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Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [12/2022 -]
Title: MIRROR (EXT): POWER MIRROR CONTROL SYSTEM: Power Retractable Mirrors do not Operate with Power Retract Mirror Switch; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

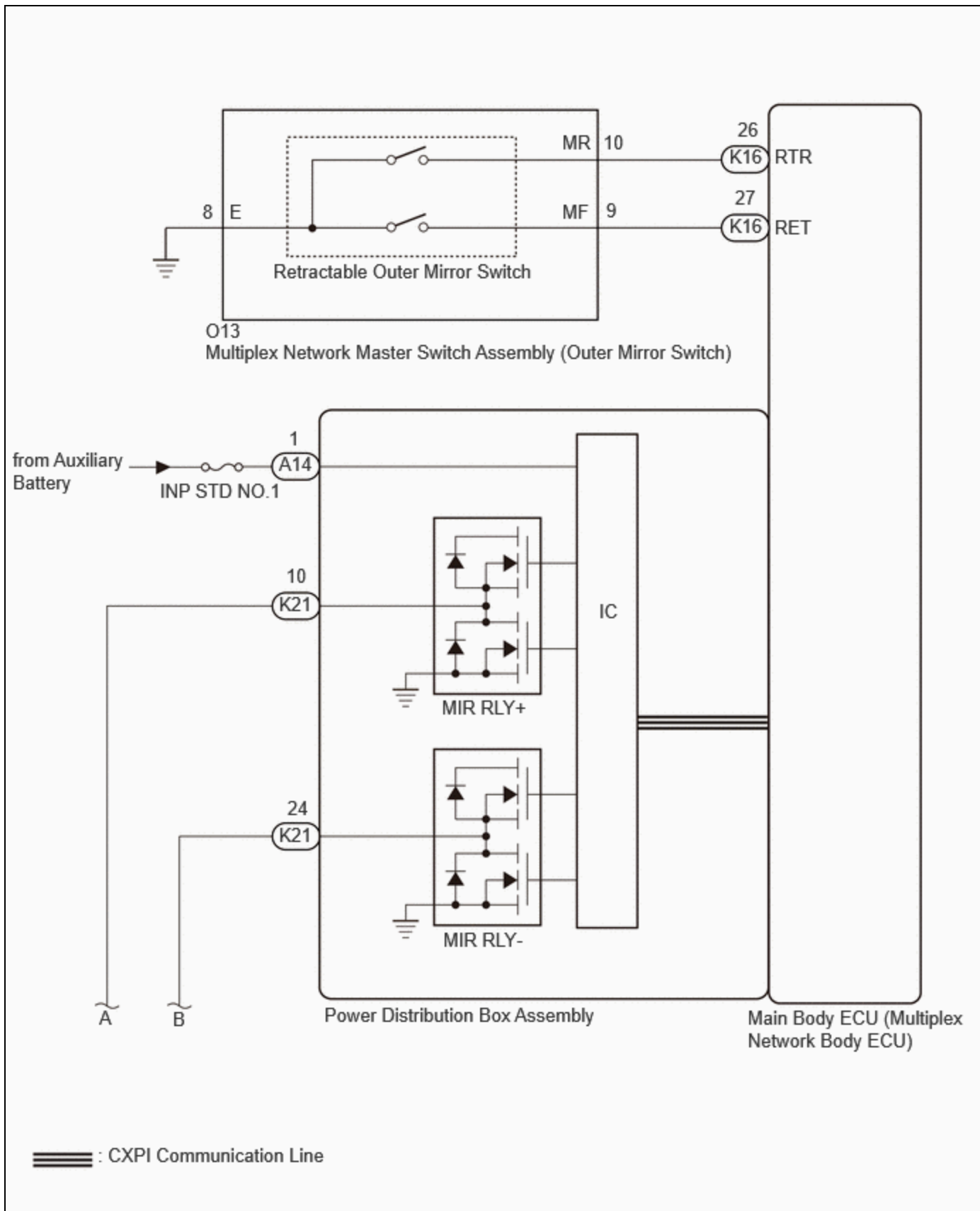
Power Retractable Mirrors do not Operate with Power Retract Mirror Switch

