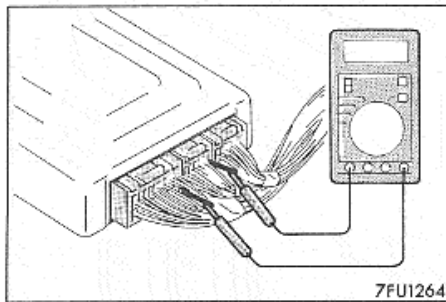# Mitsubishi 3000GT / GTO 1991 – 1993 ECM Pinout

Engine Control Module Connector
1991-1993 DOHC Turbo & Non-turbo
1994-1995 DOHC Non-turbo Federal
1991-1995 SOHC

View from loom connector wiring side.

In the following pages "SV" means System Voltage – nominally 12v.

7FU1264

INSPECTION OF ENGINE CONTROL UNIT TERMINAL VOLTAGES

(1) Connect a very thin wire probe (such as a paper clip) to the probe of the voltmeter.

(2) Insert the very thin probe from the wire side into contact with each of the terminals of the engine control unit connector and check the voltage, while referring to the check chart.

NOTE
1. Measure a voltage with the engine control unit connector connected.
2. Measure the voltage between each terminal and the No. 26 terminal (ground terminal).
3. Withdraw the engine control unit for easier access to the connector terminals.
4. The inspection need not to be performed in the order of the chart.

Caution
Short-circuiting the positive (+) probe between a connector terminal and ground could cause damage to the vehicle wiring, sensors or engine control unit, or all of them. Use care to prevent it!

(3) If the voltmeter shows any deviation from the standard value, check the corresponding sensor, actuator and related electrical wiring, then repair or replace.

(4) After repair or replacement, recheck with the voltmeter to confirm that the problem has cleared completely.

TERMINAL VOLTAGE CHECK CHART
Engine Control Unit Connector Terminal Configuration

7FU0653

Terminal No.		Check point	Check conditions (Engine conditions)	Standard value	Remarks
SOHC	DOHC				
103	60	Back-up power supply	Ignition switch: OFF	SV	
102	12	Power supply	Ignition switch: ON	SV	
107	25				
110	62	Ignition switch IG	Ignition switch: ON	SV	
63	108	Control relay (power supply)	Ignition switch: OFF	SV	
			Ignition switch: ON	0 – 3V	
56	8	Control relay (fuel pump)	Ignition switch: ON	SV	
			Engine: Running at idle	0 – 3V	
23	61	Sensor impressed voltage	Ignition switch: ON	4.5 – 5.5V	

Terminal No.		Check point	Check conditions (Engine conditions)		Standard value	Remarks
SOHC	DOHC					
10	70	Air flow sensor	Engine: Running at idle		2.2 – 3.2V	
			Engine speed: 2,000 rpm			
57	19	Air flow sensor reset signal	Engine: Running at idle		0 – 1V	
			Engine speed: 3,000 rpm		6 – 9V	
8	52	Intake temperature sensor	Ignition switch: ON	When intake temperature is 0°C (32°F)	3.2 – 3.8V	
				When intake temperature is 20°C (68°F)	2.3 – 2.9V	
				When intake temperature is 40°C (104°F)	1.5 – 2.1V	
				When intake temperature is 80°C (176°F)	0.4 – 1.0V	
16	65	Barometric pressure sensor	Ignition switch: ON	When altitude is 0 m (0 ft.)	3.7 – 4.3V	
				When altitude is 1,200 m (3,937 ft.)	3.2 – 3.8V	
20	63	Water temperature sensor	Ignition switch: ON	When water temperature is 0°C (32°F)	3.2 – 3.8V	
				When water temperature is 20°C (68°F)	2.3 – 2.9V	
				When water temperature is 40°C (104°F)	1.3 – 1.9V	
				When water temperature is 80°C (176°F)	0.3 – 0.9V	
19	64	Throttle position sensor	Ignition switch: Kept in ON state for more than 15 seconds	Throttle valve placed in idle position	0.3 – 1.0V	
				Throttle valve placed in fully opened position	4.5 – 5.5V	
14	67	Idle position switch	Ignition switch: ON	Throttle valve placed in idle position	0 – 1V	
				Throttle valve placed in slightly opened position	4V or more	
22	68	Top dead center sensor	Engine: Cranked		0.2 – 3.0V	
			Engine: Running at idle			
21	69	Crank angle sensor	Engine: Cranked		0.2 – 3.0V	
			Engine: Running at idle			
108	51	Ignition switch – ST	Engine: Cranked		8V or more	
104	71	Inhibitor switch	Ignition switch: ON	Selector lever set to P or N	0 – 3V	
				Selector lever set to D, 2, L or R	8 – 14V	

