SERVICE BULLETIN

MITSUBISHI MOTORS

GLOBAL AFTER SALES OFFICE, MITSUBISHI MOTORS CORPORATION

PURPOSE : CORRECTION	ISSUE NO. : MSB-14EXLPC54-501	DATE : 2014-03-11
SUBJECT : REVERSING SENSOR SYSTEM		<DESTINATION/MODEL> (EUR/RUSSIA/AUSTRALIA/ NEW ZEALAND) <M/Y> 10-11
GROUP : CHASSIS ELECTRICAL		OUTLANDER(CW0W)/PEUGEOT 4007/CITROEN C-CROSSER

1. Description :

Please refer to the attached document for the correction of the error in writing existing in the applicable service manual.

2. Affected service manuals :

Please refer to the attached document (Attached sheet 1)

3. About the details :

Please refer to the attached document (Attached sheet 2-3)

Attached sheet 1

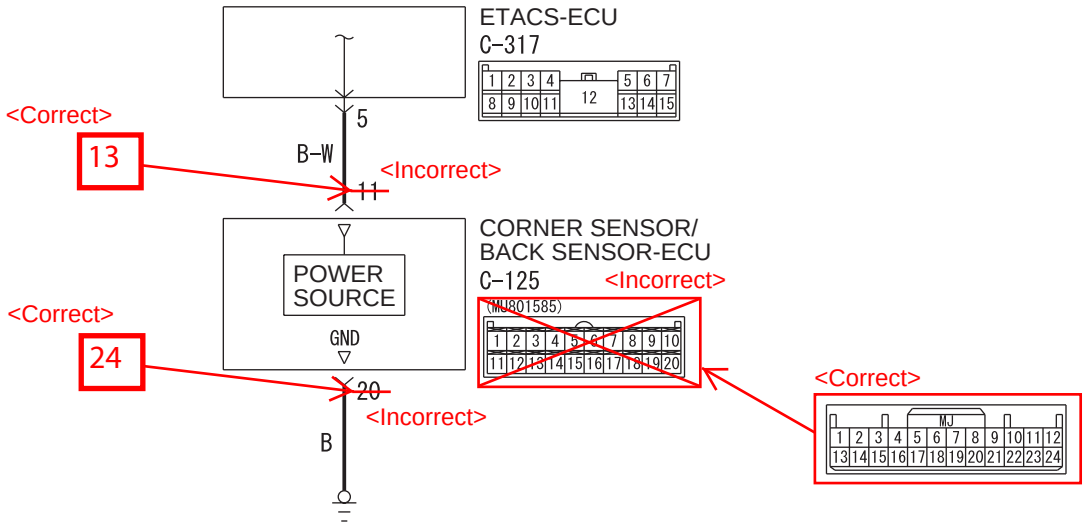
Applicable manual	Pub. No.	Applicable title (INFO ID)	Contents
2010 OUTLANDER Workshop Manual	EUR: CGXE10E1-CD (English) CGXF10E1-CD (French) CGXG10E1-CD (German) CGXS10E1-CD (Spanish) RUSSIA:N/A	CHASSIS ELECTRICAL - CHECK AT ECU TERMINALS (M540-70-140-28300-01)	Attached sheet 2 (6/8) to (8/8)
		CONFIGURATION DIAGRAMS - INSTRUMENT PANEL <LHD> (M801-00-071-51900-01)	Attached sheet 3
		CONFIGURATION DIAGRAMS - INSTRUMENT PANEL <RHD> (M801-00-071-52000-01)	
2010 PEUGEOT 4007/ CITROEN C-CROSSER Workshop Manual	PSA : N/A AUSTRALIA/NEW ZEALAND : N/A ※PEUGEOT 4007 and CITROEN C-CROSSER were exported to Australia and New ZEALAND	CHASSIS ELECTRICAL - Inspection Procedure 1: The Reversing Sensor System does not Operate. (M540-70-080-31800-01)	Attached sheet 2 (1/8) to (3/8)
		CHASSIS ELECTRICAL - Inspection Procedure 2: The Reversing Sensor Indicator does not Illuminate. (M543-01-660-34600-01)	Attached sheet 2 (3/8) and (4/8)
		CHASSIS ELECTRICAL - Inspection Procedure 3: The System cannot be Activated or Deactivated Even When the Sonar switch is pressed. (M540-70-090-19900-01)	Attached sheet 2 (4/8) and (5/8)
		CHASSIS ELECTRICAL - CHECK AT ECU TERMINALS (M540-70-140-29400-01)	Attached sheet 2 (6/8) to (8/8)
		CITROEN C-CROSSER - CONFIGURATION DIAGRAMS - INSTRUMENT PANEL <LHD> (M801-00-071-59700-01)	Attached sheet 3
		CITROEN C-CROSSER - CONFIGURATION DIAGRAMS - INSTRUMENT PANEL <RHD> (M801-00-071-60500-01)	
		PEUGEOT 4007 - CONFIGURATION DIAGRAMS - INSTRUMENT PANEL <LHD> (M801-00-071-57500-01)	
2011 PEUGEOT 4007/ CITROEN C-CROSSER Workshop Manual		CONFIGURATION DIAGRAMS - INSTRUMENT PANEL <RHD> (M801-00-071-92800-01)	
2011 PEUGEOT 4007/ CITROEN C-CROSSER Workshop Manual		CONFIGURATION DIAGRAMS - INSTRUMENT PANEL <RHD> (M801-00-072-27700-01)	

