

WIPER/WASHER SYSTEM

1998 Mitsubishi Montero

1998 ACCESSORIES & EQUIPMENT Mitsubishi - Wiper/Washer Systems

Diamante, Eclipse, Galant, Mirage, Montero, Montero Sport, 3000GT

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.

Galant is equipped with a wiper system that varies intermittent setting speed with vehicle speed. System uses ignition switch, wiper switch, intermittent switch, washer switch, vehicle speed sensor, and Electronic Time Alarm Control System (ETACS) ECU.

COMPONENT LOCATIONS

COMPONENT LOCATIONS TABLE

Component	Location
Assist-ECU (Diamante)	Above Right Kick Panel
ETACS-ECU	Behind Left Side Of Dash
Wiper Relay Front	
Except Diamante & 3000GT	Integral With Steering Column Switch
Rear	
Eclipse	Within Rear Wiper/Washer Switch
Montero & Montero Sport	On Relay Block, Behind Left Side Of Dash
3000GT	Behind Left Rear Quarter Panel

ADJUSTMENTS

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. See FRONT WIPER ADJUSTMENT SPECIFICATIONS table.

FRONT WIPER ADJUSTMENT SPECIFICATIONS TABLE

Model	Driver's Side		Passenger's Side	
	In. (mm)		In. (mm)	
Diamante	2.56-3.15	(65-80)	....	.79-1.38 (20-35)
Eclipse .....	.19-.59	(5-15)	....	1.65-2.05 (42-52)
Galant .....	.39-.79	(10-20)	....	.39-.79 (10-20)
Mirage .....	.79-1.18	(20-30)	....	.79-1.18 (20-30)
Montero .....	.98-1.38	(25-35)	....	1.38-1.77 (35-45)
Montero Sport ...	.98-1.20	(25-31)	....	1.20-1.50 (31-38)
3000GT .....	.59-.79	(15-20)	....	.59-.79 (15-20)

REAR WIPER ARM ADJUSTMENT

NOTE: Diamante, Galant and Mirage are not equipped with rear wipers.

Ensure wiper motor is in park position. Position wiper arm and blade assembly so tip of blade is specified distance from edge of window. See REAR WIPER ADJUSTMENT SPECIFICATIONS table.

REAR WIPER ADJUSTMENT SPECIFICATIONS TABLE

Model	In. (mm)
Eclipse	4.98-5.38 (125-135)
Montero & Montero Sport	2.56-2.95 (65-75)
3000GT	(1)

(1) - Position blade tip along ceramic edge of window.

COMPONENT TESTS

* PLEASE READ THIS FIRST *

NOTE: For headlight washer switch testing on Montero, see STEERING COLUMN SWITCHES article.

WASHER MOTOR TEST (FRONT & REAR)

1) Ensure washer reservoir fluid is at proper level. Turn ignition switch to ON position. Press washer button on wiper/washer switch. If fluid does not spray on windshield, turn ignition off. Check for plugged washer hoses from washer reservoir to windshield nozzle. Repair as necessary.

2) If washer hoses are not plugged, disconnect washer motor electrical connector. Check for poor connection or connector damage. Repair as necessary. If connector is okay, connect battery power to washer motor terminals. Washer motor should operate. Replace motor as necessary.

FRONT WIPER MOTOR TEST

Checking Wiper Motor Operation

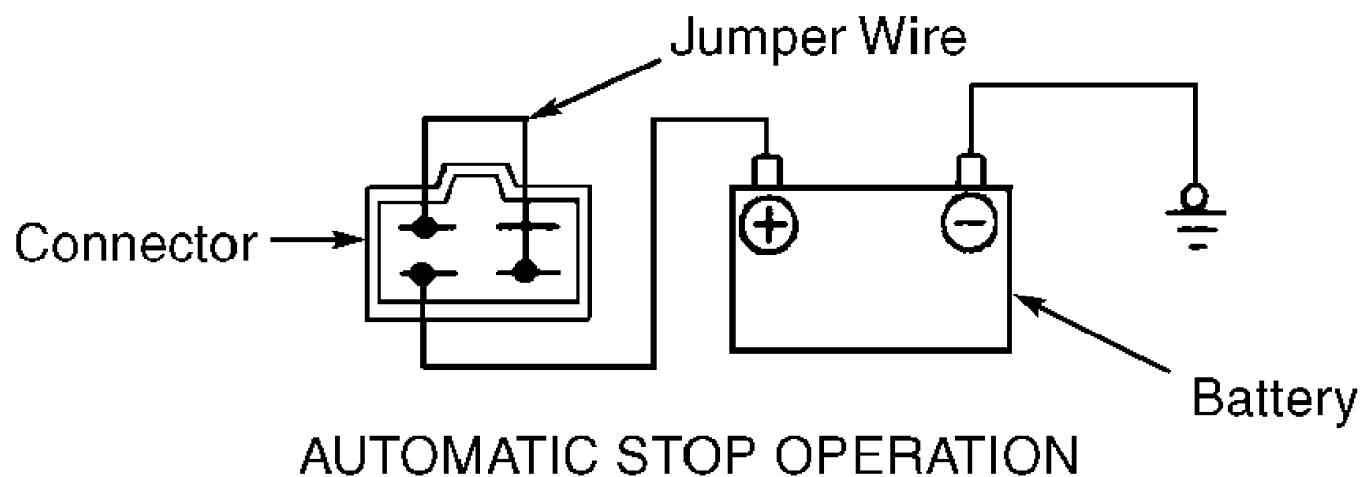
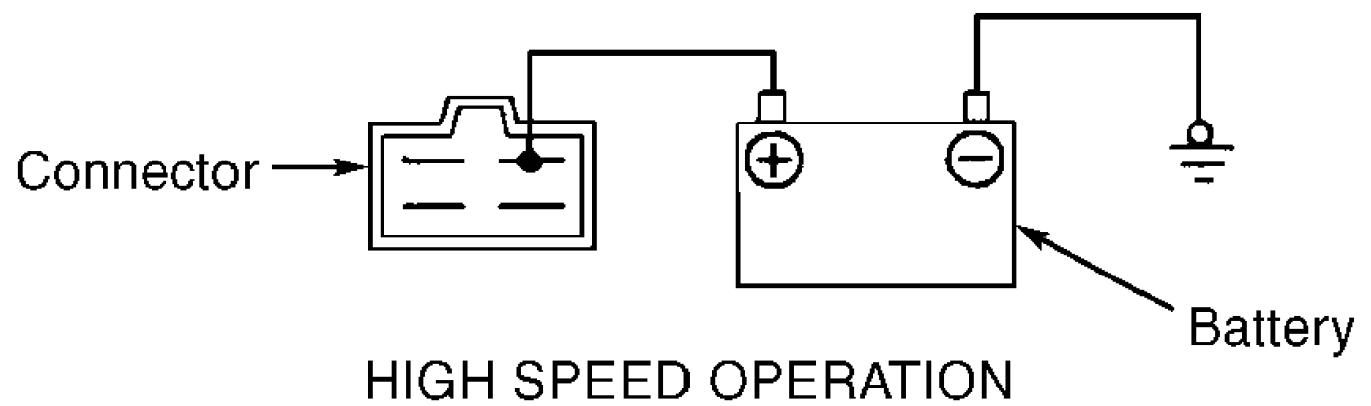
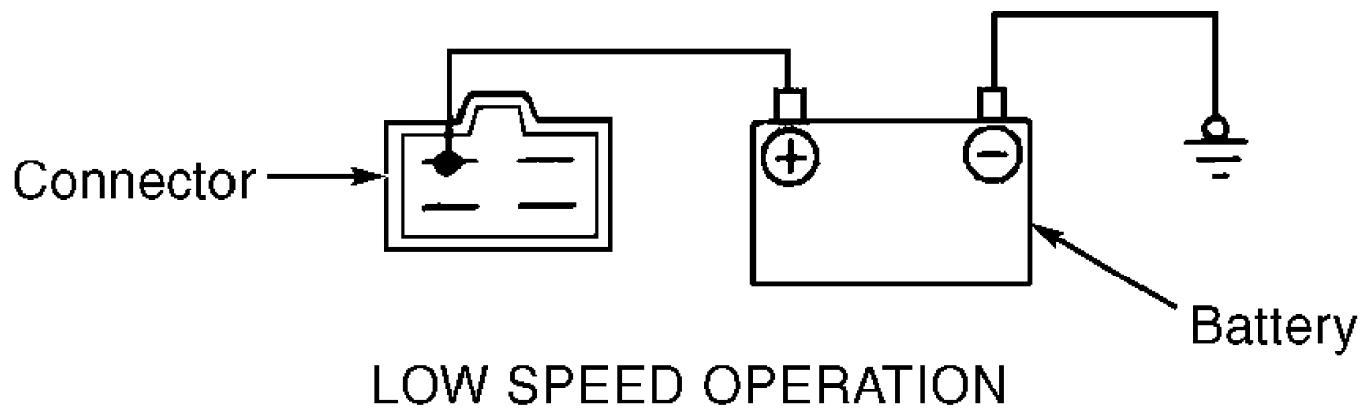
Disconnect wiring connector from wiper motor. Connect battery voltage to wiper motor connector as shown, and ensure wiper motor operates at low and high speeds. See Fig. 1 or 2. Replace motor as necessary.

Checking Automatic Stop

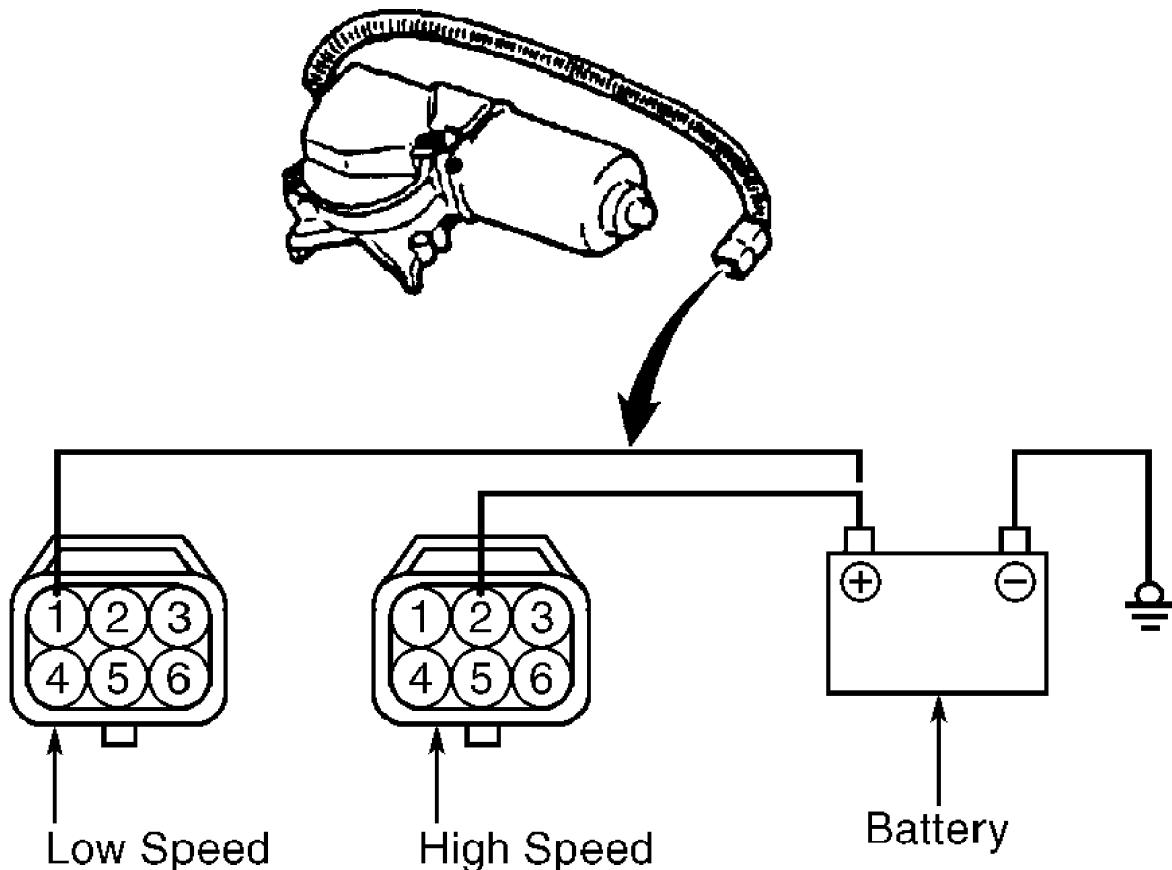
1) Operate wiper motor at low speed. See Fig. 1 or 2.

