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Reference Value

M.U.T.-III SE DATA MONITOR STANDARD VALUE

- In M.U.T.-III SE, electric shift timing or lock-up timing, i.e. operation timing of each solenoid valve, is displayed. Therefore, if there is an obvious difference between the shift timing estimated from a shift shock (or engine speed variations) and that shown on the M.U.T.-III SE, the mechanism parts (including the hydraulic circuit) excluding the solenoids and sensors may be malfunctioning. In this case, check the mechanical parts following the appropriate diagnosis procedure.
- Shift point (gear position) displayed on M.U.T.-III SE slightly differs from shift pattern described in Service Manual. This is due to the following reasons.
  - Actual shift pattern may vary slightly within specified tolerances.
  - While shift pattern described in Service Manual indicates start of each shift, M.U.T.-III SE shows gear position at end of shift.
  - The solenoid display (ON/OFF) on M.U.T.-III SE is changed at the start of gear shifting. In contrast, the gear position display is changed at the time when gear shifting calculated in the control unit is completed.

note	The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to M.U.T.-III SE display items.

Monitor item	Condition	Value/Status (Approx.)
L POSITION SW	Always	Off
SPORT MODE SW	Always	Off
ECO MODE SW	Always	Off
SPORT MODE IND	Always	Off
MANU MODE SIGNAL	Driving with manual mode	On
	Other than the above	Off
Ds mode signal*	—	—
ECO MODE SIGNAL	Always	Off
M GEAR POS	Manual mode: 1st – 8th	1 to 8

Monitor item	Condition	Value/Status (Approx.)
ENGBRKLVL	When the engine brake level of “ENGINE BRAKE ADJ”. in “Special Function” is ON	On
	When the engine brake level of “ENGINE BRAKE ADJ”. in “Special Function” is OFF	Off
AIR BLDING STATE	Always	COMP
2WD/4WD identification	—	2WD/4WD
T/M warning indicator DTC	Ignition switch ON	Displays the first DTC when CVT system warning is displayed.
T/M warning indicator mileage	Ignition switch ON	Displays the total mileage when CVT system warning is displayed at first time.
D POSITION SW	Sift position: “D” position	On
	Other than the above	Off
N POSITION SW	Sift position: “N” position	On
	Other than the above	Off
R POSITION SW	Sift position: “R” position	On
	Other than the above	Off
P POSITION SW	Sift position: “P” position	On
	Other than the above	Off
IDLE SW	Accelerator pedal is released	On
	Accelerator pedal is fully depressed	Off
STRDWNSW	Paddle shifter (-) is pulled	On
	Other than the above	Off
STRUPSW	Paddle shifter (+) is pulled	On
	Other than the above	Off
DOWNLVR	Always	Off
UPLVR	Always	Off
NONMMODE	Always	On

Monitor item	Condition	Value/Status (Approx.)
MMODE	Always	Off
Tow mode switch	Always	Off
CVT LIGHT	Always	Off
ASC ON	ASC is activated	On
	Other than the above	Off
TCS ON	TCS is activated	On
	Other than the above	Off
ABS FAIL SIGNAL	When ABS malfunction signal is received	On
	Other than the above	Off
ABS ON	ABS is activated	On
	Other than the above	Off
G SEN CALIBRATION	When G sensor calibration is completed	DONE
	When G sensor calibration is not completed	YET
N IDLE STATUS	Always	Off
SNOW MODE	Always	Off
ECO MODE	Always	Off
NORMAL MODE	Always	Off
SPORT MODE	Always	Off
ELECTRIC OP RELAY	Always	Off
E-OP RELAY MON	Always	Off
Exchange transmission*	—	—
Exchange oil pressure C/V*	—	—
CVTF DETERIORATION DATE*	—	—
Select - Initial learning temp*	—	—
Lock-up - Initial learning temp*	—	—
Select (N-D) - Initial learn press*	—	—

