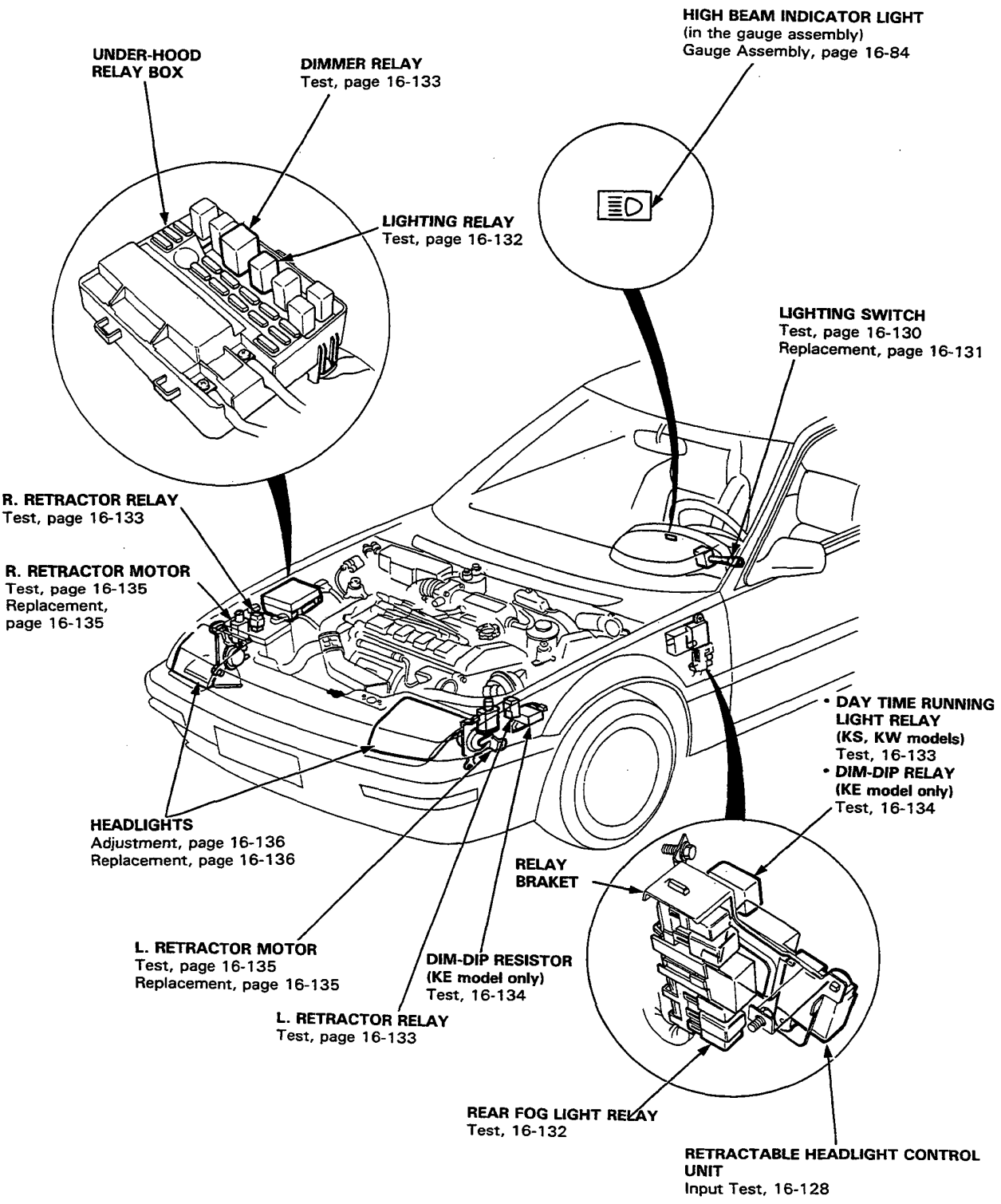
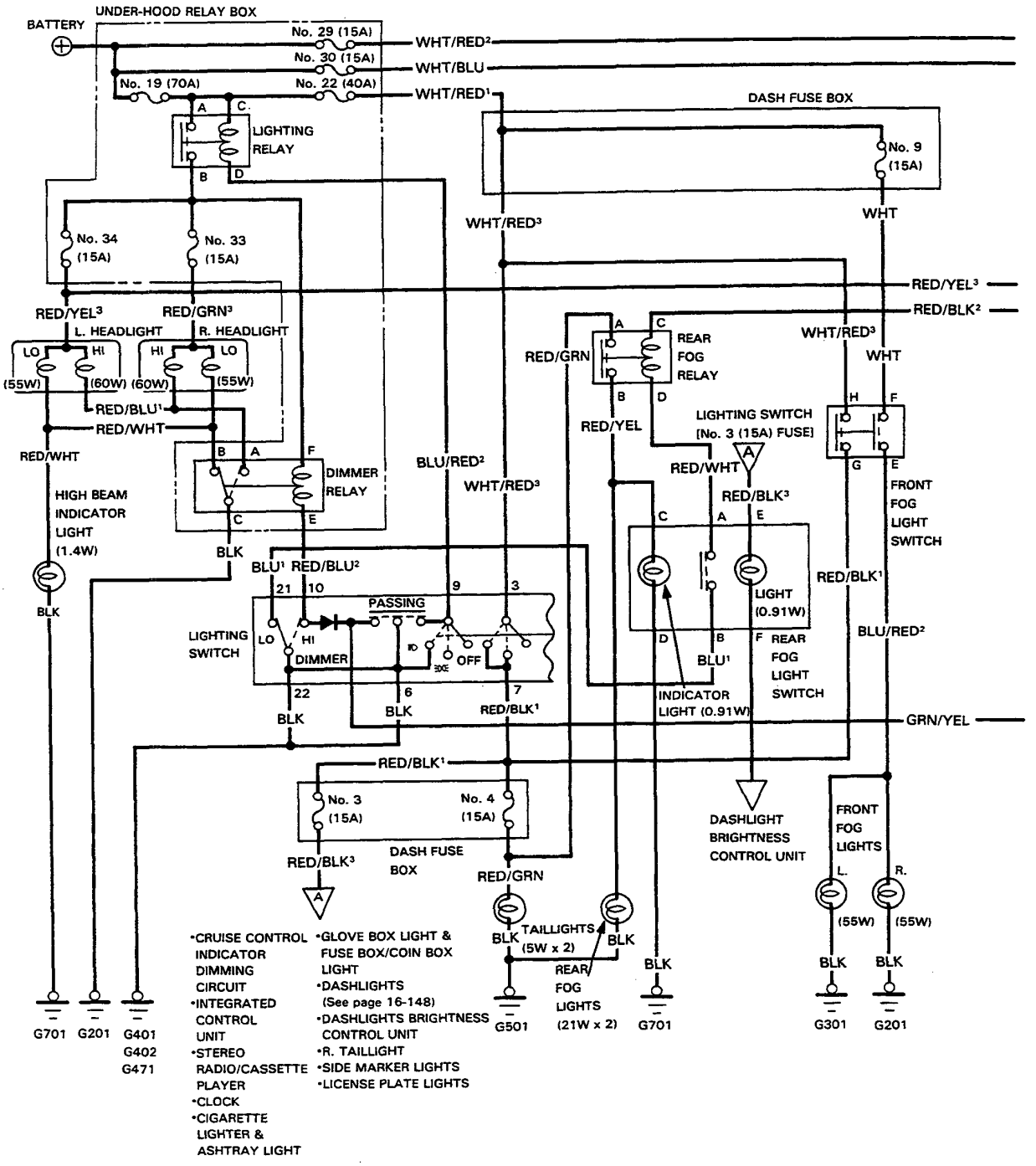
