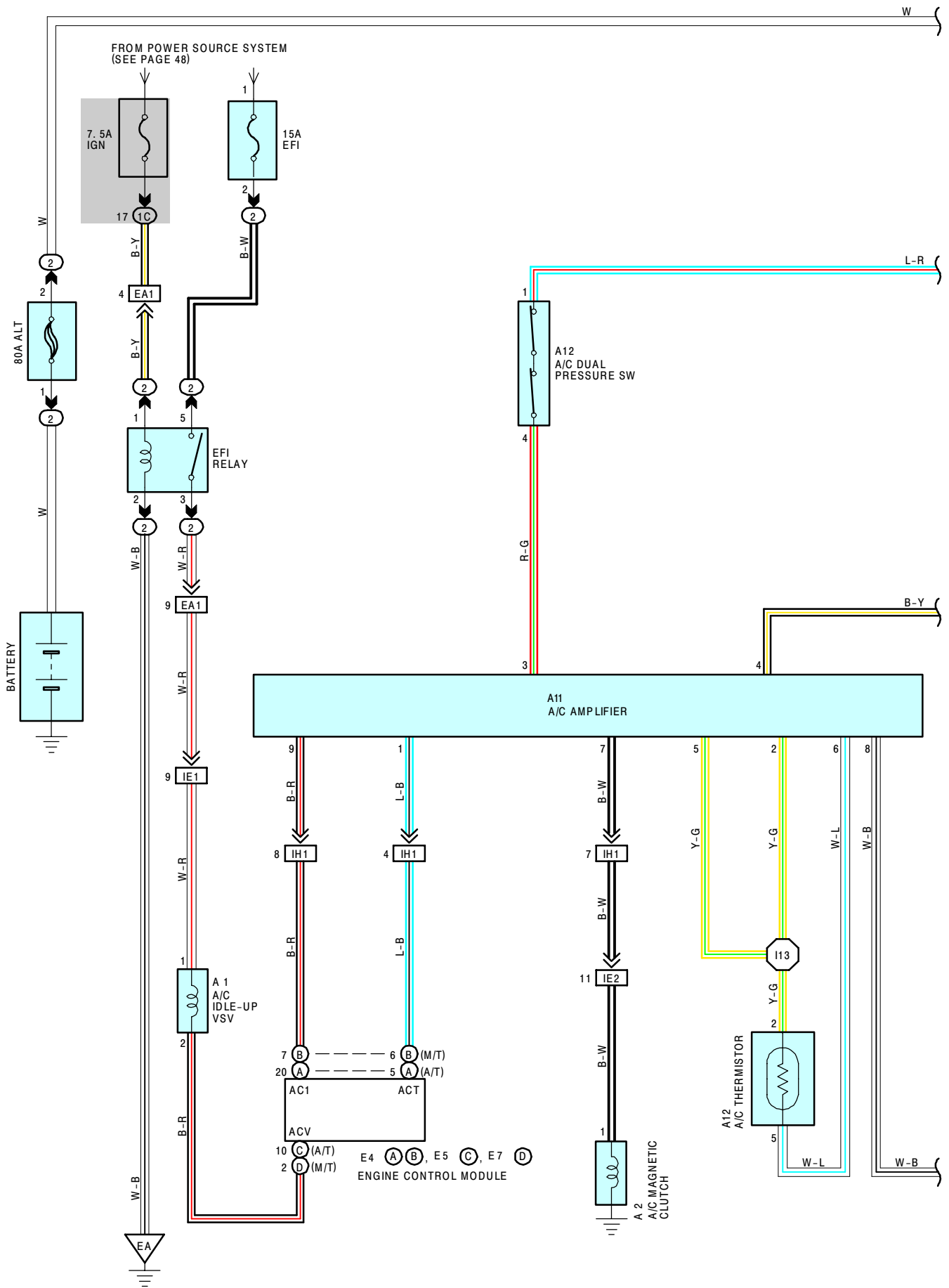
