

AIR CONDITIONING

SYSTEM OUTLINE

1. HEATER BLOWER MOTOR OPERATION

CURRENT FLOWS CONSTANTLY FROM THE **HEATER FUSE** TO **TERMINAL 5** OF THE HEATER RELAY. WHEN THE IGNITION SW IS TURNED ON, CURRENT FLOWS THROUGH **GAUGE FUSE** TO **TERMINAL 5** OF THE BLOWER SPEED CONTROL RELAY AND **TERMINAL 3** OF THE HEATER RELAY → **TERMINAL 1** → **TERMINAL (A) 1** OF HEATER CONTROL SW.

* LOW SPEED OPERATION

WHEN THE BLOWER SW (HEATER CONTROL SW) IS SET TO **LOW** POSITION, THE CURRENT FLOWING TO **TERMINAL (A)1** OF THE HEATER CONTROL SW FLOWS TO **TERMINAL (B)16** TO **GROUND**, AND TURNS THE HEATER RELAY ON. AS A RESULT, THE CURRENT TO **TERMINAL 5** OF THE HEATER RELAY FLOWS TO **TERMINAL 4** → **TERMINAL 1** OF BLOWER MOTORS → **TERMINAL 2** → **TERMINAL 1** OF BLOWER RESISTOR → **TERMINAL 4** → **GROUND**, CAUSING THE BLOWER MOTORS TO OPERATE AT LOW SPEED.

* HIGH SPEED OPERATION

WHEN THE BLOWER SW (HEATER CONTROL SW) IS SET TO **HI** POSITION, THE CURRENT FLOWING TO **TERMINAL (A) 1** OF THE HEATER CONTROL SW FLOWS TO **TERMINAL (B)16** TO **GROUND**, AND TURNS THE HEATER RELAY ON. AS A RESULT, THE CURRENT TO **TERMINAL 5** OF THE BLOWER SPEED CONTROL RELAY FLOWS TO **TERMINAL 7** → **TERMINAL (B)13** OF THE HEATER CONTROL SW → **TERMINAL (B)16** → **GROUND**, AND TURNS THE BLOWER SPEED CONTROL RELAY ON. THIS CAUSES FLOWING TO **TERMINAL 5** OF THE HEATER RELAY FLOW TO **TERMINAL 4** → **TERMINAL 1** OF THE BLOWER MOTORS → **TERMINAL 2** → **TERMINAL 4** OF BLOWER SPEED CONTROL RELAY → **TERMINAL 3** → **GROUND**. CAUSING THE BLOWER MOTORS TO OPERATE AT HIGH SPEED.

* MEDIUM SPEED OPERATION (OPERATION AT M1, M2)

WHEN THE BLOWER SW (HEATER CONTROL SW) IS SET TO **M1** POSITION, THE CURRENT FLOWING TO **TERMINAL (A)1** OF THE HEATER CONTROL SW FLOWS TO **TERMINAL (B)16** AND THEN TO **GROUND**, AND TURNS THE HEATER RELAY ON. AS A RESULT, THE CURRENT FLOWING TO **TERMINAL 5** OF THE BLOWER SPEED CONTROL RELAY FLOWS TO **TERMINAL 6** → **TERMINAL (B)9** OF HEATER CONTROL SW → **TERMINAL (B)16** → **GROUND**, AND TURNS THE BLOWER CONTROL RELAY ON. THIS CAUSES THE CURRENT FLOWING TO **TERMINAL 5** OF THE HEATER RELAY TO FLOW TO **TERMINAL 4** → **TERMINAL 1** OF BLOWER MOTORS → **TERMINAL 2** → **TERMINAL 1** OF BLOWER RESISTOR → **TERMINAL 3** → **TERMINAL 2** OF BLOWER SPEED CONTROL RELAY → **TERMINAL 3** → **GROUND**, CAUSING THE BLOWER MOTORS TO OPERATE AT MEDIUM LOW SPEED. WHEN THE BLOWER SW (HEATER CONTROL SW) IS SET TO **M2** POSITION, THE CURRENT FLOWING TO **TERMINAL (A)1** OF THE HEATER CONTROL SW FLOWS TO **TERMINAL (B)16** AND THEN TO **GROUND**, AND TURNS THE HEATER RELAY ON. AS A RESULT, THE CURRENT FLOWING TO **TERMINAL 5** OF THE BLOWER CONTROL RELAY FLOWS TO **TERMINAL 8** → **TERMINAL (B)10** OF THE HEATER CONTROL SW → **TERMINAL (B)16** → **GROUND**. AND TURNS THE BLOWER SPEED CONTROL RELAY ON. THIS CAUSES THE CURRENT FLOWING TO **TERMINAL 5** OF THE HEATER RELAY TO FLOW TO **TERMINAL 4** → **TERMINAL 1** OF BLOWER MOTORS → **TERMINAL 2** → **TERMINAL 1** OF BLOWER RESISTOR → **TERMINAL 2** → **TERMINAL 1** OF BLOWER SPEED CONTROL RELAY → **TERMINAL 3** → **GROUND**, CAUSING THE BLOWER MOTOR TO OPERATE AT MEDIUM HI SPEED. THE CURRENT FLOW TO THE BLOWER MOTORS AT THIS TIME IS STRONGER THAN IT WAS FOR THE **M1** POSITION, SO THE BLOWER MOTORS OPERATES FASTER FOR **M2** THAN IT DOES FOR **M1**.

