

2005 Toyota RAV4
2005 ACCESSORIES & EQUIPMENT Wiper & Washer System - RAV4

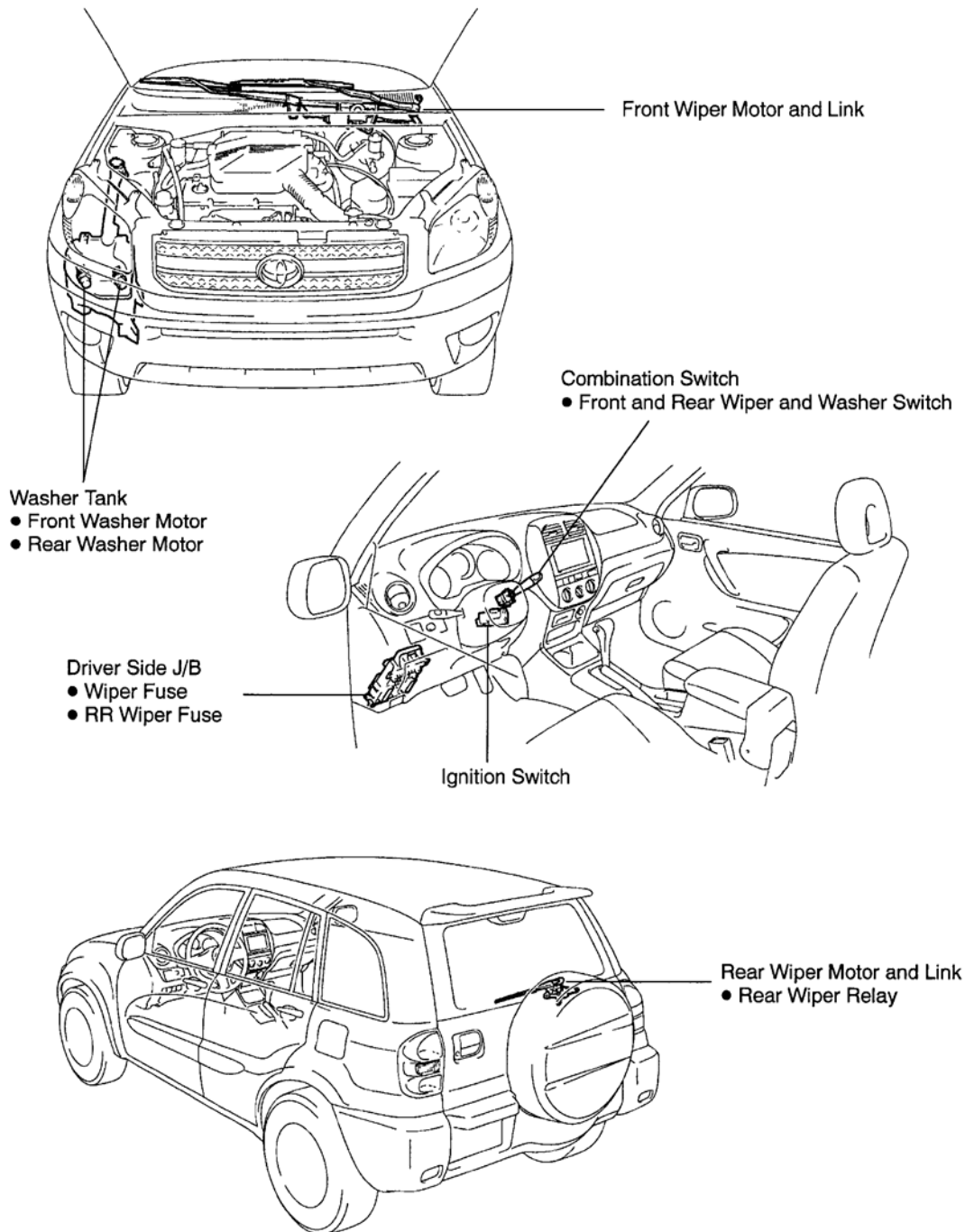
2005 ACCESSORIES & EQUIPMENT

Wiper & Washer System - RAV4

LOCATION

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Fig. 1: Identifying Location Of Wiper And Washer System Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

