

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-373  
Relating to Exemptions Under Section 27156  
of the Vehicle Code

L & L PRODUCTS  
"ULTRA FLOW" PERFORMANCE HEADERS

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-45-5;

IT IS ORDERED AND RESOLVED: That the installation of the "Ultra Flow" Performance Headers, manufactured by L & L Products of 3210 Century, Rowlett, Texas 75088, has been found not to reduce the effectiveness of the applicable vehicle pollution control system and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for the installation on 1967-94 model year Ford trucks equipped with either a 429 CID or 460 CID (7.5 liter) heavy-duty gasoline engines. The "Ultra Flow" Performance Headers part numbers with vehicle applications are shown below:

<u>Part Number</u>	<u>Model Year</u>	<u>Vehicle Application</u>	<u>Engine Size(s)</u>
79750	1967-94	Ford F-Series	429/460 CID
	1978-79	Ford Bronco	429/460 CID
79755	1980-94	Ford F-Series	460 CID (7.5 liter)
	1978-79	Ford Bronco	429/460 CID
79760	1967-79	Ford F-Series	429/460 CID

This Executive Order is valid provided that installation instructions for the L & L Products' "Ultra Flow" Performance Headers 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 device, as exempt by the Air Resources Board, which adversely affect the performance of a vehicle's pollution control system shall invalidate this Executive Order.

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

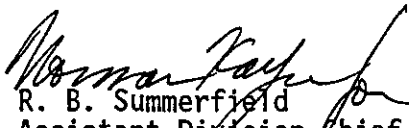
This Executive Order does not constitute any opinion as to the effect that the use of this device may have on any warranty either expressed or implied by the vehicle manufacturer.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF L & L PRODUCTS' "ULTRA FLOW" PERFORMANCE HEADERS.

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 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 after hearing that grounds for revocation exist.

Executed at El Monte, California, this 19<sup>th</sup> day of December, 1994.

  
R. B. Summerfield  
Assistant Division Chief  
Mobile Source Division

State of California  
AIR RESOURCES BOARD

EVALUATION OF THE L & L PRODUCTS'  
"ULTRA FLOW" PERFORMANCE HEADERS  
FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE  
SECTION 27156 IN ACCORDANCE WITH SECTION 2222,  
TITLE 13, OF THE CALIFORNIA CODE OF REGULATIONS

December 1994

State of California  
AIR RESOURCES BOARD

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by

Mobile Source Division  
9528 Telstar Avenue  
El Monte, CA 91731-2990

(This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.)

## SUMMARY

L & L Products of 3210 Century, Rowlett, Texas, 75088, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their "Ultra Flow" Performance Headers (Headers). The Headers are designed for installation on 1967-94 model year Ford trucks equipped with either a 429 CID or 460 CID (7.5 liter) heavy-duty gasoline engines.

Based on the results from emission tests performed at an independent laboratory on a 1994 Ford F-250 truck equipped with a 7.5 liter (460 CID) heavy-duty gasoline engine, the staff concludes that L & L Products' "Ultra Flow" Performance Headers will not adversely affect exhaust emissions from vehicles for which an exemption is requested.

The staff recommends that L & L Products be granted an exemption as requested and that Executive Order D-373 be issued.

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I. INTRODUCTION

L & L Products of 3210 Century, Rowlett, Texas 75088, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for their "Ultra Flow" Performance Headers (Headers). The Headers are designed for installation on 1967-94 model year Ford trucks equipped with either a 429 CID or 460 CID (7.5 liter) heavy-duty gasoline engines.

L & L Products has submitted test data from a 1994 Ford F-250 truck equipped with a 7.5 liter heavy-duty gasoline engine tested at Roush Laboratories, Garden Grove, California.

II. CONCLUSION

Based on the results from emission testing performed at Roush Laboratories on a 1994 Ford F-250 truck equipped with a 7.5 liter heavy-duty gasoline engine, the staff concludes that L & L Products' Headers will not adversely affect exhaust emissions from vehicles for which an exemption is requested.

