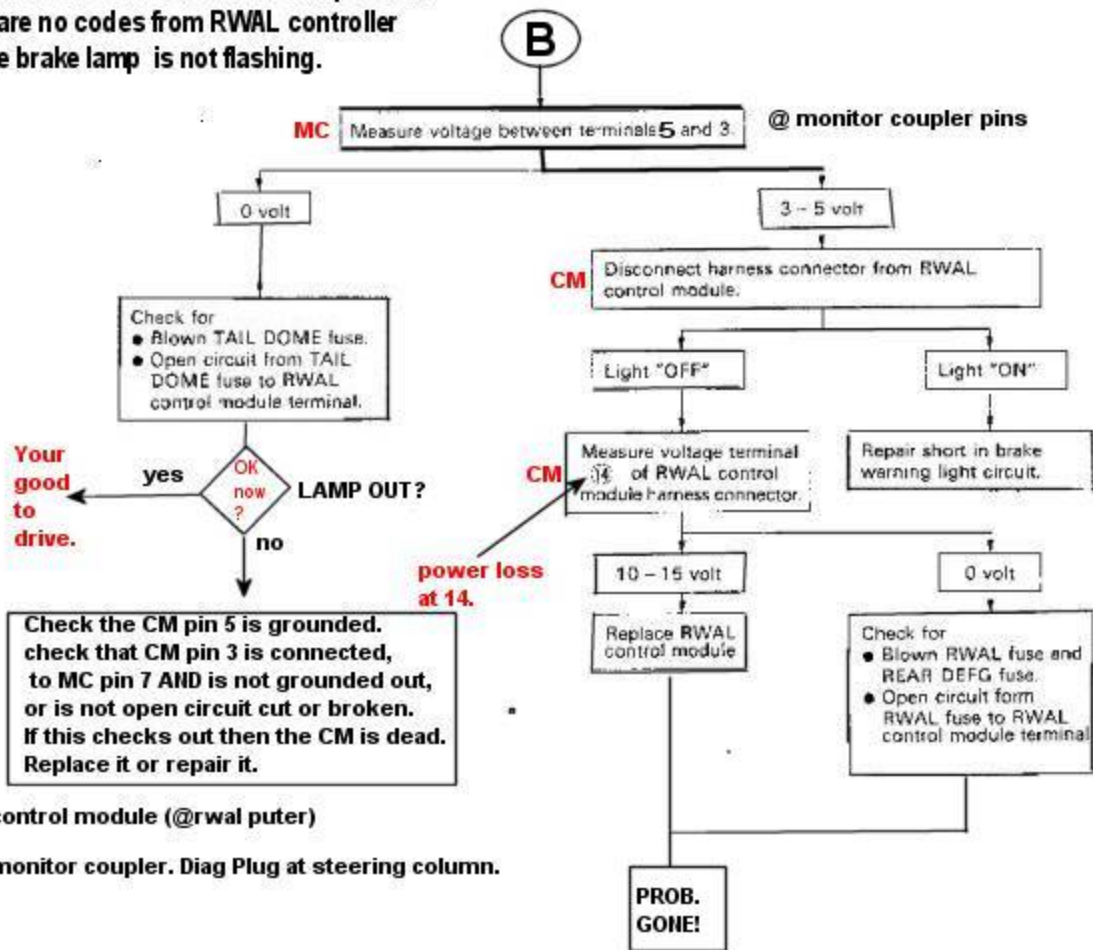


Pins 3 to 5 are at Monitor Coupler not at CM card.

End

CM is actual Control Module

You are here because the Brake lamp is on .
 There are no codes from RWAL controller
 and the brake lamp is not flashing.





©

Disconnect connector from RWAL control module.

Light goes OFF.

Check if power supply to control module is intermittent.

- Shake harness and check voltage of control module harness connector and terminal (14)
- Check voltage of terminal (16) likewise.

Voltage is stable between 10 to 15 volts.

Check control module ground wire for temporary breakage or poor grounding.

- Shake harness and check resistance between module harness connector terminal (11) and vehicle body ground.
- Check that vehicle body ground terminals are properly grounded by bolts.

Resistance is less than 1 Ω and stable. Also, vehicle body ground terminals of harness are securely fixed.

Replace RWAL control module.

Light flashes.

Temporary fault has occurred in either brake warning light circuit or light to control module harness connector terminal (3) circuit. Check fuse, bulb and wiring.