Inspection Procedure 1: The Reversing Sensor System does not Operate.

⚠ CAUTION

- **Whenever the ECU is replaced, ensure that the input signal circuit is normal.**
- **When the illuminated licence plate is installed, the sensors may not operate because of noise from the plate. (When the ultrasonic noise is received, the bass toned buzzer sound continuously. When the ultrasonic noise stops, the normal operation will be resumed immediately.)**

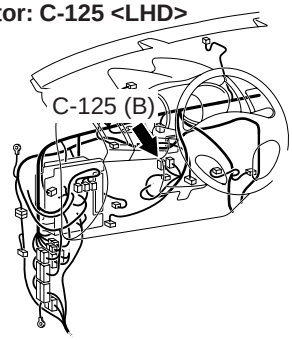
Reversing Sensor System Power Supply Circuit



Wire colour code
B : Black LG : Light green G : Green L : Blue W : White Y : Yellow SB : Sky blue
BR : Brown O : Orange GR : Grey R : Red P : Pink V : Violet PU : Purple

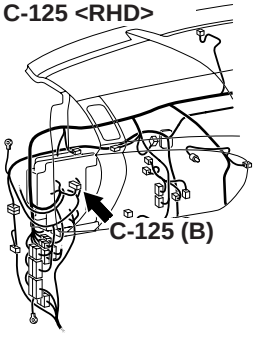
W7G54E000A

Connector: C-125 <LHD>

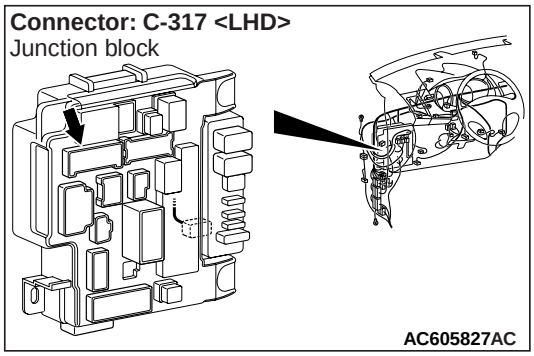


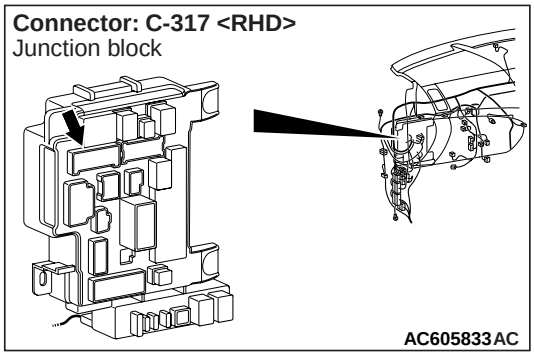
AC605819AO

Connector: C-125 <RHD>



AC605830AJ





COMMENTS ON TROUBLE SYMPTOM

If the Reversing sensor system does not work at all even when the ignition switch is turned "ON", the power supply system, corner sensor/back sensor-ECU or ETACS-ECU may have a problem.

