



TWIN TURBO EXHAUST BUYERS GUIDE

Shiny pipes for the 996 and 997 Turbo
by ec staff

Probably the most common modification to any Porsche twin turbo car, or any 911 for that matter, is the exhaust. In recent years, several companies have entered the market with new offerings and we thought it time to look at some.

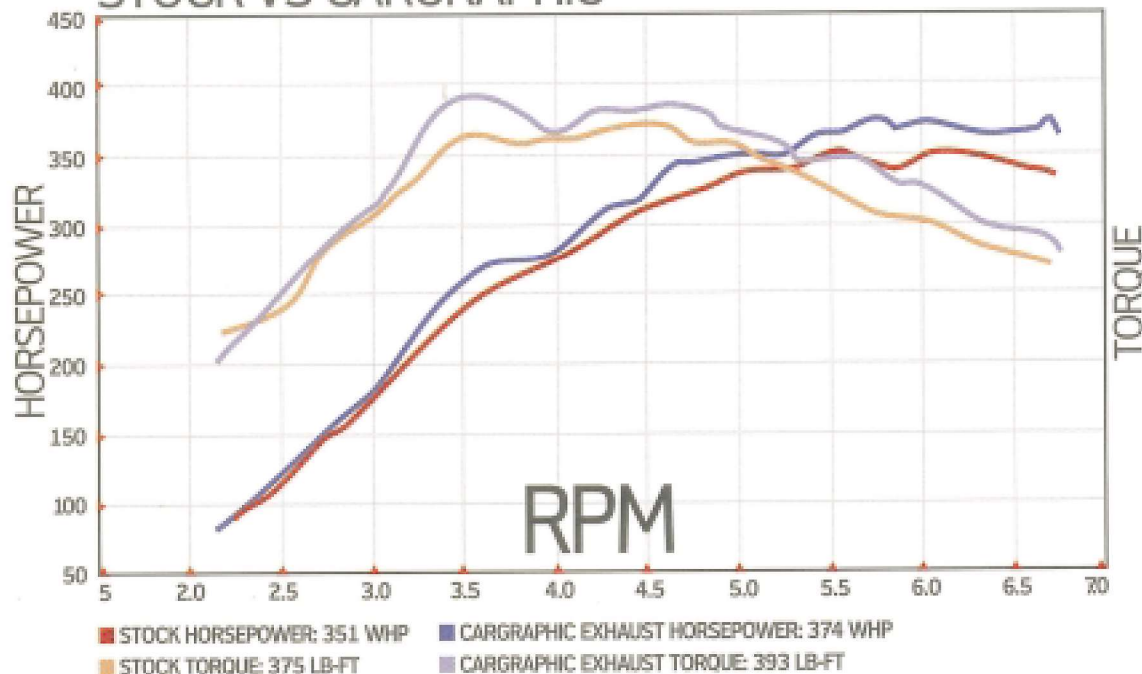
This guide is for the 996 and 997 twin-turbo cars. It's a sampling of what's currently available. To give a better idea of what to expect from the systems listed here, we tested two we have had experience with and whose results we liked.

The first system is by Cargraphic, distributed by Road Sports Supply in Costa Mesa, California. Installed on a 996tt X50 with no other modifications, the car put down a highly respectable 393 wheel-hp and a pavement-wrinkling 374 lb-ft of torque (also at the wheels). It should be noted that this car was tested on an inertial dyno with the front driveshaft removed. This will inflate the number by small amount over what will actually be seen in true all-wheel-drive running





STOCK VS CARGRAPHIC



format, but not by much. Stock, the car put down 370 wheel-hp, so it's really the difference we are interested in. We have seen 911 Turbos vary in power by six percent, so you have to judge the difference on a per car basis rather than take one example as the rule.

Our 996 twin-turbo was dynoed by GTP in Fullerton, California. GTP is accustomed to dyno-ing high-powered cars. This facility is often used as a development center for everything from Porsche to Mitsubishi Evo tuners.

