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Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [12/2022 -]
Title: PARK ASSIST / MONITORING: PANORAMIC VIEW MONITOR SYSTEM: C162287,C168187,C168E87,C169D87; Rear Camera Image Signal Missing Message; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DTC	C162287	Rear Camera Image Signal Missing Message
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DTC	C168187	Front Camera Image Signal Missing Message
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DTC	C168E87	Side Camera (Left) Image Signal Missing Message
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DTC	C169D87	Side Camera (Right) Image Signal Missing Message
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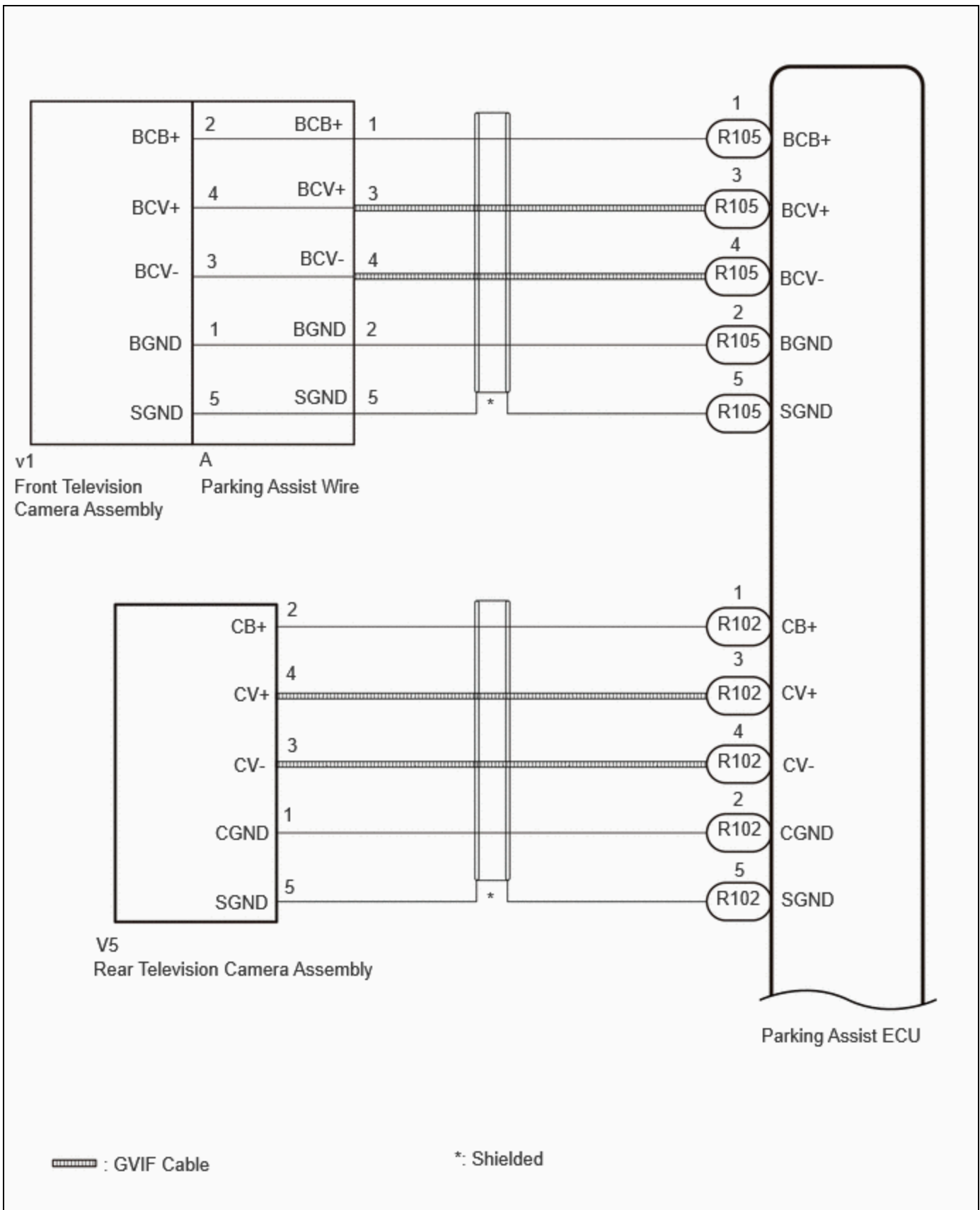
DESCRIPTION