Disconnect battery voltage during operation to stop motor.

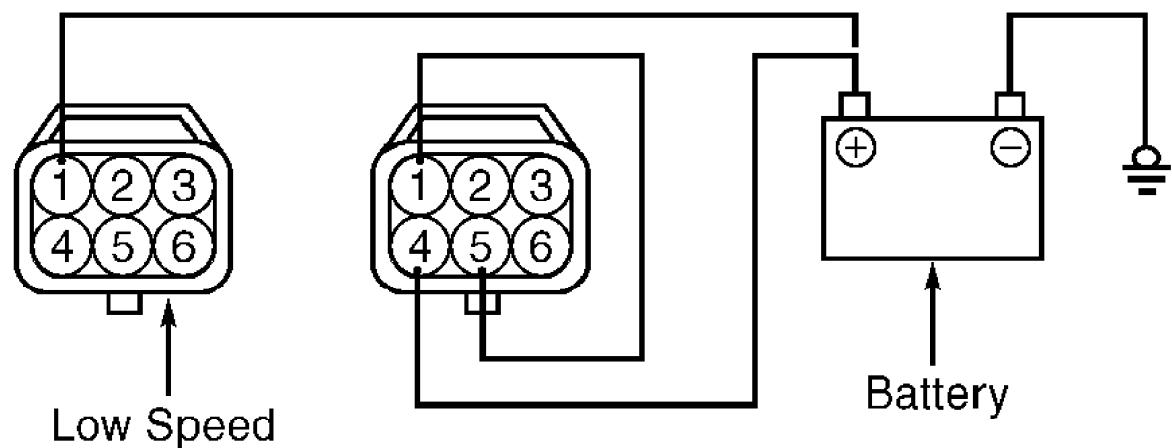
2) Using a jumper wire, connect terminals as shown. See Fig. 1 or 2. Connect 12 volts to indicated terminal, and ground wiper motor bracket. Ensure wiper arm is correctly parked. Replace motor as necessary.



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 Fig. 1: Checking Front Wiper Motor Operation (Except Eclipse)
 Courtesy of Mitsubishi Motor Sales of America



LOW & HIGH SPEED OPERATION



AUTOMATIC STOP OPERATION

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Fig. 2: Checking Front Wiper Motor Operation (Eclipse)
Courtesy of Mitsubishi Motor Sales of America

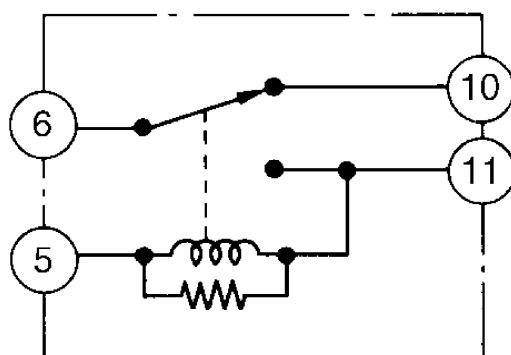
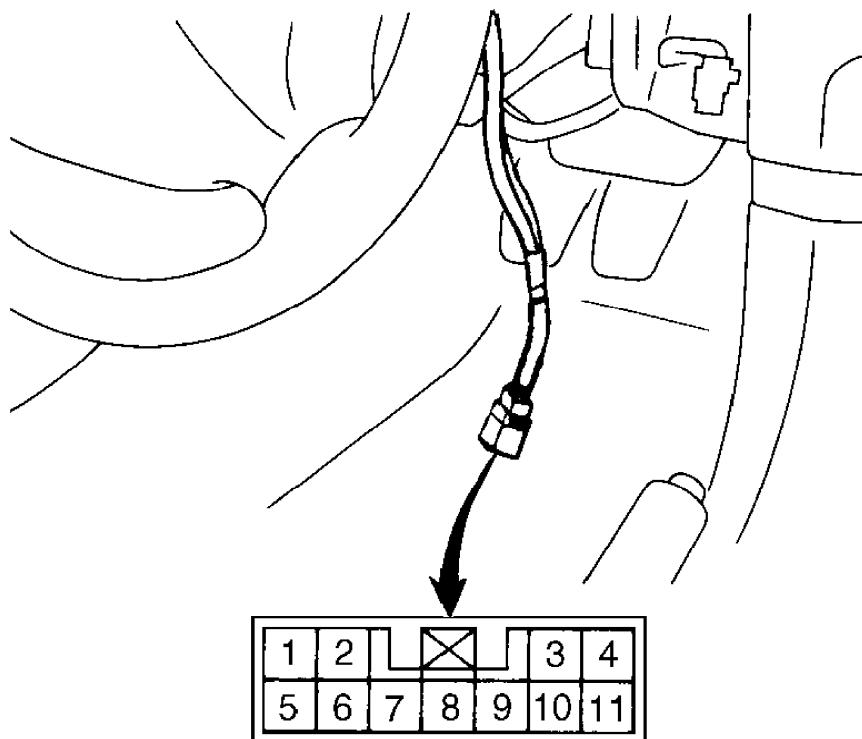
INTERMITTENT WIPER RELAY (FRONT) TEST

NOTE: On Diamante, assist-ECU controls wiper circuit. On all models except 3000GT, intermittent wiper relay is incorporated into wiper switch. Information on testing is not available from manufacturer at time of publication.

Continuity & Voltage Check (3000GT)

1) Disconnect column switch connector. Ensure continuity is present between terminals No. 5 and 11, and between terminals No. 6 and 10. See Fig. 3. Ensure there is no continuity between terminals No. 6 and 11.

2) Connect battery voltage to relay terminal No. 5 and ground terminal No. 11. Battery voltage should be present on terminal No. 6. Replace relay if continuity and voltage is not as specified.



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Fig. 3: Identifying Front Wiper Relay Terminals (3000GT)
Courtesy of Mitsubishi Motor Sales of America

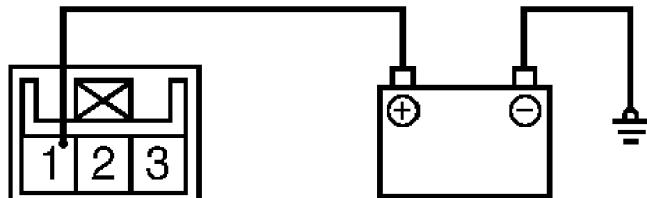
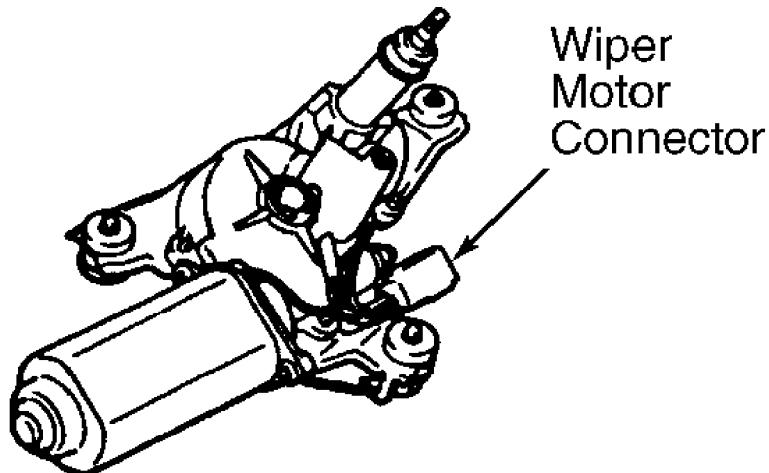
FRONT WIPER SWITCH TEST

NOTE: Front wiper switch is part of combination switch on steering column. For diagnosis, see STEERING COLUMN SWITCHES article.

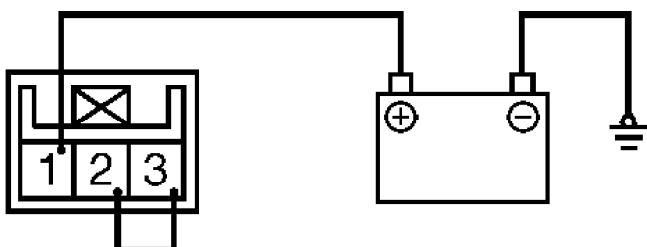
REAR WIPER MOTOR TEST

Operational Check

Disconnect wiring connector from wiper motor. Connect battery voltage to wiper motor connector as shown, and ensure motor housing is grounded. Motor should run at low and high speed. See Fig. 4, 5, 6 or 7. Replace motor as necessary.



