

WIPER/WASHER SYSTEM

1991 Mazda Miata

1990-92 ACCESSORIES & EQUIPMENT
Mazda Wiper/Washer Systems

B2200, B2600i, Miata, MPV, MX-6, Protege, RX7, 323, 626, 929

DESCRIPTION & OPERATION

All models are equipped with a 2-speed wiper motor with an optional intermittent wiper feature. Some models are equipped with a rear wiper/washer.

FRONT WIPER ARM ADJUSTMENT

Ensure wiper motor is in park position. Position wiper arm and blade assembly so tip of blade is specified distance above front window trim.

FRONT WIPER ADJUSTMENT SPECIFICATIONS TABLE

Model	Driver's Side	Passenger's Side
B2200 & B2600i	.8" (20 mm)	.8" (20 mm)
Miata	1.8" (45 mm)	1.8" (45 mm)
MX-6 & 626	1.0" (25 mm)	1.0" (25 mm)
MPV	1.2" (30 mm)	1.2" (30 mm)
Protege & 323	1.1" (28 mm)	1.1" (28 mm)
RX7	(1)	(1)
929		
Concealed (2)	1.2" (30mm)	1.4" (35mm)
Semi-Concealed (3)	.7" (17mm)	.2" (6mm)

- (1) - Information not available from manufacturer.
(2) - Distance measured from edge of cowl grille.
(3) - Distance measured from edge of ceramic trim below windshield.

REAR WIPER ARM ADJUSTMENT

Ensure wiper motor is in park position. Position wiper arm and blade assembly so tip of blade is specified distance from edge of window.

REAR WIPER ADJUSTMENT SPECIFICATIONS TABLE

Model	Specification
MX-6 & 626	1.0" (25 mm)
MPV	1.2" (30 mm)
Protege & 323	2.6" (68 mm)
RX7	(1)
MX-3	(1)

- (1) - Information not available from manufacturer.

TESTING FRONT WIPER MOTOR CONTINUITY CHECK

NOTE: Refer to Figs. 1-7 when conducting the following tests.

B2200 & B2600I

With wiper motor in park position, ensure continuity exists between terminals "B" and "A", "B" and "C" and "B" and "D". Continuity should not exist between terminals "E" and "D" in park position.

Miata

With wiper motor in park position, ensure continuity exists between terminals "A" and "C", "A" and "D" and "C" and "D". Continuity should not exist between terminals "A" and "B", "B" and "C" and "B" and "D" in park position.

MPV

With wiper motor in park position, ensure continuity exists between terminals "A" and "C", "A" and "E" and "A" and "F". Continuity should not exist between terminals "F" and "D" in park position.

MX-6 & 626

With wiper motor in park position, ensure continuity exists between terminals "B" and "A", "B" and "C" and "B" and "D". Continuity should not exist between terminals "F" and "D" in park position.

Protege, 323 & 1992 929

With wiper motor in park position, ensure continuity exists between terminals "A", "B" and "C". With motor in other than park position, continuity should exist between terminals "A" and "C", and "B" and "D".

929 (1990-91)

With wiper motor in park position, ensure continuity exists between terminals "A" and "B", "A" and "C", "B" and "C", "C" and "D", "D" and "E", "D" and "F" and "E" and "F". Continuity should not exist between terminals "A" and "D", "A" and "E", "A" and "F", "B" and "D", "B" and "E", "B" and "F", "C" and "E" and "C" and "F".

TESTING FRONT WIPER MOTOR LOW SPEED CHECK

NOTE: Refer to Figs. 1-7 when conducting the following tests.

B2200 & B2600I

Connect battery voltage to wiper motor terminal "B". Connect ground to wiper motor terminal "A". Motor should run at low speed.

Miata

Connect battery voltage to wiper motor terminal "A". Connect ground to wiper motor external ground wire. Motor should run at low speed.

MPV

Connect battery voltage to wiper motor terminal "C". Connect ground to wiper motor terminal "A". Motor should run at low speed.

MX-6 & 626

Connect battery voltage to wiper motor terminal "B". Connect ground to wiper motor terminal "A". Motor should run at low speed.

Protege, 323 & 1992 929

Connect battery voltage to wiper motor terminal "C". Connect ground to wiper motor housing. Motor should run at low speed.

RX7 & 929 (1990-91)

Connect battery voltage to wiper motor terminal "B". Connect ground to wiper motor terminal "A". Motor should run at low speed.

TESTING FRONT WIPER MOTOR HIGH SPEED CHECK

NOTE: Refer to Figs. 1-7 when conducting the following tests.

B2200 & B2600I

Connect battery voltage to wiper motor terminal "B". Connect ground to wiper motor terminal "C". Motor should run at high speed.

Miata

Connect battery voltage to wiper motor terminal "C". Connect ground to wiper motor external ground wire. Motor should run at high speed.

MPV

Connect battery voltage to wiper motor terminal "E". Connect ground to wiper motor terminal "A". Motor should run at high speed.

