

2002 ACCESSORIES & EQUIPMENT

Power Door Lock Control System - RAV4

BODY ELECTRICAL SYSTEM

PRECAUTION

NOTE: Take care to observe the following precautions when performing inspections or removal and replacement of body electrical related parts.

1. Headlight System

Halogen bulbs have pressurized gas inside and require special handling. They can burst if scratched or dropped. Hold a bulb only by its plastic or metal case.

Don't touch the glass part of a bulb with bare hands.

2. SRS (Supplemental Restraint System)

The RAV4 is equipped with an SRS (Supplemental Restraint System) such as the driver airbag and front passenger airbag, failure to carry out service operation in the correct sequence could cause the SRS to unexpectedly deploy during servicing, possibly leading to a serious accident. Before servicing (including removal or installation of parts, inspection or replacement), be sure to read the precautionary notices in **AIR BAG SAFETY PRECAUTIONS** .

3. Audio System

If the negative (-) terminal cable is disconnected from the battery, the preset AM, FM1 and FM2 stations stored in memory are erased, so be sure to note the stations and reset them after the battery terminal is reconnected.

4. Mobile Communication System

If the vehicle is equipped with a mobile communication system, refer to precautions in **IF VEHICLE IS EQUIPPED WITH MOBILE COMMUNICATION SYSTEM** .

TROUBLESHOOTING

PROBLEM SYMPTOMS TABLE

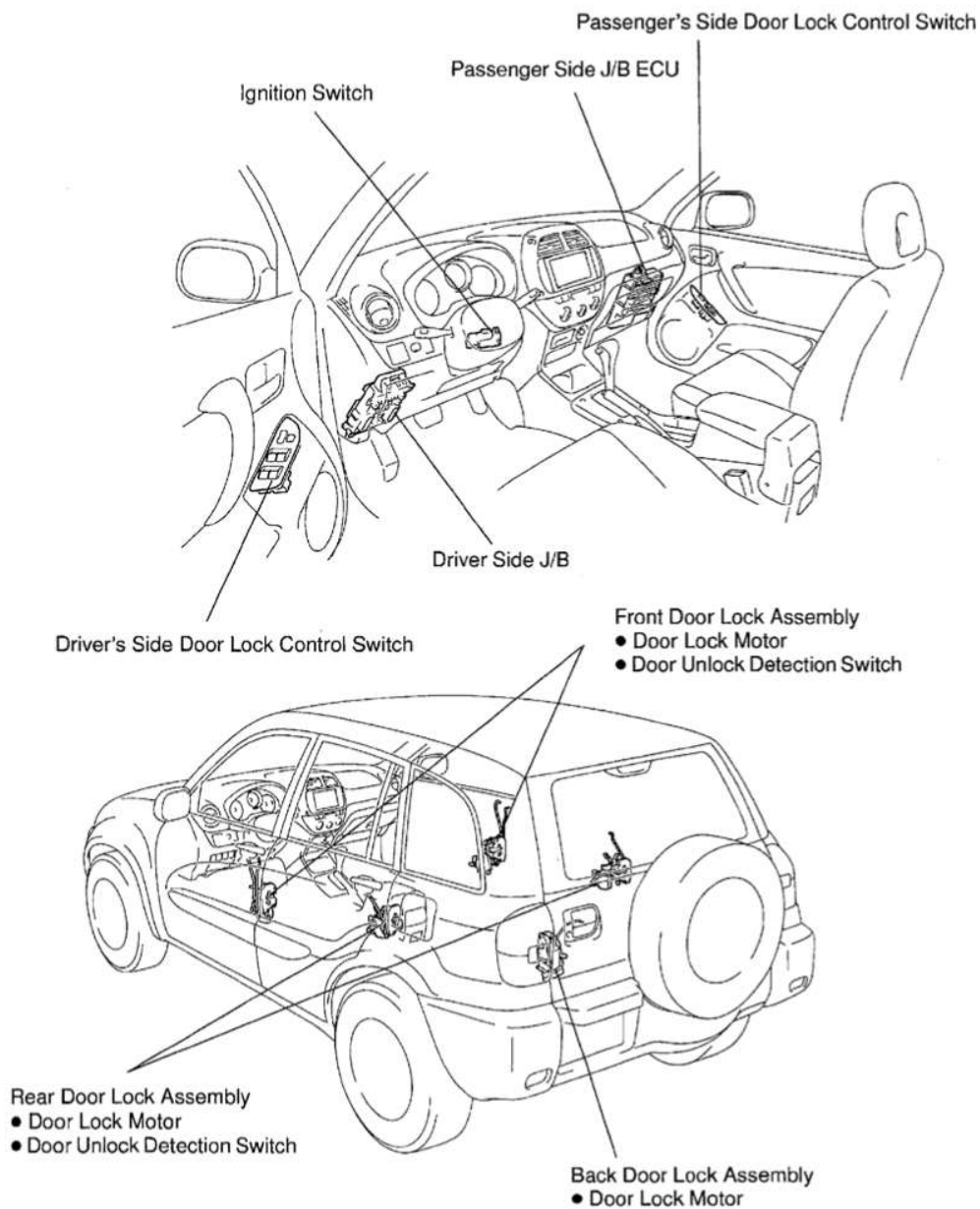
POWER DOOR LOCK CONTROL SYSTEM

Symptom/Suspected Area	See
Door Lock Control System Does Not Operate (All)	
Passenger's Side J/B ECU	BODY CONTROL SYSTEM

DOOR Fuse	<u>FUSES & CIRCUIT BREAKERS</u>
GAUGE Fuse	<u>FUSES & CIRCUIT BREAKERS</u>
ACC Fuse	<u>FUSES & CIRCUIT BREAKERS</u>
Wire Harness	
Other Parts	
Malfunctioning In Door Lock/Unlock (Using Door Manual Switch)	
Door Lock Control Switch	Steps 1 & 2 under INSPECTION
Wire Harness	
Other Parts	
Malfunction In Door Lock/Unlock (Using Door Manual Switch & Key)	
Wire Harness	
Other Parts	
Malfunction In Door Lock/Unlock (Using Key)	
Door Unlock Detection Switch	Steps 6 & 7 under INSPECTION
Wire Harness	
Other Parts	
Fault In 2-Operation Unlock Function Key Lock & Unlock Switch	
Door Unlock Detection Switch	Steps 6 & 7 under INSPECTION
Wire Harness	
Other Parts	
Fault In Key Confine Prevention Operation	
Door Unlock Detection Switch	Steps 6 & 7 under INSPECTION
Door Courtesy Switch	<u>INSPECTION</u>
Door Lock Control Switch	Steps 1 & 2 under INSPECTION
Wire Harness	
Other Parts	
Only One Door Lock Does Not Operate	
Door Lock Motor	Steps 8 & 9 under INSPECTION
Wire Harness	

POWER DOOR LOCK CONTROL SYSTEM

LOCATION

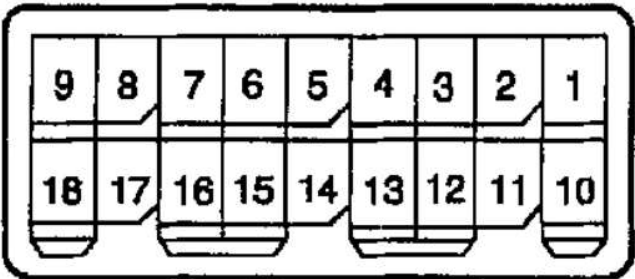
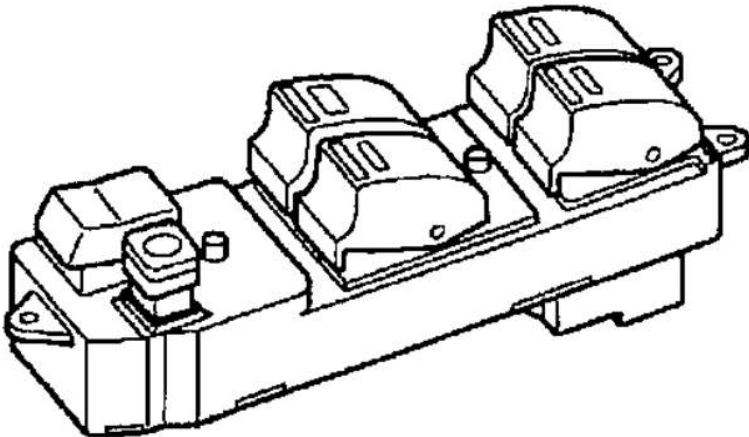


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Fig. 1: Displaying Power Door Lock Control System Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. Driver's door: Inspect door lock control switch continuity



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Fig. 2: Displaying Driver's Door Lock Control Switch Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Switch position	Tester connection	Specified condition
LOCK	1 – 3 – 5	Continuity
OFF	–	No continuity
UNLOCK	1 – 3 – 8	Continuity

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Fig. 3: Displaying Driver's Door Lock Control Switch Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If continuity is not as specified, replace the switch.

- 2. Passenger's door: Inspect door lock control switch continuity

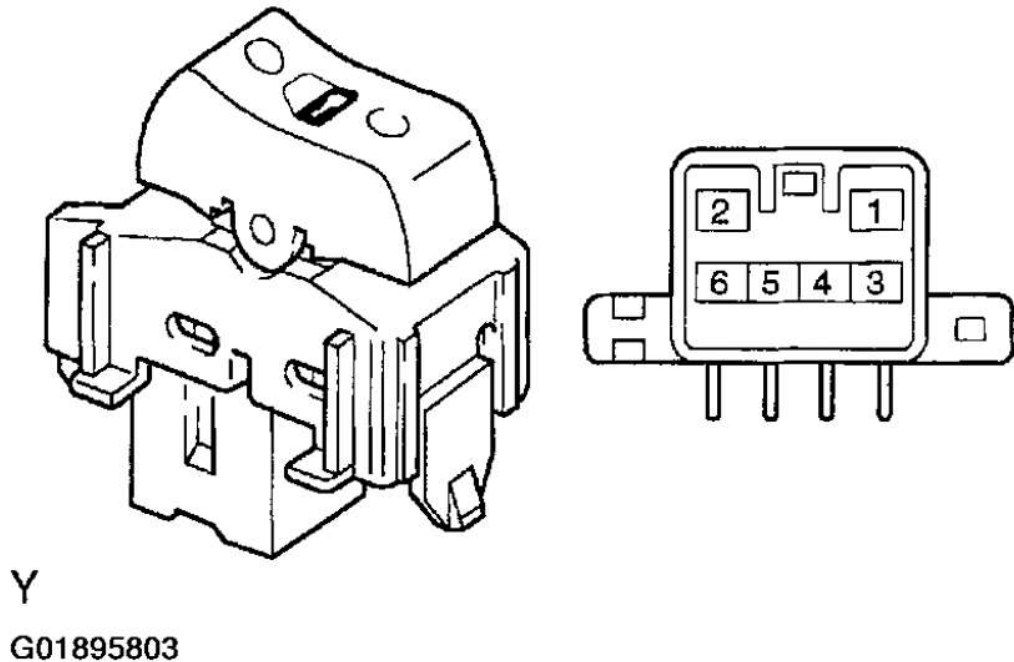


Fig. 4: Displaying Passenger's Door Lock Control Switch Terminals

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

Switch position	Tester connection	Specified condition
LOCK	3 – 6	Continuity
OFF	—	No continuity
UNLOCK	3 – 5	Continuity

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Fig. 5: Displaying Passenger's Door Lock Control Switch Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If continuity is not as specified, replace the switch.

