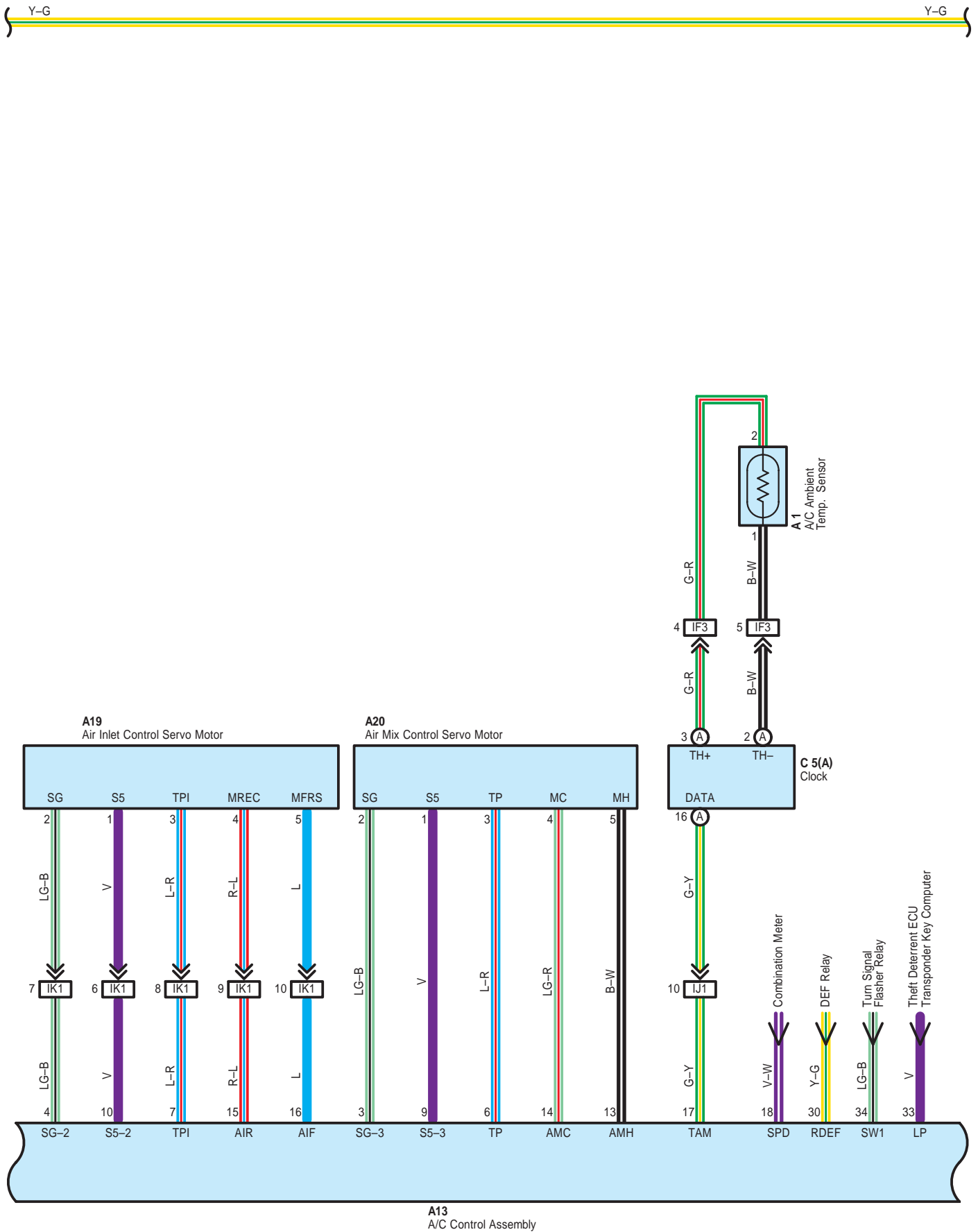