MX-6 & 626

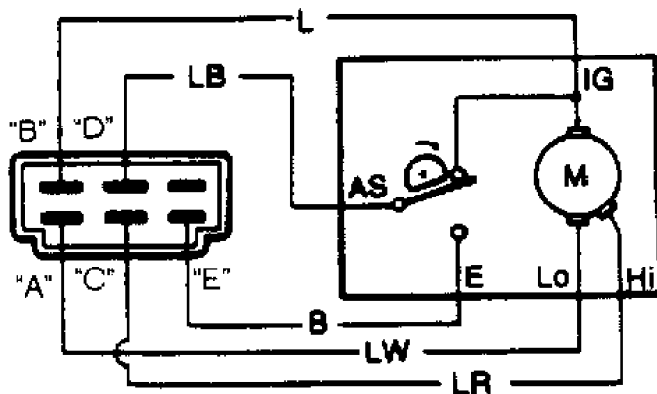
Connect battery voltage to wiper motor terminal "B". Connect ground to wiper motor terminal "C". Motor should run at high speed.

Protege, 323 & 1992 929

Connect battery voltage to wiper motor terminal "A". Connect ground to wiper motor housing. Motor should run at high speed.

RX7 & 929 (1990-91)

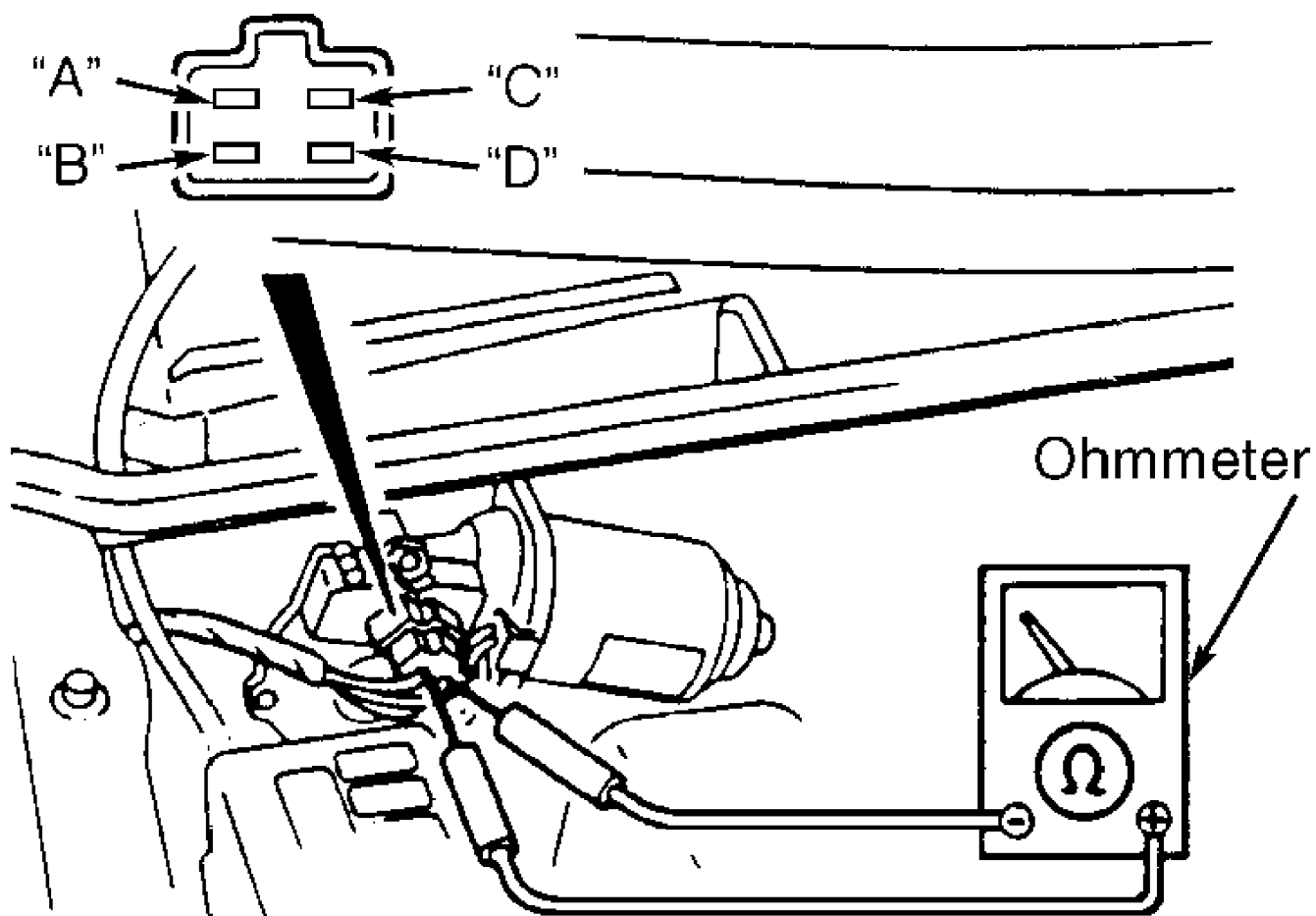
Connect battery voltage to wiper motor terminal "B". Connect ground to wiper motor Terminal "C". Motor should run at high speed.