3. Driver's door: Inspect door key lock and unlock switch continuity

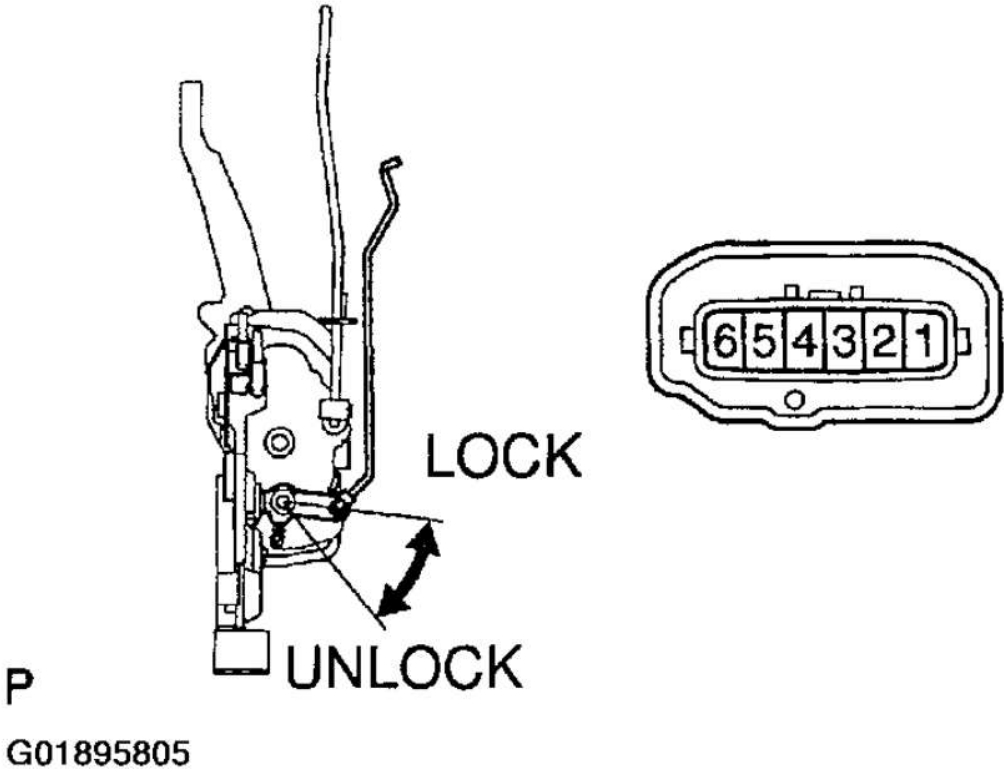


Fig. 6: Displaying Driver's Door Key Lock & Unlock Switch Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Switch position	Tester connection	Specified condition
LOCK	2 – 4	Continuity
OFF	–	No continuity
UNLOCK	2 – 3	Continuity

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Fig. 7: Displaying Driver's Door Key Lock & Unlock Switch Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If continuity is not as specified, replace the switch.

4. Passenger's door: Inspect door key lock and unlock switch continuity

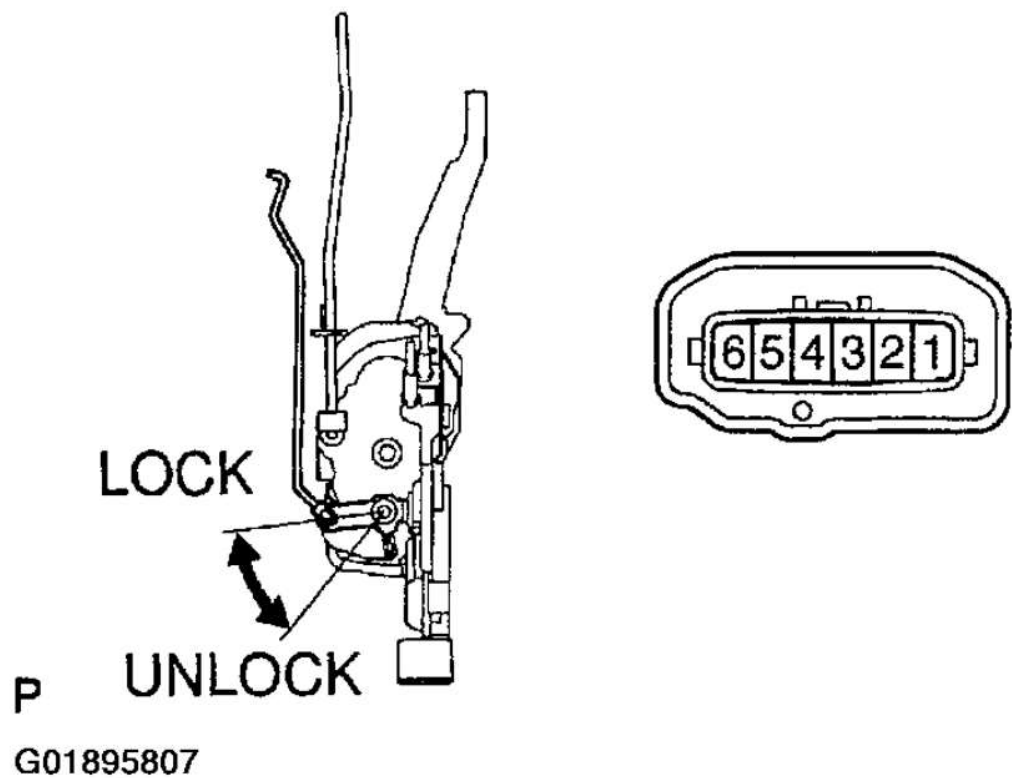


Fig. 8: Displaying Passenger's Door Key Lock & Unlock Switch Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Switch position	Tester connection	Specified condition
LOCK	3 – 5	Continuity
OFF	–	No continuity
UNLOCK	4 – 5	Continuity

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Fig. 9: Displaying Passenger's Door Key Lock & Unlock Switch Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If continuity is not as specified, replace the switch.

5. Back door: Inspect door key lock and unlock switch continuity

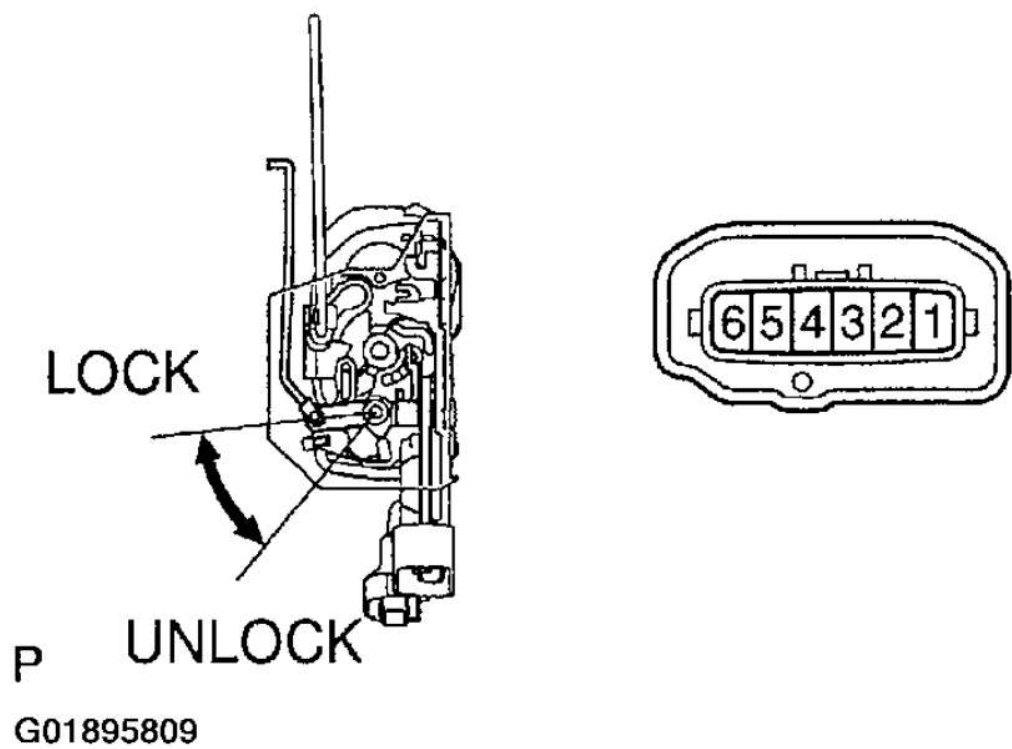


Fig. 10: Displaying Back Door Key Lock & Unlock Switch Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Switch position	Tester connection	Specified condition
LOCK	3 – 5	Continuity
OFF	–	No continuity
UNLOCK	4 – 5	Continuity

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Fig. 11: Displaying Back Door Key Lock & Unlock Switch Specifications

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

If continuity is not as specified, replace the switch.