2. OPERATION AIR INLET CONTROL SERVO MOTOR

(SWITCHING FROM FRESH TO RECIRC)

WITH IGNITION SW TURNED ON, THE CURRENT FLOWS FROM **GAUGE FUSE** TO **TERMINAL 1** OF AIR INLET CONTROL SERVO MOTOR. WHEN THE RECIRC/FRESH SW IS SWITCHED TO THE RECIRC SIDE, THE CURRENT FLOWS FROM **TERMINAL 1** OF AIR INLET CONTROL SERVO MOTOR → **TERMINAL 3** → **TERMINAL (A)18** OF HEATER CONTROL SW → **TERMINAL (B)16** → **GROUND**. THE MOTOR ROTATES AND THE DAMPER MOVES TO THE RECIRC SIDE. WHEN IT IS IN THE RECIRC POSITION, THE CURRENT IS CUT INSIDE THE SERVO MOTOR AND THE DAMPER STOPS AT THAT POSITION.

(SWITCHING FROM RECIRC TO FRESH)

WITH IGNITION SW ON, WHEN THE RECIRC/FRESH SW IS SWITCHED TO THE FRESH SIDE, THE CURRENT FLOWS FROM **TERMINAL 1** OF AIR INLET CONTROL SERVO MOTOR → **TERMINAL 2** → **TERMINAL (A)19** OF HEATER CONTROL SW → **TERMINAL (B)16** → **GROUND**, THE MOTOR ROTATES AND THE DAMPER TO MOVES TO THE FRESH SIDE. WHEN IT IS IN THE **FRESH** POSITION, THE CURRENT IS CUT INSIDE THE SERVO MOTOR AND THE DAMPER STOPS AT THAT POSITION.

3. OPERATION OF AIR VENT MODE CONTROL SERVO MOTOR

WITH IGNITION SW TURNED ON, THE CURRENT FLOWS FROM **GAUGE FUSE** TO **TERMINAL 5** OF AIR VENT MODE CONTROL SERVO MOTOR → **TERMINAL 6** → **GROUND**, AND THE DAMPER MOVES TO THE POSITION OF THE MODE SELECTION SW ON THE CONTROL SW WHICH IS ON. WHEN THE DEF SW OF HEATER CONTROL SW IS TURNED ON WITH THE **FACE** POSITION, A SIGNAL IS INPUT FROM **TERMINAL 7** OF AIR VENT MODE CONTROL SERVO MOTOR TO **TERMINAL (B)4** OF HEATER CONTROL SW. AS A RESULT, THE SERVO MOTOR OPERATES UNTIL THE DAMPER REACHES **DEF** POSITION. WHEN THIS OCCURS THE SIGNAL TO THE HEATER CONTROL SW IS SHUT OFF AND ROTATION OF THE MOTOR STOPS. SWITCHING TO OTHER MOVES IS CONTROLLED BY THE SERVO MOTOR ACCORDING TO THE FOLLOWING SIGNALS:

1. **FACE** POSITION, A SIGNAL INPUT FROM **TERMINAL 1** OF SERVO MOTOR TO **TERMINAL (B)14** OF HEATER CONTROL SW.
2. **BI-LEVEL** POSITION, A SIGNAL INPUT FROM **TERMINAL 2** OF SERVO MOTOR TO **TERMINAL (A)12** OF HEATER CONTROL SW.
3. **FOOT** POSITION, A SIGNAL INPUT FROM **TERMINAL 7** OF SERVO MOTOR TO **TERMINAL (A)7** OF HEATER CONTROL SW.
4. **FOOT/DEF** POSITION, A SIGNAL INPUT FROM **TERMINAL 4** OF SERVO MOTOR TO **TERMINAL (B)11** OF HEATER CONTROL SW.