B2200 & B2600i

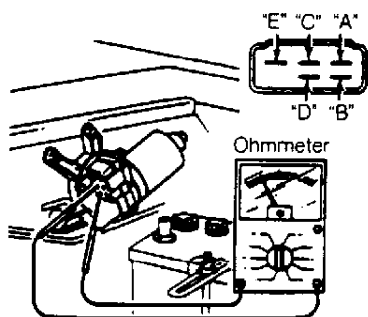
91D00087

Fig. 1: Identifying Wiper Motor Terminal (B2200 & B2600i)
Courtesy of Mazda Motors Corp.



91F00093

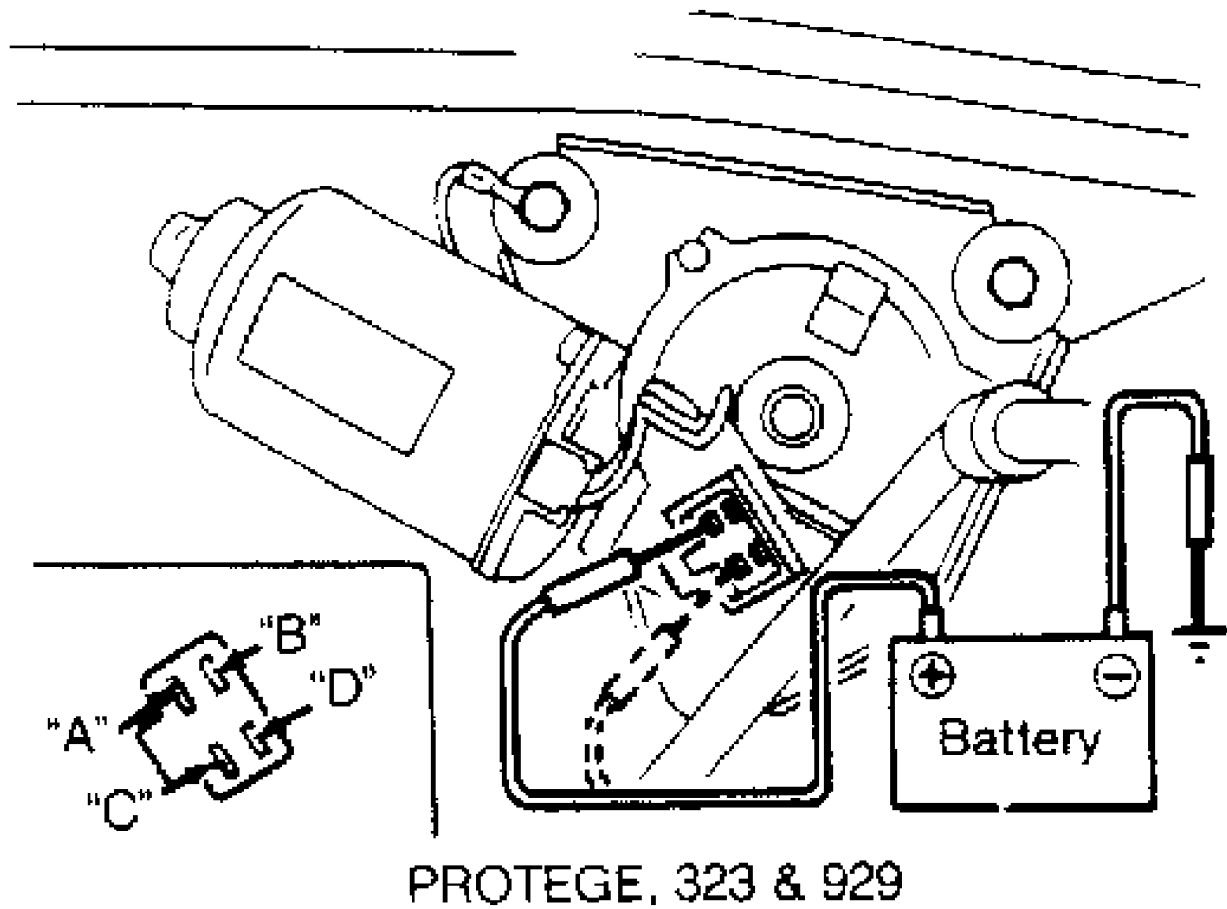
Fig. 2: Identifying Wiper Motor Terminal (Miata)
Courtesy of Mazda Motors Corp.



MX-6 & 626

91H00094

Fig. 3: Identifying Wiper Motor Terminal (MX-6 & 626)
Courtesy of Mazda Motors Corp.



91A00095

Fig. 4: Identifying Wiper Motor Terminal (MPV)
Courtesy of Mazda Motors Corp.

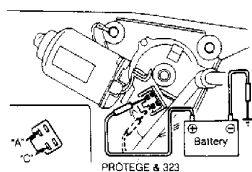


Fig. 5: Identifying Wiper Motor Terminal (Protege, 323 & 1992 929)
Courtesy of Mazda Motors Corp.

