

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-176-37

Relating to Exemptions Under Section 27156  
of the California Vehicle Code

Dinan Engineering, Inc.  
Dinan Engineering Performance Software

Pursuant to the authority vested in the Air Resources Board by Section 27156 of the Vehicle Code; and

Pursuant to the authority vested in the undersigned by Section 39515 and Section 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the installation of the Dinan Engineering Performance Software, produced and marketed by Dinan Engineering, Inc. of 865 Jarvis Drive, Morgan Hill, California 95037, has been found not to reduce the effectiveness of the applicable vehicle pollution control systems and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for the BMW vehicles listed in Exhibit A.

The Performance Software is an ECU upgrade only. Installation is conducted using a laptop computer and Dinan Engineering data files. The new program is uploaded through the vehicle's OBD II port. There are no user adjustments; installation is only conducted by an authorized Dinan Dealer.

This Executive Order is valid provided that the installation instructions for the Dinan Engineering Performance Software will not recommend tuning the vehicle to specifications different from those of the vehicle manufacturer.

Changes made to the design or operating conditions of the Dinan Engineering Performance Software, as exempt by the Air Resources Board, which adversely affect the performance of the vehicle's pollution control system shall invalidate this Executive Order.

This Executive Order shall not apply to any Dinan Engineering Performance Software advertised, offered for sale, sold with, or installed on a new motor vehicle prior to or concurrent with transfer to an ultimate purchaser.

Marketing of the Dinan Engineering Performance Software using any identification other than that shown in this Executive Order or marketing of the Dinan Engineering Performance Software for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board.

This Executive Order does not constitute any opinion as to the effect the use of the Dinan Engineering Performance Software may have on any warranty either expressed or implied by the vehicle manufacturer.

This Executive Order is granted based on emission test results in the modified configuration using the Cold-Start CVS-75 Federal Test Procedure, Supplemental Federal Test Procedure (US06), boost pressure test, and an examination of the On-Board Diagnostic II (OBD II) system. A 2011 model year BMW 550i with a 4.4 liter engine (BBMXV04.4N63, LEV II ULEV, PC) was used for the evaluation of the Dinan Engineering Performance Software. Results from emissions testing conducted at Automotive Testing and Development Services, Inc., located in Ontario, California, are shown below (in grams per mile with deterioration factors applied):

|               | CVS-75 |     |      |       | US06     |     |
|---------------|--------|-----|------|-------|----------|-----|
|               | NMOG   | CO  | NOx  | HCHO  | NMHC+NOx | CO  |
| Standards, UL | 0.040  | 1.7 | 0.05 | 0.008 | 0.14     | 8.0 |
| Device Test   | 0.019  | 0.7 | 0.03 | 0.000 | 0.08     | 1.4 |

The emission test results in the modified configuration were all below the applicable certification standards. Examination of the OBD II system showed the Dinan Engineering Performance Software does not affect OBD II system operation.

Similar effect on vehicle emissions is expected with the installation of the Dinan Engineering Performance Software on vehicles listed in this Executive Order.

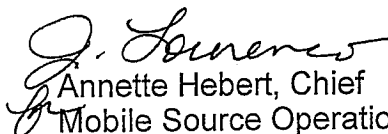
The Air Resources Board reserves the right in the future to review this Executive Order and the exemption provided herein to assure that the exempted add-on or modified part continues to meet the standards and procedures of Title 13, California Code of Regulations, Section 2222, et seq.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF DINAN ENGINEERING, INC.'S DINAN ENGINEERING PERFORMANCE SOFTWARE.

No claim of any kind, such as "Approved by the Air Resources Board", may be made with respect to the action taken herein in any advertising or other oral or written communication.

Violation of any of the above conditions shall be grounds for revocation of this order. The order may be revoked only after a ten-day written notice of intention to revoke the order, in which period the holder of the order may request in writing a hearing to contest the proposed revocation. If a hearing is requested, it shall be held within ten days of receipt of the request and the order may not be revoked until a determination is made after the hearing that grounds for revocation exist.

Executed at El Monte, California, this 30<sup>th</sup> day of November 2012.

