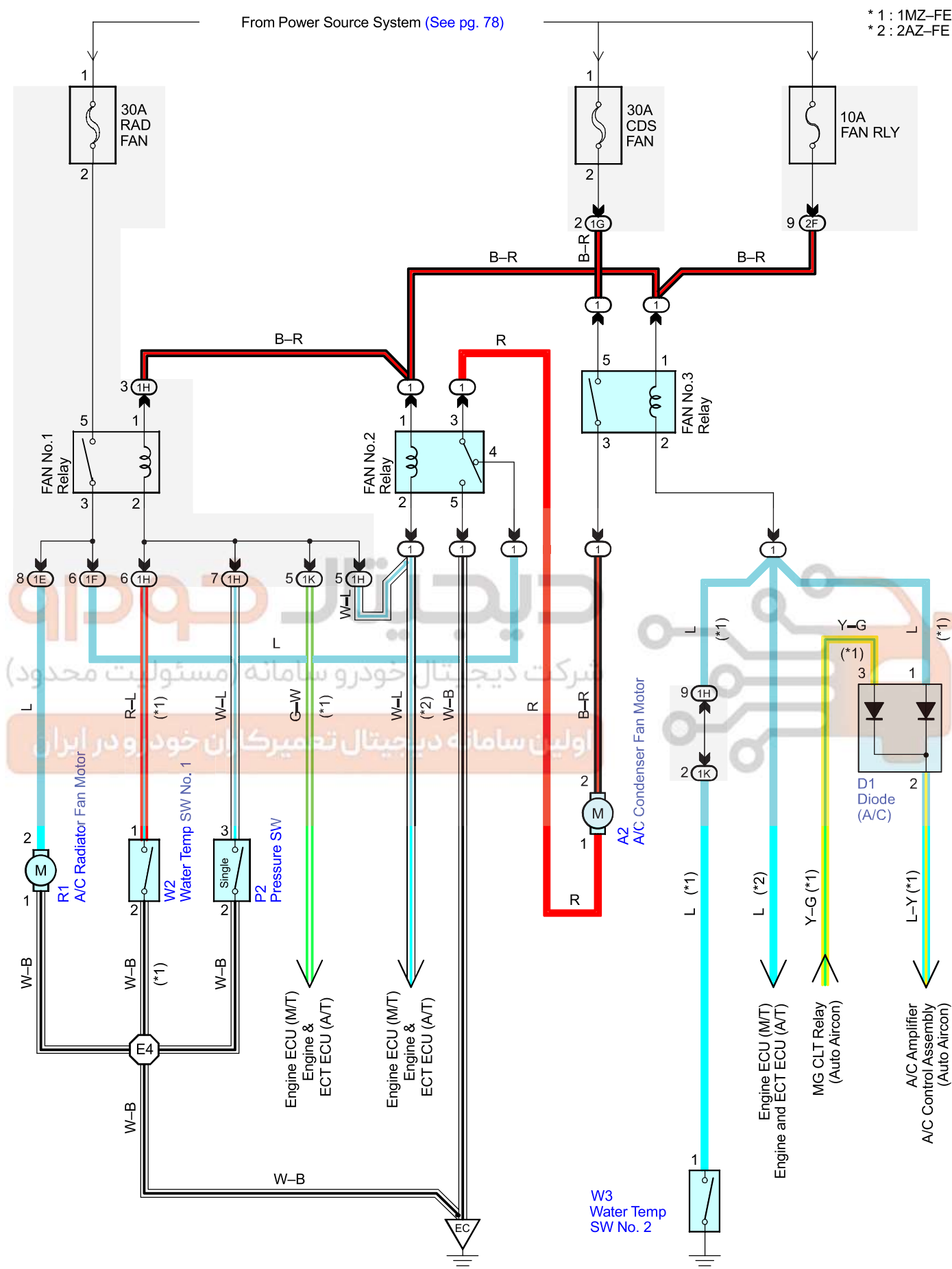


## Radiator Fan and Condenser Fan

## System Outline

### Service Hints



## System Outline

### Fan Motor Operation (1MZ-FE)

With the ignition SW turned on, the current through the FAN RLY fuse flows to the FAN NO.1 relay (Coil side), FAN NO.2 relay (Coil side) and FAN NO.3 relay (Coil side).

#### 1. Low Speed Operation

Only when the A/C system is activated or the water temp. SW No.2 is turned on, the A/C condenser fan motor and the radiator fan motor rotates at low speed.