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1. INSPECT FRONT WIPER AND WASHER SWITCH CONTINUITY

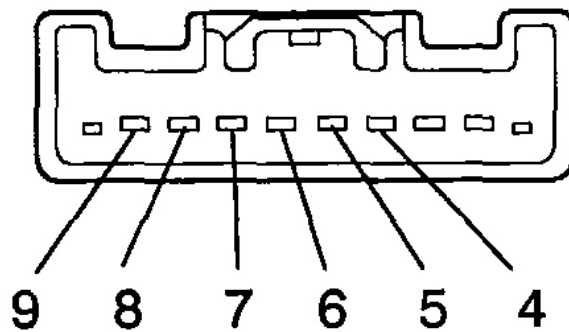
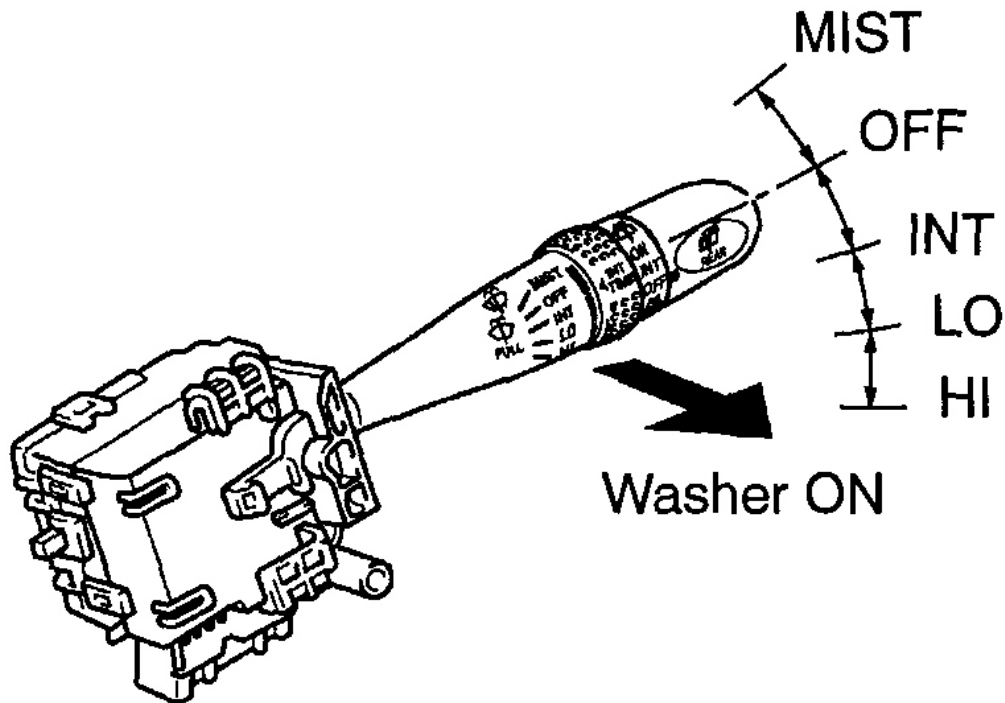
SWITCH POSITION SPECIFIED CONDITION

Switch Position	Tester Connection	Specified Condition
MIST	7 - 8	Continuity
OFF	6 - 7	Continuity
INT	6 - 7	Continuity
LO	7 - 8	Continuity
HI	8 - 9	Continuity
Washer ON	4 - 5	Continuity

If the continuity is not as specified, replace the switch.

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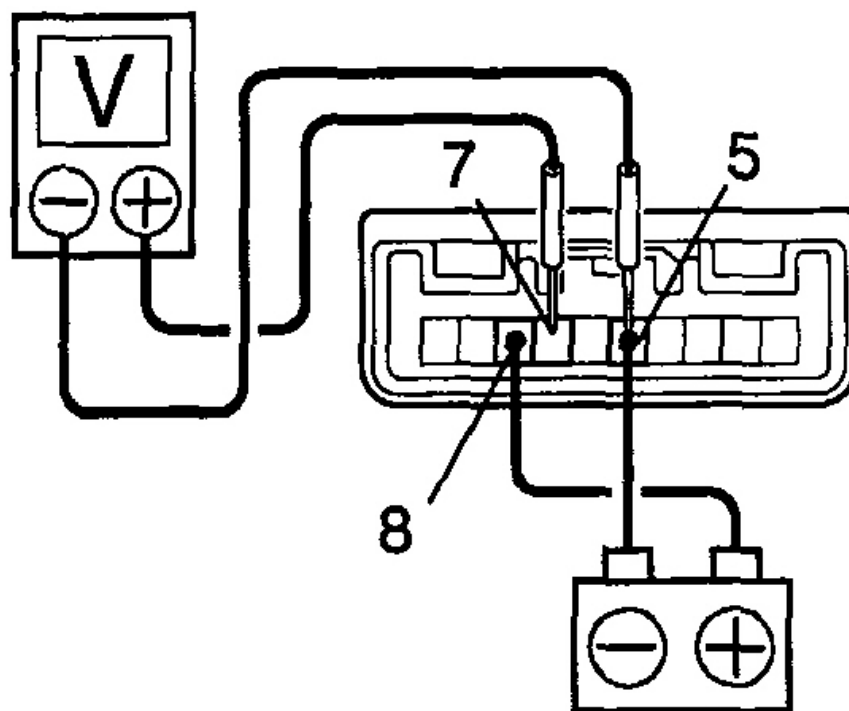
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Fig. 2: Identifying Front Wiper And Washer Switch Positions & Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. INSPECT FRONT WIPER INTERMITTENT OPERATION

- a. Turn the wiper switch to the INT position.
- b. Turn the intermittent time control switch to the FAST position.
- c. Connect the positive (+) lead from the battery to terminal 8 and the negative (-) lead to terminal 5.
- d. Connect the positive (+) lead from the voltmeter to terminal 7 and the negative (-) lead to terminal 5. Check if the meter needle indicates battery voltage.