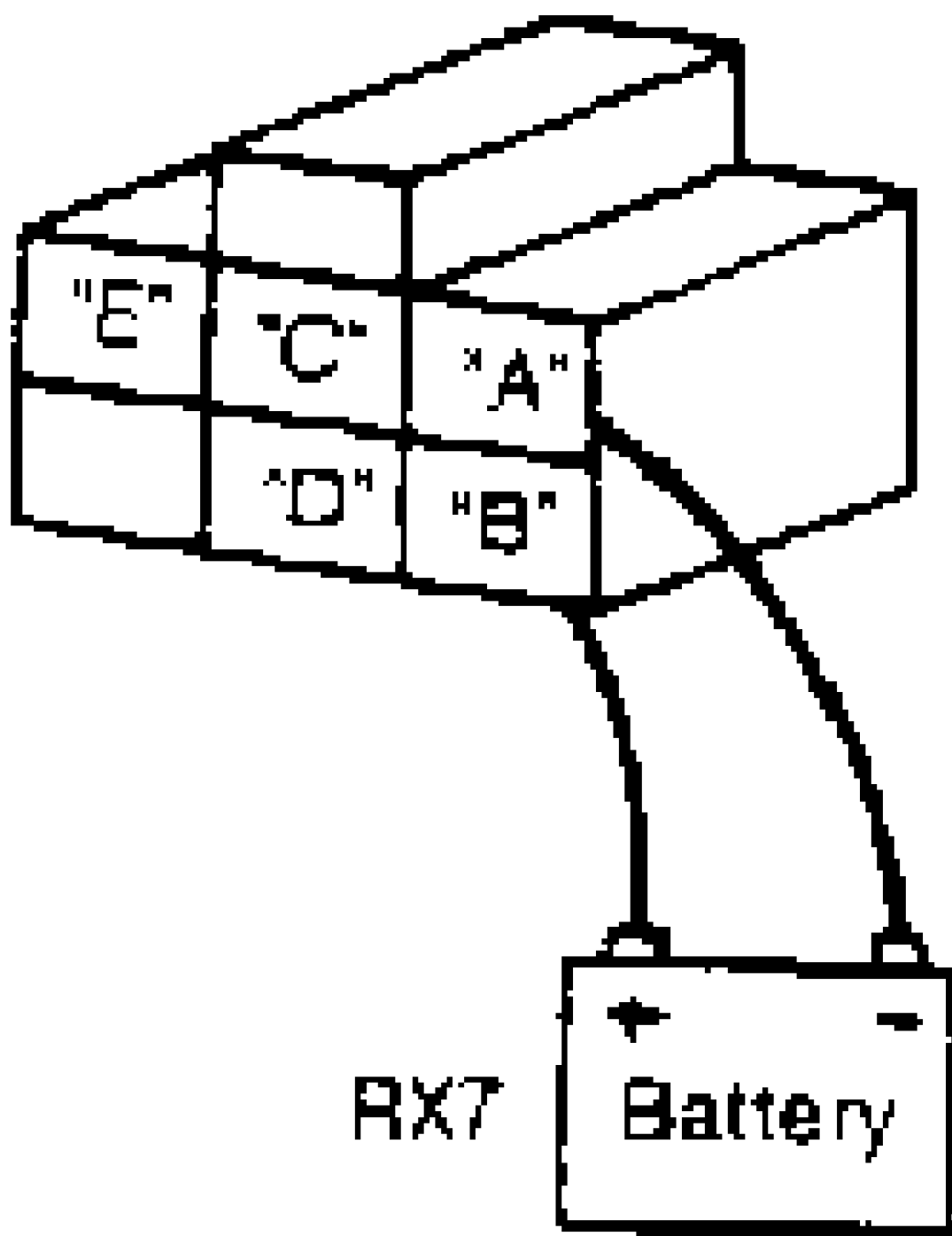


Fig. 6: Identifying Wiper Motor Terminal (RX7)
Courtesy of Mazda Motors Corp.