When the A/C system is activated, the current from FAN RLY fuse flows to the FAN NO.3 relay (Coil side) to TERMINAL 1 of the diode to TERMINAL 2 to TERMINAL (E) 3 of the engine and ECT ECU causing the FAN NO.3 relay to turn on. As a result, the current through the CDS fuse flows to TERMINAL 5 of the FAN NO.3 relay to TERMINAL 3 to TERMINAL 2 of the A/C condenser fan motor to TERMINAL 1 to TERMINAL 3 of the FAN NO.2 relay to TERMINAL 4 to TERMINAL 2 of the radiator fan motor to TERMINAL 1 to GROUND. As the current flows in series through the motors, the motors rotate at low speed.

When the water temp. SW No.2 is turned on, the current from FAN RLY fuse flows to the FAN NO.3 relay (Coil side) to TERMINAL 1 of the water temp. SW No.2 to GROUND, causing the FAN NO.3 relay to turn on. As a result, the current through the CDS fuse flows the same route as above, rotating the motors at low speed.

#### 2. High Speed Operation

With the pressure SW is turned on and/or the water temp. SW No.1 is turned on, the A/C condenser fan motor and the radiator fan motor rotate at high speed.

When the pressure SW is turned on, the current through the FAN RLY fuse flows to the FAN NO.1 and NO.2 relay (Coil side) to TERMINAL 3 of the pressure SW to TERMINAL 2 to GROUND, and the current through the FAN RLY fuse flows to the FAN NO.3 relay (Coil side) to TERMINAL 1 of the diode (A/C No.1) to TERMINAL 2 to TERMINAL ACMG of the engine and ECT ECU (A/T), engine ECU (M/T) to GROUND. As a result, FAN NO.1, NO.2. and NO.3 relay is turned on. At the same time, the current from the RDI fuse flows to FAN NO.1 relay (Point side) to TERMINAL 2 of the radiator fan motor to TERMINAL 1 to GROUND, and the current from the CDS fuse flows to FAN NO.3 relay (Point side) to TERMINAL 2 of the A/C condenser fan motor to TERMINAL 1 to TERMINAL 3 of the FAN NO.2 relay to TERMINAL 5 to GROUND.

As the motors are in parallel the current is increased and the motors rotate at high speed.

When the water temp. SW No.1 is turned on, the current through the FAN RLY fuse flows to the FAN NO.1 and NO.2 relay (Coil side) to TERMINAL 2 of the water temp. SW No.1 to TERMINAL 1 to GROUND, and the current through the FAN RLY fuse flows to the FAN NO.3 relay (Coil side) to TERMINAL 1 of the diode (A/C No.1) to TERMINAL 2 to TERMINAL ACMG of the engine and ECT ECU (A/T), engine ECU (M/T) to GROUND. As a result, FAN NO.1, NO.2 and NO.3 relay is turned on. At the same time, the current from the RDI fuse flows to FAN NO.1 relay (Point side) to TERMINAL 2 of the radiator fan motor to TERMINAL 1 to GROUND, and the current from the CDS fuse flows to FAN NO.3 relay (Point side) to TERMINAL 2 of the A/C condenser fan motor to TERMINAL 1 to TERMINAL 3 of the FAN NO.2 relay to TERMINAL 5 to GROUND.

As the motors are in parallel the current is increased and the motors rotate at high speed.

### Fan Motor Operation (2AZ-FE)

With the ignition SW turned on, the current through the FAN RLY fuse flows to the FAN NO.1 relay (Coil side), FAN NO.2 relay (Coil side) and FAN NO.3 relay (Coil side).

#### 1. Low Speed Operation

When the ignition SW is turned on and the A/C system is activated, the A/C condenser fan motor and the radiator fan motor rotates at low speed.

When the A/C system is activated, the current from FAN RLY fuse flows to the FAN NO.3 relay (Coil side) to TERMINAL 1 of the diode (A/C No.1) to TERMINAL 2 to TERMINAL ACMG of the engine and ECT ECU (A/T), engine ECU (M/T) causing the FAN NO.3 relay to turn on. As a result, the current through the CDS fuse flows to TERMINAL 5 of the FAN NO.3 relay to TERMINAL 3 to TERMINAL 2 of the A/C condenser fan motor to TERMINAL 1 to TERMINAL 3 of the FAN NO.2 relay to TERMINAL 4 to TERMINAL 2 of the radiator fan motor to TERMINAL 1 to GROUND. As the motors are in parallel the current is increased and the motors rotate at high speed.

