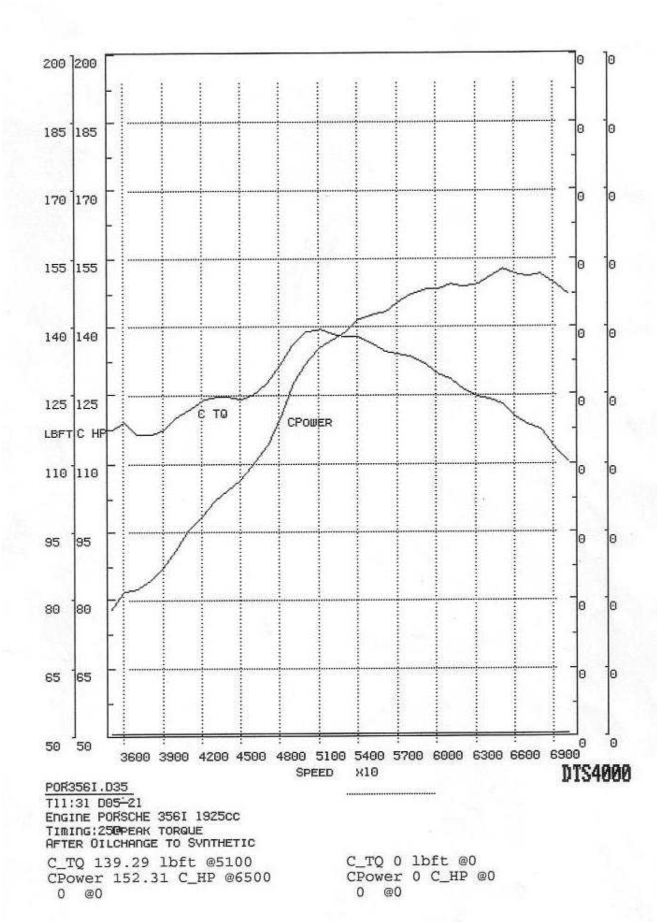
Willhoit Auto Restoration

DYNO TESTS

The dyno tests on these pages are the result of several years of testing. Below is a sample of the original data as it is printed from the DTS dyno computer, but most of the tests are charted in a standard Excel format to make them easier to compare. Keep in mind that most tests shown are the best runs once jetting and timing was optimized unless specifically noted. All tests include the specifications of each engine and all have been run using standard Premium pump gas available in California (with our additives) unless otherwise noted. All test are run using stock timing advance of 36 degrees unless otherwise noted. Other components are stock unless noted. Camshafts are listed as measured at .050", not as advertised.

The test curves are plotted using a full throttle sweep from the beginning RPM to the max. RPM. Depending on the specific engine and the desired maximum RPM, the chart may begin sooner or later. For most lower RPM engines the sweep begins at 3000 to 3200 RPM and ends at 6000. In order for the computer to plot the test numbers it's necessary to rev the engine approximately 300 RPM past the shown maximum. For this reason, some of the tests are limited to under 6000 RPM. Most engines won't accept full throttle below 3000 RPM with the static dyno load, that's why the tests begin at or above 3000.

SAMPLE DYNO SHEETS:



CAROBU Engineering LLC
925 West 16th Street
Newport Beach, CA 92663
949-722-3917

Date 05-21-2004 Time 11:31:38

T11:31 D05-21 Engine PORSCHE 356I 1925cc
Timing:25@peak torque After Oilchange to Synthetic
updated with motec

FileName : POR356I.D35
Mode : A-Sweep

Speed rpm	CPower C_HP	C_TQ lbft	Oil psi	Oil° °F	A/F Left	A/F Right	Fuel_P psi
3500	78	117	47.7	182	12.93	13.86	60.3
3600	81.6	119.1	48.6	182	12.62	13.44	60.3
3700	82.1	116.6	49.2	182	12.44	12.99	60.3
3800	84.2	116.4	49.7	182	12.36	12.87	60.3
3900	87.3	117.5	50.2	182	12.35	13.02	60.3
4000	91.3	119.9	50.6	182	12.38	13.09	60.3
4100	95.3	122	50.9	182	12.41	12.9	60.2
4200	98.9	123.7	51.2	182	12.46	12.75	60.2
4300	101.8	124.3	51.5	182	12.45	12.66	60.2
4400	104.3	124.5	51.7	182	12.41	12.6	60.2
4500	106.2	123.9	52	182	12.21	12.41	60.2
4600	109.4	124.9	52.2	182	12.09	12.31	60.2
4700	114.2	127.6	52.4	182	12.02	12.29	60.1
4800	120.2	131.5	52.8	182	12.05	12.28	60.1
4900	127.1	136.2	53.1	182	12.16	12.37	60.1
5000	131.9	138.6	53.5	182	12.35	12.48	60.1
5100	135.3	139.3	53.8	182	12.5	12.59	60.1
5200	136.8	138.2	54.2	182	12.64	12.63	60.1
5300	138.7	137.5	54.5	182	12.61	12.67	60
5400	141.5	137.6	54.8	182	12.49	12.81	60
5500	142.7	136.3	55	182	12.36	12.87	60
5600	143	134.1	55	182	12.21	12.71	60
5700	145.1	133.7	55.1	182	12.18	12.74	60
5800	147	133.1	55.2	182	12.13	12.71	60
5900	148.1	131.8	55.4	182	12.1	12.6	59.9
6000	148.2	129.7	55.6	183	12.23	12.52	60
6100	149.3	128.6	55.7	184	12.3	12.58	59.9
6200	148.5	125.8	55.9	184	12.43	12.45	59.9
6300	149.3	124.5	55.5	184	12.47	12.67	59.9
6400	150.6	123.6	55.4	185	12.51	12.85	59.9
6500	152.3	123.1	55.8	185	12.6	13.06	59.9
6600	151.1	120.2	56.6	186	12.46	13.15	59.9
6700	150.9	118.3	56.2	187	12.43	13.3	59.9
6800	151.6	117.1	55.7	188	12.3	12.88	59.9
6900	148.8	113.3	55.5	189	12.18	12.56	59.9
7000	146.9	110.2	55.6	189	12.11	12.53	59.9

[Average data]

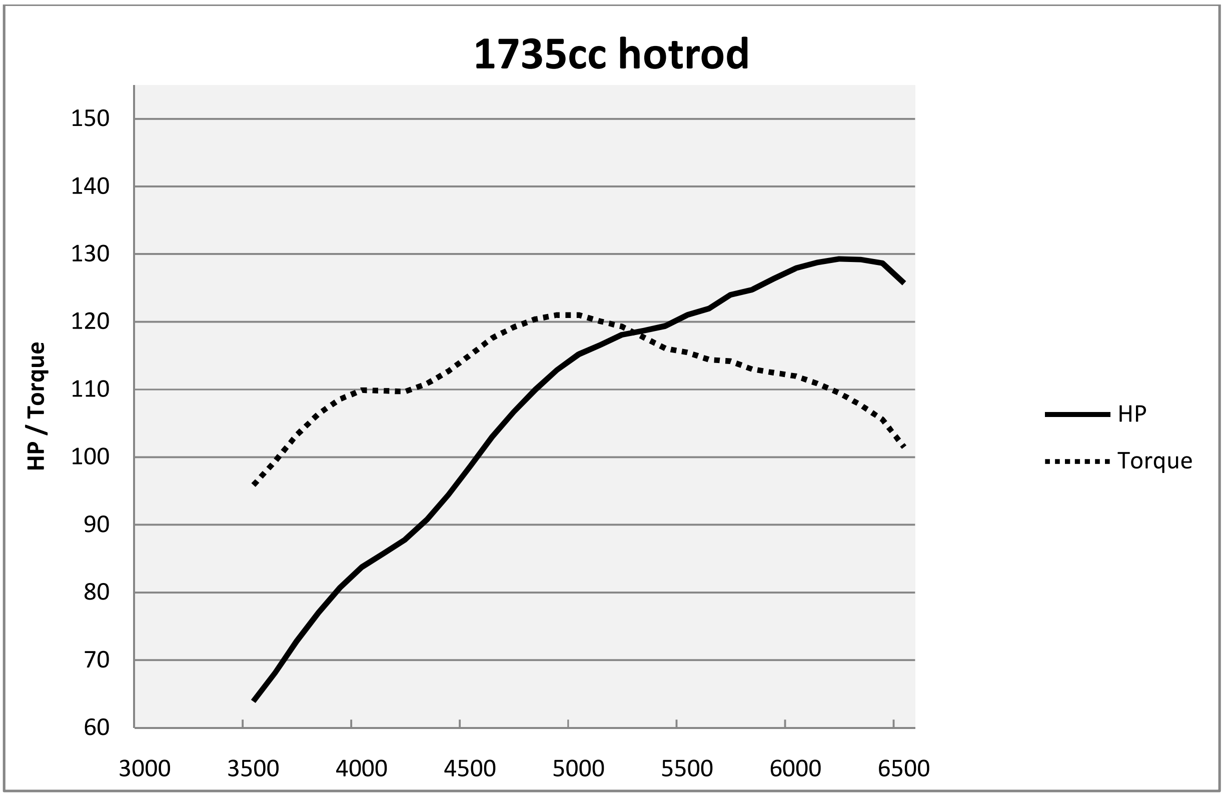
5250	126.1	126.1	53.4	183.2	12.36	12.76	60.1

[Inertia factor] .81 [Time] 7.6 Secs

1735cc Hot Rod 356 SC engine

129hp@6200 / 121ftlbs@4900

86.5mm cast iron cylinders w/custom JE forged pistons w/ 10.2:1 CR
Scat lightweight crankshaft 74.0mm
Carrillo rods
10.5lb flywheel
911 piston squirters, full flow oiling system
5” front pulley
44IDF Webers w/36mm venturis
Custom 5” aluminum air horns (no air cleaners)
Elgin 7208 HL camshaft 248 degree, .370” lift
42mm Type-4 intake valves / stock 34mm exhaust valves, double springs, ti retainers
Custom WR 4:1 header with 36x1.5” primaries and 10” stinger/resonater



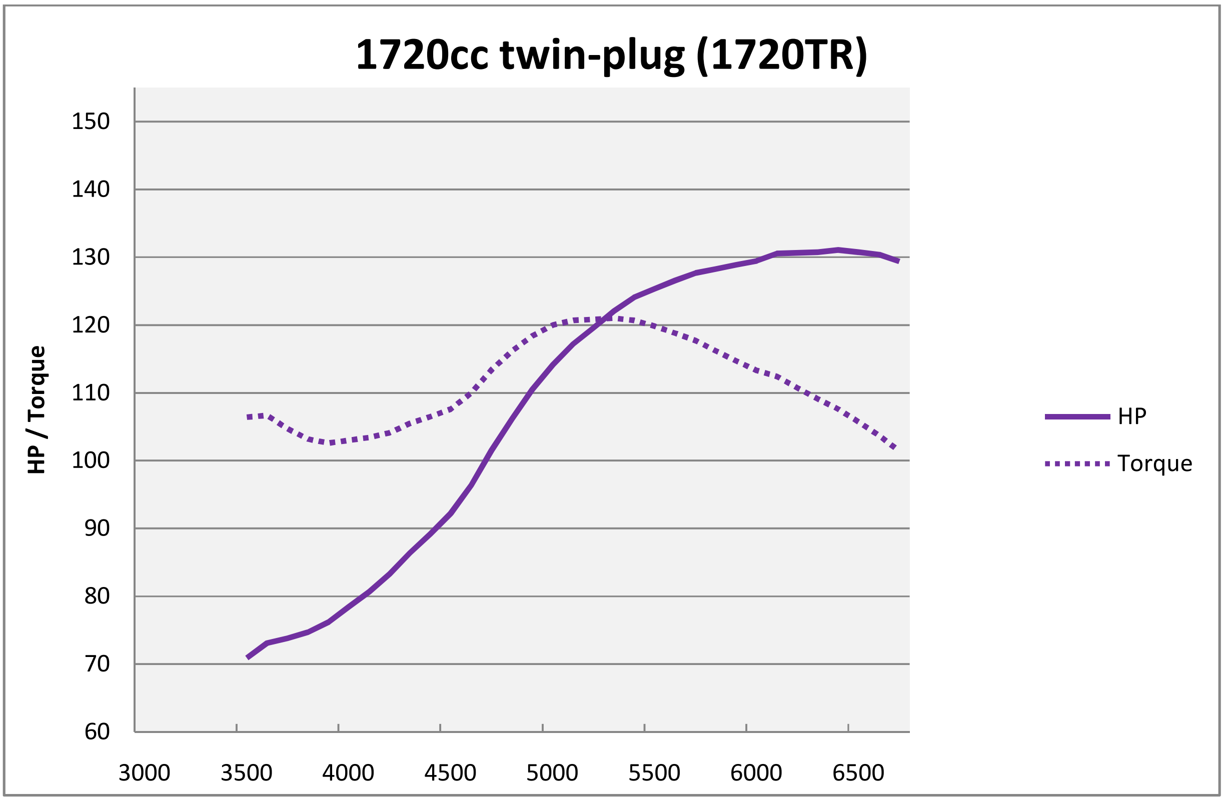
This was the first engine we dyno tested at Carobu. The intakes were ported to flow into the valves, and the chambers were unshrouded, but the intake manifolds at the gaskets were kept stock. Peak flow at .500” was later tested at 176cfm. The long primary pipes of the WR 4:1 header gave an excellent boost to the mid range torque, but with a VERY sporty sound.