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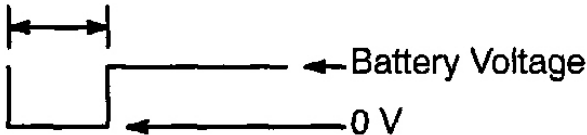
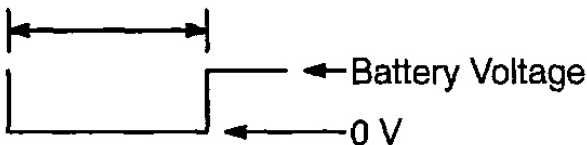
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Fig. 3: Inspecting Front Wiper Intermittent Operation
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. After connecting terminal 6 to terminal 8, connect terminal 8 to terminal 5. Check if the voltage rises from 0 V to the battery voltage within the time shown in the chart below.

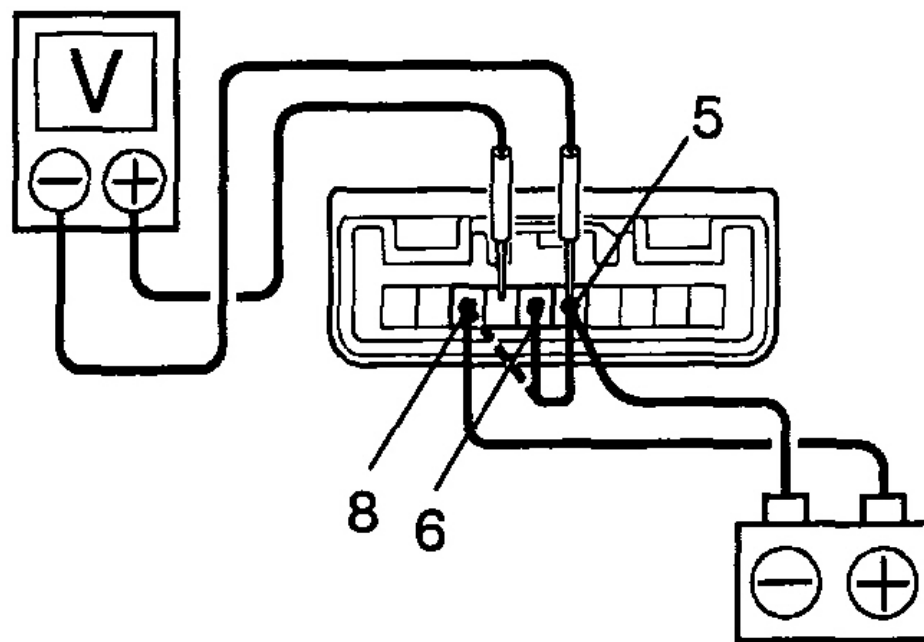
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INT time control switch position	Voltage
FAST	1.6 ± 1 sec.  The diagram shows a square wave pulse. The high level is labeled 'Battery Voltage' and the low level is labeled '0 V'. A horizontal double-headed arrow above the pulse indicates the duration is 1.6 ± 1 sec.
SLOW	10.7 ± 5 sec.  The diagram shows a square wave pulse. The high level is labeled 'Battery Voltage' and the low level is labeled '0 V'. A horizontal double-headed arrow above the pulse indicates the duration is 10.7 ± 5 sec.

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Fig. 4: INT Time Control Switch Position Voltage Chart
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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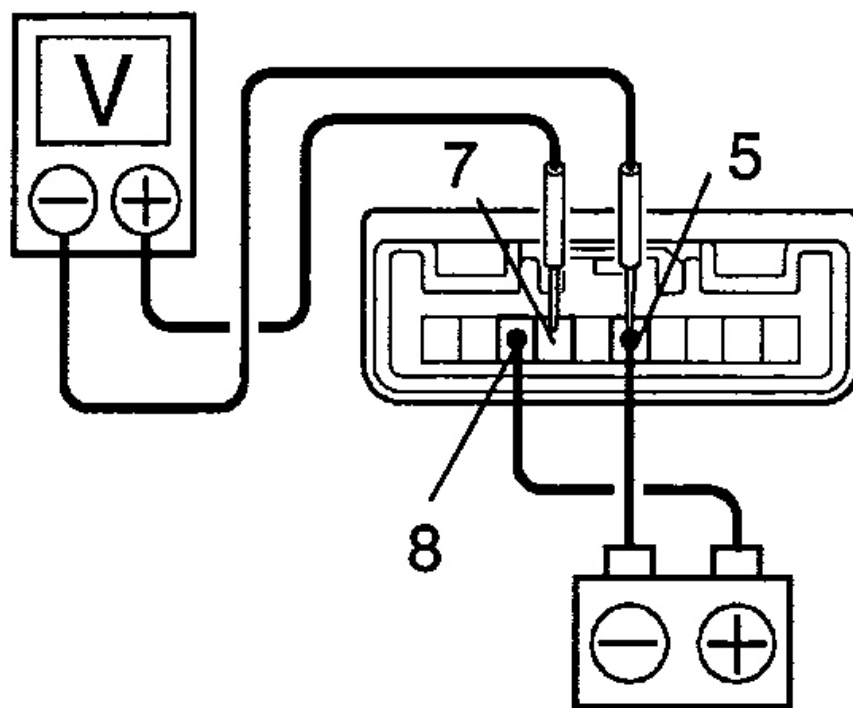
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Fig. 5: Testing Front Wiper Intermittent Operation
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the wiper and washer switch.

