WIRING DIAGRAM SYMBOLS
Article Text

1991 Volkswagen Vanagon
For Volkswagen Technical Site

Saturday, March 18, 2000 09:57PM

ARTICLE BEGINNING

WIRING DIAGRAMS
How To Use The Wiring Diagrams

INTRODUCTION

The wiring diagrams and technical service bulletins, containing wiring diagram changes, are obtained from the domestic and import manufacturers. These are checked for accuracy and are all redrawn into a consistent format for easy use.

All diagrams are arranged with the front of the vehicle at the left side of the first page and the rear of the vehicle at the right side of the last page. Accessories are shown near the end of the diagram.

Components are shown in their approximate location on the vehicle. Due to the constantly increasing number of components on vehicles today, it is impossible to show exact locations.

In the past, when cars were simpler, diagrams were simpler. All components were connected by wires, and diagrams seldom exceeded 4 pages in length. Today some wiring diagrams require more than 16 pages. It would be impractical to expect a service technician to trace a wire from page 1 across every page to page 16.

Removing some of the wiring maze reduces eyestrain and time wasted searching across several pages. Today, the majority of diagrams now follow a much improved format, which permits space for internal switch details and connector shapes.

Any wires that don't connect directly to their components are identified on the diagram to indicate where they go. There is a legend on the first page of each diagram, detailing component location. It refers you to sub-systems, using grid NUMBERS at the top and bottom of the page and grid LETTERS on each side. This grid system works in a manner similar to that of a road map.

HOW TO USE THE WIRING DIAGRAMS

1) On the first page of the diagram, you will find a listing of major electrical components or systems. Locate the specific component or system you wish to trace. A grid number and letter will follow the component's name.

2) Use the grid NUMBERS (arranged horizontally across the top and bottom of each page) to find the page of the wiring diagram that contains the component you're seeking. When you reach this page, use the grid LETTERS on the side of the page to determine the component's vertical location.

3) Locate the circuit you need to service. The internals are shown for switches and relays to assist you in understanding how the circuit operates.

NOTE: In some of the newer wiring diagram articles in this product, there is a Legend for the wiring diagrams that has

been created to make locating components easier. For these articles, there will be a COMPONENT LOCATION MENU title in the article main menu. These articles will also have the original legend available on the first graphic.

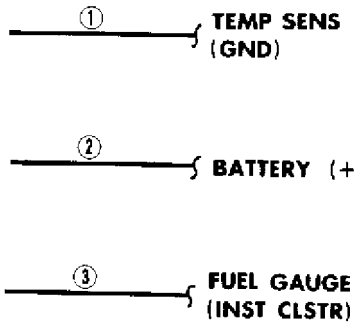

Fig. 1: Identifying Tie-Off Symbols

4) If the wires are not drawn all the way to another component (across several pages), a reference will tell you their final destination.

5) Again, use the legend on the first page of the wiring diagram to determine the grid number and letter of the referenced component. You can then turn directly to it without tracing wires across several pages.

6) The symbols shown in Fig. 1 are called tie-offs. The first tie-off shown indicates that the circuit goes to the temperature sensor, and is also a ground circuit.

7) The second symbol indicates that the circuit goes to a battery positive parallel circuit. The third symbol leads to a particular component and the location is also given.

8) The lines shown in Fig. 2 are called options. Which path or option to take depends on what engine or systems the vehicle has.

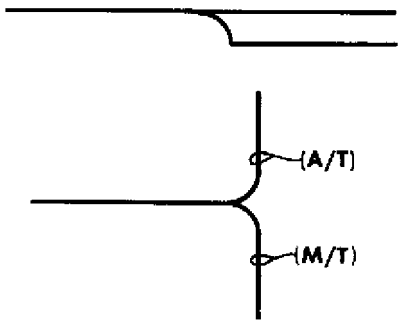

Fig. 2: Identifying Option Symbols

COLOR ABBREVIATIONS IDENTIFICATION

COLOR ABBREVIATIONS

Color	Normal	Optional
Black	BLK	BK

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Blue	BLU		BU
Brown	BRN		BN
Clear	CLR		CR
Dark Blue	DK BLU		DK BU
Dark Green	DK GRN		DK GN
Green	GRN		GN
Gray	GRY		GY
Light Blue	LT BLU		LT BU
Light Green	LT GRN		LT GN
Orange	ORG		OG
Pink	PNK		PK
Purple	PPL		PL
Red	RED		RD
Tan	TAN		TN
Voilet	VIO		VI
White	WHT		WT
Yellow	YEL		YL

WIRING DIAGRAM SYMBOL IDENTIFICATION

NOTE: Standard wiring symbols are used on diagrams. The list below will help clarify any symbols that are not easily understood at a glance. Most components are labeled "Motor", "Switch" or "Relay" in addition to being drawn with the standard symbol.