****

1720cc Twin Plug (1720TR)

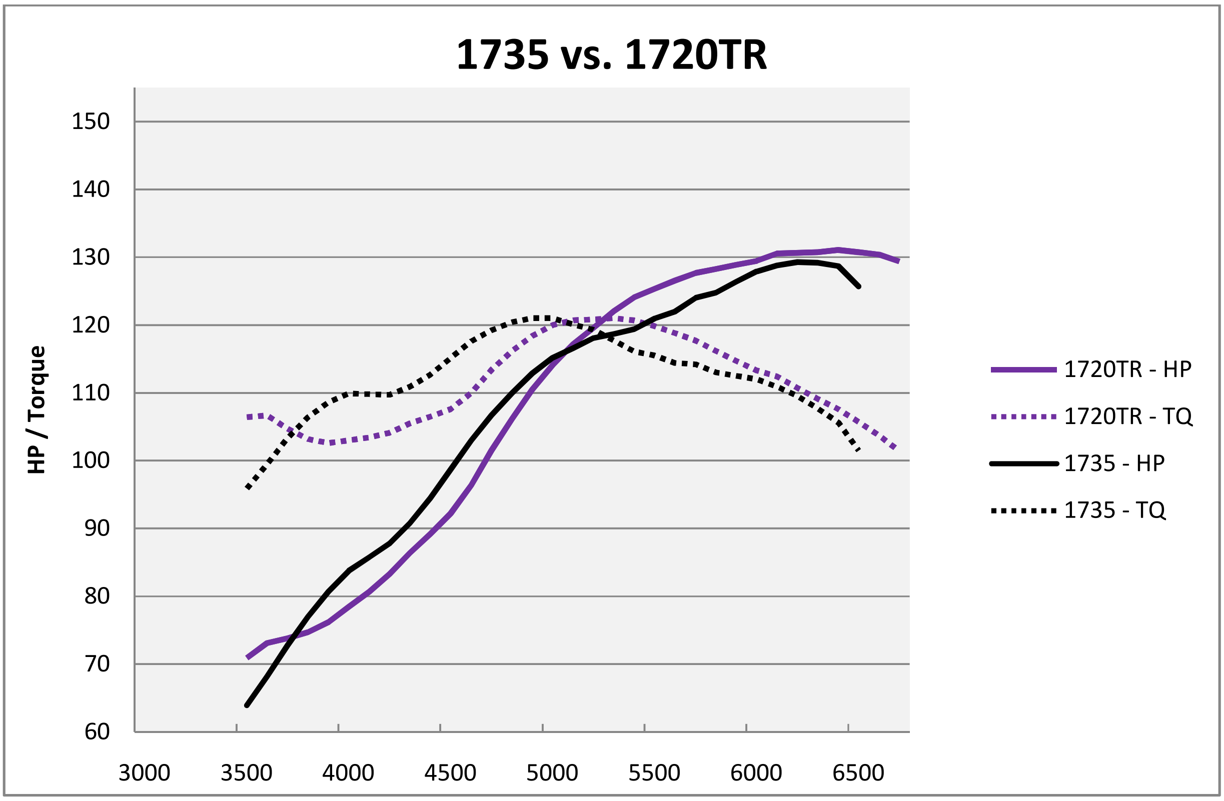
131hp@6400 / 121ftlbs@5300

248 degree camshaft with .370" lift (Elgin 7208 HL)
Special LN Engineering 86mm "Nickies" cylinders using custom JE forged pistons with 10.50:1 compression ratio.
Bored case with 911 piston squirters installed, full flow oiling system.
Scat lightweight crank with Carrillo rods.
WR 10.5lb Flywheel kit with aluminum 200mm pressure plate.
Aluminum 5" front pulley.
Custom twin plug distributor using a MSD CDI box firing two Bosch CDI coils. 25 degrees maximum timing advance.
42mm Type-4 intake valves / stock 34mm exhaust valves, double springs, ti retainers
Weber 44IDF carbs with 36mm venturis and 2.25" airhorns w/K&N air filters.
Crankcase ventilation in the case and heads.
Special aluminum pushrods.
Raceware cylinder head studs.
WR Sport Exhaust for twin plug.



This was basically the 1735cc engine above that we later converted to a twin plug with some of the other TR upgrades. The owner wanted to keep the engine as a 1720cc (the 86.5mm cylinder walls of the 1735cc were somewhat thin and we wanted to use the LN Eng cylinders). Also, the 4:1 exhaust was very loud, and the air horns looked cool but did nothing for filtering out dirt. The cylinder heads were unchanged except for the addition of the 2nd plug. Even though there were some compromises made in performance, the owner was thrilled with the dyno results. Despite the smaller size the engine made (almost) the same power but was much more quiet, and the throttle response was improved by the twin plug.

A comparison of the two engines is shown below:



As you can see in the graph, the tuning affect of the long primaries and the taller air horns boosts the torque between 3500 and 5500rpm, but the TR set up with the WR Sport Exhaust and the stock Weber 2.25" air horns and air cleaners are much more reasonable for street use, and also boost power above 5000rpm. We also tried the TR engine without the K&N air cleaners and recorded no gain in power.

****

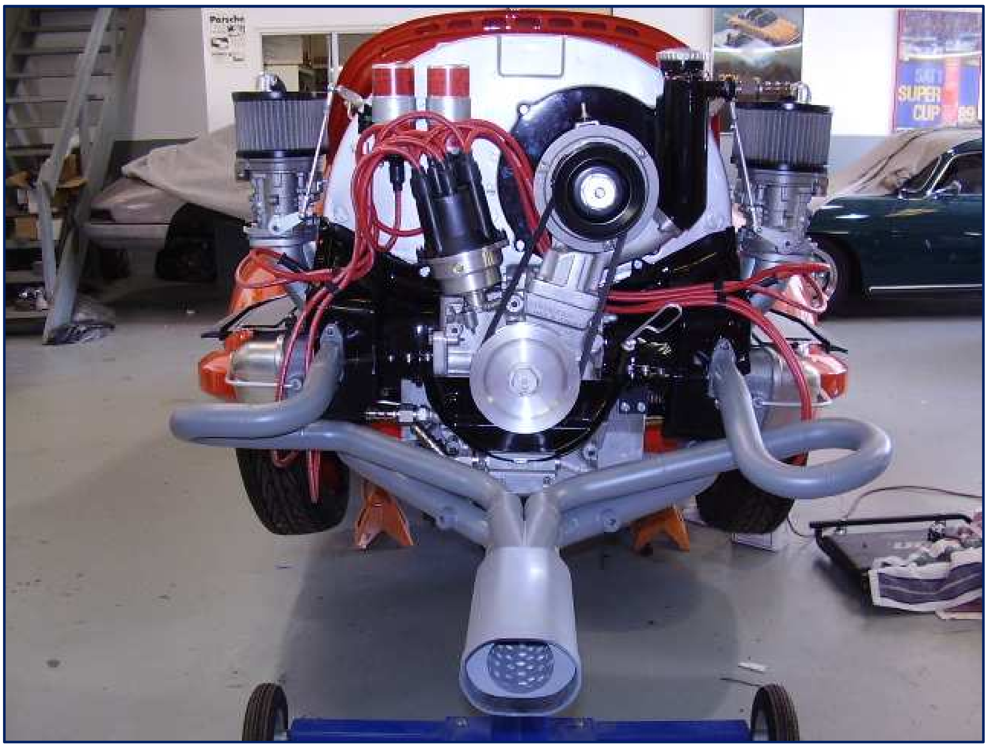
1925cc Test #1 – Stock vs. WR 4:1 exhaust

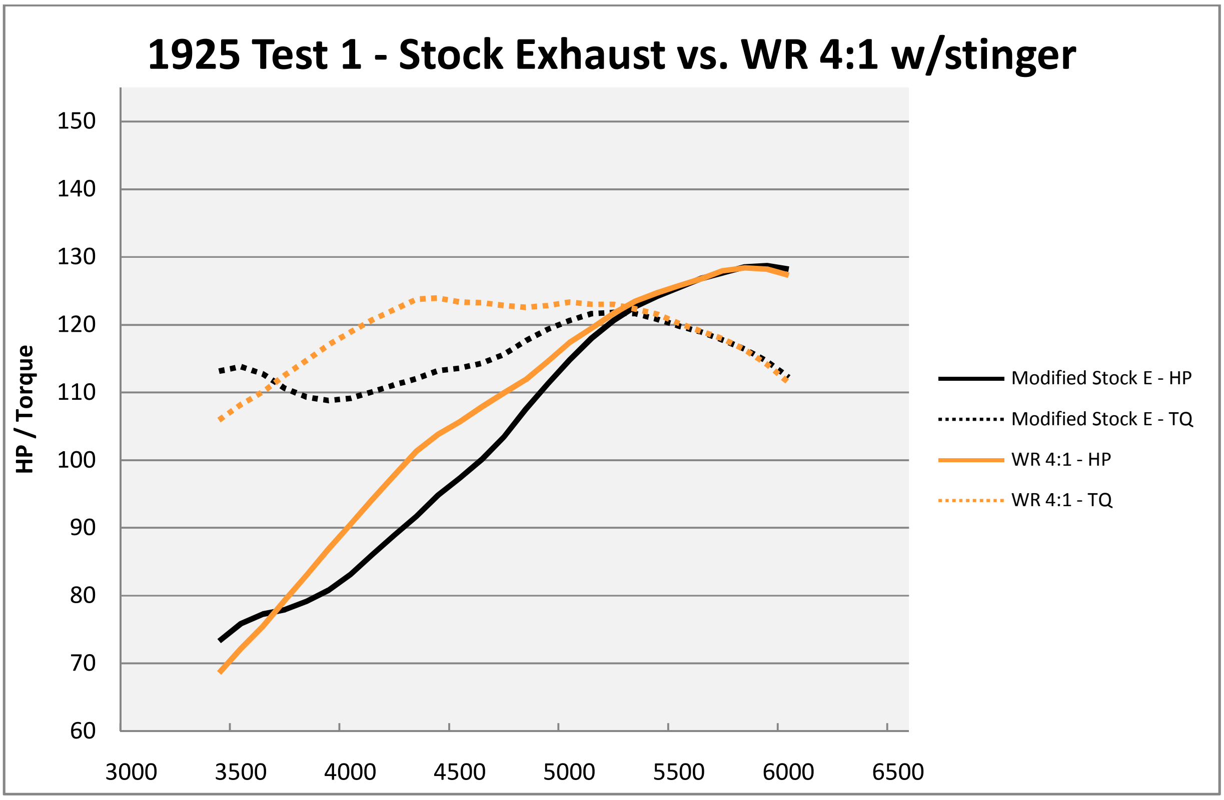
129hp@5900 / 122ftlbs@5200 STOCK

128hp@5800 / 124ftlbs@4400 WR 4:1

240 degree camshaft with .385" lift.
Modified VW cylinders bored to 91mm using custom JE forged pistons with 10.25:1 CR
Bored case with 911 piston squirters installed, full flow oiling system.
Lightened 912 connecting rods.