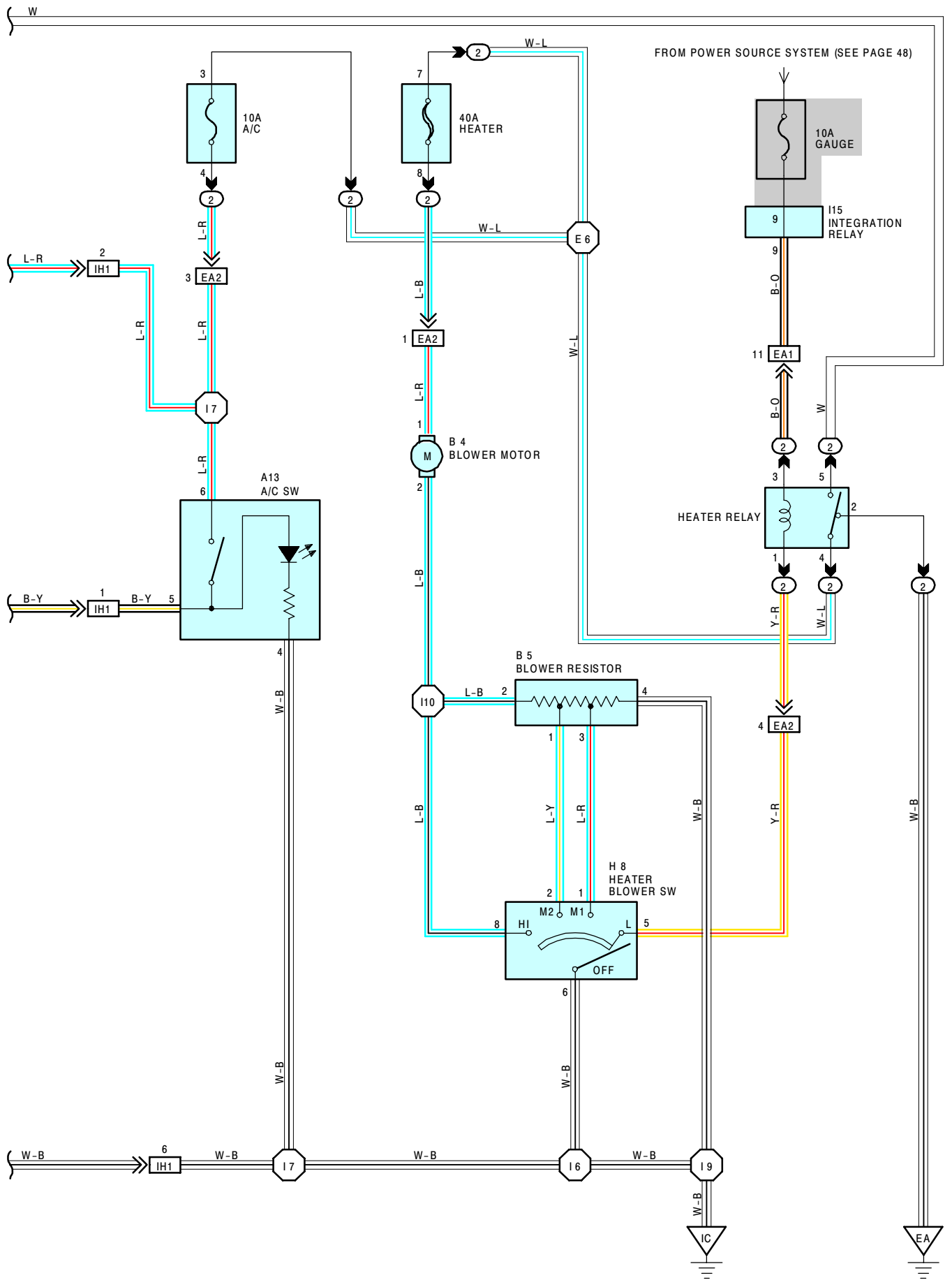