Monitor item	Condition	Value/Status (Approx.)
Select (N-D) - Initial learn time*	—	—
Select (N-R) - Initial learn press*	—	—
Select (N-R) - Initial learn time*	—	—
Lock-up - Initial learning 1*	—	—
SLIP REV	While driving	Engine speed − Input speed
ELECTRIC OP DUTY	Always	0%
E-OP DUTY MON	Always	0%
Slip revolution absolute value*	—	—
Target transmission speed*	—	—
Input speed sensor	In driving (lock-up ON)	Approximately matches the engine speed.
PRI SPEED SEN	In driving (lock-up ON)	Approximately matches the engine speed.
SEC REV SENSOR	While driving	VSP SENSOR × 40
ENG SPEED SIG	Engine running	Almost same reading as tachometer
SEC PRESSURE SEN	• After engine warm up • Shift position: “N” position • At idle	1.2 – 1.3V
PRI PRESSURE SEN	• After engine warm up • Shift position: “N” position • At idle	0.7 – 0.9V
ATF TEMP SEN	CVT fluid: Approx. 20°C (68°F)	2.01 – 2.05 V
	CVT fluid: Approx. 50°C (122°F)	1.45 – 1.50 V
	CVT fluid: Approx. 80°C (176°F)	0.90 – 0.94 V

Monitor item	Condition	Value/Status (Approx.)
G SENSOR	• Vehicle stopped • Vehicle is level	0 G
	During acceleration	The value changes to the positive side along with acceleration.
	During deceleration	The value changes to the positive side along with deceleration.
TRQ RTO	While driving	The value changes along with acceleration/deceleration.
G sensor (TCM)	Always	0 V
BRAKESW	Brake pedal is depressed	On
	Brake pedal is released	Off
SHIFT IND SIGNAL	When the selector lever is positioned in between each position.	OFF
	Shift position: P position	P
	Shift position: R position	R
	Shift position: N position	N
	Shift position: D position	D
	Manual mode: 1st	M1
	Manual mode: 2nd	M2
	Manual mode: 3rd	M3
	Manual mode: 4th	M4
	Manual mode: 5th	M5
	Manual mode: 6th	M6
	Manual mode: 7th	M7
	Manual mode: 8th	M8

Monitor item	Condition	Value/Status (Approx.)
RANGE	Shift position: P and N positions	N/P
	Shift position: R position	R
	Shift position: D position	D
	Shift position: M position	
VSP SENSOR	While driving	Almost same as the speedometer display.
ESTM VSP SIG	While driving	Almost same as the speedometer display.
VIGN SEN	Ignition switch: ON	10.0 – 16.0 V
PVIGN VOLT	Ignition switch: ON	10.0 – 16.0 V
VEHICLE SPEED	While driving	Almost same as the speedometer display.
INPUT REV	In driving (lock-up ON)	Almost same as the engine speed.
PRI SPEED	In driving (lock-up ON)	Approximately matches the engine speed.
SEC SPEED	While driving	VSP SENSOR × 40
ENG SPEED	Engine running	Almost same reading as tachometer
PULLEY GEAR RATIO	In driving (forward)	2.63 − 0.38
	In driving (reverse)	2.63
G SPEED	Vehicle stopped	0.00 G
	During acceleration	The value changes to the positive side along with acceleration.
	During deceleration	The value changes to the positive side along with deceleration.
ACCEL POSI SEN 1	Accelerator pedal released	0.00 deg
	Accelerator pedal fully depressed	80.00 deg

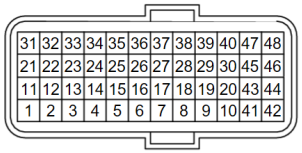
Monitor item	Condition	Value/Status (Approx.)
VENG TRQ	While driving	The value changes along with acceleration/deceleration.
PRI TRQ	While driving	The value changes along with acceleration/deceleration.
SEC PRESSURE	• After engine warm up • Shift position: “N” position • At idle	1.100 MPa
PRI PRESSURE	• After engine warm up • Shift position: “N” position • At idle	0.500 MPa
FLUID TEMP	Ignition switch ON.	Displays the CVT fluid temperature.
DSR REV	While driving	It varies along with the driving condition.
TRGT GEAR RATIO	In driving (forward)	2.63 − 0.38
	In driving (reverse)	2.63
LU PRS	• Engine started • Vehicle is stopped.	−0.50 MPa
	• Shift position: “D” position • Accelerator pedal position: 1/8 or less • Vehicle speed: 20 km/h (12 MPH) or more	0.6 MPa

Monitor item	Condition	Value/Status (Approx.)
LINE PRS	• After engine warm up • Shift position: “N” position • At idle	1.100 MPa
	• After engine warm up • Sift position: “N” position • Depress the accelerator pedal fully	5.750 – 6.000 MPa
TRGT PRI PRESSURE	• After engine warm up • Sift position: “N” position • At idle	0.500 MPa
Target select pressure	• After engine warm up • Sift position: “N” position • At idle	0.000 MPa
TARGET SEC PRESSUR	• After engine warm up • Sift position: “N” position • At idle	1.100 MPa
ISOLT1	—	—
ISOLT2	—	—
PRI SOLENOID	—	—
SEC SOLENOID CURRENT	—	—
SELECT SOLENOID CURRENT	—	—
SOLMON1	—	—
SOLMON2	—	—
PRI SOL MON	—	—