356C crankshaft.
11 lb flywheel with aluminum 200mm pressure plate.
Aluminum 5” front pulley.
Custom twin plug distributor using an M&W CDI box firing two Bosch CDI coils. 25 degrees maximum timing advance.
Stock C/SC/912 cylinder heads with 38mm intake and 34mm exhaust valves, drilled for twin plug, bored for the 91mm cylinders w/unshrouded intake valves
Weber 44IDF carbs with 34mm venturis and 2.25” airhorns w/K&N air filters.
Crankcase ventilation in the case and heads.
Chromoly pushrods.
Stock cylinder head studs.
Stock factory muffler modified for twin plug compared to WR 4:1 with same specs as above engines.





The WR 4:1 header with the 10" stinger/resonator provided an amazing boost in the mid range torque – right in the driving range. Some low end torque is sacrificed (below 3800rpm due to the lack of back pressure), and above 5800 (due to the resonating length of the primaries).

These tests were done with the first 1925cc twin plug engine and the owner has driven the car over 13M miles with the 4:1 system. The car is a lightweight C Coupe with no insulation, and the many long distance drives that have been made in the car have taken their toll on the owner's hearing and his love of the "sport" sound. Even though the tuning of the header can provide an excellent boost in power when done correctly, the look of a 4:1 on a 356 has never been popular when a "quiet" muffler is added to the system. The next step with engine #1 is to install the WR Sport Exhaust and bring the noise level down. As with any "street" performance engine, certain trade-offs have to be made.

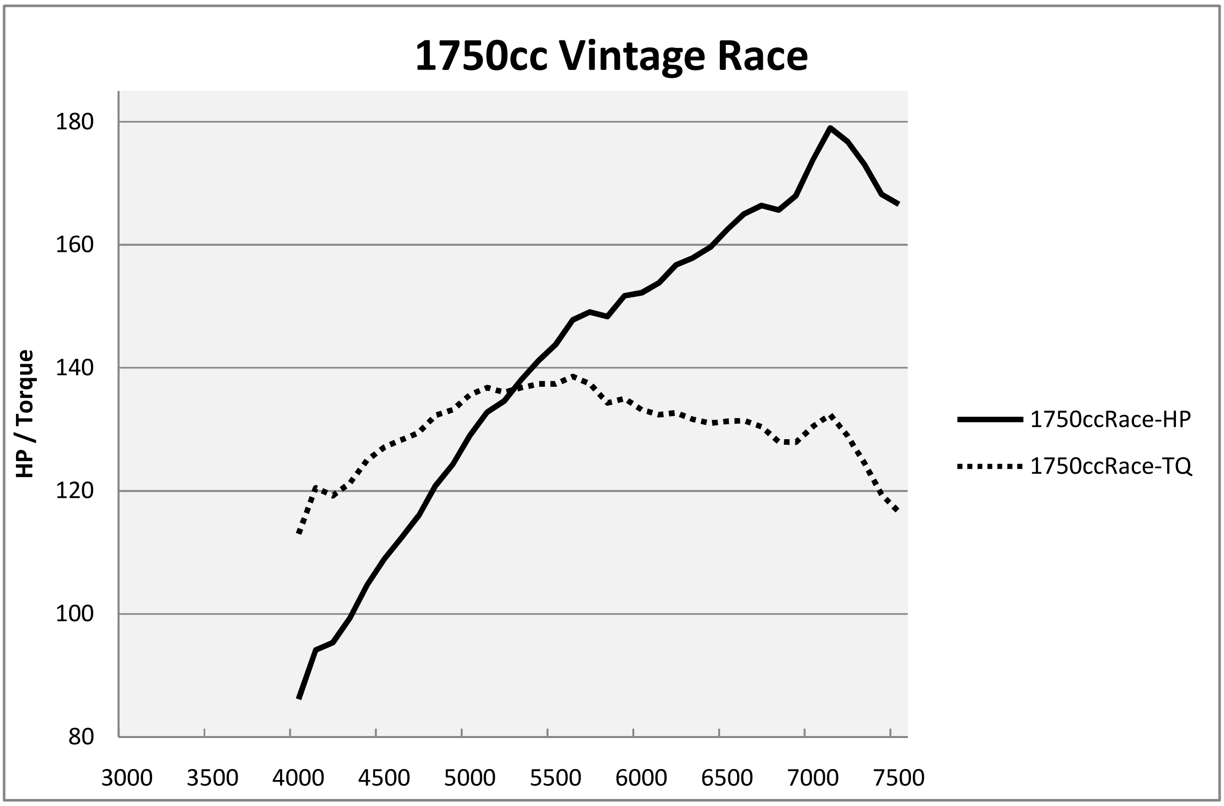
****

<u>1750cc - FULL RACE</u>

179hp@7100 / 139ftlbs@5600

279 degree Elgin race cam, .370" lift, with straight cut cam gears.
Cast iron cylinders bored to 87mm (machined for copper head sealing gaskets) with special JE pistons 11.0:1 CR.
Case modified for piston squirters, full flow oiling system, deepsump.
Scat lightweight crank, Carrillo rods.
10.5lb flywheel.
4.0" front pulley with custom vibration damper.

Race heads modified with Del West titanium 7mm stem valves w/40mm intake and 34mm exhaust, titanium retainers and double springs.
48IDF Weber carbs with 40mm venturis , 2.25” air horns, and ITG air cleaners.
WR 4:1 stainless header with 1.5” diameter primaries and 12” reverse cone megaphone.
Crankcase ventilation in the case and heads.
Chromoly pushrods.
Raceware cylinder head studs.
110 octane race fuel.



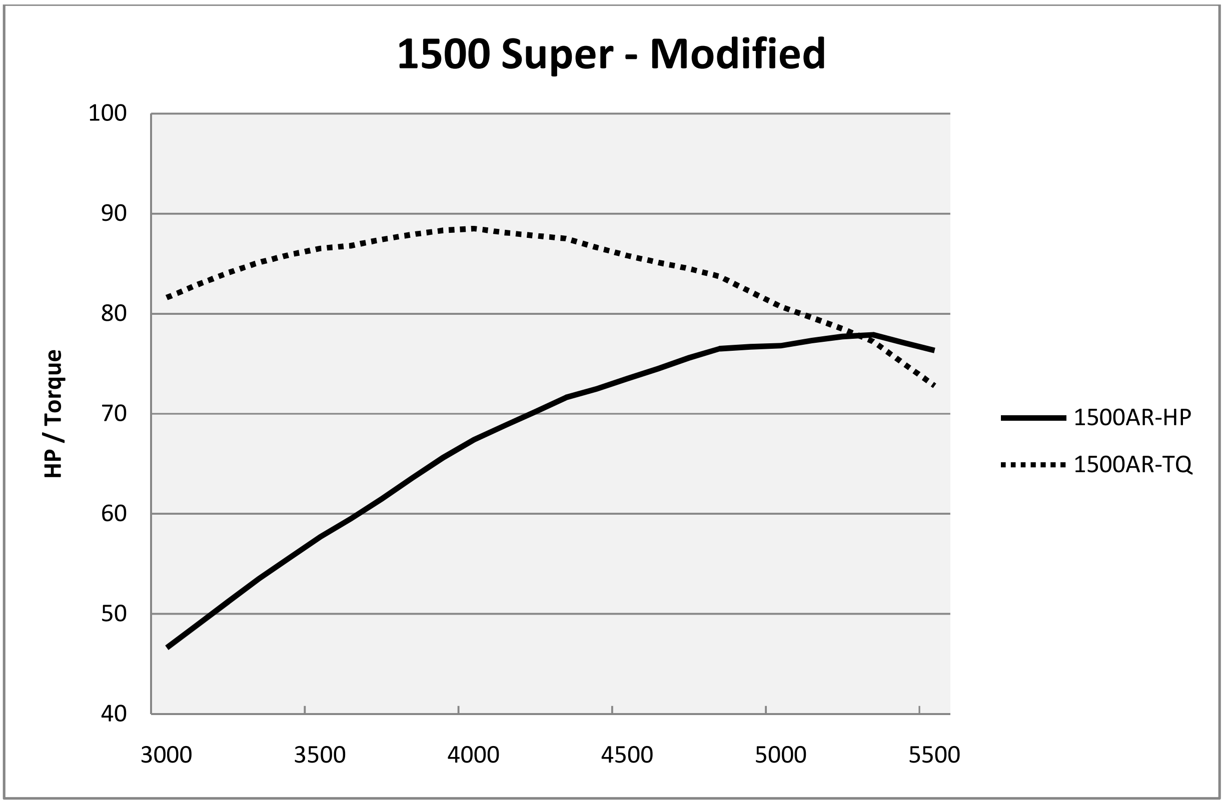
This was an incredibly strong runner. The big cam combined with the big carbs moved the torque and hp curve way up. We couldn’t load the dyno below 4000 or the engine would stall. It would be interesting to explore other possibilities with a “legal” vintage race engine. This one ended up going to a customer in the UK who was going to use it for “track days” so the 1750cc size and the 48mm carbs weren’t a problem. The bump in the curve at 6900RPM was the result of the reverse cone megaphone.

****

1500 Super – Modified

78hp@5300 / 88.5ftlbs@4000

This was the engine built for the Azure Blue America Roadster that is shown on the website. The purpose was to build a dependable engine that could be used for the street and occasional vintage racing. In the 1500lb Competition Roadster, with crashbox transaxle, it was a blast. Details about the build can be found in the "Articles" page of the website.



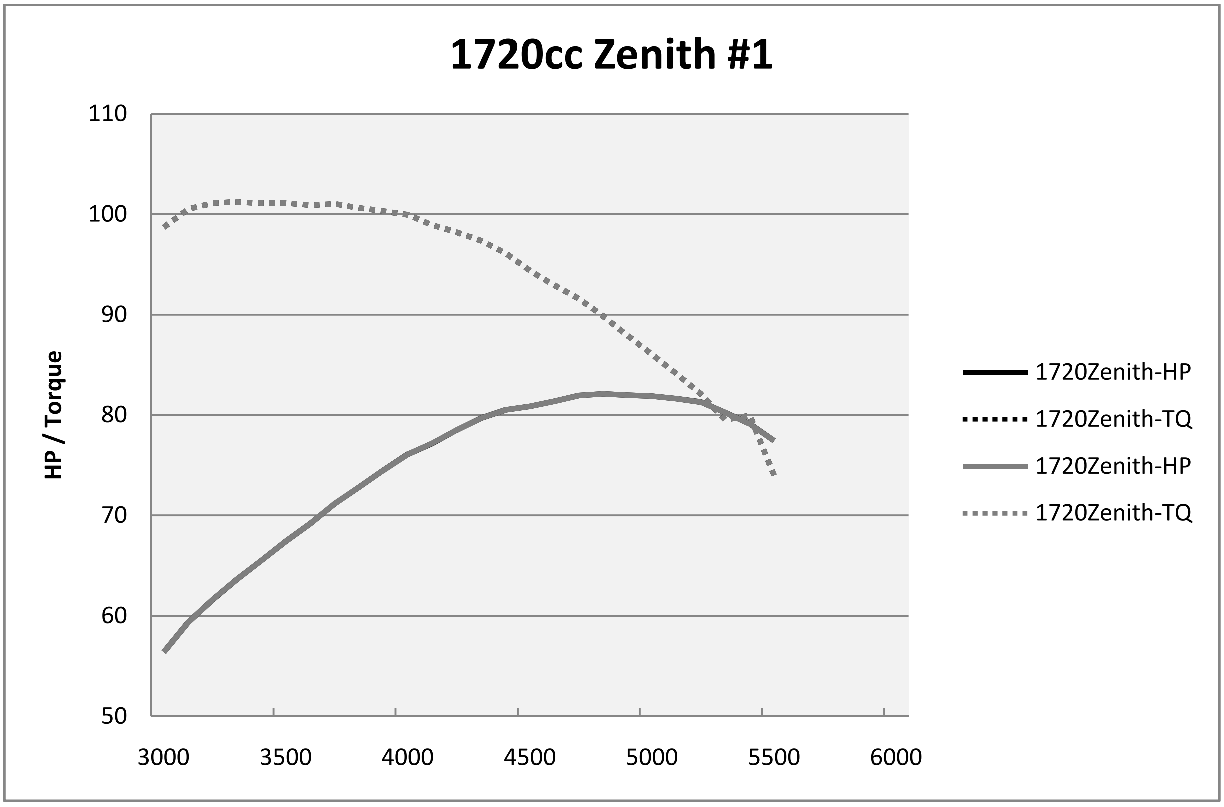
Porsche listed the power output of the stock 1500S at 70HP@5000 /80ftlbs@3600. Our torque and HP peaks definitely moved up, but not at the expense of low end performance (the 80ftlbs were already there at 3000)

****

1720cc #1 with Zeniths

82hp@4800 / 101ftlbs@3300

215 degree Elgin cam (the Maestro grind) with .303" lift.
Cast iron cylinders bored to 86mm with JE forged pistons 9.5:1CR.
Stock 356B crank and 912 rods.
Stock exhaust.
Stock 356B heads (38I/31E with Super intake ports) with early rockers.
Stock Zenith 32NDIX carbs with 28mm venturis and mesh air cleaners.