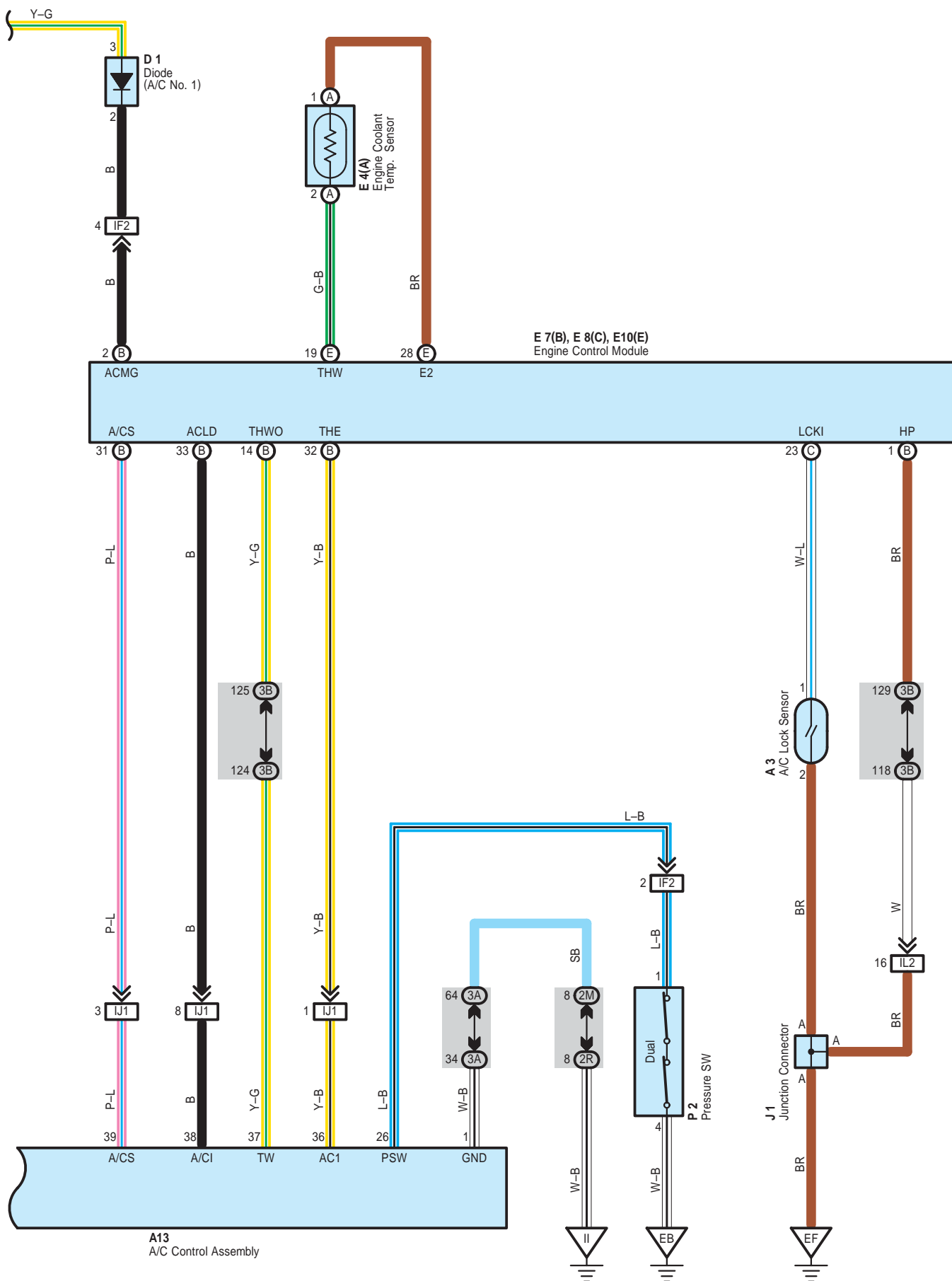