WIRING DIAGRAM SYMBOLS

Views of the symbols used in the WIRING DIAGRAM articles are in the following graphics. See Figs. 3 through 25.

Fig. 3: Circuit Breaker

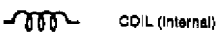

Fig. 4: Coil (Internal)

Fig. 5: Connector

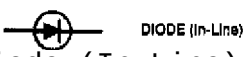

Fig. 6: Diode (In-Line)

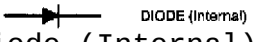

Fig. 7: Diode (Internal)

Fig. 8: Diode (Light Emitting)

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Fig. 9: Defogger Grid

Fig. 10: Fuse

Fig. 11: Fusible Link

Fig. 12: Ground

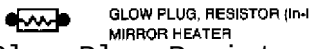

Fig. 13: Glow Plug Resistor (In-Line) or Mirror Heater

Fig. 14: Injector (Diesel) or Photocell (Gasoline)

Fig. 15: Internal Fuse, Thermal Limiter

Fig. 16: Lamp (Dual Element)

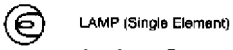

Fig. 17: Lamp (Single Element)

Fig. 18: Motor

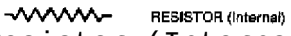

Fig. 19: Resistor (Internal)

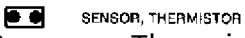

Fig. 20: Sensor, Thermistor

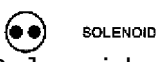

Fig. 21: Solenoid

Fig. 22: Solid State Device, Transistor

Fig. 23: Switch (Internal)

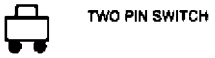

Fig. 24: Two Pin Switch

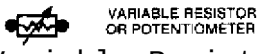

Fig. 25: Variable Resistor or Potentiometer

END OF ARTICLE

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ARTICLE BEGINNING

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Vanagon

COMPONENT LOCATION MENU

COMPONENT LOCATIONS TABLE

Component	Figure No. (Location)
A/C HI PRESSURE SWITCH	1 (C 2)
A/C SWITCH	1 (E 3)
A/T CONSOLE LIGHTS	4 (A 12)
A/T RELAY	4 (D 13)
ALTERNATOR	7 (D-E 26-27)
AUXILIARY BATTERY	7 (D 24)
BACK-UP LIGHT SWITCH	4 (B 12)
BATTERY	7 (E 24)
BATTERY CUTOUT RELAY	7 (D 24)
BATTERY VOLTAGE INDS	5 (C 17)
BEAM SELECT SWITCH	2 (A 7)
BRAKE FLUID LEVEL WARNING SWITCH	3 (B 10)
CIGARETTE LIGHTER & LIGHT	2 (E 7)
COOLANT LOW LEVEL CONTROL UNIT	4 (B-C 14-15)
COOLANT LOW LEVEL WARNING SWITCH	4 (A-B 14)
COOLANT TEMP SENDING UNIT	4 (A 15)
CRUISE CONTROL SWITCH	4 (D-E 15)
DEFOGGER SWITCH	3 (A 11)
DIGAFANT CONTROL UNIT	7 (A-B 26)
DIGAFANT CONTROL UNIT RELAY	7 (C 26)
DIR SWITCH	3 (A 8)
EMERGENCY FLASHER RELAY #12	3 (C 8)
EMERGENCY FLASHER SWITCH	3 (A 8-9)
FRESH AIR FAN SWITCH	2 (D 7)
FRONT WIPER MOTOR	3 (E 8)
FUEL GAUGE SENDING UNIT	4 (D 12)
FUEL INJECTORS	7 (C-D 24)
FUEL PUMP	7 (D 25)
FUEL PUMP RELAY	7 (D 26)
FUSE #23 (A/C SYSTEM)	1 (D 2)
FUSSE #37	2 (B 4)
FUSE #42 (COOLING FAN)	1 (B 2)
FUSE #52	2 (A 4)
FUSE/RELAY PANEL	2 (B-D 4-7)
FUSE/RELAY PANEL LAYOUT	6 (D-E 20-23)
GAS FLAME ON WARNING INDICATOR	5 (D 16)
GEAR SELECT SWITCH	4 (A 12-13)
HEADLIGHT SWITCH	2 (A 6)
HORN SWITCH	3 (B 11)

