

FUNCTION OF MAIN COMPONENTS

Components		Outline
Clutch Actuator	Clutch Motor	Actuated by the M-MT ECU, the clutch motor engages and disengages the clutch via the reduction gears with the assist spring.
	Clutch Stroke Sensor	Detects the amount of the clutch stroke from the rotational angle of the worm wheel and relays this information to the M-MT ECU in the form of feedback signals.
Shift & Select Actuator	Shift Motor	Actuated by the M-MT ECU, the shift motor effects the shift operation of the shift & select lever shaft via the reduction gears.
	Shift Stroke Sensor	Detects the length of the shift stroke of the gear shift fork from the rotational angle of the shift & select lever shaft and relays this information to the M-MT ECU in the form of feedback signals.
	Select Motor	Actuated by the M-MT ECU, the select motor effects the select operation of the shift & select lever shaft via the rack & pinion gear.
	Select Stroke Sensor	Detects the length of the select stroke of the gear shift fork from the rotational angle of the shift & select lever shaft and relays this information to the M-MT ECU in the form of feedback signals.
Shift Lever Assembly	Shift Lever Position Sensor	The M-MT ECU determines the shift lever position from the ON/OFF combination of the 8-position switch that is built in.
	Transmission Shift Main Switch	The M-MT ECU determines the shift mode (M-mode or E-mode) through the condition of this switch.
	Shift Lock Solenoid	Actuated by the M-MT ECU, the shift lock solenoid restricts the movement of the shift lever.
Clutch Cover	LCC Mechanism	Actuated by the M-MT ECU and the clutch actuator, the pressure plate height of the LCC mechanically adjusts to a predetermined position, in order to apply a constant load to the clutch motor.
Throttle Body	Throttle Motor	Actuated by the ETCS-i (Electronic Throttle Control System-intelligent) in the engine ECU, the throttle motor controls the throttle valve position at the torque requested by the M-MT ECU. For details of the ETCS-i control, see page EG-44 .
	Throttle Position Sensor	Detects the throttle valve position and outputs it to the engine ECU.
Combination Meter	Meter ECU	<ul style="list-style-type: none"> ● Controls the operation of the indicator lights and warning lights. ● Outputs the vehicle speed signal from the skid control ECU to the M-MT ECU.
	M-MT Warning Light	Lights up to alert the driver when a malfunction occurs in the multi-mode manual transmission system.
	Shift Position Indicator Lights	Indicates the present gear position. In addition, this indicator light flashes if the actual gear position and the shift lever position do not match.
Vacuum Sensor	Intake Air Temp. Sensor	Located in the vacuum sensor, this sensor detects the external air temperature and outputs it to the M-MT ECU via the engine ECU. (for shift protection control)
Transmission Revolution Sensor		Detects the input shaft speed of the transaxle and outputs it to the M-MT ECU.
Accelerator Pedal Position Sensor		Detects the accelerator pedal position and outputs it to the engine ECU.
Crankshaft Position Sensor		Detects the engine speed and outputs it to the M-MT ECU via the engine ECU.
Water Temp. Sensor		Detects the engine water temperature and outputs it to the M-MT ECU via the engine ECU. (for shift protection control)

(Continued)

Components	Outline
Kick Down Switch (Only for LHD Model)	Detects beyond the full-throttle opening and outputs it to the M-MT ECU.
Neutral Start Switch	Detects the neutral position of the transaxle and outputs it to the M-MT ECU.
Back-up Light Switch	Detects the reverse position of the transaxle, outputs it to the M-MT ECU, and controls the operation of the back-up lights.
Stop Light Switch	Detects that the brake pedal is applied and outputs this information to the M-MT ECU.
Starter Relay	The M-MT ECU restricts the operation of the starter relay in accordance with the gear position and the braking conditions, in order to control the operation of the starter.
M-MT ECU	<ul style="list-style-type: none"> ● Controls the multi-mode manual transmission system; in addition, requests the engine ECU to effect ETCS-i control during upshift or downshift via CAN (Controller Area Network) communication. ● When the transmission control ECU detects a malfunction, the transmission control ECU makes a diagnosis and memorizes the failed section. Furthermore, the M-MT warning light and check engine warning light illuminates, or blinks to inform the driver.
	<ul style="list-style-type: none"> ● Sounds a built-in buzzer during system warning. ● Sounds if the driver door is opened while the engine is idling and the shift lever is in the E, M, or R position.
Engine ECU	Effects ETCS-i control per request from M-MT ECU.