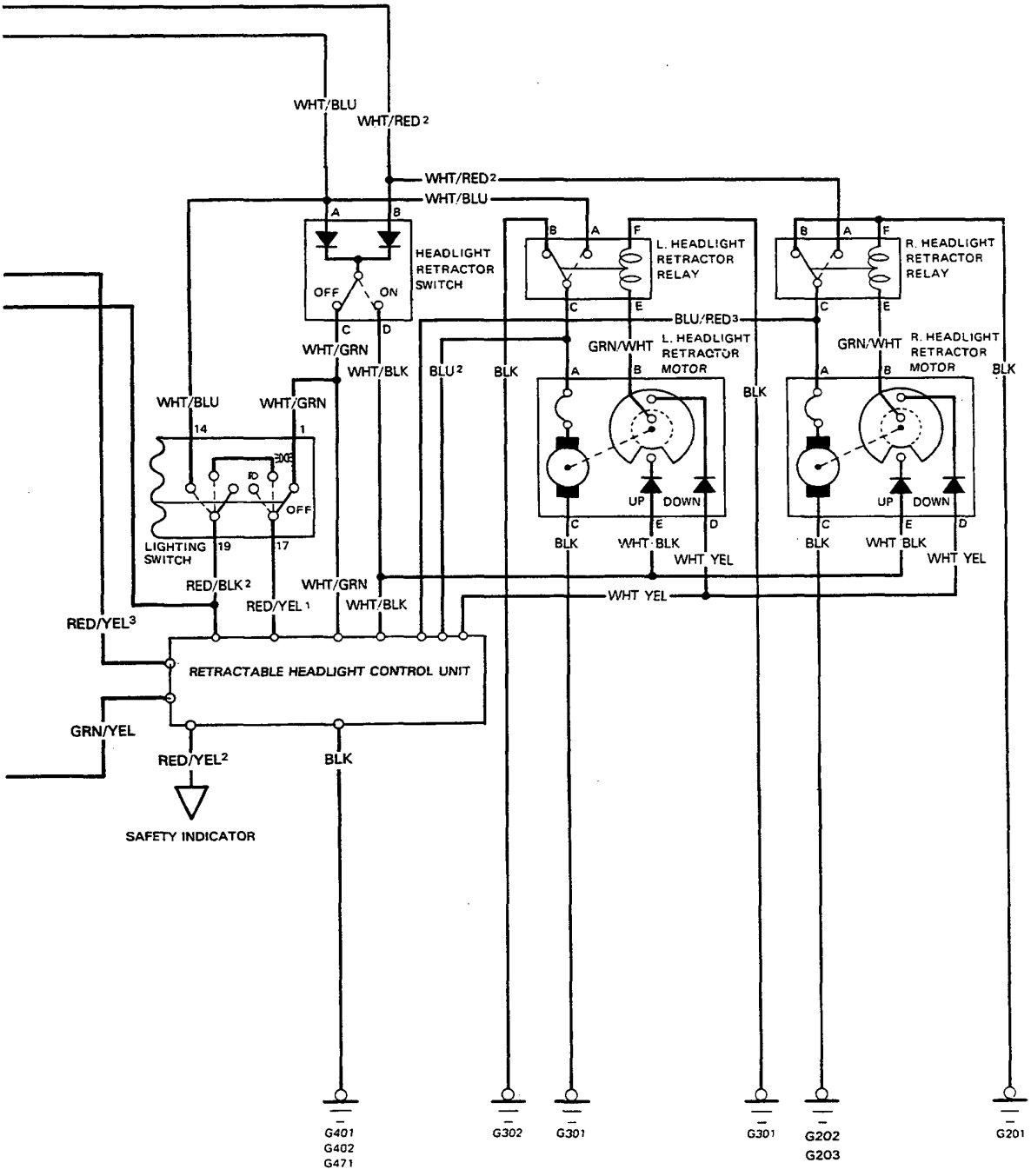
Component Location Index



