MITSUBISHI MOTORS

# SERVICE BULLETIN

AFTERSALES SERVICE OFFICE, MITSUBISHI MOTORS CORPORATION

| | | |
|---|---|---|
| PURPOSE : CORRECTION | ISSUE NO. : MSB-08E27-502 | DATE : 2008-01-05 |
| SUBJECT : DATA LIST REFERENCE TABLE FOR ELECTRONIC CONTROL 4WD | | <MODEL> (EUR/RUSSIA) OUTLANDER (GS45X)(CW0W), LANCER (GS41)(CY0A) <M/Y> 07–08 |
| GROUP : REAR AXLE | | |

**1. Description:**

The data list reference table for the electronic control 4WD has been incorrect in the applicable Workshop Manuals. This Service Bulletin contains the corrected list.

**2. Applicable Manuals:**

See Attachment 1.

**3. Corrected Specifications:**

See Attachments 2 to 9.

Attachment 1

<EUR>

| Manual | Pub. No. | Title (Info-ID) | Attachment |
|---|---|---|---|
| 2007 OUTLANDER<br>Workshop Manual CD-ROM | CGXE07E1-CD<br>(English)<br>CGXS07E1-CD<br>(Spanish)<br>CGXF07E1-CD<br>(French)<br>CGXG07E1-CD<br>(German) | Data List Reference Table<br>(M274-00-100-03100-01) | Attachment 2–5 |
| 2008 OUTLANDER<br>Workshop Manual CD-ROM | CGXE08E2-CD<br>(English)<br>CGXS08E2-CD<br>(Spanish)<br>CGXF08E2-CD<br>(French)<br>CGXG08E2-CD<br>(German) | | |
| 2008 LANCER<br>Workshop Manual CD-ROM | CG1E08E2-CD<br>(English)<br>CG1S08E2-CD<br>(Spanish)<br>CG1F08E2-CD<br>(French)<br>CG1G08E2-CD<br>(German) | Data List Reference Table<br>(M274-00-100-05300-02) | Attachment 6–9 |

<RUSSIA>

| Underneath Manual | Underneath Pub. No. | Title (Info-ID) | Attachment |
|---|---|---|---|
| 2007 OUTLANDER<br>Workshop Manual CD-ROM | N/A | Data List Reference Table<br>(M274-00-100-03100-01) | Attachment 2–5 |
| 2008 OUTLANDER<br>Workshop Manual CD-ROM | N/A | | |
| 2008 LANCER<br>Workshop Manual CD-ROM | N/A | Data List Reference Table<br>(M274-00-100-05300-02) | Attachment 6–9 |

Attachment 2



## DATA LIST REFERENCE TABLE

M1274001000031

M.U.T.-III can read the following items among various control data (input data from each ECU and switch) used by the electronic control 4WD system.

<Marking area has been changed.>

<Incorrect>

### THE SYSTEM IS NORMAL.

| Item No. | Check items | Check conditions | | Normal conditions |
|---|---|---|---|---|
| 01 | Vehicle speed (4WD calculated value) | Perform a test run of the vehicle. | | The speedometer display and the M.U.T.-III display almost agree with each other. |
| 02 | Ignition power supply voltage | Ignition switch: ON | | 0 to 16 V |
| 03 | Coupling torque | Ignition switch: ON | | 0 to 1200 N·m |
| 04 | Coupling current (command value) | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | The current changes between 0 and 5 A. (Command value and actual value agree with each other.) |
| 05 | Coupling current (monitor value) | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | The current changes between 0 and 5 A. (Command value and actual value agree with each other.) |
| 06 | Coupling temperature | Perform a test run of the vehicle. | | 0 to 200°C |
| 07 | CAN system (ABS/ASC) | Ignition switch: ON | When ASC-ECU data is correctly received | OK |
| | | | When ASC-ECU data reception error occurs | No reception |
| 08 | CAN system (engine) | Ignition switch: ON | When engine-ECU data is correctly received | OK |
| | | | When engine-ECU data reception error occurs | No reception |
| 09 | CAN system (ETACS) | Ignition switch: ON | When ETACS-ECU data is correctly received | OK |
| | | | When ETACS-ECU data reception error occurs | No reception |
| 10 | 2WD SW | Ignition switch: ON | Drive mode selector: 2WD | OFF/ON |
| 11 | LOCK SW | Ignition switch: ON | Drive mode selector: LOCK | OFF/ON |