4. AIR MIX CONTROL SERVO MOTOR

VOLTAGE IS APPLIED TO **TERMINALS 11** AND **12** OF THE A/C SYSTEM AMPLIFIER FROM THE TEMPERATURE CONTROL LEVER INSIDE THE HEATER CONTROL SWITCH AND FROM THE POTENTIOMETER INSIDE THE AIR MIX CONTROL SERVO MOTOR. THIS VOLTAGE IS KEPT AT A FIXED LEVEL BY THE A/C SYSTEM AMPLIFIER. WHEN THE TEMPERATURE CONTROL LEVER OF THE HEATER CONTROL SW IS MOVED TO 'COOL', THE VOLTAGE APPLIED TO **TERMINAL 11** OF THE A/C SYSTEM AMPLIFIER FROM **TERMINAL (B)13** OF THE HEATER CONTROL SW CHANGES. AT THIS TIME, THE A/C SYSTEM AMPLIFIER COMPARES THE VOLTAGE FROM **TERMINAL 2** OF THE AIR MIX CONTROL SERVO MOTOR WITH THE VOLTAGE APPLIED TO **TERMINAL 11** OF THE A/C SYSTEM AMPLIFIER. THIS ACTIVATES THE A/C SYSTEM AMPLIFIER, SO CURRENT FLOWS FROM **TERMINAL 6** OF THE AMPLIFIER → **TERMINAL 5** OF THE AIR MIX CONTROL SERVO MOTOR → **TERMINAL 1** → **TERMINAL 1** OF A/C SYSTEM AMPLIFIER, AND THE AIR MIX CONTROL SERVO MOTOR CHANGES TO THE 'COOL' SIDE. THEN WHEN THE VOLTAGE FROM THE POTENTIOMETER INSIDE THE SERVO MOTOR EQUALS THE VOLTAGE FROM THE TEMPERATURE CONTROL LEVER INSIDE THE HEATER CONTROL SW, THE A/C SYSTEM AMPLIFIER CUTS OFF POWER TO THE MOTOR. WHEN THE TEMPERATURE CONTROL LEVER IS MOVED TO THE 'HOT' SIDE, THE A/C SYSTEM AMPLIFIER OPERATES THE SAME AS FOR 'COOL' OPERATION SO CURRENT FLOWS FROM **TERMINAL 1** OF THE AMPLIFIER → **TERMINAL 4** OF AIR MIX CONTROL SERVO MOTOR → **TERMINAL 5** → **TERMINAL 6** OF A/C SYSTEM AMPLIFIER, CHANGING THE MOTOR TO THE 'HOT' SIDE. WHEN THE POTENTIOMETER VOLTAGE AND TEMPERATURE CONTROL LEVEL VOLTAGE ARE THE SAME, POWER TO THE MOTOR IS CUT OFF.

5. AIR CONDITIONING OPERATION

WHEN THE IGNITION SW IS TURNED ON, CURRENT FROM THE **GAUGE** FUSE FLOWS THROUGH THE A/C PRESSURE SW TO **TERMINAL 3** OF THE A/C AMPLIFIER. IF THE HEATER CONTROL SW IS THEN TURNED ON, CURRENT FLOWS FROM THE **HEATER** FUSE TO THE **A/C** FUSE TO **TERMINAL (B)17** OF THE HEATER CONTROL SW. WHEN THE A/C IS TURNED ON, CURRENT FLOWS FROM **TERMINAL (B)17** OF THE HEATER CONTROL SW → **TERMINAL (B)6** → **TERMINAL 2** OF THE A/C AMPLIFIER, ACTIVATING THE A/C AMPLIFIER. CURRENT THEN FLOWS FROM **TERMINAL 1** OF THE A/C AMPLIFIER → **TERMINAL 4** OF THE A/C CUT RELAY → **TERMINAL 3** → **TERMINAL 1** OF A/C MAGNETIC CLUTCH → **GROUND**. THIS STARTS THE COMPRESSOR. WHEN THE ENGINE COOLANT TEMPERATURE IS APPROX. **108°C (226°F)**, THE WATER TEMP. SW TURNED ON AND THE A/C CUT RELAY IS ACTIVATED. THIS TURNS THE COMPRESSOR OFF AND STOPS THE AIR CONDITIONING. THE AIR CONDITIONING ALSO TURNS OFF IF A SIGNAL IS INPUT TO THE A/C AMPLIFIER THAT THE AIR OUTLET TEMPERATURE IS LOW (BELOW APPROX. **3°C**) OR THE REFRIGERANT PRESSURE IS ABNORMALLY LOW.

