DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST A: CHARGING SYSTEM TEST—IAR GENERATOR

TEST STEP		RESULT	ACTION TO TAKE
A1	PRELIMINARY CHECKS		
	• Check the following: • Fuse link. • Battery terminals and cable clamps. • Wiring connections at generator, integral voltage regulator (IAR) and engine-to-body grounds. • Generator belt tension. • **Are components OK?**	Yes No	GO to **A2.** SERVICE and / or REPLACE as necessary. GO to **A2.**
A2	BASE VOLTAGE AND NO-LOAD TEST		
	• Connect voltmeter to battery posts. Record battery voltage (base voltage). • Start engine and run at 1500 rpm with no electrical load. Voltage should increase, but not more than 2 volts.	Increases, but not more than 2 volts No increase Increases more than 2 volts	GO to **A3.** GO to **A5.** GO to **A7.**
A3	LOAD TEST		
	• Increase engine speed to 2000 rpm. • Turn heater / A / C blower and headlamps on HIGH. • Voltage should read a minimum of 0.5 volt over base 'A' circuit voltage.	Increases 0.5 volt or more Increases 0.5 volt or more, but generator indicator stays on Increases less than 0.5 volt	GO to **A4.** GO to **A7.** GO to **A5.**
A4	BATTERY DRAIN TEST—KEY OFF		
	• Perform battery drain test. Refer to Section 14-01. • **Is there a battery drain?**	Yes No	CHECK other vehicle circuits for drain. REFER to Section 14-01.
A5	'I' CIRCUIT VOLTAGE TEST		
	• Disconnect regulator. • Turn ignition switch to RUN (engine off). • Measure voltage at 'I' terminal of IAR. Voltage should be same as battery voltage. • **Is there battery voltage?**	Yes No	GO to **A6.** SERVICE 'I' circuit for open or short to ground. GO to **A2.**
A6	'I' CIRCUIT CURRENT TEST		
	• Jumper 'I' terminal at IAR connector to battery negative post. • Turn ignition switch to RUN (engine off). • **Does charge indicator light?**	Yes No	GO to **A7.** SERVICE 'I' circuit (high resistance). GO to **A2.**
A7	'A' CIRCUIT TEST		
	• Disconnect IAR. • Connect voltmeter negative lead to battery negative post. • Connect voltage positive lead to 'A' terminal of IAR connector. • **Is voltage same as battery?**	Yes No	GO to **A8.** SERVICE 'A' circuit (open / high resistance). GO to **A2.**
A8	CHECK GENERATOR OUTPUT LEAD		
	• Stop engine. • Connect voltmeter positive lead to B+ terminal of generator. • Connect voltmeter negative lead to battery negative post. • **Is voltage same as battery?**	Yes No	SERVICE or REPLACE generator. GO to **A2.** SERVICE or REPLACE circuit from generator to battery. GO to **A2.**

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