Voltage is obtained intermittently or less than 10 volts.

Correct temporary fault in power supply to control module. Refer to wiring diagram provided in this Section.

Measured resistance is more than 1 Ω or Unstable. Or, vehicle body ground terminal of harness is not fixed securely.

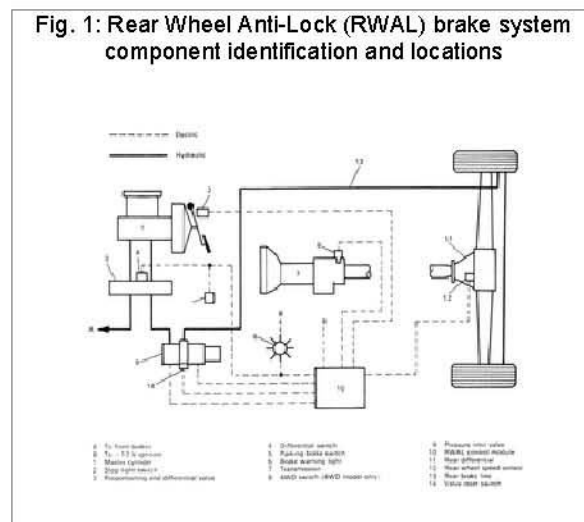
Repair poor grounding of wire.

REAR WHEEL ANTI-LOCK (RWAL) BRAKE SYSTEM

General Description

The Kelsey Hayes RWAL system was available as an option on 1990–95 Sidekick and 1991 Tracker models. The system is particularly useful because of the wide variations of loading the vehicle may experience. Preventing rear wheel lock-up often makes the difference in controlling the vehicle during hard or sudden stops.

Found on both 2WD and 4WD vehicles, the RWAL system is designed to regulate rear hydraulic brake line pressure, preventing wheel lock-up at the rear. Pressure regulation is managed by the proportioning and differential (control) valve, located under the master cylinder. The control valve is capable of holding, increasing or decreasing brake line pressure based on electrical commands from the RWAL Electronic Control Unit (ECU) or Electronic Brake Control Module (EBCM).