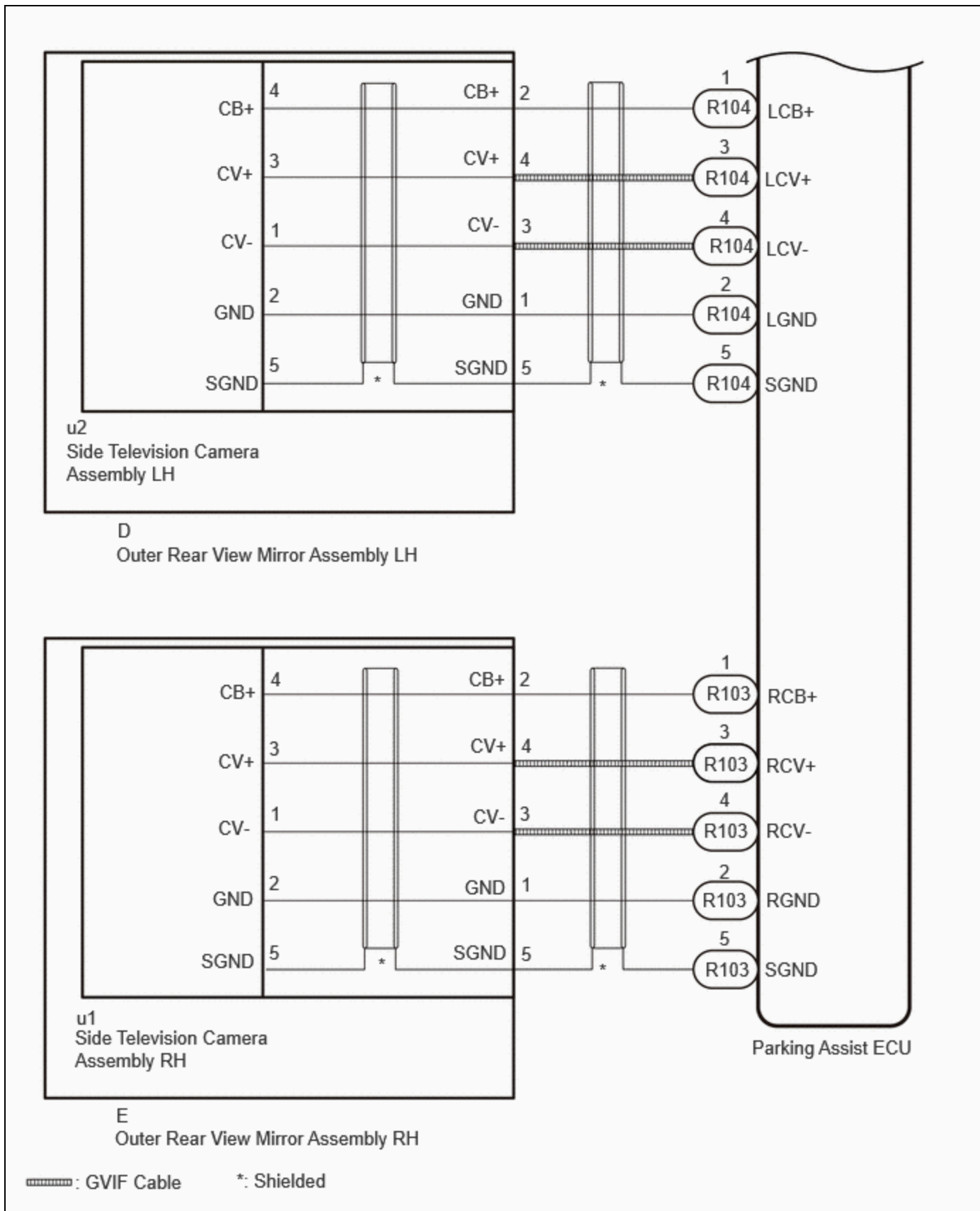
This DTC is stored if the parking assist ECU judges as a result of its self check that the signals or signal lines between the parking assist ECU and the rear television camera assembly are not normal.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	DTC OUTPUT FROM	PRIORITY
C162287	Rear Camera Image Signal Missing Message	Open or short in the rear television camera signal circuit	<ul style="list-style-type: none"> • Harness or connector • Rear television camera assembly • Parking assist ECU 	Circumference Monitoring Camera Control Module	A
C168187	Front Camera Image Signal Missing Message	Front television camera power supply failure	<ul style="list-style-type: none"> • Harness or connector • Front television camera assembly • Parking assist ECU 	Circumference Monitoring Camera Control Module	A
C168E87	Side Camera (Left) Image Signal Missing Message	Side camera feedback malfunction (Left)	<ul style="list-style-type: none"> • Harness or connector • Parking assist ECU • Side television camera assembly LH 	Circumference Monitoring Camera Control Module	A

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	DTC OUTPUT FROM	PRIORITY
C169D87	Side Camera (Right) Image Signal Missing Message	Side camera feedback malfunction (Right)	<ul style="list-style-type: none"> • Harness or connector • Parking assist ECU • Side television camera assembly RH 	Circumference Monitoring Camera Control Module	A

WIRING DIAGRAM





CAUTION / NOTICE / HINT

NOTICE:

Depending on the parts that are replaced or operations that are performed during vehicle inspection or maintenance, calibration of other systems as well as the panoramic view monitor system may be needed.

