

GROUP 23 – AUTOMATIC TRANSMISSION

BULLETIN No.	SUBJECT	MODEL
23/2003/001	Workshop manual correction	CH Lancer
23/2002/001	Correction to Hydraulic Pressure Chart	NM Pajero



MITSUBISHI

SERVICE BULLETIN

GROUP: 23 – Automatic trans

DATE: December 2003

NO. 23/2003/001

MODEL: CH Lancer

SUBJECT: Correction to workshop manual

COUNTRIES:

Australia

R.I.WYATT
MANAGER - AFTERSALES
TECHNICAL SUPPORT

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Bulletin Consists of 3 Pages

The purpose of this bulletin is to advise of a correction to the information supplied in the CH Lancer workshop manual relating to the operation and features of the automatic transmission.

Affected workshop Manual (CD-R)

Manual	Pub. No.	Page
2004 LANCER WORKSHOP MANUAL CD-R (CHASSIS)	MR929939	23B-2, 4

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SERVICE MANAGER FOR ACTION/DISTRIBUTION.

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GENERAL

OUTLINE OF CHANGES

Since the following changes have been made to vehicles with 4G94 engine, service procedures which are different from conventional service procedures have been established.

- Specifications have been changed. <<DELETED>>
- A steering shift switch and a downshift inhibitor buzzer have been added. <Vehicles with sport mode>
- A selector lever with boot has been adopted. <vehicles with sport mode>

SPECIFICATIONS

Item		Specification
Transmission model		F4A4B-1-J1Z
Engine model		4G94-MPI
Torque converter	Type	3-element, 1-stage, 2-phase type
	Lock-up	Provided
	Stall torque ratio	2.1
Transmission type		4 forward speeds, 1 reverse speed, fully automatic
Transmission gear ratio	1st	2.842
	2nd	1.529
	3rd	1.000
	4th	0.712
	Reverse	2.480
Final reduction ratio (Differential gear ratio)		4.041

TROUBLESHOOTING <Vehicles with sport mode>

INSPECTION CHART FOR TROUBLE SYMPTOMS

Trouble Symptom	Reference page
Steering shift switch system	23B-2
Downshift inhibitor buzzer	54B*

NOTE

The ETACS-ECU controls the downshift inhibitor buzzer. For troubleshooting refer to GROUP 54B - Troubleshooting.

INSPECTION PROCEDURES FOR TROUBLE SYMPTOMS

<DELETED>

*: Refer to LANCER 2001 Workshop Manual chassis Volume 2 (Pub. No. PWME0021 2/2).

Steering shift switch system	Possible causes
The cause is probably a malfunction of the steering shift switch system circuit and the engine-A/T-ECU.	<ul style="list-style-type: none"> • Malfunction of steering shift switch assembly • Malfunction of inhibitor switch system • Damaged harness wires and connectors • Malfunction of the engine-A/T-ECU

DATA LIST REFERENCE TABLE

Data list No.	Check item	Inspection conditions		Normal condition
70	Steering shift switch	Ignition switch: ON Engine: Stopped	Steering shift switch (up): ON Steering shift switch (down): OFF	3,400 – 3,600 mV
			Steering shift switch (up): OFF Steering shift switch (down): ON	2,300 – 2,500 mV
			Steering shift switch (up): OFF Steering shift switch (down): OFF	4,900 – 5,000 mV

ACTUATOR TEST JUDGEMENT VALUE

Item No.	Check item	Test contents	Inspection conditions	Normal condition
15	Downshift inhibitor buzzer	The engine A/T-ECU makes the ETACS ECU sound the downshift inhibitor buzzer.	Ignition switch: ON Selector lever position: P Engine: Stopped Accelerator pedal: released Fail-safe mode: deactivated	Buzzer sounds.

CHECK AT A/T-ECU TERMINALS

<DELETED>

1	2	3	4			5	6	7	8	41	42	43			44	45	46	71	72	73	74			75	76	77	101	102	103	104			105	106	107																								
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	78	79	80	81	82	83	84	85	86	87	88	89	108	109	110	111	112	113	114	115	116	117	118	119	120
24	25	26	27	28	29	30	31	32	33	34	35	58	59	60	61	62	63	64	65	66	90	91	92	93	94	95	96	97	98	121	122	123	124	125	126	127	128	129	130																				

