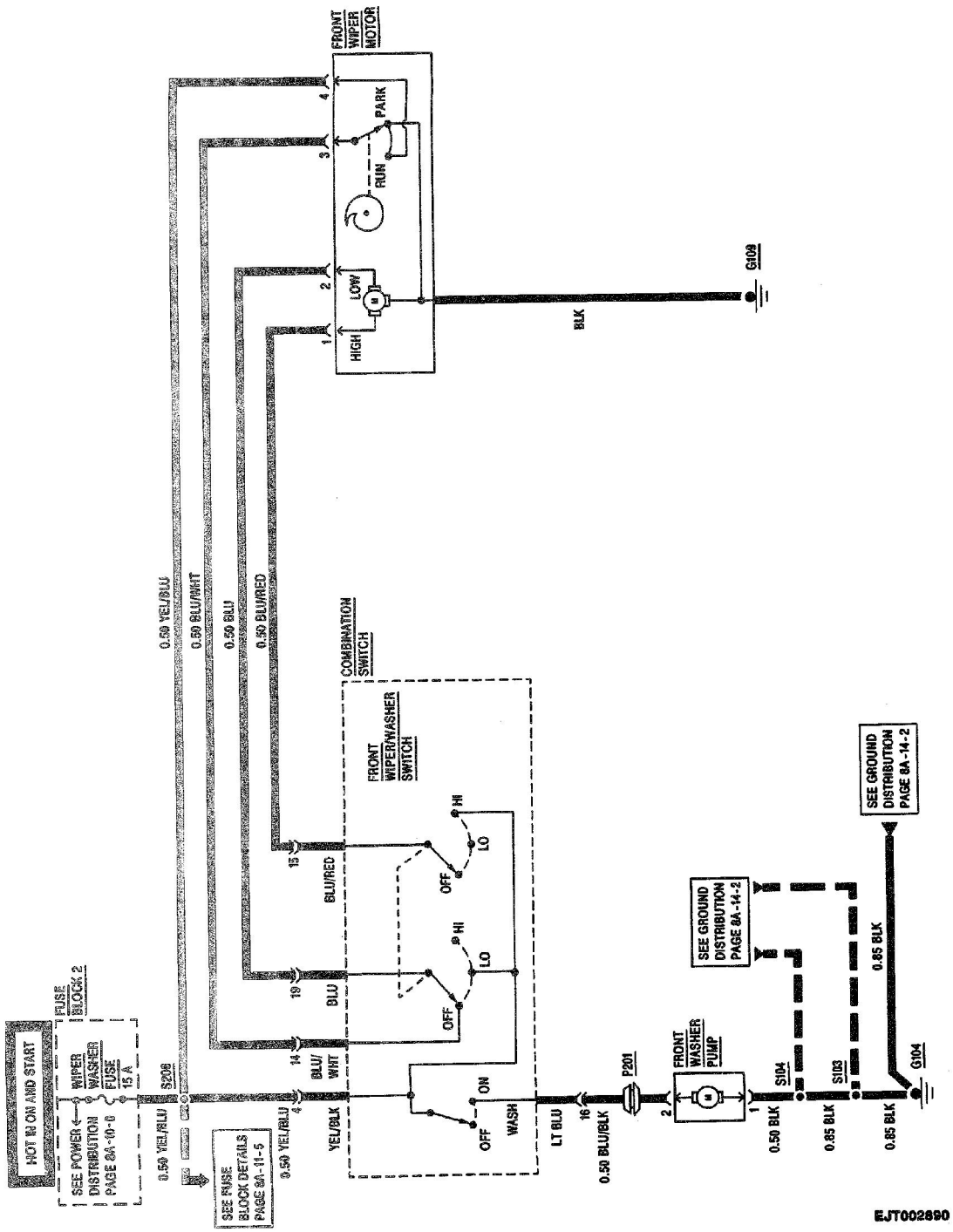
WIPER/WASHER



EJT002890

COMPONENT	LOCATION	201-PG	FIG.	CONN
Combination Switch	On Steering Column	06	A	202-00A1
Front Washer Pump	RH Front Engine Compartment, on Washer Fluid Reservoir	02	A	
Front Wiper Motor	LH Rear Engine Compartment, on Bulkhead	04	A	
Front Wiper/Washer Switch	RH Steering Column, in Combination Switch			
Fuse Block 2	Under LH I/P	06	A	
G104	RH Front Inner Fender near Washer Fluid Reservoir	02	A	
G109	LH Bulkhead near Front Wiper Motor			
P201	RH Rear Engine Compartment on Bulkhead, near Battery	01	A	
S103	Main Harness, behind RH Headlamps			
S104	Main Harness, behind RH Headlamps			
S206	Main Harness, behind LH I/P near Fuse Block 2			

TROUBLESHOOTING HINTS

1. Check the WIPER WASHER Fuse with a fuse tester.
2. Check that grounds G104 and G109 are clean and tight.
3. If the FRONT WASHER PUMP does not operate, check that:
   - Washer fluid reservoir is adequately filled.
   - Hoses are not pinched or kinked.
   - Hoses are correctly routed.
   - Front washer nozzles are not clogged.