[Click here](#) 

PROCEDURE

1. CHECK FOR DTCs

- (a) Turn the ignition switch to ON (IG).
- (b) Using the GTS, check for DTCs and proceed to the respective link below.

Chassis > Circumference Monitoring Camera Control Module > Trouble Codes

RESULT	PROCEED TO
Only DTC C162287 is output	A
Only DTC C168187 is output	B
Only DTC C168E87 is output	C
Only DTC C169D87 is output	D
Other than above	E

B  **GO TO STEP 5**

C  **GO TO STEP 9**

D  **GO TO STEP 16**

E  **GO TO STEP 23**

A


2. CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU - REAR TELEVISION CAMERA ASSEMBLY)

Pre-procedure1

- (a) Disconnect the R102 parking assist ECU connector.
- (b) Disconnect the V5 rear television camera assembly connector.

Procedure1

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

Standard Resistance:



[Click Location & Routing\(R102,V5\).](#)

[Click Connector\(R102\).](#)

[Click Connector\(V5\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R102-1 (CB+) - V5-2 (CB+)	Always	Below 1 Ω	Ω
R102-3 (CV+) - V5-4 (CV+)	Always	Below 1 Ω	Ω
R102-4 (CV-) - V5-3 (CV-)	Always	Below 1 Ω	Ω
R102-2 (CGND) - V5-1 (CGND)	Always	Below 1 Ω	Ω
R102-5 (SGND) - V5-5 (SGND)	Always	Below 1 Ω	Ω
R102-1 (CB+) or V5-2 (CB+) - Body ground	Always	10 k Ω or higher	k Ω
R102-3 (CV+) or V5-4 (CV+) - Body ground	Always	10 k Ω or higher	k Ω
R102-4 (CV-) or V5-3 (CV-) - Body ground	Always	10 k Ω or higher	k Ω
R102-2 (CGND) or V5-1 (CGND) - Body ground	Always	10 k Ω or higher	k Ω
R102-5 (SGND) or V5-5 (SGND) - Body ground	Always	10 k Ω or higher	k Ω

Post-procedure1

(d) None

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

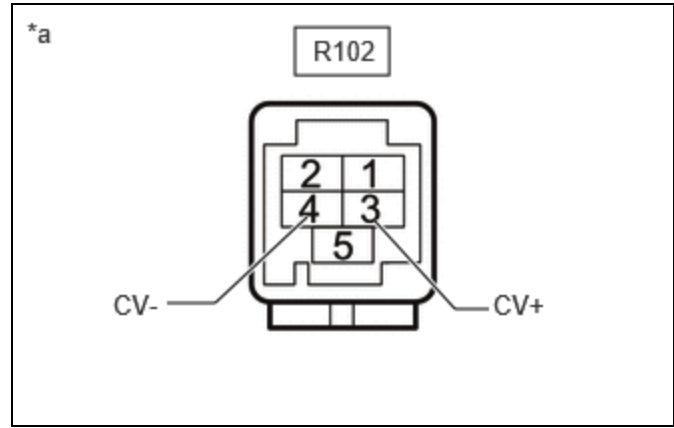
OK



3.	CHECK PARKING ASSIST ECU (CV+, CV-)
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Pre-procedure1

(a) Disconnect the R102 parking assist ECU connector.



*a Component without harness connected (Parking Assist ECU)

Procedure1

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

Standard Resistance:



[Click Location & Routing\(R102\)](#)

[Click Connector\(R102\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R102-3 (CV+) - Body ground	Always	10 kΩ or higher	kΩ
R102-4 (CV-) - Body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

(c) None

NG **REPLACE PARKING ASSIST ECU**

OK



4.	CHECK PARKING ASSIST ECU (CB+, CGND)
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Pre-procedure1

(a) Disconnect the rear television camera assembly.

