Manifold Comparisons: http://stangstable.com/manifold.htm

TIP: SEE LIST of 351 Cleveland Manifolds

Mystery of: 180° Dual Plenum, 360° Open Plenum, & 360° Divided Plenum Intake Manifolds. Contributed by a faithful reader.

The biggest difference is the intake runners are divided on the 180. Two go to the Left Bank and two to the Right Bank and you don't have a scavenging of gas like the 360, fuel is more directed in a 180. This is what gives you a better low end in the 180s. This direction is needed because at low engine speeds gas does not disperse to cylinders well and the 180 kind of divides the fuel. The problem is, after your engine desires more fuel it doesn't keep up with the demand resulting lower high end RPMs.

When you run a 360° intake, fuel is just dropped into the center and the best cylinder wins. You don't get a good balance of fuel at low RPMs. Sometimes on Cleveland's (especially if using tall tunnel ram) the car will not perform well at low RPMs because you are losing the intake pulses that help to pull the fuel in to the cylinders. However, once you reach higher RPMs, the vacuum pull from the cylinders draw the mixture in and can divide it more evenly with the 360 intake. There is a lot more fuel to go around in the 360 and results are the ability to achieve increased RPMs. Additionally, the intake ports on a 360 manifold are just about straight down which gives you more of a ram effect.

With the divided 360 it is suppose to give you the best of both worlds, it is split enough to keep the intake pulses good but when you get higher up in the RPMs, the gas can flow between both sides of the intake. A lot of the old ford muscle cars of yester year came that way from the factory. The divided 360 manifold looks just like an Edelbrock Performer but a small 1 inch notch is cut that is about ½ inch down in the part that divides the plenum. Consequently, at higher RPMs more fuel can be drawn in to both banks to feed the cylinders. Offenhauser is one company that offers a 360 Divided Plenum Intake Manifold.

TIP: Edelbrock Performer Manifold. The Performer was not strictly built as a performance intake for the 2v. It was developed for the 2v crowd that wanted a 4v and the performance of chunking an iron intake for aluminum.

NOTE: After just purchasing the Edelbrock Performer for my 351C 2V, there is a **SPECIAL INSTRUCTIONS** section that is nice to know: The port size of the Performer 351-2V and the Performer 351-4V manifold was thoroughly researched and was designed smaller than the head port for several reasons. Although appearing small in size, the legs of this manifold not only flow more than the port in the head, but they also increase the flow in the head. The design of this manifold allows us to use great runner speed which prevents fuel dropout and gives us better fuel and air suspension. This combination is excellent for throttle response, total performance, and provides very favorable emission qualities. **As a final note,** please do not attempt to match the manifold to the ports. This will not only hurt performance, but it will upset many of the fine features that took months of research and development.

TIP: Weiand X-Celerator and the 351 2v: X-Celerator seems to perform well on race applications but if running on street the X-Celerator is not recommended unless you have a real good gear and high stall converter. In a Street car it will fall on its face, however, if you are driving a race car on the street then it will work. Suggest going with performer you get the use of the 4bbl Carb which will already be an upgrade from the 2v, then put headers with a good exhaust system on. Offenhauser also makes a dual plane for this application.

NEW **TIP: TORKER Manifold:** Difference between Original TORKER and TORKER II as applied to the 351C 4V. Both manifolds are designed for 351 C.I.D. Ford V8s with 4V Cleveland or Boss 351

heads. Both will not fit under hood of Ford Pantera with stock air cleaner. Both will not fit 351s with 2V heads. **Original TORKER** has a RPM range of **3500-7500** and is used primarily for drag racing and the **TORKER II** has a RPM range of **3000-7000** and is more for street applications.

TIP: Cleveland Intake Shootout. In super ford (Oct 1993), there was an intake shootout for the Cleveland. The X-Celerator ranked 3rd. The first was a Holley Dominator, (discontinued) the second was a **Blue Thunder**, (discontinued). However, the X-Celerator showed better numbers than the Torker.

NEW Not your every day Cleveland for this Manifold Shootout

- Shootout was conducted using a 351C Stroked to 377 CI, 4.030 bore and 3.70 Stroke, TRW Forged pistons (L2348F), 4V 64cc Heads with 2.19 / 1.171 valves. A split duration Madden roller cam 264 / 270 at .050 lift. Narrow 106 degree lobe lift at 0.418 with 1.73 Rockers which netted an 0.723 inch valve lift. Dynoed with 2 inch diameter primary tube headers and Stinger distributor curved at 36 degrees and MSD for the spark. This combination coupled with a slight dome in the pistons produced a final CR of 13.7:1 and tested with VP racing fuel at 12.110 Octane.
- **NOTE:** A recent visitor to the Tips & Tricks section has pointed out that the **Blue Thunder** is still being manufactured by the originator, **AT Francis** and is being sold by **Pantera East** (**$325**). They can be reached at (727)381-1151.

TIP: Exhaust System Crossover Pipe Installation. The best way to determine where to put the Crossover pipe is to take some spray paint and paint a section about 2-3 feet back from the collector. Start the motor and let it run for just a short time. While motor is running watch to see the point at which the paint **doesn't burn off** anymore. The paint will discolor further back, but the point at which the paint doesn't burn off is where you want to place your Crossover. Match the size of the Crossover to the size of your existing pipe.

TIP: Cleveland Exhaust Manifolds: The Cleveland Exhaust Manifold is prone to **Cracking** on the Runners. A Frequent Visitor to this site has located a company that can get you a replacement for your original 351 C 2V Exhaust Manifold. 351 Cleveland 2bbl exhaust manifolds can be found at **Perogie Enterprises** - New Jersey. The phone number is 609-448-1684, current Point Of Contact is Randy, ask for him. The replacement passenger side manifold in **good used condition** is **$125.00** and an **original new** Ford piece is **$200.00.** Not bad prices for aftermarket!!