Circuit Diagram (KG, KF, KB and KX models)

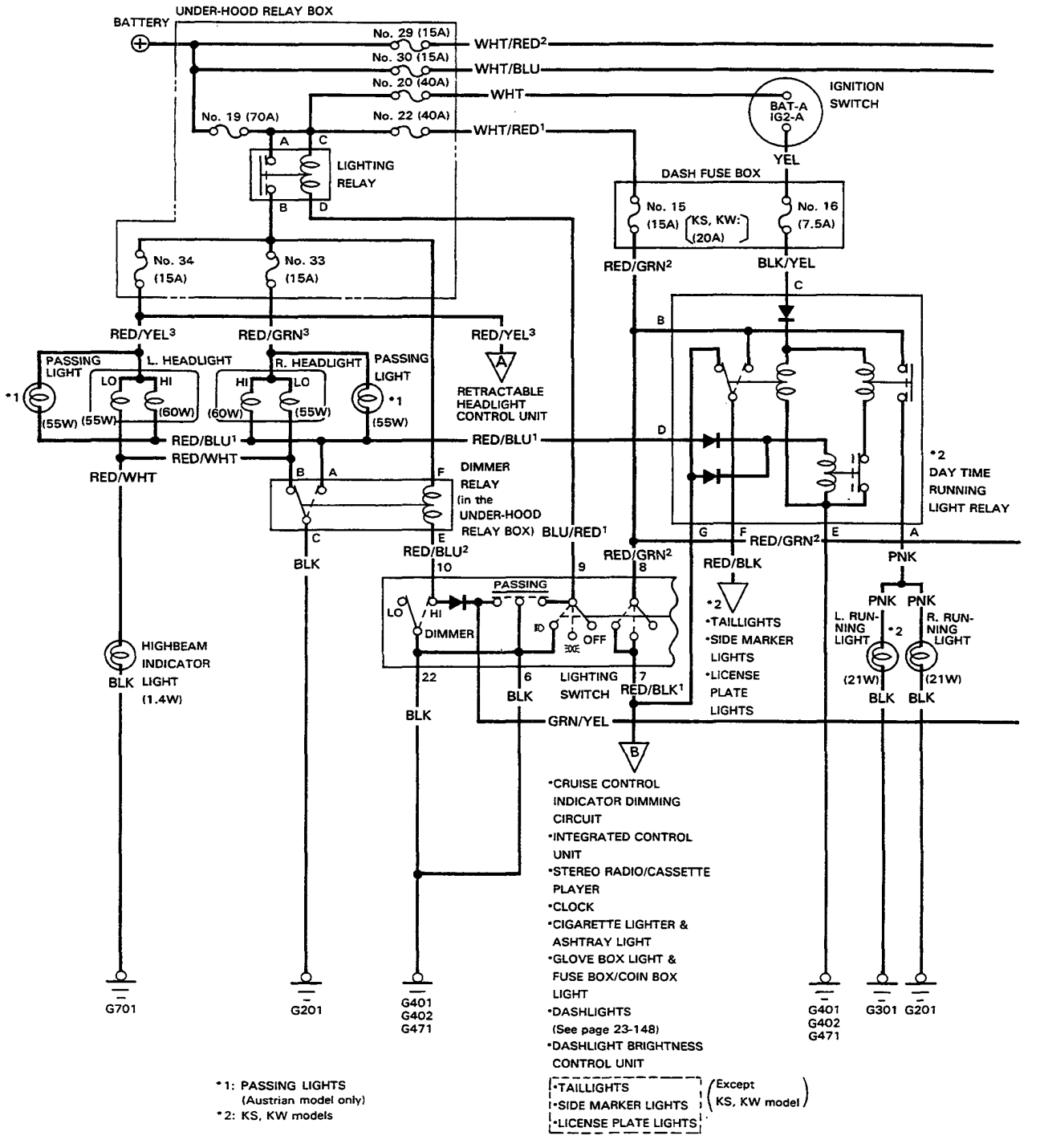


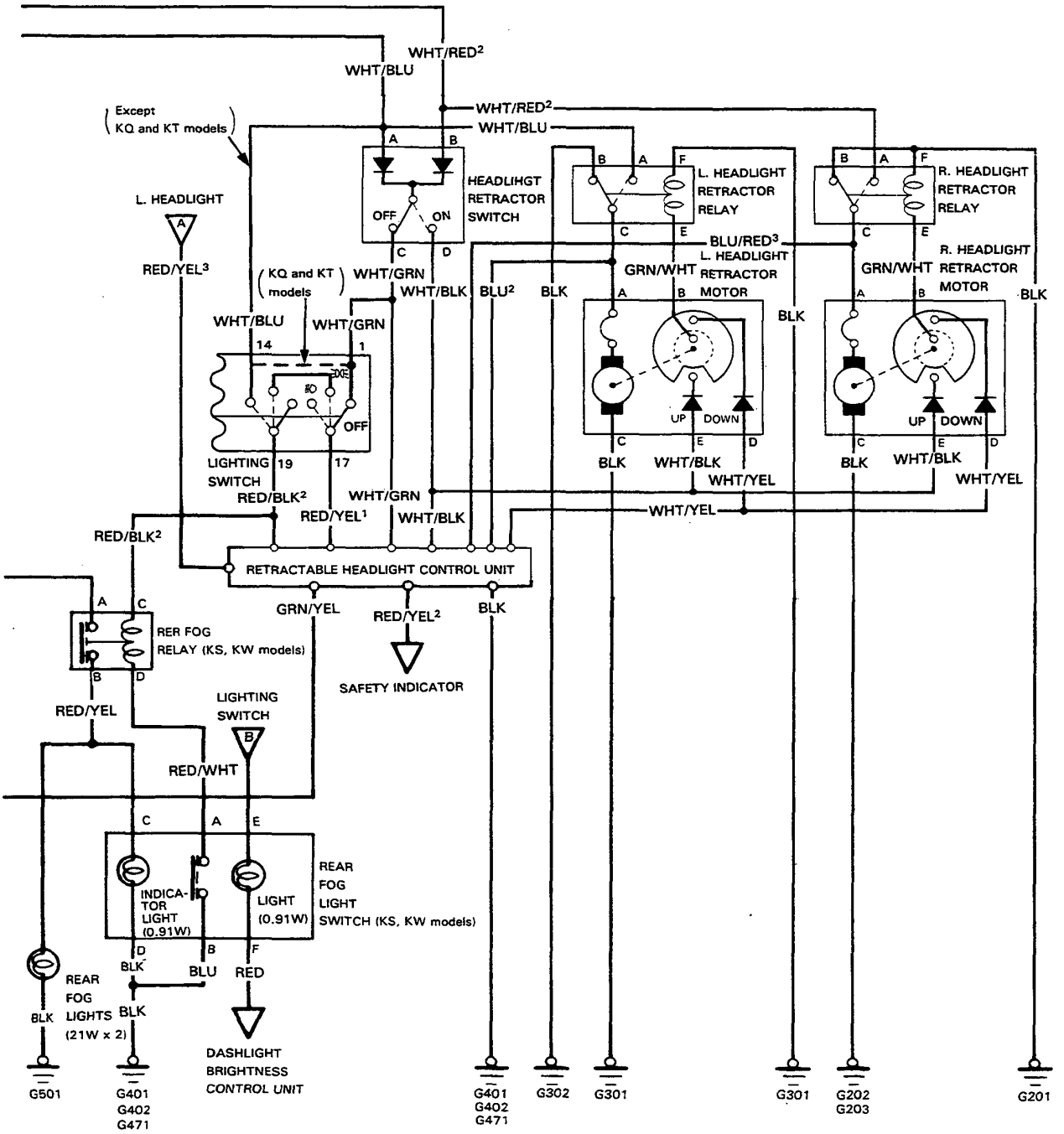

WHT/BLU
WHT/RED 2
WHT/RED 2
WHT/BLU
HEADLIGHT RETRACTOR SWITCH
OFF
ON
L. HEADLIGHT RETRACTOR RELAY
R. HEADLIGHT RETRACTOR RELAY
BLU/RED 3
WHT/GRN
WHT/BLK
BLU 2
BLK
GRN/WHT
L. HEADLIGHT RETRACTOR MOTOR
R. HEADLIGHT RETRACTOR MOTOR
WHT/BLU
WHT/GRN
LIGHTING SWITCH
OFF
RED/BLK 2
RED/YEL 1
WHT/GRN
WHT/BLK
WHT YEL
RED/YEL 3
RETRACTABLE HEADLIGHT CONTROL UNIT
GRN/YEL
RED/YEL 2
BLK
SAFETY INDICATOR
UP
DOWN
G401
G402
G471
G302
G301
G301
G202
G203
G201

Lighting System

Circuit Diagram (KS, KW, KQ, KT and KY models)

NOTE: Several different wires have the same color. They have been given a number suffix to distinguish them (for example WHT/RED[1] and WHT/RED[2] are not the same).