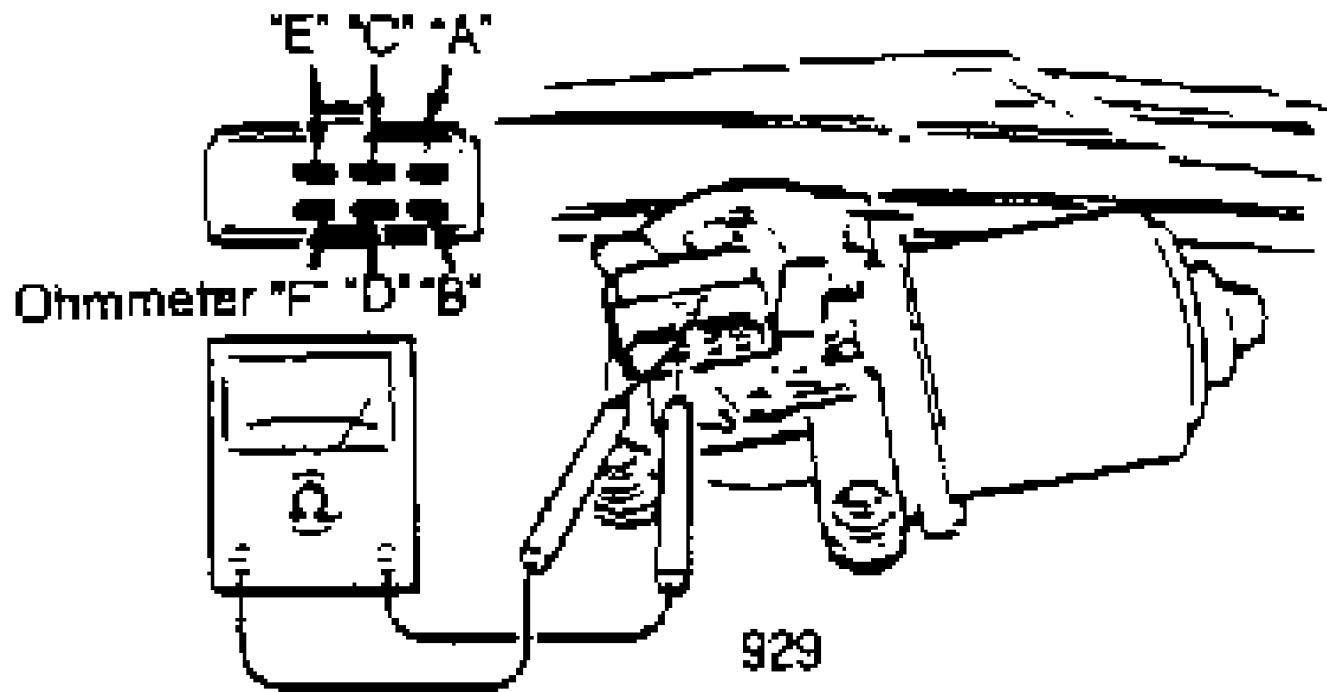


Fig. 7: Identifying Wiper Motor Terminal (1990-91 929)
Courtesy of Mazda Motors Corp.

TESTING FRONT WIPER RELAY

NOTE: Intermittent wiper relay is incorporated into wiper switch.
See COMBINATION SWITCH in STEERING COLUMN SWITCHES article.

CONTINUITY CHECK (929 1990-91)

Remove left front side trim and disconnect relay connector. See Fig. 8. Ensure continuity exists between terminals "A" and "C", "A" and "E", "B" and "A", "B" and "C", "B" and "E", "C" and "A", "C" and "E", "D" and "F", "D" and "G", "E" and "A", "E" and "C", "F" and "D", "F" and "G", "G" and "D" and "G" and "F". If continuity is not as specified, replace relay.

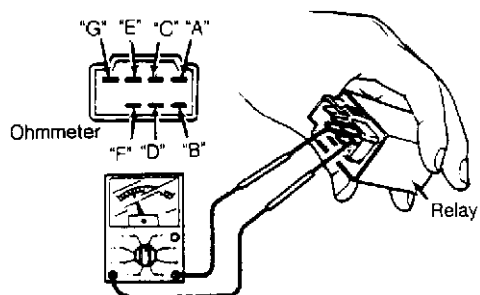


Fig. 8: Identifying Wiper Relay Terminal (1990-91 929)
Courtesy of Mazda Motors Corp.

TESTING FRONT WIPER SWITCH

NOTE: See COMBINATION SWITCH in STEERING COLUMN SWITCHES article.

TESTING REAR WIPER MOTOR OPERATIONAL CHECK

NOTE: Refer to Figs. 9-11 when conducting the following tests.

ALL MODELS (EXCEPT RX7)

1) Disconnect wiper motor electrical connector. Ensure continuity exists between terminals "A" and "B". Apply battery voltage to terminal "A" and ground to terminal "B". Motor should operate continuously at normal speed.

2) To check operation of automatic stop, run motor as in step 1). Disconnect ground from terminal "B" and connect it immediately to motor body. Ensure motor shaft returns to park position.

RX7

1) Disconnect wiper motor electrical connector. Ensure continuity exists between terminals B/R and LG/Y. Apply battery voltage to terminal B/R and ground to terminal LG/Y. Motor should operate continuously at normal speed.

2) Procedure for checking RX7 automatic stop is not supplied by manufacturer.