Monitor item	Condition	Value/Status (Approx.)
SEC SOL MON CURRENT	—	—
SELECT SOL MON CURRENT	—	—
G SEN SLOPE	Flat road	0%
	Uphill gradient	The value changes to the positive sidealong with uphill gradient. (Maximum40.45%)
	Downhill gradient	The value changes to the negative sidealong with downhill gradient. (Minimum −40.45%)
CVT-B*	—	—
CVT-A*	—	—

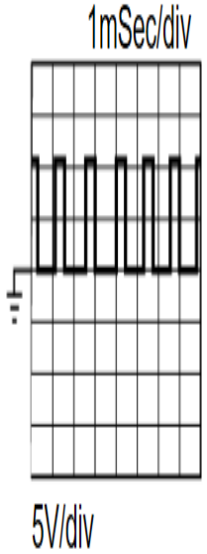
*: This monitor items does not use.

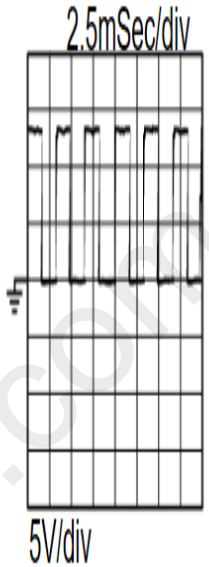
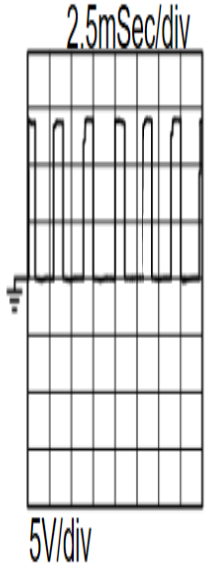
TERMINAL LAYOUT

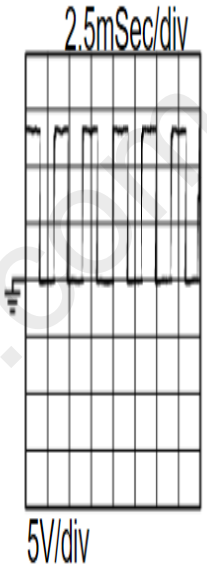


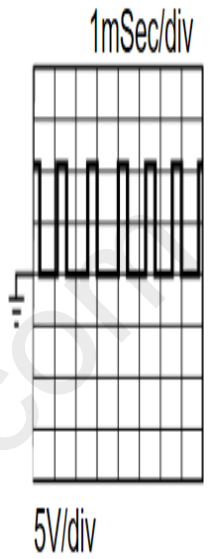
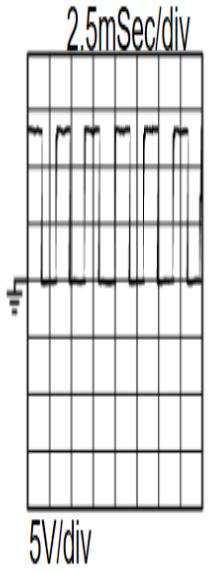
INPUT/OUTPUT SIGNAL STANDARD

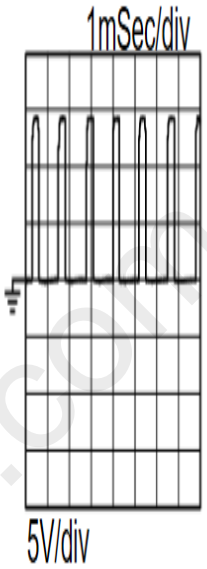
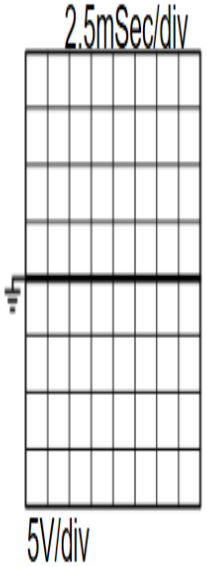
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	−	Signal	Input/Output			
2* (BR)	Ground	—	—	Ignition switch ON	—	—
4 (W)	Ground	D position switch	Input		Shift position: “D” position	10 − 16 V
					Other than the above	0 V
5 (Y)	Ground	N position switch	Input		Shift position: “N” position	10 − 16 V
					Other than the above	0 V
6 (G)	Ground	R position switch	Input		Shift position: “R” position	10 − 16 V
					Other than the above	0 V
7 (L)	Ground	P position switch	Input		Shift position: “P” position	10 − 16 V
					Other than the above	0 V
8 (GR)	—	CAN-H	Input/Output	—		—
9 (R)	—	CAN-L	Input/Output	—		—
11 (Y)	Ground	Sensor ground	—	Always		0 V
12 (SB)	Ground	CVT fluid temperature sensor	Input	Ignition switch ON	CVT fluid: Approx. 20°C (68°F)	2.01 – 2.05 V
					CVT fluid: Approx. 50°C (122°F)	1.45 – 1.50 V
					CVT fluid: Approx. 80°C 176°F)	0.90 – 0.94 V