3. INSPECT FRONT WASHER LINKED OPERATION

- Connect the positive (+) lead from the battery to terminal 8 and the negative (-) lead to terminal 5.
- Connect the positive (+) lead from the voltmeter to terminal 7 and the negative (-) lead to terminal 5.
- Push in the washer switch. Check if the voltage changes as shown in the chart below.



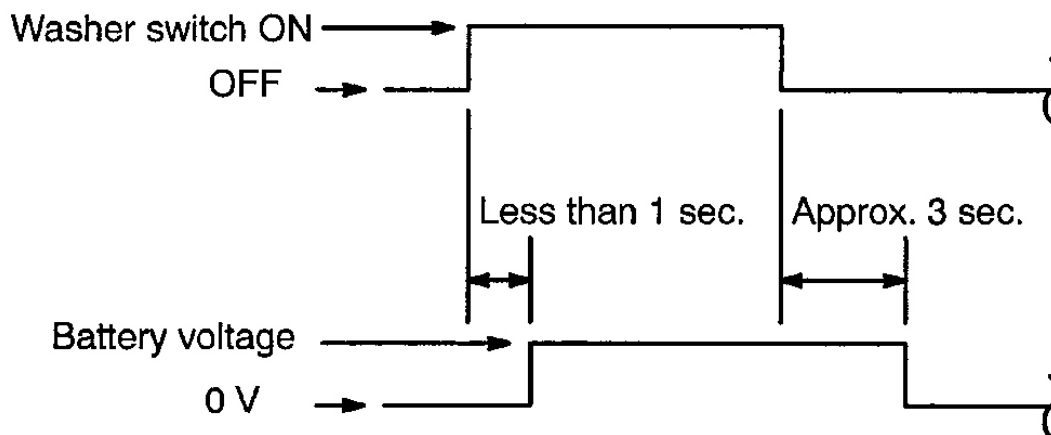
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Fig. 6: Inspecting Front Washer Linked Operation
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Fig. 7: Checking Voltage Changes Chart
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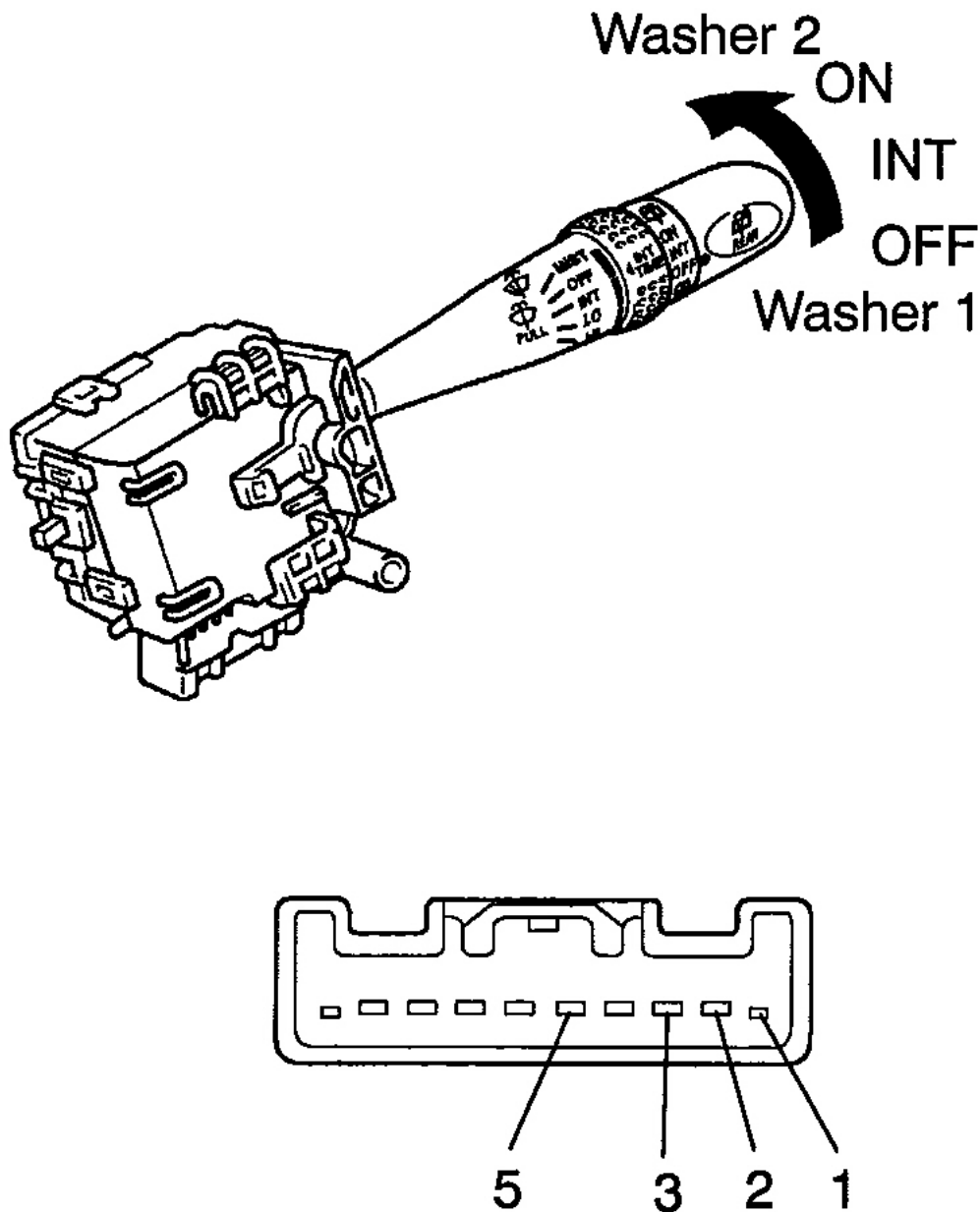
If operation is not as specified, replace the wiper and washer switch.

