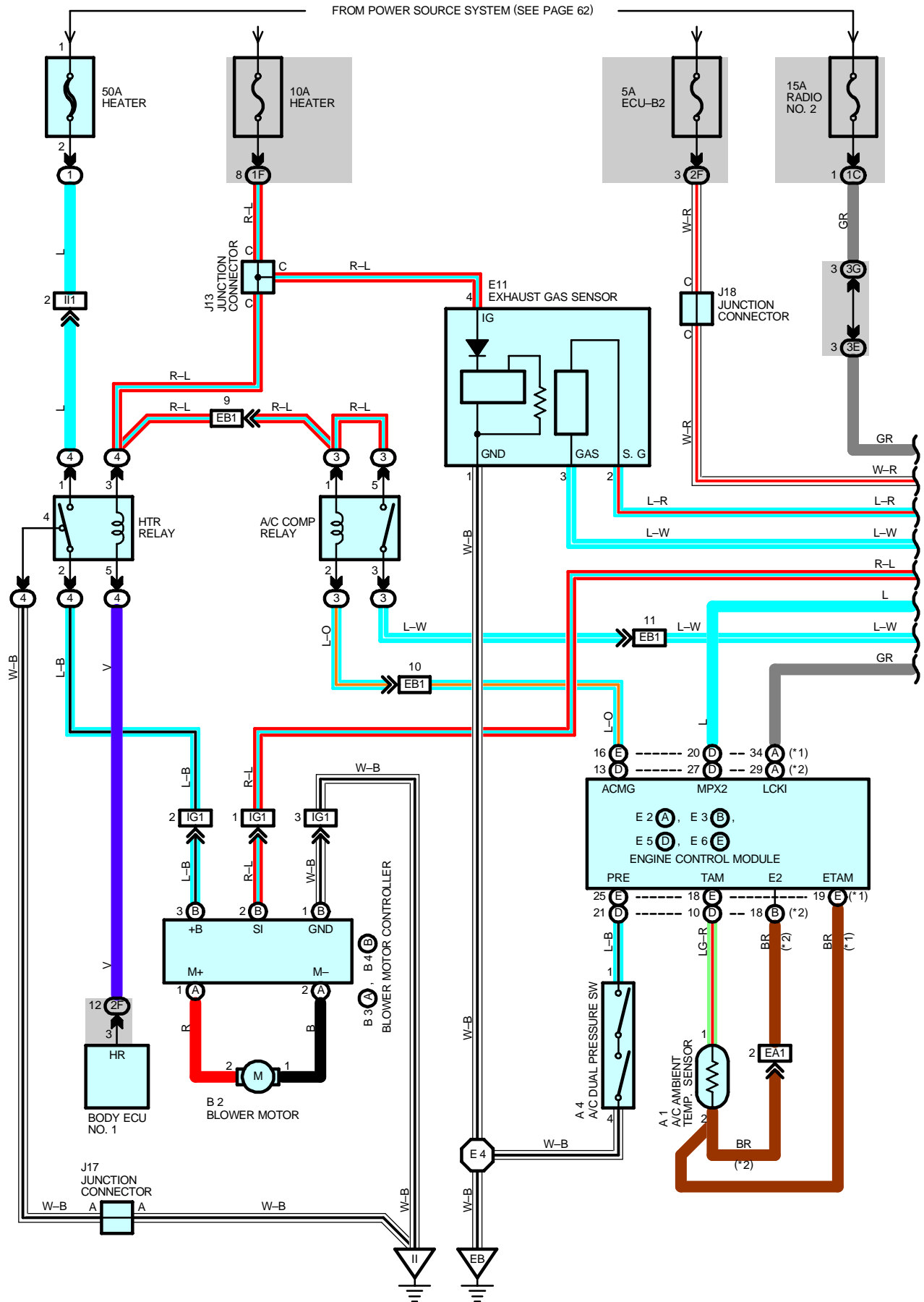