Procedure1

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

Standard Resistance:


[Click Location & Routing\(V5\).](#)
[Click Connector\(V5\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
V5-1 (CGND) - Body ground	Always	Below 1 Ω	Ω

(c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:


[Click Location & Routing\(V5\).](#)
[Click Connector\(V5\).](#)

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION	RESULT
V5-2 (CB+) - V5-1 (CGND)	Ignition switch ON	7.5 to 8.5 V	V

Post-procedure1

(d) None

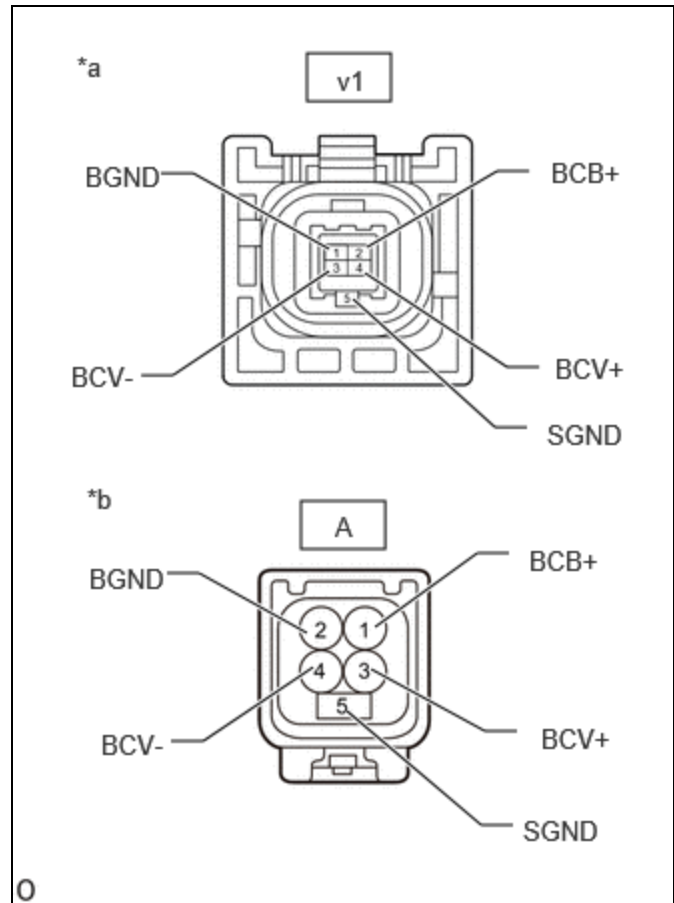
OK ► **REPLACE REAR TELEVISION CAMERA ASSEMBLY**
NG ► **REPLACE PARKING ASSIST ECU**

5.	INSPECT PARKING ASSIST WIRE
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Pre-procedure1

(a) Remove the parking assist wire.

HINT:
[Click here](#)



*a	Front view of parking assist wire (to Front Television Camera Assembly)
*b	Front view of parking assist wire (to Vehicle Harness Connector)

Procedure1

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

Standard Resistance:



[Click Location & Routing\(v1\)](#)

[Click Connector\(v1\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
v1-2 (BCB+) - A-1 (BCB+)	Always	Below 1 Ω	Ω
v1-4 (BCV+) - A-3 (BCV+)	Always	Below 1 Ω	Ω
v1-3 (BCV-) - A-4 (BCV-)	Always	Below 1 Ω	Ω
v1-1 (BGND) - A-2 (BGND)	Always	Below 1 Ω	Ω
v1-5 (SGND) - A-5 (SGND)	Always	Below 1 Ω	Ω
v1-2 (BCB+) or A-1(BCB+) - Body ground	Always	10 kΩ or higher	kΩ

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
v1-4 (BCV+) or A-3(BCV+) - Body ground	Always	10 kΩ or higher	kΩ
v1-3 (BCV-) or A-4(BCV-) - Body ground	Always	10 kΩ or higher	kΩ
v1-1 (BGND) or A-2(BGND) - Body ground	Always	10 kΩ or higher	kΩ
v1-5 (SGND) or A-5(SGND) - Body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

(c) None

NG  **REPLACE PARKING ASSIST WIRE**

OK



6. CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU - PARKING ASSIST WIRE)

Pre-procedure1

(a) Disconnect the R105 parking assist ECU connector.

(b) Disconnect the A parking assist wire connector.

Procedure1

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

Standard Resistance:



[Click Location & Routing\(R105\)](#)

[Click Connector\(R105\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R105-1 (BCB+) - A-1 (BCB+)	Always	Below 1 Ω	Ω
R105-3 (BCV+) - A-3 (BCV+)	Always	Below 1 Ω	Ω
R105-4 (BCV-) - A-4 (BCV-)	Always	Below 1 Ω	Ω
R105-2 (BGND) - A-2 (BGND)	Always	Below 1 Ω	Ω
R105-5 (SGND) - A-5 (SGND)	Always	Below 1 Ω	Ω
R105-1 (BCB+) or A-1(BCB+) - Body ground	Always	10 kΩ or higher	kΩ
R105-3 (BCV+) or A-3 (BCV+) - Body ground	Always	10 kΩ or higher	kΩ
R105-4 (BCV-) or A-4 (BCV-) - Body ground	Always	10 kΩ or higher	kΩ
R105-2 (BGND) or A-2 (BGND) - Body ground	Always	10 kΩ or higher	kΩ
R105-5 (SGND) or A-5 (SGND) - Body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