4. INSPECT REAR WIPER AND WASHER SWITCH CONTINUITY

SWITCH POSITION SPECIFIED CONDITION

Switch Position	Tester Connection	Specified Condition
Washer 1	3 - 5	Continuity
INT	1 - 5	Continuity
ON	2 - 5	Continuity
Washer 2	2 - 3 - 5	Continuity

If the continuity is not as specified, replace the switch.



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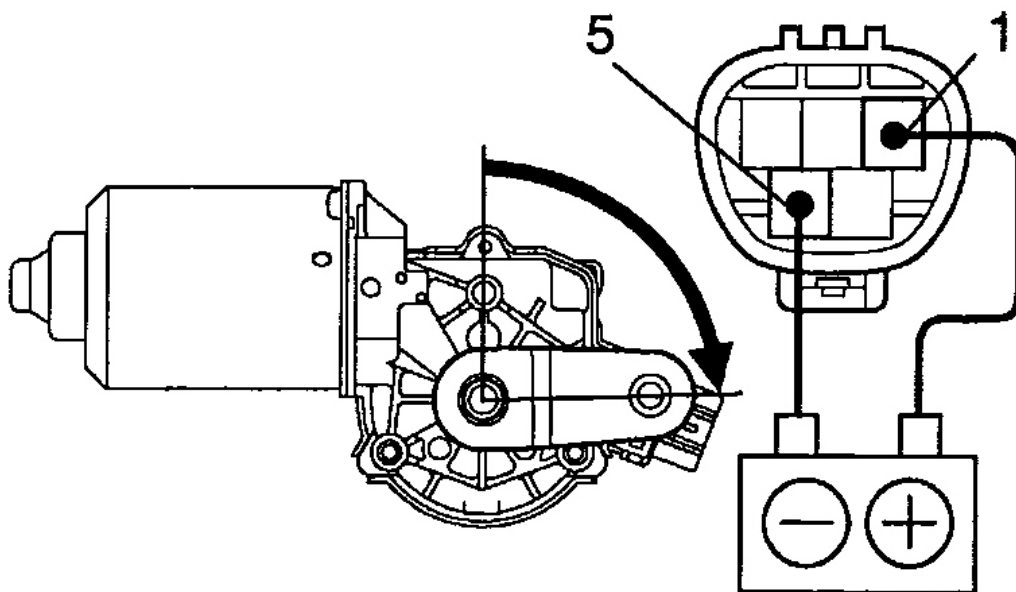
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Fig. 8: Identifying Rear Wiper And Washer Switch Positions & Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. Low speed: INSPECT FRONT WIPER MOTOR OPERATION

Connect the battery's positive (+) lead to terminal 1 and the negative (-) lead to terminal 5. Check if the motor operates at low speed.

If operation is not as specified, replace the motor.



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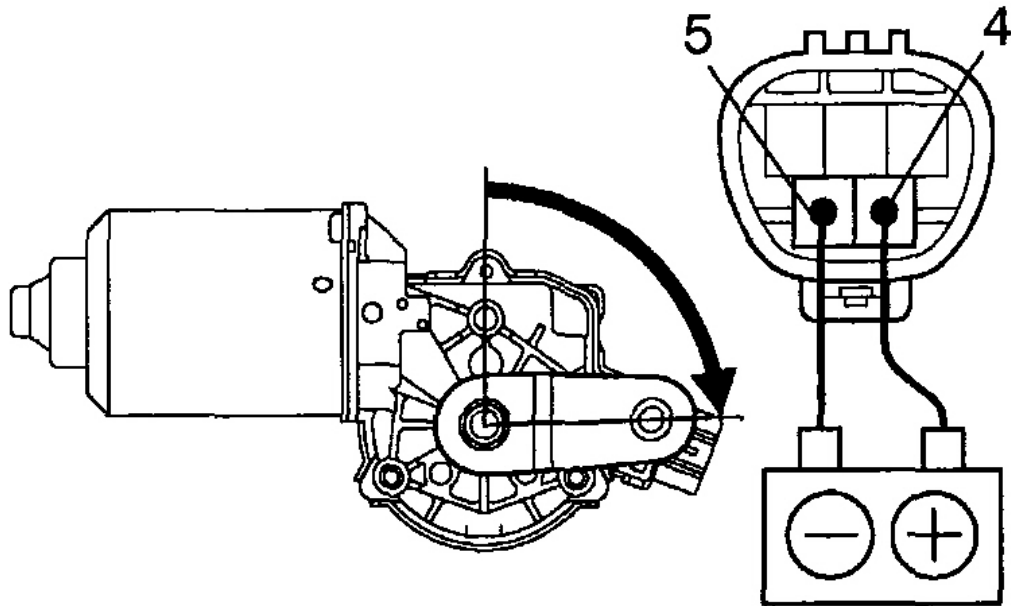
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Fig. 9: Connecting Battery's Positive (+) Lead To Terminal 1 And Negative (-) Lead To Terminal 5
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. High speed: INSPECT FRONT WIPER MOTOR OPERATION