We started out with the stock exhaust. Heat soak would set in after two or three pulls. We decided to use the highest numbers from both stock and modified pulls. All pulls were done in fourth gear, and the weather didn't vary by more than seven degrees F during the runs.

Our second test was on a 997 Turbo with roughly 10,000 miles on the clock. This particular car is driven regularly and the owner is no stranger to Porsche tuners. We chose AWE's system, based on positive experience and recommendations from Porsche owners.

This car was dyno-ed at GIAC in Irvine, California. Although most commonly known for software programming, GIAC has a top-notch facility.

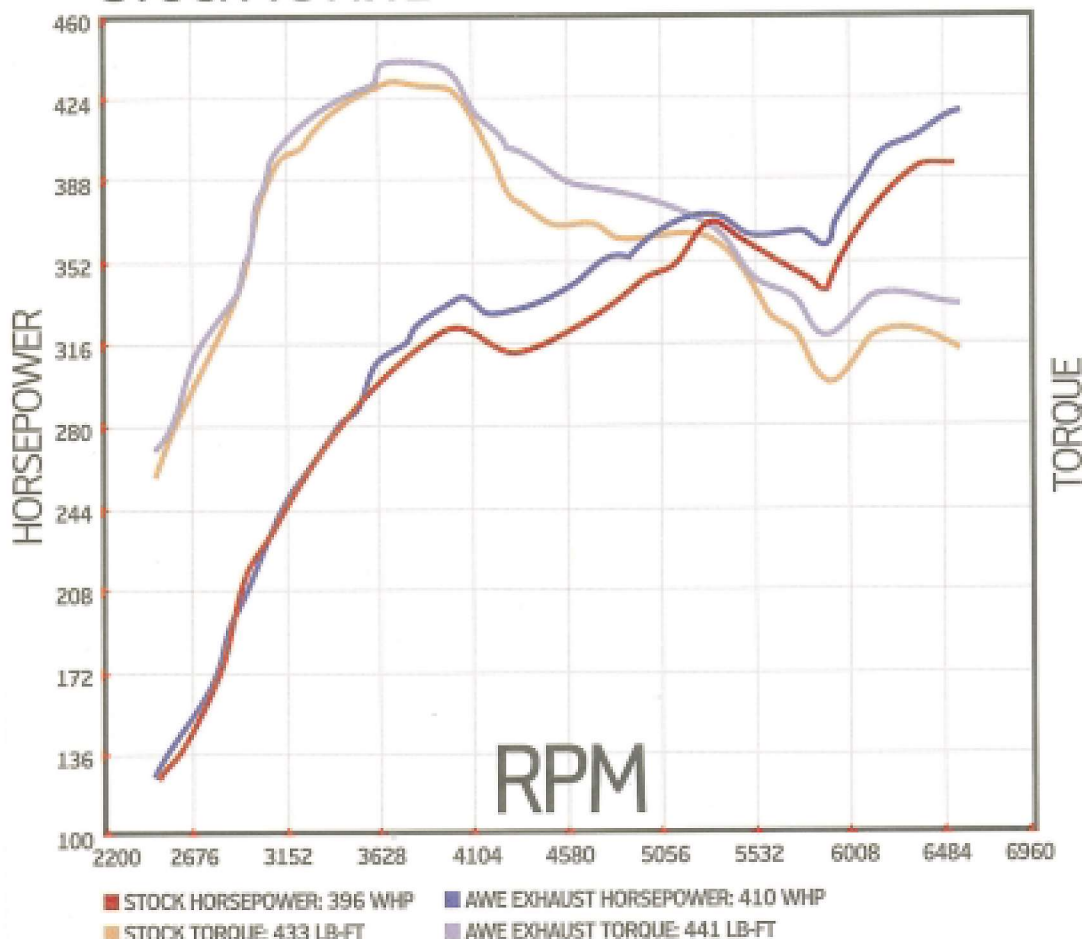
Baseline numbers were gathered first, followed by running the car up to Evosport in Huntington Beach for the exhaust install, which went quickly and easily—a little over two hours. The AWE kit went in without even having to remove any body panels.