III. RECOMMENDATION

The staff recommends that L & L Products be granted an exemption for their Headers for installation on 1967-94 model year Ford trucks equipped with either a 429 CID or 460 CID (7.5 liter) heavy-duty gasoline engines. The staff also recommends that Executive Order D-373 be issued.

IV. DESCRIPTION OF THE L & L PRODUCTS HEADERS

The L & L Products' Headers are designed for installation on 1967-94 model year Ford trucks equipped with either a 429 CID or 460 CID (7.5 liter)

heavy-duty gasoline engines. The Headers operate in conjunction with the original equipment manufacturer's (OEM) emission control systems.

The purpose of modifying the exhaust system of the engine is to increase horsepower and torque throughout the R.P.M. range. As with the original equipment manufacturer's (OEM) exhaust system, L & L Products' Headers routes exhaust gases from the engine into the catalytic converter.

The "Ultra Flow" Performance Headers are manufactured using either 14 gauge mild steel plated with electroless nickel or 16 gauge T-304 stainless steel tubing. The Headers utilize L & L Products' proprietary V-8 engine header design including .500 inch thick header flanges. The oxygen sensor is positioned at the junction of the individual header tubes and the collector. Systems include all installation hardware and pre-catalyst tubing.

Installation of L & L Products's Header does not alter the OEM location of the catalyst. The tune-up specifications are also unaltered from OEM specifications.

#### V. DISCUSSION OF THE L & L PRODUCTS HEADER

A 1994 Ford F-250 truck equipped with a 7.5 liter heavy-duty gasoline engine was used for the evaluation of the Header system. The emission tests conducted by Roush Laboratories for L & L Products consisted of one Cold CVS-75 Federal Test Procedure (FTP) in baseline (OEM) configuration and one Cold CVS-75 Federal Test Procedure (FTP) in the modified (Headers installed) configuration. The Headers used during testing were part number 79755 constructed of 16 gauge T-304 stainless steel tubing. Since this engine was originally certified using an engine dynamometer, the vehicle dynamometer weight was calculated as 7000-lbs and the road load horsepower calculated as 18.2-hp.

The ARB did not perform any test to confirm the test results submitted by the applicant. A summary of the test results is shown on next page:



### Exhaust Emission Test Results

1994 Ford F-250 Truck Equipped With a 7.5 Liter Heavy-Duty Gasoline Engine

#### Exhaust Emissions (gm/mi)

	<u>THC</u>	<u>CO</u>	<u>NOx</u>
Baseline	0.46	8.6	6.4
With Headers	0.53	10.0	3.7
Difference	+0.07	+1.4	-2.7
Percent	+13.2	+14.0	-73.0
Difference			

Results from the emission test show the test vehicle emissions with the L & L Products Headers installed are within the allowable increase of 10 percent or 0.1 gm/mile HC, 15 percent or 1.0 gm/mile CO and 10 percent or 0.1 gm/mile NOx above the baseline as specified under the "Procedures for Exemption of Add-On or Modified Parts." Therefore, based on the test results, the staff concludes that the installation of the L & L Products' Headers will not have an adverse effect on exhaust emissions on the vehicles which exemption is requested.

L & L Products has submitted all the required information and fulfilled the requirements for an exemption.

### Exhaust Emission Test Results

1994 Ford F-250 Truck Equipped With a 7.5 Liter Heavy-Duty Gasoline Engine

#### Exhaust Emissions (gm/mi)

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Results from the emission test show the test vehicle emissions with the L & L Products Headers installed are within the allowable increase of 10 percent or 0.1 gm/mile HC, 15 percent or 1.0 gm/mile CO and 10 percent or 0.1 gm/mile NOx above the baseline as specified under the "Procedures for Exemption of Add-On or Modified Parts." Therefore, based on the test results, the staff concludes that the installation of the L & L Products' Headers will not have an adverse effect on exhaust emissions on the vehicles which exemption is requested.

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