OPERATION CHECK

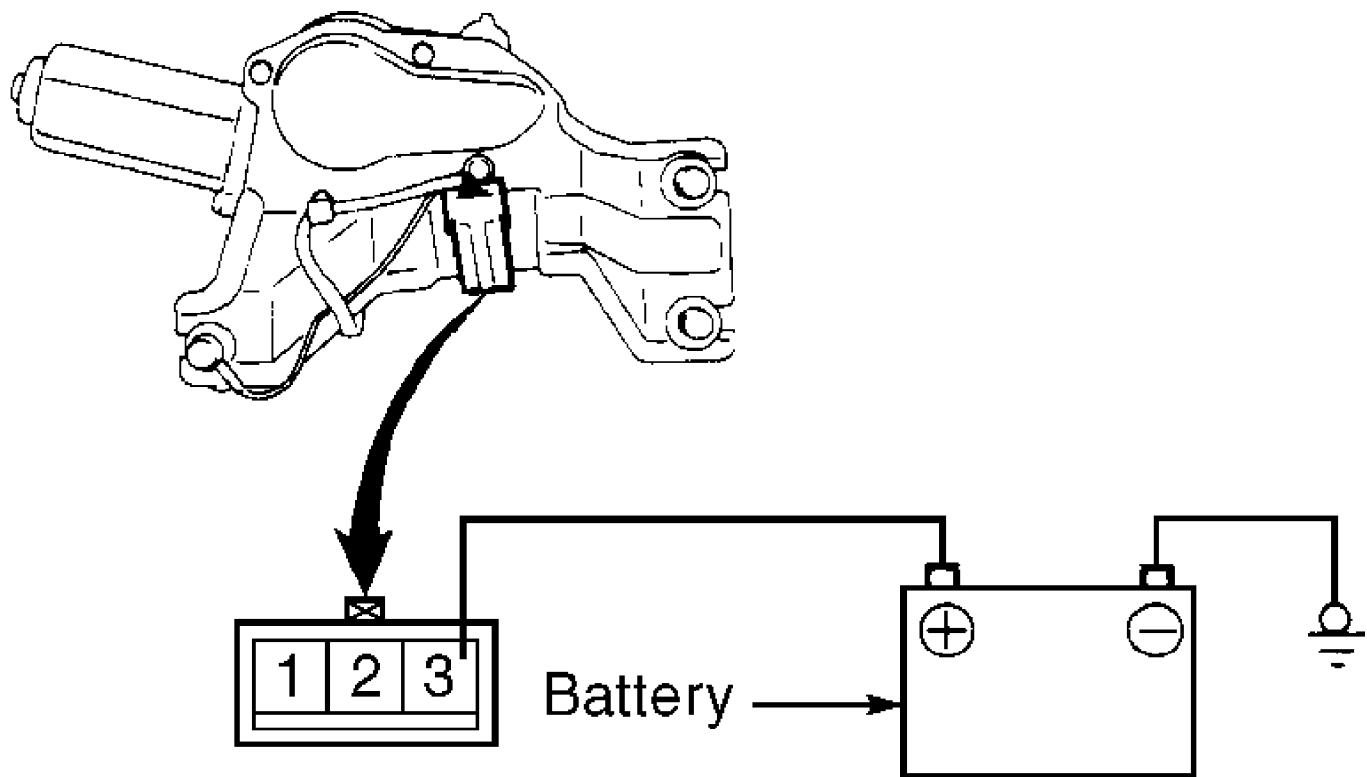


AUTOMATIC STOP CHECK

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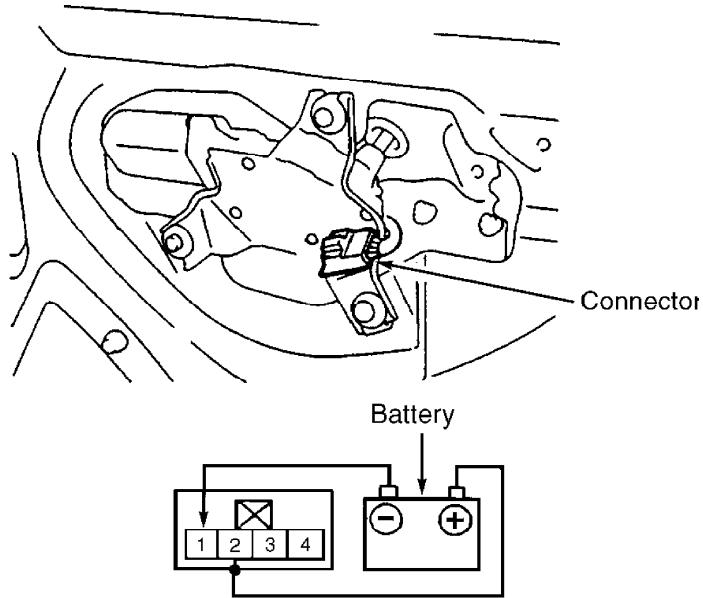
Fig. 4: Checking Rear Wiper Motor Operation & Automatic Stop
(Eclipse)

Courtesy of Mitsubishi Motor Sales of America



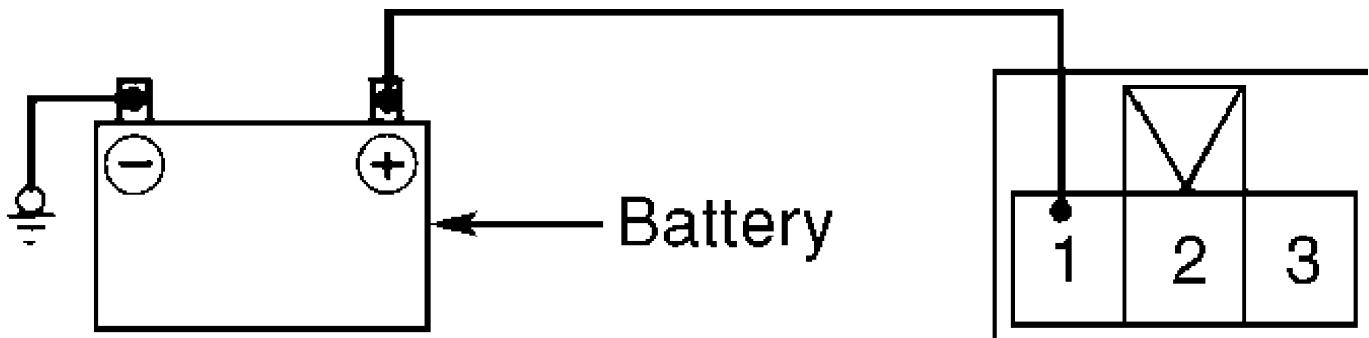
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Fig. 5: Checking Rear Wiper Motor Operation (Montero)
Courtesy of Mitsubishi Motor Sales of America



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Fig. 6: Checking Rear Wiper Motor Operation (Montero Sport)
Courtesy of Mitsubishi Motor Sales of America

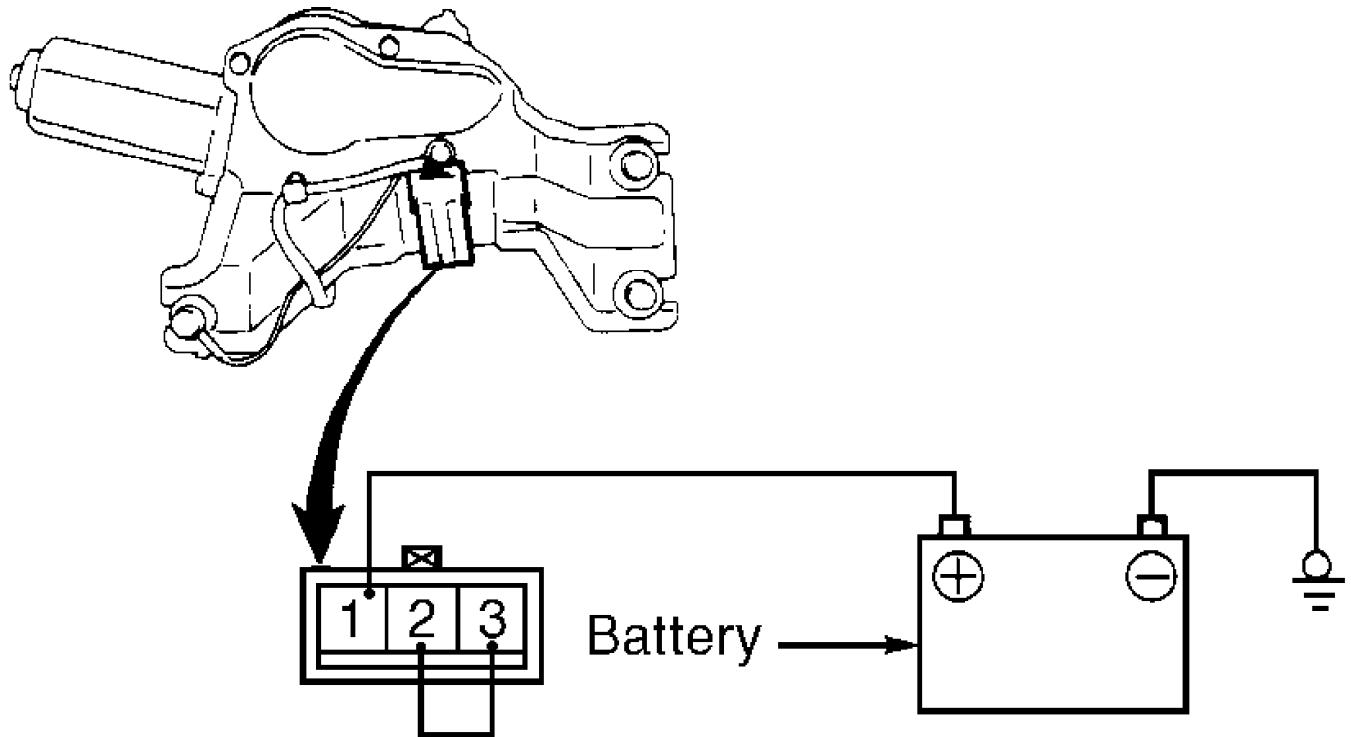


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Fig. 7: Checking Rear Wiper Motor Operation (3000GT)
Courtesy of Mitsubishi Motor Sales of America

Automatic Stop Check

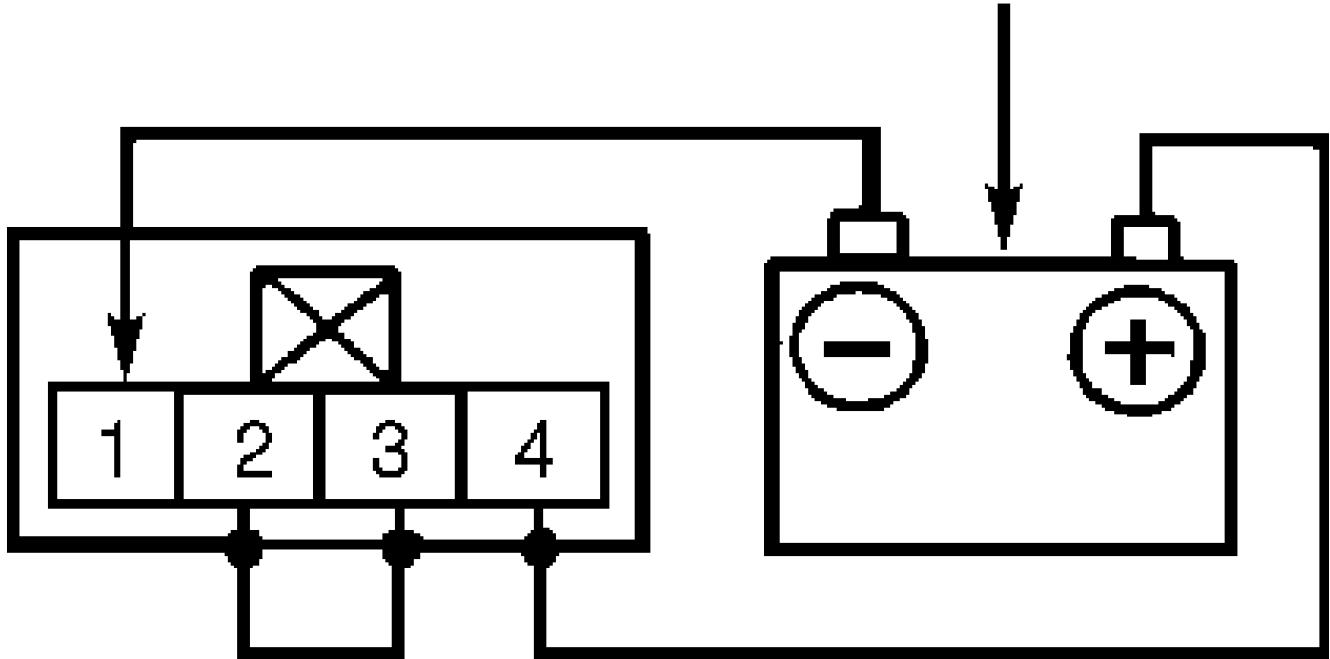
Operate wiper motor, and then disconnect wiring connector from wiper motor to stop motor operation at a point other than park position. Connect battery voltage and jumper wire to wiper motor connector as shown, and ensure motor housing is grounded. See Fig. 4, 8, 9 or 10. Motor should return to park position. Replace motor as necessary.