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Ter-minal No.	Check item	Inspection conditions	Standard value
125	Steering shift switch	Ignition switch: ON Steering shift switch (up): ON Steering shift switch (down): OFF	3.4 – 3.6 V
		Ignition switch: ON Steering shift switch (up): OFF Steering shift switch (down): ON	2.3 – 2.4 V
		Ignition switch: ON Steering shift switch (up): OFF Steering shift switch (down): OFF	4.9 – 5.0 V
128	Downshift inhibitor buzzer	The engine A/T-ECU has made the ETACS ECU sound the downshift inhibitor buzzer (using MUT-II actuator test function).	1 V or less

<DELETED>



**MITSUBISHI MOTORS
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A.C.N. 067 570 995

SERVICE BULLETIN

GROUP: 23—Auto Transmission

DATE: January 2002

NO. 23/2002/001

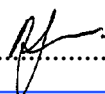
MODEL: NM Pajero

SUBJECT: Correction to Hydraulic Pressure Chart

COUNTRIES:

Australia

R.I.WYATT
MANAGER - WARRANTY &
TECHNICAL PUBLICATIONS

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Bulletin Consists of 3 Pages

The purpose of this bulletin is to advise that a change has been made to the automatic transmission Standard Hydraulic Pressure Table.

Applicable Manual:

Manual	Publication	Page
PAJERO 2001 Workshop Manual Vol 1	PWJE0005 (1/2)	23—124, 125

The attached pages should be used to ensure that your workshop manuals are updated to reflect the correct information.

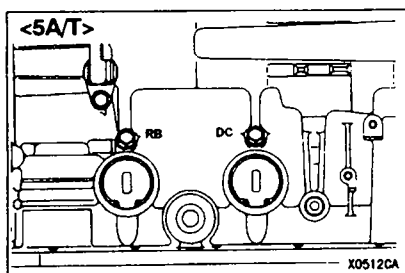
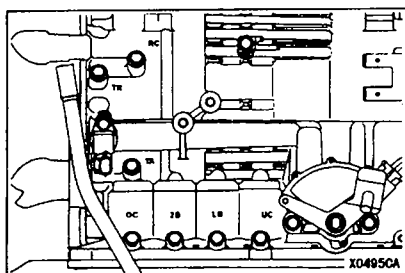
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3. Details:

23-124

AUTOMATIC TRANSMISSION – On-vehicle Service



FLUID PRESSURE TEST

- (1) Let the engine warm up until the ATF temperature is 70 – 80°C.
- (2) Jack up the vehicle so that the tires can spin freely.
- (3) Install the special tool (MD998330: 2,992 kPa oil pressure gauge) and the adapters (MD998332, MD998900) to each hydraulic pressure outlet port.
- (4) Measure the various hydraulic pressures under the conditions given in the standard hydraulic pressure table, and check that the measurements are within the standard value ranges.
- (5) If the measurements are outside the standard value range, remedy the problem while referring to the hydraulic pressure test diagnosis table.

NOTE

RC : Reverse clutch pressure port
 TR : Torque converter pressure port
 TA : Damper clutch pressure port
 OC : Overdrive clutch pressure port
 2B : Second brake pressure port
 LB : Low & brake pressure port
 UC : Underdrive clutch pressure port
 RB : Reduction brake pressure port <5A/T>
 DC : Direct clutch pressure port <5A/T>

STANDARD HYDRAULIC PRESSURE TABLE

<4A/T>

<Incorrect>

Measurement conditions			Standard hydraulic pressure kPa					
Shift lever position	Shift range position	Engine speed r/min	Underdrive clutch pressure [UD pressure]	Reverse clutch pressure [RC pressure]	Overdrive clutch pressure [OD pressure]	Low & brake pressure [LR pressure]	Second brake pressure [2nd pressure]	Torque converter pressure [DR pressure]
P	-	2,500	-	-	-	260 - 340	-	500 - 700
R	Reverse	2,500	-	1,270 - 1,770	-	1,270 - 1,770	-	500 - 700
N	-	2,500	-	-	-	260 - 340	-	500 - 700
L	1st	2,500	1,010 - 1,050	-	-	1,010 - 1,050	-	500 - 700
2	2nd	2,500	1,010 - 1,050	-	-	-	1,010 - 1,050	500 - 700
3	3rd	2,500	784 - 882	-	784 - 882	-	-	-
D	4th	2,500	-	-	784 - 882	-	784 - 882	-