This engine was an excellent runner with much improved low end torque. Since it started life as a 1600 Normal, the owner was happy with the added torque, but the power fell off very quickly due to the short duration cam, lower lift early rockers, and Zenith carbs.

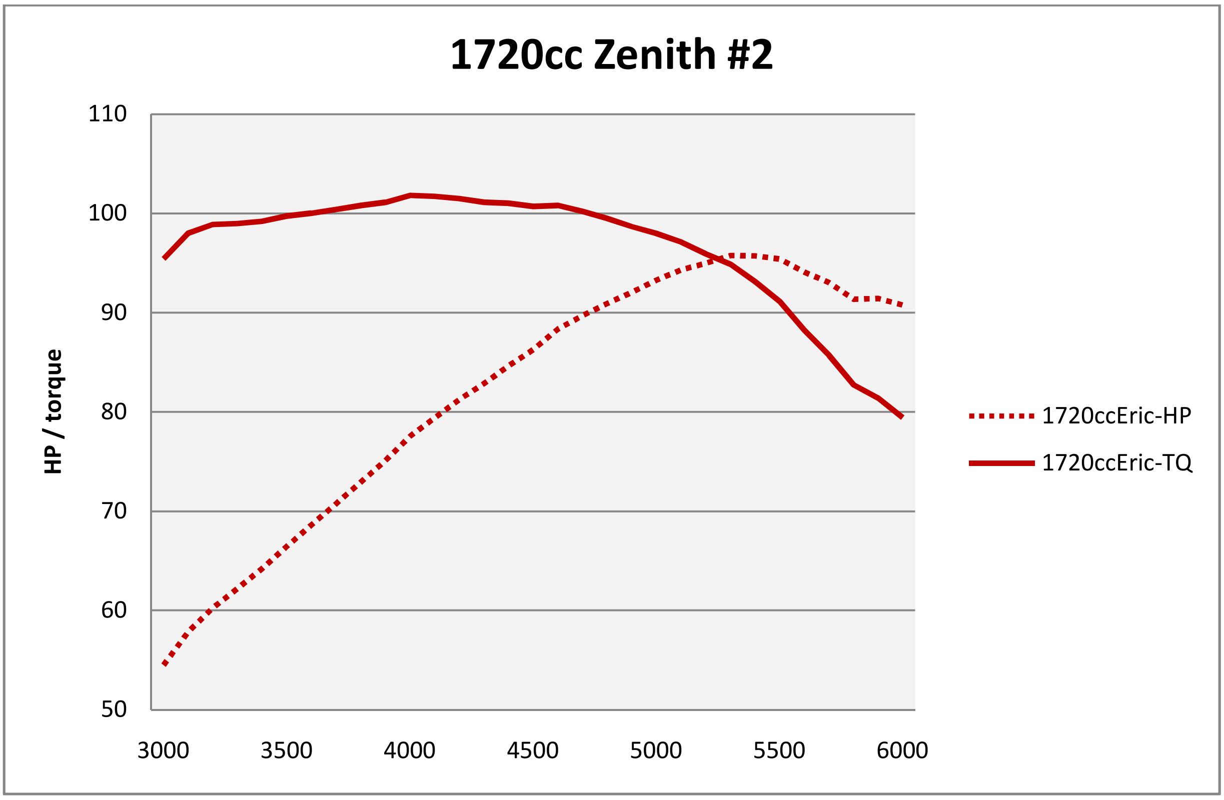
****

1720cc #2 with Zeniths

This next test shows that the Zeniths carbs were definitely not the limiting factor on the last engine. The engine started life as a 1600S but used many late model parts and a much better camshaft.

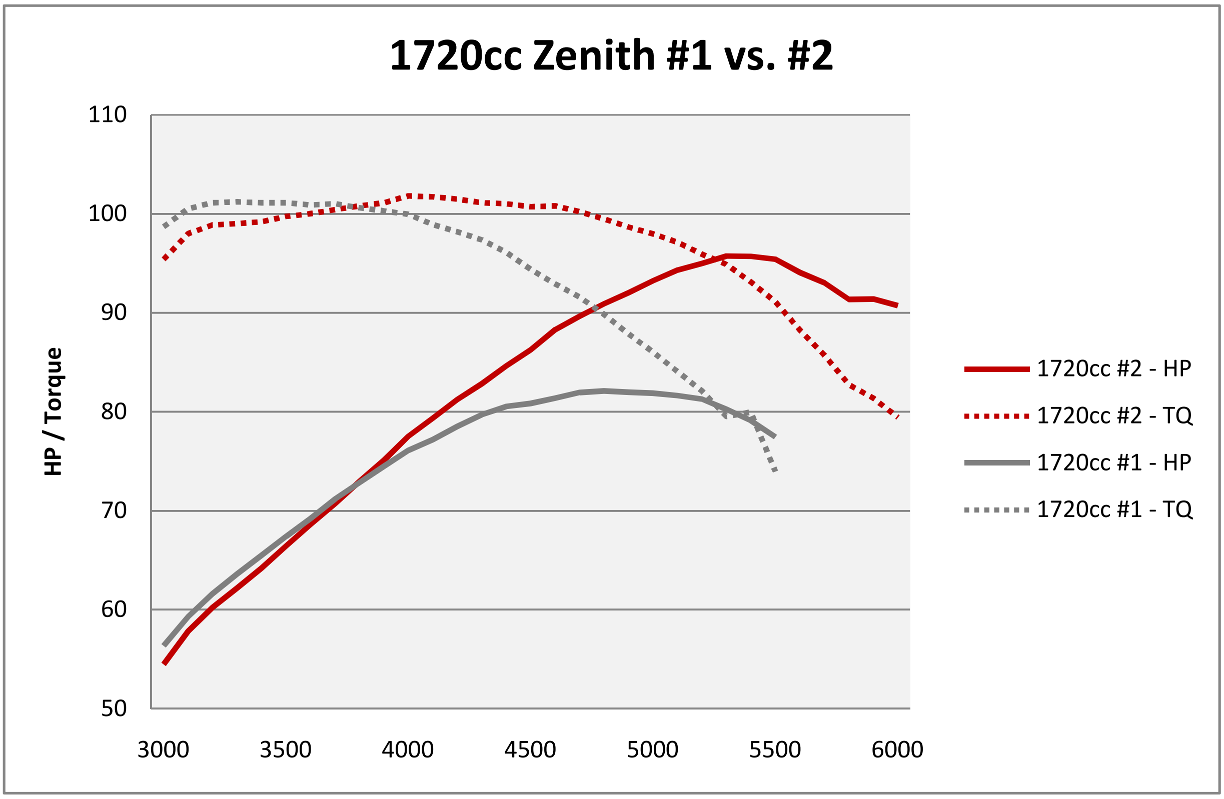
96hp@5400 / 102ftlbs@4000

241 degree Elgin cam 7008 with .333" lift.
Cast iron cylinders bored to 86mm with JE pistons and 9.5:1CR.
SC/912 counterweighted crankshaft with late connecting rods.
Stock exhaust.
Late C/SC heads (38I/34E) with late high-lift rockers.
Stock Zenith carbs with 28mm venturis and canister type air cleaners.



This engine was as responsive as the #1 version but pulled the power much further. The bigger cam definitely helped with the top end. It's obvious that more intake lift and duration is what engine #1 needed. The mild cam does help the very low end, and if around town driving and maximum fuel economy is what you're after this might be the cam you want.

A comparison of the two tests is shown below:



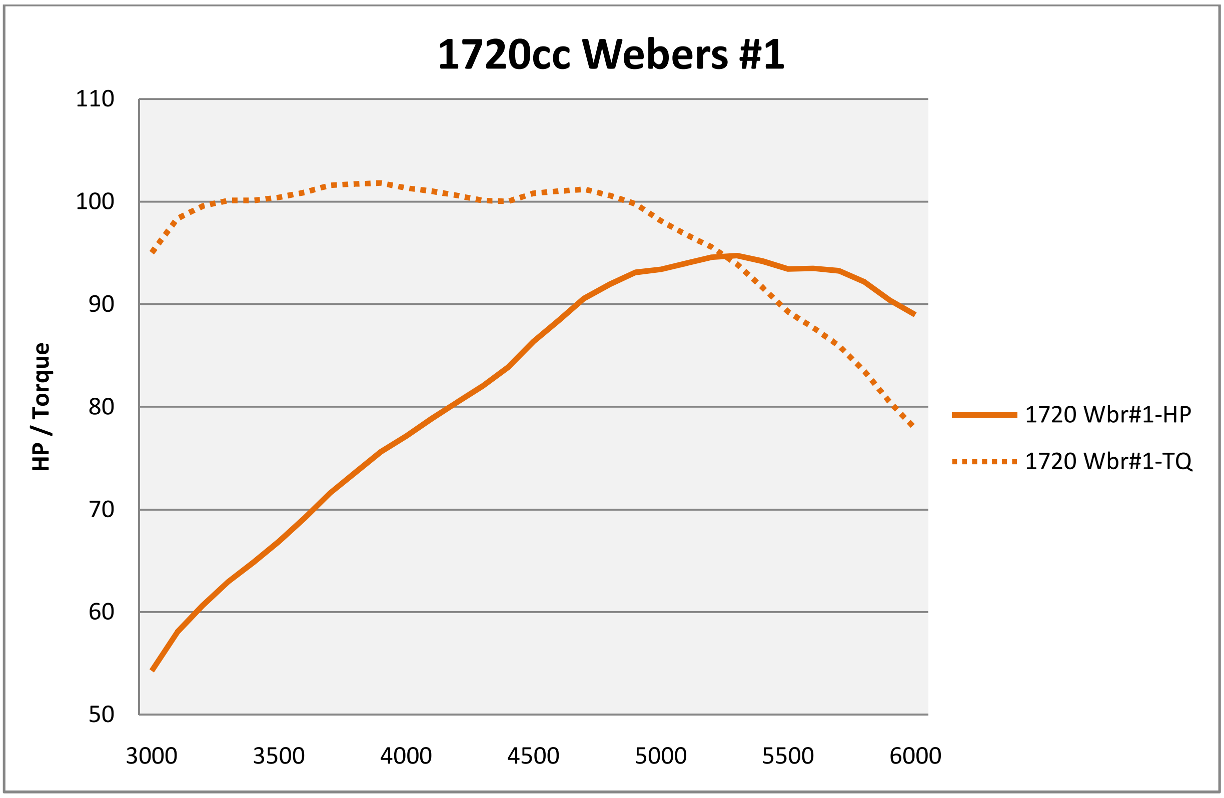
****

1720cc #1 with Webers

This was basically a stock, big bore SC engine with Weber carbs. We used 28mm venturis in the Webers which boosted the bottom and mid range torque when compared to the Solexes with 32mm venturis.

95hp@5300 / 102ftlbs@3900

Stock #16 SC camshaft with 233 degrees and .330" lift.
Cast iron cylinders bored to 86mm with JE pistons and 9.5:1CR.
Stock SC crankshaft and rods.
Stock exhaust.
Stock SC cylinder heads (38I/34E) with intake ports matched to Weber manifolds.
Weber 40IDF carbs with 28mm venturis, 2.25" air horns and K&N air cleaners.



This engine was a strong runner which provided excellent low end and midrange with a basically stock power curve. The torque curve was almost flat from 3700 to 4700.

