MITSUBISHI MOTORS

SERVICE BULLETIN

AFTERSALES SERVICE OFFICE, MITSUBISHI MOTORS CORPORATION

PURPOSE : CORRECTION	ISSUE NO. : MSB-08E27-502A	DATE : 2009-04-05
SUBJECT : DATA LIST REFERENCE TABLE FOR ELECTRONIC CONTROL 4WD		<MODEL> (EUR/RUSSIA) OUTLANDER (GS45X)(CW0W), LANCER (GS41)(CY0A) <M/Y> 07–10
GROUP : REAR AXLE		

1. Description:

There have been some errors in the data list reference table for electronic control 4WD. This Service Bulletin contains the correct descriptions.

2. Applicable Manuals:

See Attached sheet 1.

There may be some attached sheets not included in this Service Bulletin because they are not applicable to your market. Their sheet numbers are not listed in the above table.

3. Corrected Specifications:

See Attached sheets 3, 4, 7, 8 and 17.

Attached sheet 1

<EUR>

Manual	Pub. No.	Title (Info-ID)	Attached Sheet
2007 OUTLANDER Workshop Manual CD-ROM	CGXE07E1-CD (English) CGXS07E1-CD (Spanish) CGXF07E1-CD (French) CGXG07E1-CD (German)	Data List Reference Table (M274-00-100-03100-01)	Attached sheet 3, 4
2008 OUTLANDER Workshop Manual CD-ROM	CGXE08E2-CD (English) CGXS08E2-CD (Spanish) CGXF08E2-CD (French) CGXG08E2-CD (German)		
2009 OUTLANDER Workshop Manual CD-ROM	CGXE09E1-CD (English) CGXS09E1-CD (Spanish) CGXF09E1-CD (French) CGXG09E1-CD (German) CGXI09E1-CD (Italian)	Data List Reference Table (M274-00-100-12700-01)	Attached sheet 17
2008 LANCER Workshop Manual CD-ROM	CG1E08E2-CD (English) CG1S08E2-CD (Spanish) CG1F08E2-CD (French) CG1G08E2-CD (German)	Data List Reference Table (M274-00-100-05300-02)	Attached sheet 7, 8
2009 LANCER Workshop Manual CD-ROM	CG1E09E1-CD (English) CG1S09E1-CD (Spanish) CG1F09E1-CD (French) CG1G09E1-CD (German) CG1I09E1-CD (Italian)		
2010 LANCER Workshop Manual CD-ROM	CG1E00E1-CD (English) CG1S00E1-CD (Spanish) CG1F00E1-CD (French) CG1G00E1-CD (German) CG1I00E1-CD (Italian)	Data List Reference Table (M274-00-100-12700-01)	Attached sheet 17

<RUSSIA>

Underneath Manual	Underneath Pub. No.	Title (Info-ID)	Attached Sheet
2007 OUTLANDER Workshop Manual CD-ROM	N/A	Data List Reference Table (M274-00-100-03100-01)	Attached sheet 3, 4
2008 OUTLANDER Workshop Manual CD-ROM	N/A		
2009 OUTLANDER Workshop Manual CD-ROM	N/A	Data List Reference Table (M274-00-100-12700-01)	Attached sheet 17
2008 LANCER Workshop Manual CD-ROM	N/A	Data List Reference Table (M274-00-100-05300-02)	Attached sheet 7, 8
2009 LANCER Workshop Manual CD-ROM	N/A		
2010 LANCER Workshop Manual CD-ROM	N/A	Data List Reference Table (M274-00-100-12700-01)	Attached sheet 17

Attached sheet 3 (1/2)

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.>

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 • 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 • 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

Attached sheet 3 (2/2)

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 • OFF • ACC • ON • 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

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 Attached sheet 4>

Attached sheet 4 (1/2)

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.>

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 • Perform a test run of the vehicle.		0 to 730 N·m
04	Coupling current (command value)	• Drive mode selector: 4WD • 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 • 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 • Perform a test run of the vehicle.		0 to 200°C *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

Attached sheet 4 (2/2)

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

A <Vehicles with ASC>

Usually A

A When ASC works and 4WD-ECU limits the torque in cooperation control with ASC
NOTE: Electronic control 4WD will limit occasionally the rear wheel transmission torque in cooperation control with ASC. When this limit is applied, the limited torque will be shown.

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.

<Item No.24 has been deleted.>

Attached sheet 7 (1/2)

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.>

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 • 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 • 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

Attached sheet 7 (2/2)

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

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 Attached sheet 8>

Attached sheet 8 (1/2)

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.>

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 • Perform a test run of the vehicle.		0 to 730 N·m
04	Coupling current (command value)	• Drive mode selector: 4WD • 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 • 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 • Perform a test run of the vehicle.		0 to 200°C *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

Attached sheet 8 (2/2)

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

Ⓐ <Vehicles with ASC>

Usually Ⓐ

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.

<Item No.24 has been deleted.>

Ⓐ When ASC works and 4WD-ECU limits the torque in cooperation control with ASC

NOTE: Electronic control 4WD will limit occasionally the rear wheel transmission torque in cooperation control with ASC. When this limit is applied, the limited torque will be shown.

Attached sheet17

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
			Drive mode selector: 4WD	OFF
			Drive mode selector: LOCK	OFF
11	LOCK SW	Ignition switch: ON	Drive mode selector: LOCK	ON
			Drive mode selector: 2WD	OFF
			Drive mode selector: 4WD	OFF
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 <Added> <Vehicles with ASC>	Ignition switch: ON	Release the accelerator pedal.	Approximately 0%
			Gradually depress the accelerator pedal.	0 – 100%
			Fully depress the accelerator pedal. Usually <Correct>	Approximately 100% (within 100%)
28	Limited torque	Perform a test run of the vehicle.	~~In case of traction control does not operate~~ <Incorrect>	–
			~~In case of traction control operates~~ <Incorrect>	0 to 730 N·m

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.

<Correct> When ASC works and 4WD-ECU limits the torque in cooperation control with ASC

NOTE: Electronic control 4WD will limit occasionally the rear wheel transmission torque in cooperation control with ASC. When this limit is applied, the limited torque will be shown.