SYSTEM DIAGNOSIS

TEST	RESULT	ACTION
1. Turn Ignition Switch to "ON." Pull Front Wiper/Washer Switch back.	FRONT WASHER PUMP operates.	GO to step 2.
	FRONT WASHER PUMP does not operate.	GO to step 4.
2. Turn Front Wiper/Washer Switch to "LO" position.	Wipers operate at low speed.	GO to step 3.
	Wipers operate at high speed.	GO to step 8.
	Wipers do not sweep.	Replace COMBINATION SWITCH.
3. Turn Front Wiper/Washer Switch to "HI" position.	Wipers operate at high speed.	All systems diagnosed in this Section are functioning normally.
	Wipers operate at low speed.	GO to step 12.
	Wipers do not sweep.	GO to step 10.
4. Backprobe COMBINATION SWITCH connector with a test lamp from cavity 4 to chassis ground.	Test lamp does not light.	Repair open in YEL/BLU wire between FUSE BLOCK and COMBINATION SWITCH.
	Test lamp lights.	GO to step 5.
5. Backprobe COMBINATION SWITCH connector with a test lamp from cavity 16 to chassis ground. Pull Front Wiper/Washer Switch back.	Test lamp does not light.	Replace COMBINATION SWITCH.
	Test lamp lights.	GO to step 6.
6. Turn Ignition Switch to "LOCK." Disconnect FRONT WASHER PUMP connector. Connect a test lamp from connector cavity 2 to chassis ground. Turn Ignition Switch to "ON" and pull Front Wiper/Washer switch back.	Test lamp does not light.	Repair open in BLU/BLK wire between FRONT WASHER PUMP and COMBINATION SWITCH.
	Test lamp does not light.	GO to step 7.

WIPER/WASHER

SYSTEM DIAGNOSIS

TEST	RESULT	ACTION
7. Connect a digital multimeter from FRONT WASHER PUMP connector cavity 1 to chassis ground. Measure resistance.	More than 1.0 ohm.	Repair open in BLK wire between FRONT WASHER PUMP and G104.
	Less than 1.0 ohm.	Replace FRONT WASHER PUMP.
8. Backprobe FRONT WIPER MOTOR connector with a test lamp from cavity 1 to chassis ground.	Test lamp does not light.	Replace FRONT WIPER MOTOR.
	Test lamp lights.	GO to step 9.
9. Disconnect COMBINATION SWITCH connector. Connect a test lamp from connector cavity 16 to chassis ground.	Test lamp lights.	Repair short to voltage in BLU/RED wire between COMBINATION SWITCH and FRONT WIPER MOTOR.
	Test lamp does not light.	Replace COMBINATION SWITCH.
10. Backprobe FRONT WIPER MOTOR connector with a test lamp from cavity 1 to chassis ground.	Test lamp lights.	Replace FRONT WIPER MOTOR.
	Test lamp does not light.	GO to step 11.
11. Backprobe COMBINATION SWITCH connector with a test lamp from cavity 16 to chassis ground.	Test lamp lights.	Repair open in BLU/RED wire between COMBINATION SWITCH and FRONT WIPER MOTOR.
	Test lamp does not light.	Replace COMBINATION SWITCH.
12. Backprobe FRONT WIPER MOTOR connector with a test lamp from cavity 2 to chassis ground.	Test lamp does not light.	Check BLU/RED wire for high resistance (more than 3.0 ohms). If OK, replace FRONT WIPER MOTOR.
	Test lamp lights.	GO to step 13.
13. Disconnect COMBINATION SWITCH connector. Connect a test lamp from connector cavity 21 to chassis ground.	Test lamp lights.	Repair short to voltage in BLU wire between COMBINATION SWITCH and FRONT WIPER MOTOR.
	Test lamp does not light.	Replace COMBINATION SWITCH.

COMPONENT REPLACEMENT INFORMATION

For component replacement procedures, refer to the section listed below.

Combination Switch ..... Section 3F4
Front Washer Pump ..... Section 8E
Front Wiper Motor ..... Section 8E

CIRCUIT OPERATION

Whenever the Ignition Switch is in the "ON" or "START" position, Battery voltage is applied through the WIPER WASHER Fuse to the Front Wiper/Washer Switch (in the COMBINATION SWITCH) and FRONT WIPER MOTOR Pawl and Switch contacts.

WASHER OPERATION

When the Front Wiper/Washer Switch is pulled back, Battery voltage is applied through the Wash Switch to the FRONT WASHER PUMP. The FRONT WASHER PUMP is permanently grounded at G104 and will operate as long as the Wash Switch is engaged. To initiate wiper operation, the Front Wiper/Washer Switch must be turned to the "LO" or "HI" wiper positions.

LOW OPERATION

With the Front Wiper/Washer Switch in the "LO" position, Battery voltage is applied through the WIPER WASHER Fuse, and the "LO" contacts of the Front Wiper/Washer Switch to the LOW side of the FRONT WIPER MOTOR. Since the FRONT WIPER MOTOR is permanently grounded at G109, the motor operates at low speed as long as the switch remains in this position. When the switch is placed in the "OFF" position, the Pawl and Switch assembly provides voltage to the motor until the wipers are in the PARK position.

HIGH OPERATION

With the Front Wiper/Washer Switch in the "HI" position, Battery voltage is applied through the WIPER WASHER Fuse, and the "HI" contacts of the Front Wiper Washer Switch to the HIGH side of the FRONT WIPER MOTOR. Since the FRONT WIPER MOTOR is permanently grounded at G109, the motor operates at high speed as long as the switch remains in this position. When the switch is moved to the "OFF" position, the Pawl and Switch assembly provides voltage to the motor until the wipers are in the PARK position.