Attachment 3

**ELECTRONIC CONTROL 4WD**
**TROUBLESHOOTING**

| Item No. | Check items | Check conditions | | Normal conditions |
|---|---|---|---|---|
| 15 | 4WD mode | Ignition switch: ON | Shifting in progress | – |
| | | | 4WD LOW | |
| | | | 4WD HIGH | |
| | | | 2WD | |
| | | | Neutral | |
| | | | 4WD (part-time) | |
| 16 | FL wheel speed sensor | Perform a test run of the vehicle. Check that there is difference between the right wheel speed and the left wheel speed when the vehicle turns. | | The speedometer display and the M.U.T.-III display almost agree with each other. |
| 17 | FR wheel speed sensor | | | |
| 18 | RL wheel speed sensor | | | |
| 19 | RR wheel speed sensor | | | |
| 21 | Engine speed | Perform a test run of the vehicle. | | The tachometer display and the M.U.T.-III display almost agree with each other. |
| 23 | Ignition position | • LOCK<br>• OFF<br>• ACC<br>• ON<br>• START | | – |
| 24 | Engine torque | Perform a test run of the vehicle. | | The torque changes between 0 and 300 N·m. |
| 26 | Throttle position | Ignition switch: ON | Release the accelerator pedal. | Approximately 0% |
| | | | Gradually depress the accelerator pedal. | 0 – 100% |
| | | | Fully depress the accelerator pedal. | Approximately 100% (within 100%) |
| 28 | Limited torque | – | | 0 to 2500 N·m |

<Incorrect>

**SYSTEM SHUT-DOWN**
M.U.T.-III display data does not agree with the actual data when 4WD-ECU deactivates the 4WD control function by the fail-safe function.

<Replace with Attachment 4, 5>

Attachment 4



## DATA LIST REFERENCE TABLE

M.U.T.-III can read the following items among various control data (input data from each ECU and switch) used by the electronic control 4WD system.

**THE SYSTEM IS NORMAL.** <Marking area has been changed.> <Correct>

| Item No. | Check items | Check conditions | | Normal conditions |
|---|---|---|---|---|
| 01 | Vehicle speed (4WD calculated value) | Perform a test run of the vehicle. | | The speedometer display and the M.U.T.-III display almost agree with each other. |
| 02 | Ignition power supply voltage | Ignition switch: ON | | 0 to 16 V |
| 03 | Coupling torque | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | 0 to 730 N·m |
| 04 | Coupling current (command value) | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | The current changes between 0 and 5 A. (Command value and actual value agree with each other.) |
| 05 | Coupling current (monitor value) | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | The current changes between 0 and 5 A. (Command value and actual value agree with each other.) |
| 06 | Coupling temperature | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | 0 to 200°C<br>*NOTE: Due to road surface condition the load to coupling varies, thus the temperature indication changes.* |
| 07 | CAN system (ABS/ASC) | Ignition switch: ON | When ASC-ECU data is correctly received | OK |
| | | | When ASC-ECU data reception error occurs | No reception |
| 08 | CAN system (engine) | Ignition switch: ON | When engine-ECU data is correctly received | OK |
| | | | When engine-ECU data reception error occurs | No reception |