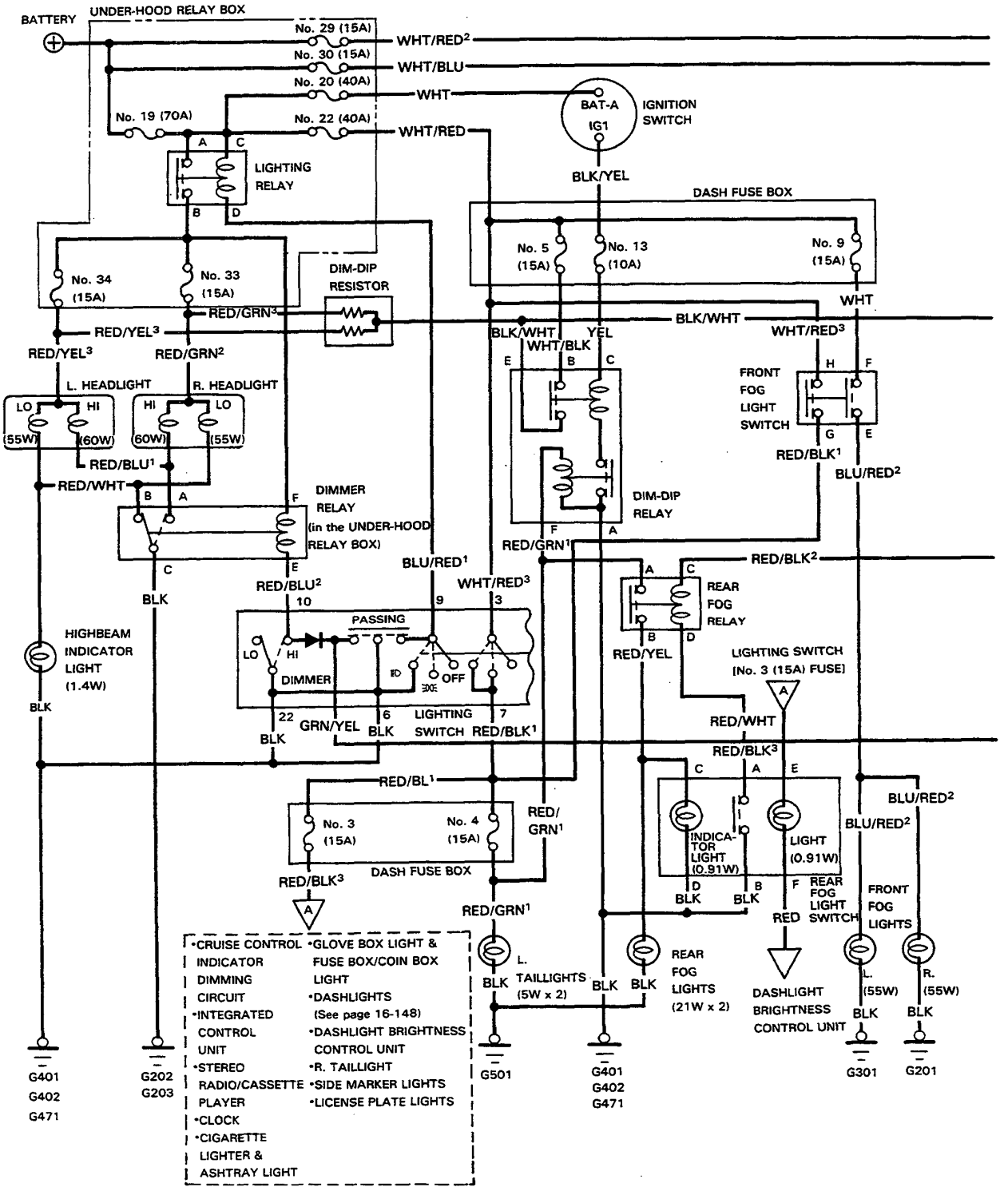


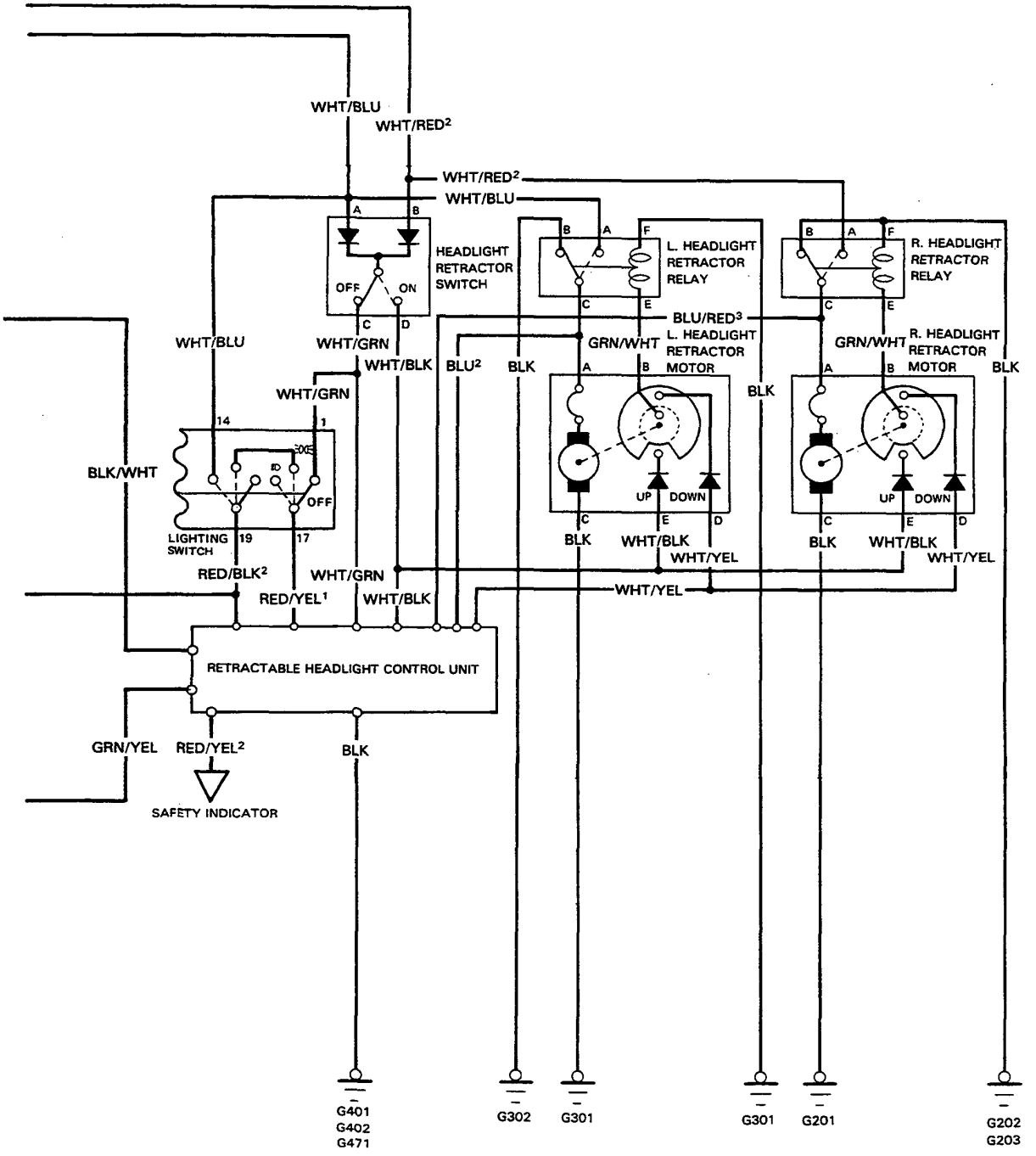

WHT/BLU
WHT/RED2
Except KQ and KT models
WHT/RED2
WHT/BLU
HEADLIHGT RETRACTOR SWITCH
OFF
ON
L. HEADLIGHT RETRACTOR RELAY
R. HEADLIGHT RETRACTOR RELAY
L. HEADLIGHT
RED/YEL3
KQ and KT models
WHT/GRN
WHT/BLK
BLU2
BLK
BLU/RED3
L. HEADLIGHT RETRACTOR MOTOR
GRN/WHT
R. HEADLIGHT RETRACTOR MOTOR
BLK
WHT/BLU
WHT/GRN
14
1
OFF
UP
DOWN
LIGHTING SWITCH
19
17
RED/BLK2
RED/YEL1
WHT/GRN
WHT/BLK
BLK
WHT/YEL
WHT/YEL
RED/BLK2
RETRACTABLE HEADLIGHT CONTROL UNIT
GRN/YEL
RED/YEL2
BLK
RER FOG RELAY (KS, KW models)
SAFETY INDICATOR
RED/YEL
LIGHTING SWITCH
RED/WHT
INDICA-TOR LIGHT (0.91W)
LIGHT (0.91W)
REAR FOG LIGHT SWITCH (KS, KW models)
BLK
BLU
RED
REAR FOG LIGHTS (21W x 2)
BLK
BLK
DASHLIGHT BRIGHTNESS CONTROL UNIT
G501
G401 G402 G471
G401 G402 G471
G302
G301
G301
G202 G203
G201

Lighting System

Circuit Diagram (KE model)

NOTE: Several different wires have the same color. They have been given a number suffix to distinguish them (for example WHT/RED[1] and WHT/RED[2] are not the same).




WHT/BLU
WHT/RED2
WHT/RED2
WHT/BLU
HEADLIGHT RETRACTOR SWITCH
OFF
ON
L. HEADLIGHT RETRACTOR RELAY
R. HEADLIGHT RETRACTOR RELAY
BLU/RED3
WHT/BLU
WHT/GRN
WHT/BLK
GRN/WHT
L. HEADLIGHT RETRACTOR MOTOR
R. HEADLIGHT RETRACTOR MOTOR
BLU2
BLK
WHT/GRN
BLK/WHT
LIGHTING SWITCH
OFF
UP
DOWN
WHT/BLK
WHT/YEL
RED/BLK2
RED/YEL1
WHT/GRN
WHT/BLK
WHT/YEL
RETRACTABLE HEADLIGHT CONTROL UNIT
GRN/YEL
RED/YEL2
BLK
SAFETY INDICATOR
G401
G402
G471
G302
G301
G301
G201
G202
G203

Troubleshooting

Function: The retractor motors are controlled by their respective relays. The relays are energized by power to either the up-wire (WHT/BLK) or down-wire (WHT/YEL), through the slip ring in the retractor motors. The up-wire can be powered either by the lighting switch/control unit or via the retractor switch directly. The down-wire can only be powered by the control unit via either the lighting switch or the retractor switch. The control unit also senses any abnormality in the way the retractor motors operate and warns the driver by illuminating the safety indicator warning light.

NOTE: The numbers in the table show the troubleshooting sequence.