  
Annette Hebert, Chief  
Mobile Source Operations Division

## Exhibit A

| <u>BMW Model</u> | <u>Model Years</u> | <u>Engine Size</u> | <u>Dinan Part#</u>                 | <u>Notes</u>                 |
|------------------|--------------------|--------------------|------------------------------------|------------------------------|
| 135i             | 2008-10            | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC | 11.5 psi<br>13 psi<br>14 psi |
| 135i             | 2011-12            | 3.0L T             | D900-31TB<br>D900-31T<br>D900-31TC | 10.5 psi<br>12 psi<br>13 psi |
| 1 series M       | 2011               | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC | 11.5 psi<br>13 psi<br>14 psi |
| 335i             | 2007-10            | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC | 11.5 psi<br>13 psi<br>14 psi |
| 335xi            | 2007-08            | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC | 11.5 psi<br>13 psi<br>14 psi |
| 335i xDrive      | 2009-10            | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC | 11.5 psi<br>13 psi<br>14 psi |
| 335is            | 2011-12            | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC | 10.5 psi<br>12 psi<br>13 psi |
| 335i             | 2011-12            | 3.0L T             | D900-31TB<br>D900-31T<br>D900-31TC | 10.5 psi<br>12 psi<br>13 psi |
| 335i xDrive      | 2011-12            | 3.0L T             | D900-31TB<br>D900-31T<br>D900-31TC | 10.5 psi<br>12 psi<br>13 psi |
| 535i             | 2007-10            | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC | 11.5 psi<br>13 psi<br>14 psi |
| 535xi            | 2007-08            | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC | 11.5 psi<br>13 psi<br>14 psi |
| 535i xDrive      | 2009-10            | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC | 11.5 psi<br>13 psi<br>14 psi |
| 535i             | 2011-12            | 3.0L T             | D900-31TB<br>D900-31T<br>D900-31TC | 10.5 psi<br>12 psi<br>13 psi |

## 2.

| <u>BMW Model</u> | <u>Model Years</u> | <u>Engine Size</u> | <u>Dinan Part#</u>                                                | <u>Notes</u>                                                                           |
|------------------|--------------------|--------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 535i xDrive      | 2011-12            | 3.0L T             | D900-31TB<br>D900-31T<br>D900-31TC                                | 10.5 psi<br>12 psi<br>13 psi                                                           |
| 550i             | 2006-10            | 4.8L               | D900-505<br>D903-5052<br>D903-5053                                | <br>Stage 2<br>Stage 3                                                                 |
| 550i             | 2011-12            | 4.4L T             | D900-44T5<br>D903-44T52<br>D903-44T53<br>D903-44T54<br>D903-44T55 | 12 psi Stage 1<br>14 psi Stage 2<br>14 psi Stage 3<br>14 psi Stage 4<br>14 psi Stage 5 |
| 550i xDrive      | 2011-12            | 4.4L T             | D900-44T5<br>D903-44T52<br>D903-44T53<br>D903-44T54<br>D903-44T55 | 12 psi<br>14 psi<br>Stage 3<br>Stage 4<br>Stage 5                                      |
| 550i GT          | 2011-12            | 4.4L T             | D900-44T5<br>D903-44T52<br>D903-44T53<br>D903-44T54<br>D903-44T55 | 12 psi Stage 1<br>14 psi Stage 2<br>14 psi Stage 3<br>14 psi Stage 4<br>14 psi Stage 5 |
| 650i             | 2006-10            | 4.8L               | D900-505<br>D903-5052<br>D903-5053                                | <br>Stage 2<br>Stage 3                                                                 |
| 650i             | 2012               | 4.4L T             | D900-44T6<br>D903-44T62<br>D903-44T63<br>D903-44T64<br>D903-44T65 | 12 psi Stage 1<br>14 psi Stage 2<br>14 psi Stage 3<br>14 psi Stage 4<br>14 psi Stage 5 |
| 740i, Li         | 2011-2012          | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC                                | 11.5 psi<br>13 psi<br>14 psi                                                           |
| 750i Li          | 2006-08            | 4.8L               | D900-505<br>D903-5053                                             | <br>Stage 2                                                                            |
| 750i, Li         | 2009-12            | 4.4L T             | D900-44T7<br>D903-44T72<br>D903-44T73<br>D903-44T74<br>D903-44T75 | 12 psi Stage 1<br>14 psi Stage 2<br>14 psi Stage 3<br>14 psi Stage 4<br>14 psi Stage 5 |
| 750i, Li xDrive  | 2010-12            | 4.4L T             | D900-44T7<br>D903-44T72<br>D903-44T73<br>D903-44T74<br>D903-44T75 | 12 psi Stage 1<br>14 psi Stage 2<br>14 psi Stage 3<br>14 psi Stage 4<br>14 psi Stage 5 |