Driving back to GIAC, the owner reported a noticeable difference in power. He also commented on the reduced turbo lag. And, of course, the sound. Like the 996, all pulls were done in fourth gear with the highest numbers from each session being used.

Both cars performed markedly better with the new exhaust systems. We are continually amazed at how much power Porsche leaves untapped in these cars. Improvements are made throughout the entire powerband. Even without the prodigious bump in power, the noise would be worth the price of admission. Both exhaust systems sound amazing, still with an unmistakable Porsche tone to them—mechanical and unique.

A software flash may give these cars more power than an exhaust kit, but the sound alone may give more enjoyment.

STOCK VS AWE



TWIN TURBO EXHAUST BUYERS GUIDE

*AWE Tuning

•996tt Turbo-Back

Material: T304 stainless steel

Construction: TIG-welded

Catalytic converters: 300-cell metal

Muffler type: straight-through, stainless and composite acoustical packing, equalized

Weight of entire system: 37 pounds

Tips: optional dual round, dual-wall, slash-cut stainless steel

Price: \$3,695 for cats and mufflers

Claimed wheel-hp improvement: 28

Additional info: power levels vary dramatically with turbo size and software

•997tt Turbo-Back

Material: T304 stainless steel

Construction: TIG-welded

Catalytic converters: 200-cell metal

Muffler type: straight-through, stainless and composite acoustical packing, equalized

Weight of entire system: 37 pounds

Tips: optional dual round, dual wall, slash cut stainless steel

Price: \$3,795 for cats and mufflers

Claimed wheel-hp improvement: 24

Additional info: power levels vary dramatically with turbo size and software

•996tt/997tt Exhaust Manifolds

Material: T304 stainless steel with Swaintech coating

Construction: TIG-welded

Diameter of runners: 1.75 inches

Weight of each header: 4 pounds

Price: \$1,695

Claimed wheel-hp improvement: 10

*Billy Boat Performance

•997tt Turbo-Back

Material: T-304 stainless steel

Construction: TIG-welded

Catalytic converters: 200-cell HJS German

Muffler type: equalized

Weight of entire system: 50 pounds

Tips: OEM

Price: \$4,090

Claimed wheel-hp improvement: 30

*CROSS Sports

•996tt Titanium Turbo-Back

Material: full titanium, 80mm with 1mm thick walls

Construction: hand-welded/hand-made

Catalytic converters: 200-cell, does not set off the Check Engine light

Muffler type: baffled with crossover

Weight: 30 pounds

Tips: Titanium, Burnt Finish and Cut Edges

Price: \$6,500

Claimed wheel-hp/wheel-torque (lb-ft) improvement: 30/40

*Cargraphic

•996tt Turbo-Back

Material: T-304 stainless steel

Construction: mandrel-bent

Catalytic converters: 130mm nickel palladium-coated 200-cell tri-metal German cats

Muffler type: straight-through

Tips: dual twin pipes, 89/76mm

Claimed wheel-hp improvement: 21

Additional info: developed on engine dynos, fully OBDII-compliant, lifetime guarantee to the original purchaser (two years on cats), TÜV-approved

•997tt Turbo-Back

Material: T-304 stainless steel

Construction: mandrel-bent

Catalytic converters: 130mm nickel palladium-coated

200-cell tri-metal German cats

Muffler type: straight-through

Tips: dual twin pipes, 80mm

Claimed wheel-hp improvement: 25

Additional info: developed on engine dynos, fully OBDII-compliant, TÜV-approved



*Cargraphic



*Billy Boat Performance

PROVEN



2007 Porsche 997 Carrera S

by Michael Febbo

Pros

3.8-liter flat-six delivers fat torque curve at the low end, while being free revving at the high end
Smooth as glass, well balanced and refined feel for comfortable cruising, yet urgent enough when driven in anger
It's a 911, with proper headlights—what else needs to be said?