6. Driver's door: Inspect door unlock detection switch continuity

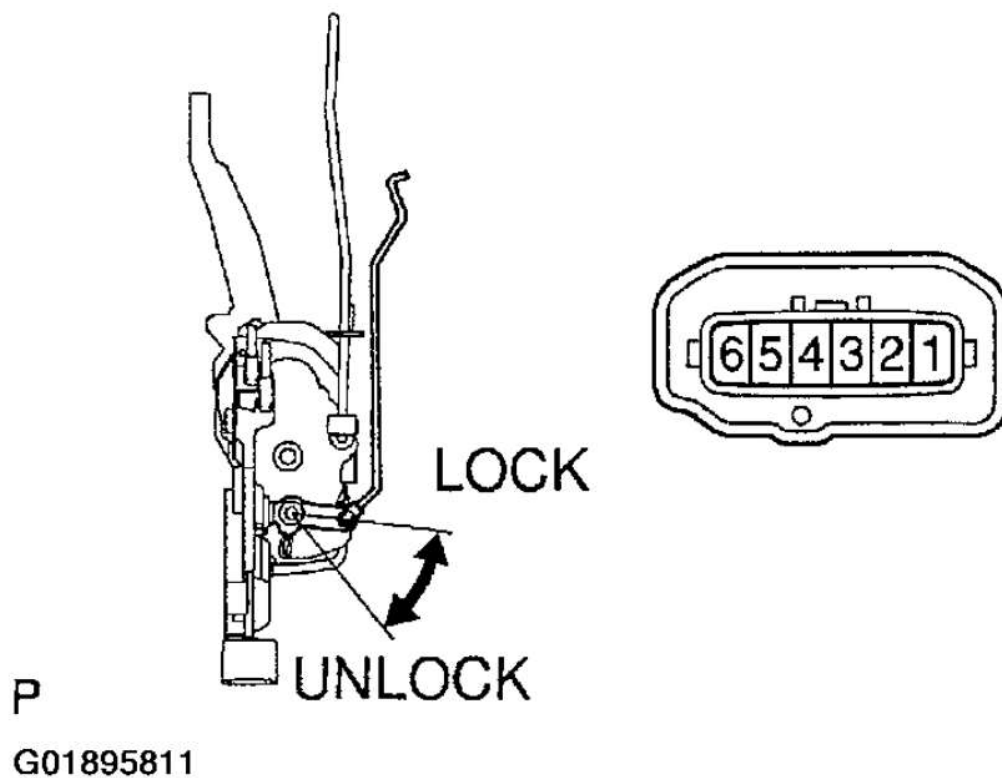


Fig. 12: Displaying Driver's Door Unlock Detection Switch Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Switch position	Tester connection	Specified condition
OFF (Door Lock set to LOCK)	—	No continuity
ON (Door Lock set to UNLOCK)	1 – 2	Continuity

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Fig. 13: Displaying Driver's Door Unlock Detection Switch Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If continuity is not as specified, replace the switch.

7. Passenger's door: Inspect door unlock detection switch continuity

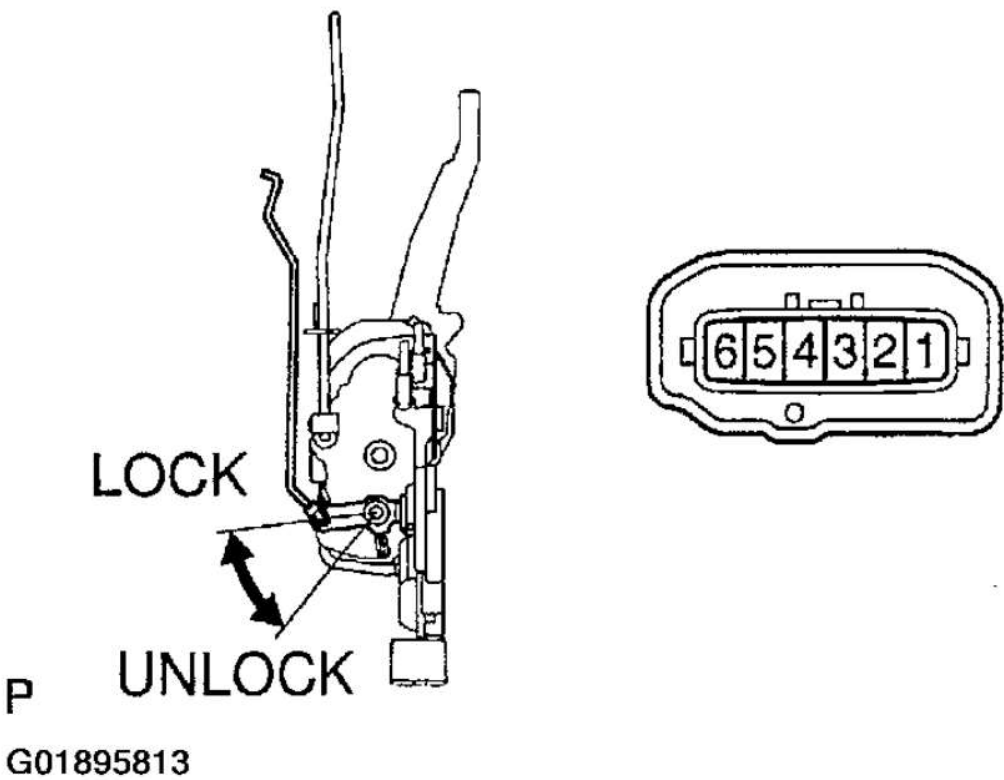


Fig. 14: Displaying Passenger's Door Unlock Detection Switch Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Switch position	Tester connection	Specified condition
OFF (Door Lock set to LOCK)	—	No continuity
ON (Door Lock set to UNLOCK)	5 – 6	Continuity

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Fig. 15: Displaying Passenger's Door Unlock Detection Switch Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If continuity is not as specified, replace the switch.

8. Driver's door: Inspect door lock motor operation

- a. Connect the positive (+) lead from the battery to terminal 6 and the negative (-) lead to terminal 5, and check that the door lock link moves to UNLOCK position.
- b. Reverse the polarity and check that the door lock link moves to LOCK position.

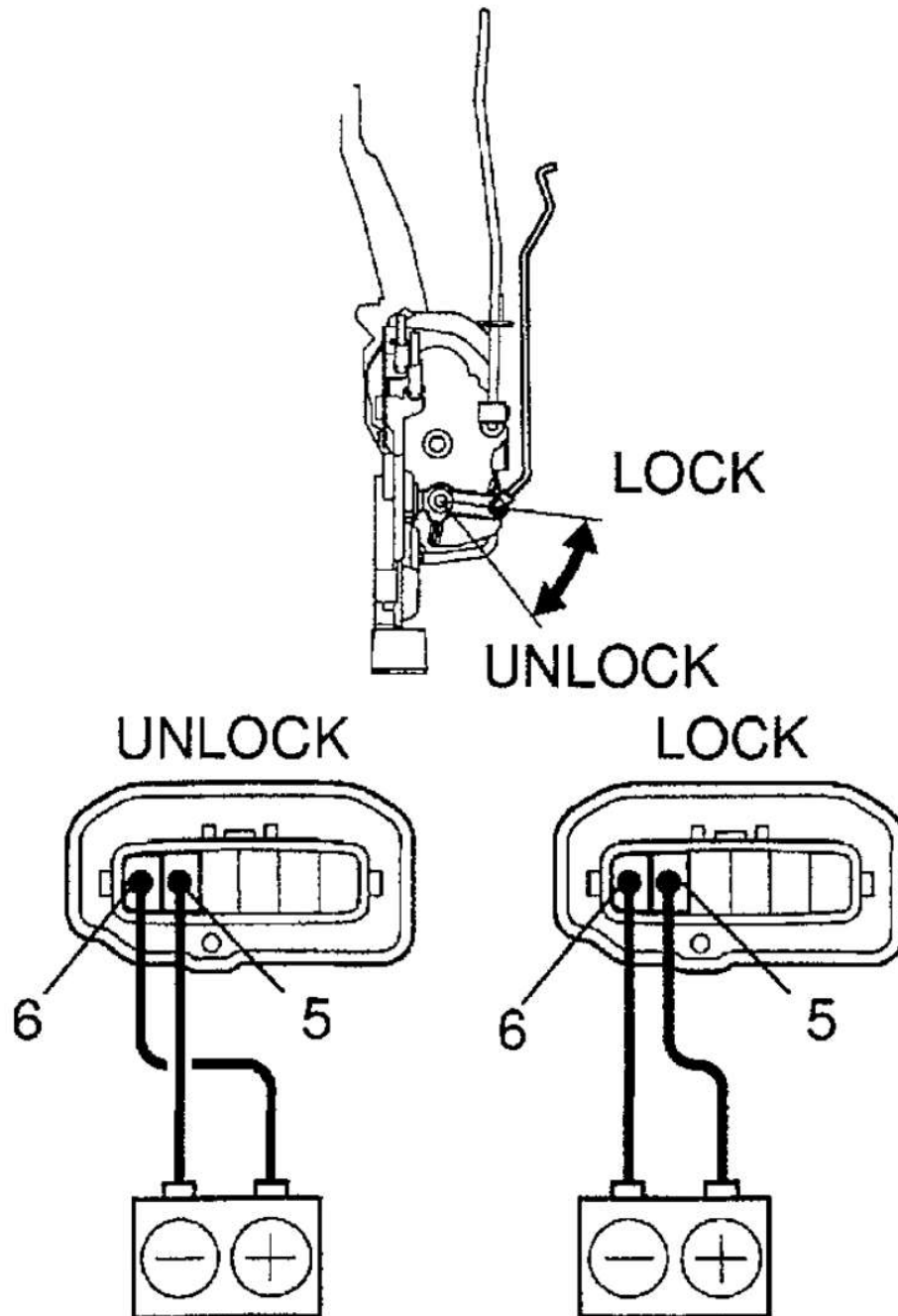
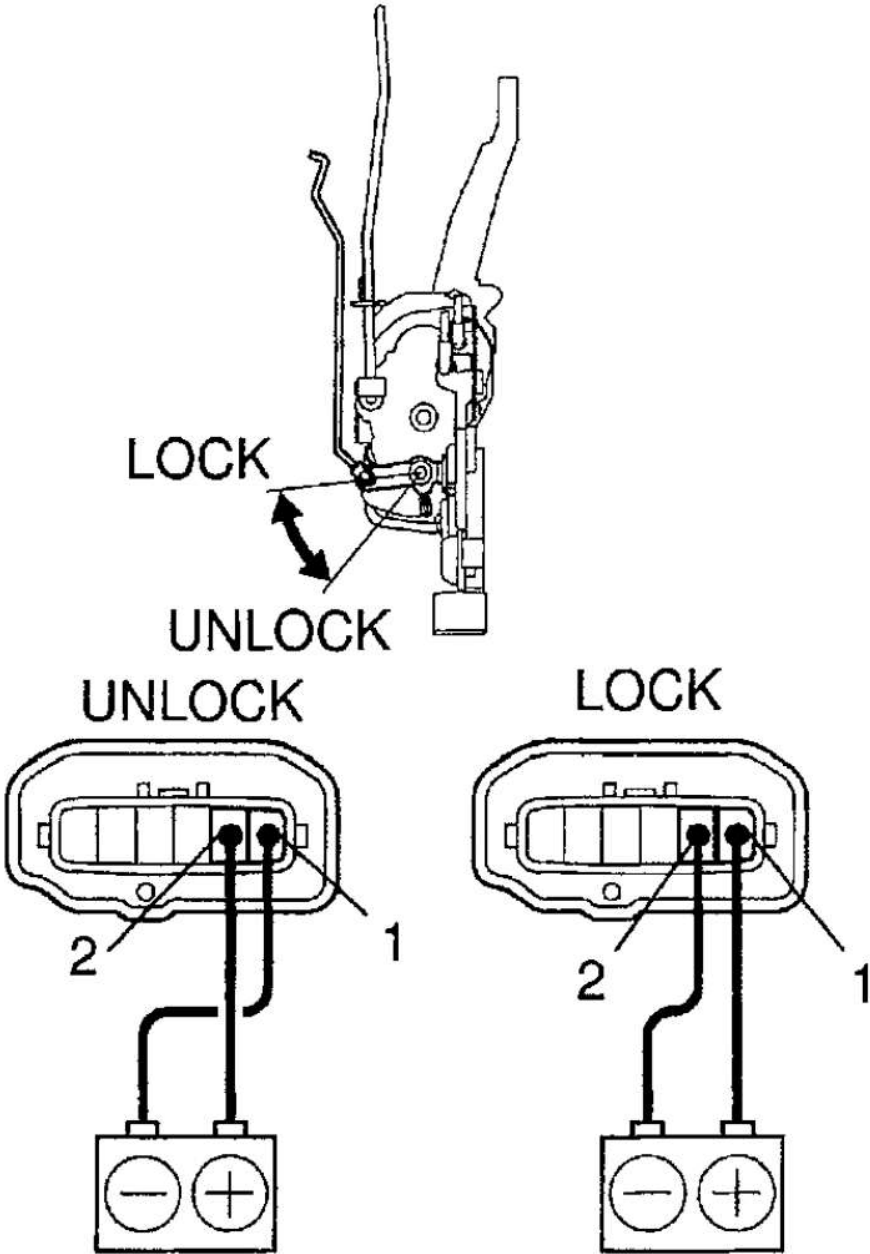
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Fig. 16: Inspecting Driver's Door Lock Motor Operation
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the door lock assembly.