Terminal No.		Check point	Check conditions (Engine conditions)		Standard value	Remarks
SOHC	DOHC					
18	66	Vehicle speed sensor	• Ignition switch: ON • Move the vehicle slowly forward		0 ↔ 5V (Changes repeated)	
5	107	Power steering oil pressure switch	Engine: Running at idle after warmup	Steering wheel placed in neutral (straight ahead) position	SV	
				Steering wheel turned half a turn	0 – 3V	
7	115	Airconditioner switch 1	Engine: Running at idle	Airconditioner switch set to OFF	0 – 3V	
				Airconditioner switch set to ON (Airconditioner compressor in driven state)	SV	
6	20	Airconditioner switch 2	Engine: Running at idle	Airconditioner switch set to OFF	0 – 3V	
				• Airconditioner switch set to ON • Indoor set temperature brought closer to atmospheric temperature	SV	
65	22	Airconditioner relay	• Engine: Running at idle • Airconditioner switch: OFF → ON (Air compressor in driven state)		SV or 6V or more for a moment → 0 – 3V	
–	24	Electric load switch	Engine: Running at idle	Lighting switch set to OFF	0 – 3V	
				Lighting switch set to ON	SV	
4	56 (55)	Oxygen sensor	Engine: Kept running at 2,000 rpm after warmup (Digital voltmeter to be used for checking)		0 ↔ 0.8V (Changes repeated)	Terminal 55 for rear bank of turbocharged engine
51	1	No. 1 injector	Engine: Running at idle after warmup, and accelerated abruptly by depressing accelerator pedal		Falls temporarily a little from 11 – 14V.	
52	14	No. 2 injector				
60	2	No. 3 injector				
61	15	No. 4 injector				
105	3	No. 5 injector				
109	16	No. 6 injector				
58	4	Stepper motor coil \<A1\>	Engine: Just after the warmed-up engine has started (for 1 minute)		SV ↑↓ 0 – 3V (Changed repeated)	
59	17	Stepper motor coil \<A2\>				
67	5	Stepper motor coil \<B1\>				
68	18	Stepper motor coil \<B2\>				

Terminal No.		Check point	Check conditions (Engine conditions)		Standard value	Remarks
SOHC	DOHC					
54	–	Power transistor unit	Engine speed: 3,000 rpm		0.3 – 3V	SOHC
–	10	Power transistor unit A	Engine speed: 3,000 rpm		0.3 – 3V	DOHC
–	23	Power transistor unit B				
–	11	Power transistor unit C				
62	9	Purge control solenoid valve	Ignition switch: ON		SV	
			Start the warmed-up engine and keep the engine speed at 3,000 rpm		0 – 3V	
–	7	Fuel pressure control valve	Ignition switch: ON		SV	Turbo
			Engine: From cranking to idling (within approx. 2 minutes)		0 – 3V ↓ SV	
–	105	Waste gate solenoid valve	Ignition switch: ON		SV	Turbo
			Engine: Idling (when the premium gasoline is used)		0 – 3V	
–	11	Turbo meter	Ignition switch: ON		4 – 13V	Turbo
			Engine: Depress the accelerator pedal abruptly while the engine is idling		Falls temporarily from SV	
–	21	Fuel pump relay 2	Engine: Depress the accelerator pedal abruptly while the engine is idling		Rises temporarily from 0 – 3V	Turbo
–	101	Engine ignition signal	Engine: 3,000 rpm		0.3 – 3V	DOHC
–	102	Valve opened or closed indication signal	Muffler mode changeover switch: ON (TOUR)	Engine: Running at idle	0 – 3V	Turbo
				Engine speed: 4,500 rpm	SV	
–	103	Muffler mode changeover switch	Ignition switch: ON	Changeover switch set to ON (TOUR)	0 – 3V	Turbo
				Changeover switch set to OFF (SPORT)	SV	
12	104	Ignition timing adjustment terminal	Ignition switch: ON	Ignition timing adjustment terminal connected to ground	0 – 1V	
				Ignition timing adjustment terminal disconnected from ground	4.0 – 5.5V	
64	106	Engine warning light	Ignition switch: OFF → ON		0 – 3V 9 – 13V ↓ (Several seconds later)	

Terminal No. SOHC	Terminal No. DOHC	Check point	Check conditions (Engine conditions)		Standard value	Remarks
53	6	EGR control solenoid valve	Ignition switch: ON		SV	California – Non Turbo, Turbo
			Engine: Running at idle and accelerated abruptly by depressing accelerator pedal		Falls temporarily from SV.	
15	53	EGR temperature sensor	Ignition switch: ON	When sensor temperature is 50°C (122°F)	3.6 – 4.4V	California
				When sensor temperature is 100°C (212°F)	2.2 – 3.0V	
–	111	Intake control valve position sensor No. 1	Ignition switch: ON		0 – 1V or 4.5 – 5.5V	DOHC – Non Turbo
			Engine: Slowly accelerated from idling speed to 5,000 rpm		0 – 1V or 4.5 – 5.5V ↓ 1.5 – 4V (for a moment)	
–	103	Intake control valve position sensor No. 2	Ignition switch: ON		0 – 1V or 4.5 – 5.5V	DOHC – Non Turbo
			Engine: Slowly accelerated from idling speed to 5,000 rpm		0 – 1V or 4.5 – 5.5V ↓ 1.5 – 4V (for a moment)	
–	110	Intake control valve (Opened)	Engine: Slowly accelerated from idling speed to 5,000 rpm		0 – 1V ↓ 4V or more (for a moment)	DOHC – Non Turbo
–	109	Intake control valve (Closed)	Engine: Slowly decelerated from 5,000 rpm to idling speed			
–	114	Anti-lock brake signal	Engine: Running at idle		SV	Turbo
			● When vehicle is started in motion for the first time after the ignition switch was placed in ON position ● Vehicle speed: 0 – 10 km/h (0 – 0.6 mph)		SV ↓ 0 – 3V (for a moment)	
–	116	Overall control "Reduce torque" request signal 1	Engine: Running at idle		4.5 – 5.4V	DOHC – A/T
			Engine: Running at idle after warmup and changing speeds		0 – 1V	
–	59	Overall control "Reduce torque" request signal 2	Engine: Running at idle		0 – 1V	DOHC – A/T
			Engine: Running at idle after warmup and changing speeds		1 – 5.5V	
–	7	Overall control "Reduce torque" execution signal	Engine: Running at idle with coolant temperature at 50°C (122°F) or lower		0 – 1V	DOHC – A/T
			Engine: Running at idle after warmup		1 – 4V	