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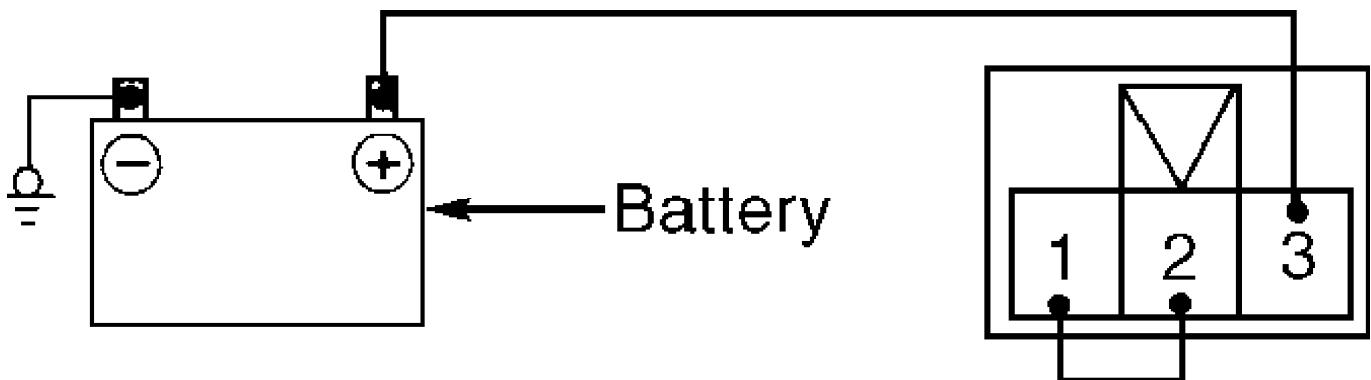
Fig. 8: Checking Rear Wiper Motor Automatic Stop (Montero)
Courtesy of Mitsubishi Motor Sales of America

Battery



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Fig. 9: Checking Rear Wiper Motor Automatic Stop (Montero Sport)
Courtesy of Mitsubishi Motor Sales of America



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Fig. 10: Checking Rear Wiper Motor Automatic Stop (3000GT)
Courtesy of Mitsubishi Motor Sales of America

REAR WIPER RELAY TEST

NOTE: Rear wiper relay test information for Eclipse is not available from manufacturer at time of publication.

Operational Check (Montero)

- 1) Relay is located in relay box under left side of dash.
Remove relay from lower right corner of relay box. Connect positive

voltmeter lead to terminal No. 2. Connect negative voltmeter lead to terminal No. 7. Ensure battery voltage is present, when battery voltage is connected to terminals No. 4 and 8, and terminal No. 7 is grounded. See Fig. 12.

2) With voltmeter connected to terminals No. 2 and 7, ensure battery voltage is present for intermittent periods of 8 seconds when positive battery terminal is connected to terminals No. 4 and 5, and negative battery terminal is connected to terminal No. 7.

3) With voltmeter connected to terminals No. 2 and 7, ensure battery voltage is present when positive battery terminal is connected to terminals No. 4 and 6, and negative battery terminal is connected to terminal No. 7. Replace relay if voltage is not as specified.

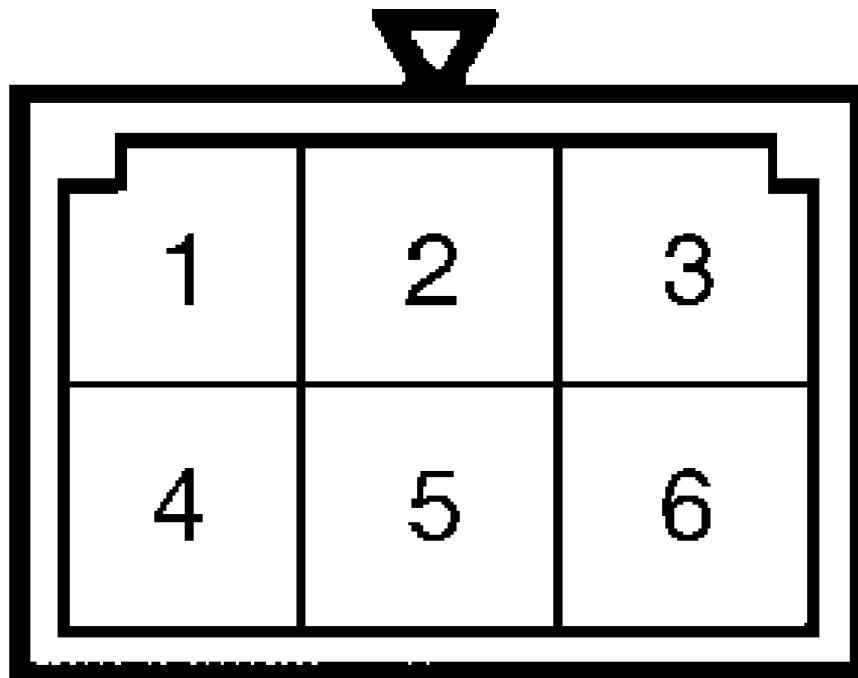
Operational Check (Montero Sport)

1) Relay is located in relay box under left side of dash. Remove relay from lower left corner of relay box. Check for continuity between terminals No. 1 and 2. See Fig. 12. Continuity should exist.

2) Connect terminals No. 4 and 5 to positive battery terminal. Ensure battery voltage is present at terminal No. 2 for intermittent periods of 8 seconds when terminal No. 7 is connected to negative battery terminal. Replace relay if voltage is not as specified.

Operational Check (3000GT)

Remove quarter trim. Leave intermittent relay connected to wiring harness. Operate rear wiper and check voltage at terminal No. 2. See Fig. 11. Zero volts should be present when rear wiper stops. There should be 12 volts when rear wiper operates.



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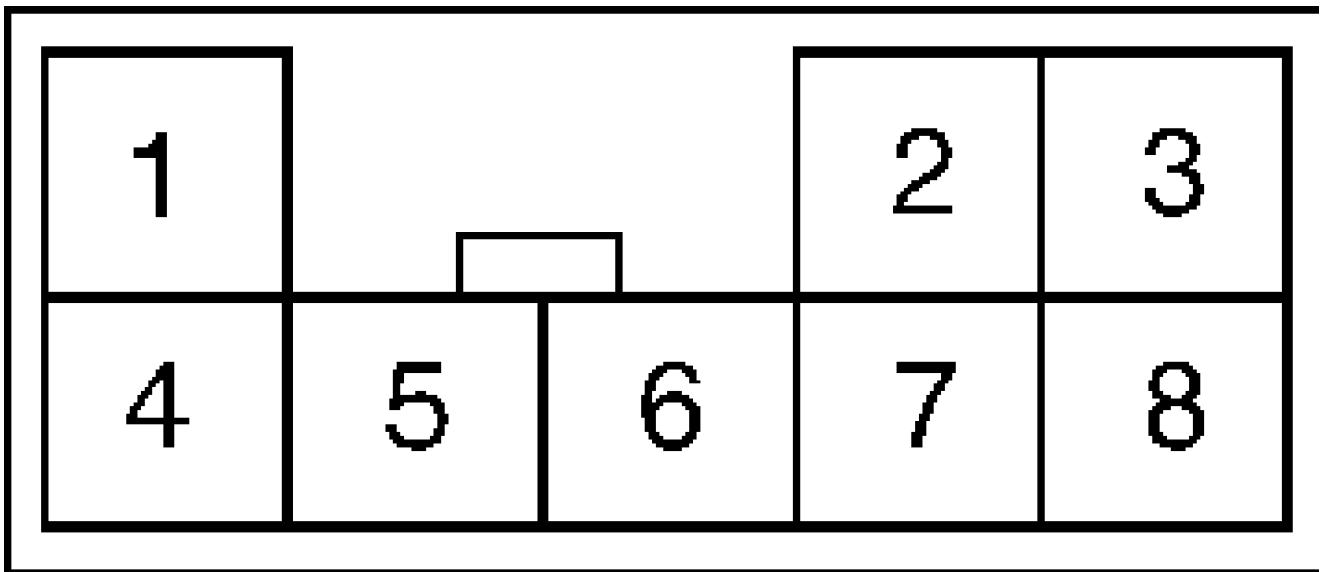
Fig. 11: Identifying Rear Wiper Relay Terminals (3000GT)
Courtesy of Mitsubishi Motor Sales of America

REAR WIPER SWITCH TEST

Eclipse

1) Remove wiper switch from instrument panel and disconnect wiper switch wiring connector. Place wiper switch in OFF position. Continuity should exist between terminals No. 5 and 6. See Fig. 12. Place wiper switch in LO position. Continuity should exist between terminals No. 6 and 7.

2) Place wiper switch in INT position. Continuity should exist between terminals No. 3 and 7, and between terminals No. 5 and 6. Depress washer switch. Continuity should exist between terminals No. 7 and 8. Continuity between terminals No. 1 and 4 should exist in all positions (light circuit). Replace wiper switch if continuity is not as specified.

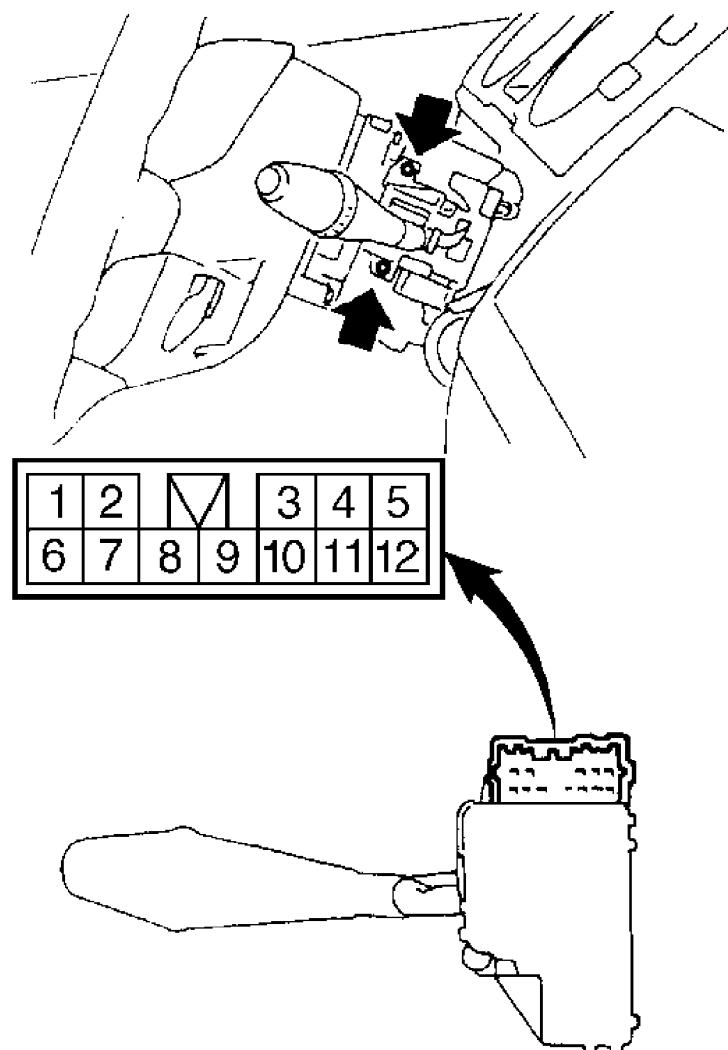


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Fig. 12: Identifying Rear Wiper Switch & Relay Terminals
Courtesy of Mitsubishi Motor Sales of America

Montero & Montero Sport

Remove lower column cover. Remove upper column cover. Loosen screws indicated by arrow in illustration. See Fig. 13. Remove rear wiper/washer switch. Operate switch and check continuity according to illustration. See Fig. 13.



Switch position	Terminal			
	2	3	4	10
Wiper switch	OFF			
	INT		○	○
	ON		○	○
Washer switch	ON	○		○

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Fig. 13: Inspecting Rear Wiper/Washer Switch (Montero Shown; Montero Sport Is Similar)

Courtesy of Mitsubishi Motor Sales of America

3000GT

1) Remove wiper switch from instrument panel and disconnect wiper switch. Place wiper switch in OFF position. Continuity should exist between terminals No. 4 and 5. See Fig. 12. Place wiper switch in ON position. Continuity should exist between terminals No. 5 and 6.

2) Place wiper switch in INT position. Continuity should exist between terminals No. 4 and 5, and between terminals No. 7 and 8. Depress washer switch. Continuity should exist between terminals No. 2 and 6. Continuity between terminals No. 1 and 3 should exist in all positions (light circuit).

REMOVAL & INSTALLATION

FRONT WIPER MOTOR

Removal & Installation

Remove wiper motor bolts. Pull motor out slightly. Disconnect wiper linkage from motor assembly and remove motor. To install, reverse removal procedure.