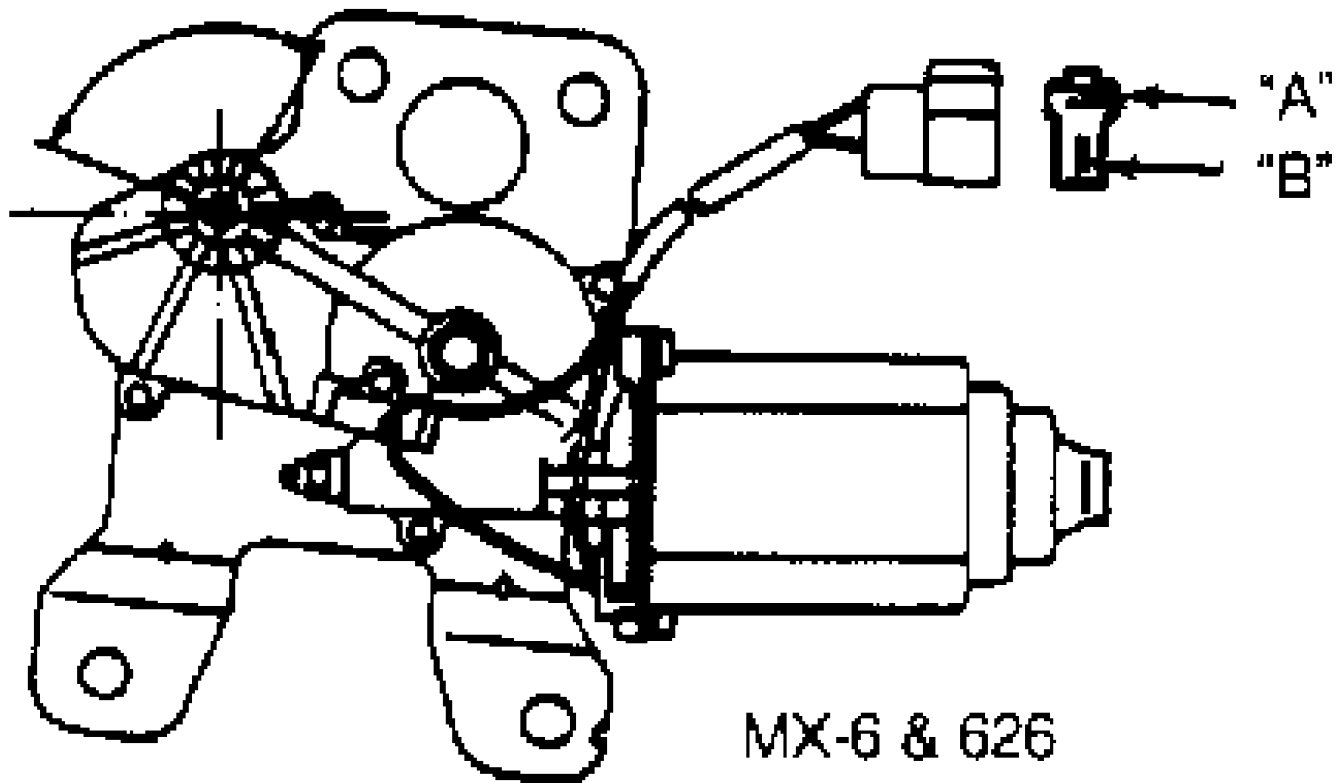
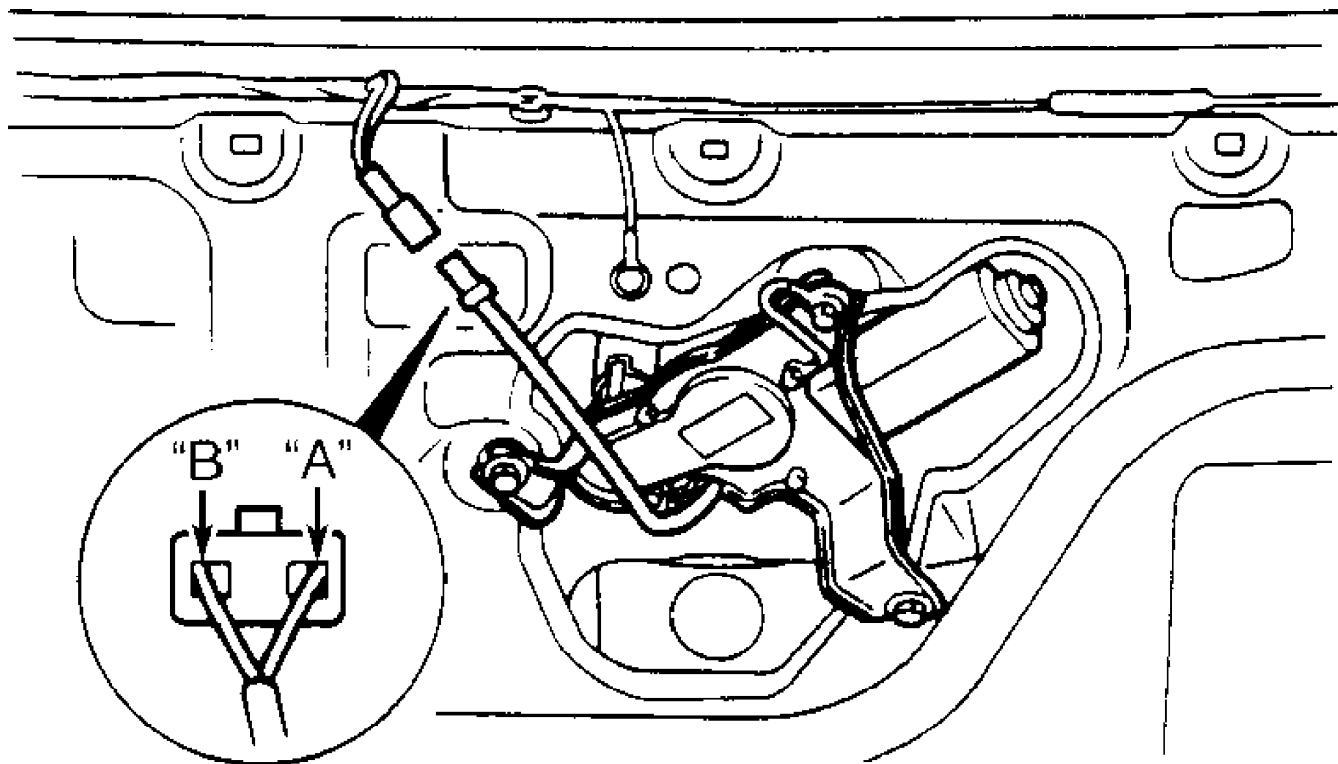


Fig. 9: Identifying Rear Wiper Motor Terminal (MX-6 & 626)
Courtesy of Mazda Motors Corp.