| <u>BMW Model</u> | <u>Model Years</u> | <u>Engine Size</u> | <u>Dinan Part#</u>                                                | <u>Notes</u>                                      |
|------------------|--------------------|--------------------|-------------------------------------------------------------------|---------------------------------------------------|
| M3               | 2008-12            | 4.0L               | D900-40M<br>D903-40MX                                             | EXH                                               |
| M5               | 2006-10            | 5.0L               | D900-51M<br>D903-51M2<br>D903-51M3                                | Stage 2<br>Stage 3                                |
| M5               | 2011-12            | 4.4L T             | D900-44TM<br>D903-44TM2<br>D903-44TM3<br>D903-44TM4               | 14 psi<br>Stage 3<br>Stage 4<br>Stage 5           |
| M6               | 2006-10            | 5.0L               | D900-51M<br>D903-51M2<br>D903-51M3                                | Stage 2<br>Stage 3                                |
| M6               | 2012-13            | 4.4L T             | D900-44TM<br>D903-44TM2<br>D903-44TM3<br>D903-44TM4               | 14 psi<br>Stage 3<br>Stage 4<br>Stage 5           |
| X3 xDrive35i     | 2011-12            | 3.0L T             | D900-31TB<br>D900-31T<br>D900-31TC                                | 10.5 psi<br>12 psi<br>13 psi                      |
| X5 xDrive48i     | 2009-10            | 4.8L               | D900-49X                                                          |                                                   |
| X5 xDrive35i     | 2011-12            | 3.0L T             | D900-31TB<br>D900-31T<br>D900-31TC                                | 10.5 psi<br>12 psi<br>13 psi                      |
| X5 xDrive50i     | 2011-12            | 4.4L T             | D900-44TX<br>D903-44TX2<br>D903-44TX3<br>D903-44TX4<br>D903-44TX5 | 12 psi<br>14 psi<br>Stage 3<br>Stage 4<br>Stage 5 |
| X6 xDrive35i     | 2008-10            | 3.0L T             | D900-30TB<br>D900-30T<br>D900-30TC                                | 11.5 psi<br>13 psi<br>14 psi                      |
| X6 xDrive35i     | 2011-12            | 3.0L T             | D900-31TB<br>D900-31T<br>D900-31TC                                | 10.5 psi<br>12 psi<br>13 psi                      |
| X6 xDrive50i     | 2008-12            | 4.4L T             | D900-44TX<br>D903-44TX2<br>D903-44TX3<br>D903-44TX4<br>D903-44TX5 | 12 psi<br>14 psi<br>Stage 3<br>Stage 4<br>Stage 5 |

| <u>BMW Model</u> | <u>Model Years</u> | <u>Engine Size</u> | <u>Dinan Part#</u> | <u>Notes</u> |
|------------------|--------------------|--------------------|--------------------|--------------|
| X5-M             | 2010-12            | 4.4L T             | D900-44TXM         | 12 psi       |
|                  |                    |                    | D903-44TXM2        | 13.5 psi     |
|                  |                    |                    | D903-44TXM3        | Stage 3      |
|                  |                    |                    | D903-44TXM4        | Stage 4      |
|                  |                    |                    | D903-44TXM5        | Stage 5      |
| X6-M             | 2010-12            | 4.4L T             | D900-44TXM         | 12 psi       |
|                  |                    |                    | D903-44TXM2        | 13.5 psi     |
|                  |                    |                    | D903-44TXM3        | Stage 3      |
|                  |                    |                    | D903-44TXM4        | Stage 4      |
|                  |                    |                    | D903-44TXM5        | Stage 5      |
| Z4 sDrive35i     | 2009-11            | 3.0L T             | D900-30TB          | 11.5 psi     |
|                  |                    |                    | D900-30T           | 13 psi       |
|                  |                    |                    | D900-30TC          | 14 psi       |
| Z4 sDrive35is    | 2011               | 3.0L T             | D900-30TB          | 11.5 psi     |
|                  |                    |                    | D900-30T           | 13 psi       |
|                  |                    |                    | D900-30TC          | 14 psi       |

## NOTES:

Stage 1: low increase in boost pressure.

Stage 2: medium increase in boost pressure.

Stage 3: same boost level as previous stage but holds max pressure longer.

Stage 4: same boost level as previous stage but holds max pressure longer.

Stage 5: same boost level as previous stage but holds max pressure longer.