Attachment 5

## ELECTRONIC CONTROL 4WD
### TROUBLESHOOTING

| Item No. | Check items | Check conditions | | Normal conditions |
|---|---|---|---|---|
| 09 | CAN system (ETACS) | Ignition switch: ON | When ETACS-ECU data is correctly received | OK |
| | | | When ETACS-ECU data reception error occurs | No reception |
| 10 | 2WD SW | Ignition switch: ON | Drive mode selector: 2WD | ON |
| 11 | LOCK SW | Ignition switch: ON | Drive mode selector: LOCK | ON |
| 15 | 4WD mode | Ignition switch: ON | Drive mode selector: 2WD | 2WD |
| | | | Drive mode selector: 4WD | 4WD |
| | | | Drive mode selector: LOCK | 4WD LOCK |
| 16 | FL wheel speed sensor | Perform a test run of the vehicle. Check that there is difference between the right wheel speed and the left wheel speed when the vehicle turns. | | The speedometer display and the M.U.T.-III display almost agree with each other. |
| 17 | FR wheel speed sensor | | | |
| 18 | RL wheel speed sensor | | | |
| 19 | RR wheel speed sensor | | | |
| 21 | Engine speed | Perform a test run of the vehicle. | | The tachometer display and the M.U.T.-III display almost agree with each other. |
| 23 | Ignition position | ON | | ON |
| | | START | | START |
| 26 | Throttle position | Ignition switch: ON | Release the accelerator pedal. | Approximately 0% |
| | | | Gradually depress the accelerator pedal. | 0 – 100% |
| | | | Fully depress the accelerator pedal. | Approximately 100% (within 100%) |
| 28 | Limited torque | Perform a test run of the vehicle. | In case of traction control does not operate | – |
| | | | In case of traction control operates | 0 to 730 N·m |

### SYSTEM SHUT-DOWN

<Correct>

M.U.T.-III display data does not agree with the actual data when 4WD-ECU deactivates the 4WD control function by the fail-safe function.

<Item No.24 has been deleted.>

Attachment 6



## DATA LIST REFERENCE TABLE

M1274001000053

M.U.T.-III can read the following items among various control data (input data from each ECU and switch) used by the electronic control 4WD system.

<Marking area has been changed.>

<Incorrect>

### THE SYSTEM IS NORMAL.

| Item No. | Check items | Check conditions | | Normal conditions |
|---|---|---|---|---|
| 01 | Vehicle speed (4WD calculated) | Perform a test run of the vehicle. | | The speedometer display and the M.U.T.-III display almost agree with each other. |
| 02 | Ignition voltage | Ignition switch: ON | | 0 to 16 V |
| 03 | Coupling torque | Ignition switch: ON | | 0 to 730 N·m |
| 04 | Desired current of coupling | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | The current changes between 0 and 5 A. (Command value and actual value agree with each other.) |
| 05 | Monitored current of coupling | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | The current changes between 0 and 5 A. (Command value and actual value agree with each other.) |
| 06 | Temperature of coupling | Perform a test run of the vehicle. | | 0 to 200°C |
| 07 | CAN data (ABS/ASC) | Ignition switch: ON | When ABS/ASC-ECU data is correctly received | OK |
| | | | When ABS/ASC-ECU data reception error occurs | No reception |
| 08 | CAN data (engine) | Ignition switch: ON | When engine-ECU data is correctly received | OK |
| | | | When engine-ECU data reception error occurs | No reception |
| 09 | CAN data (ETACS) | Ignition switch: ON | When ETACS-ECU data is correctly received | OK |
| | | | When ETACS-ECU data reception error occurs | No reception |
| 10 | 2WD SW | Ignition switch: ON | Drive mode selector: 2WD | ON |
| 11 | LOCK SW | Ignition switch: ON | Drive mode selector: LOCK | ON |

Attachment 7

**ELECTRONIC CONTROL 4WD**
**TROUBLESHOOTING**

| Item No. | Check items | Check conditions | | Normal conditions |
|---|---|---|---|---|
| 15 | 4WD mode (output) | Ignition switch: ON | Drive mode selector: 2WD | 2WD |
| | | | Drive mode selector: 4WD | 4WD |
| | | | Drive mode selector: 4WD LOCK | 4WD LOCK |
| 16 | FL wheel speed sensor | Perform a test run of the vehicle. Check that there is difference between the right wheel speed and the left wheel speed when the vehicle turns. | | The speedometer display and the M.U.T.-III display almost agree with each other. |
| 17 | FR wheel speed sensor | | | |
| 18 | RL wheel speed sensor | | | |
| 19 | RR wheel speed sensor | | | |
| 21 | Engine RPM | Perform a test run of the vehicle. | | The tachometer display and the M.U.T.-III display almost agree with each other. |
| 23 | Ignition position | ON | | ON |
| | | START | | START |
| 24 | Engine torque | Perform a test run of the vehicle. | | The torque changes between 0 and 300 N·m. |
| 26 | APS | Ignition switch: ON | Release the accelerator pedal. | Approximately 0% |
| | | | Gradually depress the accelerator pedal. | 0 – 100% |
| | | | Fully depress the accelerator pedal. | Approximately 100% (within 100%) |
| 28 | Limited torque (ASC required) | Ignition switch: ON | Drive mode selector: 4WD or 4WD LOCK | 0 to 730 N·m |

<Incorrect>

**SYSTEM SHUT-DOWN**

M.U.T.-III display data does not agree with the actual data when 4WD-ECU deactivates the 4WD control function by the fail-safe function.