SERVICE HINTS

A 1 A/C MAGNETIC CLUTCH

1 – GROUND: APPROX. **3.8Ω**

A 3 A/C PRESSURE SW

1–4: OPEN WITH REFRIGERANT PRESSURE AT LESS THAN APPROX. **2.1 KG/CM² (30 PSI, 206 KPA)**
OR MORE THAN APPROX. **27 KG/CM² (38 PSI, 2684 KPA)**

A18 A/C THERMISTOR

1–2 : APPROX. **1.5 KΩ 25°C (77°F)**

B 5 BLOWER RESISTOR

1–4 : **2.0 Ω**

1–3 : **0.88 Ω**

1–2 : **0.32 Ω**

H13(A), H14(B) HEATER CONTROL SW

(A) 1, (A) 9, (B)18 – GROUND: APPROX. **12 VOLTS** WITH IGNITION SW AT **ON** POSITION

(A) 1, (B)18 – GROUND: APPROX. **12 VOLTS** WITH HEATER CONTROL SW AT **LOW** POSITION

(B) 9 – GROUND: APPROX. **12 VOLTS** WITH HEATER CONTROL SW AT **MEDIUM LOW** POSITION

(B) 10 – GROUND: APPROX. **12 VOLTS** WITH HEATER CONTROL SW AT **MEDIUM HIGH** POSITION

(B) 13 – GROUND: APPROX. **12 VOLTS** WITH HEATER CONTROL SW AT **HIGH** POSITION

(A) 19 – GROUND: APPROX. **12 VOLTS** WITH RECIRC SW AT **ON** POSITION

(A) 18 – GROUND: APPROX. **12 VOLTS** WITH FRESH SW AT **ON** POSITION

(A) 14 – GROUND: APPROX. **12 VOLTS** WITH FACE SW AT **ON** POSITION

(A) 12 – GROUND: APPROX. **12 VOLTS** WITH B/L SW AT **ON** POSITION

(A) 7 – GROUND: APPROX. **12 VOLTS** WITH FOOT SW AT **ON** POSITION

(B) 4 – GROUND: APPROX. **12 VOLTS** WITH DEF SW AT **ON** POSITION

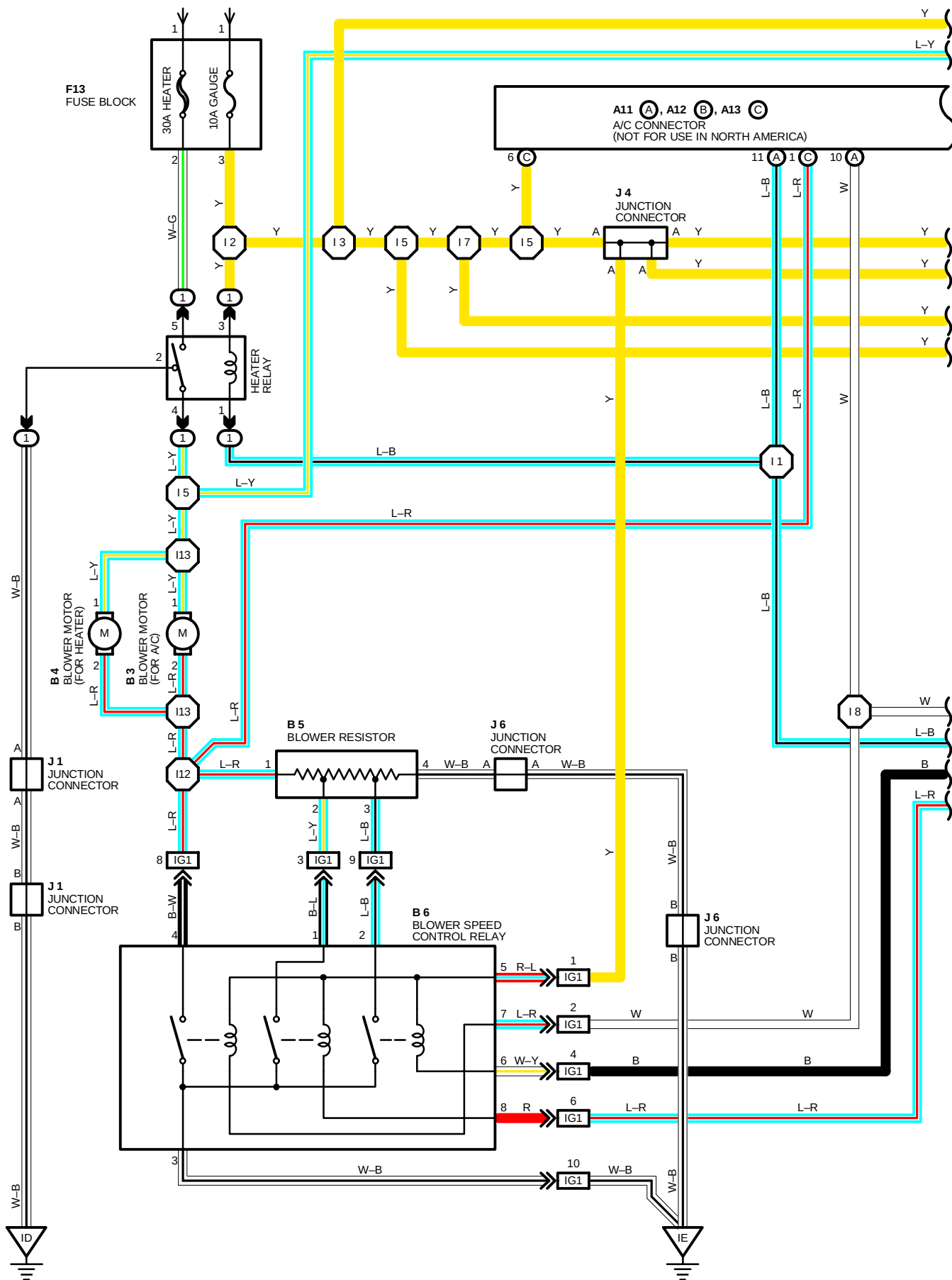
(B) 11 – GROUND: APPROX. **12 VOLTS** WITH FOOT/DEF SW AT **ON** POSITION

