POLY POWER

POLY ENGINE Clarification Facts

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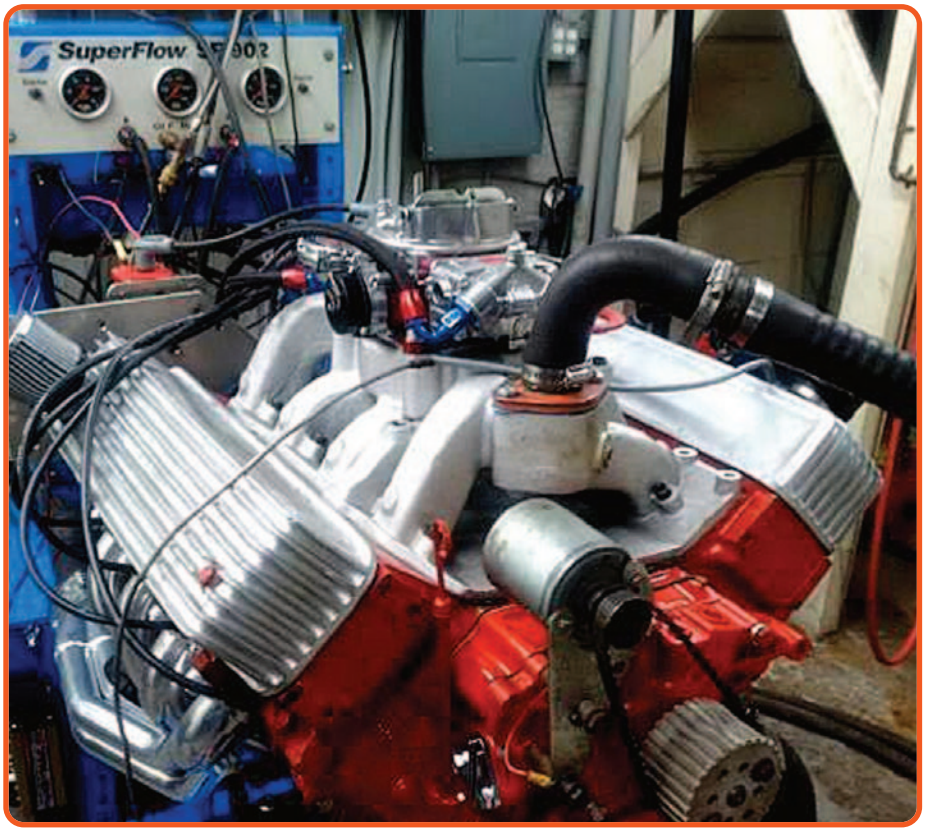


Picture of the Poly on the dyno after the switch to the Chrysler Power Wind Tunnel intake was made ready to make some comparison power pulls.

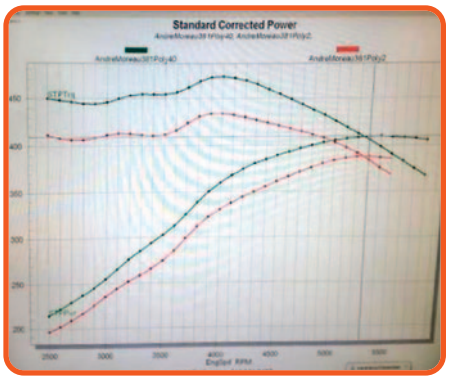
I am writing this article to try and clear up some misconceptions about a lot of the parts we are offering for the Poly engine, due to a conversation I had with Managing Editor, Deaven Butler. We all know the advantages of social media, especially FaceBook, but along with the advantages come incorrect information put out by some individuals. I will try to get everyone on the same page and pointed in the correct direction for your engine builds.

I will start with discussing the difference between the different years the poly engines were offered. They started in 1956 and the engines and transmissions from 1956 up to, and including, 1961 are different than the 1962 and up engines. The crank shafts are longer from the rear main bearing to the crank flange to accommodate the cast iron transmission and bell housing. The 1962 and up transmissions are a one piece, all aluminum unit that bolts directly to the back of the block. Likewise, the torque converters are different; the ’56 to ’61 converter bolts directly to the crank flange, with the bolts being installed through the crank bolt holes and into the threaded torque converter bolt holes.

The ’62 and newer torque converters bolt to a flex plate that is bolted to the engine crank flange. Another way to tell the cranks apart is the ’56 to ’61 crankshafts are eight bolt crank flange; the ’62 and later are six bolts. This means that 1956 to 1961 engines and transmissions must be used together, and the 1962 and newer engines and transmissions must be used together. However, it is possible to install a 1962 and newer engine and transmission into a 1961 and back car; it will just take some transmission cross member and mount fabrication work and a longer driveshaft installed.

The cylinder heads are also an issue when dealing with the 1961 and earlier engines versus the 1962 and later engines. The earlier heads have four extra water holes in them that will leak water into the lifter valley if installed on the newer ’62 and up blocks. I hope that helps clear up some of the incorrect information out there.