<Replace with Attachment 8, 9>

Attachment 8



## DATA LIST REFERENCE TABLE

M.U.T.-III can read the following items among various control data (input data from each ECU and switch) used by the electronic control 4WD system.

**THE SYSTEM IS NORMAL.** <Marking area has been changed.> <Correct>

| Item No. | Check items | Check conditions | | Normal conditions |
|---|---|---|---|---|
| 01 | Vehicle speed (4WD calculated value) | Perform a test run of the vehicle. | | The speedometer display and the M.U.T.-III display almost agree with each other. |
| 02 | Ignition power supply voltage | Ignition switch: ON | | 0 to 16 V |
| 03 | Coupling torque | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | 0 to 730 N·m |
| 04 | Coupling current (command value) | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | The current changes between 0 and 5 A. (Command value and actual value agree with each other.) |
| 05 | Coupling current (monitor value) | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | The current changes between 0 and 5 A. (Command value and actual value agree with each other.) |
| 06 | Coupling temperature | • Drive mode selector: 4WD<br>• Perform a test run of the vehicle. | | 0 to 200°C<br>*NOTE: Due to road surface condition the load to coupling varies, thus the temperature indication changes.* |
| 07 | CAN system (ABS/ASC) | Ignition switch: ON | When ABS/ASC-ECU data is correctly received | OK |
| | | | When ABS/ASC-ECU data reception error occurs | No reception |
| 08 | CAN system (engine) | Ignition switch: ON | When engine-ECU data is correctly received | OK |
| | | | When engine-ECU data reception error occurs | No reception |

Attachment 9

**ELECTRONIC CONTROL 4WD**
**TROUBLESHOOTING**

| Item No. | Check items | Check conditions | | Normal conditions |
|---|---|---|---|---|
| 09 | CAN system (ETACS) | Ignition switch: ON | When ETACS-ECU data is correctly received | OK |
| | | | When ETACS-ECU data reception error occurs | No reception |
| 10 | 2WD SW | Ignition switch: ON | Drive mode selector: 2WD | ON |
| 11 | LOCK SW | Ignition switch: ON | Drive mode selector: LOCK | ON |
| 15 | 4WD mode | Ignition switch: ON | Drive mode selector: 2WD | 2WD |
| | | | Drive mode selector: 4WD | 4WD |
| | | | Drive mode selector: LOCK | 4WD LOCK |
| 16 | FL wheel speed sensor | Perform a test run of the vehicle. Check that there is difference between the right wheel speed and the left wheel speed when the vehicle turns. | | The speedometer display and the M.U.T.-III display almost agree with each other. |
| 17 | FR wheel speed sensor | | | |
| 18 | RL wheel speed sensor | | | |
| 19 | RR wheel speed sensor | | | |
| 21 | Engine speed | Perform a test run of the vehicle. | | The tachometer display and the M.U.T.-III display almost agree with each other. |
| 23 | Ignition position | ON | | ON |
| | | START | | START |
| 26 | Throttle position | Ignition switch: ON | Release the accelerator pedal. | Approximately 0% |
| | | | Gradually depress the accelerator pedal. | 0 – 100% |
| | | | Fully depress the accelerator pedal. | Approximately 100% (within 100%) |
| 28 | Limited torque | Perform a test run of the vehicle. | In case of traction control does not operate | – |
| | | | In case of traction control operates | 0 to 730 N·m |

**SYSTEM SHUT-DOWN**

<Correct>

M.U.T.-III display data does not agree with the actual data when 4WD-ECU deactivates the 4WD control function by the fail-safe function.

<Item No.24 has been deleted.>