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Fig. 10: Identifying Rear Wiper Motor Terminal (Protege & 323)
 Courtesy of Mazda Motors Corp.

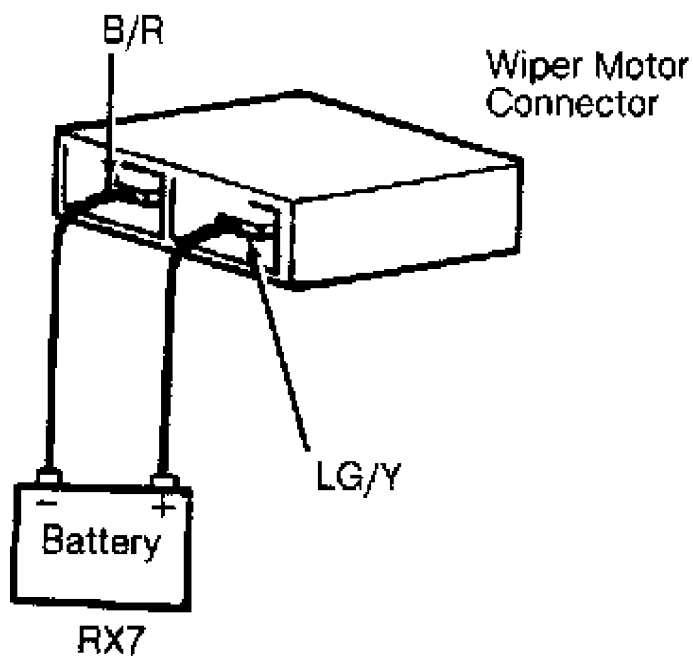


Fig. 11: Identifying Rear Wiper Motor Terminal (RX7)
 Courtesy of Mazda Motors Corp.

TESTING REAR WIPER SWITCH

NOTE: Refer to Figs. 12-14 when conducting the following tests.

MPV

Remove switch from instrument panel. Place switch in OFF position. Continuity should not exist between any terminals. Place switch in ON position. Continuity should exist between terminals "B" and "D". Place switch in REAR WASH position. Continuity should exist between terminals "A" and "D". If continuity is not as specified, replace switch.

MX-6 & 626

Remove switch from instrument panel. Place switch in OFF position. Continuity should exist between terminals "A" and "B". Place switch in ON position. Continuity should exist between terminals "A" and "B", and "D" and "H". Place switch in REAR WASH position. Continuity should exist between terminals "A" and "B", and "F" and "H". If continuity is not as specified, replace switch.

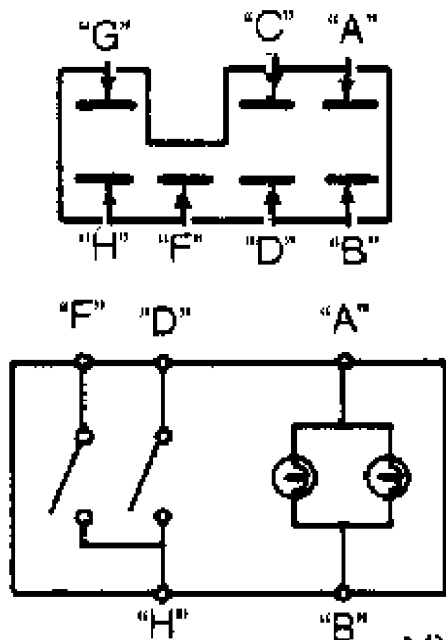
Protege & 626

See COMBINATION SWITCH in STEERING COLUMN SWITCHES article.

