

**December 12, 2007**

**FOR IMMEDIATE RELEASE**

**Dinan, North America's BMW Tuner, announces the release of the anxiously awaited Performance Engine Software for BMW 335 Models.**

After 29 years of critically acclaimed BMW performance tuning, Dinan continues to introduce products that are painstakingly researched, developed and fully tested to meet or exceed the quality and reliability standards of the components they replace. The new Performance Engine Software for the popular BMW 335 continues Dinan's tradition of *performance without sacrifice*.

**Design**

Dinan Performance Engine Software increases turbo boost pressure from 8.8 to 13.2 psi with properly retuned fuel mixtures, ignition timing and full map rescaling. The results are nothing short of breathtaking, providing substantial increases in power output while maintaining the drivability and reliability of a stock BMW.

Dinan's software design requires no "piggybacking" or adding "secret" boxes to the ECU. The beauty of Dinan's design is that it is tuned with the proper software tools, not by intercepting and faking signals back to the ECU. The Dinan Performance Engine Software is the only software that addresses all of the key areas important to engine performance and safety. Unlike other "units" currently on the market, there are no compromises as it works with the engine management system as it was designed while preserving all the engine safety monitors.

To top this all off, the ECU for the car does not need to be taken out to load the software for 2007 models (currently the ECU must be shipped to Dinan for installation of the software for 2008 model vehicles). It is loaded into the car directly through the factory OBDII port in about an hour. Any of over 150 Authorized Dinan Dealers nationwide and in Canada can download the software. Simple, the way it should be.

**Performance**

The Dinan Performance Engine Software increases the turbo boost pressure from 8.8 to 13.2 psi, increasing power output to 384 horsepower and 421 lb-ft torque. With the full Dinan exhaust system (rear mufflers and middle-exhaust X-pipe) included, output is increased to 392hp and 429 lb-t torque. The top-speed governor has also been removed, allowing the car to reach its full potential.

While drivability is as civilized as in stock form, the Dinan Performance Engine Software produces 50% more boost during the same time frame as compared to a stock 335i, enhancing the aggressiveness on spool-up. This creates a driving feel that is unequalled with smooth, rapid power delivery and massive midrange torque.

To even further the performance of the software and preserve engine reliability, Dinan reprograms the electronically controlled water pump to increase flow during high boost usage. In addition, Dinan also offers an optional oil cooler. Twice the size of the stock oil cooler and with more efficient air ducting, the Dinan oil cooler allows for better heat transfer and flow-through than the stock oil cooler, keeping the engine and turbos well within temperature limits, even with the increase in boost. Dinan is also developing compatible products that will further increase power output, such as a larger intercooler and turbo compressors.

**Warranty**

Dinan is the only BMW tuner that matches the 4 year/ 50k mile new car warranty, including consequential damages. However, either the stock oil cooler or the Dinan High Capacity Oil Cooler are required in order to maintain the matching new car warranty coverage. If the car is currently equipped with the factory oil cooler, Dinan strongly recommends upgrading to the larger unit for reduced and more consistent water and oil temperatures, particularly if the car is driven in a spirited fashion on a regular basis.

## **Price**

The Software carries a suggested retail price of \$1999. Installation takes approximately one hour.

## **The Dinan Way**

Dinan has taken the time to comprehensively research what is necessary to tune in the way the factory would. The Dinan Performance Engine Software is a shining example of this no-compromise approach to BMW performance tuning. There are many areas other than power alone that Dinan has addressed to ensure reliability and longevity. Here is just a short list of some of the concerns that were found during research and development.

- At high loads for extended periods of time, the oil and water temperatures ran much too warm. If these were to be left unchecked it could result in damage to the pistons and cylinder walls. To address this important issue Dinan remapped the water pump speed to increase as boost pressure climbs. In addition, the High Capacity Oil Cooler was developed in order to keep temperatures under control.
- At higher boost settings in the upper RPM range, the turbos' RPM limit was exceeded, shortening the lifespan of the turbo. Dinan addressed this problem by tapering boost gradually at high RPM. Future plans include adding larger turbos that can handle higher boost pressures at high RPM without compromising the durability of the turbo.
- At high boost, the compressor air temperature exceeded the intercooler's ability to cool the intake charge resulting in loss of power and compromising the long-term durability of the engine. The tapered boost at higher rpm addressed this issue as well. Future plans include the larger turbos as well as a more efficient intercooler, allowing us to increase boost at high RPM without compromising the engine's durability while further increasing power output reliably.
- The engine block on the 335i may not be torsionally rigid enough to handle the torque load, causing premature crankshaft failures. Studies are currently in effect to find any weak point in the block and may include block modifications to make it more rigid for the future higher power applications.
- We believe with proper research it is possible to increase output to well in excess of 400 hp and over 450 lb-ft torque! Naturally, the same attention to detail, drivability and reliability will apply.