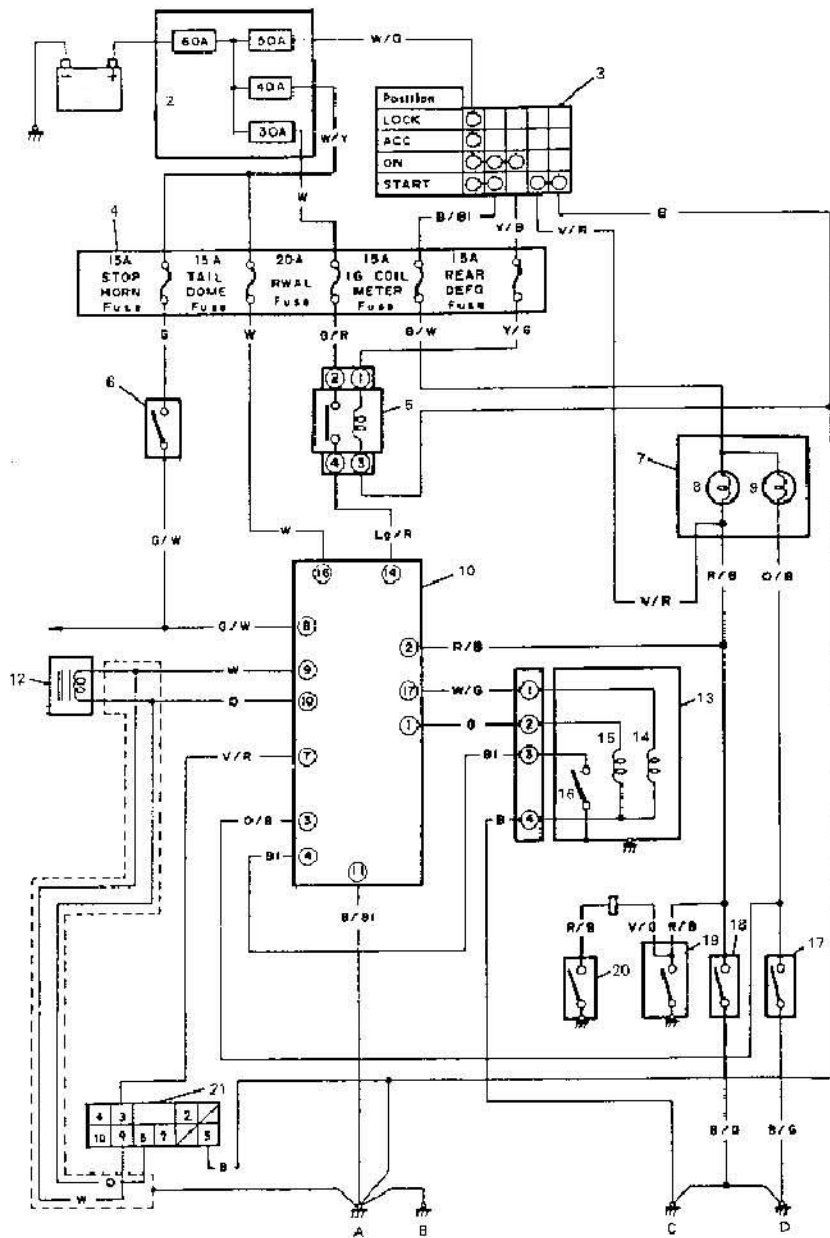


The RWAL ECU is a separate and dedicated microcomputer mounted next to the master cylinder; it is not to be confused with the engine management ECU. The RWAL ECU receives signals from the speed sensor. The speed sensor sends its signals to the Vehicle Speed Sensor buffer (previously known as the Digital Ratio Adapter Controller or DRAC) within the instrument cluster. The buffer translates the sensor signal into a form usable by the ECU. The RWAL ECU reads this signal and commands the control valve to function. If commanded to release pressure, the dump valve releases pressurized fluid into the accumulator where it is held under pressure. If a pressure increase is called for, the isolator valve within the control valve pulses, releasing pressurized fluid into the system.

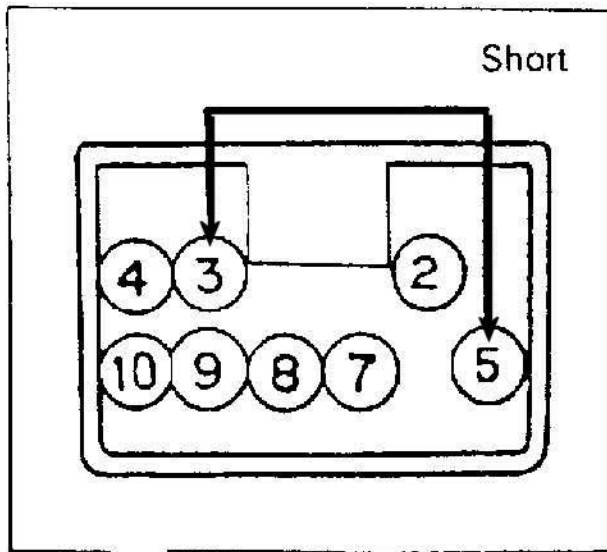
The RWAL system is connected to the BRAKE warning lamp on the instrument cluster. A RWAL self-check and a bulb test are performed every time the ignition switch is turned to **ON**. The BRAKE warning lamp should illuminate for about 2 seconds and then go off. Problems within the RWAL system will be indicated by the BRAKE warning lamp staying illuminated.

If a fault is detected within the system, the RWAL ECU will assign a fault code and store the code in memory. The code may be read to aid in diagnosis.

