The stock underside is a land of potential. Horsepower hides here and you can set it free with a system change.

"X" Marks The Spot

CHANGING AIRFLOW BOOSTS HORSEPOWER AND TORQUE

text and photography by Ricardo Topete

Imagine you are the proud owner of a 2005-2007 Mustang GT (for many fortunate readers, this is a reality that doesn't have to be imagined). You adore your ponycar, yet you realize that as good as Ford built the car, there is room for improvement. But where should you start?

It is a question that plagues many fanatics. It can be a daunting task to select your first modification, considering the many choices of performance parts and accessories. In an effort to make your decision easier, we upgraded the new Mustang GT's factory H-pipe exhaust system with a Spin Tech crosspipe system in search of more power. The results were pleasantly surprising and may eliminate doubt whether exhaust modifications should be on your list of upgrades.

The new Mustang GT's 300 horsepower is a significant improvement over the '99-'04 GT's 260 hp. This increase in power is partly due to the GT's factory 2½-inch diameter exhaust tubing and two catalytic converters. The previous generation Pony had 2¼-inch diameter exhaust tubing with a total of four catalytic converters! Generally speaking, when upgrading an exhaust system on a Mustang, you go up in size to a larger diameter pipe. With the '05-'07 GT, this is not necessary since Ford was generous enough to grace the GT with 2½-inch pipes from the factory. You only need to improve on the efficiency of the factory H-pipe. Specifically, replace the stock H-pipe with a higher flowing aftermarket crosspipe system.

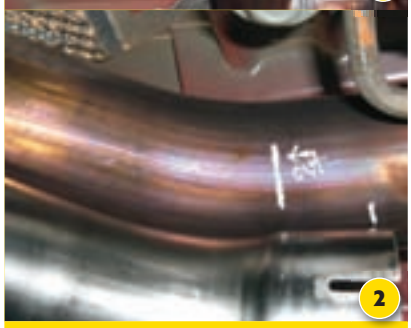
A simple substitution of the stock H-pipe will yield more exhaust flow. This modification leads to improved engine performance as a result of the gains in

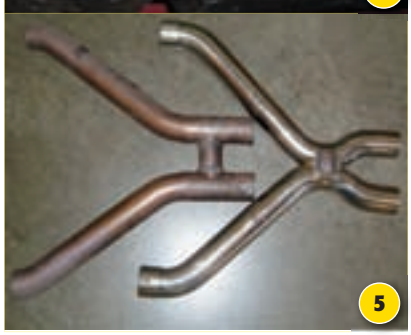
horsepower and torque. In simple terms, a crosspipe exhaust system is more "aerodynamic" than an H-pipe because of its inherent "X" shape. This allows the exhaust fumes to be removed, or scavenged, more quickly from the engine. Due to the improved scavenging effect, the engine's efficiency level increases. Remember that in its purest form, an engine is an air pump. Consequently, the more air that can get into and out of an engine and the faster the airflow can be scavenged, the more efficient and the higher the power output levels will be.

To test the new Mustang's airflow capabilities of the stock H-pipe versus a performance crosspipe, we recruited GTR High Performance and Spin Tech Exhaust. For years, Spin Tech has quietly been making world-class performance exhaust systems for virtually everything on wheels. We were eager to try Spin Tech's new crosspipe on the '05-'07 GT and see if any improvements were possible over the factory H-pipe.

GTR provided the installation facility (and dyno testing). We found a perfect candidate for this job: a 2006 Mustang GT outfitted with a five-speed manual transmission. The GT was 100 percent stock, which allowed GTR to test the merits of the Spin Tech crosspipe. Naturally, you would expect a performance exhaust to show impressive results on a highly-modified Mustang. However, what was very surprising were the respectable gains achieved on this stock GT. Again, this Mustang did not have a cold air kit, headers, computer tuning…nothing that would otherwise skew the test results or improve on them in any way. As a matter of fact, this virgin Mustang only had about 3,000 miles on it with a tank full of 87 octane and non-synthetic motor oil! Can it get any more stock than that?

The Spin Tech crosspipe is a top-quality piece. Constructed out of T-304 stainless steel, it is a shame that it is not in a more visible location. Spin Tech includes the necessary clamps in the kit to make for a simple installation. GTR's Chris Balster, who is an ASE certified master technician, made the installation look simple. In approximately one hour, he had managed to swap them out. This is a job that most shade tree mechanics can accomplish themselves, since it is a true bolt-on system. No welding is necessary, although careful measuring is important in order to cut off the factory H-pipe. Measure twice, cut once. Once this is done, simple hand tools will work nicely for the rest of the job. If cutting into your Mustang makes you nervous, this is a project that GTR or any other well-





1 We start by loosening the clamps that hold the factory H-pipe. We can slide it out.

2 Place the Spin Tech crosspipe below the factory H-pipe and mark the locations for cutting.

3 Using an electric reciprocating saw or other suitable tool, carefully cut the H-pipe as marked.

4 Here's a view of the H-pipe after the cut.

5 This is a side-by-side comparison of the stock H-pipe and the Spin Tech unit.

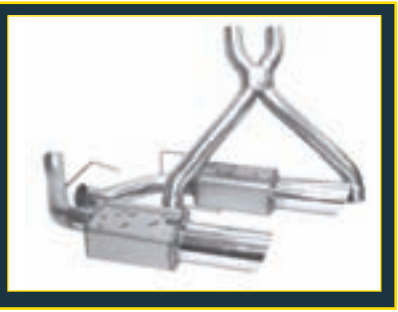
6 We'll take a close up view of the pipes. Notice how the bends on the Spin Tech unit are more gradual. That will promote better exhaust flow.