9. Passenger's door: Inspect door lock motor operation

- a. Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, and check that the door lock link moves to UNLOCK position.
- b. Reverse the polarity and check that the door lock link moves to LOCK position.



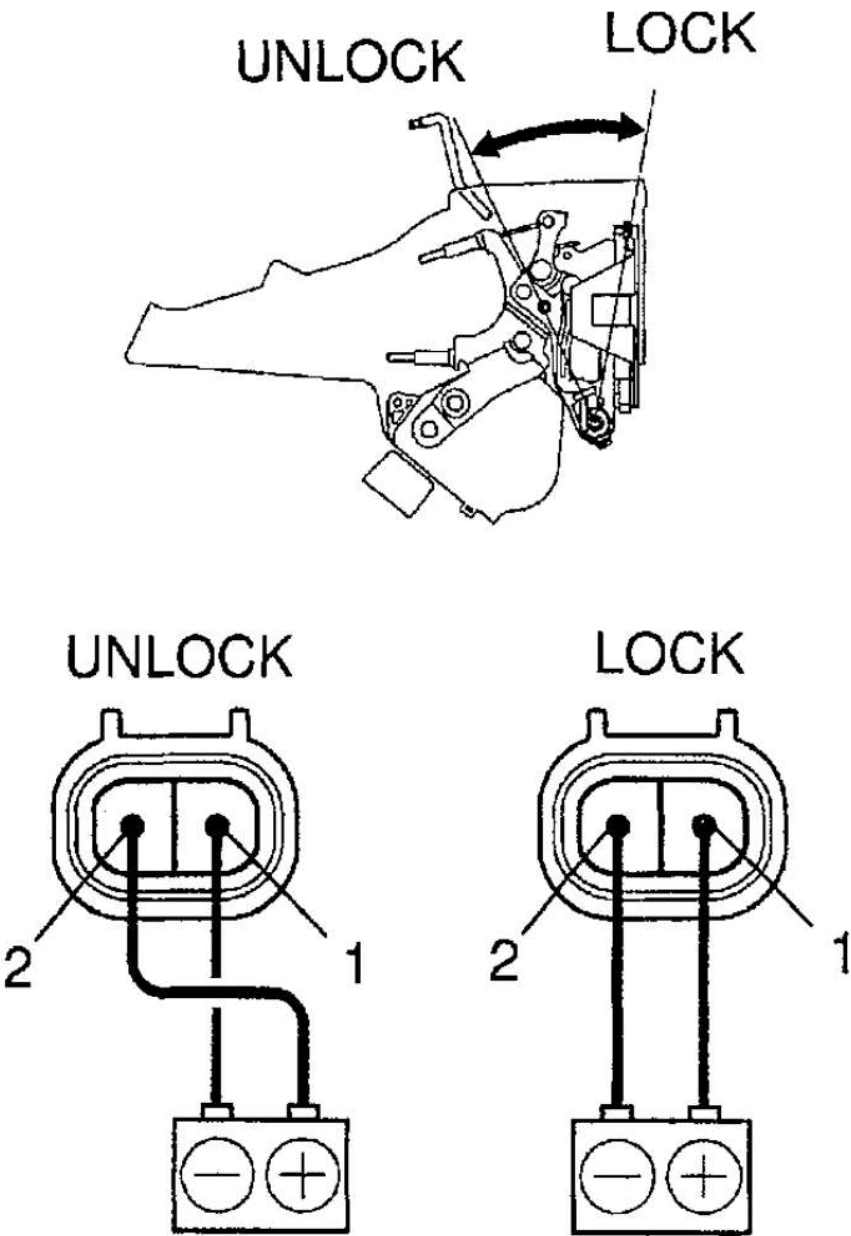
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Fig. 17: Inspecting Passenger's Door Lock Motor Operation
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the door lock assembly.

10. Rear door: Inspect door lock motor operation

- a. Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, and check that the door lock link moves to UNLOCK position.
- b. Reverse the polarity and check that the door lock link moves to LOCK position.



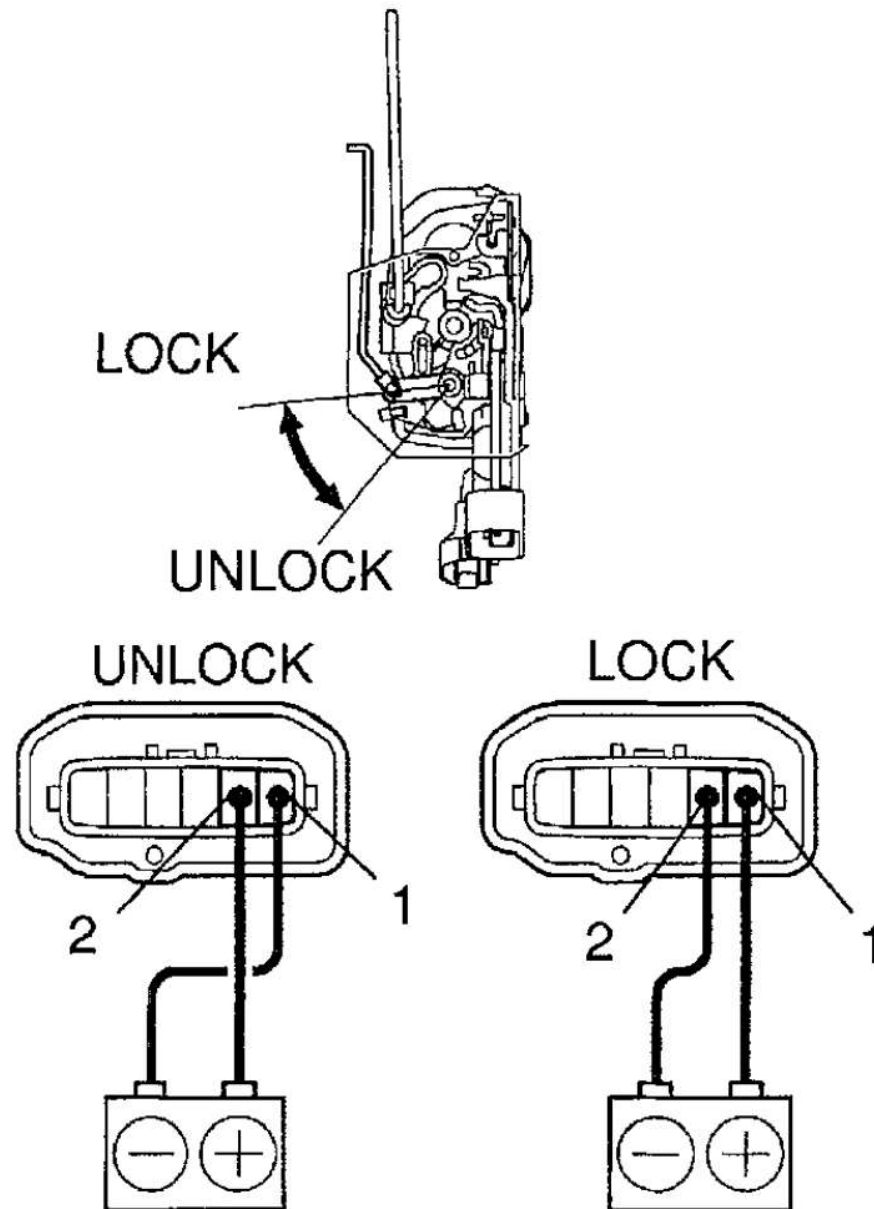
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Fig. 18: Inspecting Rear Door Lock Motor Operation
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the door lock assembly.

11. Back door: Inspect door lock motor operation

- a. Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, and check that the door lock link moves to UNLOCK position.
- b. Reverse the polarity and check that the door lock link moves to LOCK position.

**P****G01895817****Fig. 19: Inspecting Back Door Lock Motor Operation**

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

If operation is not as specified, replace the door lock assembly.

12. Driver's door: Inspect door PTC thermistor operation

- a. Connect the negative (-) lead from the ammeter to terminal 6, and the positive (+) lead to negative terminal of the battery.
- b. Connect the negative (-) lead from the battery to terminal 5.