IDLE STABILIZERS CONTROL UNIT ..... 7 (B-C 26)
IGNITION COIL ..... 7 (A 24)
IGNITION SWITCH ..... 2 (A 4)
INSTRUMENT CLUSTER ..... 5 (A-C 19)
LEFT FRONT DOOR SWITCH ..... 2 (E 4-5)
LOAD REDUCTION RELAY #8 ..... 2 (C-D 7)
MAP READING LIGHT ..... 5 (D 19)
OIL PRESSURE SWITCHES ..... 4 (A-B 14)
O2 SENSOR ..... 7 (C 24)
P/S PRESSURE SWITCH ..... 7 (C 25)
PARK BRAKE WARNING SWITCH ..... 3 (B 10)
POWER DOOR LOCKS ..... 6 (A 20-23)
POWER MIRROR SYSTEM ..... 6 (B 20-23)
POWER WINDOW SYSTEM ..... 6 (C 20-23)
RADIATOR COOLING FAN (W/O A/C) ..... 1 (A 2)
RADIATOR COOLING FAN RELAY 2ND STAGE #5 ..... 2 (C 5)
RADIATOR COOLING FAN RESISTORS ..... 1 (B 3)
RADIATOR COOLING FAN THERMO SWITCH (W/O A/C) ..... 1 (A 3)
RADIO (PARTIAL) ..... 5 (D 19)
REAR WINDOW WIPER MOTOR ..... 3 (E 10)
REAR WIPER/WASHER RELAY #11 ..... 3 (C 10)
REFRIGERATOR 110 VOLT SOCKETS ..... 5 (E 16)
REFRIGERATOR 12V HEATER RELAY ..... 5 (A 18-19)
SEAT BELT WARNING RELAY ..... 3 (A 9-10)
SEAT BELT/BRAKE WARNING IND ..... 3 (A 10)
STARTER ..... 7 (E 24)
STOP LIGHT SWITCH ..... 4 (E 12)
TDC SENSOR ..... 7 (A 24)
THROTTLE VALVE SWITCH ..... 7 (B 24)
WARM AIR BLOWER SWITCH ..... 3 (E 11)
WASHER MOTORS ..... 3 (E 10)
WATER TANK SYSTEM ..... 5 (B-C 16)
WIPER/WASHER INTERM RELAY #10 ..... 3 (C 9)
WIPER/WASHER SWITCH ..... 3 (E 9)

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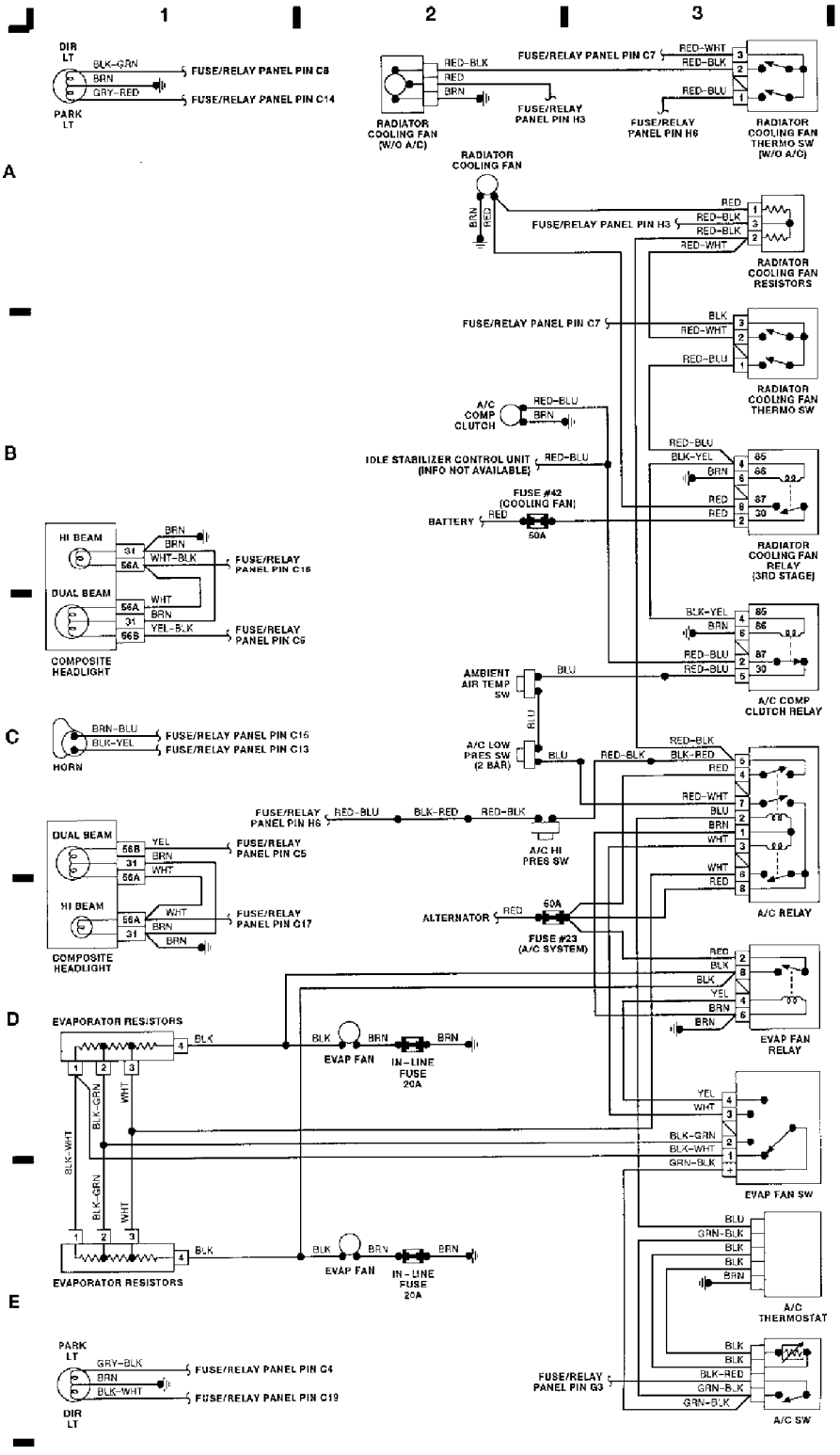