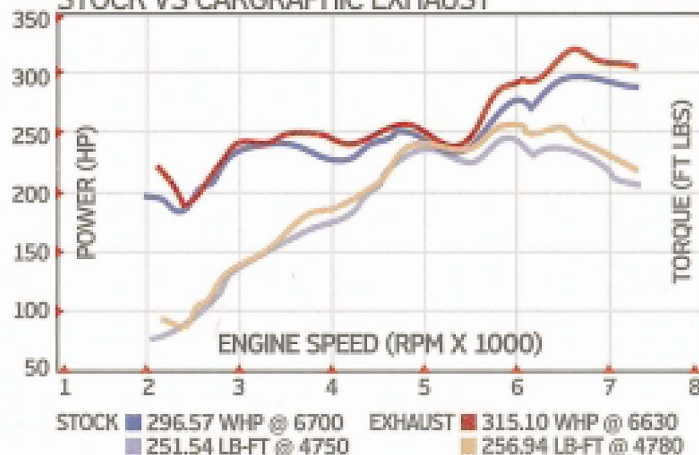
Cons

Porsche seems to be leaving vast amounts of power untapped—if that's a con
High price
Muted exhaust just doesn't do the car justice

Notes

Tested on Texaco 91-octane fuel. Tested at GTP in Fullerton California.
Ambient air temperature was between 68 and 74 degrees F during testing

STOCK VS CARGRAPHIC EXHAUST





Official Fuel of
european car

IPD Intake Plenum

■ Gains

Peak wheel-hp: 11

Peak wheel-torque (lb-ft): 14

■ Pros

Nice gains across the board

Quick and easy install

Easily reversible for warranty work

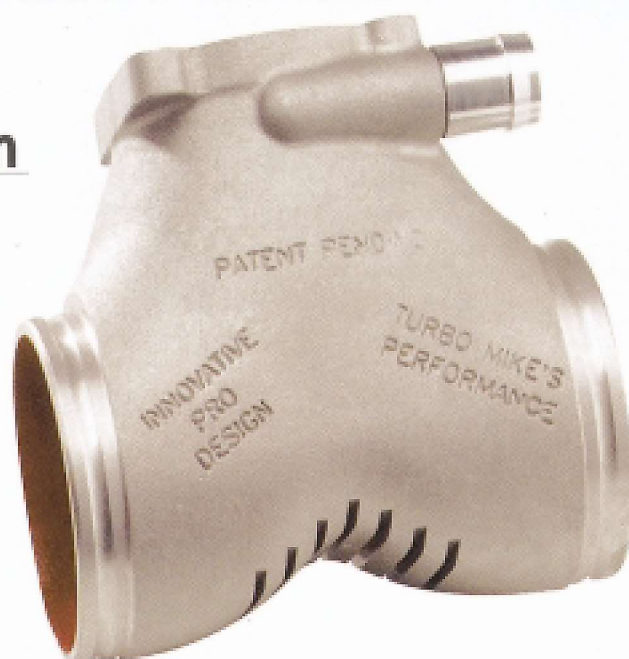
■ Cons

Someone didn't think of this earlier

■ Parts

Plenum and hardware

■ Price: \$995



■ CONTACT

RSS

www.roadssportsupply.com

714.545.1046

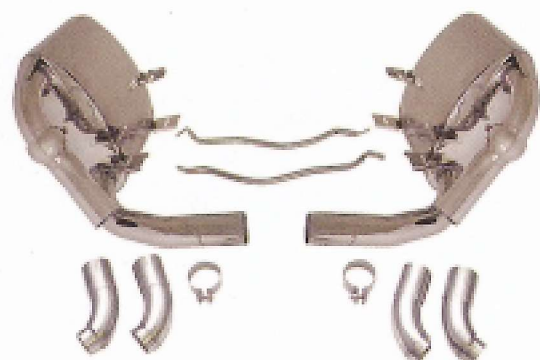
sales@roadssportsupply.com

Dyno test performed at:

GT Pro

www.gtpro.com

714.447.1697



Cargraphic Complete Exhaust

■ Gains

Peak wheel-hp: 18

Peak wheel-torque (lb-ft): 5

■ Pros

Big power gains at the high end

Great sound

Nice build quality and factory-like fit

■ Cons

Some dealers may not condone your power addiction

Exhaust screams: "Look over here!" (pro or con)

■ Parts

Stainless steel headers (x2)

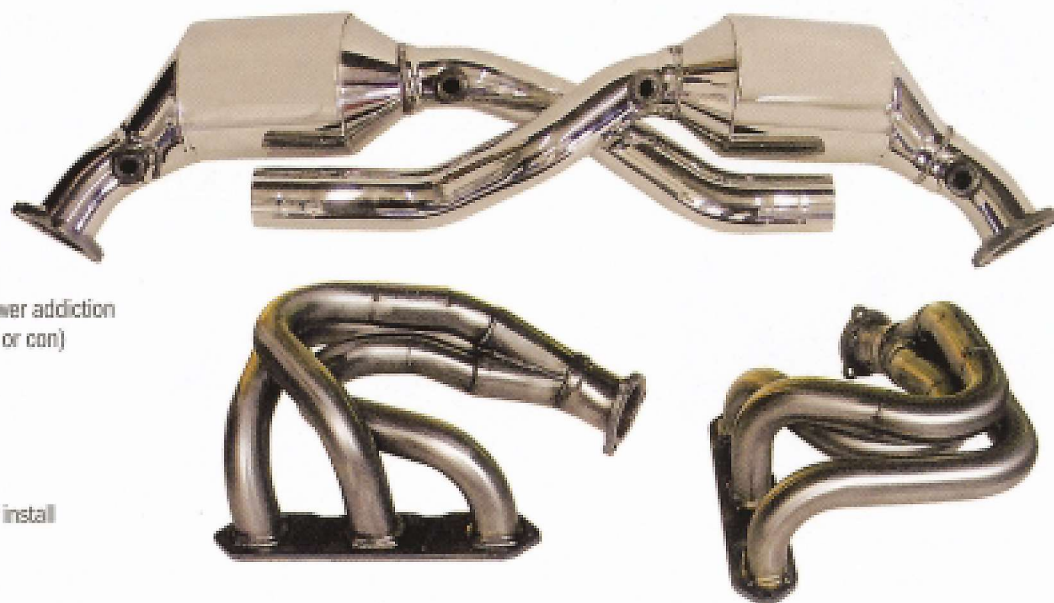
200-cell catalytic converters (x2)

Stainless steel mufflers (x2)

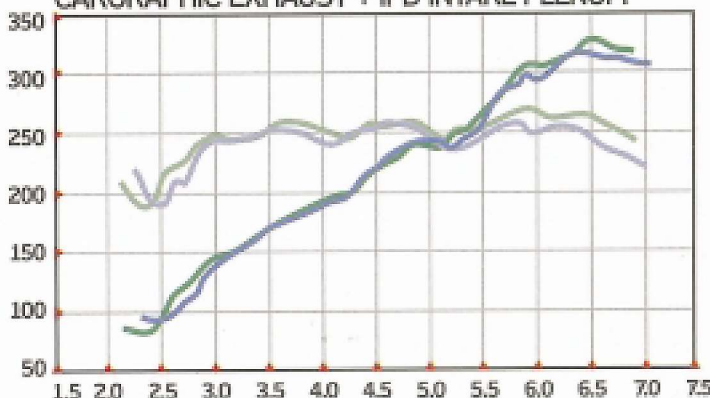
All hardware and brackets necessary for install

■ Installation time: 2 hours

■ Price: Mufflers \$1,995 200 Cell Cats \$2,995 Headers \$1,795



CARGRAPHIC EXHAUST + IPD INTAKE PLENUM



EXHAUST ■ 315.10 WHP @ 6630 EXHAUST ■ 326.49 WHP @ 6500
■ 256.94 LB-FT @ 4780 & PLENUM ■ 271.21 LB-FT @ 5870