(A) 1, (B)18–GROUND: APPROX. **12 VOLTS** WITH A/C SW AT **ON** POSITION

(A) 8, (B)16–GROUND: ALWAYS CONTINUITY

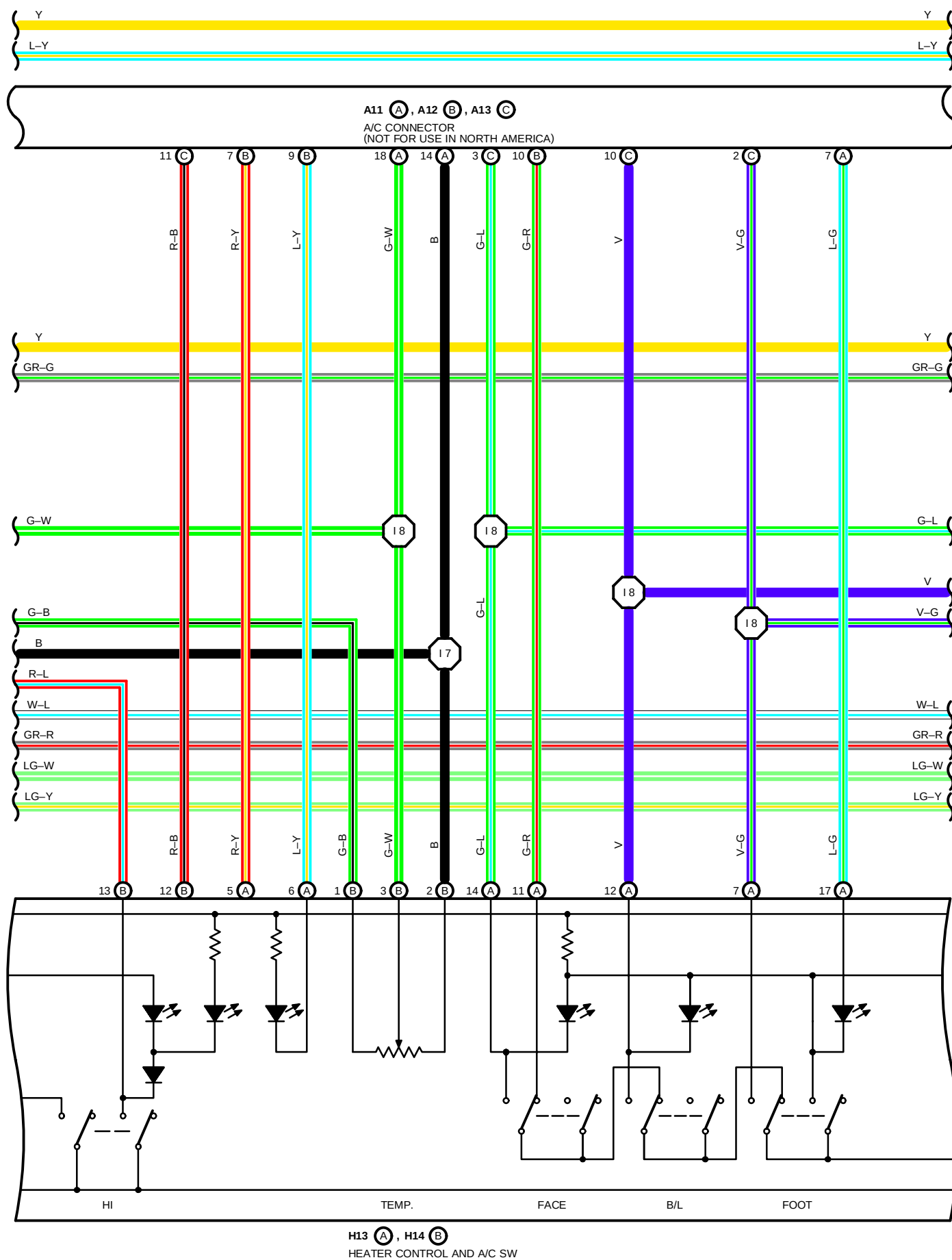
AIR CONDITIONING

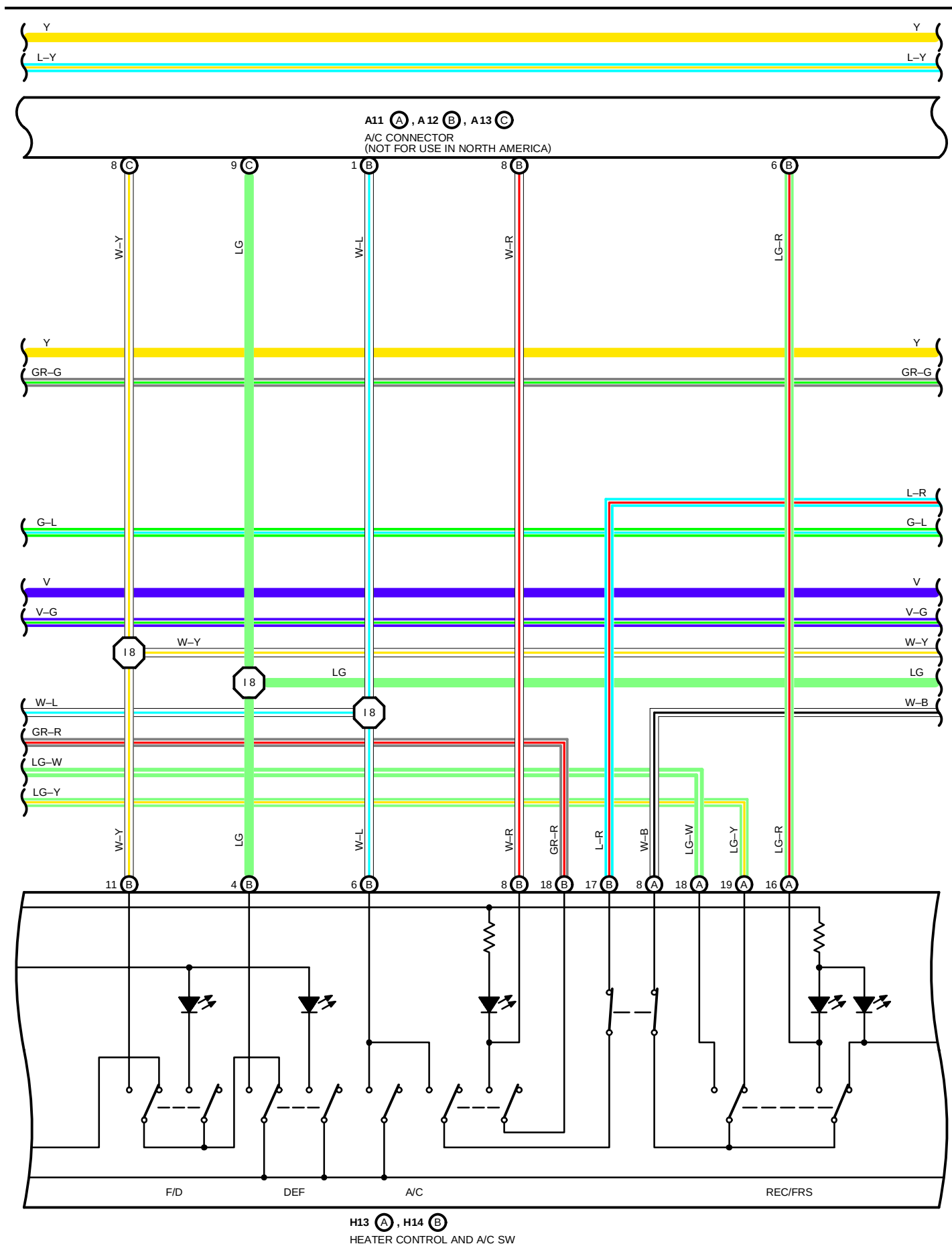
FROM POWER SOURCE SYSTEM (SEE PAGE 46)