FORD BOSS 351 (CASTING NO. D1ZX-9425-DA)

RPM	TORQUE LB/FT	HORSEPOWER	VOLUMETRIC EFFICIENCY (%)
2750	315	165	79.6
3000	319	182	80.1
3250	390	241	85.5
3500	421	280	93.9
3750	420	300	96.2
4000	416	317	96.3
4250	***422**	341	95.5
4500	413	354	95.1
4750	412	373	95.5
5000	400	381	96.4
5250	388	388	96.5
5500	390	409	98.2
5750	385	422	100.3
6000	373	426	100.5
6250	379	***451**	103.8
6500	358	443	104.4
6750	342	439	***104.8**

*(note: * indicates peak amount)*

EDELBROCK TORKER 351 (Part No. 2760)

RPM	TORQUE FT./LB.	HORSEPOWER	VOLUMETRIC EFFICIENCY (%)
2750	324	169	79.3
3000	338	189	79.5
3250	380	235	83.4
3500	385	257	87.6
3750	397	284	89.5
4000	395	301	90.7
4250	400	323	93.2
4500	407	349	94.5
4750	***421**	380	98.0
5000	419	399	100.5
5250	418	418	103.3
5500	416	436	104.0
5750	411	450	106.0
6000	405	463	105.1
6250	391	465	108.6
6500	365	451	110.4
6750	374	***480**	***110.5**

*(note: * indicates peak amount)*

HOLLEY STRIP DOMINATOR (Part No. 300-13)

RPM	TORQUE LB./FT.	HORSEPOWER	VOLUMETRIC EFFICIENCY
2750	307	160	80.4
3000	334	191	79.2
3250	391	242	84.7
3500	399	266	87.5
3750	399	285	89.5
4000	399	304	90.7
4250	402	326	92.4
4500	417	357	94.3
4750	423	382	97.8
5000	420	400	98.7
5250	429	429	102.5
5500	***435**	455	106.1
5750	427	467	107.7
6000	420	480	108.2
6250	418	***498**	***110.6**
6500	398	493	110.3
6750	375	482	109.4

*(note: * indicates peak amount)*

Offenhauser PORT-O-SONIC (Part No. 6120)

RPM	TORQUE LB./FT.	HORSEPOWER	VOLUMETRIC EFFICIENCY (%)
2750	320	168	77.8
3000	333	190	77.5
3250	379	235	83.8
3500	387	258	86.5
3750	393	281	88.1
4000	367	295	89.4
4250	395	319	90.7
4500	***398**	341	93.0
4750	396	358	96.1
5000	390	71	97.8
5250	383	383	98.1
5500	380	398	100.9
5750	381	417	102.7
6000	378	432	102.5
6250	371	***441**	103.5
6500	356	440	103.7
6750	321	413	***103.9**

*(note: * indicates peak amount)*

FORD POWER PARTS 4145 (Mfg. by Blue Thunder)

RPM	TORQUE LB/FT	HORSEPOWER	VOLUMETRIC EFFICIENCY (%)
2750	334	175	79.8
3000	340	194	78.5
3250	409	253	87
3500	421	280	90.4
3750	***425**	303	93.7
4000	423	322	94.6
4250	419	339	94.4
4500	422	361	93.1
4750	422	382	95.1
5000	414	394	97.2
5250	406	405	97.4
5500	408	427	98.9
5750	409	447	100.2
6000	402	459	101.1
6250	411	***490**	102.4
6500	392	486	104.9
6750	360	463	***105.9**

*(note: * indicates peak amount)*

FORD POWER PARTS 4145 B (Mfg. by Blue Thunder)

RPM	TORQUE LB./FT.	HORSEPOWER	VOLUMETRIC EFFICIENCY (%)
2750	342	179	80
3000	359	205	80.5
3250	399	247	85.5
3500	407	271	87.2
3750	417	298	91.4
4000	418	318	91.9
4250	413	334	91.3
4500	420	360	92.5
4750	***429**	388	95.6
5000	424	404	98.3
5250	417	416	98.8
5500	414	434	100.1
5750	421	461	103.0
6000	410	469	103.4
6250	396	***471**	104.4
6500	378	468	***105.1**
6750	355	456	104.7

*(note: * indicates peak amount)*

FORD POWER PARTS 4146 (Mfg. by Blue Thunder)

RPM	TORQUE LB./FT.	HORSEPOWER	VOLUMETRIC EFFICIENCY (%)
2500	225	107	62.4
2750	243	127	57.4
3000	275	157	55.3
3250	358	222	59.5
3500	392	261	71.5
3750	389	278	75.2
4000	394	300	76.4
4250	394	319	77.3
4500	389	334	77.2
4750	400	362	79.1
5000	406	387	83.3
5250	403	403	86.2
5500	***408**	427	87.9
5750	397	435	88.6
6000	395	451	89.4
6250	388	***462**	91.2
6500	360	446	91.7
6750	316	407	***92.2**

*(note: * indicates peak amount)*

WEIAND X-CELERATOR (Part No. 7517)

RPM	TORQUE LB./FT.	HORSEPOWER	VOLUMETRIC EFFICIENCY (%)
2750	309	161	80.2
3000	327	187	78.6
3250	391	242	83.5
3500	397	265	88.1
3750	398	284	88.2
4000	391	298	88.9
4250	393	318	90.4
4500	403	345	91.1
4750	409	369	94.8
5000	404	384	97.8
5250	***410**	410	100.1
5500	409	428	102.6
5750	***410**	449	105.0
6000	402	459	105.2
6250	394	469	07.3
6500	382	***473**	***107.9**
6750	360	462	107.8

*(note: * indicates peak amount)*

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