Symptom \ Items to be inspected		Blown No. 29 (15 A) and No. 30 (15 A) fuses (in the under-hood relay box)	Retractor relay	Retractor motor	Lighting switch	Retractor switch	Control unit	Frozen, stuck, or improperly installed retractor linkage	Poor ground	Open circuit in wires or loose or disconnected terminals
Warning light ON				3			2	1		
Both headlights won't open.	With either switch (lighting and retractor).	1	4	5		2		3		WHT/BLK
	With lighting switch.				1	2				
	With retractor switch.					1				
Both headlights won't close.	With either switch.						2	1	G401, 402, 471	WHT/YEL
	With lighting switch. NOTE: All other switches OFF.						1			
	With retractor switch. NOTE: All other switches OFF.						1			
Headlights close when lighting switch is turned from "HD" to "TAIL" NOTE: Other switches OFF.							1			RED/YEL[2] or RED/BLK[2]

KE model only:

Description:
When the lighting switch is set to the first position (≡D) with the ignition switch ON, the headlights will light up as the Dim-Dip headlights. The light is dimmed to approx. ten percent of the headlights' brightness in the second position (≡O) of the lighting switch.

NOTE: The numbers in the table show the troubleshooting sequence.

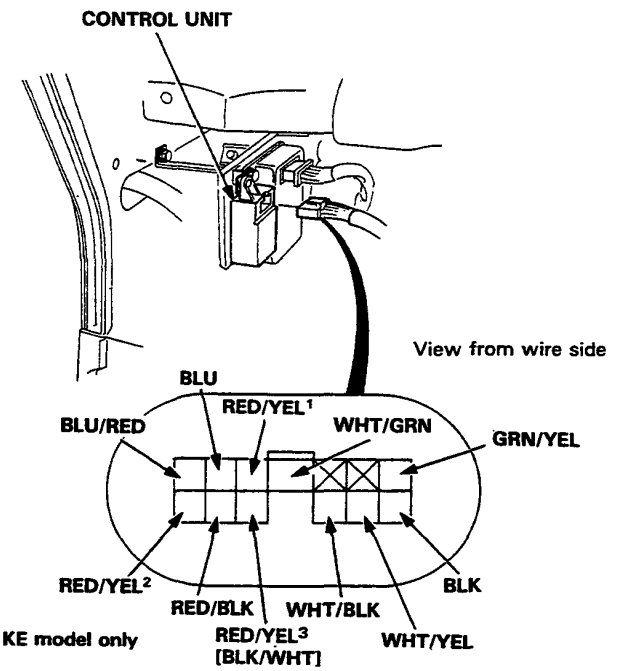
Symptom \ Items to be inspected		Blown No. 22 (40 A) fuse (in the under-hood relay box)	Blown No. 15 (15 A) fuse (in the dash fuse box)	Blown No. 13 (10 A) fuse (in the dash fuse box)	Lighting switch	Dimmer switch	Lighting relay	Dimmer relay	Dim-Dip relay	Dim-Dip resistor	Poor ground	Open circuit in wires or loose or disconnected terminals
Lighting switch OFF to "≡D"	None of lights to be on do not come on.	1			2							WHT/RED[1] or WHT/RED[3]
	Lighting effect of Dim-Dip headlights cannot be obtained.		2	1					3	4	G401 402 471	
Lighting switch "≡D" to "≡O"	Headlights are still dimmed.				1		2	3			G401 402 471	BLU/RED[1]
	Headlights go out with low beam.							1				
	Headlights go out with high beam.					1		2				

Retractable headlight Control Unit Input Test

Remove the dashboard lower panel to disconnect the 13-P connector from the control unit.
mark the following input tests at the harness pins.

NOTE:

- Recheck the connections between the 13-P connector and control unit, then replace the control unit if all input tests prove O.K.
- Several different wires have the same color. They have been given a number suffix to distinguish them (for example RED/YEL[1] and RED/YEL[2] are not the same).