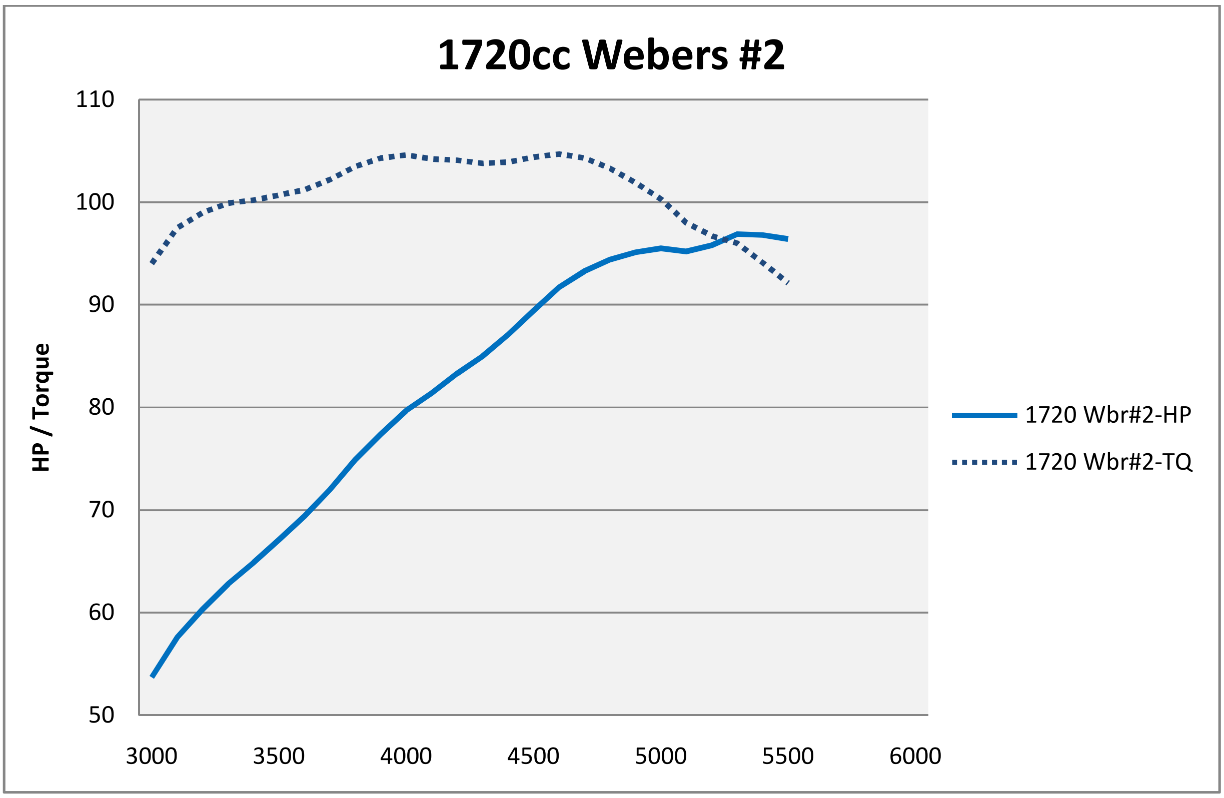
****

1720cc #2 with Webers

On this next test of a Weber carbureted SC engine, we matched the camshaft and venture size for a little more top end performance. This test was also interesting because we used modified 356B heads which retained the smaller 31mm exhaust valves. At the owners request we limited the maximum dyno test RPM to 5500. During the test we tried 28mm venturis and lost the significant bump in power between 3800 and 4800 rpm, so the 32s obviously help with cylinder filling at lower rpm as well as above 5K.

97hp@5300 / 105ftlbs 4600

All specs the same as #1 except for:
241 degree Elgin 7008 camshaft with .333" lift.
32mm venturis.
86mm LN Eng. Nikasil coated aluminum cylinders.
WR aluminum pushrods.
Modified 356B heads (38I/31E) with SC intake ports matched to Weber manifolds.

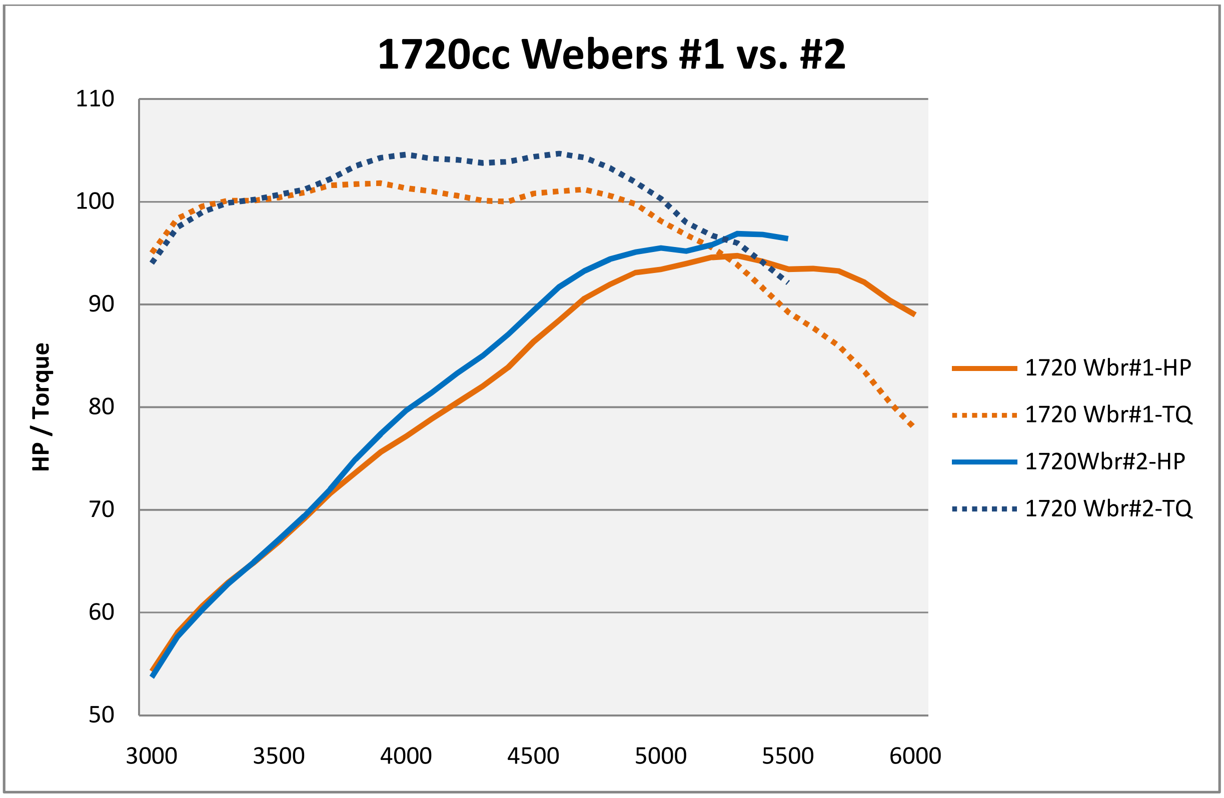


The bigger cam and venturis boosted performance everywhere except below 3300 RPM. Since these engines are so close in design a good test comparison was in order. From test driving both cars back to back (the milder engine installed in a Coupe the hotter in a Cab,) it felt like the milder engine might have somewhat better throttle response below 3000 RPM, and a slightly milder idle, but the increased torque is definitely there when needed, and the hotter engine pulls to redline faster. Both engines should be very equal after 5500 RPM. It would be up to the individual owner whether the stock cam or the sport cam was chosen.

EXHAUST VALVES - 34mm vs. 31mm ?

It's obvious from the last two tests that the exhaust valves seemed to have little effect on the performance of the two engines. Typically, a larger exhaust valve will increase higher RPM performance if all other specs remain the same. It's possible that installing the larger 34mm exhaust valves in test #2 engine would have pushed the top end power up slightly. This is exactly the result we achieve with the engine simulation software.

A comparison of the two tests is shown below:



****

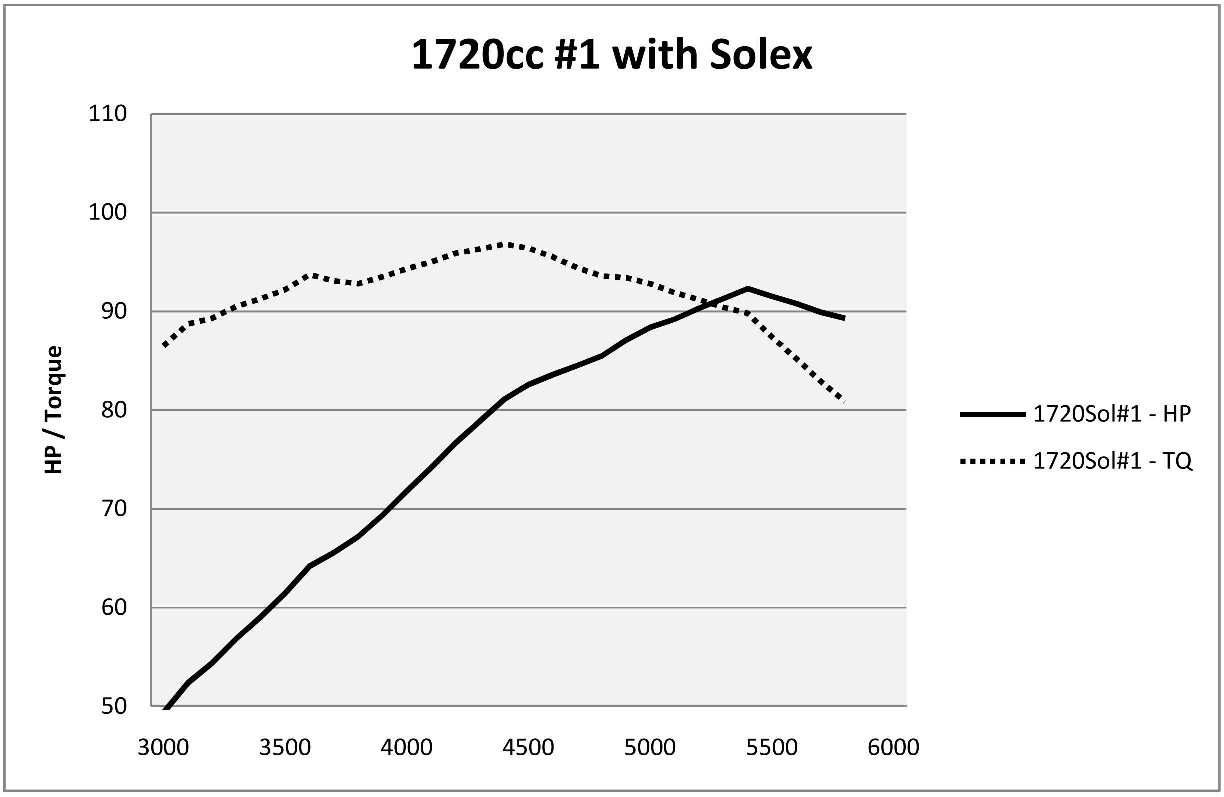
1720cc #1 with Solex

The next two tests are very similar engines to the Weber and Zenith tests. A close look at the specs will show the slight differences. Some interesting comparisons will be shown below.

97hp@5400 / 97ftlbs@4400

(this engine was not built by WR and the specs were provided by the engine builder)

215 degree Elgin cam (the Maestro grind) with .303” lift.
Cast iron cylinders with 86mm big bore pistons (unknown manuf.) 9:1CR.
Stock SC crank and rods.
Stock exhaust.
Stock SC cylinder heads with 38I/34E 8mm stemmed stainless valves with double valve springs.
Chromoly pushrods.
Stock Solex 40P11s with stock 32mm venturis and stock mesh air cleaners.