PROBABLE CAUSES

- Malfunction of corner sensor/back sensor-ECU
- Malfunction of the ETACS-ECU
- Damaged harness wires and connectors

DIAGNOSIS PROCEDURE

STEP 1. M.U.T.-III CAN bus diagnostics

Use the M.U.T.-III to diagnose the CAN bus lines.

Q: Is the check result normal?

YES : Go to Step 2.

NO : Repair the CAN bus line.

STEP 2. M.U.T.-III other system diagnosis code

Check if the diagnosis code is set to the ETACS-ECU.

Q: Is the check result normal?

YES : Troubleshoot the ETACS-ECU. Refer to ETACS-ECU – Troubleshooting .

NO : Go to Step 3.

STEP 3. Connector check: C-125 corner sensor/ back sensor-ECU connector

Q: Is the check result normal?

YES : Go to Step 4.

NO : Repair the defective connector.

STEP 4. Voltage measurement at the C-125 corner sensor/back sensor-ECU connector

(1) Disconnect the connector, and measure at the wiring harness side.

(2) Turn the ignition switch to the "ON" position.

(3) Measure the voltage between the C-125 corner sensor/back sensor-ECU connector (terminal No. ~~11~~) and the body earth.

<Incorrect>

<Correct>

13

OK: System voltage

Q: Is the check result normal?

YES : Go to Step 7.

NO : Go to Step 5.

STEP 5. Connector check: C-317 ETACS-ECU connector

Q: Is the check result normal?

YES : Go to Step 6.

NO : Repair the defective connector.

STEP 6. Wiring harness check between the C-317 ETACS-ECU connector (terminal No. 5) and the C-125 corner sensor/back sensor-ECU connector (terminal No. ~~11~~)

<Incorrect>

- Check the power supply line for open circuit and short circuit.

<Correct>

13

Q: Is the check result nor

YES : The ETACS-ECU power supply circuit may have a problem. Troubleshoot the ETACS-ECU.(Refer to)

NO : Repair the wiring harness.

STEP 7. Resistance measurement at the C-125 corner sensor/back sensor-ECU connector

(1) Disconnect the connector, and measure at the wiring harness side.

(2) Measure the resistance between the C-125 corner sensor/back sensor-ECU connector (terminal No. ~~20~~) and the body earth.

<Incorrect>

<Correct>

24

OK: Continuity exists (2 Ω or less)

Q: Is the check result normal?

YES : Go to Step 9.

NO : Go to Step 8.

STEP 8. Wiring harness check between the C-125 corner sensor/back sensor-ECU connector (terminal No. 20) and the body earth

<Incorrect>

- Check the earth wire for open circuit.

<Correct>

Q: Is the check result normal?

24

YES : Retest the system.

NO : Repair the wiring harness.

STEP 9. Replace the corner sensor/back sensor-ECU temporarily, and then check the trouble symptom.

Replace the corner sensor/back sensor-ECU temporarily, then check if the corner sensors operate.

Q: Is the check result normal?

YES : Replace the corner sensor/back sensor.

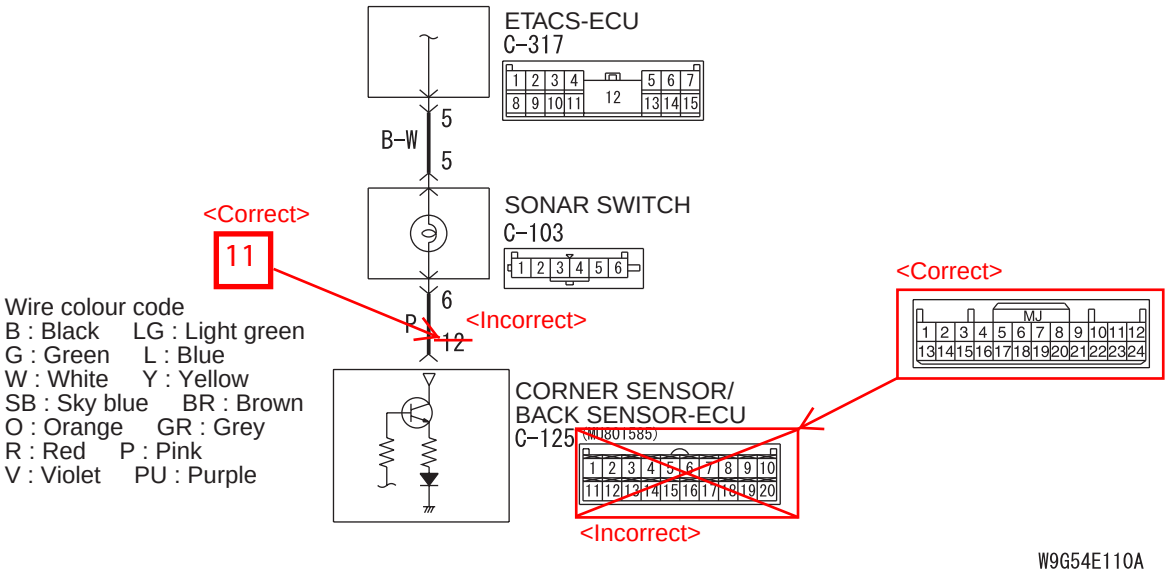
NO : Replace the ETACS-ECU.