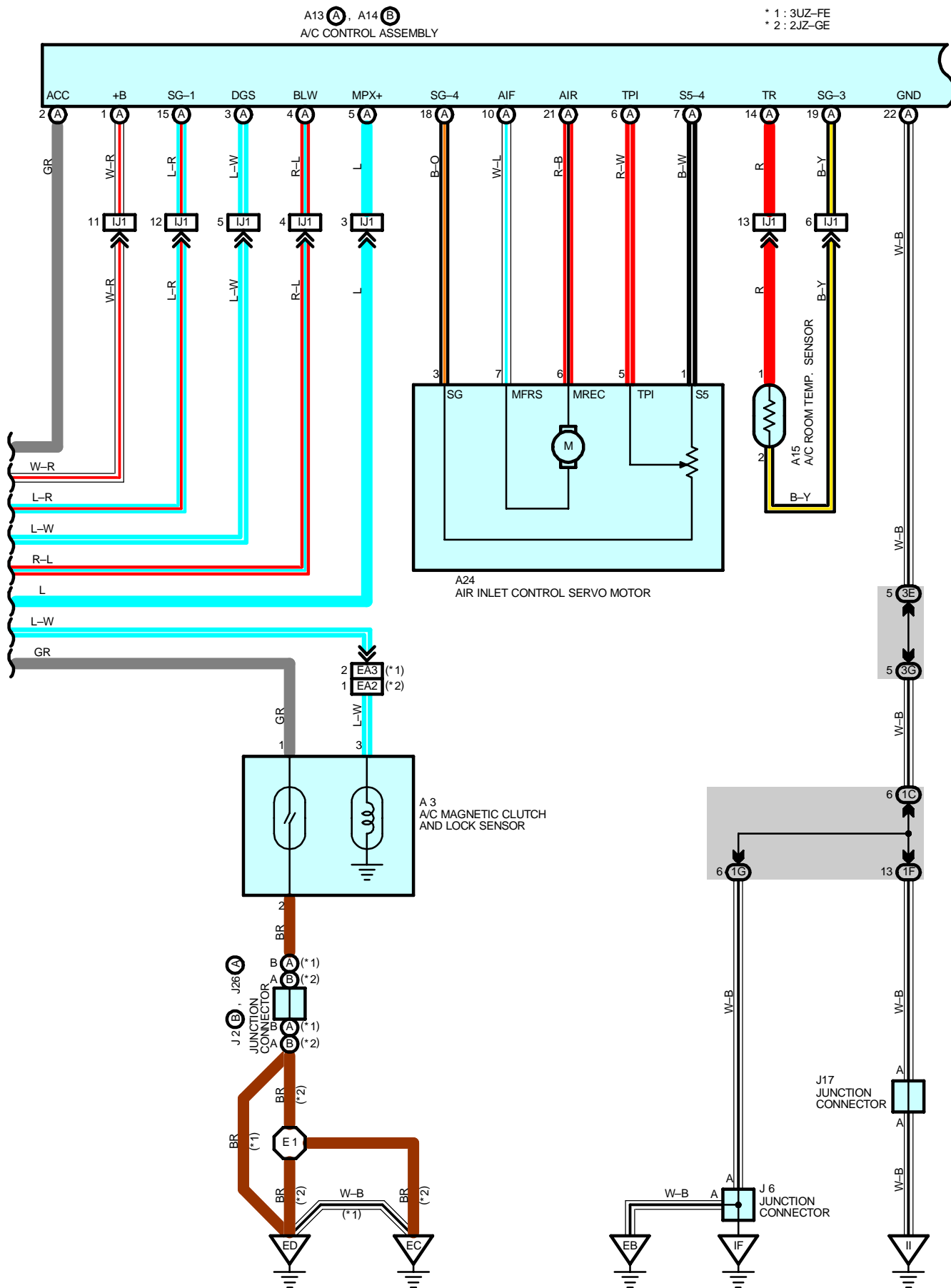
