### 8A - 15 - 2 ELECTRICAL DIAGNOSIS

## **RETAINED ACCESSORY POWER (RAP): KP2**



5-WAY F 56 SERIES BLU

IGNITION SWITCH (C2)

7-WAY F METRI-PACK 280 SERIES BLK

**RETAINED ACCESSORY POWER (RAP) MODULE** 

COMPONENT	LOCATION	201-PG	FIG.	CONN
Door Jamb Switch, LH	Near base of LH "A" pillar	. 32	49	
Door Jamb Switch, RH				
I/P Fuse Block				202-19
Ignition Switch	Part of Steering Column			202-22
Isolation Diode (RAP)				
	Mirror breakout	. 32	49	
Retained Accessory Power				
(RAP) Module	In molded pocket of dash mat, center above floor tunnel	9	17	202 - 24
C200B (18 cavities)	Part of Forward Lamp Harn, between LH kick panel			
	and Steering Column	. 41	65	202-2
C200C (13 cavities)	Part of Cross Car Harn, between LH kick panel and			
	Steering Column	. 47	72	202 - 2
C200D (48 cavities)	Part of I/P Harn, between LH kick panel and			
	Steering Column		72	202 - 2
G200	Near base of LH "A" pillar, bolted to I/P Mounting Stud			
	behind kick panel (2 rings, 2 wires)	. 9	16	
P100	Left side in dash panel, Engine to Passenger			
	Compartment	. 19	36	
S200	Forward Lamp Harn, approx 8 cm from EBCM			
	breakout	. 8	14	
S220	Cross Car Harn, approx 7 cm from Rearview			
		32	49	
S266	Cross Car Harn, approx 9 cm from Rearview			
	Mirror breakout	. 32	49	

For a Service Part Cross Reference List and Information, refer to SECTION 8A-200.

### TROUBLESHOOTING HINTS (Perform before beginning System Diagnosis)

- 1. Check Fusible Link E for open.
- 2. Check Window Circuit Breaker 15, Radio Fuse 17 and PWR ACCY Fuse 7 for an open. If open, replace fuse or circuit breaker. If fuse blows again or circuit breaker reopens, use schematics and DVM to check suspect power circuits for a short to ground potential, either through a faulty component or wiring.
- 3. Check for poor connections at C200 terminals "C1", "E2", "E4", "E6" and "E12".
- $4. \quad Check \ that \ G200 \ is \ clean \ and \ tight.$
- Check for a broken (or partially broken) wire inside of the insulation which could cause system failure but prove "GOOD" in a continuity/voltage

check. Use Test Light J 34142 whenever possible. Test lights require more current than a high impedance DVM and are more useful for detecting abnormally high resistive circuits. Some test lights have high impedances and will not be as useful in detecting resistive circuits (see "Troubleshooting Procedures," page 8A-4-0).

- Check for proper installation of aftermarket electronic equipment which may affect the integrity of other systems (see "Troubleshooting Procedures," page 8A-4-0).
- Refer to System Diagnosis.

### SYSTEM DIAGNOSIS

• Perform the System Check and refer to the Symptom Table for the appropriate diagnostic procedures.

ACTION	NORMAL RESULTS
<ul> <li>[1]</li> <li>Ignition "OFF."</li> <li>Open either LH or RH door.</li> </ul>	<ul> <li>Power Door Locks, Hatch Release and Power Mirrors all operate as long as a door is open.</li> <li>Radio and Power Windows do not operate.</li> </ul>
[2] • Close doors.	<ul> <li>Power Door Locks, Hatch Release and Power Mirrors all continue to operate for approximately 35 seconds.</li> <li>Radio and Power Windows do not operate.</li> </ul>
<ul> <li>[3]</li> <li>Ignition Switch to "ACCY" or "RUN."</li> </ul>	<ul> <li>Power Door Locks, Hatch Release and Power Mirrors all operate as long as the Ignition Switch is in "ACCY" or "RUN."</li> <li>Radio and Power Windows operate as long as the Ignition Switch is in "ACCY" or "RUN."</li> </ul>
[4] ● Ignition Switch to "OFF."	<ul> <li>Power Door Locks, Hatch Release and Power Mirrors all operate for approximately 10 minutes.</li> <li>Radio and Power Windows operate for approximately 10 minutes.</li> </ul>
<ul> <li>[5]</li> <li>Ignition Switch to "RUN."</li> <li>Ignition Switch to "OFF."</li> <li>Open either LH or RH door.</li> </ul>	<ul> <li>Power Door Locks, Hatch Release and Power Mirrors all operate as long as a door is open.</li> <li>Radio and Power Windows are disabled immediately when a door is opened.</li> </ul>
[6] ● Close doors.	<ul> <li>Power Door Locks, Hatch Release and Power Mirrors all continue to operate for approximately 35 seconds.</li> <li>Radio and Power Windows do not operate.</li> </ul>

