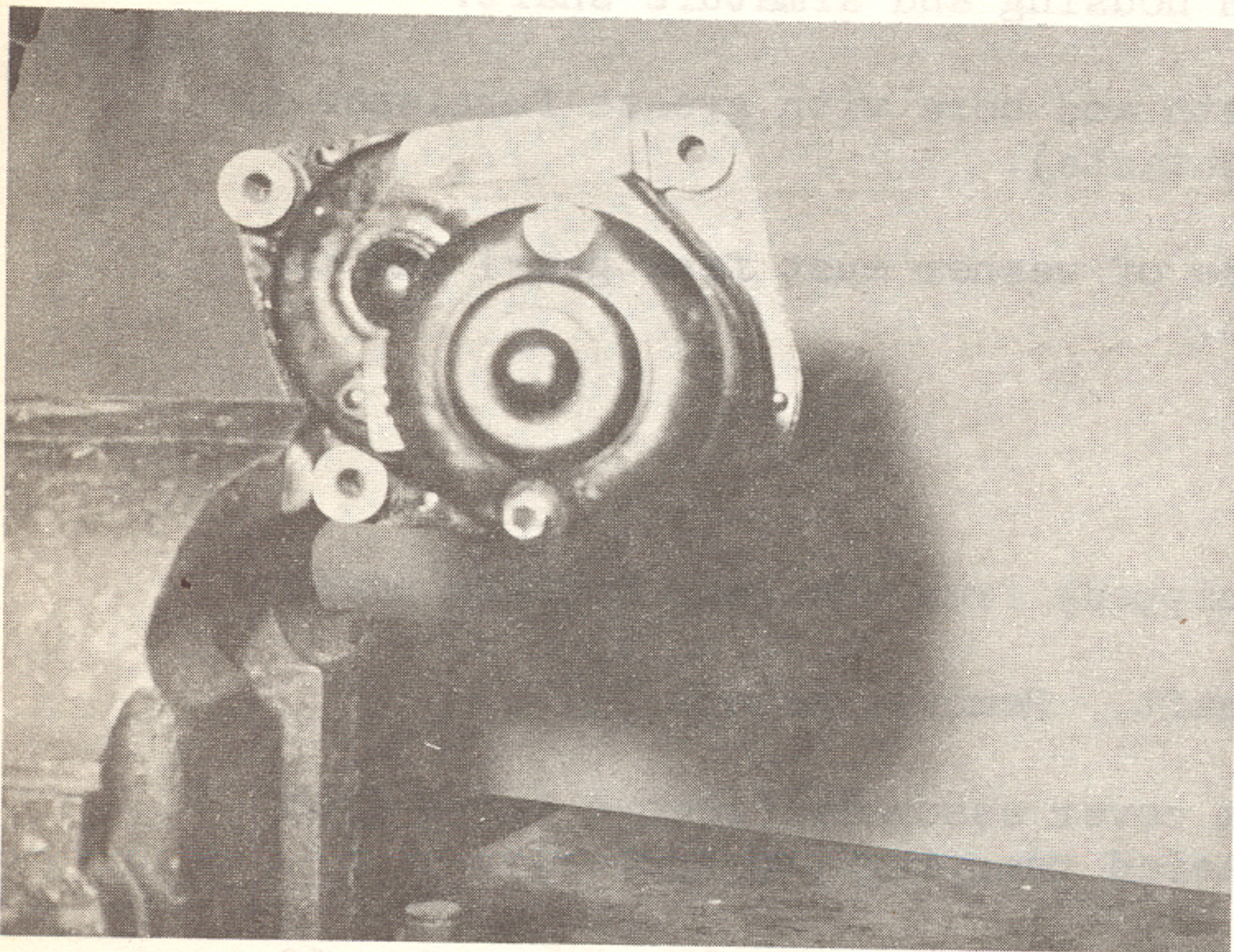


FIGURE 1

CORPORATE WIPER MOTOR SERVICE PARTS LIST

The Wiper Motor Part Numbers 2770090, 2822252, and 2926929 will be identified on the ground strap.

<u>Part Numbers</u>	<u>Part Name</u>	<u>Application</u>
3431506	Park Switch Package	Hidden Wipers Motor Number 2926929
3431507	Park Switch Package	Non Hidden Wipers Motor Numbers 2770090 & 2822252
3431508	Intermediate Gear Package	All
3431509	Housing Assembly Package	All
3431510	Armature Package	All
3431511	Output Gear Package	All