No.	Wire	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BLK	Under all conditions.	Check for continuity to ground: should be continuity.	• Poor ground (G401, 402, 471). • An open in the wire.
2	WHT/GRN	Retractor switch OFF.	Check for voltage to ground: should be battery voltage.	• Blown No. 29 (15A) and No. 30 (15A) fuses. • Faulty retractor switch. • An open in the wire.
3	RED/YEL[1]	Retractor switch OFF and lighting switch OFF	Check for voltage to ground: should be battery voltage.	• Blown No. 29 (15A) and No. 30 (15A) fuses. • Faulty retractor switch or lighting switch. • An open in the wire.
4	RED/BLK	Lighting switch "HD".	Check for voltage to ground: should be battery voltage.	• Blown No. 30 (15A) fuse. • Faulty lighting switch. • An open in the wire.
5	RED/YEL[1] and RED/BLK	Lighting switch "DE".	Check for continuity between the RED/YEL[1] and RED/BLK terminals: should be continuity.	• Faulty lighting switch. • An open in the wire.
6	BLU or BLU/RED	Retractor motor stationary.	Check for continuity to ground: should be continuity.	• Faulty retractor relay or motor. • Poor ground (G301, 302 or G201, 202, 203).
7	RED/YEL[2]	Ignition switch ON and retractor switch OFF	Connect the WHT/GRN terminal to the RED/YEL[2] terminal: Safety indicator should work and retractor indicator light should come on.	• Faulty safety indicator. • Poor ground (L.H. Drive: G701) (R.H Drive: G401, 402, 471). • An open in the wire.

8	GRN/YEL	Passing switch ON and OFF repeatedly.	Check for voltage to ground: should be 0-12-0-12 V repeatedly.	• Faulty passing switch. • Lighting relay. • An open in the wire.
9	WHT/BLK or WHT/YEL	Raise the left headlight up to the middle position (see page 16-136). NOTE: Before testing, disconnect the ground wire from the battery negative (−) terminal. Right headlight similar.	Check for continuity in each direction between the WHT/BLK (or WHT/YEL) terminal and body ground.	• Faulty L. or R. headlight motor. • Faulty L. or R. headlight retractor relay. • Poor ground (L.H. Drive: G201 or G301) (R.H. Drive: G201, 202 or G301) • An open in the wire.

Except KE model

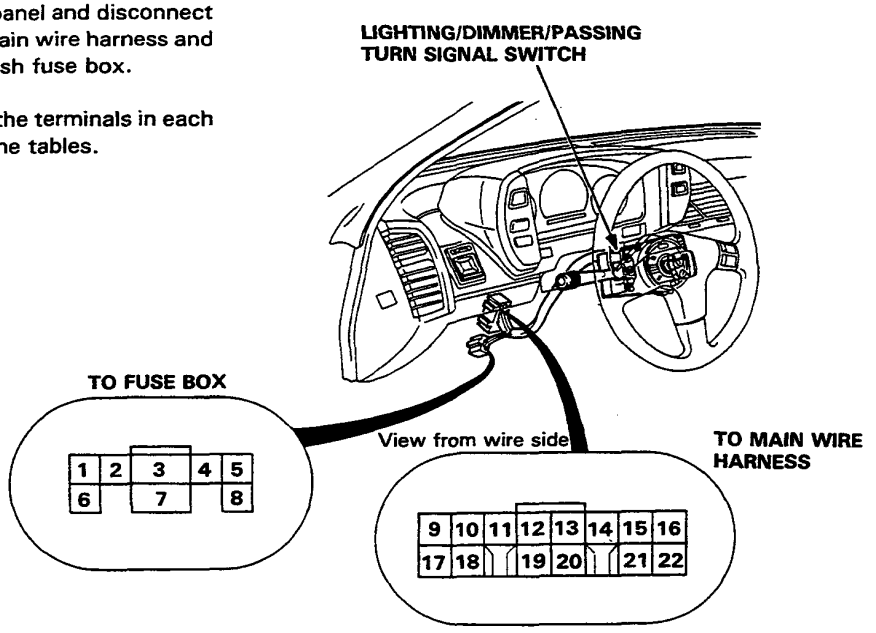
10	RED/YEL[3]	Lighting switch "HD".	Check for voltage to ground: should be battery voltage.	• Blown No. 34 (15A) fuse. • Faulty lighting switch. • Faulty lighting relay. • Poor ground (G401, 402, 471). • An open in the wire.

KE model only

11	BLK/WHT	Ignition switch ON and lighting switch "3OE" or "HD".	Check for voltage to ground: should be battery voltage.	• Blown No. 13 (10A) or No. 4 (15A) fuse. • Faulty lighting switch. • Faulty DIM-DIP relay. • Poor ground (G401, 402, 471). • An open in the wire.

Lighting/Turn Signal Switch Test

1. Remove the dashboard lower panel and disconnect the 14-P connector from the main wire harness and the 8-P connector from the dash fuse box.
2. Check for continuity between the terminals in each switch position according to the tables.



Lighting/Dimmer/Passing Switch

Position		*1 3	7	*2 8	9	6	11		10	21	22	1	17	*3 14	19
Lighting switch	OFF											○—○			
	≡D(	○—○	○—○										○—○		
	≡D	○—○	○—○											○—○	
Dimmer switch	LOW									○—○					
	HIGH								○—○						
Passing switch	OFF														
	ON				○—○	○—○	○—○	◀	○—○						

(Internal connection)

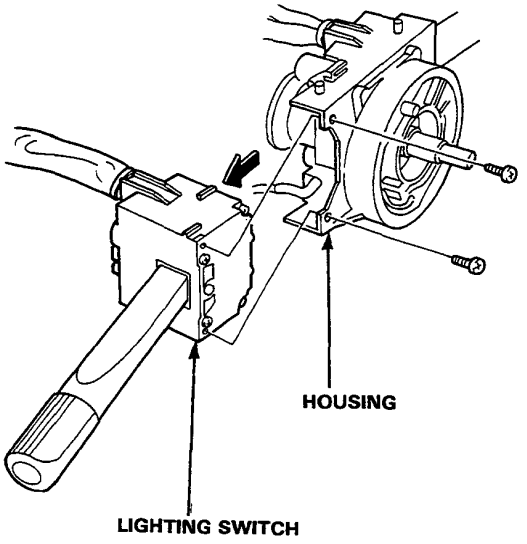
Turn Signal Switch

Position	5		4	2
R	○—▶		○	
NEUTRAL				
L	○—▶			○

*1: KG, KE, KX, KF and KB models
*2: KS, KW, KQ, KT and KY models
*3: Except KQ and KT models

Lighting Switch Replacement

1. Remove the steering wheel and dashboard lower panel, then disconnect the 14-P connector from the main wire harness and 8-P connector from the fuse box.
2. Remove the lower and upper covers from the steering column.
3. Disconnect the 3-P connector from the slip ring.
4. Remove the 2 screws and slide the lighting switch out of the housing as shown.



Retractor/Front Fog Light Switch Test

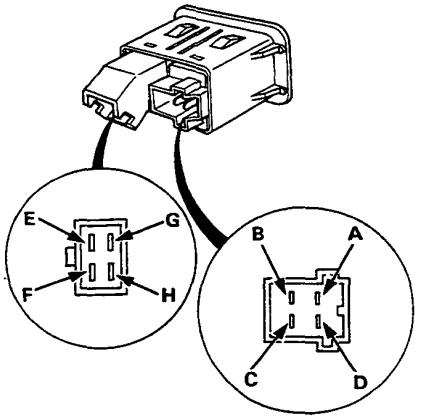
1. Remove the switch assembly.
2. Check for continuity between the terminals in each switch position according to the table.