FRONT WIPER SWITCH

NOTE: Front wiper switch is part of combination switch on steering column. See STEERING COLUMN SWITCHES article.

REAR WIPER MOTOR

Removal & Installation

Remove wiper blade and arm assembly. Remove tailgate trim, 2 bolts and wiper motor. To install, reverse removal procedure. Ensure grommet is in good condition.

REAR WIPER SWITCH

Removal & Installation

Pry rear wiper switch from instrument panel and disconnect wiper switch wiring connector. To install switch, reverse removal procedure.

WIRING DIAGRAMS

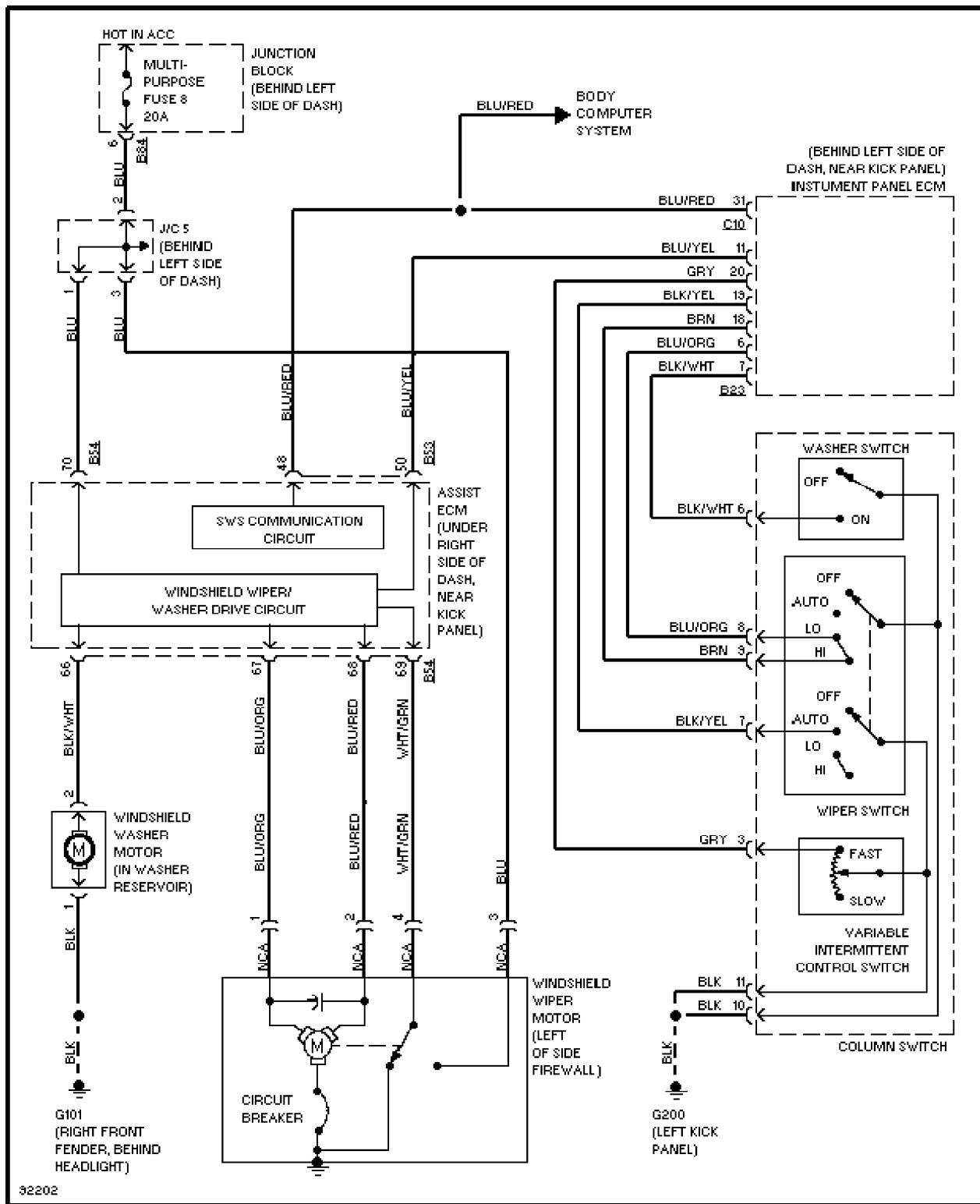


Fig. 14: Wiper/Washer System Wiring Diagram (Diamante)

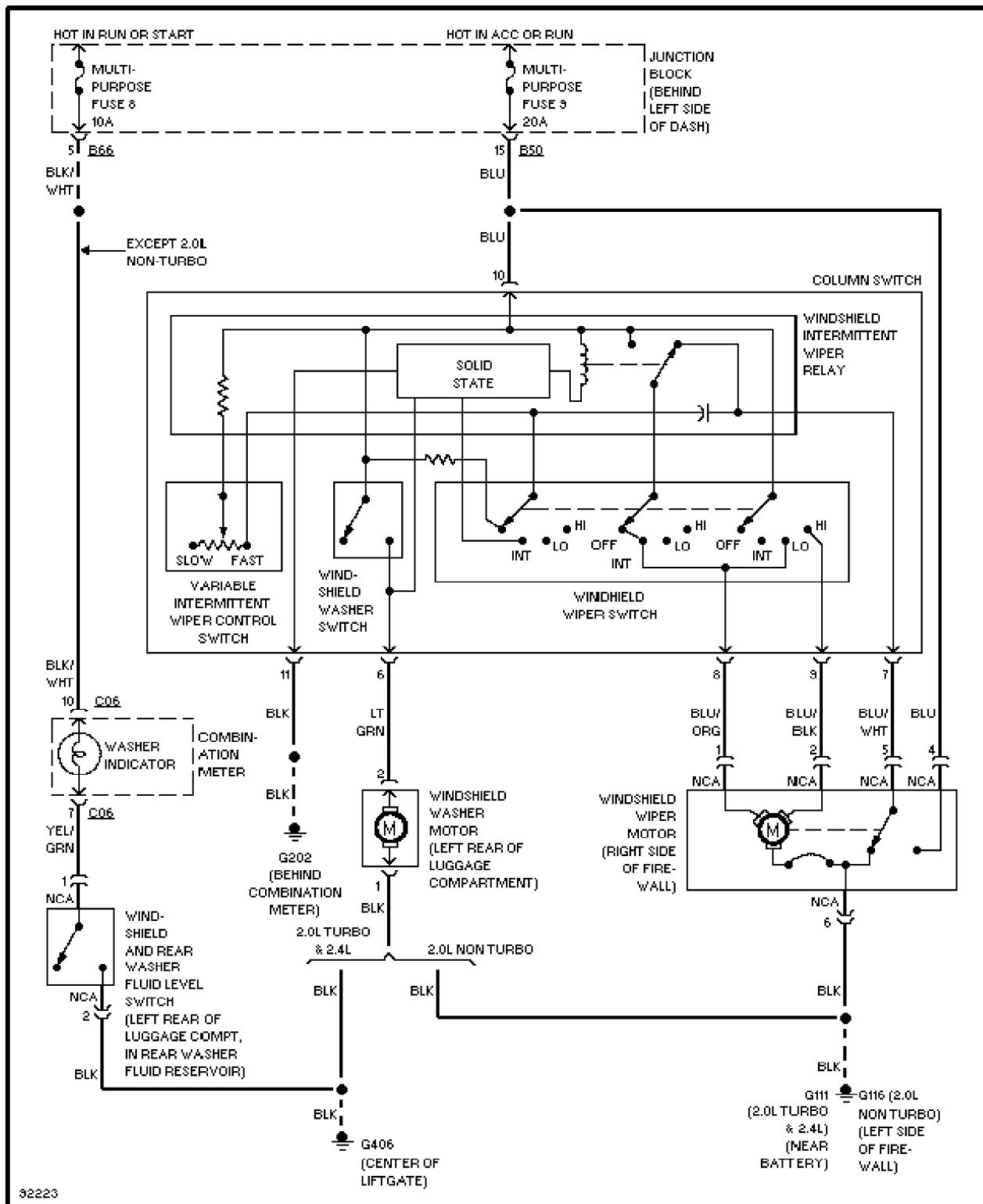


Fig. 15: Wiper/Washer System Wiring Diagram (Eclipse - Front Wiper)

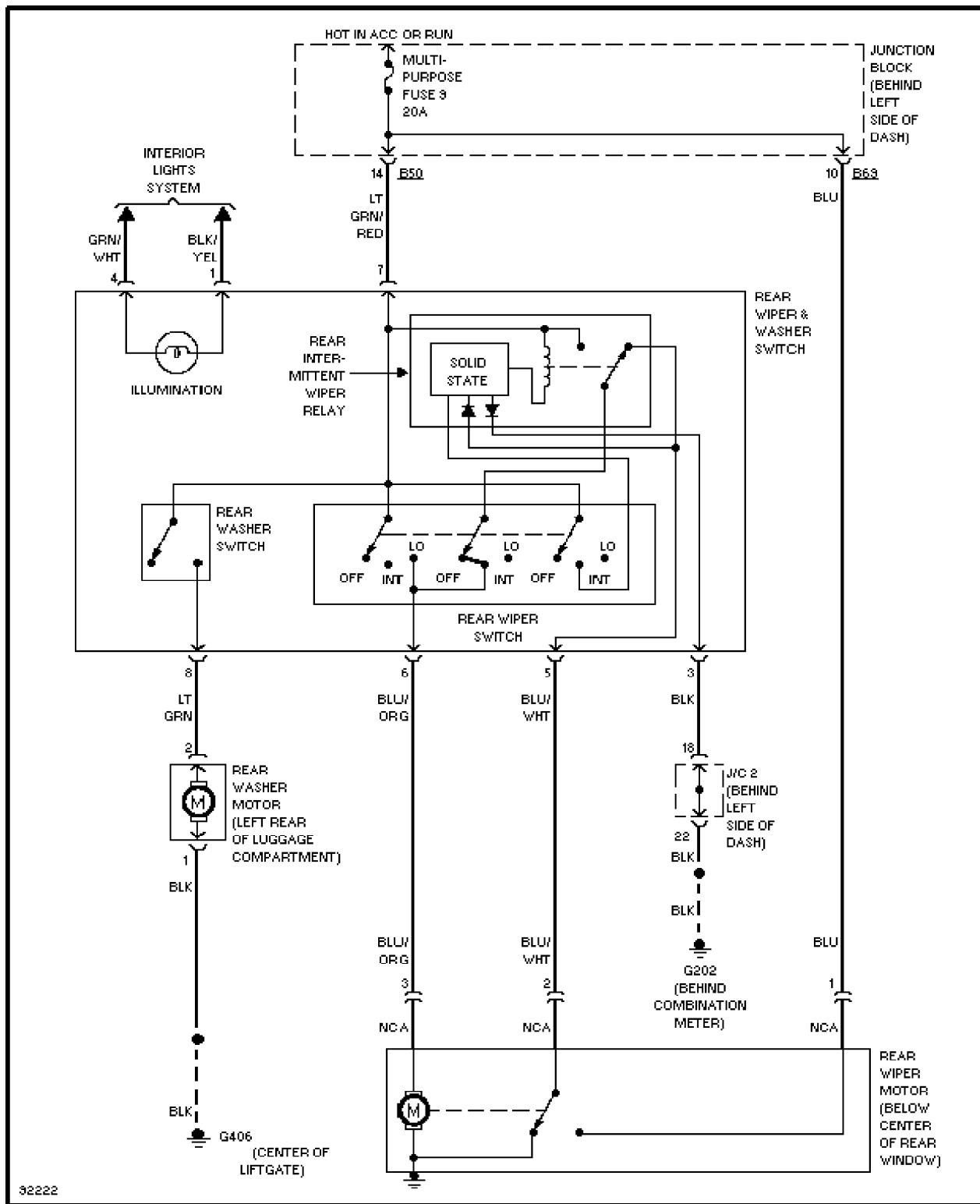


Fig. 16: Wiper/Washer System Wiring Diagram (Eclipse - Rear Wiper)