## SYSTEM CHECK

# lmportant:

- If aftermarket equipment is installed on any circuit(s) for the Retained Accessory Power (RAP) System and a problem exists with the Retained Accessory Power System operation, disconnect the aftermarket equipment and retest.
- These diagnostic procedures assume related fuse(s) or circuit breaker(s) and the circuitry to their related components are all good.

<b>SYMPTOM</b>	PROCEDURE	PAGENUMBER	
Components on PWR ACCY Fuse 7, Radio Fuse 17 and Windows Circuit Breaker 15 totally inoperative.	Chart #1	<b>8A</b> -15-5	
Retained Accessory Power (RAP) Feature inoperative, components on PWR ACCY Fuse 7, Radio Fuse 17 and Windows Circuit Breaker 15 operate with Ignition Switch in "RUN" or "ACCY" only.	Chart #2	8A-15-5	

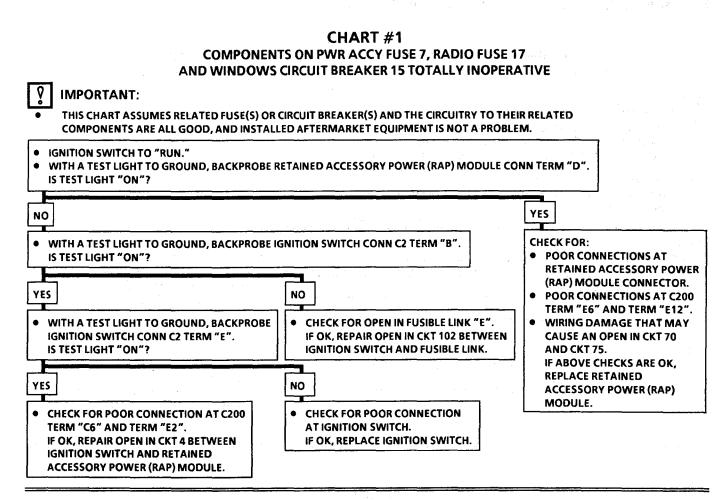
### SYMPTOM TABLE

# **RETAINED ACCESSORY POWER (RAP): KP2**

#### (CONTINUED FROM PREVIOUS PAGE)

## SYMPTOM TABLE

SYMPTOM	PROCEDURE	PAGE NUMBER
Components on Windows Circuit Breaker 15 and Radio Fuse 17 totally inoperative, components on PWR ACCY Fuse 7 operate normally.	Chart #3	8A-15-6
Components on Windows Circuit Breaker 15 and Radio Fuse 17 do not operate during Retained Accessory Power (RAP), operation is normal with Ignition Switch in "ACCY" or "RUN" (components on PWR ACCY Fuse 7 operate normally during RAP).	Replace Retained Accessory Power (RAP) Module.	
Components on PWR ACCY Fuse 7 totally inoperative, components on Windows Circuit Breaker 15 and Radio Fuse 17 operate normally.	Chart #4	8A-15-6
Components on PWR ACCY Fuse 7 do not operate during Retained Accessory Power (RAP), operation is normal with Ignition Switch in "ACCY" or "RUN" (components on Circuit Breaker 15 and Radio Fuse 17 operate normally during RAP).	Replace Retained Accessory	Power (RAP) Module.
Retained Accessory Power (RAP) deactivates when another vehicle system is used (otherwise RAP times out normally).		
Retained Accessory Power (RAP) deactivates before specified time has elapsed (deactivation not caused by the use of other vehicle systems).	<ul> <li>Refer to System Check to make sure the RAP System is not operating properly.</li> <li>Check for technical service bulletins. If above checks do not correct symptom, replace Retained Accessory Power (RAP) Module.</li> </ul>	
PWR ACCY Fuse 7 receives voltage continuously (past the approximately 10 minute period) with doors closed and Ignition Switch in "OFF."	<ul> <li>Check for short to B + in CKT 70.</li> <li>Check for short to ground through CKT 745, including a bad Door Jamb Switch.</li> <li>Check for poor connections at RAP Module Connector. If OK, replace Retained Accessory Power (RAP) Module.</li> </ul>	
Radio Fuse 17 and Windows Circuit Breaker 15 receive voltage continuously (past the approximately 10 minute period) with doors open and Ignition Switch in "OFF."	If OK, replace Retained Accessory Power (RAP)	
<ul> <li>Power Door Locks do not operate when one or both doors are opened.</li> <li>Power Door Locks only operate with Ignition "ON," or for 10 minutes after Ignition is turned "OFF." (Opening the door does not disable the 10 minute timer or enable "PWR ACCY" Fuse 7.)</li> </ul>	<ul> <li>Check for bad Door Jamb Switch on side of entry.</li> <li>Check for open in CKT 745.</li> <li>Check for poor connection at RAP Module. If OK, replace Retained Accessory Power (RAP) Module.</li> </ul>	