Connect the positive (+) lead from the battery to terminal 4 and the negative (-) lead to terminal 5. Check if the motor operates at high speed.

If operation is not as specified, replace the motor.



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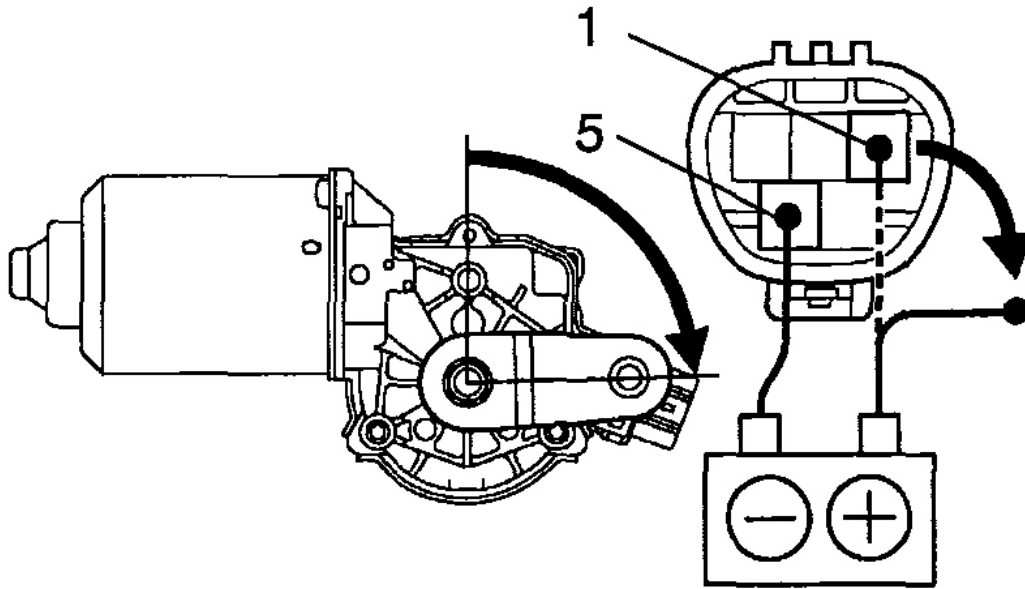
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Fig. 10: Connecting Positive (+) Lead From Battery To Terminal 4 And Negative (-) Lead To Terminal 5

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. Stopping at stop position: INSPECT FRONT WIPER MOTOR OPERATION

- a. Operate the motor at low speed and stop the motor operation anywhere except the stop position by disconnecting the positive (+) lead from terminal 1.



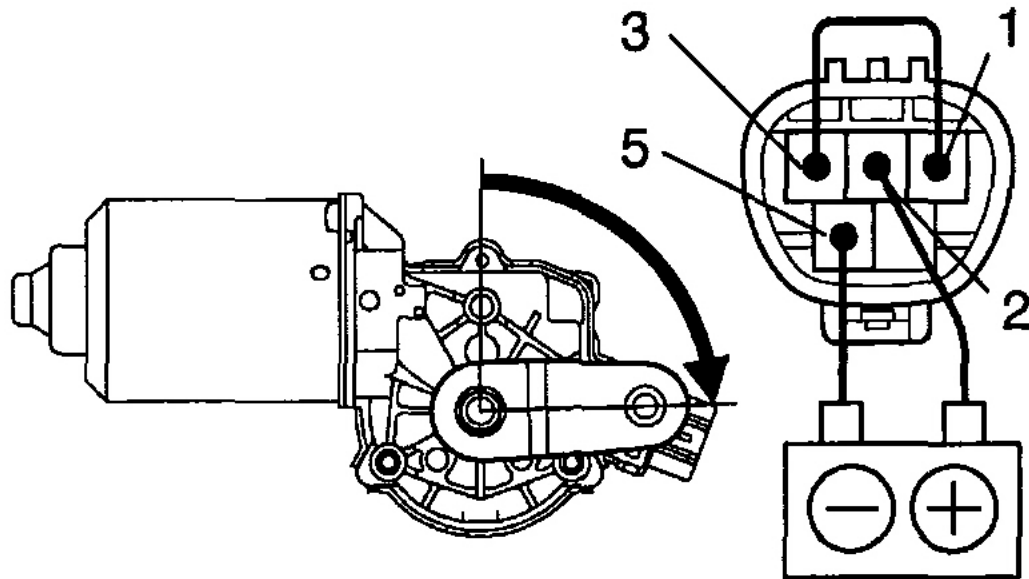
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Fig. 11: Inspecting Front Wiper Motor Operation
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Connect terminals 1 and 3.
- c. Connect the positive (+) lead from the battery to terminal 2 and negative (-) lead to terminal 5. Check if the motor stops running at the stop position after the motor operates again.