Fig. 1: Headlights and Relays (Grid 1-3)

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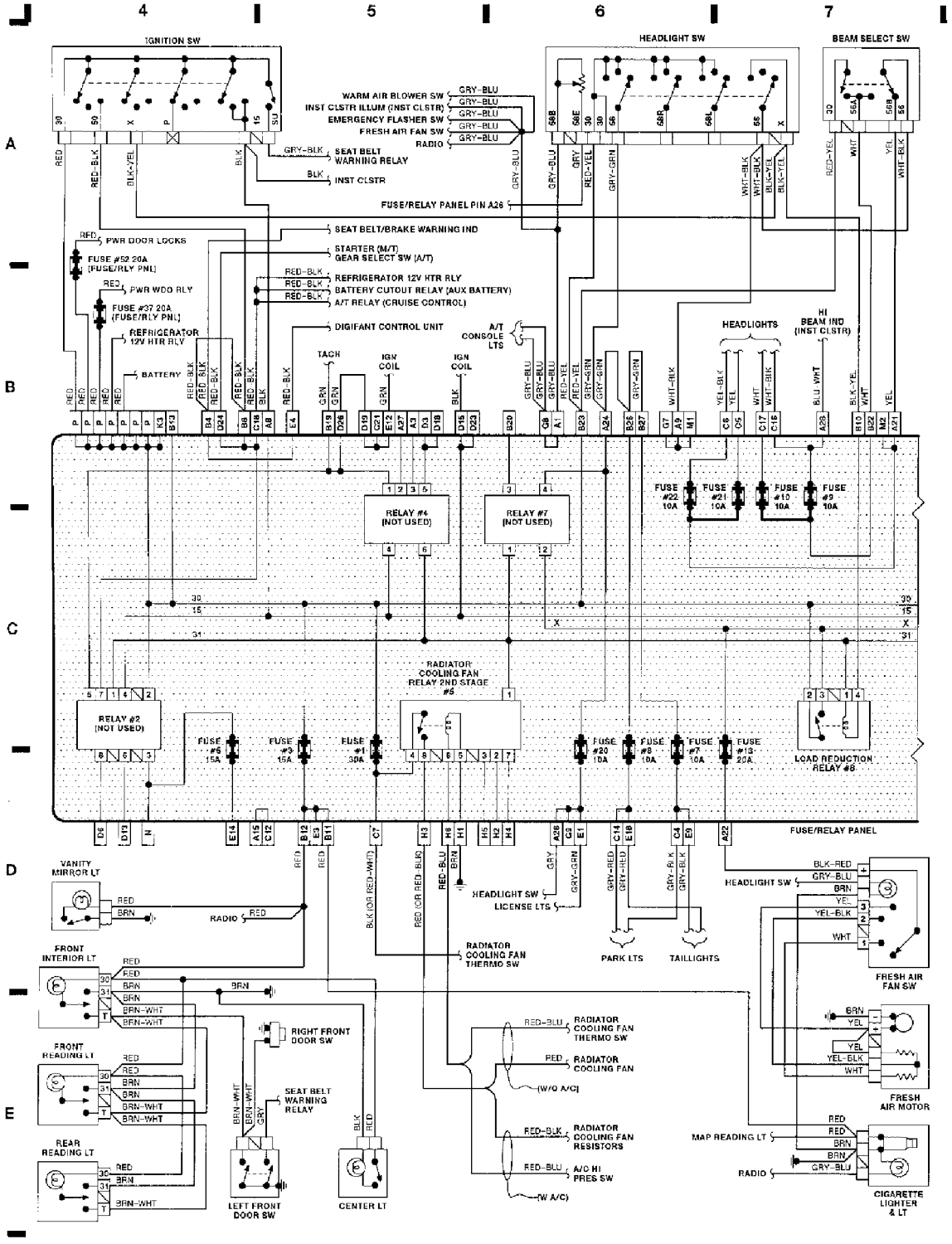

Fig. 2: Fuse/Relay Panel (1 of 3) (Grid 4-7)