Retractor Switch

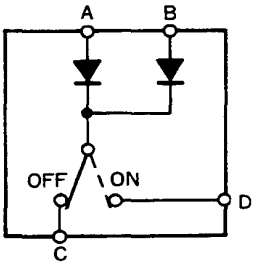
Terminal / Position	A		B		C	D
OFF	○	▶	○	▶	○	
ON	○	▶	○	▶		○

Fog Light Switch

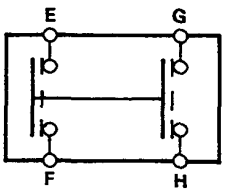
Terminal / Position	E	F	G	H
OFF				
ON	○	○	○	○



Retractor Switch



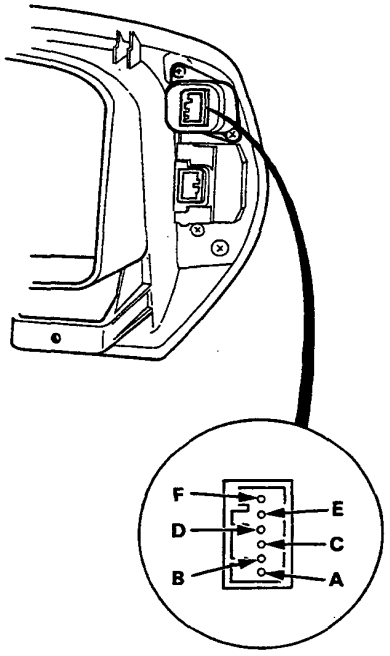
Front Fog Light Switch

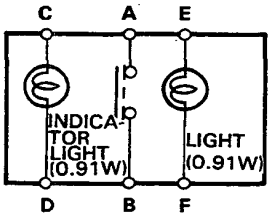


Rear Fog Light Switch Test

1. Remove the switch assembly.
2. Check for continuity between the terminals in each switch position according to the table.

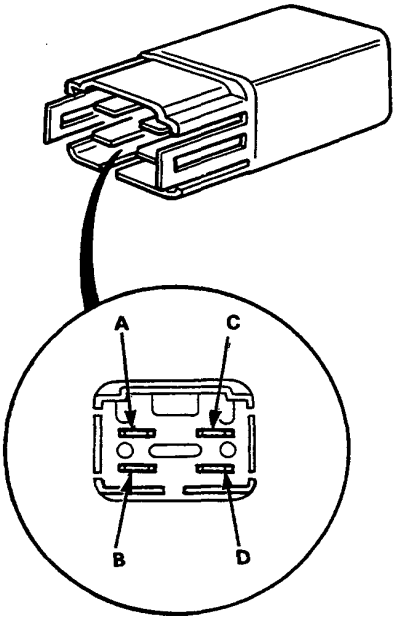
Terminal / Position	A	B	C		D	E		F
OFF			○	⊗	○	○	⊗	○
ON	○	○						

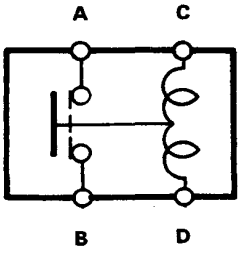




Lighting/Rear Fog light Relay Test

There should be continuity between the A and B terminals when the battery is connected to the C and D terminals.
There should be no continuity when the battery is disconnected.

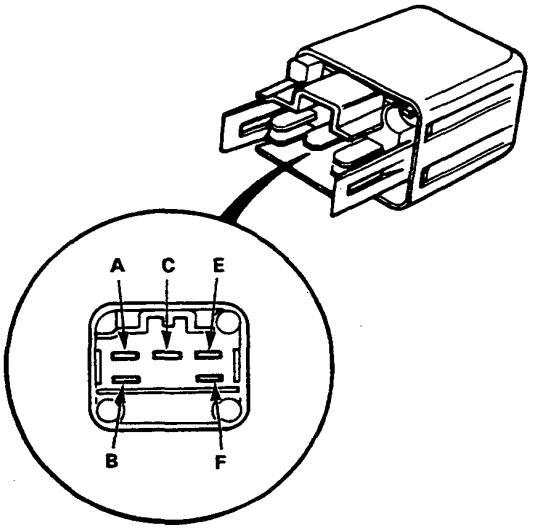




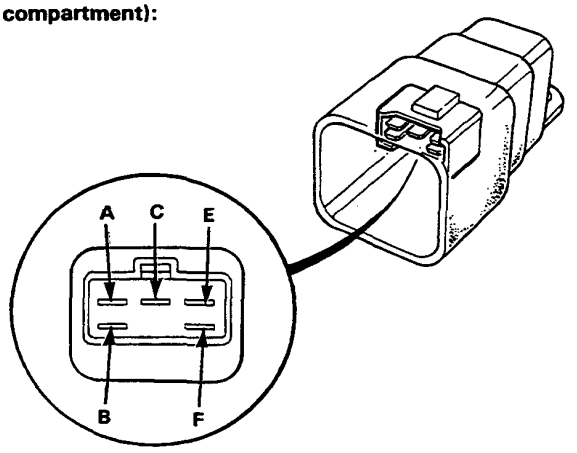
Dimmer/Retractor Relay Test

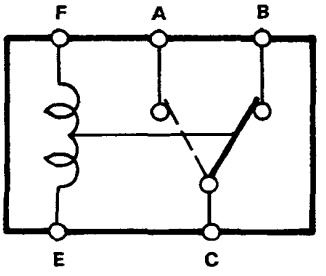
There should lbe continuity between the A and C terminals when the battery is connected to the E and F terminals.
There should be continuity between the B and C terminals when the battery is disconnected.

Dimmer Relay (in the under-hood relay box):



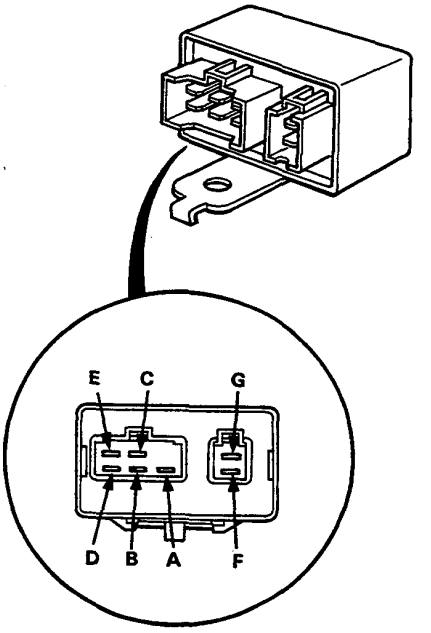
Retractor Relays (Located left and right side engine compartment):