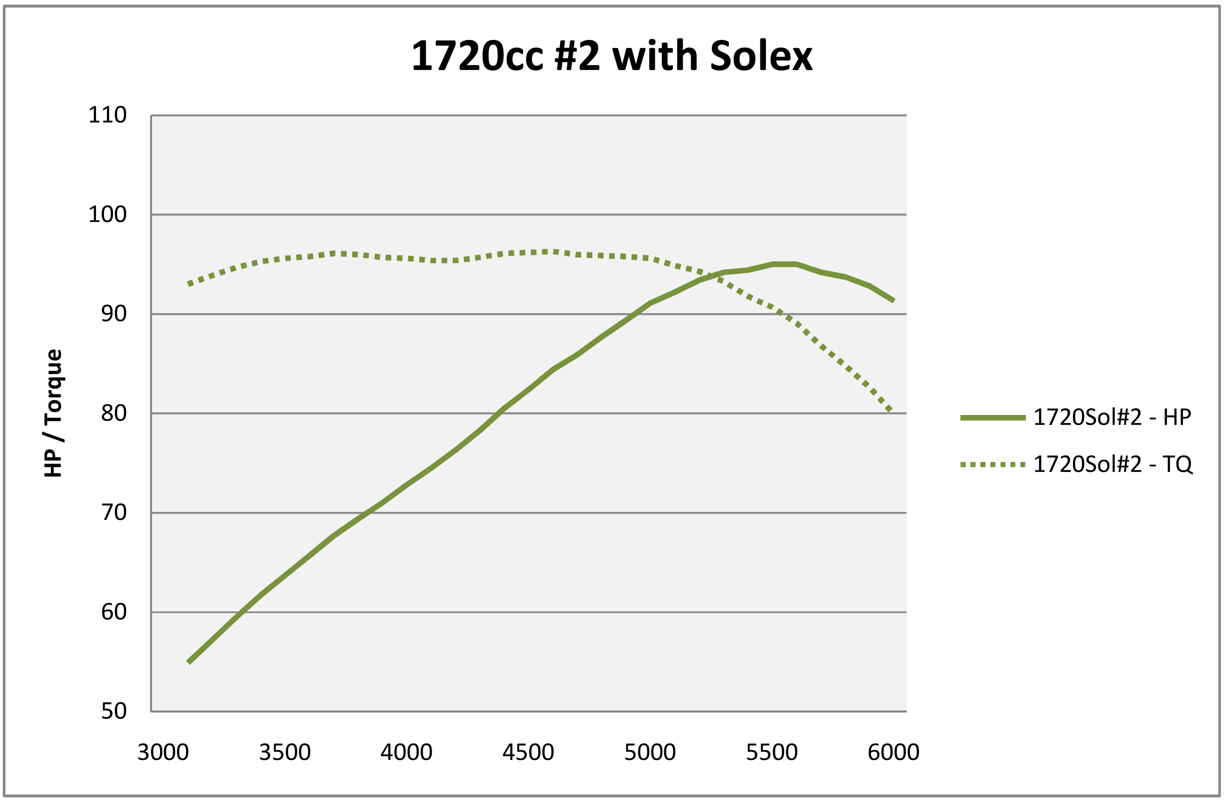
This was a good runner, with a nice flat torque curve. The performance was somewhat compromised by the very mild 266 duration, low lift cam, and the 8mm stemmed valves with stiffer double springs and chromoly pushrods were wasted on this engine. The Elgin “Maestro” cam is almost identical to the 356C camshaft, and is great for an engine with small carbs and venturis, especially the early Solex 32s. This engine would have performed much better with Zenith carbs and gave away some low rpm torque because of the large Solex 40s. Even though the engine builder stated that the compression ratio was 9:1, I’m guessing that it was probably lower, especially because of the poor low rpm performance.

1720cc #2 with Solex

This was basically a stock, big bore SC engine with stock Solex 40P11 carbs with 32mm venturis.

95hp@5600 / 96ftlbs@4600

Stock #16 SC camshaft with 233 degrees and .330” lift.
Cast iron cylinders bored to 86mm with JE pistons and 9.5:1CR.
Stock SC crankshaft and rods.
Stock exhaust.
Stock SC cylinder heads (38I/34E) with intake ports matched to Solex manifolds.
Stock Solex 40P11s with stock 32mm venturis and stock mesh air cleaners.



Comparing this test to the #1 test engine shows the advantage of the “Super/S90/SC/912” camshaft. It’s much better suited to the larger Solex carbs than the mild 266 degree low lift cam.

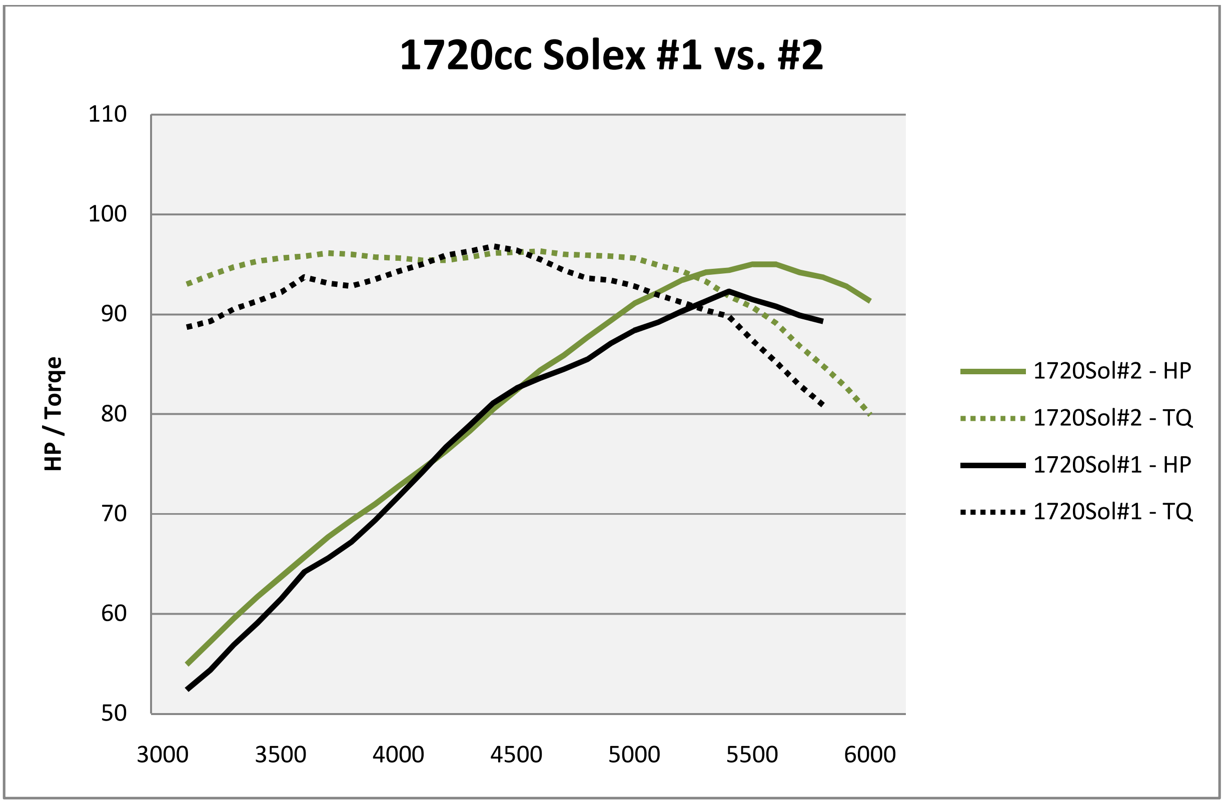
COMPRESSION RATIO?

These two Solex tests show the importance of matching all engine components correctly. All cam grinders should supply recommended compression ratio and carb set ups with their camshafts. Unfortunately, most of *the piston and cylinder kits available off the shelf, assume a standard combustion chamber volume for their compression ratios. Because most of our engines have had multiple valve jobs which usually change the combustion chamber volume, the off the shelf kits can vary easily by one-half compression point. The kits are usually designed for the smallest normal chamber volume, so very often your actual compression ratio will be lower than what is shown with the kit. That's why at WR we don't offer pre made kits. All of our pistons are custom made to the chamber volume specs so that the correct compression ratio is achieved.*

WHAT ABOUT AIR HORNS?

An important option with the Weber carbs is the 2.25" air horns. They increase the resonating length of the intake channel and improve cylinder filling at low and mid range rpm. Much of the improvement when comparing Weber and Solex performance figures is due to the additional length provided by the Weber air horns.

A comparison of Solex engine #1 and #2 are shown below:



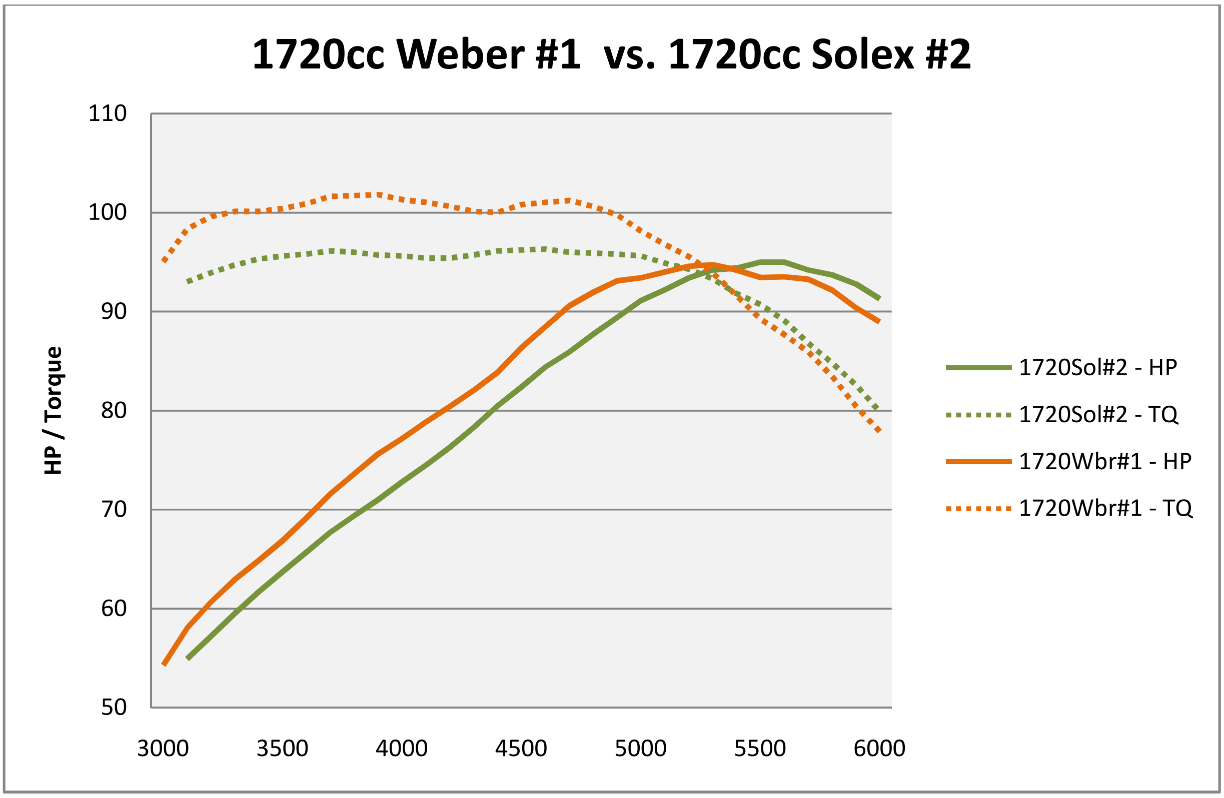
SOME INTERESTING COMPARISONS

1720cc Weber #1 vs. 1720cc Solex #2

The first chart below compares two basically stock SC engines from the above tests (Weber #1 and Solex #2) built to 1720cc – one with Webers, the other with Solex. In this comparison the trade off is obvious: Much better hp and torque below 5500RPM…right in the driving range.