### **CHART #2**

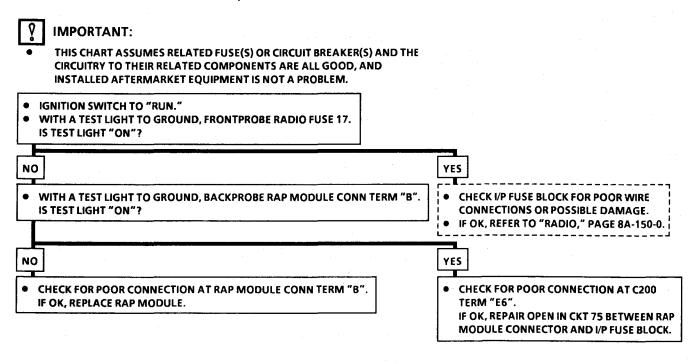
RETAINED ACCESSORY POWER (RAP) FEATURE INOPERATIVE, COMPONENTS ON PWR ACCY FUSE 7, RADIO FUSE 17 AND WINDOWS CIRCUIT BREAKER 15 OPERATE WITH IGNITION SWITCH IN "RUN" OR "ACCY" ONLY

IMPORTANT:     THIS CHART ASSUMES RELATED FUSE(S) OR CIRCUIT BREAKER(S) AND THE COMPONENTS ARE ALL GOOD, AND INSTALLED AFTERMARKET EQUIPM	HE CIRCUITRY TO THEIR RELATED	
WITH A TEST LIGHT TO GROUND, BACKPROBE RETAINED ACCESSORY POW IS TEST LIGHT "ON"?	ER (RAP) MODULE CONN TERM "C".	
YES		
<ul> <li>DISCONNECT RETAINED ACCESSORY POWER (RAP) MODULE CONNECTOR.</li> <li>CONNECT A TEST LIGHT BETWEEN TERMINALS "C" AND "E" OF THE RAP MODULE CONNECTOR. IS TEST LIGHT "ON"?</li> </ul>	CHECK FOR POOR CONNECTION AT C200 TERM "C1" AND TERM "E4". IF OK, REPAIR OPEN IN CKT 102 BETWEEN RETAINED ACCESSORY POWER (RAP) MODULE CONNECTOR AND S200.	
YES	NO	
<ul> <li>CHECK FOR POOR CONNECTIONS AT RETAINED ACCESSORY POWER (RAP) MODULE CONNECTOR.</li> <li>IF OK, REPLACE RETAINED ACCESSORY POWER MODULE. (IF POWER ACCY FUSE RECEIVES VOLTAGE CONTINUOUSLY WITH DOORS CLOSED AND IGNITION SWITCH "OFF," CHECK FOR A SHORT TO GROUND THROUGH CKT 745, INCLUDING A BAD RAP ISOLATION DIODE OR DOOR JAMB SWITCH.)</li> </ul>	<ul> <li>CHECK FOR POOR CONNECTIONS AT RAP MODULE CONNECTOR.</li> <li>IF OK, CHECK FOR OPEN IN CKT 750 BETWEEN RAP MODULE AND G200.</li> </ul>	

# **RETAINED ACCESSORY POWER (RAP): KP2**

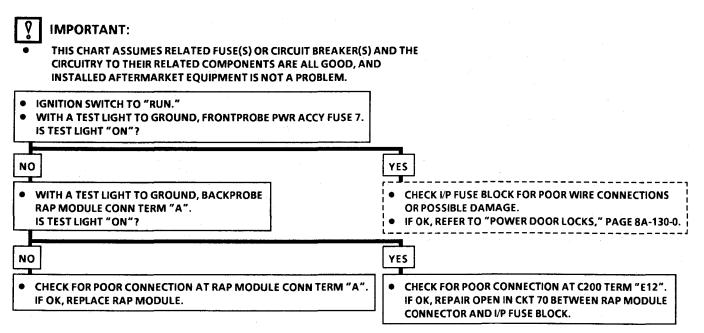
#### CHART #3 COMPONENTS ON WINDOWS CIRCUIT BREAKER 15 AND RADIO FUSE 17

