

Most Bang for Your Buck or Easy Upgrades for Your Model A Engine

I am sure if you have a stock, unmodified engine in your Model A there have been times that you would like to have had a little more power.

A stock Model A engine in good condition will produce about 40 horsepower. As designed, the Model A will run along all day at about 45 MPH which was fine for most road conditions that existed when our cars were new. Today there are times when a little more power would make your Model A more enjoyable and fun to drive. If you intend to use your Model A for long distance touring a more powerful engine is definitely desirable.

There are several engine shops that will build you an upgraded "Touring" engine at the cost of \$4,000 to \$5,000 which is fine if you intend to do a lot of high speed highway driving and are not concerned with the cost. For the owner who just would like a little more power and a better running engine without spending a lot of money, there are some relatively easy and cost effective modifications that can be done that will greatly improve performance.

First, the most cost effective modification that can be done is to install a high compression cylinder head. Originally, the Model A engine was rated at 40 HP and had a compression ratio of 4.2:1. Installing a 5.5:1 cylinder head will result in a 10 HP increase or 25% improvement over the stock engine. Good quality American made cast iron higher compression heads are available at a cost of less than \$350 including a new head gasket. There is no other modification you can do to your engine that will yield a 25% increase in power for as little as \$350.00. Replacing the cylinder head should only take a few hours. You should not install a high compression head if your engine is not in good condition because the added load on the bearings may shorten the remaining life of the engine.

The second modification you should consider is to replace your old muffler with a new one from Aries. Aries makes an excellent muffler for your Model A with very little back pressure and the same external appearance and internal designed as the original. Most replacement mufflers are very restrictive which results in a decrease of engine power output. You should expect a 3 to 4 HP increase when replacing an old restrictive replacement muffler with a new Aries. A new mild steel Aries muffler will set you back about \$220. Aries also makes a stainless steel version of the same muffler for about \$350. If you are not building a High Point Show Car, I would consider the stainless steel muffler. It will last the life of the car and then some.

A third modification you may want to consider is upgrading to a model B carburetor. To benefit from the larger "B" carburetor, you will also need to either bore out the "A"

intake manifold to the "B" size or replace it with a "B" manifold. The intake manifold, ports and valves in a stock Model A engine are fairly restrictive and while the Model B carburetor may not add much overall power, it will improve drivability and eliminate some of the problems inherent in the original "A" carburetor. If, at a later date, you do decide to rework your engine with larger valves for better breathing, and a more aggressive camshaft, you will definitely experience better performance with a Model B carburetor.

Installing a high compression cylinder head, a Model B carburetor and a Aries muffler will result in improved drivability with a power increase of about 15 HP or 37%. This is the easiest, most cost effective changes you can do to your stock engine while retaining the appearance and simplicity of the original design.

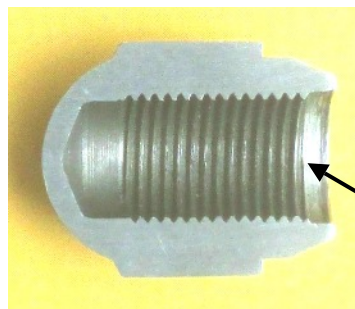
Tech Tip # 6 Are your wheels falling off?

Having a wheel come off while traveling down the road can be an experience no driver would want to have. You should periodically check to be sure the lug nuts are tight.

Model A lug nuts should be tightened to 50-55 Ft. Lbs. of torque. Put a drop of oil on each stud before installing the lug nuts to be sure they tighten properly. Be sure to use GOOD lug nuts that have the first few threads relieved so the nut will seat properly in the taper of the wheel and not tighten on the unthreaded portion of the stud. Clean any accumulation of paint or powder coating from the tapered seat in the lug holes of each wheel. Inspect the holes in the wheels to be sure they are not damaged, elongated or worn out. If you are using tapered washers between the lug nuts and the wheel, be sure to check several times after installing the wheels to make sure the nuts are properly seated in the washers and the washers properly seated in the wheel. I do not recommend using tapered washers but sometimes it is necessary because of worn holes in the wheels.

Do not use an impact wrench. Install and remove the lug nuts using hand tools. If a nut does not easily screw onto the stud, check the nut and stud for damage or worn threads. Most of the time, it will be the nut that is bad, throw it away and use a nut with good threads.

After installing a wheel, snug up the nuts with the tire off the ground. Remove the jack and with the tire on the ground, finish tightening the nuts. Check after a hundred miles or so to be sure the lug nuts are all tight.



*Wheel Nut with
machined relief*