RWAL diagram

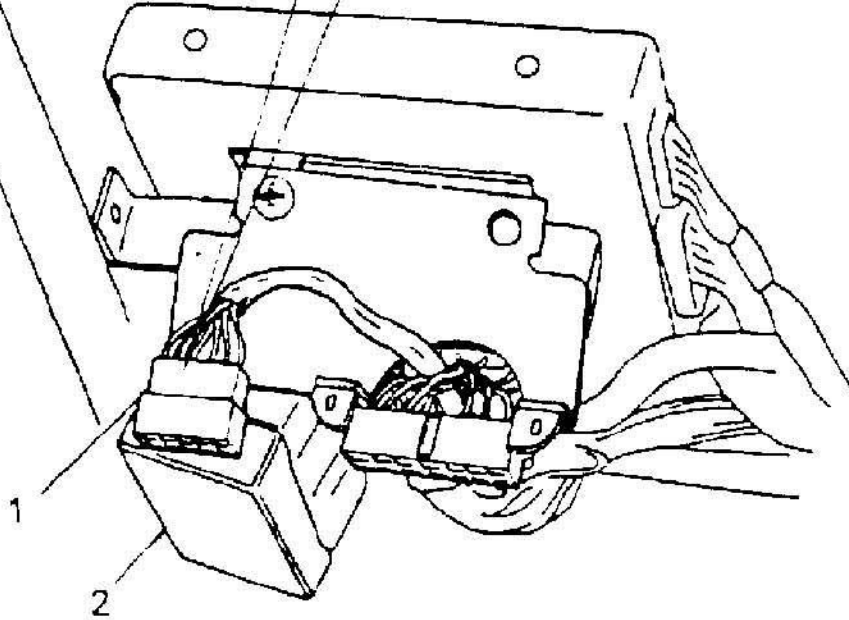


- | | | | |
|----------------------|-------------------------------|---------------------------------|-----------------------------|
| 1. Battery | 8. Brake warning light | 15. Isolation solenoid | Ground points |
| 2. Main fuse box | 9. 4WD light (4WD model only) | 16. Valve reset switch | A. Below left front pillar |
| 3. Ignition switch | 10. RWAL control module | 17. 4WD switch (4WD model only) | B. Below right front pillar |
| 4. Fuse box | 11. To stop lights | 18. Brake fluid level switch | C. Beside of ignition coil |
| 5. RWAL 10.3V | 12. Rear wheel speed sensor | 19. Differential switch | D. Distributor case |
| 6. Stop light switch | 13. Pressure limit valve | 20. Parking brake switch | |
| 7. Combination meter | 14. Dump solenoid | 21. Monitor coupler | |



**Place
Jumper
Here**

Steer



- 1. Monitor coupler
- 2. Fuse box

Key on , place jumper for 2 seconds.

NOTE:

When RWAL control module detects two or more of the following conditions, only the smallest one among their corresponding codes is indicated repeatedly.

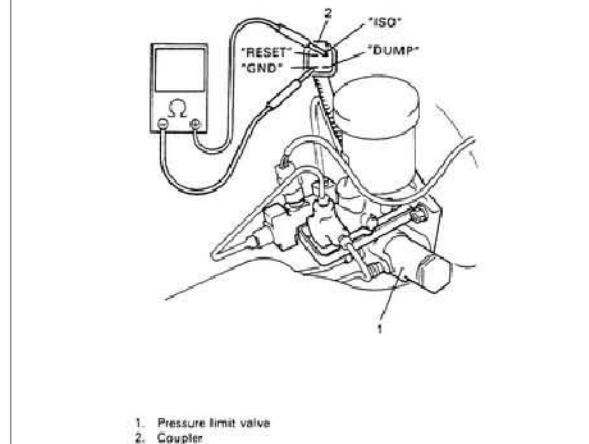
DIAGNOSTIC CODE NO.	CONDITION	ACTION TO TAKE
2	Open isolation solenoid circuit	Diagnose according to diagnosis procedure for each code.
3	Open dump solenoid circuit	
4	Valve reset switch closed	
5	System dumps too many times (Condition occurs when brake is applied during driving.)	
6	Rear wheel speed sensor signal changed rapidly (Condition only occurs while driving.)	
7	Shorted isolation solenoid circuit	
8	Shorted dump solenoid circuit	
9	Open rear wheel speed sensor circuit	
10	Stop light switch remains ON	
11	Shorted rear wheel speed sensor circuit	
13	RWAL control module malfunction	

Pressure Limit (Isolation/Dump) Valve

INSPECTION

1. Ensure the ignition switch is turned **OFF**.
2. Detach the wiring harness connector from the pressure limit valve.

Fig. 1: Measure the resistance between the ISO and GND terminals, the DUMP and GND terminals, and the RESET terminal and valve body — replace the valve if the resistance values are not within the specified ranges



3. Using a Digital Volt-Ohmmeter (DVOM) set on the ohmmeter function, measure the resistance between valve terminals ISO and GND, terminals DUMP and GND, and between the valve body and terminal RESET. The resistance between terminals ISO and GND should register 3–6 ohms at 68°F (20°C). The resistance between terminals DUMP and GND should be 1–3 ohms at 68°F (20°C). The resistance between the valve body and terminal RESET should register infinite resistance (no continuity). If the resistances were not as indicated, replace the valve.
4. Reattach the wiring harness connector to the valve.