



Dixie Part Numbers:		A-8669 A-8947	A-8890 A-80043	A-8930
Applications	5: 1997 1997 - 1999 - 1999 - 1999 - 2000 - 2002 -	Kia Sephia 1.8 - 1998 Mazda - 2000 Mazda - 2001 Mazda - 2003 Mazda - 2001 Mazda - 2006 Mazda	BL Protégé 1.5L Miata/MX5 1 Protégé 1.6L Protégé 1.8L MPV 2.5L MPV 3.0L	.8L ELECTRIC
Condition:	The vehicle's charging system is not working properly even though the alternator has been replaced.			
Cause:	This alternate	or has a P – D	style regulate	or, or external driver.
	 For this <i>Dixie Tech Tip</i> only topic of the P–D regulator will be covered. For the following topics refer to the appropriate <i>Dixie Tech Tip</i>: Voltage Drop Testing – TSB-001 Alternator Trouble Shooting Guide – TSB-010 Alternator Installation Guide – TSB-011 Alternator Pulley Installation Guide – TSB-012 Why batteries can not be disconnected to test alternators – TSB-013 To properly test the alternator use a voltmeter <u>only</u> on the P terminal – never on the D terminal or the alternator will immediately fail. Never apply voltage to the D terminal or the alternators but with different terminals. Below are pictures of the resulting damage to the transistor in the alternator, the transistor has been blown apart. 			

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TECH TIPS

- Always follow the manufacturers diagnostic procedures for each specific vehicle.
- To check the alternator charge condition a voltmeter can be connected to the P terminal. The P terminal will be the top one with the lock on the left, see the sketch below showing both types of plugs. The voltage reading at the P terminal should be ½ of the operating voltage. For example a system operating at 14.2 volts should have a reading of 7.1 volts on the P terminal (+/- 0.5) if the voltage at the P terminal is higher or lower by around 1.5 volts the rectifier is blown.
- If you have an alternator that is not charging you can use an oscilloscope to check the D terminal, the vehicle sends out a square wave signal to the alternator to make it charge (typically 1-3V when testing.



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