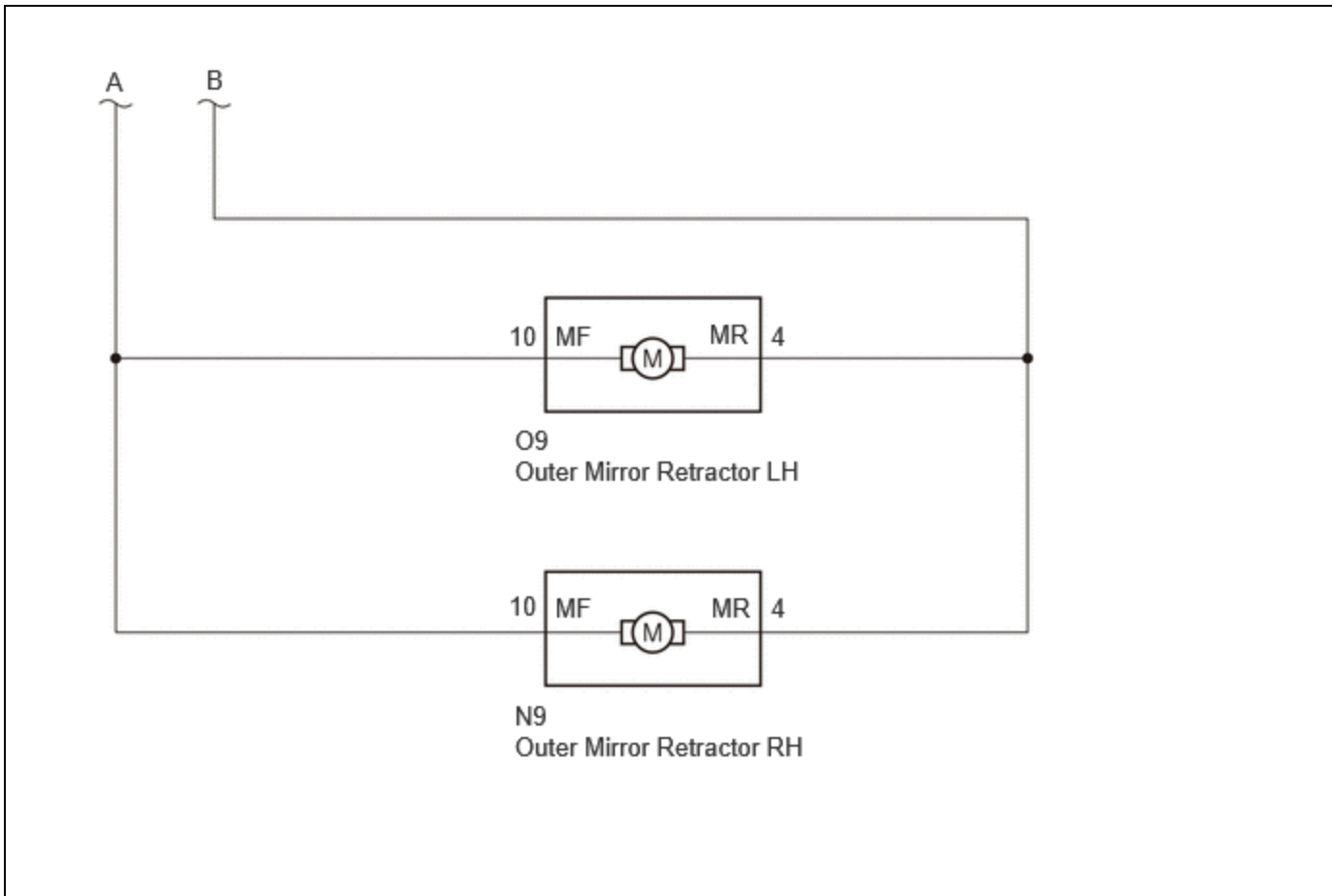
DESCRIPTION

When the multiplex network master switch assembly (outer mirror switch) is operated, the mirror retract/return signal is sent to the main body ECU (multiplex network body ECU) and then to the power distribution box assembly via CXPI communication.

The power distribution box assembly retracts or returns the outer rear view mirror assemblies based on the signal.

WIRING DIAGRAM





CAUTION / NOTICE / HINT

NOTICE:

- The power mirror control system uses the CXPI communication system. Inspect the communication function by following How to Proceed with Troubleshooting. Troubleshoot the power mirror control system after confirming that the communication system is functioning properly.
- Inspect the fuses for circuits related to this system before performing the following procedure.
- If the main body ECU (multiplex network body ECU) is replaced, refer to registration.

Click here [INFO](#)

PROCEDURE

1.	READ VALUE USING GTS (OUTER MIRROR FOLD SWITCH, OUTER MIRROR AUTO SWITCH))
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(a) Read the Data List according to the display on the GTS.

Body Electrical > Main Body > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Outer Mirror Fold Switch	Retractable outer mirror switch signal	OFF or ON	OFF: Retractable outer mirror switch not in retract position	-

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
			ON: Retractable outer mirror switch in retract position	
Outer Mirror Auto Switch	Retractable outer mirror switch signal	OFF or ON	OFF: Retractable outer mirror switch not in auto retract position ON: Retractable outer mirror switch in auto retract position	-

Body Electrical > Main Body > Data List

TESTER DISPLAY
Outer Mirror Fold Switch
Outer Mirror Auto Switch

OK:
On the GTS screen, ON or OFF is displayed accordingly.

NG  **GO TO STEP 12**

OK


2.	CHECK POWER RETRACT MIRROR FUNCTION
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(a) Check the power retract mirror function.

RESULT	PROCEED TO
Both outer rear view mirror assemblies are malfunctioning	A
Outer rear view mirror assembly LH is malfunctioning	B
Outer rear view mirror assembly RH is malfunctioning	C

B  **GO TO STEP 8**

C  **GO TO STEP 10**

A



3. PERFORM ACTIVE TEST USING GTS (MIRROR FOLD SIGNAL, MIRROR RETURN SIGNAL)

(a) Perform the Active Test according to the display on the GTS.