Next, I will discuss the Poly blocks; the earlier blocks had extra stiffening ribs cast into the rear of the block; the newer blocks did not. The main bearing bores are the same on all the blocks. The entire Poly blocks are extremely strong; they have a lot of metal in them (that’s why they are so heavy). We have also hardness tested them and they are harder than any other production block ever made; they are also harder than a majority of the race blocks produced. “That is all good news for the Poly faithful,” as Roland would state it. There is also some information out there stating that they can be over bored by .090, which is true in some cases, however you must have the block cleaned and sonic tested to be sure there is no core shift to eliminate having issues. But that also makes the block non boreable if you run into issues down the road. Personally, I like to stick with a smaller bore size and keep the strength in the bore. And leave a little for future work.



Here are the dyno results “ Just the facts Ma’am” very impressive results remember this was switching from the best single four intake out there before the Wind Tunnel and installing Chrysler Power’s new addition to the Poly game.

Chrysler Power Four Barrel 'Wind Tunnel' Dual Plane Manifold.

Now, onto the intake portion of the article; most of the Poly engines produced were equipped with a 2-barrel intake and carburetor. However, there were some engines produced with the single 4-barrel factory intake and WCFB Carter as an added option. The single 4-barrel option was done at the end of the 1962 model year. There was also a rarer, two 4-barrel intake set up available for a few years. Even the Performance aftermarket got into the game for a few years producing aluminum 4-barrel, two 4-barrel and six pack intakes, but those all went out of production in the early to mid-1970s.

Now, fast forward to eight years ago when Roland decided he wanted to do something for all the people out there that owned, or thought about owning, a Mopar with a Poly engine. His first order of business was to produce a new aluminum intake for the Poly's. He not only wanted to produce a new intake, but he wanted it to be better than all the other ones that came before it. Roland and I had several conversations about the intake after he asked me to do the R&D work on the heads.

When the intake was finally ready to move forward, we discussed the power potential and how we could prove the performance advantage over the others that were still floating around for sale. I told him he needed to find someone that was building a fairly stout Poly with the Weiand single 4-barrel intake that planned on running the engine on a dyno. I told him to contact the guy and send him a new Wind Tunnel intake and have them switch just the intakes after they tested it with the Weiand intake.

That is what happened, and the results were very satisfying. The Wind Tunnel intake made 22 more horse power and 35 plus foot pound of torque that was using everything else the same as the Weiand. Those are the cold hard facts; so not only can you purchase a newly designed Poly intake, it is the best performing one out there.

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Tested the new Poly SuperPac manifold; This was a pretty cool engine to test for a pretty cool guy — Andre Moreau. He runs a Stude @ Bonneville powered by an early Hemi. This Poly of his is slated for his Monaco for some fun and reliable cruising on the street. What was really nice about this dyno session was testing the engine with an old Weiand dual plane manifold first, and then getting some quantitative results on this new manifold (SuperPac) that was just released.

Poly Specs:
4.00" x 3.79" for 381 cubes
9.0-1 comp (pumpgas)
ported Poly heads with stock valve head diameter but 11/32" stems (very nice looking work
.510" 236 @ .050" 108 LSA solid Cam-Craft camshaft
QFT 780 VS
TTI 1 3/4" coated headers

This engine ran beautifully, with very nice mannerisms. Stable idle with a little lope, starts well and shuts down without protest. Best total timing was surprisingly found to be 30 and best power occurred by stepping the primary jetting way down from 74 to 68.

The Weiand did well with 387hp and a pretty stout 435 ft/lbs. He was happy with that and really wanted to see what the new manifold could do; off came the Weiand, and surprisingly the gaskets didn't tear, so the new manifold went on and we were up and running in about 35 minutes. The new manifold didn't disappoint with a wall to wall torque gain which translated to a best of 409 hp and 470+ft/lbs! Plus the new manifold looks pretty trick, too. It is always a blast to test when the engine runs as nice as this one. I took a few pics for any Poly fan. J. Rob

There are some other claims that a 500 Holley on a stock intake will make good power also; while it will work better than the much smaller stock carburetors, you are still putting it on top the old stock intake. The best formula for power is the Wind tunnel with a 600 or 650 cfm carburetor, depending on the size of your cam, and if you have the heads ported or not. So now that you know the facts, the Chrysler Power intake is without question your best bang for your hard earned dollars. So call and order yours today, and if you have any other questions on your Poly build, feel free to contact me. I will be glad to walk you through it.

That is it for now; feel free to contact me with your questions and remember, "Smoke-em if you Got-em."

LATEST 'TIRE SMOKIN' DYNO RESULTS

This just in from a customer I built a 391 cubic inch Poly for in Denver. He had the engine on the dyno today and the results are in. I can remember discussing with Roland early on with our quest to make the Poly engines respectable that I felt I could get 500 horse power or close to it out of these engines. I only wish he was here to see it, but I know he is smiling down on us and chuckling saying you did it big Bruce. It has taken a while but it finally happened. The 391 cubic inch Poly with a Wind Tunnel single four-barrel intake and no power adders has made 514 horse power and 526-foot pounds of torque, totally awesome when you think of it people were junking these things eight years ago. Now Poly owners now can hold their heads high. Now is the time to order your Wind Tunnel intake and start your stroker Poly build now. We will be doing a complete story on this build in future magazine so stay tuned right here.

Here are the facts, take a look at the flat torque curve this will be a real tire smoker under full throttle acceleration. CP