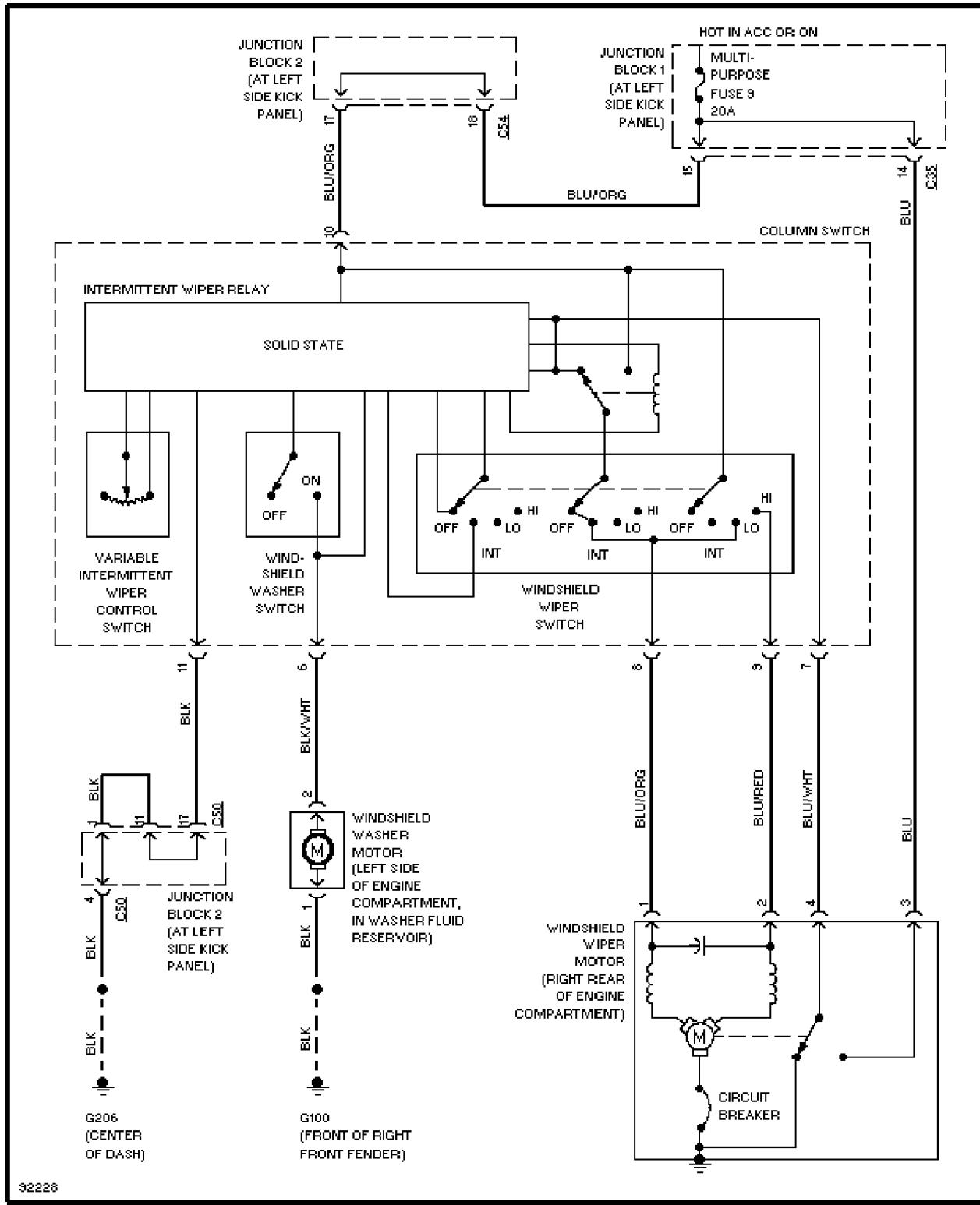


Fig. 17: Wiper/Washer System Wiring Diagram (Galant)

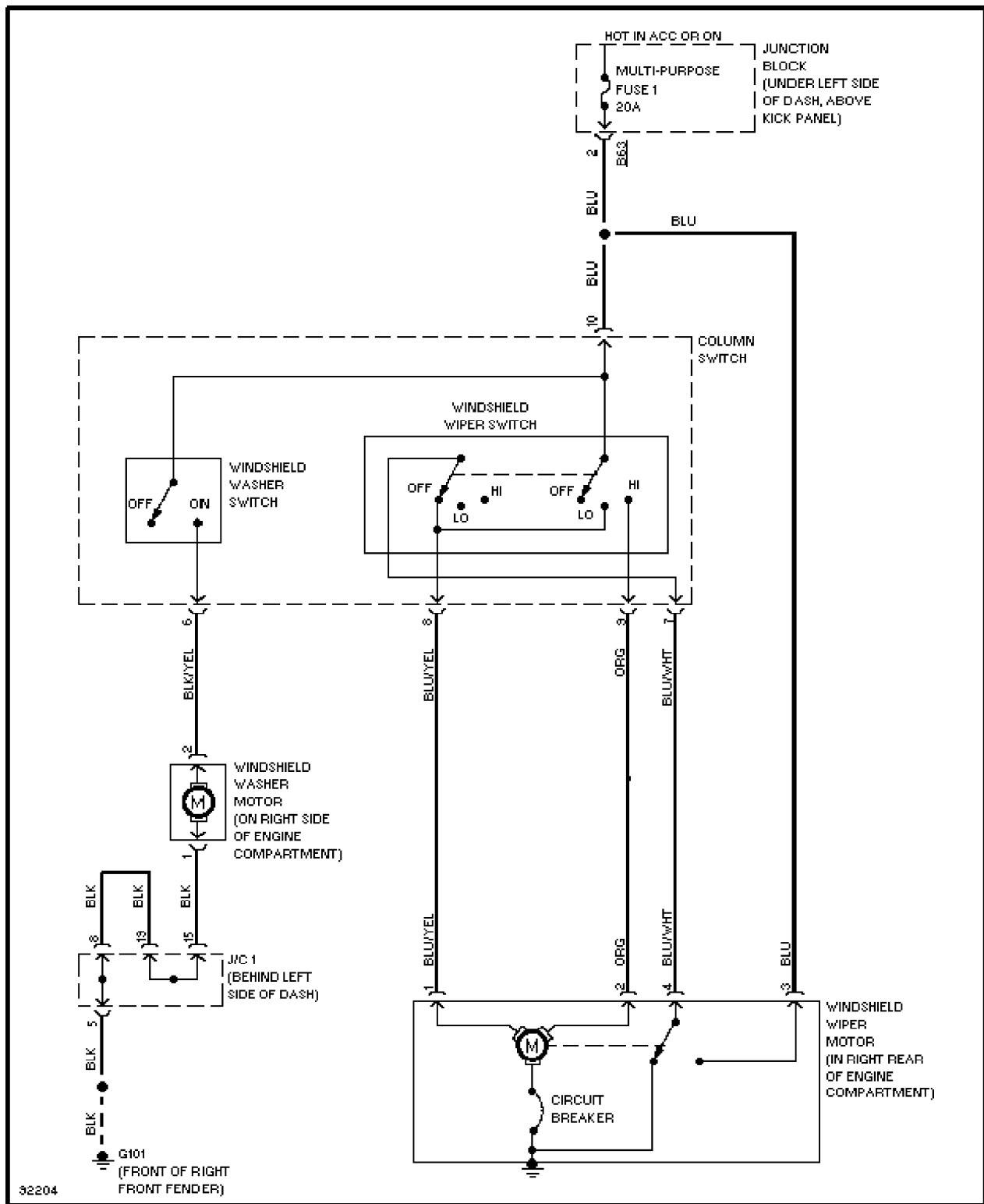


Fig. 18: Wiper/Washer System Wiring Diagram (Mirage - 2-Speed)

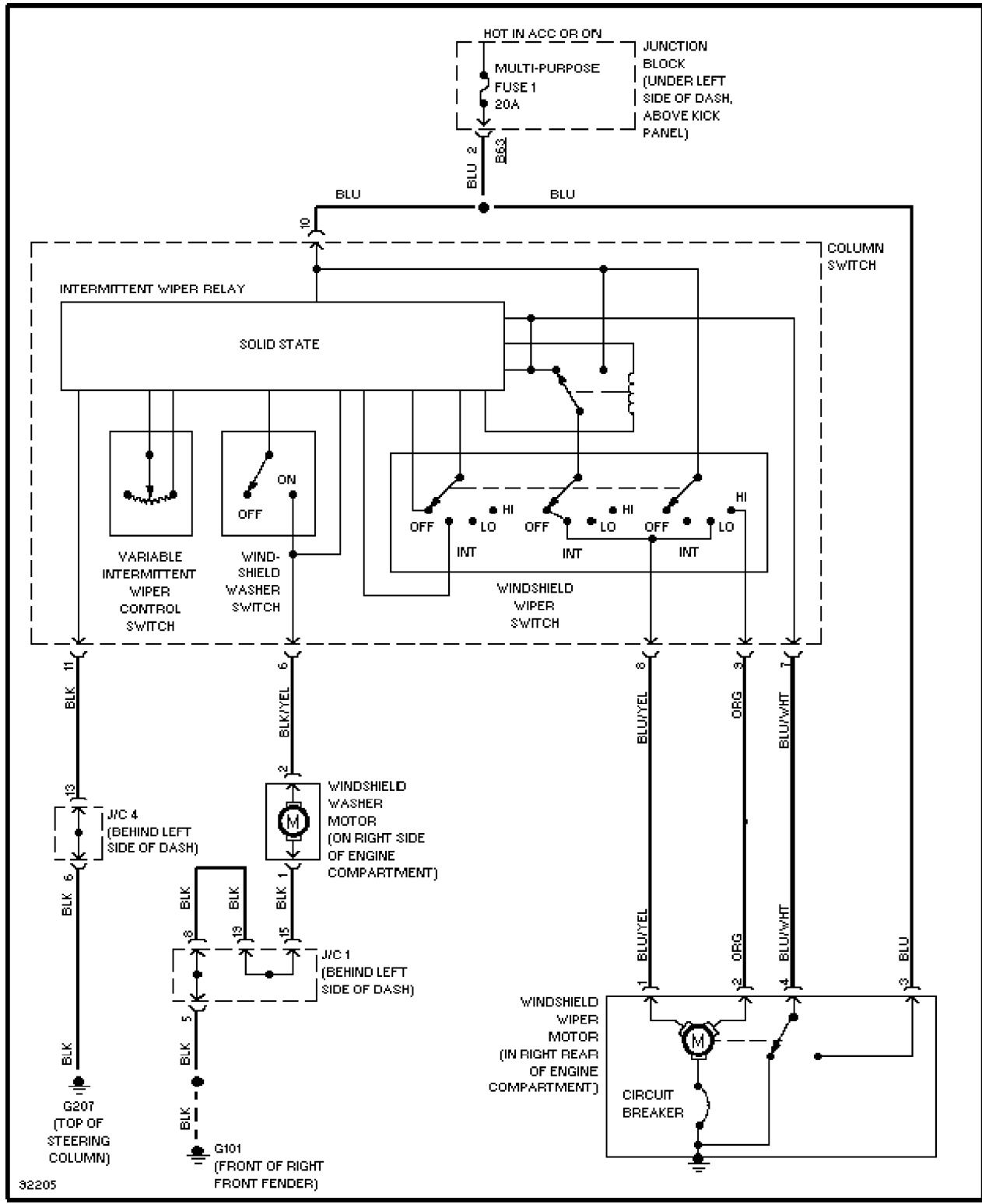


Fig. 19: Wiper/Washer System Wiring Diagram (Mirage - Intermittent)