(d) None

NG REPAIR OR REPLACE HARNESS OR CONNECTOR

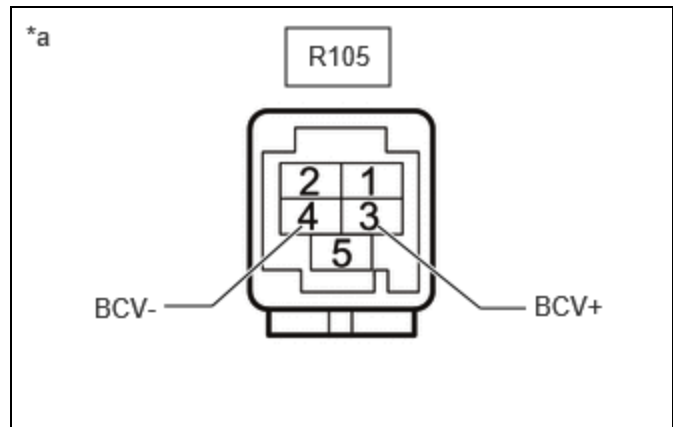
OK



7. CHECK PARKING ASSIST ECU (BCV+, BCV-)

Pre-procedure1

(a) Disconnect the R105 parking assist ECU connector.



*a Component without harness connected (Parking Assist ECU)

Procedure1

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

Standard Resistance:



[Click Location & Routing\(R105\)](#)

[Click Connector\(R105\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R105-3 (BCV+) - Body ground	Always	10 kΩ or higher	kΩ
R105-4 (BCV-) - Body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

(c) None

NG  **REPLACE PARKING ASSIST ECU****OK****8. CHECK PARKING ASSIST ECU (BCB+, BGND)**

Pre-procedure1

(a) Disconnect the A parking assist wire connector.

Procedure1

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
A-2 (BGND) - Body ground	Always	Below 1 Ω	Ω

(c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION	RESULT
A-1 (BCB+) - A-2 (BGND)	Ignition switch ON	7.5 to 8.5 V	V

Post-procedure1

(d) None

OK  **REPLACE FRONT TELEVISION CAMERA ASSEMBLY****NG**  **REPLACE PARKING ASSIST ECU****9. CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU - OUTER REAR VIEW MIRROR ASSEMBLY LH)**

Pre-procedure1

(a) Disconnect the R104 parking assist ECU connector.

(b) Disconnect the D outer rear view mirror assembly LH connector.

Procedure1

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

Standard Resistance:



[Click Location & Routing\(R104\)](#)

[Click Connector\(R104\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R104-1 (LCB+) - D-2 (CB+)	Always	Below 1 Ω	Ω
R104-3 (LCV+) - D-4 (CV+)	Always	Below 1 Ω	Ω
R104-4 (LCV-) - D-3 (CV-)	Always	Below 1 Ω	Ω
R104-2 (LGND) - D-1 (GND)	Always	Below 1 Ω	Ω
R104-5 (SGND) - D-5 (SGND)	Always	Below 1 Ω	Ω
R104-1 (LCB+) or D-2 (CB+) - Body ground	Always	10 kΩ or higher	kΩ
R104-3 (LCV+) or D-4 (CV+) - Body ground	Always	10 kΩ or higher	kΩ
R104-4 (LCV-) or D-3 (CV-) - Body ground	Always	10 kΩ or higher	kΩ
R104-2 (LGND) or D-1 (GND) - Body ground	Always	10 kΩ or higher	kΩ
R104-5 (SGND) or D-5 (SGND) - Body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

(d) None

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

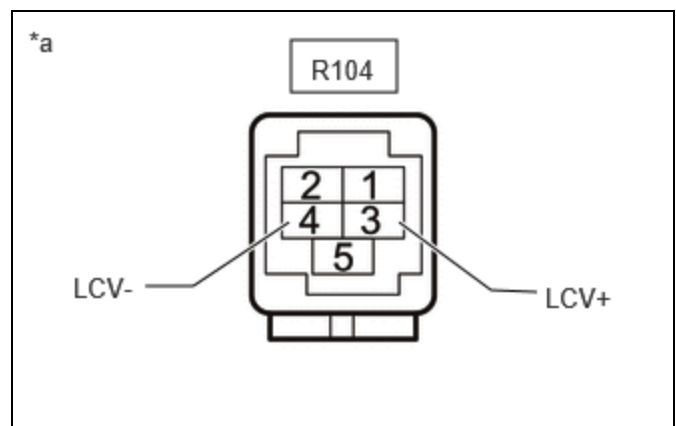
OK



10. CHECK PARKING ASSIST ECU (LCV+, LCV-)

Pre-procedure1

(a) Disconnect the R104 parking assist ECU connector.