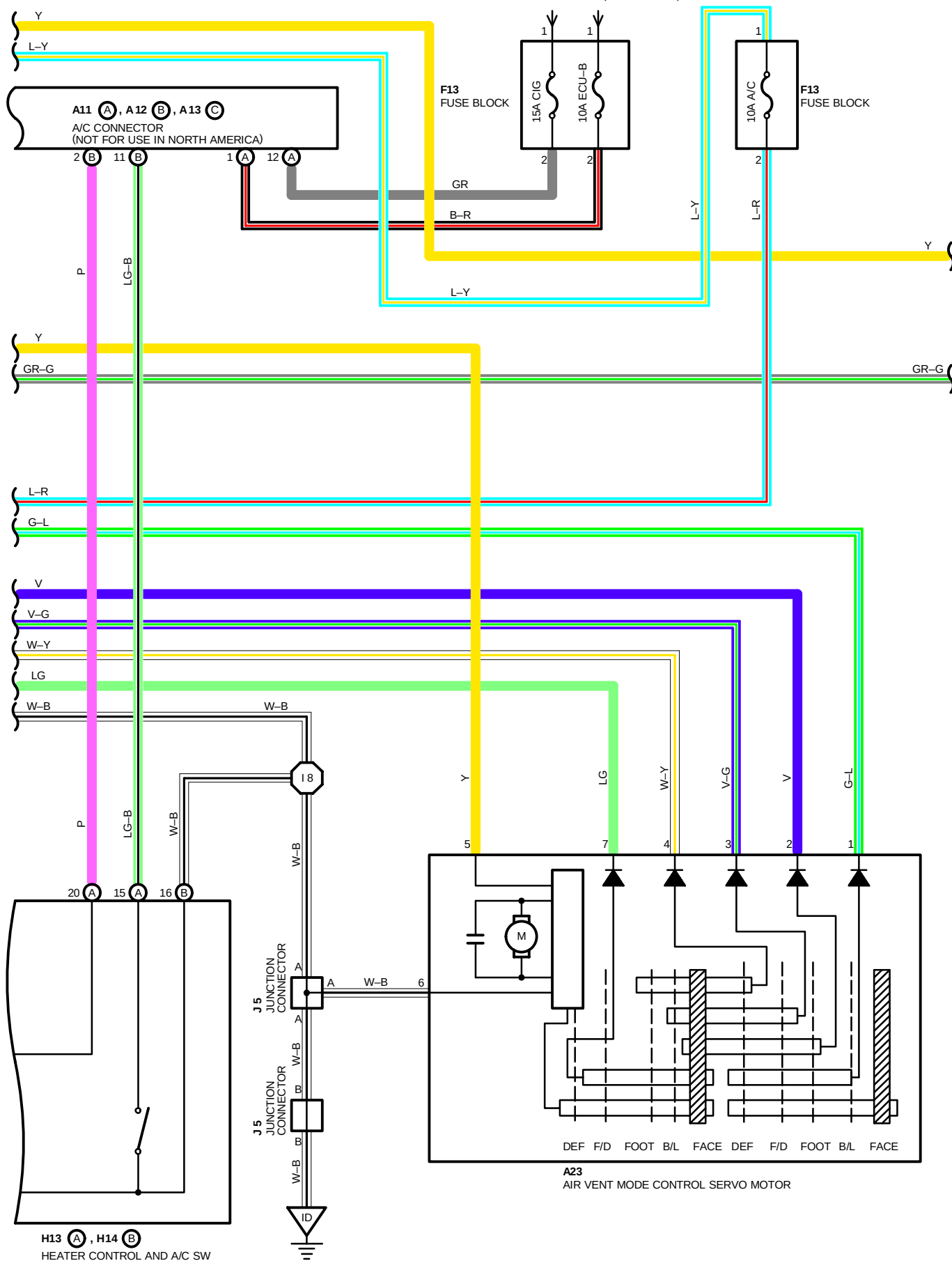


AIR CONDITIONING





FROM POWER SOURCE SYSTEM (SEE PAGE 46)



AIR CONDITIONING

○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
A 1	22	A17	23	F13	23
A 3	22	A18	23	H13	A 23
A10	23	A21	23	H14	B 23
A11	A 23	A22	23	J 1	23
A12	B 23	A23	23	J 4	23
A13	C 23	B 3	23	J 5	23
A14	23	B 4	23	J 6	23
A15	23	B 5	23	W 4	22
A16	23	B 6	23		

○ : RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
1	20	R/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	26	COWL WIRE AND ENGINE ROOM MAIN WIRE (LEFT FENDER)
EY1	26	OIL PRESSURE SWITCH WIRE AND ENGINE ROOM MAIN WIRE (NEAR THE AIR CLEANER)
IG1	28	COWL WIRE AND A/C SUB WIRE (BEHIND GLOVE BOX)
IG2	28	COWL WIRE AND A/C SUB WIRE (BEHIND GLOVE BOX)
IH1	28	ENGINE WIRE AND COWL WIRE (BEHIND GLOVE BOX)

▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EC	26	AIR INTAKE CHAMBER
ID	28	LEFT KICK PANEL
IE	28	RIGHT KICK PANEL

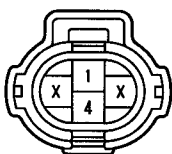
○ : SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I1	28	COWL WIRE	I9	28	COWL WIRE
I2			I11		
I3			I12		
I5			I13		
I7			I17		A/C SUB WIRE
I8					

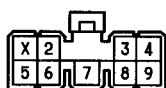
A 1 GRAY



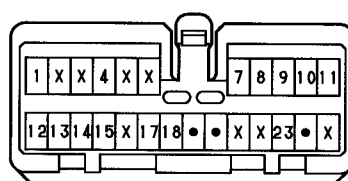