Inspection Procedure 2: The Reversing Sensor Indicator does not Illuminate.

⚠ CAUTION

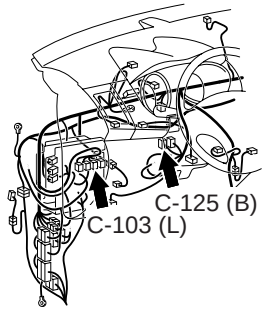
- **Whenever the ECU is replaced, ensure that the input signal circuit is normal.**
- **When the illuminated licence plate is installed, the sensors may not operate because of noise from the plate. (When the ultrasonic noise is received, the bass toned buzzer sound continuously. When the ultrasonic noise stops, the normal operation will be resumed immediately.)**

Sonar Switch Indicator Circuit



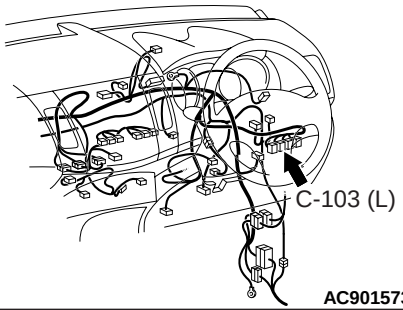
W9G54E110A

Connectors: C-103, C-125 <LHD>



AC901571AM

Connector: C-103 <RHD>



AC901573AG

STEP 8. Wiring harness check from C-103 sonar switch connector (terminal No. 6) to C-125 corner sensor/back sensor-ECU connector (terminal No. 12)

<Incorrect>

- Check the communication line for open circuit and short circuit.

<Correct>

Q: Is the check result normal?

11

YES : Go to Step 9.
NO : Repair the wiring harness.

STEP 9. Retest the system

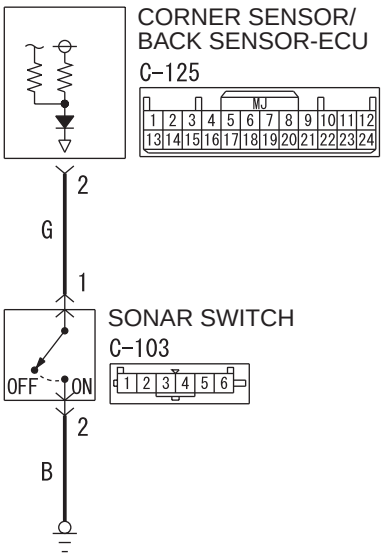
Q: Is the check result normal?
YES : The diagnosis is complete.
NO : Replace the corner sensor/back sensor-ECU.

Inspection Procedure 3: The System cannot be Activated or Deactivated Even When the Sonar switch is pressed.