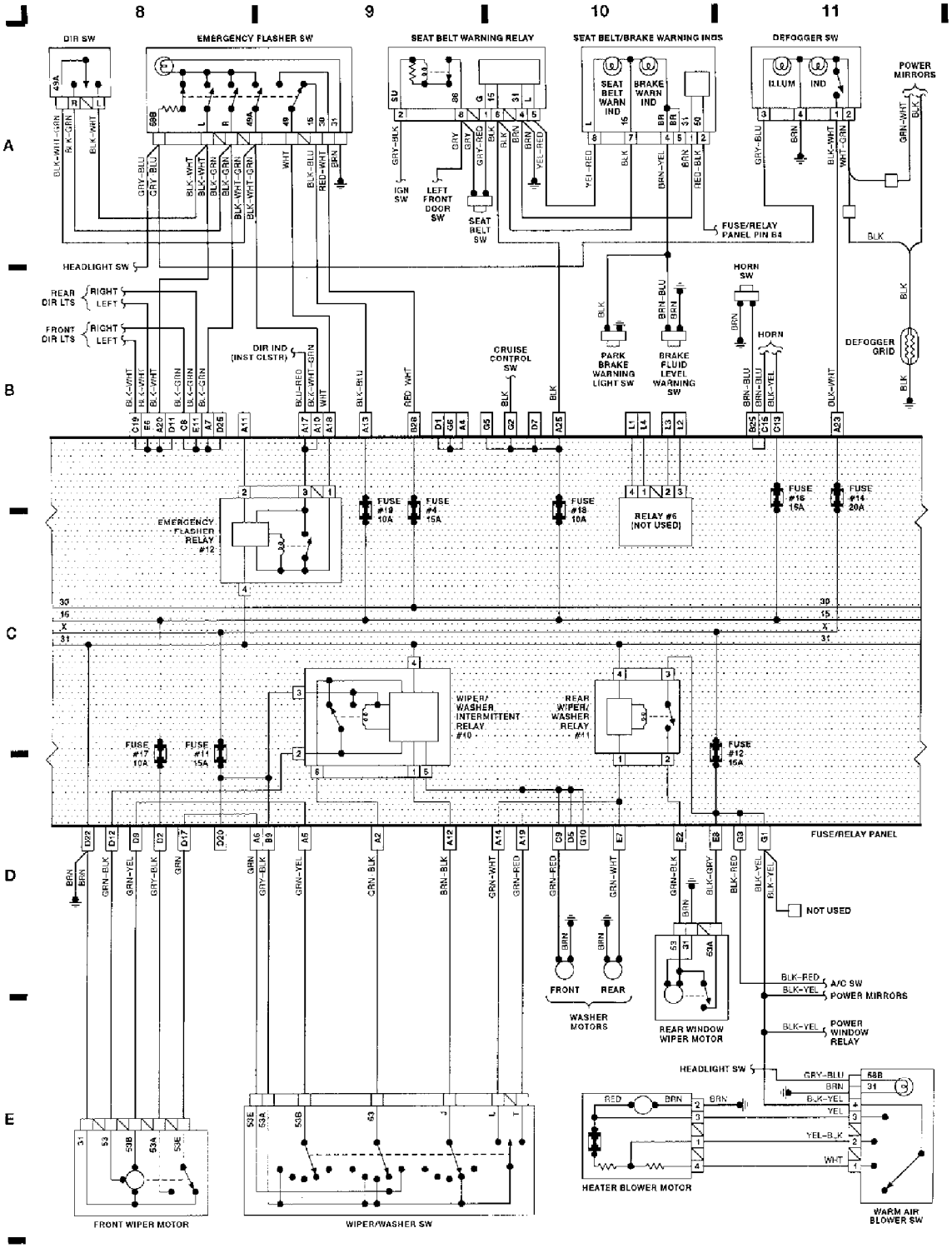

Fig. 3: Fuse/Relay Panel (2 of 3) (Grid 8-11)