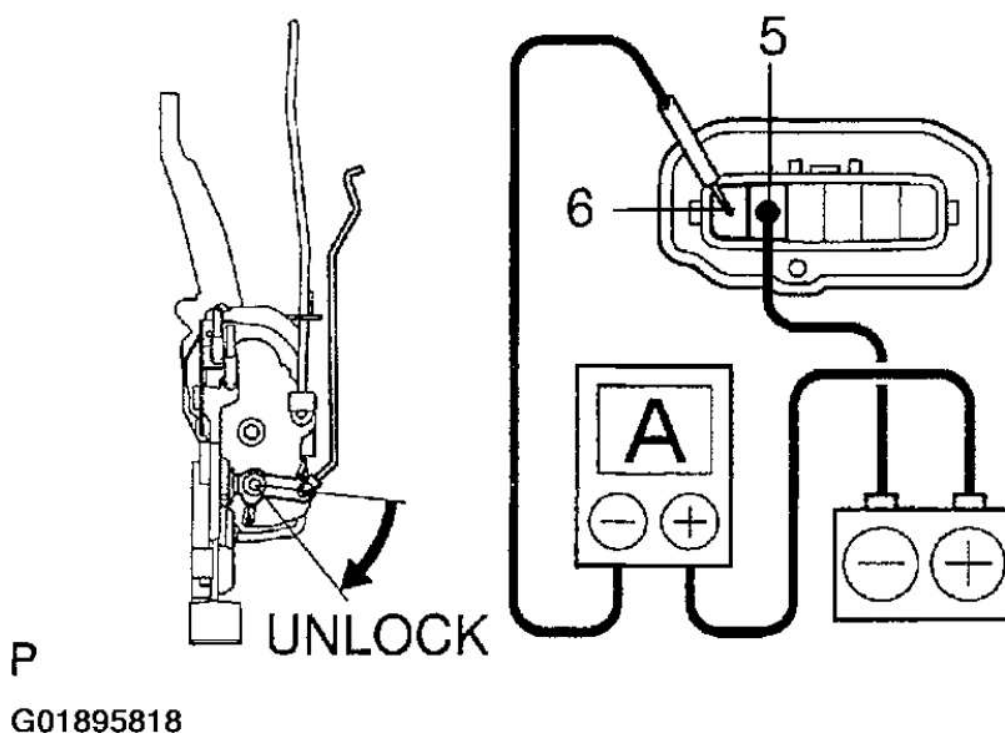


Fig. 20: Inspecting Driver's Door PTC Thermistor Operation
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.
- d. Disconnect the leads from terminals.
- e. Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 5 and the negative (-) lead to terminal 6, and check that the door lock moves to the LOCK position.

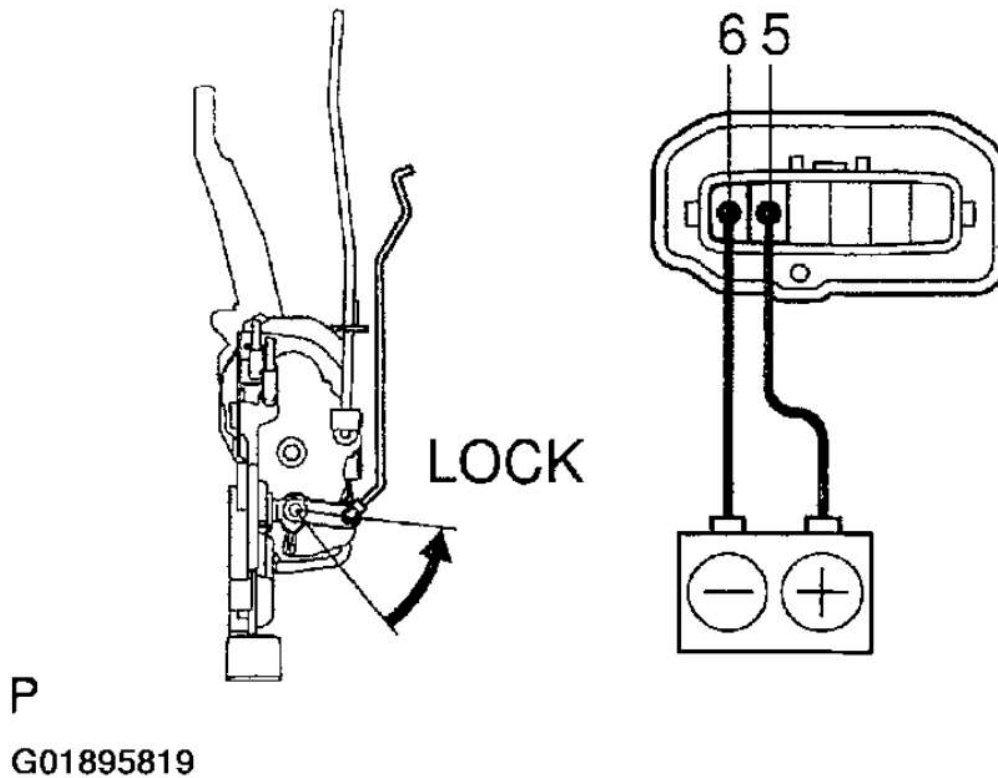


Fig. 21: Checking Driver's Door Lock Moves To LOCK Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the door lock assembly.

13. Passenger's door: Inspect passenger's door PTC thermistor operation

- a. Connect the negative (-) lead from the ammeter to terminal 2, and the positive (+) lead to negative terminal of the battery.
- b. Connect the negative (-) lead from the battery to terminal 1.

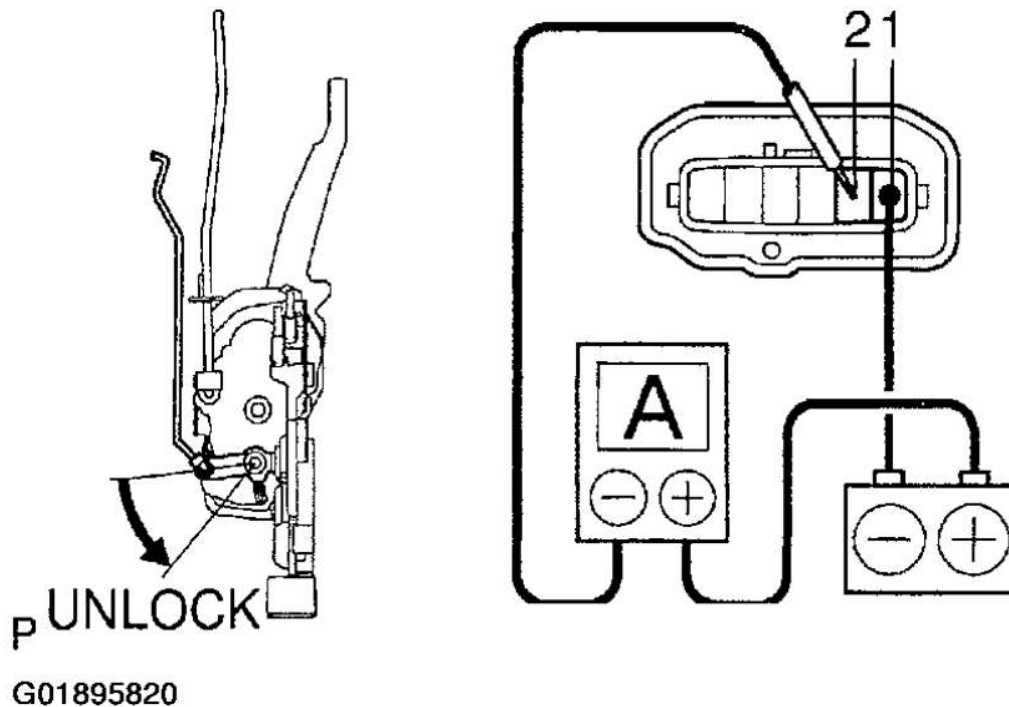


Fig. 22: Inspecting Passenger's Door PTC Thermistor Operation
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.
- d. Disconnect the leads from terminals.
- e. Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the door lock moves to the LOCK position.

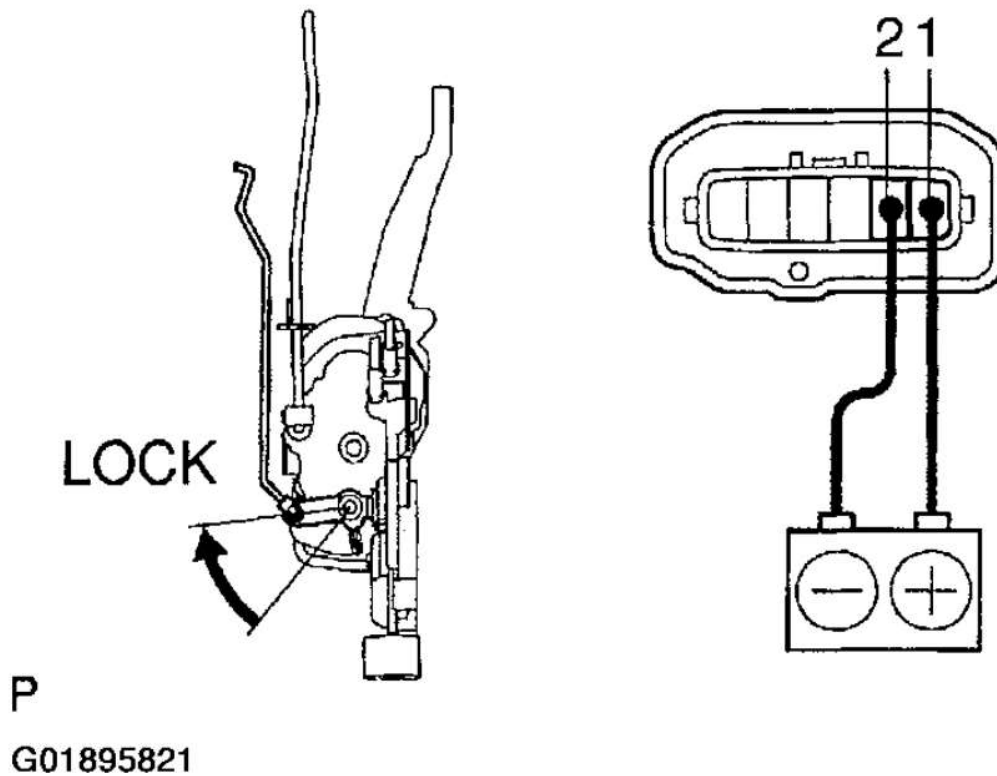


Fig. 23: Checking Passenger's Door Lock Moves To LOCK Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the door lock assembly.