If operation is not as specified, replace the motor.



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Fig. 12: Connecting Positive (+) Lead From Battery To Terminal 2 And Negative (-) Lead To Terminal 5

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8. INSPECT REAR WIPER MOTOR AND RELAY OPERATION

- a. Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 3 and the motor body. Check if the motor operates.

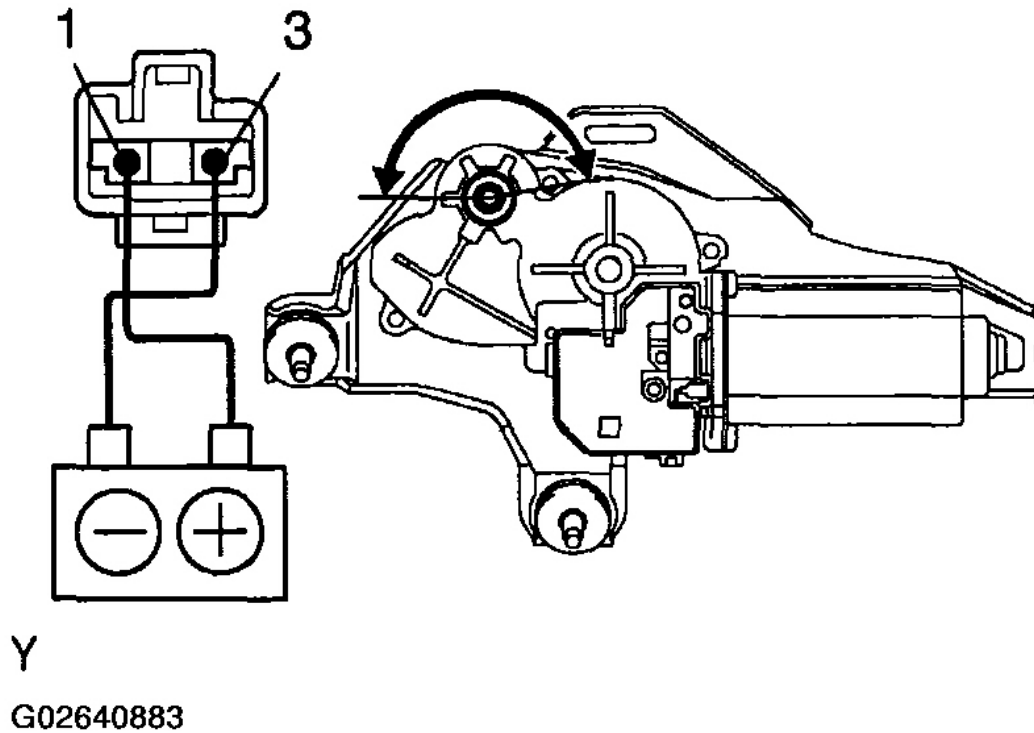
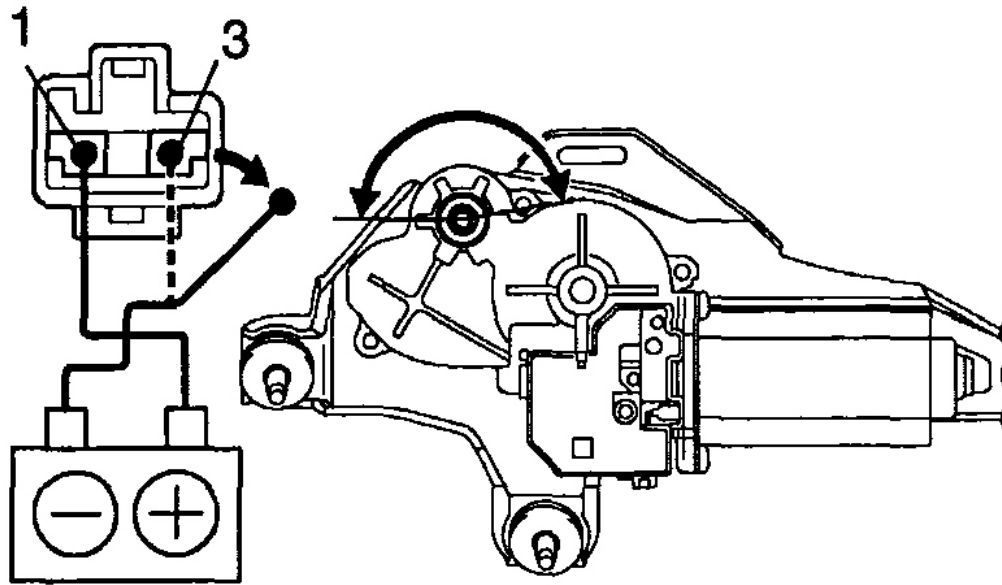


Fig. 13: Inspecting Rear Wiper Motor Operation

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Disconnect the negative (-) lead from terminal 3. Check that the motor stops running at the stop position.