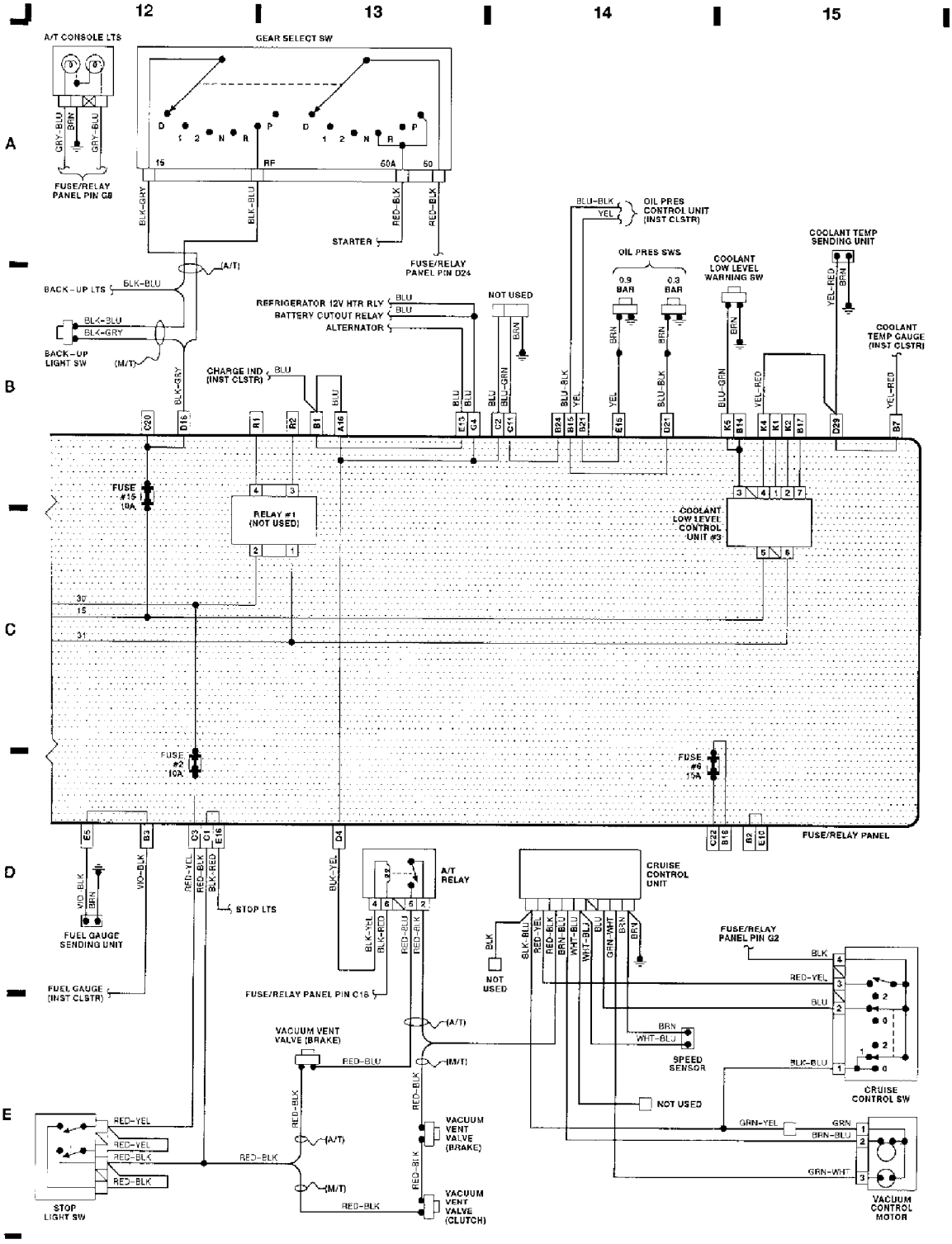

Fig. 4: Fuse/Relay Panel (3 of 3) (Grid 12-15)