14. Rear door: Inspect door PTC thermistor operation

- a. Connect the negative (-) lead from the ammeter to terminal 2, and the positive (+) lead to negative terminal of the battery.
- b. Connect the negative (-) lead from the battery to terminal 1.

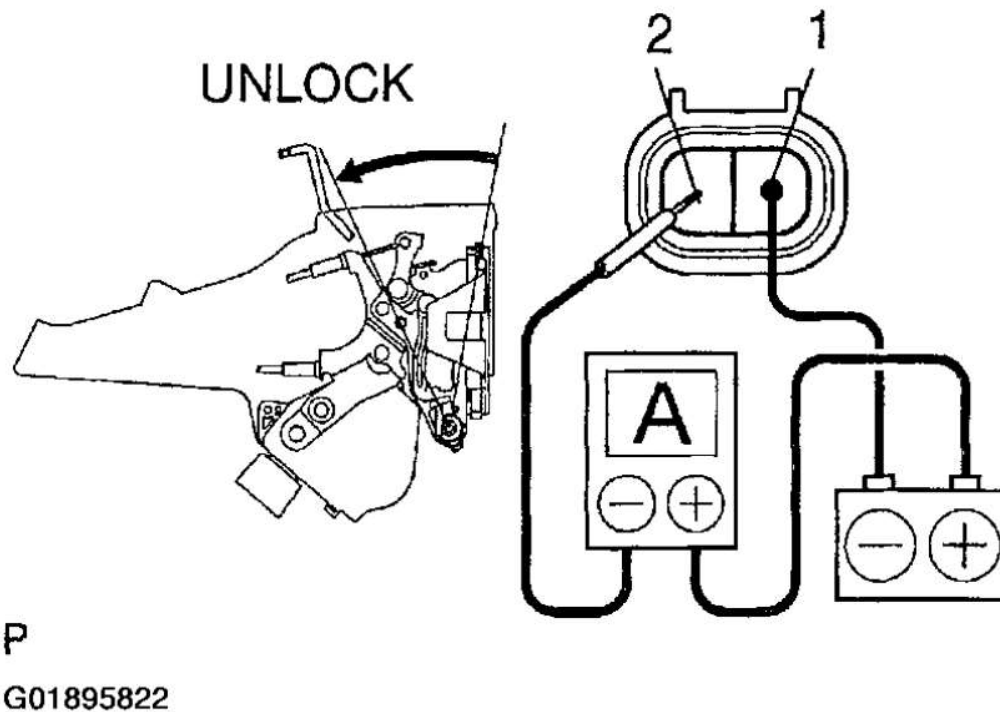


Fig. 24: Inspecting Rear Door PTC Thermistor Operation
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.
- d. Disconnect the leads from terminals.
- e. Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the door lock moves to the LOCK position.

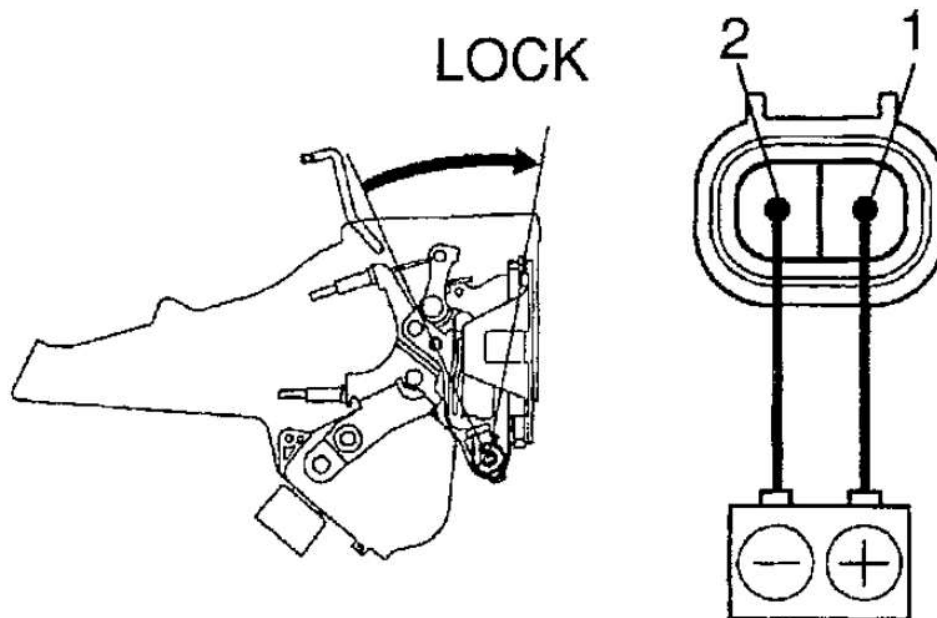
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Fig. 25: Check Rear Door Lock Moves To LOCK Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the door lock assembly.

15. Back door: Inspect door PTC thermistor operation

- a. Connect the negative (-) lead from the ammeter to terminal 2, and the positive (+) lead to negative terminal of the battery.
- b. Connect the negative (-) lead from the battery to terminal 1.

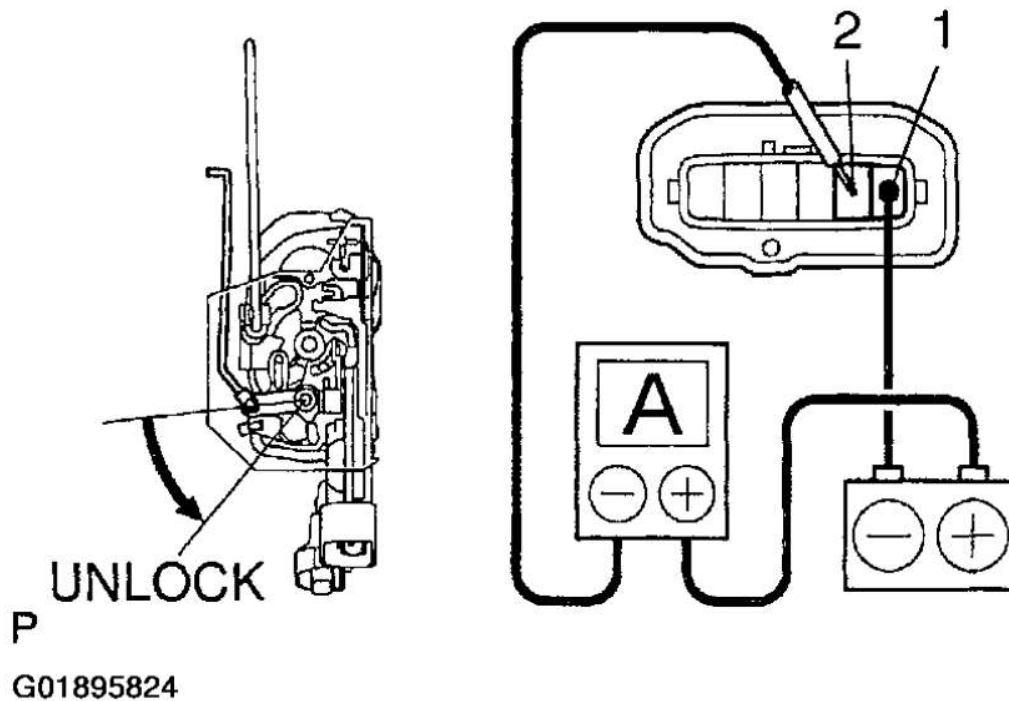


Fig. 26: Inspecting Back Door PTC Thermistor Operation
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.
- d. Disconnect the leads from terminals.
- e. Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the door lock moves to the LOCK position.

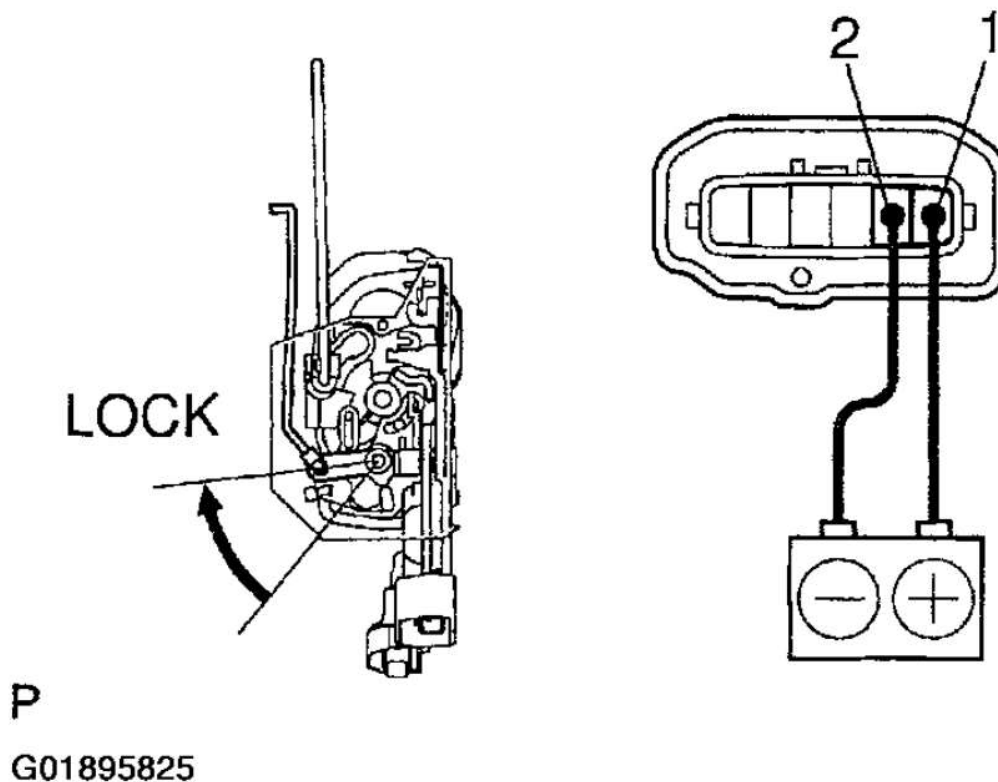


Fig. 27: Checking Back Door Lock Moves To LOCK Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the door lock assembly.