⚠ CAUTION

- **Whenever the ECU is replaced, ensure that the input signal circuit is normal.**
- **When the illuminated licence plate is installed, the sensors may not operate because of noise from the plate. (When the ultrasonic noise is received, the bass toned buzzer sound continuously. When the ultrasonic noise stops, the normal operation will be resumed immediately.)**

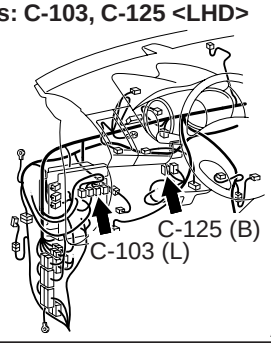
Sonar Switch Circuit



Wire colour code
B : Black LG : Light green G : Green L : Blue W : White Y : Yellow SB : Sky blue
BR : Brown O : Orange GR : Grey R : Red P : Pink V : Violet PU : Purple SI : Silver

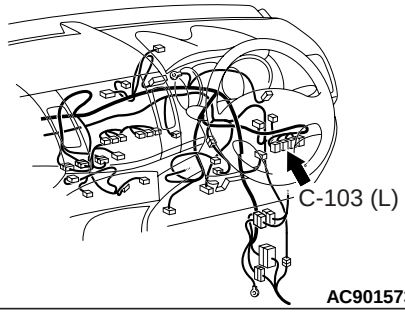
WAG54E099A

Connectors: C-103, C-125 <LHD>

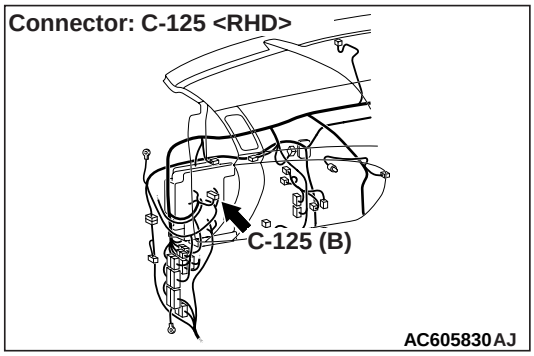


AC901571AM

Connector: C-103 <RHD>



AC901573AG



COMMENTS ON TROUBLE SYMPTOM

If the reversing sensor system ON/OFF cannot be switched even when the sonar switch is pressed, the harness, connector(s), sonar switch, or corner sensor/back sensor-ECU may have a problem.

PROBABLE CAUSES

- Damaged harness wires and connectors
- Malfunction of sonar switch
- Malfunction of corner sensor/back sensor-ECU

DIAGNOSIS PROCEDURE

STEP 1. Connector check: C-103 sonar switch connector

Q: Is the check result normal?
YES : Go to Step 2.
NO : Repair the defective connector.

STEP 2. sonar switch check

Inspect the sonar switch for normal operation. (Refer to)

Q: Is the check result normal?
YES : Go to Step 3.
NO : Replace the sonar switch.

STEP 3. Resistance measurement at the C-103 sonar switch connector

(1) Disconnect the connector, and measure at the wiring harness side.
(2) Measure the resistance between sonar switch connector C-103 (terminal No. 2) and the body earth.

OK: Continuity exists (2 Ω or less)

Q: Is the check result normal?
YES : Go to Step 5.
NO : Go to Step 4.

STEP 4. Wiring harness check between the C-103 sonar switch connector (terminal No. 2) and the body earth

- Check the earth wire for open circuit.

Q: Is the check result normal?
YES : Retest the system.
NO : Repair the wiring harness.

STEP 5. Connector check: C-125 corner sensor/back sensor-ECU connector

Q: Is the check result normal?
YES : Go to Step 6.
NO : Repair the defective connector.

STEP 6. Wiring harness check between the C-103 sonar switch connector (terminal No. 1) and the C-125 corner sensor/back sensor-ECU connector (terminal No. 13)

<Incorrect>
<Correct>
2

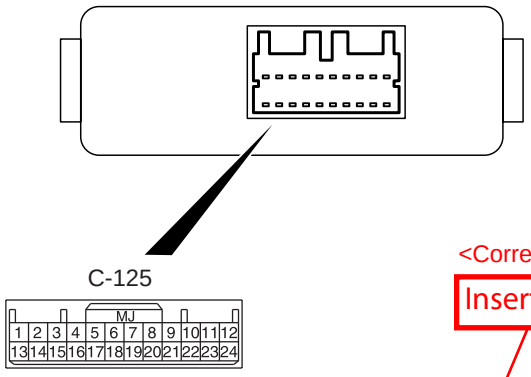
- Check the communication line for open circuit and short circuit.

Q: Is the check result norm
YES : Replace the corner sensor/back sensor-ECU.
NO : Repair the wiring harness.