## Radiator Fan and Condenser Fan

### 2. High Speed Operation

When the pressure SW is turned on, the current through the FAN RLY fuse flows to the FAN NO.1 and NO.2 relay (Coil side) to TERMINAL 3 of the pressure SW to TERMINAL 2 to GROUND, and the current through the FAN RLY fuse flows to the FAN NO.3 relay (Coil side) to TERMINAL 1 of the diode (A/C No.2) to TERMINAL 2 to TERMINAL 3 of the pressure SW to TERMINAL 2 to GROUND. As a result, FAN NO.1, NO.2. and NO.3 relay is turned on. At the same time, the current from the RDI fuse flows to FAN NO.1 relay (Point side) to TERMINAL 2 of the radiator fan motor to TERMINAL 1 to GROUND, and the current from the CDS fuse flows to FAN NO.3 relay (Point side) to TERMINAL 2 of the A/C condenser fan motor to TERMINAL 1 to TERMINAL 3 of the FAN NO.2 relay to TERMINAL 5 to GROUND.

As the motors are in parallel the current is increased and the motors rotate at high speed.

When the engine coolant is too high, the current through the FAN RLY fuse flows to the FAN NO.1 and NO.2 relay (Coil side) to TERMINAL FAN of the engine and ECT ECU (A/T), engine ECU (M/T) to GROUND, and the current through the FAN RLY fuse flows to the FAN NO.3 relay (Coil side) to TERMINAL 1 of the diode (A/C No.1) to TERMINAL 2 to TERMINAL ACMG of the engine and ECT ECU (A/T), engine ECU (M/T) to GROUND. As a result, FAN NO.1, NO.2 and NO.3 relay is turned on. At the same time, the current from the RDI fuse flows to FAN NO.1 relay (Point side) to TERMINAL 2 of the radiator fan motor to TERMINAL 1 to GROUND, and the current from the CDS fuse flows to FAN NO.3 relay (Point side) to TERMINAL 2 of the A/C condenser fan motor to TERMINAL 1 to TERMINAL 3 of the FAN NO.2 relay to TERMINAL 5 to GROUND.

As the motors are in parallel the current is increased and the motors rotate at high speed.

### Service Hints

#### P2 Pressure SW

3-2 : Close above approx. 15.5 kgf/cm<sup>2</sup> (224 psi, 1520 kpa)

Open below approx. 12.5 kgf/cm<sup>2</sup> (181 psi, 1225 kpa)

#### W2 Water Temp. SW No.1

2-1 : Close above approx. 95° C (203° F)

#### W3 Water Temp. SW No.2

1-Ground : Close above approx. 90° C (194° F)

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A2	32 (LHD 1MZ-FE)	P2	35 (LHD 2AZ-FE)	W3	33 (LHD 1MZ-FE)
	42 (RHD 1MZ-FE)		45 (RHD 2AZ-FE)		43 (RHD 1MZ-FE)
	34 (LHD 2AZ-FE)	R1	33 (LHD 1MZ-FE)		
	44 (RHD 2AZ-FE)		43 (RHD 1MZ-FE)		
D1	36 (LHD)		35 (LHD 2AZ-FE)		
	46 (RHD)		45 (RHD 2AZ-FE)		
P2	33 (LHD 1MZ-FE)	W2	33 (LHD 1MZ-FE)		
	43 (RHD 1MZ-FE)		43 (RHD 1MZ-FE)		

### ○ : Relay Blocks

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

### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24	Engine Room Main Wire and Engine Room J/B
1F		
1G		
1H		
1K		
2F	26	Engine Room Main Wire and Instrument Panel Wire

: **Ground Points**

Code	See Page	Ground Points Location
EC	<a href="#">52 (LHD 1MZ-FE)</a>	Left Fender
	<a href="#">64 (RHD 1MZ-FE)</a>	
	<a href="#">54 (LHD 2AZ-FE)</a>	
	<a href="#">66 (RHD 2AZ-FE)</a>	

: **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E4	<a href="#">52 (LHD 1MZ-FE)</a>	Engine Room Main Wire	E4	<a href="#">54 (LHD 2AZ-FE)</a>	Engine Room Main Wire
	<a href="#">64 (RHD 1MZ-FE)</a>			<a href="#">66 (RHD 2AZ-FE)</a>	

# دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