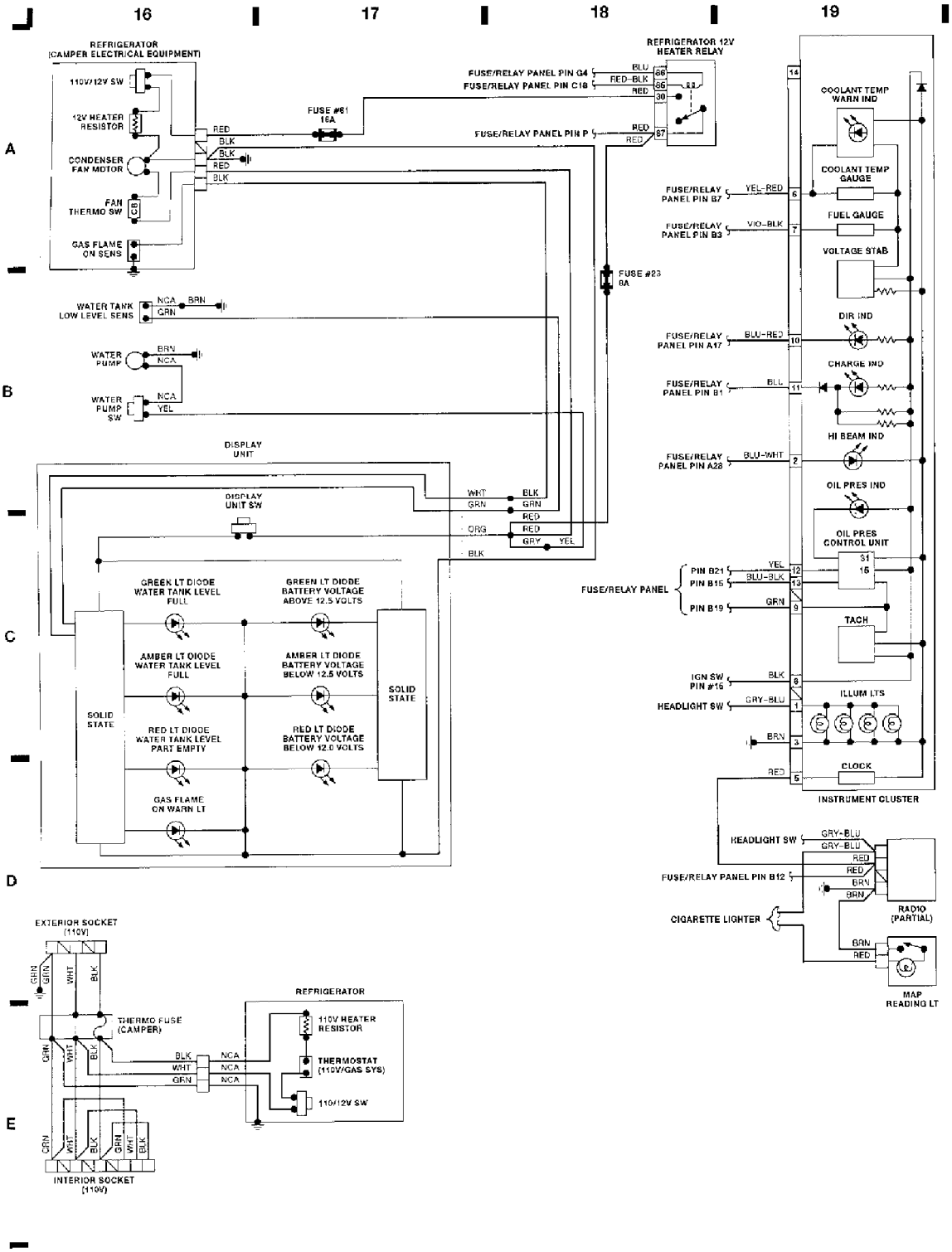

Fig. 5: Inst Cluster, Refrigerator (Grid 16-19)