Automatic Air Conditioning for 1MZ-FE





Automatic Air Conditioning for 1MZ-FE

System Outline

1. Heater Blower Operation

Manual operation

When the blower speed is set to a certain level using the blower control SW, the A/C control assembly sends the signals to the blower control to control the blower motor speed.

Auto operation

When the auto SW is turned on, the A/C control assembly sends the signals from various sensors and temperature SW to the blower control to automatically control the blower motor speed.

2. Air Inlet Control Servo Motor Control

When the FRESH/RECIRC select SW is set to RECIRC, the motor in the air inlet control servo motor starts rotating to move the damper toward the RECIRC side. Since the damper position is detected by the TERMINAL TPI of the A/C control assembly, the motor is continuously rotated until the damper reaches its stop position. When the FRESH/RECIRC select SW is set to FRESH, the motor in the air inlet control servo motor starts rotating to move the damper toward the FRESH side. Since the damper position is detected by the TERMINAL TPI of the A/C control assembly, the motor is continuously rotated until the damper reaches its stop position.

3. Air Vent Mode Control Servo Motor Control

When the mode select SW is pushed, the ECU in the A/C control assembly activates the air vent mode servo motor. This causes the servo motor to rotate to the position (FACE, BI-LEVEL, FOOT, FOOT/DEF, DEF) selected using the mode select SW, and moves the film damper.

4. Air Mix Control Servo Motor Control

When the temperature control SW is pressed, the ECU in the A/C control assembly sends a signal to the air mix control servo motor. This signal drives the motor to reach the temperature set by the temperature control SW, and moves the film damper.

5. Air Conditioning Operation

The A/C control assembly receives various signals, I.E., the engine RPM from the engine control module, outside air temperature signal from the A/C ambient temp. sensor, coolant temperature from the engine control module and the lock signal from the A/C compressor, etc.

When the engine is started and the A/C SW (A/C control assembly) is on, a signal is input to the A/C control assembly.

As a result, the ground circuit in A/C control assembly is closed and current flows from HTR (10A) fuse to TERMINAL 1 of the MG CLT relay to TERMINAL 3 of the diode to TERMINAL ACMG of the engine control module to TERMINAL HP to GROUND, turning the MG CLT relay on, so that the magnetic clutch is on and the A/C compressor operates.

At the same time, the engine control module detects the magnetic clutch is on and the A/C compressor operates.

If the A/C control assembly detects the following conditions, it stops the air conditioning:

- * Evaporator outlet air is too low.
- * There is a marked difference between the compressor speed and the engine speed.
- * The refrigerant pressure is abnormally high or abnormally low.
- * The engine speed is too low.
- * Rapid acceleration occurs.



: Parts Location

Code	See Page	Code	See Page	Code	See Page
A1	38 (*1)	A20	42	E7	B 42
A3	38 (*1)	A21	A 42	E8	C 42
A13	42	B3	42	E10	E 42
A14	42	B4	42	J1	43
A15	42	C5	A 42	P2	39 (*1)
A16	42	D1	38 (*1)		
A19	42	E4	A 38 (*1)		



: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22	Engine Room R/B (Engine Compartment Left)

* 1 : 1MZ-FE, 3MZ-FE * 2 : 2AZ-FE * 3 : w/ Power Seat * 4 : w/o Power Seat

**: Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	25	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
1J		
1L	25	Engine Wire and Engine Room J/B (Engine Compartment Left)
2G	28	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
2M	29	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
2R		
3A	34	Instrument Panel Wire and Passenger Side J/B (Instrument Panel Brace RH)
3B		

**: Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF2	50	Engine Room Main Wire and Instrument Panel Wire (Right Side of Steering Column Tube)
IF3		
IF6		
IG1	50	Instrument Panel Wire and Engine Room Main Wire (Instrument Panel Brace LH)
II1	51	Instrument Panel Wire and Instrument Panel No.3 Wire (Behind the Glove Box)
IJ1	51	Instrument Panel Wire and Instrument Panel Wire (Instrument Panel Reinforcement RH)
IK1	51	Instrument Panel Wire and Cowl No.2 Wire (Behind the Glove Box)
IL2	51	Engine Wire and Instrument Panel Wire (Behind the Glove Box)

**: Ground Points**

Code	See Page	Ground Points Location
EB	48 (*1)	Right Fender
EC	48 (*1)	Left Fender
EF	48 (*1)	Right Side of Cylinder Head
II	50	Cowl Side Panel LH
IN	50	Instrument Panel Reinforcement RH

* 1 : 1MZ-FE, 3MZ-FE * 2 : 2AZ-FE * 3 : w/ Power Seat * 4 : w/o Power Seat