95hp@5300 / 102ftlbs@3900

95hp@5600 / 96ftlbs@4600



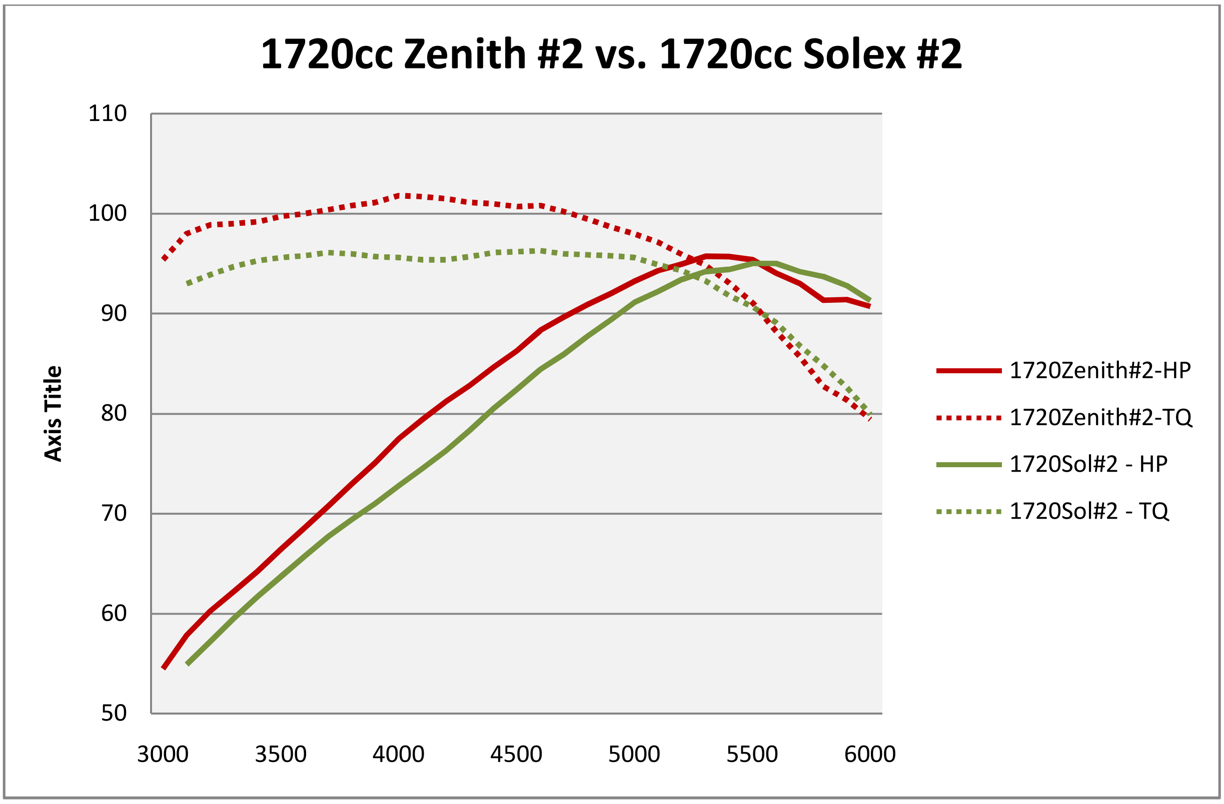
1720cc Zenith #2 vs. 1720cc Solex #2

This comparison shows two very similar engines but with the stock Zenith carbs vs. the stock Solex carbs. The Zenith equipped engine had the advantage of a slightly bigger cam which helped it in the upper rpm range, but because of the smaller size of the Zeniths, maintained very good low rpm numbers.

Don't swap-out those "small" Zeniths for something bigger unless you plan on increasing the engine size and camshaft.

96hp@5400 / 102ftlbs@4000

95hp@5600 / 96ftlbs@4600



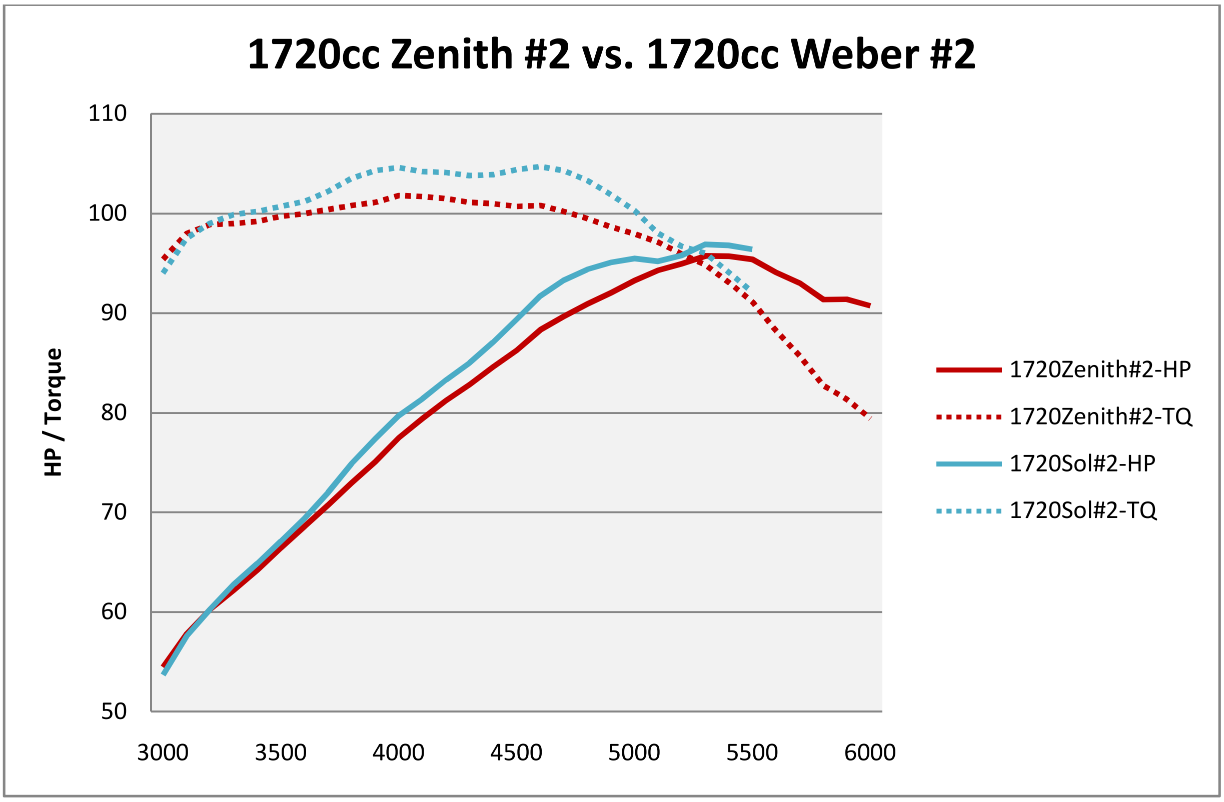
1720cc Zenith #2 vs. 1720cc Weber #2

This comparison shows the difference between Zenith and Weber carbureted engines with otherwise very similar specifications. The Weber engine used the LN Engineering aluminum cylinders, and also had the smaller 31mm exhaust valves. It's unclear what difference these two specs made, but it is clear that the Weber engine had more torque in the midrange.

Testing is planned with the Zenith #2 engine (which now shows about 3500 miles) with our new 36mm modified Zeniths with 32mm venturis. The results should be interesting.

96hp@5400 / 102ftlbs@4000

97hp@5300 / 105ftlbs 4600

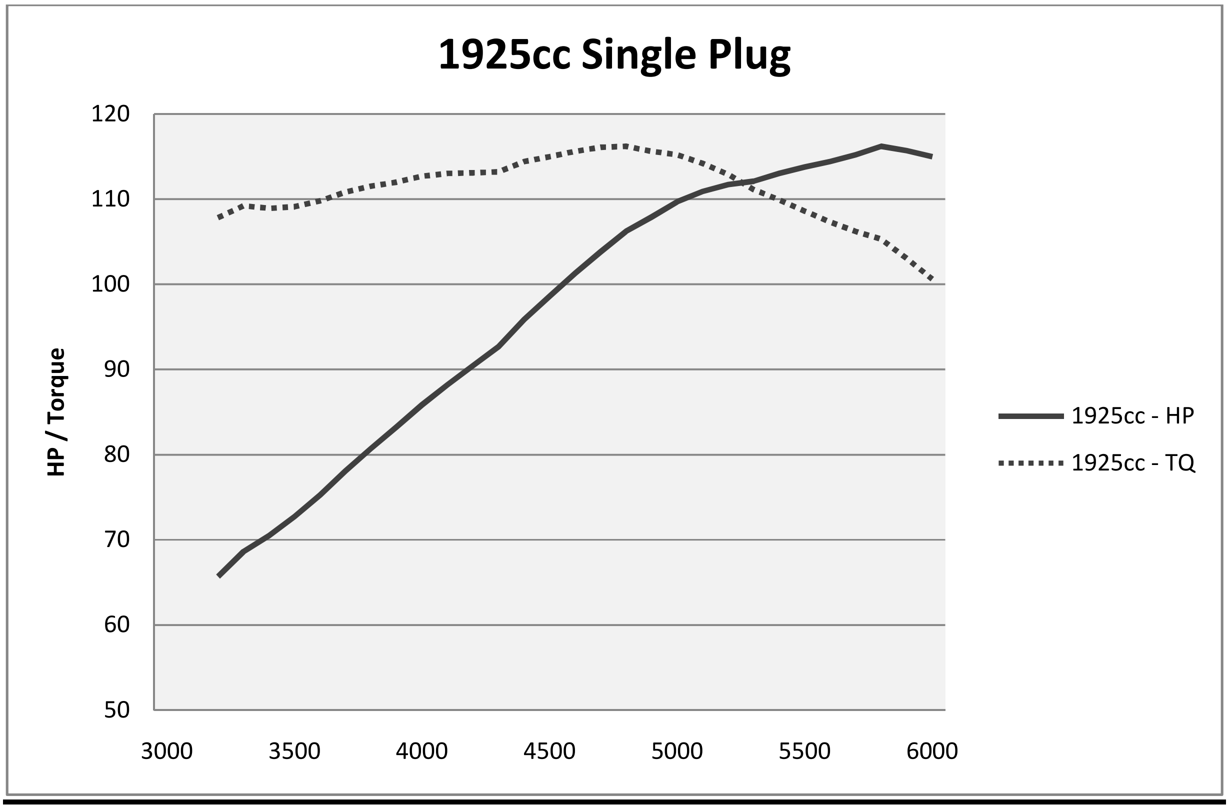


1925cc Single Plug

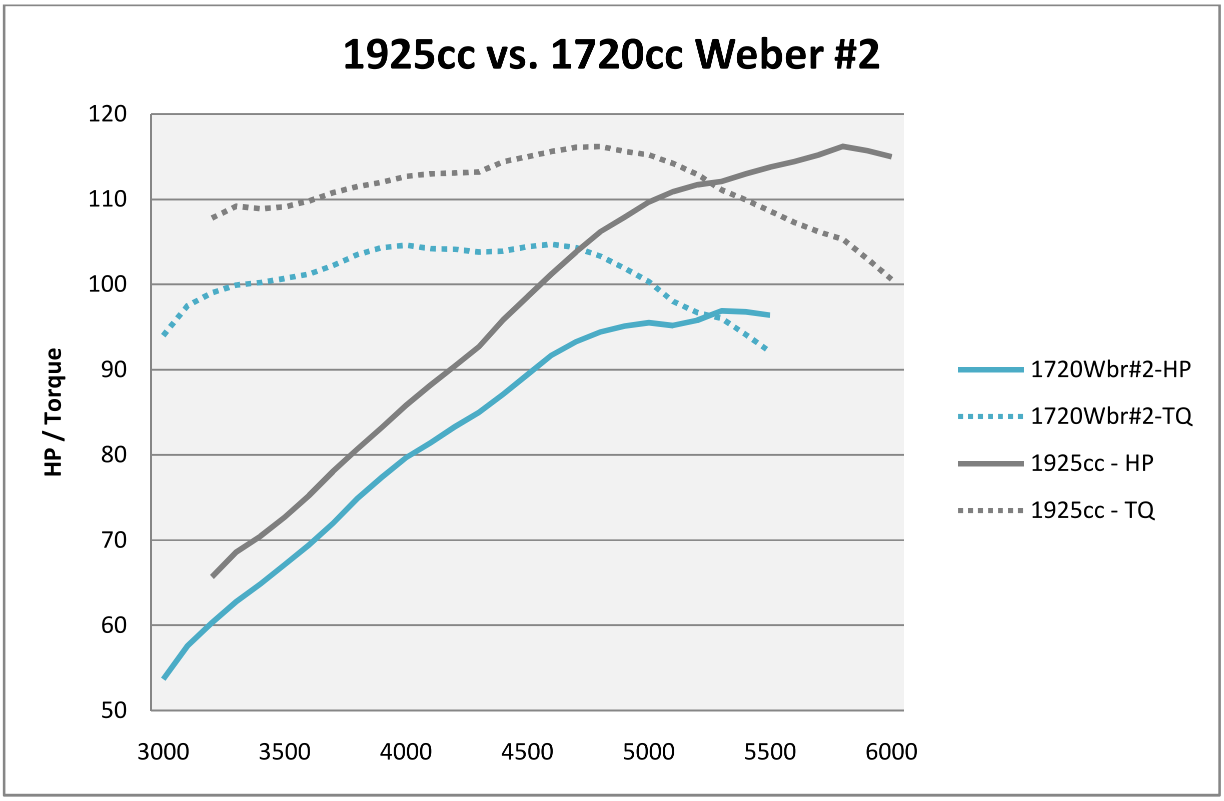
This was the first single plug 1925cc engine tested on the dyno. We used the 44IDFs because the 40s weren't available at the time. The WR60 cam was chosen since in development it showed very good results with the engine simulation. The goal was to more correctly match the intake to exhaust ratio, and to have a camshaft that would produce a stock idle with excellent low to mid torque while still maintaining good high rpm performance. At the moment we have no comparison to other single plug big bore engines, but we can certainly compare to our best 1720cc street engine. This engine is installed in a B Coupe, and the increase in power is VERY noticeable…and, it idles like a stock 1600N but pulls easily to 6K.