16. Driver's door: Inspect door PTC thermistor operation

- a. Connect the positive (+) lead from the battery to terminal 6 and the negative (-) lead to terminal 5.
- b. Attach a current-measuring probe to either the positive (+) lead or the negative (-) lead, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.

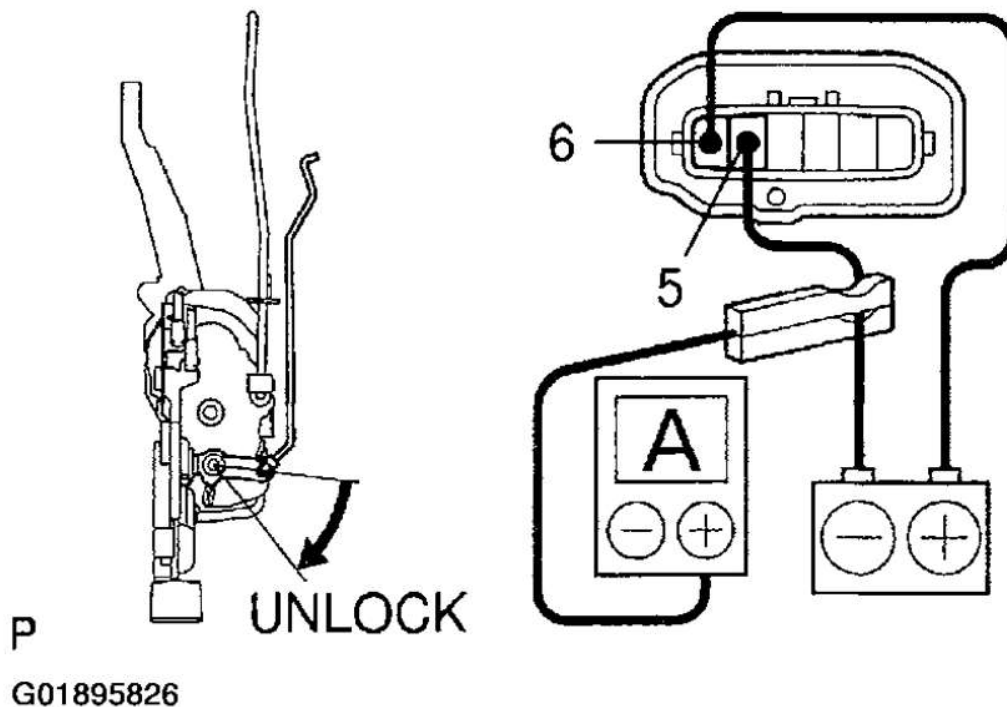


Fig. 28: Inspecting Driver's Door PTC Thermistor Operation
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Disconnect the leads from terminals.
- d. Approximately 60 seconds later, reverse the polarity, and check that the door lock moves to the LOCK position.

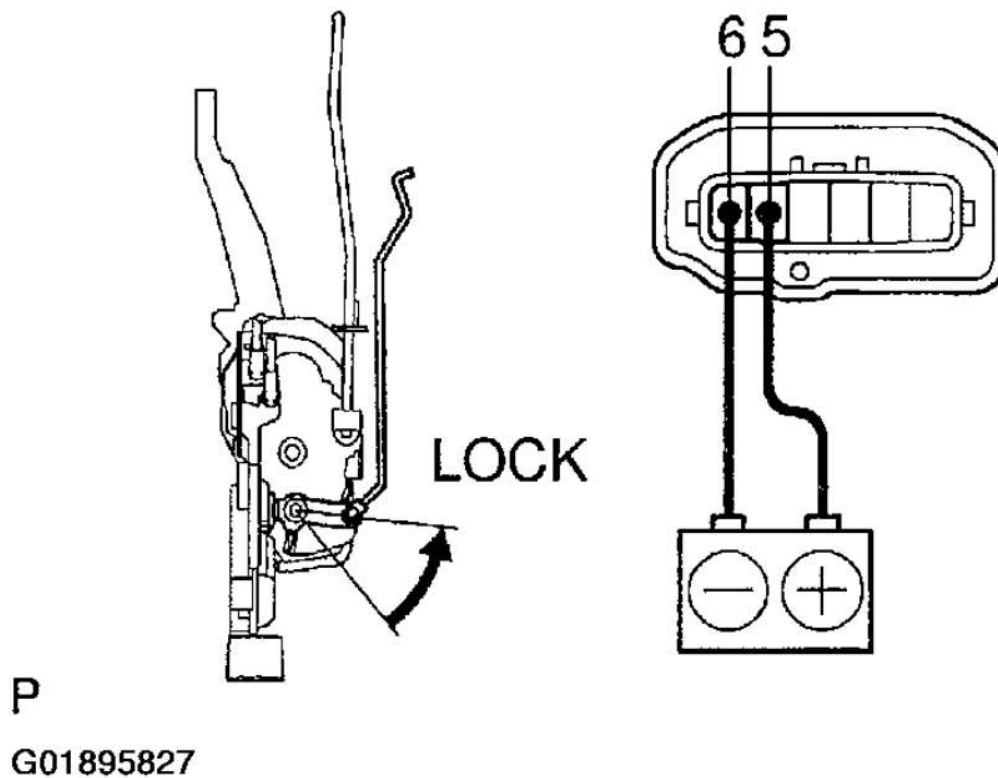


Fig. 29: Check Driver's Door Lock Moves To LOCK Position
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the door lock assembly.

17. Passenger's door: Inspect door PTC thermistor operation

- Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1.
- Attach a current-measuring probe to either the positive (+) lead or the negative (-) lead, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.

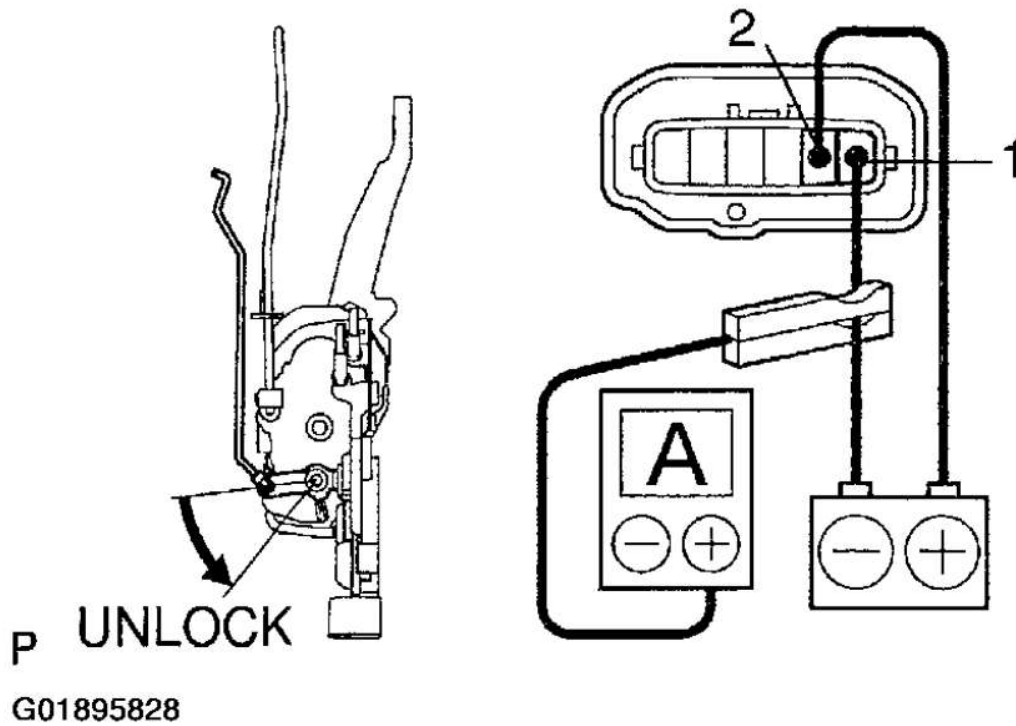


Fig. 30: Inspecting Passengers Door PTC Thermistor Operation
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Disconnect the leads from terminals.
- d. Approximately 60 seconds later, reverse the polarity, and check that the door lock moves to the LOCK position.

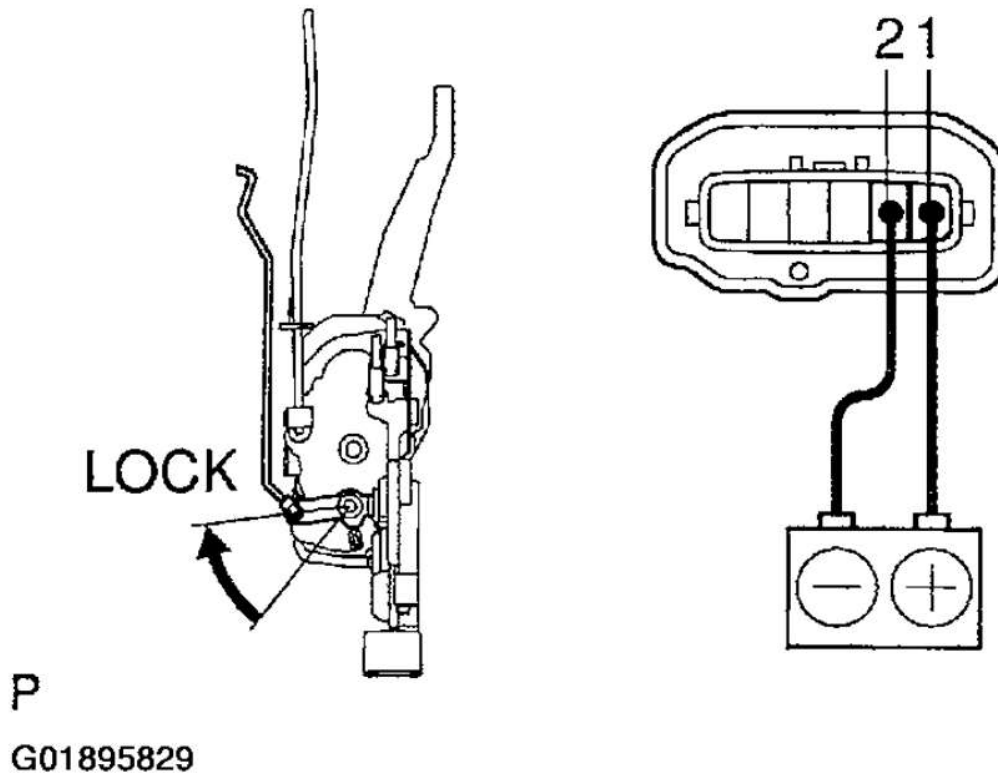


Fig. 31: Checking Passenger's Door Lock Moves To LOCK Position
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the door lock assembly.

