

# To Convert or Not to Convert, That is the Question

*Whether 'tis nobler in the mind to fix the grounds and cables of older N,  
Or to take the 12 volt arms against a sea of troubles.*

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Discussing the pros and cons of converting your N from 6 volts to 12 volts does not need to fall in the same league as discussing religion or politics.

Honestly, it really is not that controversial!

Let's start by getting past all the excuses for converting to 12 volts and look at two (yes, only two) valid reasons for converting these 50 plus year old machines to 12 volt.

**Reason Number One:** You need to operate 12 volt electrical equipment with the tractor (lights, pumps, sprayers, etc.)

**Reason Number Two:** You have a low compression (less than 90 pounds), worn out engine and do not have the time, money or need to rebuild the engine; a 12 volt battery will spin the starter faster and create enough compression to enable it to start.

If these are the reasons you are thinking of converting your N to 12 volts, you are on the right track. But, beware of the fact that there are at least six ways to correctly convert an N to 12 volts, but an infinite number of ways to do it wrong! Fellow N owner Chris Britton has suggestions for doing it right the first time in another article on this website.

While there are but two logical reasons to convert an N to 12 volts, there are at least four common excuses.

**Excuse Number One:** *"My tractor will not start on 6 volts."* What makes you think it will start on 12 volts if it will not start on 6 volts? There are a multitude of reasons why an N won't start, or is hard to start – carb problems, points, bad grounds, a weak battery – and none of these problems is going to be fixed by converting it to 12 volts. Find out why it will not start and fix it first! A 12 volt conversion kit and a 12 volt battery will cost about \$200. After all of that expense, it would be embarrassing to find out that you had a bad ignition switch (\$12), a bad ground between the starter and block (\$0), or that you had a bad battery (\$50) or battery cables (\$15). Of course, if you are a skilled mechanic, you would not need to buy a conversion kit; you could fabricate your own. But, if you were a skilled mechanic, you would not rely on a 12v conversion to fix the problem!

**Excuse Number Two:** *"I can convert it to 12 volt cheaper than I can fix the 6 volt problems."* Well, that might be true if all of your parts need replacing. A conversion kit & a 12 volt battery will go for about \$200. Let's do the math:

\$90	rebuilt 6 volt generator
\$40	new 6 volt battery
\$20	new 6 volt wiring harness
\$28	new 6 volt voltage regulator
\$15	new 6 volt battery cables
\$193	

What do you think the chances are that your *entire* electrical system needs to be replaced? More often than not, a new wiring harness, cleaning all the grounds, new cables & a battery will do the trick.....\$75.

**Excuse Number Three:** *"My N will not start below 40 degrees."* Well, why won't it? See Excuse Number One; find out why it won't start! Plenty of 6 volt Ns start at well below 0 degrees; so will yours!

**Excuse Number Four:** *"The entire automotive industry went to 12 volt 40 years ago."* Why? Because the entire automotive industry went to higher compression, higher horsepower engines and put transistors in the

car radios. The compression of your N has not changed and they never came with a radio, so you do not need 12 volts to start & run it! And, according to some folks, the automotive industry will be going to 24 volts in the next ten years. Will you need to convert your 12 volt N to 24 volts then?!

There is certainly nothing inherently “wrong” with converting an N to 12 volts or with buying an N already converted to 12 volts. The only two things “wrong” with a 12 volt conversion is doing it for the wrong reasons, or doing the conversion itself wrong. If your N is already doing fine with its 12-volt conversion, you would be wise to determine what resistors (if any) it has, if it has a 6 volt or 12-volt coil, and the make/model of the alternator. Once you figure that out, you will be that much ahead of the game when you have an electrical problem on your N. And, if you want to convert your N for the right reasons, fellow N owner Chris Britton’s article is for you!

### **A Case Study**

I purchased my 1951 8N in December 2000. The tractor had been sitting unused in a shed for about three years prior to April 2000 when the previous owner put a new battery in it, cleaned the carburetor and got it started. When I went to look at the tractor, he did say it was occasionally hard starting, but the new battery should take care of it. When I got it home, my first repairs were to rebuild the carb, replace both battery cables, the original wiring harness, points, plugs, condenser, distributor cap and plug wires. I pulled the starter away from the block and buffed out the ground until it was bright and shiny. I did the same with all the other grounds as I replaced the wiring harness. While I was replacing the points, I noticed the insulator (p/n 12233) going into the distributor was cracked and the copper strap (p/n 12209) looked frayed, so I replaced those parts as well. This tractor started just fine last winter at 18 degrees – *on the 6 volt battery that was installed in April, 2000!* When this battery finally dies, I will have a burial ceremony for it.

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