116hp@5800 / 116ftlbs@4800

WR60 camshaft 283 degree, .366"lift Intake / 270 degree, .333" lift Exhaust
91mm LN Eng, Nikasil coated aluminum cylinders and JE pistons with 9.5:1 CR.
WR aluminum pushrods.
Stock SC crank and rods.
Stock exhaust.
Modified cylinder heads with 40I/34E stainless valves, double springs on intake only.
44IDF Webers with 32mm venturis and 2.25" air horns. K&N air filters.
WR CDI ignition kit.



A comparison of the 1925cc twin plug engine and the top performing street engine in the 1720cc form is shown below:



You can see from the graph that the 1925cc engine is already beating the 1720s maximum torque at the beginning dyno test rpm of 3200.

THE NEXT STEP – 2002cc

91 millimeters is the largest reasonable piston size for the 356 engine. With the 74mm crankshaft, 1925cc is then the largest engine size possible. Stroking is a possibility but the cam to rod clearance is the issue. At 74mm the rod to cam clearance with stock rods is already dangerously close (<1mm). The only way to make the crankshaft stroke longer is to either reduce the size of the connecting rod big end or the camshaft lobe. The camshaft base-circle is already somewhat small, and must be made smaller for high lift cams. That leaves the rod bearing.

The 356 rod bearing at 53mm is relatively large by today's standards. By changing to a smaller diameter 2.0" (50mm) Clevite type bearing we are able to have special rods made that allow the extra clearance for a 77mm stroke crankshaft. In addition to being smaller in diameter, the rod bearings are now approximately 1mm wider which actually provides more oil cushion than the stock 53mm bearing. The rod length is maintained stock and the wristpin is simply pushed up in to the piston an extra 1.5mm, which is made possible by the super thin rings that we now use with the Nikasil cylinders from LN Engineering.

With a 77mm stroke the engine size has been pushed to 2002cc. A longer stroke in a street engine has the advantage of increasing the torque throughout the entire rpm range. In a race engine piston speed becomes an issue at high rpm, but since we're not looking to push the limit much above 6K, piston speed is not a real concern.

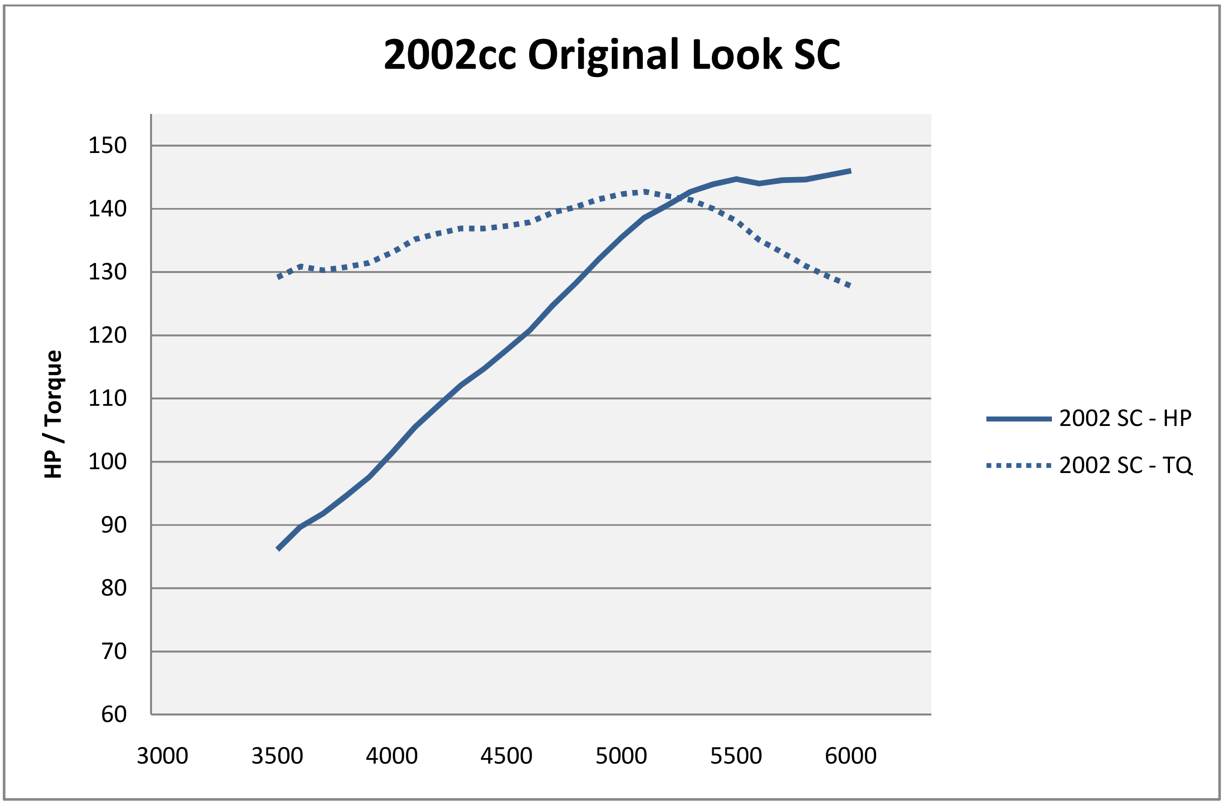
There are several 2002cc engines in the works at the moment, and we should have the test results available very soon. The first test engine is shown below. The results are impressive.

<u>2002cc – Original Look - SC Engine</u>

The specs of this engine are listed below. Since it was being installed in a very rare Porsche race/rallye car, it needed to look completely original.

247 degree Elgin 7208 high lift camshaft with .370" lift
91mm LN Eng Nikasil cylinders and JE pistons with 10.3:1 CR.
77mm Scat lightweight crankshaft with special Carrillo rods.
WR 10.5lb flywheel kit with aluminum pressure plate.
WR aluminum pushrods.
WR High Flow cylinder heads with 44I/34E stainless valves, double springs, ti retainers.
Solex 40P11s modified to 44mm with 36mm venturis.
Stock exhaust.
WR CDI ignition kit.

146hp@6000 / 143ftlbs@5100



We held the test rpm limit at 6000, but the engine definitely was still pulling strong at that point. The modified 44mm Solexes performed very well and the fuel curve was excellent (this was a big question going into testing because there are no optional emulsion tubes for the 40P11 carb). Keep in mind, the goal of this engine was a completely original look, we needed to run on pump fuel, and the exhaust system had to be original. These were somewhat limiting factors, especially the stock exhaust (designed for a 1600cc engine with a 6K redline). The test shown is with factory Solex air horns installed (the way the car will be run). The stock Solex mesh air cleaners reduced the performance by about 2% overall.

The car is one of the 5 factory delivered SCGTs, with aluminum panels, plexiglass windows, etc, and weighs in at under 1800lbs. It's equipped with its stock BBAB gearbox (probably a little short for the 2L engine). The acceleration is impressive! The car has no limited slip, and with race tires it's still possible to break the tires loose when taking off from a start. The engine idles like a stock SC and can be driven just like a normal car. There is no "loud" exhaust, and it actually feels a little too "stock" considering its potential. Amazingly it is only slightly less docile than the 1925cc Single Plug shown above.

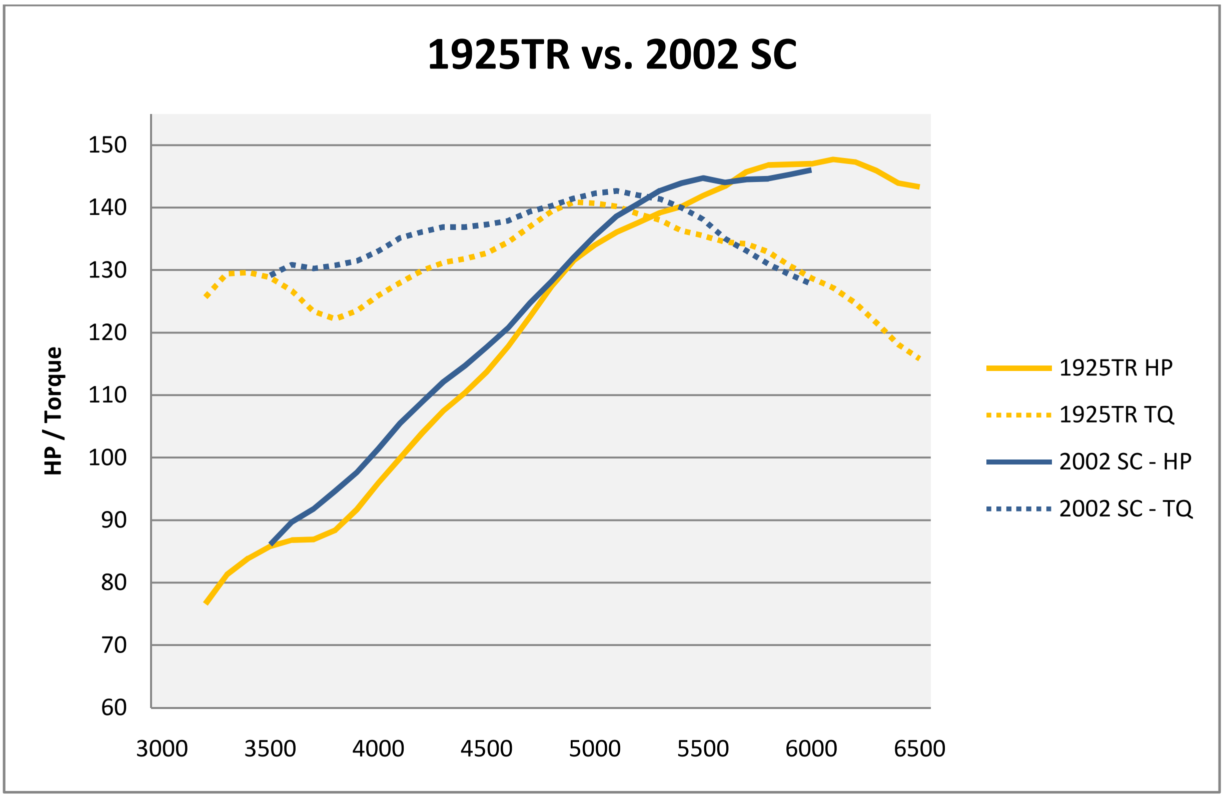
We've only just touched on the potential of the 2002cc engine. We have several in the worsk right now: Not only two EFI twin plug engines, but another "sleeper" SC and a 36mm Zenith carbureted engine.

Below is a graph comparing the 1925TR engine and the 2002-Original Look-SC. For specs of the 1925TR please look on the Engine Development PDF file:

1925TR vs. 2002cc SC

148hp@6100 / 142ftlbs@4900

146hp@6000 / 143ftlbs@5100



More tests will follow…