*a

Component without harness connected
(Parking Assist ECU)

Procedure1

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

Standard Resistance:


[Click Location & Routing\(R104\)](#)
[Click Connector\(R104\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R104-3 (LCV+) - Body ground	Always	10 k Ω or higher	k Ω
R104-4 (LCV-) - Body ground	Always	10 k Ω or higher	k Ω

Post-procedure1

(c) None

NG **REPLACE PARKING ASSIST ECU**
OK

11. CHECK PARKING ASSIST ECU (LCB+, LGND)

Pre-procedure1

(a) Disconnect the outer rear view mirror assembly LH connector.

Procedure1

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
D-1 (GND) - Body ground	Always	Below 1 Ω	Ω

(c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION	RESULT
D-2 (CB+) - D-1 (GND)	Ignition switch ON	7.5 to 8.5 V	V

Post-procedure1

(d) None

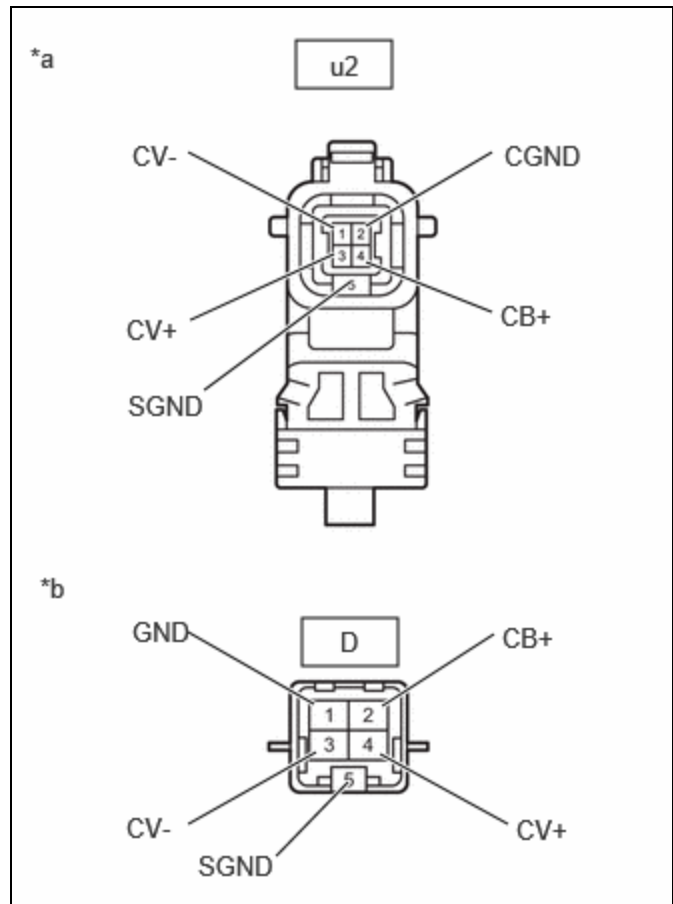
NG  **REPLACE PARKING ASSIST ECU**

OK



12. INSPECT OUTER REAR VIEW MIRROR ASSEMBLY LH

Pre-procedure1



(a) Remove the outer rear view mirror assembly LH.

*a	Front view of wire harness connector (to Side Television Camera Assembly LH)
*b	Component without harness connected (Rear view mirror assembly LH)

(b) Remove the side television camera assembly LH from the outer rear view mirror assembly LH.

Procedure1

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

Standard Resistance:



[Click Location & Routing\(u2\).](#)

[Click Connector\(u2\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
u2-4 (CB+) - D-2 (CB+)	Always	Below 1 Ω	Ω
u2-3 (CV+) - D-4 (CV+)	Always	Below 1 Ω	Ω
u2-1 (CV-) - D-3 (CV-)	Always	Below 1 Ω	Ω
u2-2 (GND) - D-1 (GND)	Always	Below 1 Ω	Ω
u2-5 (SGND) - D-5 (SGND)	Always	Below 1 Ω	Ω

Post-procedure1

(d) None

NG **REPLACE OUTER REAR VIEW MIRROR ASSEMBLY LH**

OK



13.	REPLACE SIDE TELEVISION CAMERA ASSEMBLY LH
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HINT:

Click here

NEXT



14.	CLEAR DTC
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(a) Clear the DTCs.

Chassis > Circumference Monitoring Camera Control Module > Clear DTCs

NEXT



15. CHECK FOR DTC

(a) Check for DTCs.