TOTALLY INOPERATIVE, COMPONENTS ON PWR ACCY FUSE 7 OPERATE NORMALLY



### CHART #4

COMPONENTS ON PWR ACCY FUSE 7 TOTALLY INOPERATIVE, COMPONENTS ON WINDOWS CIRCUIT BREAKER 15 AND RADIO FUSE 17 OPERATE NORMALLY



#### **CIRCUIT OPERATION**

The Retained Accessory Power (RAP) System is designed to increase convenience and provide increased security. Some Vehicle Systems will remain operational for approximately 10 minutes after the Ignition Switch is turned to "OFF" or until a door is opened. Other systems will also be operational with Ignition Switch "OFF" whenever a door is open or for approximately 35 seconds after both doors are closed.

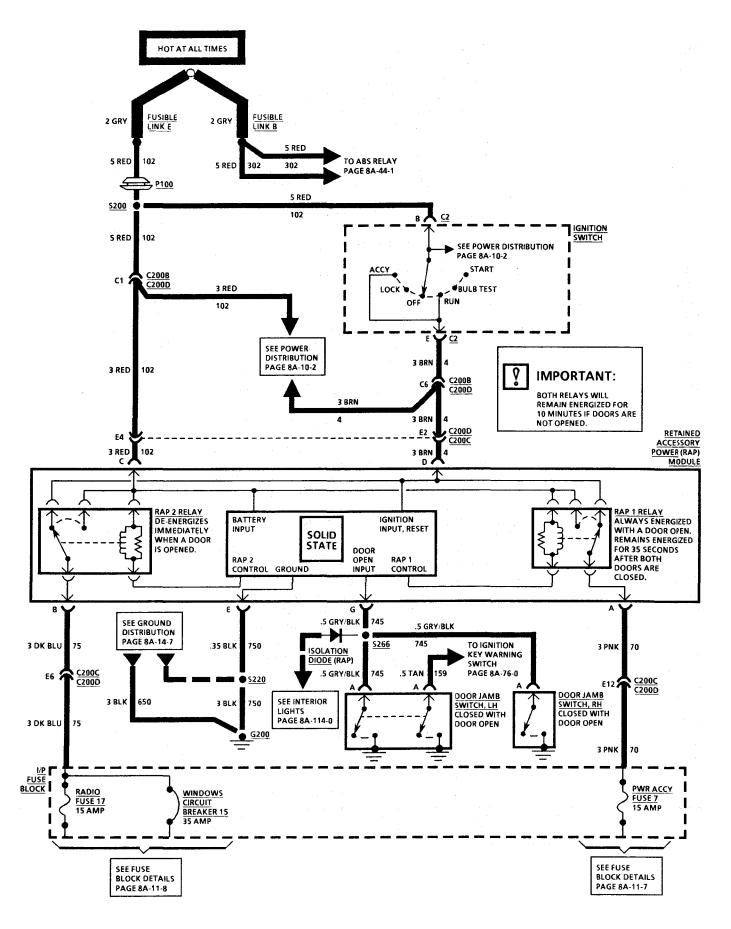
#### **PWR ACCY FUSE 7 OPERATION**

The Retained Accessory Power (RAP) Module will enable the Power Door Locks, Hatch Release and Power Mirrors to operate with the Ignition Switch in "OFF" whenever either door is open or for 35 seconds after both doors are closed. All components on this circuit will be enabled as long as the Ignition Switch is in "ACCY" or "RUN." After the Ignition Switch is turned to "OFF" and both doors remain closed, the components on this circuit will be enabled for approximately 10 minutes. If either door opens, the 10 minute timer cancels, and the components remain enabled as long as a door is opened.

#### RADIO FUSE 17 AND WINDOWS CIRCUIT BREAKER OPERATION

The Retained Accessory Power (RAP) Module will enable the Radio and Power Windows to operate whenever the Ignition Switch is in "ACCY" or "RUN." After the Ignition Switch is turned to "OFF" and both doors remain closed, the Radio and Power Windows will be enabled for approximately 10 minutes. If either door opens, these components will be disabled immediately.

# **RETAINED ACCESSORY POWER (RAP): KP2**



## **POWER DISTRIBUTION**

