

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-710-12

Relating to Exemptions under
Section 27156 of the Vehicle Code

ESW CleanTech, Inc.
Flash and Catch System

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 Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That installation of the Flash and Catch System, manufactured by ESW CleanTech, Inc. of 6755 Mira Mesa Boulevard, Suite 123-122, San Diego, California 92121, has been found not to reduce the effectiveness of the applicable vehicle pollution control system, and therefore, the Flash and Catch System is exempt from the prohibitions in Section 27156 of the Vehicle Code for installation on heavy-duty on-road vehicles equipped with 1993 through 1998 model-year Cummins M11 diesel engines.

The Flash and Catch System consists of a low NOx rebuild calibration, replacement fuel injectors, and a diesel particulate filter. The system components exempted under this Executive Order are identified in Attachments A, B, and C.

This exemption applies to the engines and low NOx software calibrations Cummins has identified in its "Low NOx Rebuild Calibration Listing." In addition, the exemption is only valid provided that the following conditions are met: (1) the replacement fuel injectors are Cummins ReCon PX injectors remanufactured to meet Cummins' original equipment manufacturer specifications and (2) the diesel particulate filter is Engelhard Corporation's DPX Catalyzed Soot Filter or Johnson Matthey's CRT Particulate Filter exempted by the Air Resources Board and is used only on engines that meet the operating conditions specified by Engelhard Corporation and Johnson Matthey.

Exemption of the Flash and Catch System is valid provided that the engines meet the following conditions: (1) the engines were originally certified to meet a particulate matter emission standard of 0.10 g/bhp-hr or lower; (2) the engine exhaust temperature is greater than or equal to 225 degrees Celsius for the DPX Catalyzed Soot Filter and 275 degrees Celsius for the CRT Particulate Filter for 40 to 50 percent of the typical duty cycle; (3) NOx to PM ratio is at least 8 for the CRT Particulate Filter; and (4) the engine is operated using diesel fuel with a maximum sulfur content of 50 parts per million by weight.

This Executive Order is based on an engineering evaluation of the impact on emissions.

This Executive Order is valid provided that installation instructions for the Flash and Catch System do not recommend tuning the engine to specifications different from those of the engine manufacturer.

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

Marketing of the Flash and Catch System using identification other than that shown in this Executive Order or for an application other than that listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board.

This Executive Order shall not apply to any Flash and Catch System advertised, offered for sale, sold with, or installed on an engine prior to or concurrent with transfer to an ultimate purchaser.

This Executive Order does not constitute any opinion as to the effect the use of the Flash and Catch System may have on any warranty either expressed or implied by the vehicle manufacturer.

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.

In addition to the foregoing, 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 California Code of Regulations, Title 13, 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 ESW CLEANTECH, INC.'S FLASH AND CATCH SYSTEM.

Violation of any of the above conditions shall be grounds for revocation of this Executive Order. The Executive Order may be revoked only after a ten-day written notice of intention to revoke the Executive Order, in which period the holder of the Executive 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 Executive Order may not be revoked until a determination is made after a hearing that grounds for revocation exist.

Executed at El Monte, California, this 6th day of June 2013.


Erik White, Chief
Mobile Source Operations Division

Attachment A: Cummins Low NOx Rebuild Calibration Listing

LOW NOx REBUILD CALIBRATION LISTING

Available From: March 1, 2000

CPL: 1855 Engine Model: M11

ENGINE POWER INFORMATION			ECM ELECTRONIC DATA PLATE INFORMATION		
HP	Torque (lb-ft)	Governed Speed	Original Software Calibration (SC) Options and Supercessions	Low NOx SC option	Notes
330	1250	2000	(2798), 2818, 2834, 2889, 2950, 2124, 2285, 2474, 2542	20234	
330	1250	1800	2787, 2797, 2817, 2833, 2888, 2935, 2949, 2125, 2286, 2475, 2543	20235	
310	1150	2000	2785, (2796), 2816, 2832, 2887, 2923, 2954, 2129, 2287, 2476, 2544	20236	
310	1150	1800	2786, (2795), 2815, 2831, 2886, 2922, 2936, 2953, 2130, 2288, 2477, 2545	20237	
280	1050	2000	2784, 2794, 2814, 2830, 285, 2921, 2958, 2133, 2292, 2480, 2548	20238	
280	1050	1800	2829, 2884, 2920, 2957, 2134, 2293, 2481, 2550	20239	
280 ESP	1050	1800	(2792), 2883, 2928, 2961, 2181, 2298, 2391, 2485, 2556	20241	