Chassis > Circumference Monitoring Camera Control Module > Trouble Codes

RESULT	PROCEED TO
C168E87 is not output	A
C168E87 is output	B

A ► **END (SIDE TELEVISION CAMERA ASSEMBLY LH WAS DEFECTIVE)**

B ► **REPLACE PARKING ASSIST ECU**

16. CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU - OUTER REAR VIEW MIRROR ASSEMBLY RH)

Pre-procedure1

- (a) Disconnect the R103 parking assist ECU connector.
 (b) Disconnect the E outer rear view mirror assembly RH connector.

Procedure1

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

Standard Resistance:



[Click Location & Routing\(R103\)](#)

[Click Connector\(R103\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R103-1 (RCB+) - E-2 (CB+)	Always	Below 1 Ω	Ω
R103-3 (RCV+) - E-4 (CV+)	Always	Below 1 Ω	Ω
R103-4 (RCV-) - E-3 (CV-)	Always	Below 1 Ω	Ω
R103-2 (RGND) - E-1 (GND)	Always	Below 1 Ω	Ω
R103-5 (SGND) - E-5 (SGND)	Always	Below 1 Ω	Ω
R103-1 (RCB+) or E-2 (CB+) - Body ground	Always	10 k Ω or higher	k Ω
R103-3 (RCV+) or E-4 (CV+) - Body ground	Always	10 k Ω or higher	k Ω
R103-4 (RCV-) or E-3 (CV-) - Body ground	Always	10 k Ω or higher	k Ω

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R103-2 (RGND) or E-1 (GND) - Body ground	Always	10 kΩ or higher	kΩ
R103-5 (SGND) - E-5 (SGND) - Body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

(d) None

NG ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

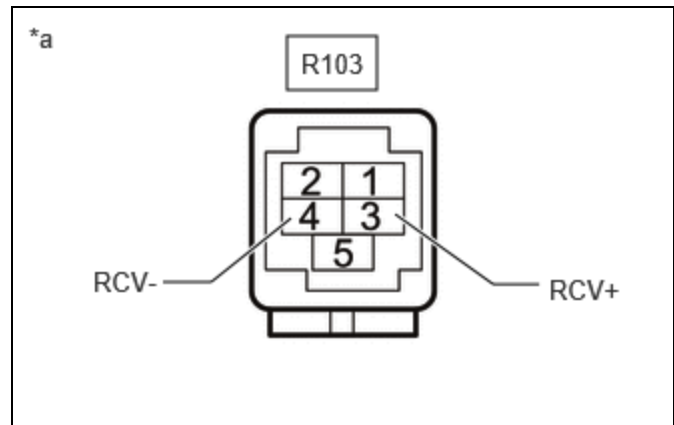
OK



17. CHECK PARKING ASSIST ECU (RCV+, RCV-)

Pre-procedure1

(a) Disconnect the R103 parking assist ECU connector.



*a Component without harness connected (Parking Assist ECU)

Procedure1

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

Standard Resistance:



[Click Location & Routing\(R103\)](#)

[Click Connector\(R103\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
R103-3 (RCV+) - Body ground	Always	10 kΩ or higher	kΩ
R103-4 (RCV-) - Body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

(c) None

NG  **REPLACE PARKING ASSIST ECU****OK****18. CHECK PARKING ASSIST ECU (RCB+, RGND)**

Pre-procedure1

(a) Disconnect the outer rear view mirror assembly RH connector.

Procedure1

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
E-1 (GND) - Body ground	Always	Below 1 Ω	Ω

(c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION	RESULT
E-2 (CB+) - E-1 (GND)	Ignition switch ON	7.5 to 8.5 V	V