# AIR CONDITIONING (5VZ-FE)







# AIR CONDITIONING (5VZ-FE)

## SYSTEM OUTLINE

### 1. HEATER BLOWER MOTOR OPERATION

WITH THE IGNITION SW ON, CURRENT FROM THE **GAUGE** FUSE FLOWS TO **TERMINAL 3** OF THE HEATER RELAY → COIL → **TERMINAL 1** → **TERMINAL 5** OF THE HEATER BLOWER SW.

(LOW SPEED OPERATION)

WHEN THE HEATER BLOWER SW IS MOVED TO THE LOW SPEED POSITION, THE CURRENT APPLIED TO **TERMINAL 5** FLOWS TO **TERMINAL 6** → **GROUND**, CAUSING THE HEATER RELAY TO COME ON. THEN THE CURRENT FROM THE **ALT** FUSE FLOWS TO **TERMINAL 5** OF THE HEATER RELAY → **TERMINAL 4** → THE **HEATER** FUSE → **TERMINAL 1** OF THE BLOWER MOTOR → **TERMINAL 2** → **TERMINAL 2** OF THE BLOWER RESISTOR → **TERMINAL 4** → **GROUND**, CAUSING THE BLOWER MOTOR TO ROTATE.

THIS TIME, THE CURRENT FLOWS AGAINST THE FULL RESISTANCE OF THE BLOWER RESISTOR, SO THE MOTOR TURNS SLOWLY AT LOW SPEED.

(OPERATION AT SPEED M1, M2)

WHEN THE HEATER BLOWER SW IS MOVED TO THE SPEED M1 POSITION, THE CURRENT APPLIED TO **TERMINAL 5** FLOWS TO **TERMINAL 6** → **GROUND**, TURNING THE HEATER RELAY TO ON. THEN, THE SAME AS WITH LOW SPEED, THE CURRENT PASSING THROUGH THE **HEATER** FUSE TO THE BLOWER MOTOR → **TERMINAL 2** OF THE BLOWER RESISTOR → **TERMINAL 3** → **TERMINAL 1** OF THE HEATER BLOWER SW → **TERMINAL 6** → **GROUND**. THIS TIME, THE RESISTANCE OF THE BLOWER RESISTOR IS LESS THAN IT IS FOR LOW SPEED, SO THE BLOWER MOTOR ROTATES FASTER THAN IT DOES AT LOW SPEED. WITH THE HEATER BLOWER SW IN THE M2 POSITION, THE CURRENT FLOW THROUGH THE MOTOR FLOWS TO **TERMINAL 2** OF THE BLOWER RESISTOR → **TERMINAL 1** → **TERMINAL 2** OF THE HEATER BLOWER SW → **TERMINAL 6** → **GROUND**. THIS TIME, RESISTANCE OF THE BLOWER RESISTOR IS LESS THAN FOR SPEED M1 SO THAT THE BLOWER MOTOR ROTATES EVEN FASTER THAN FOR SPEED M1.

(HIGH SPEED OPERATION)

WITH THE HEATER BLOWER SWITCH IN HIGH SPEED POSITION, UNTIL THE HEATER RELAY COMES ON AND CURRENT FLOWS TO THE BLOWER MOTOR, OPERATION IS THE SAME AS FOR SPEED M1 AND M2. THE CURRENT PASSING THROUGH THE BLOWER MOTOR FLOWS TO **TERMINAL 8** OF THE HEATER BLOWER SW → **TERMINAL 6** → **GROUND** WITHOUT FLOWING THROUGH THE BLOWER RESISTOR, SO THAT THE BLOWER MOTOR ROTATES AT THE FASTEST SPEED, HIGH SPEED.

### 2. AIR CONDITIONER OPERATION

WHEN THE HEATER BLOWER SW IS SET TO ON, CURRENT FROM THE **ALT** FUSE FLOWS THROUGH THE **A/C** FUSE → **TERMINAL 1** OF THE A/C DUAL PRESSURE SW → **TERMINAL 4** → **TERMINAL 3** OF THE A/C AMPLIFIER. THE EVAPORATOR TEMP. A SIGNAL FROM THE A/C THERMISTOR IS ALL SUPPLIED TO THE A/C AMPLIFIER. WHEN THE A/C SW IS TURNED ON, THE A/C SW ON SIGNAL IS SENT TO ACTIVATE THE A/C AMPLIFIER. CURRENT FLOWS FROM THE A/C AMPLIFIER TO THE A/C MAGNETIC CLUTCH, TURNING THE COMPRESSOR ON. AT THE SAME TIME, THE CURRENT APPLIED TO THE A/C IDLE-UP VSV FLOWS THROUGH **TERMINAL ACV** OF THE ENGINE CONTROL MODULE, ACTIVATING THE VSV TO PREVENT ENGINE SPEED DROP IN THE A/C OPERATION. THE A/C OPERATION IS SHUT OFF WHEN A SIGNAL INDICATING LOW EVAPORATOR TEMP., OR ABNORMALLY HIGH OR LOW REFRIGERANT PRESSURE, IS SUPPLIED WHILE THE ENGINE HIGH SPEED SIGNAL EXISTS. WHEN ONE OF THESE SIGNALS IS RECEIVED, THE AMPLIFIER SHUTS OFF THE A/C OPERATION.