18. Rear door: Inspect door PTC thermistor operation

- Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1.
- Attach a current-measuring probe to either the positive (+) lead or the negative (-) lead, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.

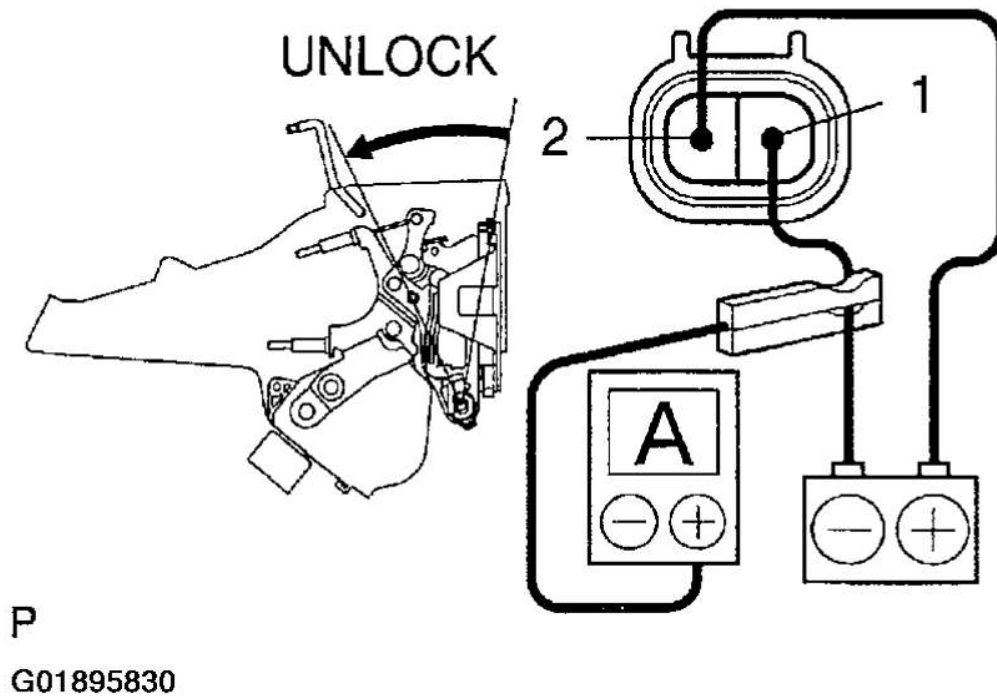


Fig. 32: Inspecting Rear Door PTC Thermistor Operation
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Disconnect the leads from terminals.
- d. Approximately 60 seconds later, reverse the polarity, and check that the door lock moves to the LOCK position.

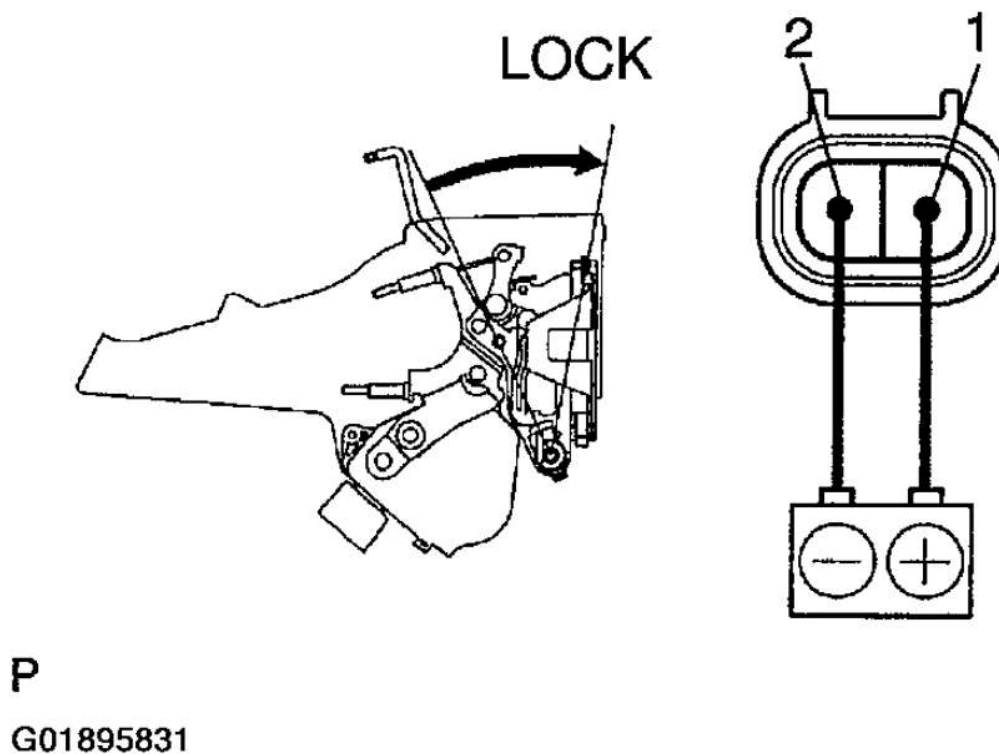


Fig. 33: Checking Rear Door Lock Moves To LOCK Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the door lock assembly.

19. Back door: Inspect door PTC thermistor operation

- Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1.
- Attach a current-measuring probe to either the positive (+) lead or the negative (-) lead, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.

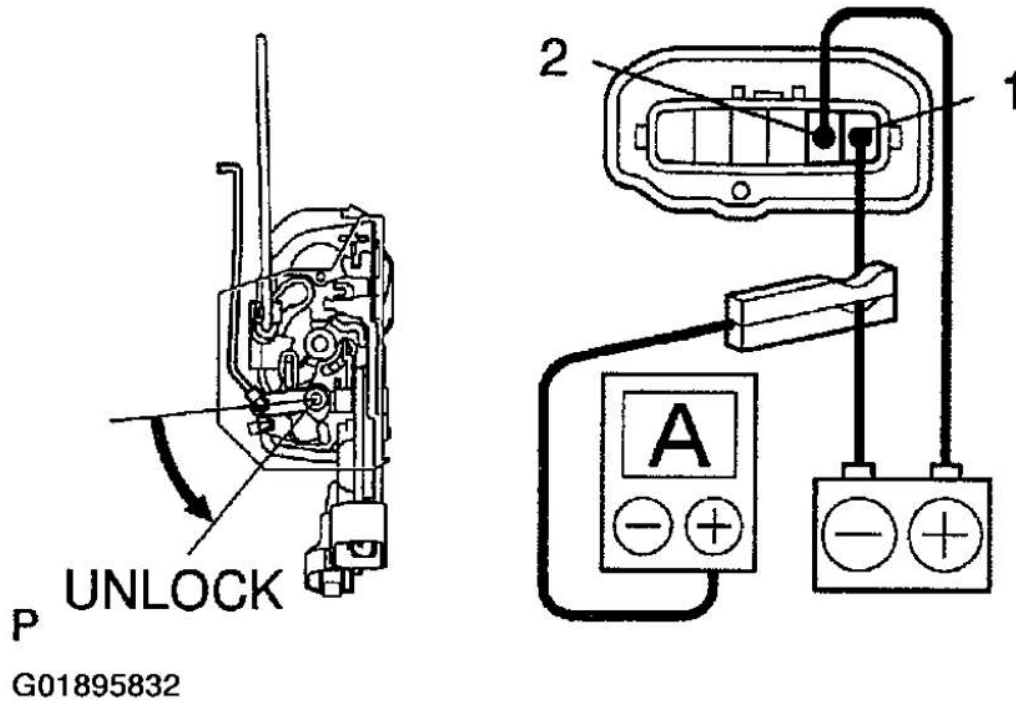


Fig. 34: Inspecting Back Door PTC Thermistor Operation
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Disconnect the leads from terminals.

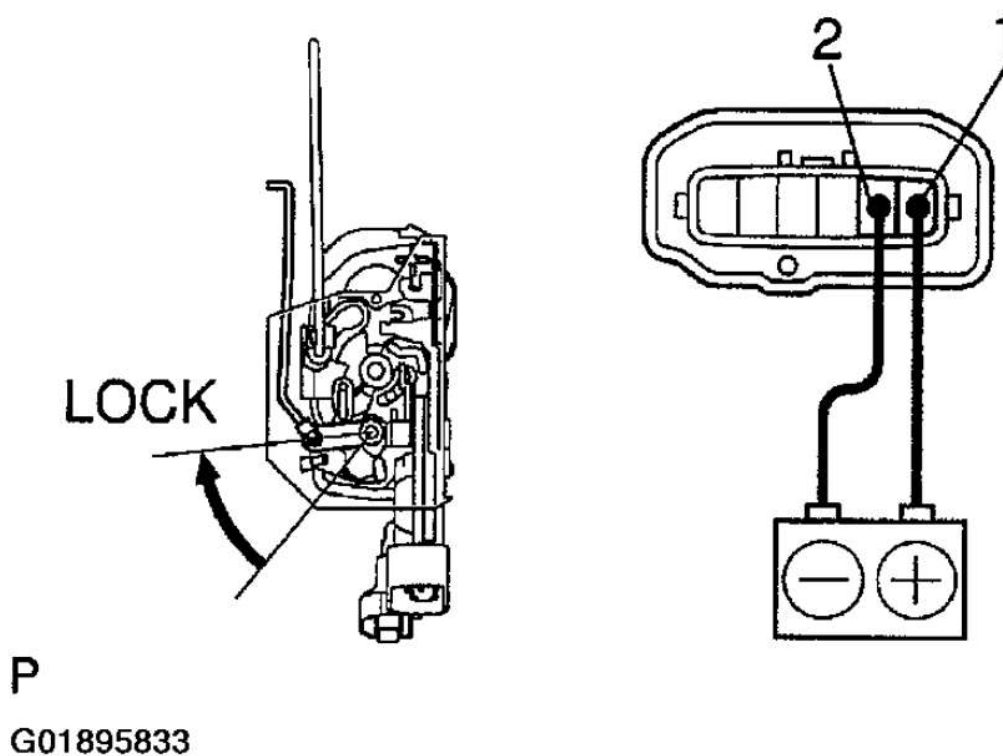


Fig. 35: Checking Back Door Lock Moves To LOCK Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Approximately 60 seconds later, reverse the polarity, and check that the door lock moves to the LOCK position.

If operation is not as specified, replace the door lock assembly.