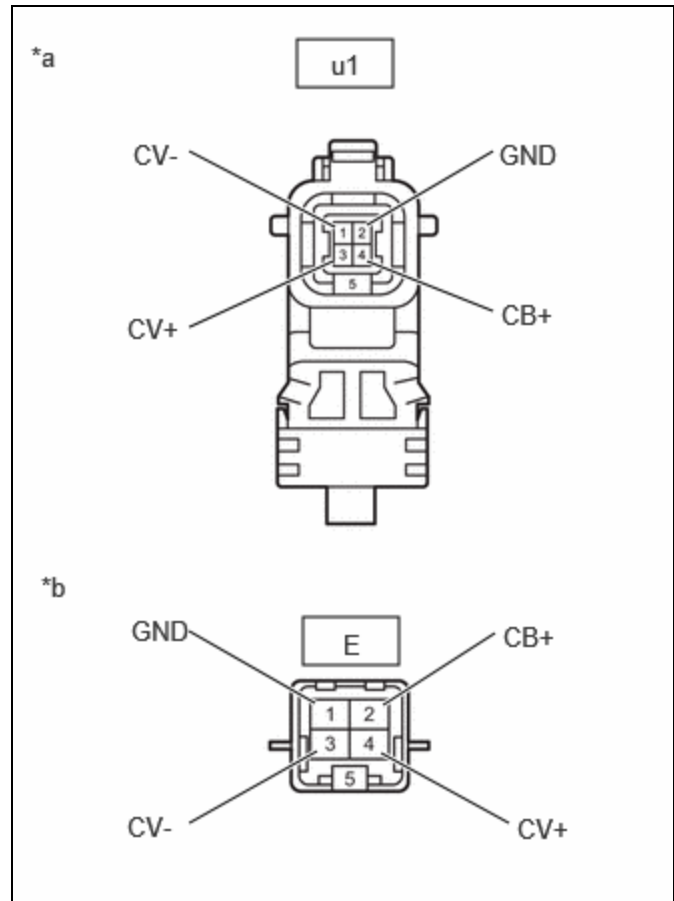
Post-procedure1

(d) None

NG  **REPLACE PARKING ASSIST ECU****OK****19. INSPECT OUTER REAR VIEW MIRROR ASSEMBLY RH**

Pre-procedure1

(a) Remove the outer rear view mirror assembly RH.



*a	Front view of wire harness connector (to Side Television Camera Assembly RH)
*b	Component without harness connected (Outer Rear View Mirror Assembly RH)

(b) Remove the side television camera assembly RH from the outer rear view mirror assembly RH.

Procedure1

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

Standard Resistance:



[Click Location & Routing\(u1\).](#)

[Click Connector\(u1\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
u1-4 (CB+) - E-2 (CB+)	Always	Below 1 Ω	Ω
u1-3 (CV+) - E-4 (CV+)	Always	Below 1 Ω	Ω
u1-1 (CV-) - E-3 (CV-)	Always	Below 1 Ω	Ω
u1-2 (GND) - E-1 (GND)	Always	Below 1 Ω	Ω
u1-5 (SGND) - E-5 (SGND)	Always	Below 1 Ω	Ω

Post-procedure1

(d) None

NG  **REPLACE OUTER REAR VIEW MIRROR ASSEMBLY RH**

OK



20. REPLACE SIDE TELEVISION CAMERA ASSEMBLY RH

HINT:

Click here 

NEXT



21. CLEAR DTC

(a) Clear the DTCs.

Chassis > Circumference Monitoring Camera Control Module > Clear DTCs

NEXT



22. CHECK FOR DTC

(a) Check for DTCs.

Chassis > Circumference Monitoring Camera Control Module > Trouble Codes

RESULT	PROCEED TO
C169D87 is not output	A
C169D87 is output	B

A  **END (SIDE TELEVISION CAMERA ASSEMBLY RH WAS DEFECTIVE)**

B  **REPLACE PARKING ASSIST ECU**

23.	CHECK FOR DTCs
------------	-----------------------

- (a) Disconnect the R102 parking assist ECU connector.
- (b) Using the GTS, check for DTCs and proceed to the respective link below.

Chassis > Circumference Monitoring Camera Control Module > Trouble Codes

RESULT	PROCEED TO
Only DTC C162287 is output	A
DTC C162287 is output together with either C168187, C168E87, or C169D87	B

A  **GO TO STEP 2**

B


24.	CHECK FOR DTCs
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- (a) Connect the R102 parking assist ECU connector.
- (b) Disconnect the R105 parking assist ECU connector.
- (c) Using the GTS, check for DTCs and proceed to the respective link below.

Chassis > Circumference Monitoring Camera Control Module > Trouble Codes

RESULT	PROCEED TO
Only DTC C168187 is output	A
DTC C168187 is output together with either C162287, C168E87, or C169D87	B

A  **GO TO STEP 5**

B


25.	CHECK FOR DTCs
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- (a) Connect the R105 parking assist ECU connector.
- (b) Disconnect the R104 parking assist ECU connector.
- (c) Using the GTS, check for DTCs and proceed to the respective link below.

Chassis > Circumference Monitoring Camera Control Module > Trouble Codes

RESULT	PROCEED TO
Only DTC C168E87 is output	A
DTC C168E87 is output together with either C162287, C168187, or C169D87	B

A **GO TO STEP 9**

B

26.	CHECK FOR DTCs
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- (a) Connect the R104 parking assist ECU connector.
- (b) Disconnect the R103 parking assist ECU connector.
- (c) Using the GTS, check for DTCs and proceed to the respective link below.

Chassis > Circumference Monitoring Camera Control Module > Trouble Codes

RESULT	PROCEED TO
Only DTC C169D87 is output	A
DTC C169D87 is output together with either C162287, C168187, or C168E87	B

A **GO TO STEP 16**

B **REPLACE PARKING ASSIST ECU**