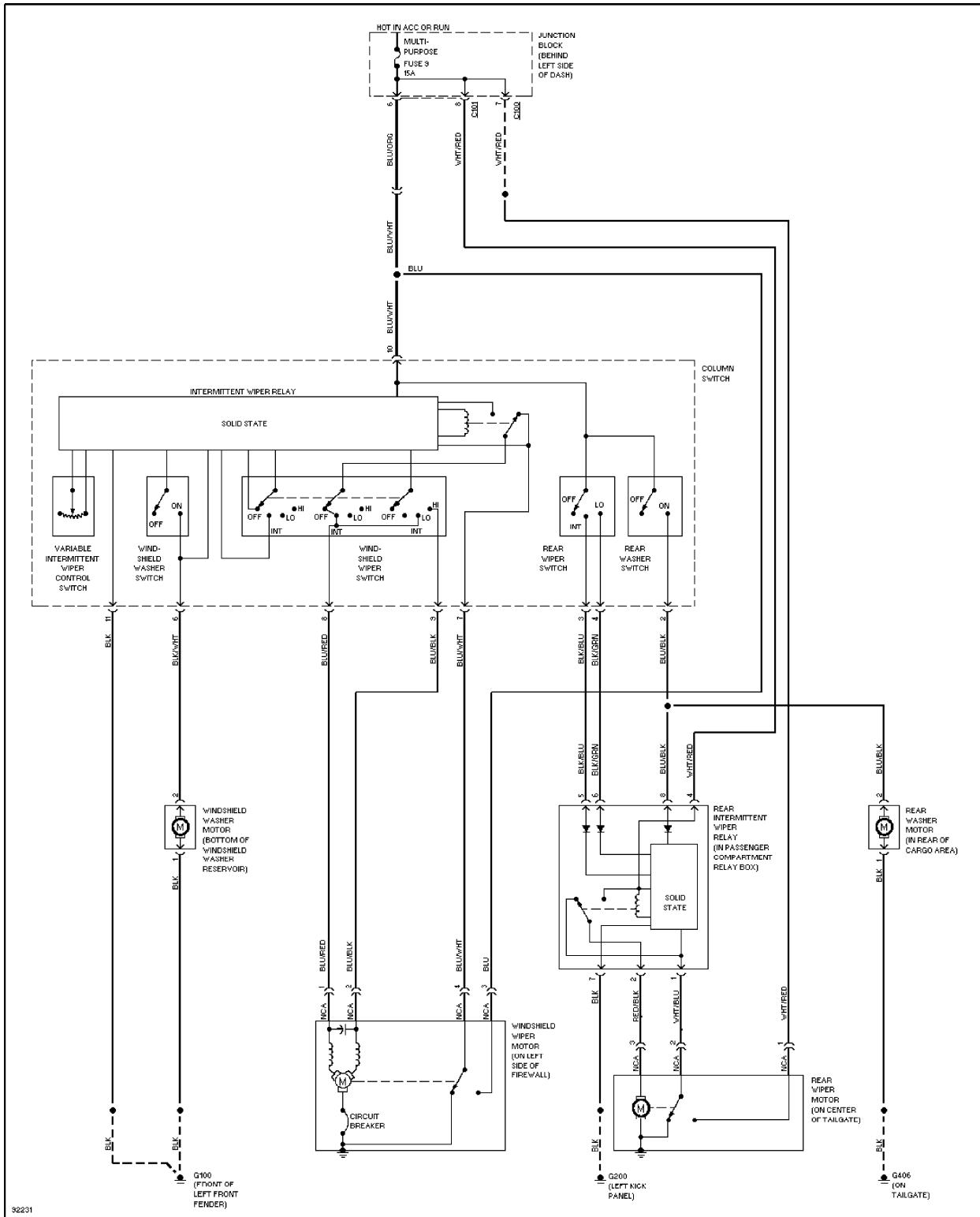


Fig. 20: Wiper/Washer System Wiring Diagram (Montero - Front & Rear Wipers)

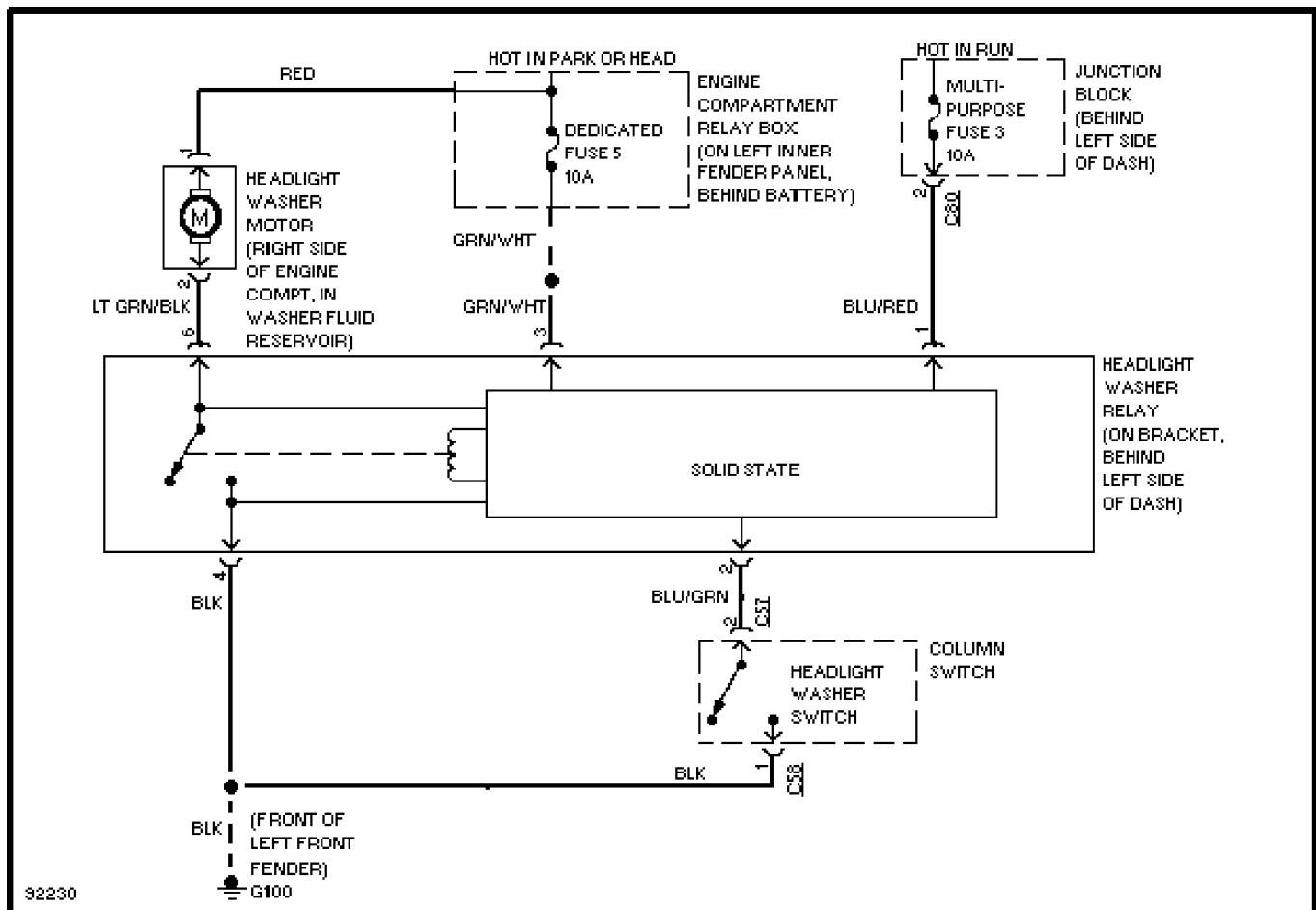


Fig. 21: Wiper/Washer System Wiring Diagram (Montero - Headlight Washers)

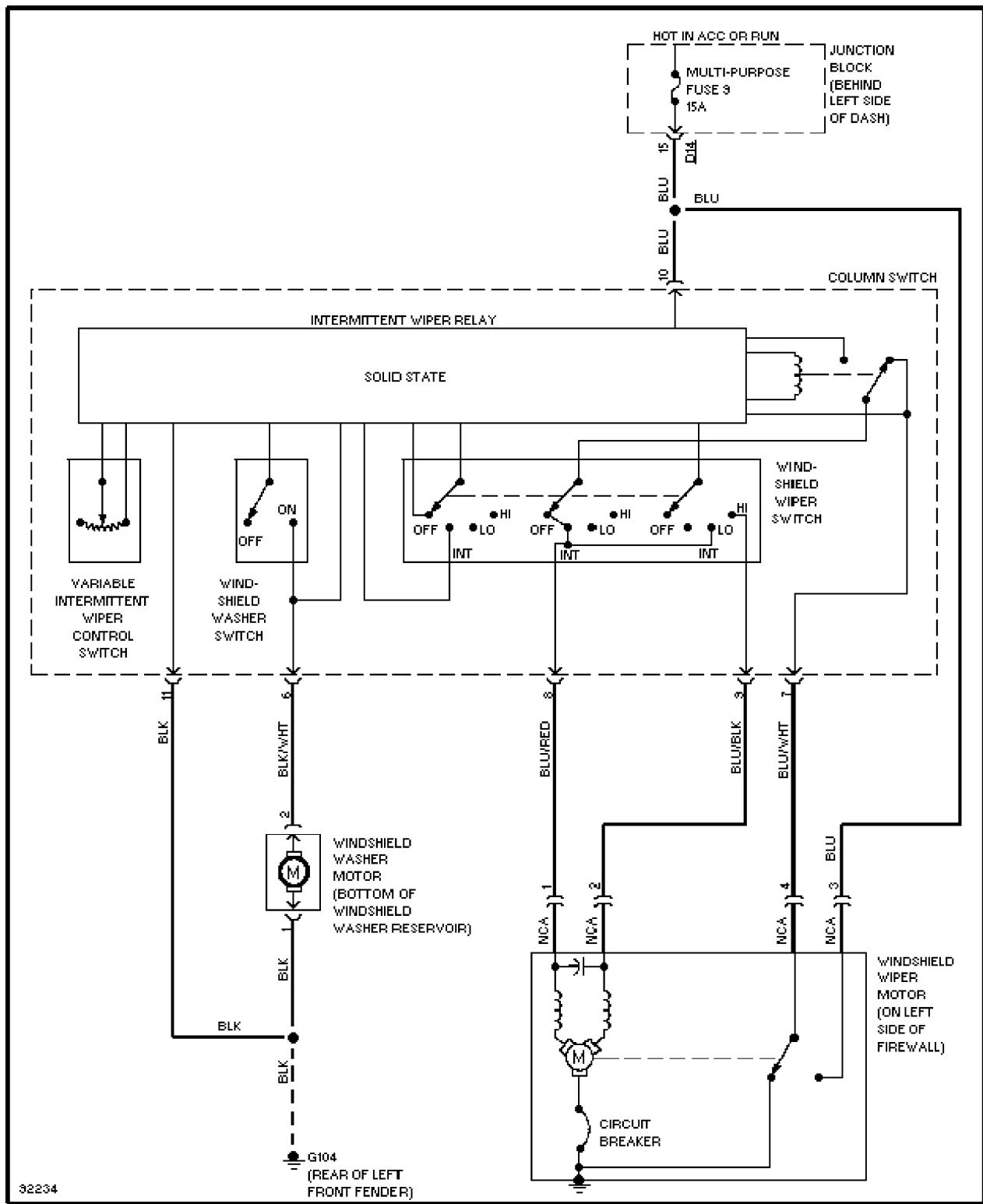


Fig. 22: Wiper/Washer System Wiring Diagram (Montero Sport - Front Wiper)