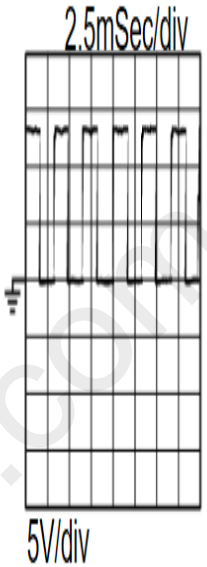
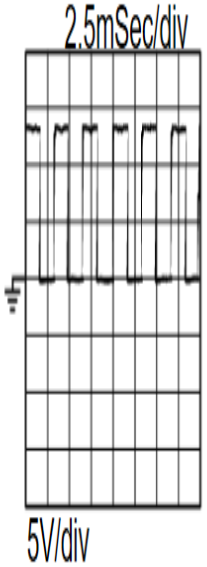
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	−	Signal	Input/Output		
16 (P)	Ground	Secondary pressure sensor	Input	• Shift position: “N” position • At idle	1.2 – 1.3 V
17 (BR)	Ground	Primary pressure sensor	Input	• Shift position: “N” position • At idle	0.70 – 0.85 V
23 (R)	—	CAN-L	Input/Output	—	—
24 (V)	Ground	Input speed sensor	Input	• Shift position: “M1” position • Vehicle speed: 20 km/h (12 MPH)	880 Hz 
26 (R)	Ground	Sensor power supply	Output	Ignition switch: ON	5.0 V
				Ignition switch: OFF	0 V

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	−	Signal	Input/Output		
30 (Y)	Ground	Line pressure solenoid valve	Output	• After engine warming up • Shift position: “N” position • At idle	
				• After engine warming up • Shift position: “N” position • Depress the accelerator pedal fully	

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	−	Signal	Input/Output		
33 (GR)	—	CAN-H	Input/Output	—	—
34 (R)	Ground	Output speed sensor	Input	• Shift position: “M1” position • Vehicle speed: 20 km/h (12 MPH)	200 Hz 
35 (BG)	Ground	Primary speed sensor	Input	• Shift position: “M1” position • Vehicle speed: 20 km/h (12 MPH)	700 Hz

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	−	Signal	Input/Output		
					
37 (L)	Ground	Select solenoid valve	Output	• Engine started • Vehicle is stopped • Shift position: “N” position	

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	−	Signal	Input/Output		
38 (LG)	Ground	Torque converter clutch solenoid valve	Output	• Shift position: “D” position • Accelerator pedal position: 1/8 or less • Vehicle speed: 20 km/h (12 MPH) or more	
				• Engine started • Vehicle is stopped	

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	−	Signal	Input/Output		
39 (G)	Ground	Secondary pressure solenoid valve	Output	• Shift position: “M1” position • Vehicle speed: 20 km/h (12 MPH)	
40 (W)	Ground	Primary pressure solenoid valve	Output	• Shift position: “M1” position • Vehicle speed: 20 km/h (12 MPH)	

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	−	Signal	Input/Output		
41 (B)	Ground	Ground	—	Always	0 V
42 (B)	Ground	Ground	—	Always	0 V
45 (V)	Ground	Battery power supply (Memory backup)	Input	Always	10 − 16 V
46 (V)	Ground	Battery power supply (Memory backup)	Input	Always	10 − 16 V
47 (LG)	Ground	Ignition power supply	Input	Ignition switch: ON	10 − 16 V
				Ignition switch: OFF	0 V
48 (LG)	Ground	Ignition power supply	Input	Ignition switch: ON	10 − 16 V
				Ignition switch: OFF	0 V

*: This harness does not use.