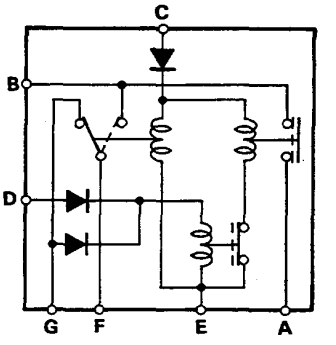




Day Time Running Light Relay Test (KS, KW models)

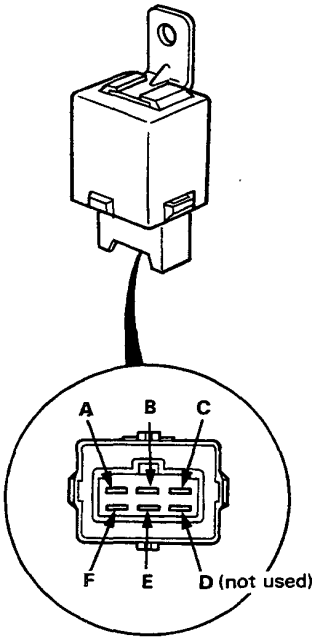
1. Remove the dashboard lower panel and day time running light relay from the relay bracket.
2. There should be continuity between the F and G terminals.
3. There should be continuity between the A and B; B and F terminals with battery positive connected to the C terminal, connect negative to the E terminal.
4. There should be no continuity between the A and B terminal when the battery positive connected to the C and D or G terminals, connect negative to the E terminal.

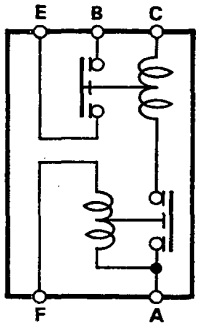




DIM-DIP Relay Test (KE model only)

1. Remove the dashboard lower panel and DIM-DIP relay from the relay bracket.
2. There should be continuity between the B and E terminals with battery positive connected C and F terminals, connect negative to the A terminal. There should be no continuity when the battery is disconnected.

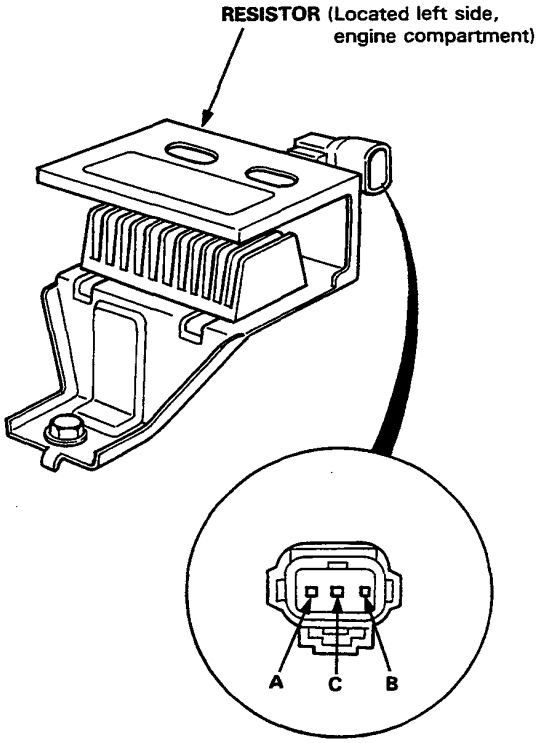


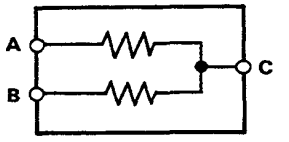


DIM-DIP Resistor Test (KE model only)

CAUTION: Dim-Dip resistor becomes very hot in use of Dim-Dip headlights; do not touch it or the attaching hardware immediately after they have been turned off.

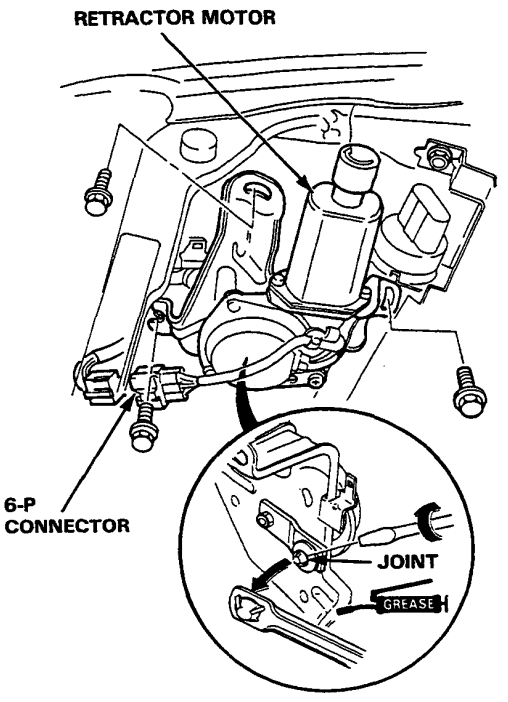
1. Disconnect the 3-P connector from the resistor.
2. There should be continuity between A and C; between B and C terminals.



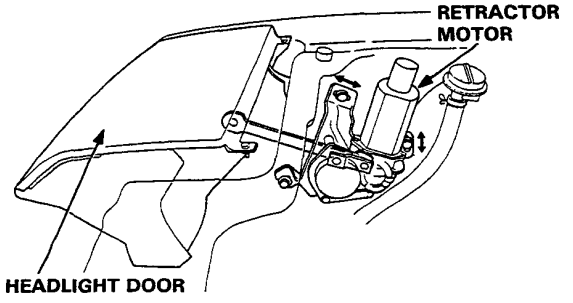


Retractor Motor Replacement

1. Disconnect the ground wire from the battery negative (−) terminal.
2. Disconnect the 6-P connector and remove the 3 mount bolts.
3. Pry the retractor linkage off the motor arm.

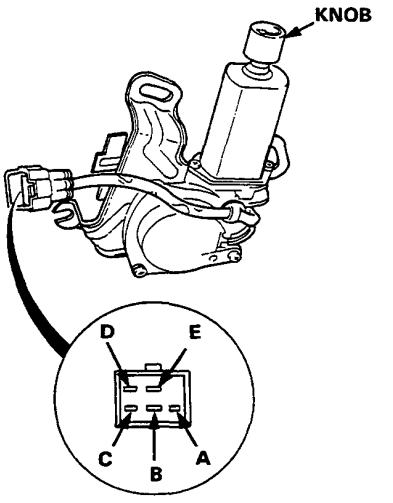


4. Install in the reverse order of the removal, and:
   - Make sure there is no interference between the wire harness and linkage.
   - Coat the joints with grease and make sure the linkage moves smoothly.
   - Adjust the retractor motor fore or aft until the headlight doors fit flush with the front fender when the headlights are closed.



Retractor Motor Test

1. Remove the retractor motor.
2. Test motor operation by connecting battery positive to the A terminal and negative to the C terminal.
   The motor should run continuously.
3. If the motor fails to run smoothly, replace it.



4. Disconnect the power supply and check for continuity between the terminals according to the table while turning the knob clockwise, as shown above.

Terminal / Headlight position	B	D	E
At closed position	○		○
At opened position	○	○