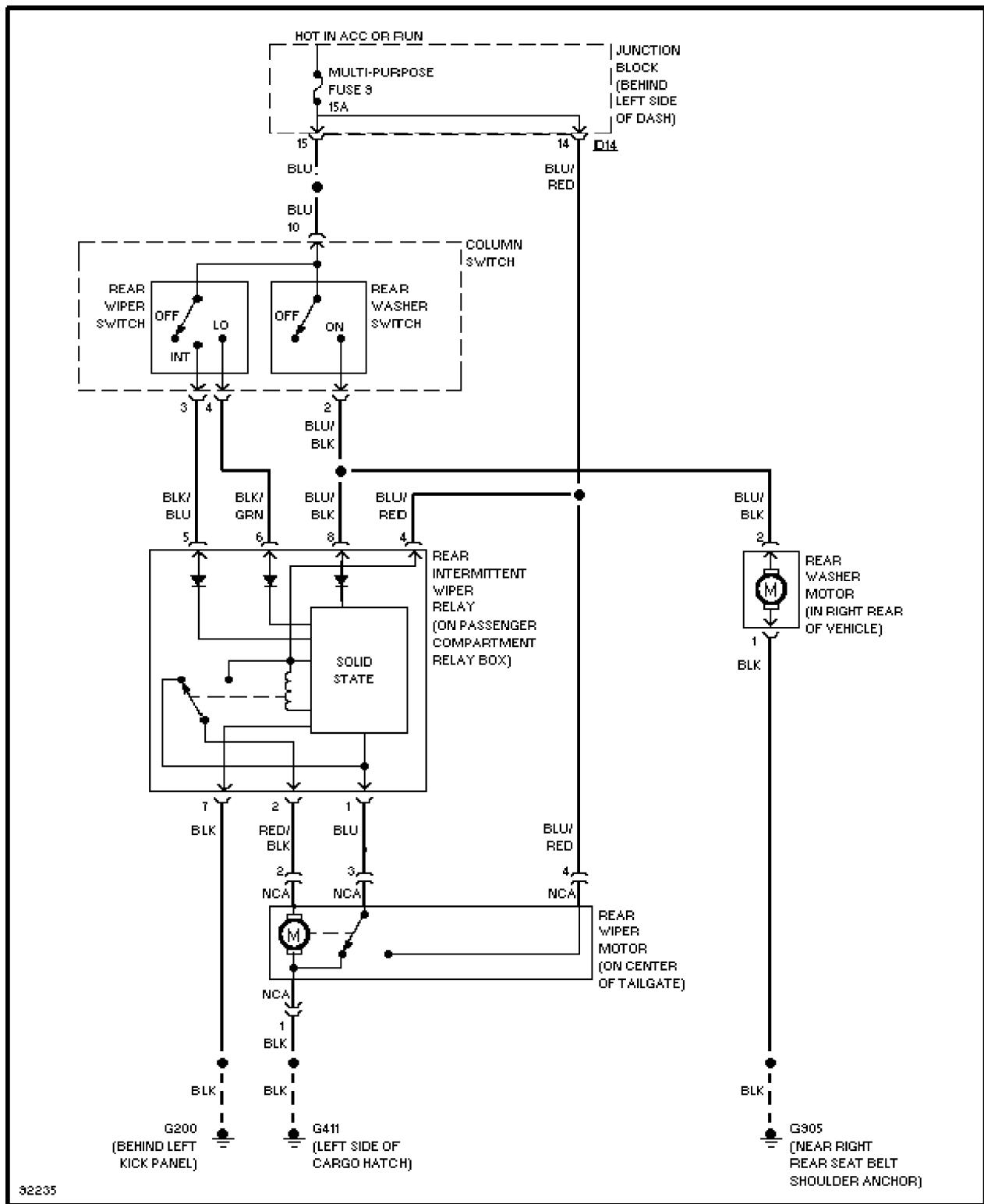


Fig. 23: Wiper/Washer System Wiring Diagram (Montero Sport - Rear Wiper)

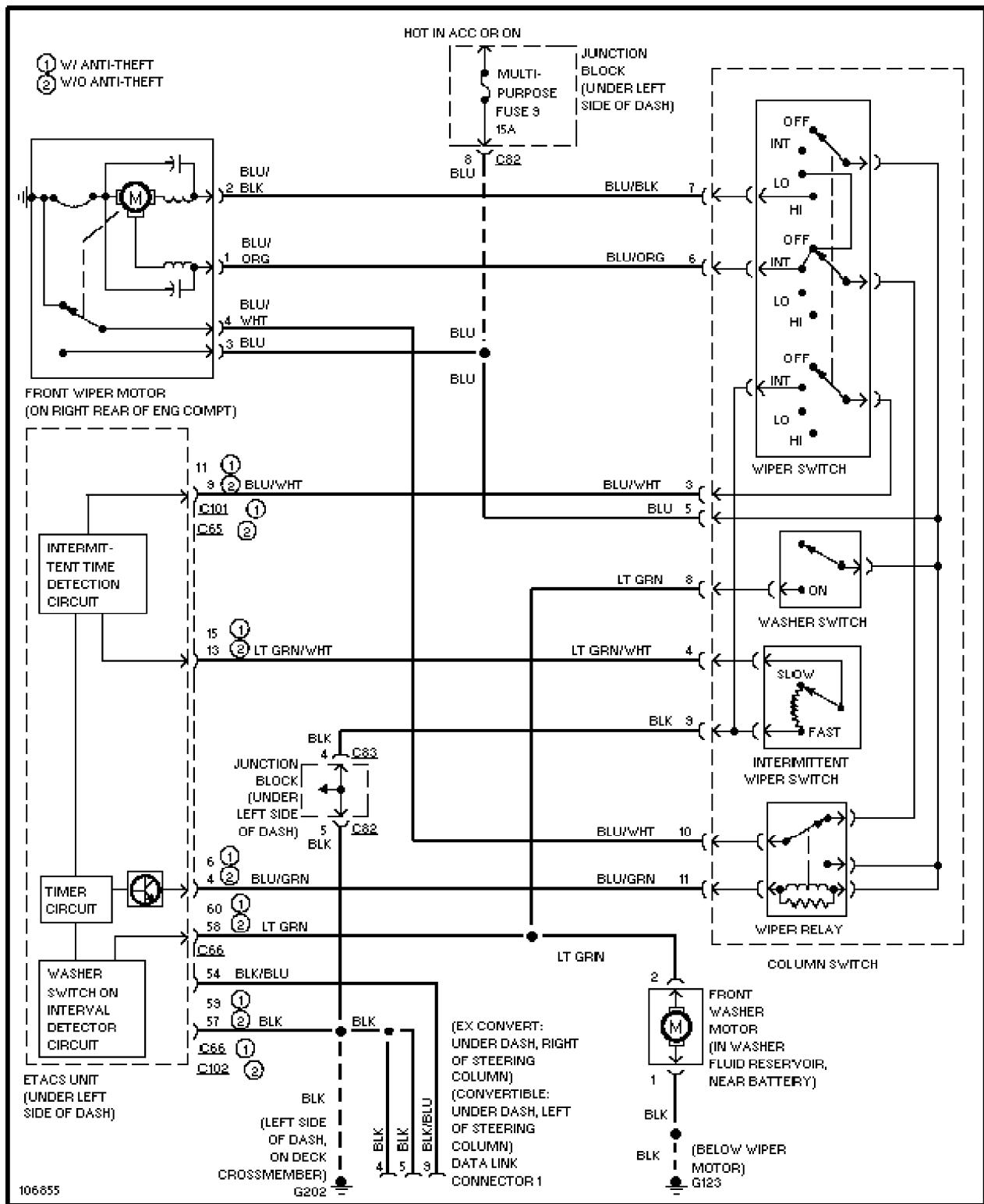


Fig. 24: Wiper/Washer System Wiring Diagram (3000GT - Front Wiper)

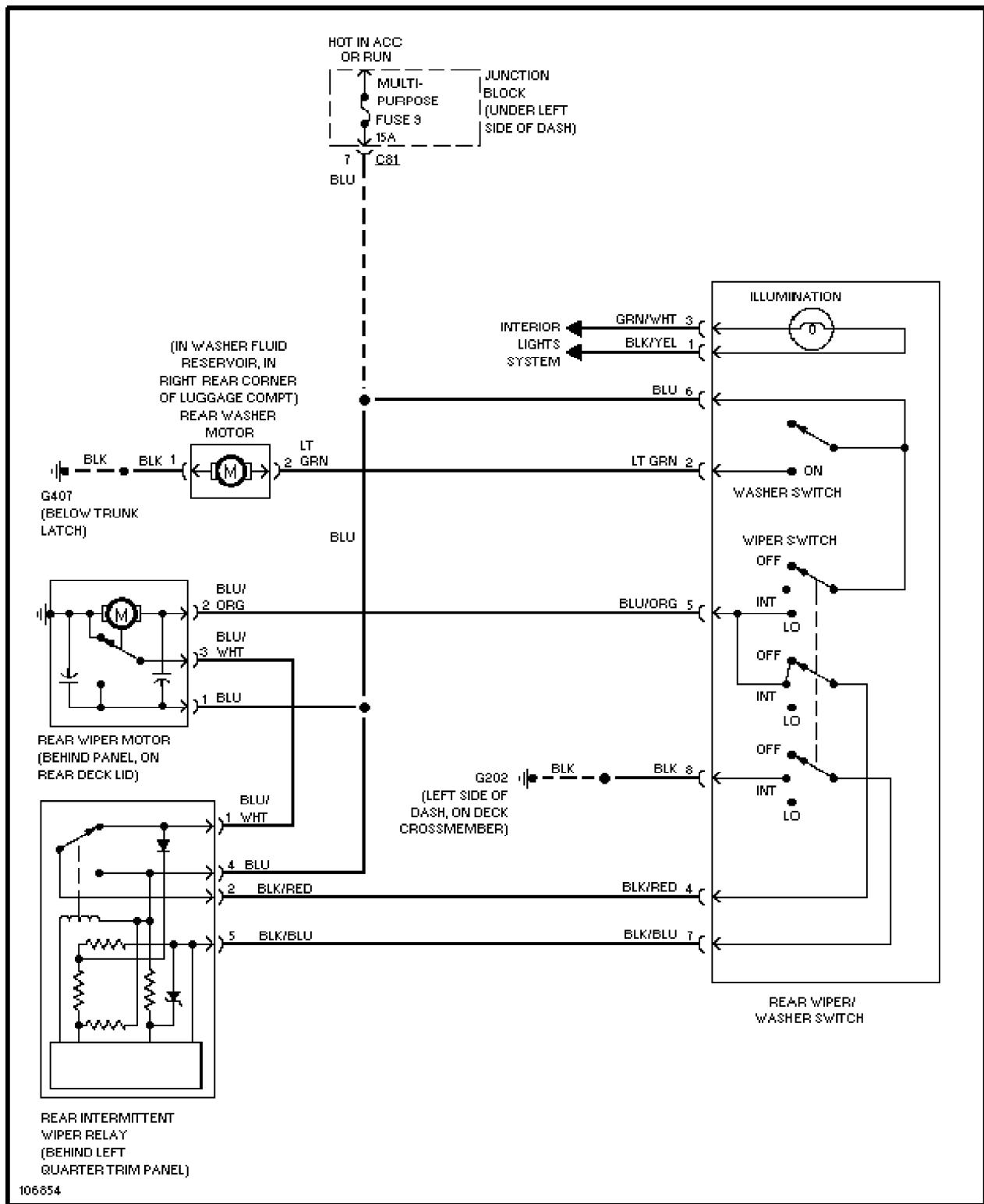


Fig. 25: Wiper/Washer System Wiring Diagram (3000GT - Rear Wiper)