Body Electrical > Main Body > Active Test

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	DIAGNOSTIC NOTE
Mirror Fold Signal	Retract mirror operation	OFF or ON	-
Mirror Return Signal	Retract mirror operation	OFF or ON	-

Body Electrical > Main Body > Active Test

TESTER DISPLAY
Mirror Fold Signal

Body Electrical > Main Body > Active Test

TESTER DISPLAY
Mirror Return Signal

OK:

The outer mirror retractor LH/RH operate normally.

OK **REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)**

NG



4. READ VALUE USING GTS (POWER RETRACT MIRROR INPUT SIGNAL)

(a) Read the Data List according to the display on the GTS.

Body Electrical > Power Distribution Box > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Power Retract Mirror Input Signal	Power retract mirror drive signal (Input)	Stop, Retract or Return	Stop: Outer mirror switch not being operated Retract: Outer mirror switch in retract position Return: Outer mirror switch in driving position	-

Body Electrical > Power Distribution Box > Data List

TESTER DISPLAY
Power Retract Mirror Input Signal

OK:

The GTS display changes correctly according to the multiplex network master switch assembly (outer mirror switch) operation.

NG  **REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)** 

OK


5.	CHECK HARNESS AND CONNECTOR (POWER DISTRIBUTION BOX ASSEMBLY - OUTER REAR VIEW MIRROR ASSEMBLY)
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- (a) Disconnect the K21 power distribution box assembly connector.
- (b) Disconnect the O9 outer mirror retractor LH connector.
- (c) Disconnect the N9 outer mirror retractor RH connector.
- (d) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



- [Click Location & Routing\(K21,N9,O9\).](#)
- [Click Connector\(K21\).](#)
- [Click Connector\(N9\).](#)
- [Click Connector\(O9\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K21-10 - N9-10 (MF)	Always	Below 1 Ω

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K21-10 - O9-10 (MF)	Always	Below 1 Ω
K21-24 - N9-4 (MR)	Always	Below 1 Ω
K21-24 - O9-4 (MR)	Always	Below 1 Ω
K21-10 - Body Ground	Always	10 k Ω or higher
K21-24 - Body Ground	Always	10 k Ω or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



6.	INSPECT OUTER MIRROR RETRACTOR LH
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Click here 

NG  **REPLACE OUTER MIRROR RETRACTOR LH**

OK



7.	INSPECT OUTER MIRROR RETRACTOR RH
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Click here 

OK  **REPLACE POWER DISTRIBUTION BOX ASSEMBLY**



NG  **REPLACE OUTER MIRROR RETRACTOR RH**

8.	INSPECT OUTER MIRROR RETRACTOR LH
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Click here 

NG  **REPLACE OUTER MIRROR RETRACTOR LH**

OK**9.****CHECK HARNESS AND CONNECTOR (OUTER MIRROR RETRACTOR LH - POWER DISTRIBUTION BOX ASSEMBLY)**

- (a) Disconnect the K21 power distribution box assembly connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

[Click Location & Routing\(O9,K21\)](#)[Click Connector\(O9\)](#)[Click Connector\(K21\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
O9-10 (MF) - K21-10	Always	Below 1 Ω
O9-4 (MR) - K21-24	Always	Below 1 Ω

OK **REPAIR POWER DISTRIBUTION BOX ASSEMBLY** **NG** **REPAIR OR REPLACE HARNESS OR CONNECTOR****10.****INSPECT OUTER MIRROR RETRACTOR RH**

Click here

NG **REPLACE OUTER MIRROR RETRACTOR RH****OK****11.****CHECK HARNESS AND CONNECTOR (OUTER MIRROR RETRACTOR RH - POWER DISTRIBUTION BOX ASSEMBLY)**

- (a) Disconnect the K21 power distribution box assembly connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(N9,K21\).](#)

[Click Connector\(N9\).](#)

[Click Connector\(K21\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N9-10 (MF) - K21-10	Always	Below 1 Ω
N9-4 (MR) - K21-21	Always	Below 1 Ω

OK ► **USE SIMULATION METHOD TO CHECK**

NG ► **REPAIR OR REPLACE HARNESS OR CONNECTOR**

12.	INSPECT MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY
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Click here [INFO](#)

NG ► **REPLACE MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY**

OK



13.	CHECK HARNESS AND CONNECTOR (MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY (OUTER MIRROR SWITCH) - MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU) AND BODY GROUND)
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(a) Disconnect the K16 main body ECU (multiplex network body ECU).

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(O13,K16\).](#)

[Click Connector\(O13\).](#)

[Click Connector\(K16\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
O13-9 (MF) - K16-27 (RET)	Always	Below 1 Ω
O13-10 (MR) - K16-26 (RTR)	Always	Below 1 Ω
O13-8 (E) - Body ground	Always	Below 1 Ω

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
O13-9 (MF) or K16-27 (RET) - Body ground	Always	10 k Ω or higher
O13-10 (MR) or K16-26 (RTR) - Body ground	Always	10 k Ω or higher

OK  **REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)** 

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