RX7

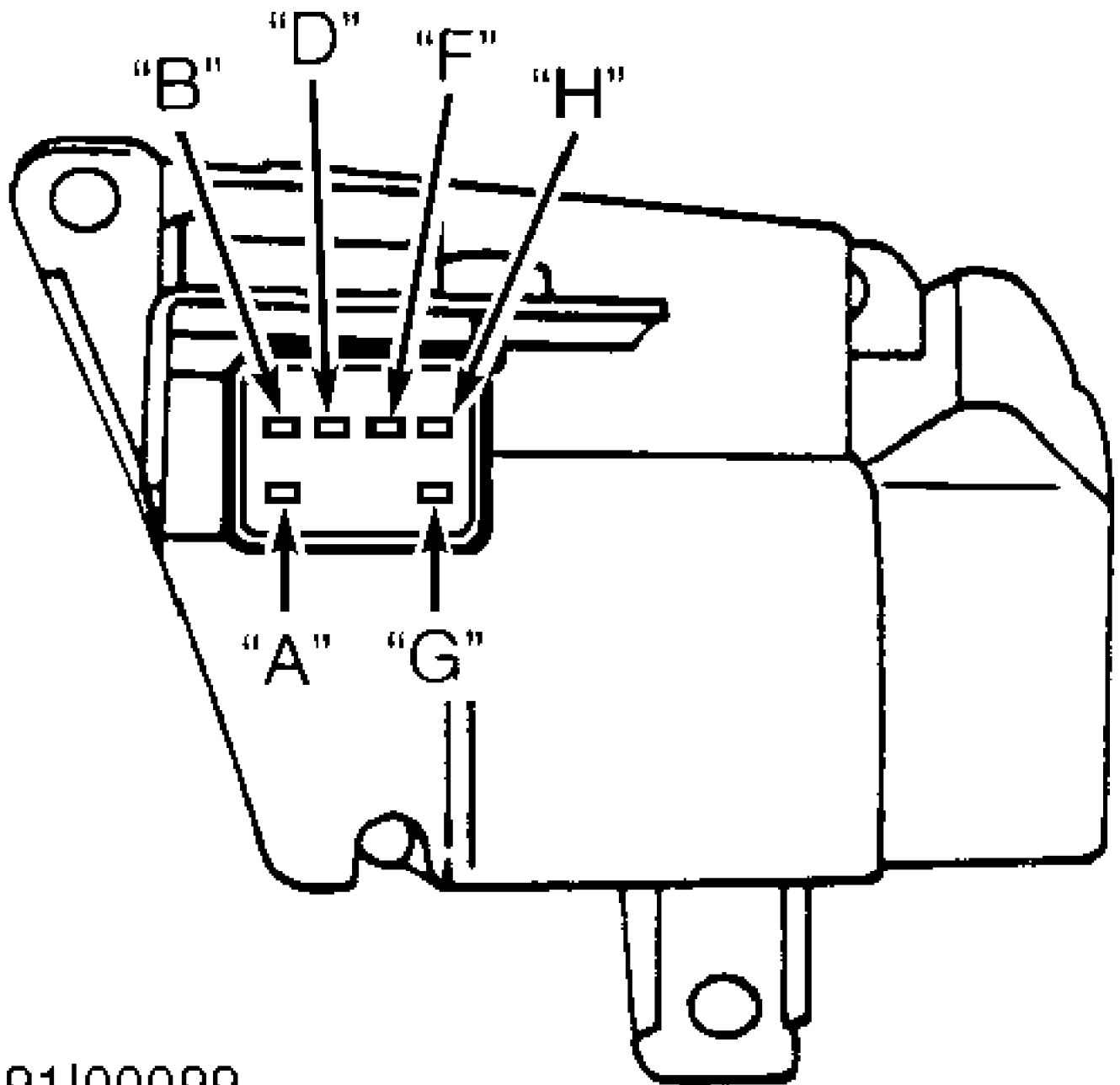
1) Remove instrument cluster switch panel. Apply battery voltage to rear wiper switch terminal "RIG". Apply ground to terminal "E". Ensure rear wiper switch is in OFF position. Attach positive lead of voltmeter switch terminal "RW" and negative lead to terminal "E". Voltage should be 12 volts.

2) With battery and voltmeter still attached as in step 1), place switch in ON position. Voltage should be zero volts. Place switch in INT position. A clicking sound should be heard from relay. If switch does not test as specified, replace switch.



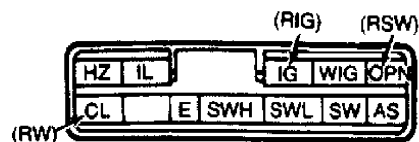
MX-6 & 626

Fig. 12: Identifying Rear Wiper Switch Terminal (MX-6 & 626)
Courtesy of Mazda Motors Corp.



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Fig. 13: Identifying Rear Wiper Switch Terminal (MPV)
Courtesy of Mazda Motors Corp.



RX7

Fig. 14: Identifying Rear Wiper Switch Terminal (RX7)
Courtesy of Mazda Motors Corp.

FRONT WIPER MOTOR R & I

NOTE: DO NOT remove wiper motor arm unless necessary. If wiper motor arm removal is necessary, mark wiper arm position on adapter plate or motor housing for reassembly.

Wiper motor is located on engine compartment firewall. Remove wiper motor cover if necessary. Remove electrical connector. Remove wiper motor or wiper motor bracket attaching bolts. Move motor and adapter plate out slightly. Separate wiper arm/link pivot joint and remove motor. To install, reverse removal procedure.

FRONT WIPER SWITCH R & I

NOTE: See COMBINATION SWITCH in STEERING COLUMN SWITCHES article.

REAR WIPER MOTOR R & I

Disconnect negative battery cable. Remove wiper arm and blade assembly. From under side of hatch, remove upper, side and lower hatch trim. Carefully remove hatch screen. Disconnect rear wiper motor electrical connector. Remove wiper motor. To install, reverse removal procedure.

REAR WIPER SWITCH R & I

MPV

Remove front instrument cluster assembly. Remove left cluster switch assembly. Remove rear wiper/washer switch assembly. To install, reverse removal procedure.

Protege & 323

See COMBINATION SWITCH in STEERING COLUMN SWITCHES article.

WIRING DIAGRAMS

See appropriate chassis wiring diagram in WIRING DIAGRAMS.