



QUALITY PARTS AND UNITS FOR THE REBUILDER

The Rotating Electrical Experts

## “YOUR ALTERNATOR WON’T CHARGE....Replaced it with another, and it works fine”

It would seem that if another unit fixed the problem, the alternator would have to be bad, an easy conclusion....right? Actually there are a number of other possibilities. Let us consider just one: the experience of one customer, in August of 2006, who at first thought that was the case, and needless to say was upset over the inconvenience.

This customer was the proud owner of a 2000 Chevy Tahoe with a 5.7L who wanted to increase the charging system output to accommodate a higher watt stereo system. The original alternator is a CS-130D rated at 105 amps. He ordered and installed a 66156HDN, rated at 160 amps, which is indeed a compatible upgrade. Upon start-up he immediately noticed the voltmeter in the dash reading low and that after some driving time the alternator was very hot. Since his old alternator was a working unit and he needed his vehicle to get back and forth to work; he decided to put it back on for the time being and returned the “alleged defective” unit back to his supplier, a local parts store. They in turn contacted our technical service department for help. We requested the alternator be shipped to us directly for analysis and report. It turned out that though the alternator exhibited signs of overheating, it was determined to be ‘not defective of manufacture’ and was still working fine. Meanwhile it is reported that the customer’s original unit is “working fine”.....That is as long as he doesn’t use the stereo. Hmmm...doesn’t quite add up, does it?

As Paul Harvey would say...”and now the rest of the story”

Did you notice that one of the symptoms was the **alternator was very hot?**

Herein lies the first key. **This means the alternator was charging**, and no doubt pushing its threshold. So then, why was the voltmeter reading low? This is the second key. Simply stated, **excessive demand** on the charging system means if the current or amperage demanded is greater than the alternators capacity; the **system voltage will fall** as the battery is depleted, which explains the low reading on the dash meter. And of course the higher than normal current output **will generate excess heat**.

Yeah but, how could it be that by putting his original unit back on, all was OK??

To answer that, might it be better to ask: where was all of that current going? The answer, a discharged battery! (A weak battery can produce the same scenario) By the time he realized the battery was discharged, he assumed the alternator was the cause, charged it up, reinstalled his original alternator and away he goes....and no problem. Shortly thereafter, with the reinstallation of the high amp unit there was still no problem and was of course able to use his stereo.



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The bottom line?

**All is not always what it appears to be.** And since in this case, it was reported that no diagnostic was performed, and if charging system fundamentals are not clear in mind, it is not hard to see why some jump to conclusions....which affects the bottom line for all of us.

Most vehicles though are equipped with “no charge” lamps, and when the ‘Lamp is ON’ and the alternator has become inoperative, does that mean that it was defective of manufacture?.....**OR, might there be other causes?**

Look for highlights on this in our next issue of Technician’s Toolbox.

George West