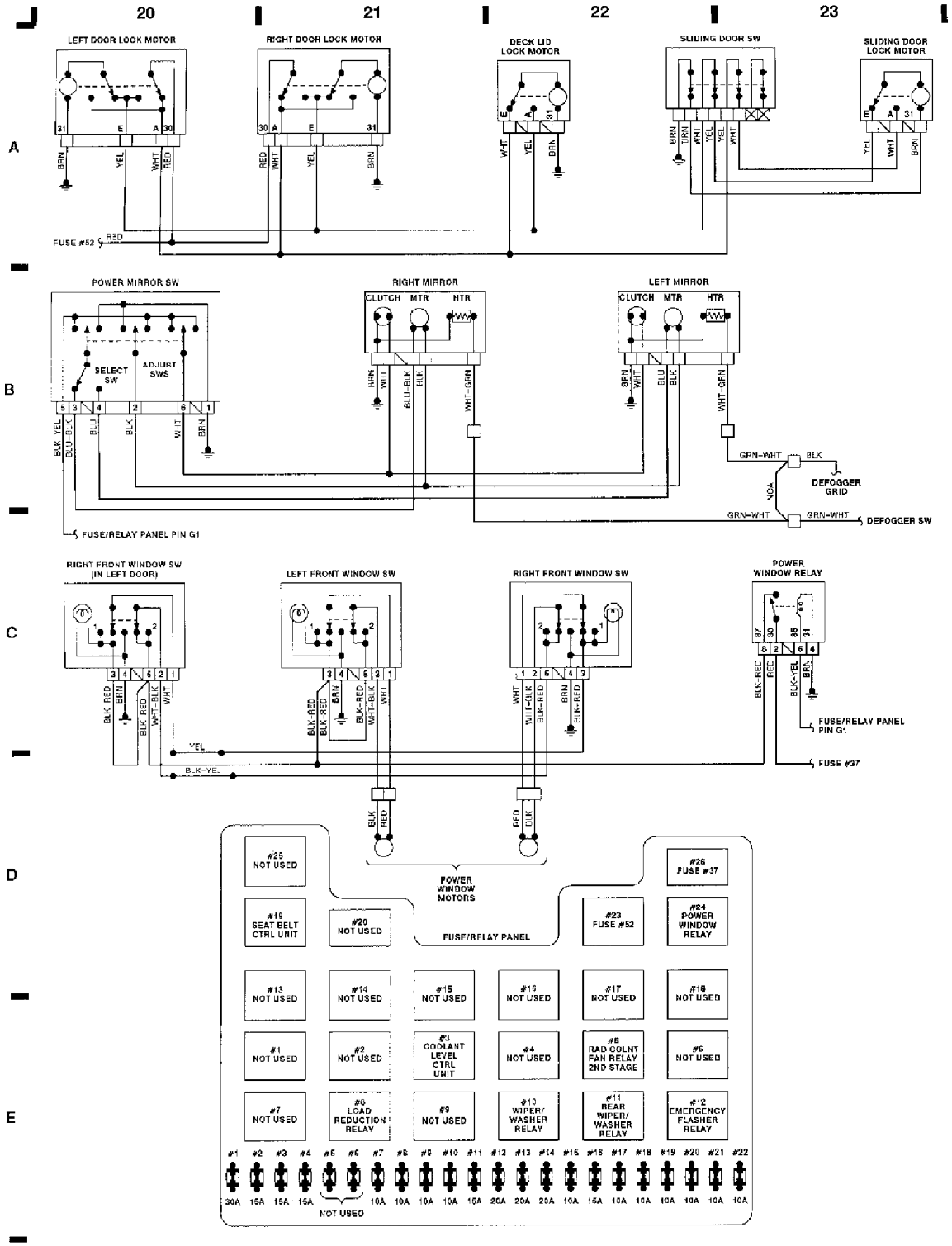

Fig. 6: Fuse/Realy Layout, Power Door/Mirror/Window (Grid 20-23)

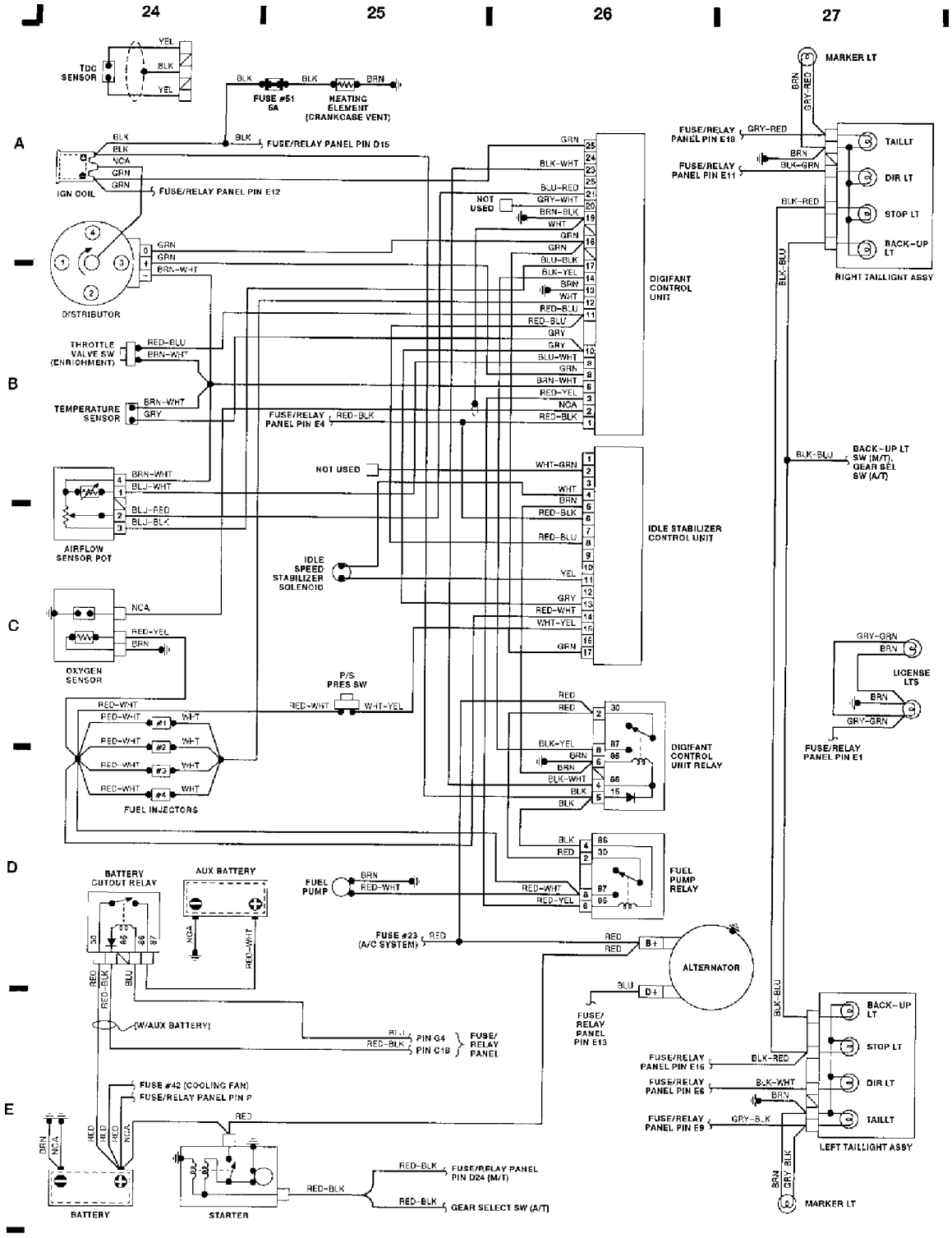

Fig. 7: Computer Engine Control, Taillights (Grid 24-27)

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