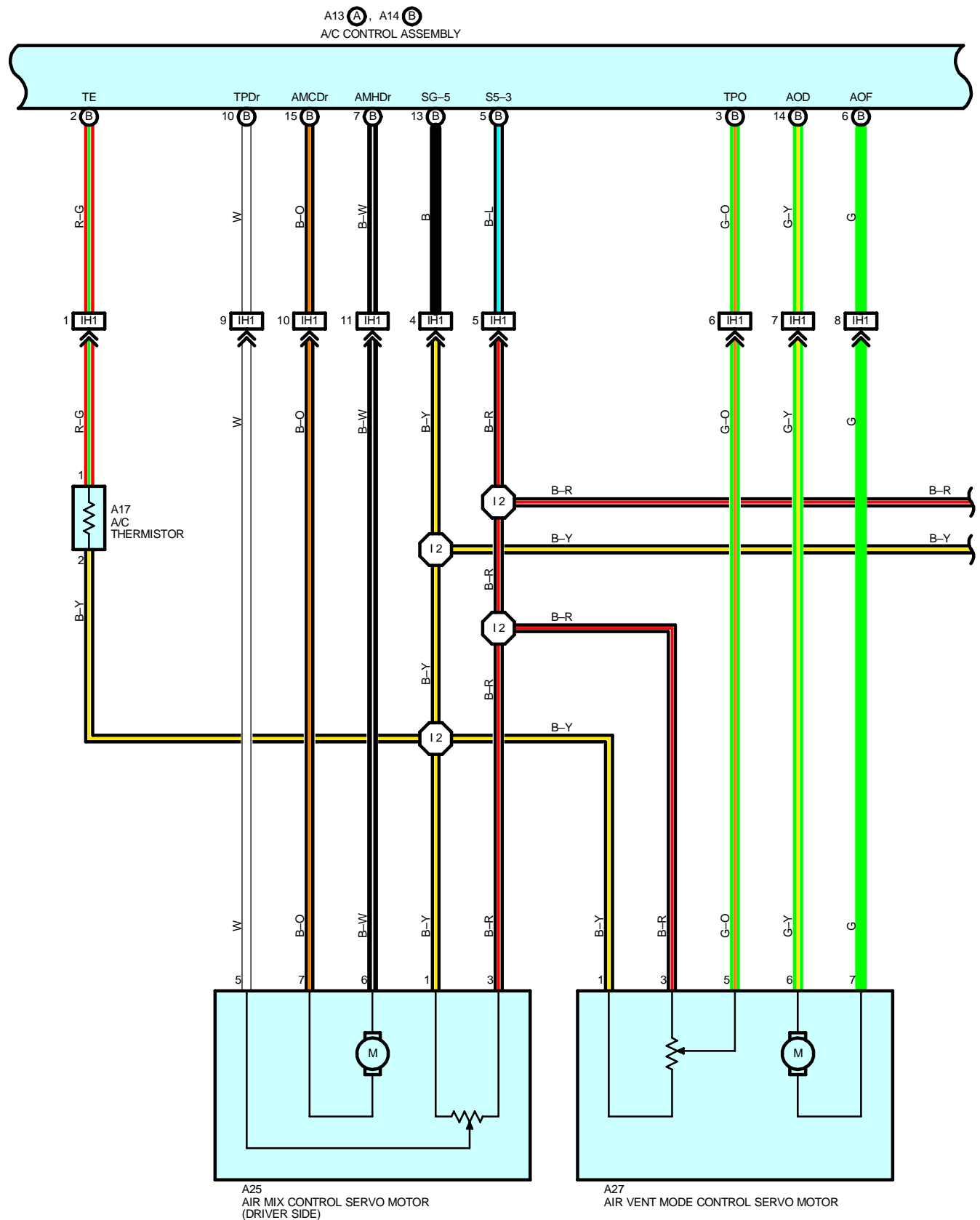