Dinan is rarely first to market with its products, largely due to the extensive research and testing involved in development of our products, but we are first when it comes to the quality and real world performance of our products. Proper engineering takes time and research; to do it right means not rushing to market with a product that has not been fully developed and tested. Dinan's products will reward you with years of driving excitement without the worry associated with typical aftermarket products.

	STOCK	STOCK	DINAN	DINAN	GAIN	STOCK	DINAN	GAIN	Drive Train Loss factor	STOCK	DINAN
RPM	RWHP	FWHP	RWHP	FWHP	HP	FW TRQ	FW TRQ	TRQ		BOOST	BOOST
2500	146	158	173	188	29	333	394	62	1.085	7	8
3000	174	190	209	228	38	332	399	67	1.090	7.3	10
3300	191	209	233	255	46	332	405	73	1.093	8	11.5
3500	197	217	244	268	52	325	403	78	1.100	8.3	12.5
3700	208	229	260	287	57	325	407	81	1.102	8.2	13
4000	219	242	285	315	73	318	413	96	1.105	8.2	13
4300	240	266	311	345	79	325	421	96	1.108	8.8	13.2
4500	248	275	312	346	71	321	404	83	1.110	8.8	13.2
5000	279	311	336	375	64	327	394	67	1.115	8.3	12.5
5500	295	330	337	377	47	316	360	45	1.120	8	11.5
5600	296	332	342	383	52	311	360	48	1.121	7.8	11.4
5700	293	329	342	384	55	303	354	51	1.122	7.6	11.3
6000	293	330	332	374	44	289	327	38	1.125	6.9	11
6500	282	319	313	354	35	257	286	28	1.130	5.9	9.5
7000	259	294	269	305	11	221	229	9	1.135	5.3	7.5
										PSI	PSI

2008 E90-92 335 SOFTWARE  
85MPH COOLING FAN FOR RADIATOR AND INTERCOOLER

Dynopack  
93  
Octane

Figure 1. Dyno results for a stock 335i vs. Dinan 335i (software tuning only)

RWHP – Rear Wheel Horsepower  
FWHP- Flywheel Horsepower  
FWTRQ- Flywheel Torque  
RWTRQ- Rear Wheel Torque

Drive train Loss factor – Calculated from the differences in power from the engine dyno and the Dynopack dyno.

All dyno measurements taken using 93-octane gas, lower octane will reduce power substantially and higher octane will increase power substantially.

## Real World Results

Above (Figure 1) shows the results from the dyno test at Dinan headquarters. The chart shows the stock RWHP and the FWHP versus the Dinan RWHP and FWHP. The max hp gain from the Dinan 335i is 79 FWHP @ 4300 RPM and the max hp from the Dinan 335i is 384 FWHP @ 5700 RPM with 11.3 psi of boost. The maximum torque is 421 lb-ft @ 4300 rpm, a gain of 96 ft-lbs over stock running 13.2 psi of boost.

Below (Figure 2) shows the results for the Dinan 335i with the software package and race-only X pipe and Free Flow Exhaust. Peak power is increased to 392 FWHP @ 5500 RPM with 11.5 psi of boost and peak torque is up to 429 lb-ft @ 3700 RPM with 13 psi of boost pressure.

The drive train loss has been a major point of contention among tuners and the numbers have fluctuated from 10% to over 17%. What most tuners do not seem to recognize is that drive train loss is not a constant factor; it is determined by the frictional losses throughout the engine and drive train that differs throughout the entire rev range. As the car goes faster (MPH increase on the speedometer) the gears, bearings and seals are moving at a higher speed and friction increases. Dinan employs an in-house engine and chassis dyno, enabling us to log the drive train loss to an accuracy of +/- 1%. The dyno horsepower and Torque data are the closest to real world conditions you will find.

[illegible]

X Pipe

Exh

### 85MPH COOLING FAN FOR RADIATOR AND INTERCOOLER

## Dynopack

93

Octane

Figure 2. Dyno results for a stock 335i versus the Dinan 335i (software, x pipe and exhaust)