7 Now, slide the Spin Tech crosspipe into place. You will need to secure it by using the supplied clamps at the front end.

8 Secure the pipe at the rear using the factory clamps.

WANT MORE?

We are happy with the gains that we received simply by changing the pipes, but there's another trick that could have pushed the gain a little higher. SpinTech has these axleback mufflers that easily improve the efficiency of the entire system. If you're really going for the top, get the mufflers with the pipe and watch the horsepower and torque numbers climb.



versed Mustang shop can easily handle.

With the installation complete, it was time to spin the rollers on GTR's in-house DynoJet. In stock form, with the factory H-pipe, the GT managed 256.6 hp and 275.7 lb-ft of torque. Those figures are typical of a stock Mustang GT. Once armed with the Spin Tech crosspipe, more dyno thrashing was in order. Once the rollers stopped, the GT had pumped out 267.9 hp and 290.5 lb-ft of torque. Peak to peak gains of 11.3 hp and 14.8 lb-ft torque were achieved! Even more impressive were the gains in power and torque, which begin the moment the

DYNO-TESTS RESULTS

2006 Mustang GT with stock H-pipe

RPM	HP	TORQUE	AIR/FUEL
2300	109.18	249.31	13.78
2400	115.24	252.19	13.50
2500	119.98	252.06	13.34
2600	124.24	250.98	13.12
2700	129.93	252.74	13.01
2800	136.69	256.40	12.93
2900	141.31	255.92	12.85
3000	145.31	254.39	12.77
3100	148.84	252.18	12.73
3200	153.31	251.63	12.63
3300	158.63	252.47	12.58
3400	165.24	255.25	12.57
3500	174.26	261.49	12.53
3600	182.76	266.62	12.41
3700	189.41	268.86	12.34
3800	194.21	268.43	12.33
3900	199.82	269.10	12.30
4000	207.53	272.49	12.23
4100	213.50	273.50	12.16
4200	220.24	275.41	12.07
4300	225.27	275.16	11.97
4400	231.01	275.75	11.96
4500	235.55	274.93	11.92
4600	238.33	272.13	11.94
4700	241.06	269.38	11.90
4800	244.73	267.79	11.88
4900	247.98	265.80	11.89
5000	251.65	264.34	11.87
5100	253.60	261.17	11.88
5200	256.08	258.65	11.92
5300	256.20	253.89	11.91
5400	256.58	249.56	11.88
5500	256.66	245.09	11.92
5600	255.69	239.80	11.99
5700	254.85	234.82	12.00
5800	254.75	230.68	12.06
5900	253.52	225.68	N/A
MAX:	**5900**	**256.66**	**275.75**	**15.12**
MIN:	**2300**	**109.18**	**249.31**	**11.87**

DYNO-TEST RESULTS

2006 Mustang GT with Spin Tech crosspipe

RPM	HP	TORQUE	AIR/FUEL
2300	113.57	259.34	15.19
2400	120.11	262.84	15.11
2500	124.40	261.35	14.94
2600	129.65	261.90	14.46
2700	135.76	264.09	13.90
2800	142.26	266.83	13.60
2900	147.16	266.52	13.34
3000	151.19	264.68	13.15
3100	155.43	263.33	12.99
3200	160.75	263.83	12.89
3300	166.31	264.69	12.86
3400	174.40	269.39	12.83
3500	183.17	274.87	12.74
3600	191.77	279.77	12.66
3700	197.46	280.29	12.66
3800	202.77	280.25	12.63
3900	209.83	282.57	12.61
4000	217.04	284.98	12.57
4100	223.24	285.97	12.58
4200	230.60	288.36	12.56
4300	237.84	290.51	12.52
4400	242.28	289.21	12.50
4500	246.74	287.98	12.53
4600	249.23	284.57	12.44
4700	252.27	281.91	12.39
4800	256.34	280.48	12.41
4900	259.02	277.64	12.47
5000	261.93	275.14	12.43
5100	266.07	274.01	12.39
5200	267.66	270.35	12.40
5300	267.35	264.94	12.46
5400	267.96	260.62	12.53
5500	267.43	255.38	12.58
5600	267.67	251.05	12.59
5700	267.15	246.16	12.64
5800	267.12	241.89	12.65
5900	266.35	237.10	N/A
MAX:	**5900**	**267.96**	**290.51**	**15.19**
MIN:	**2300**	**113.57**	**237.10**	**12.39**

9 Tighten all clamps. Check for clearance issues and adjust accordingly.

10 Installation is complete. It's off to the dyno. As you can see by the charts, this 60 minutes of work has yielded favorable improvement to the stock GT.

loud pedal is buried from 2,300 rpm and continue until mercy is shown at 5,900 rpm. That is power across the entire rpm range, which yields a great deal of tire smoke and grins from ear to ear. Furthermore, we can predict with certainty that on a modified Mustang with simple bolt-ons (air intake, headers, computer tuning or better yet, a supercharger or nitrous) even larger gains would be possible. Not too shabby for an hour of work and a reasonable cost for the Spin Tech crosspipe system.

Still wondering what the first or next modification ought to be for your '05-'07 Mustang GT? Consider the Spin Tech system for an excellent foundation for future engine upgrades and immediate tire-shredding results. ■

SOURCES

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