If operation is not as specified, replace the motor and relay.



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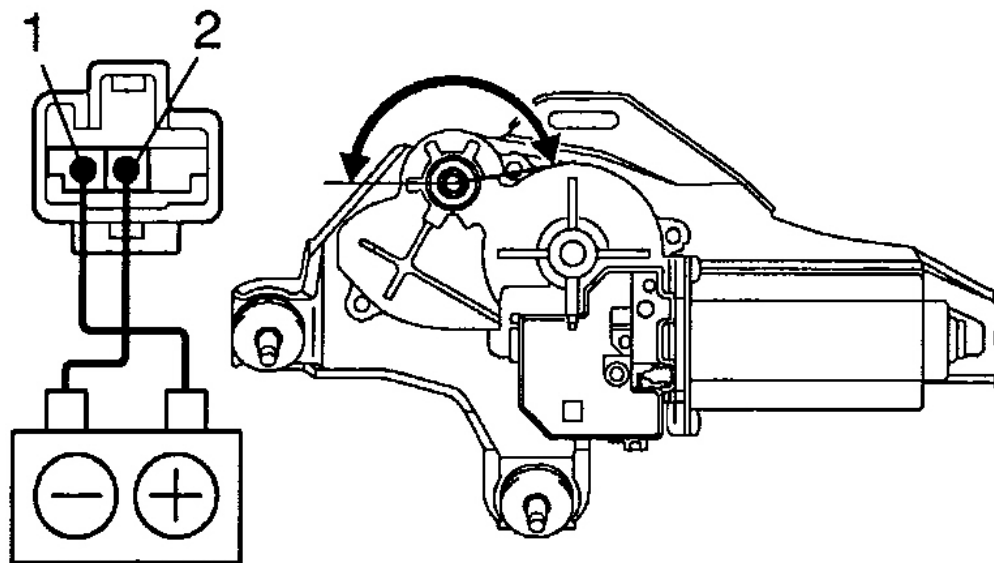
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Fig. 14: Disconnecting Negative (-) Lead From Terminal 3
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. Intermittent: INSPECT REAR WIPER MOTOR AND RELAY OPERATION

Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2 and the motor body, check that the motor operates intermittently for 9 to 15 seconds.

If operation is not as specified, replace the motor and relay.



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Fig. 15: Inspecting Rear Wiper Motor Operation
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. INSPECT FRONT AND REAR WASHER MOTOR OPERATION

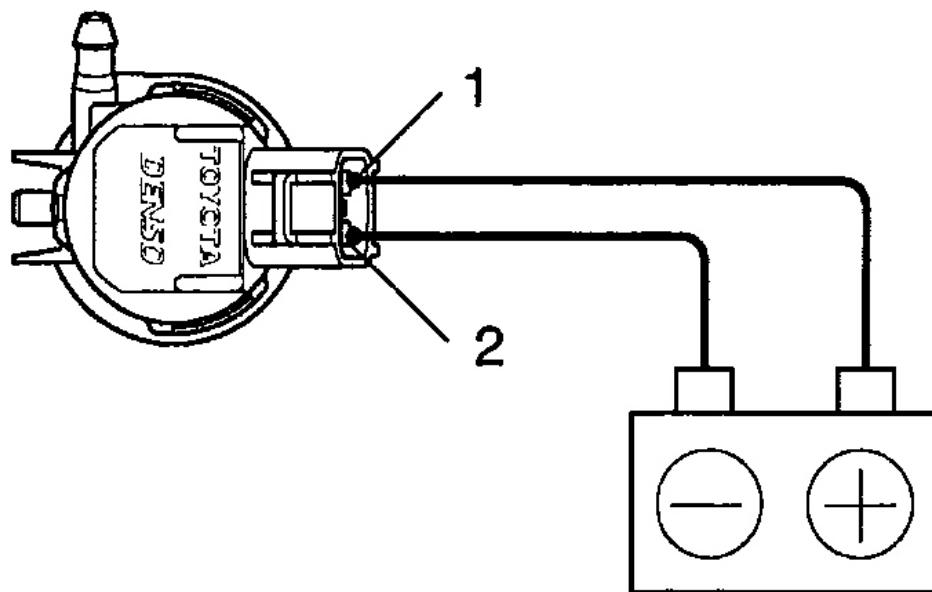
Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2. Check if the motor operates.

NOTE: These tests must be performed within 20 seconds to prevent the coil from burning out.

If operation is not as specified, replace the motor.

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Fig. 16: Inspecting Front And Rear Washer Motor Operation
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