## SERVICE HINTS

#### A13 A/C SW

6-GROUND : APPROX. 12 VOLTS WITH IGNITION SW AT **ON** POSITION.

4-GROUND : ALWAYS CONTINUITY.

6-5 : CLOSED WITH A/C SW ON.

#### HEATER RELAY

(2) 4 - (2) 5 : CLOSED WITH IGNITION SW ON AND BLOWER SW ON.

(2) 5-GROUND : ALWAYS APPROX. 12 VOLTS.

(2) 3-GROUND : APPROX. 12 VOLTS WITH IGNITION SW AT **ON** POSITION.

(2) 2-GROUND : ALWAYS CONTINUITY.

#### A12 A/C DUAL PRESSURE SW

1-4 : OPEN WITH REFRIGERANT PRESSURE AT LESS THAN APPROX. 2.0 KG/CM<sup>2</sup> (28.4 PSI, 196 KPA) OR MORE THAN APPROX. 32 KG/CM<sup>2</sup> (454 PSI, 3140 KPA).

 : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
A 1	22	B 4	26	E 7	D 27
A 2	22	B 5	26	H 8	27
A11	26	E 4	A 27	I15	27
A12	26		B 27		
A13	26	E 5	C 27		

 : RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
2	19	R/B NO. 2 (ENGINE COMPARTMENT LEFT)

 : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
IC	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)

 : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EA1	30	COWL WIRE AND ENGINE ROOM MAIN WIRE (INNER THE R/B NO. 2)
EA2		
IE1	34	ENGINE WIRE AND COWL WIRE (RIGHT KICK PANEL)
IE2		
IH1	34	COWL WIRE AND A/C SUB WIRE (BEHIND THE GLOVE BOX)

 : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EA	30	FRONT LEFT FENDER
IC	34	LEFT KICK PANEL

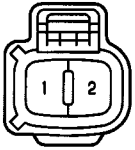
 : SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 6	30	ENGINE ROOM MAIN WIRE	I 9	34	COWL WIRE
I 6	34	COWL WIRE	I10		
I 7					I13



# AIR CONDITIONING (5VZ-FE)

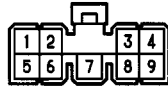
A 1 BLACK



A 2 GRAY



A11



A12



A13



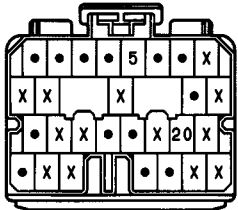
B 4



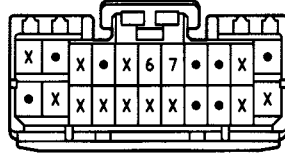
B 5 BLACK



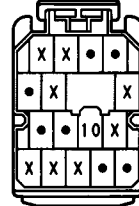
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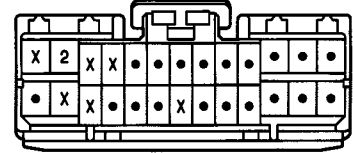
(M/T) E 4 (B) DARK GRAY



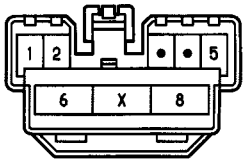
(A/T) E 5 (C) DARK GRAY



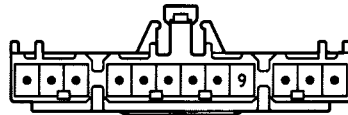
(M/T) E 7 (D) DARK GRAY



H 8



(SR5 GRADE) I15



(DLX GRADE) I15