<Correct>

Measurement conditions			Standard hydraulic pressure kPa					
Selector lever position	Shift range position	Engine speed r/min	Underdrive clutch pressure [UC]	Reverse clutch pressure [RC]	Overdrive clutch pressure [OC]	Low & reverse brake pressure [LB]	Second brake pressure [2B]	Torque converter pressure [TR]
P	-	2,500	-	-	-	260 - 340	-	220 - 360
R	Reverse	2,500	-	1,270 - 1,770	-	1,270 - 1,770	-	650 - 850
N	-	2,500	-	-	-	260 - 340	-	220 - 360
Sports mode	1st	2,500	1,010 - 1,050	-	-	1,010 - 1,050	-	650 - 850
	2nd	2,500	1,010 - 1,050	-	-	-	1,010 - 1,050	650 - 850
	3rd	2,500	780 - 880	-	780 - 880	-	-	-
	4th	2,500	-	-	780 - 880	-	780 - 880	-

<5A/T>

<Incorrect>

Measurement conditions			Standard hydraulic pressure kPa							
Selector lever position	Shift range position	Engine speed (r/min)	Underdrive clutch pressure [UD pressure]	Reverse clutch pressure [RC pressure]	Overdrive clutch pressure [OD pressure]	Direct clutch pressure port [DIR pressure]	Low & brake pressure [LR pressure]	Second brake pressure [2ND pressure]	Reduction brake pressure [RB pressure]	Torque converter pressure [TR pressure]
P	-	2,500	-	-	-	-	260 - 340	-	1,010 - 1,050	500 - 700
R	Reverse	2,500	-	1,270 - 1,770	-	-	1,270 - 1,770	-	1,270 - 1,770	500 - 700
N	-	2,500	-	-	-	-	260 - 340	-	260 - 340	500 - 700
Sports mode	1st	2,500	1,010 - 1,050	-	-	-	1,010 - 1,050	-	1,010 - 1,050	500 - 700
	2nd	2,500	1,010 - 1,050	-	-	-	-	1,010 - 1,050	1,010 - 1,050	500 - 700
	3rd	2,500	784 - 882	-	784 - 882	-	-	-	784 - 882	450 - 650
	4th	2,500	784 - 882	-	784 - 882	784 - 882	-	-	-	-
	5th	2,500	784 - 882	-	784 - 882	784 - 882	-	784 - 882	-	-

HYDRAULIC PRESSURE TEST DIAGNOSIS TABLE

Symptom	Problem location
All hydraulic pressures are too high	Malfunction of regulator valve
All hydraulic pressures are too low	Malfunction of oil pump Blocked oil filter Blocked oil cooler Malfunction of regulator valve Malfunction of relief valve Incorrect valve body installation
Abnormal hydraulic pressure in R range only	Malfunction of regulator valve
Abnormal hydraulic pressure in 3rd or 4th only	Malfunction of regulator valve Malfunction of switch bulb
Abnormal UD pressure only	Malfunction of oil seal K, L, M or Q Malfunction of underdrive solenoid valve Malfunction of underdrive pressure control valve Abnormality with check ball Blocked orifices Incorrect valve body installation
Abnormal REV pressure only	Malfunction of oil seal A, B or C Abnormality with check ball Blocked orifices Incorrect valve body installation
Abnormal OD pressure only	Malfunction of oil seal D, E or F Malfunction of overdrive solenoid valve Malfunction of overdrive pressure control valve Abnormality with check ball Blocked orifices Incorrect valve body installation

<Correct>

Measurement conditions			Standard hydraulic pressure kPa							
Selector lever position	Shift range position	Engine speed r/min	Underdrive clutch pressure [UC]	Reverse clutch pressure [RC]	Overdrive clutch pressure [OC]	Direct clutch pressure [DC]	Low & reverse brake pressure [LB]	Second brake pressure [2B]	Reduction brake pressure [RB]	Torque converter pressure [TR]
P	-	2,500	-	-	-	-	260 - 340	-	260 - 340	220 - 360
R	Reverse	2,500	-	1,270 - 1,770	-	-	1,270 - 1,770	-	1,270 - 1,770	650 - 850
N	-	2,500	-	-	-	-	260 - 340	-	260 - 340	220 - 360
Sports mode	1st	2,500	1,010 - 1,050	-	-	-	1,010 - 1,050	-	1,010 - 1,050	650 - 850
	2nd	2,500	1,010 - 1,050	-	-	-	-	1,010 - 1,050	1,010 - 1,050	650 - 850
	3rd	2,500	780 - 880	-	780 - 880	-	-	-	780 - 880	650 - 850
	4th	2,500	780 - 880	-	780 - 880	780 - 880	-	-	-	-
	5th	2,500	-	-	780 - 880	780 - 880	-	780 - 880	-	-