CPL: 1856 Engine Model: M11

ENGINE POWER INFORMATION			ECM ELECTRONIC DATA PLATE INFORMATION		
HP	Torque (lb-ft)	Governed Speed	Original Software Calibration (SC) Options and Supercessions	Low NOx SC option	Notes
370	1350	2000	2791, 2804, 2825, 2841, 2895, 2943, 2117, 2278, 2465, 2529	20228	
370	1350	1800	2790, 2803, 2824, 2840, 2895, 2932, 2942, 2118, 2279, 2466, 2532	20229	
350	1350	2000	(2802), 2823, 2839, 2894, 2945, 2119, 2280, 2469, 2535	20230	
350	1350	1800	2789, 2801, 2822, 2838, 2893, 2933, 2944, 2120, 2281, 2470, 2537	20231	
330	1350	2000	(2800), 2821, 2837, 2892, 2947, 2122, 2283, 2472, 2539	20232	
330	1350	1800	2788, 2799, 2820, 2836, 2891, 2934, 2946, 2123, 2284, 2473, 2541	20233	

CPL: 1857 Engine Model: M11

ENGINE POWER INFORMATION			ECM ELECTRONIC DATA PLATE INFORMATION		
HP	Torque (lb-ft)	Governed Speed	Original Software Calibration (SC) Options and Supercessions	Low NOx SC option	Notes
310 ESP	1150	1800	2805, 2819, 2835, 2890, 2929, 2960, 2180, 2297, 2390, 2484, 2553	20240	

LOW NOx REBUILD CALIBRATION LISTING

Available From: December 1, 2000

CPL: 2036 Engine Model: M11					
ENGINE POWER INFORMATION			ECM ELECTRONIC DATA PLATE INFORMATION		
HP	Torque (lb-ft)	Governed Speed	Original Software Calibration (SC) Options and Supercessions	Low NOx SC option	Notes
330	1250	1800	SC 2264	SC 20289	
330	1250	1800	SC 2261	SC 20290	
310	1150	2100	SC 2266	SC 20291	
280	1050	2100	SC 2268	SC 20292	
330	1250	2100	SC 2262	SC 20293	
310	1150	1800	SC 2265	SC 20294	
280	1050	1800	SC 2267	SC 20295	

CPL: 2037 Engine Model: M11					
ENGINE POWER INFORMATION			ECM ELECTRONIC DATA PLATE INFORMATION		
HP	Torque (lb-ft)	Governed Speed	Original Software Calibration (SC) Options and Supercessions	Low NOx SC option	Notes
400	1450	1800	SC 2189	SC 20296	
370	1350	1800	SC 2191	SC 20297	
350	1350	1800	SC 2194	SC 20298	
350	1350	1800	SC 2197	SC 20299	
330	1350	1800	SC 2198	SC 20300	
370	1450	2100	SC 2190	SC 20301	
370	1350	2100	SC 2192	SC 20302	
370	1350	1800	SC 2440	SC 20303	

CPL: 2370 Engine Model: M11					
ENGINE POWER INFORMATION			ECM ELECTRONIC DATA PLATE INFORMATION		
HP	Torque (lb-ft)	Governed Speed	Original Software Calibration (SC) Options and Supercessions	Low NOx SC option	Notes
330	1250	1800	SC 2601	SC 20304	
330	1250	1800	SC 2598	SC 20305	
310	1150	2100	SC 2603	SC 20306	
280	1050	1800	SC 2605	SC 20307	
330	1250	2100	SC 2599	SC 20308	
310	1150	1800	SC 2602	SC 20309	
280	1050	1800	SC 2604	SC 20310	
305	1150	2100	SC 2698	SC 20311	

CPL: 2371 Engine Model: M11					
ENGINE POWER INFORMATION			ECM ELECTRONIC DATA PLATE INFORMATION		
HP	Torque (lb-ft)	Governed Speed	Original Software Calibration (SC) Options and Supercessions	Low NOx SC option	Notes
370	1350	1800	SC 2588	SC 20312	
350	1350	1800	SC 2591	SC 20313	
350	1350	1800	SC 2594	SC 20314	
330	1350	1800	SC 2595	SC 20315	
370	1450	1800	SC 2587	SC 20316	
330	1350	2100	SC 2589	SC 20317	
330	1350	2100	SC 2596	SC 20318	
420	1450	2100	SC 2620	SC 20319	
370	1350	1800	SC 2621	SC 20320	
370	1350	1800	SC 2627	SC 20321	
335	1350	2100	SC 2631	SC 20322	

Attachment B: Replacement Fuel Injector

Cummins Critical Parts List and Injector Part Number	
CPL	ReCon Injector Number
1855, 1856, 1857	3087557 PX
2036, 2037, 2370, 2371	3411753 PX

Attachment C: Diesel Particulate Filter

Diesel Particulate Filter Part Number	
Particulate Filter	ESW CleanTech, Inc. Number
Johnson Matthey CRT	5200 to 5299 series
Engelhard DPX	5300 to 5399 series