A 3 BLACK



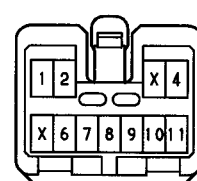
A10



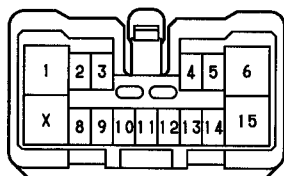
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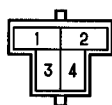
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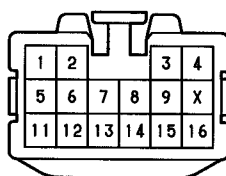
A13 (C)



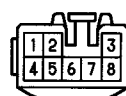
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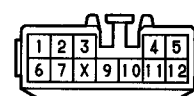
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A16



A17



A18



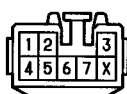
A21



A22



A23



B 3



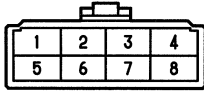
B 4 BLACK



B 5 BLACK



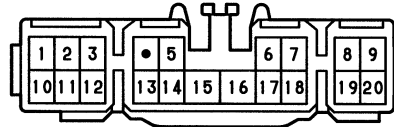
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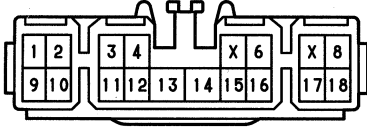
F13

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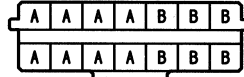
H13 (A)



H14 (B) BLUE

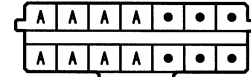


J 1 ORANGE



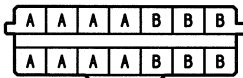
(HINT:SEE PAGE 7)

J 4 ORANGE



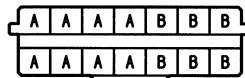
(HINT:SEE PAGE 7)

J 5 ORANGE



(HINT:SEE PAGE 7)

J 6 ORANGE



(HINT:SEE PAGE 7)

W 4 GRAY