AUTOMATIC AIR CONDITIONING



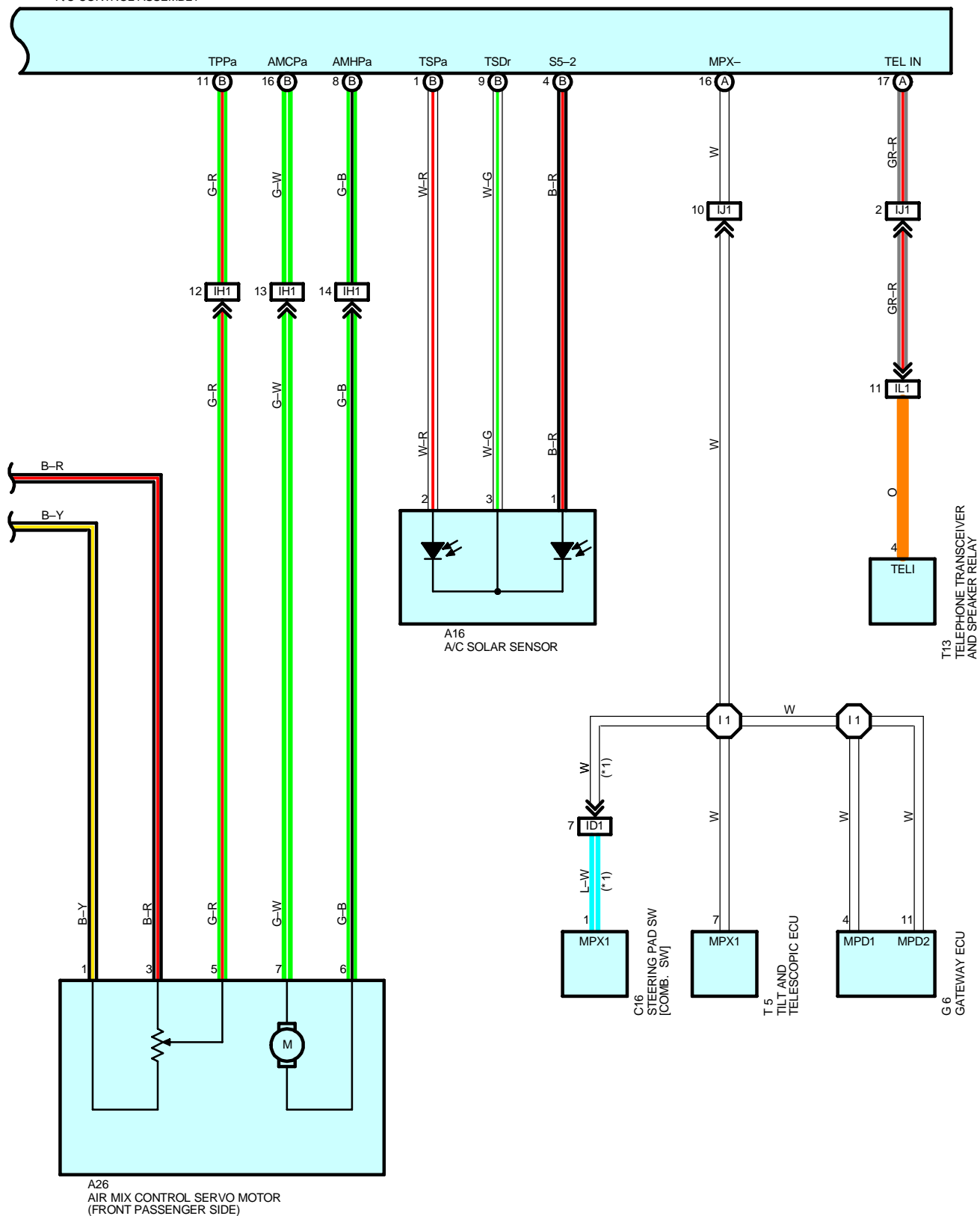


AUTOMATIC AIR CONDITIONING



A13 (A), A14 (B)
A/C CONTROL ASSEMBLY

* 1 : 3UZ-FE



AUTOMATIC AIR CONDITIONING

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. When the FRESH/RECIRC select SW is set to AUTO, the exhaust gas sensor installed in the engine room monitors contents in the exhaust gas and FRESH or RECIRC is automatically switched.

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 control 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 on the driver's side is pressed, the ECU in the A/C control assembly sends a signal to the air mix control servo motor on the driver's side. This signal drives the motor to reach the temperature set by the temperature control SW on the driver's side, and moves the film damper. Passenger's side is operated as same as the driver's side.

5. AIR CONDITIONING OPERATION

The A/C control assembly receives various signals, I.E., the engine RPM from the crankshaft position sensor, outlet temperature signal from the A/C ambient temp. sensor, coolant temperature from the engine coolant temp. sensor and the lock signal from the A/C compressor, etc. When the engine is started and the A/C SW is on, a signal is input to the ECU (Built into the A/C control assembly). As a result, the ground circuit in A/C control assembly is closed and current flows from HEATER fuse to TERMINAL 1 of the A/C COMP relay to TERMINAL 2 to TERMINAL ACMG of the engine control module to TERMINAL MPX2 to TERMINAL MPX+ of the A/C control assembly to TERMINAL GND to GROUND, turning the relay on so that the A/C 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 and rotates the motor to the open direction to avoid lowering the engine RPM during A/C operation. When any of the following signals are input to the A/C control assembly, the control assembly operates to turn off the air conditioning.