Attached sheet 2 (6/8)

CHECK AT ECU TERMINALS

M1540701400294



<Correct>

Insert the attached sheet 2 (8/8)

AC900564AB

Terminal No.	Check item	Check condition <Incorrect>	Normal condition
1	• Back-up lamp switch "ON" position input <M/T> • Inhibitor switch "R" (reverse) position input <A/T or CVT> • Shift lever "R" (reverse) position input <TC-SST>	• Ignition switch to "ON" position. • Shift the selector or shift lever to any position other than "R" (reverse).	1 V or less
		• Ignition switch to "ON" position • Shift the selector or shift lever to "R" (reverse) position.	System voltage
3	Input of ignition switch (IG1) signal	Ignition switch: ON position	System voltage
6	Back sensor (RH)	• Ignition switch: ON position • Sonar switch (Corner sensor switch): ON	0V – Approximately 8V (40kHz pulse signal, emitted approx. every 125ms)
7	Corner sensor (rear: LH)	• Ignition switch: ON position • Sonar switch (Corner sensor switch): ON	0V – Approximately 8V (40kHz pulse signal, emitted approx. every 125ms)
8	Corner sensor (rear: RH)	• Ignition switch: ON position • Sonar switch (Corner sensor switch): ON	0V – Approximately 8V (40kHz pulse signal, emitted approx. every 125ms)
9	Back sensor (LH)	• Ignition switch: ON position • Sonar switch (Corner sensor switch): ON	0V – Approximately 8V (40kHz pulse signal, emitted approx. every 125ms)
10	Sensor earth	Ignition switch: ON position	1 V or less
11	Power supply to the ignition switch (IG1)	Ignition switch: ON position	System voltage
12	Reversing sensor indicator output	• Ignition switch: ON position • Sonar switch (Corner sensor switch) input: OFF	System voltage
		• Ignition switch: ON position • Sonar switch (Corner sensor switch) input: ON	1 V or less

<Incorrect>

Terminal No.	Check item	Check condition	Normal condition
13	Sonar switch (Corner sensor switch) input	• Ignition switch: ON position • Sonar switch (Corner sensor switch) input: OFF	System voltage
		• Ignition switch: ON position • Sonar switch (Corner sensor switch) input: ON	1 V or less
20	Earth	Always	1 V or less

<Correct>

17	• Back-up lamp switch "ON" position input <M/T> • Inhibitor switch "R" (reverse) position input <A/T or CVT> • Shift lever "R" (reverse) position input <TC-SST>	• Ignition switch to "ON" position. • Shift the selector or shift lever to any position other than "R" (reverse).	1 V or less
		• Ignition switch to "ON" position • Shift the selector or shift lever to "R" (reverse) position.	System voltage
24	Earth	Always	1 V or less

<Correct>

2	Sonar switch (Corner sensor switch) input	• Ignition switch: ON position • Sonar switch (Corner sensor switch) input: OFF	System voltage
		• Ignition switch: ON position • Sonar switch (Corner sensor switch) input: ON	1 V or less
3	Back sensor (LH)	• Ignition switch: ON position • Sonar switch (Corner sensor switch): ON	0 V – Approximately 8 V (40 kHz pulse signal, emitted approx. every 125 ms)
4	Back sensor (RH)	• Ignition switch: ON position • Sonar switch (Corner sensor switch): ON	0 V – Approximately 8 V (40 kHz pulse signal, emitted approx. every 125 ms)
5	Corner sensor (rear: LH)	• Ignition switch: ON position • Sonar switch (Corner sensor switch): ON	0 V – Approximately 8 V (40 kHz pulse signal, emitted approx. every 125 ms)
6	Corner sensor (rear: RH)	• Ignition switch: ON position • Sonar switch (Corner sensor switch): ON	0 V – Approximately 8 V (40 kHz pulse signal, emitted approx. every 125 ms)
11	Reversing sensor indicator output	• Ignition switch: ON position • Sonar switch (Corner sensor switch) input: OFF	System voltage
		• Ignition switch: ON position • Sonar switch (Corner sensor switch) input: ON	1 V or less
12	Sensor earth	Ignition switch: ON position	1 V or less
13	Power supply to the ignition switch (IG1)	Ignition switch: ON position	System voltage

Attached sheet 3