- * Coolant temp. signal is high.
- * A signal that the temperature at the air outlet is low.
- * A signal that there is a large difference between engine speed and compressor speed.
- * A signal that the refrigerant pressure is abnormally high or low.

SERVICE HINTS

A4 A/C DUAL PRESSURE SW

1-4 : Open with the refrigerant pressure at less than approx. **216 kpa (2.2 kgf/cm², 31 psi)** or more than approx. **3138 kpa (32 kgf/cm², 455 psi)**

A13 (A) A/C CONTROL ASSEMBLY

- +B-GROUND : Always approx. **12 volts**
- ACC-GROUND : Approx. **12 volts** with ignition SW at **ACC** or **ON** position
- AIF-GROUND : Approx. **12 volts** with FRESH SW on
- AIR-GROUND : Approx. **12 volts** with RECIRC SW on
- GND-GROUND : Always continuity

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A1	38 (3UZ-FE)	A25	42	E6	E
	40 (2JZ-GE)	A26	42	E11	38 (3UZ-FE)
A3	38 (3UZ-FE)	A27	42		40 (2JZ-GE)
	40 (2JZ-GE)	B2	42	G6	42
A4	38 (3UZ-FE)	B3	A	J2	B
	40 (2JZ-GE)	B4	B	J6	41 (2JZ-GE)
A13	A	C16	42	J13	43
A14	B		38 (3UZ-FE)	J17	43
A15	42	E2	40 (2JZ-GE)	J18	43
A16	42		40 (2JZ-GE)	J26	A
A17	42	E3	38 (3UZ-FE)	T5	43
A24	42		40 (2JZ-GE)	T13	45

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
1	24	Engine Room No.1 R/B (Engine Compartment Right)
3	26	Engine Room No.3 R/B (Engine Compartment Left)
4	27	Passenger Side R/B (Right Kick Panel)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	28	Instrument Panel Wire and Driver Side J/B (Left Kick Panel)
1F	28	Cowl Wire and Driver Side J/B (Left Kick Panel)
1G	29	
2F	30	Cowl Wire and Passenger Side J/B (Right Kick Panel)
3E	33	Instrument Panel Wire and Instrument Panel J/B (Instrument Panel Reinforcement Center)
3G		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	50 (2JZ-GE)	Engine Wire and Cowl Wire (Inside of the ECU Box)
EA2		
EA3	48 (3UZ-FE)	Cowl Wire and Relay Block Wire (Inside of the Engine Room No.3 R/B)
EB1	50 (2JZ-GE)	
ID1	52	Cowl Wire and Cowl Wire (Left Side of the Instrument Panel Reinforcement)
IG1	52	Cowl Wire and Blower Sub Wire (Left Side of the Blower Unit)
IH1	52	Instrument Panel Wire and A/C Sub Wire (Left Side of the Blower Unit)
II1	52	Engine Room Main Wire and Cowl Wire (Near the Passenger Side R/B)
IJ1	54	Instrument Panel Wire and Cowl Wire (Left Side of the Blower Unit)
IL1	54	Floor No.1 Wire and Cowl Wire (Right Kick Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
EB	48 (3UZ-FE)	Left Fender
	50 (2JZ-GE)	
EC	48 (3UZ-FE)	RH Bank of the Cylinder Head
	50 (2JZ-GE)	Front Side of the Intake Manifold
ED	48 (3UZ-FE)	LH Bank of the Cylinder Head
	50 (2JZ-GE)	Rear Side of the Intake Manifold
IF	52	Left Kick Panel
II	52	Right Side of the Cowl Panel

AUTOMATIC AIR CONDITIONING



: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E1	50 (2JZ-GE)	Engine Wire	I1	54	Cowl Wire
E4	48 (3UZ-FE)	Cowl Wire	I2	54	A/C Sub Wire
	50 (2JZ-GE)				

