



California Environmental Protection Agency

AIR RESOURCES BOARD

**CUSHMAN INC., TEXTRON
TURF CARE AND SPECIALTY
PRODUCTS - LINCOLN**

EXECUTIVE ORDER M-8-22
New On-Road Motorcycles

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following 2001 model-year engine and emission control systems (ECS) produced by the manufacturer are certified as described below for four-stroke gasoline-powered motorcycles:

<u>Engine Family</u>	<u>Evaporative Family</u>	<u>Displacement (cm³)</u>	<u>Class</u>	<u>ECS & Special Features</u>
1CUXC.660EEE	1CUXE0140EEE	660	III	SFI, OC,O2S

Vehicle Models (Equivalent Inertia Mass): 898487 (680 kg)

Production motorcycles shall be in all material respects the same as those for which certification is granted.

The exhaust emission standards and certification values in grams per kilometer for hydrocarbons (HC) and carbon monoxide (CO), and the HC evaporative (Evap) standard and certification value in grams per test for this engine/evaporative family are as follows:

	<u>HC</u>	<u>CO</u>	<u>Evap HC</u>
<u>Standard: (Effective Standard)</u>	1.0	12	2.0 (1.8)
<u>Certification:</u>	0.5	4	1.2

BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Code of Regulations, Section 2035 et seq.).

BE IT FURTHER RESOLVED: That because the listed motorcycles are certified to 0.2 grams per test or more below the applicable evaporative emission standard, the vehicles are exempt from complying with the Air Resources Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" pursuant to Executive Order G-70-16-E.

Vehicles certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this 28th day of December 2000.

for R. B. Summerfield, Chief
Mobile Source Operations Division

0.239

Engine Family: 1CUXC.660EEE

Motorcycle Test Information Form

27. Are you carrying over test results from a previously certified family? Yes No
 a) If yes, indicate family name: YCUXC.660CCC
 b) Is the family being certified identical to the family from which the data is being carried over? Yes
28. Model Designation of Test Vehicle: 898487
29. Test Information Number: 7181
30. Vehicle ID: P99000369
31. Service Accumulation Duration: 8000 (km)
32. Maximum Rated Power: 34 kW@5500 RPM
33. Displacement: 660 cc
34. Certification Fuel: Indolene HO III
35. Test Data Set(s): 99121402, 99122101
99122901, 00010502
36. Road Load: 213.5 NT (495T), 171 NT (CA)
37. Inertia Mass: 870 kg (495T), 680 kg (CA)
38. N/V: 101.95
39. EVAP. Bench Test Method Approved: N/A, assg DF
 Date: _____
 Reference: _____
40. Unscheduled Maintenance: Yes No
41. If yes, Vehicle Log provided: Yes. See Section 8

42. Exhaust Emission Deterioration Factors:

Test Number	System Kilometers	Emission Values	
		HC	CO
1	3734	0.321	3.780
2	5250	0.207	3.488
3	6794	0.211	3.567
4	8334	0.347	3.993
5			
6			
7			
Interpolated Values at 8000 km:		HC = <u>0.28</u>	CO = <u>3.5</u>
Extrapolated Values at 30000 km:		HC = <u>0.40</u>	CO = <u>3.6</u>

Check One:	
Regular DF	<input checked="" type="checkbox"/>
Modified DF	<input type="checkbox"/>
If different vehicle specify vehicle ID	

43. Emission Test Results:

Official Test Results		Test 1	Test 2	Test 3	Test 4
g/km	CO	3.993			
g/km	CO ²	<u>217.</u>			
g/km	HC	0.347			
g/km	Evap.	0.749			

	Deterioration Factors
(X)	<u>1.030</u>

(X)	<u>1.429</u>
(+)	0.5

*Note: Assigned DF for Evap.

44. Certification Levels:

g/km	CO	<u>4.1</u>			
g/km	HC	<u>0.50</u>			
g/km	Evap.	<u>1.249</u>			

Processed by: Steve Woods Date 12/26/00 Reviewed by: K Pryor Date: 12/28/00

Motorcycle Engine Family Information Form

1. Manufacturer: Cushman, Textron Turf Care and Specialty Products

2. Certification Contact Person, address, phone, and fax:

EPA Cert. # CU-MC-01-0

Michael Ross Cushman, TTCSP 900 N. 21 st St., Lincoln, NE 68501-2409	Phone: (402) 474-8419 Fax: (402) 474-8727
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3. Model Year: 2001

10. Displacement: 660

4. Process Code: New
(new, correction, revision, r/c, f/f, etc.)

11. Number of Cylinders: 3

5. Engine Family: 1CUXC.660EEE
50s Engine Code: X
49s Engine Code: _____
Calif. Engine Code: _____

12. Cylinder Arrangement: Inline

13. Cylinder Head Configuration: SOHC 4 valves/cyl.

6. Emission Control System: OC, SFI, O2S

14. Type of Cooling: Liquid

15. Combustion Cycle: 4 Stroke

7. Calif. Designated Standard: HC=1.0 g/km

16. Method of Aspiration: Natural

8. Projected Annual Sales:

17. Fuel System: EFI, SFI

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18. Number of Catalytic Converters: 1

9. New Technology Yes X No
If Yes, cite the correspondence or reference the
submittal document: _____

19. Adjustable Parameters:

Parameter(s)	Adjustable Range (or N/A)	Tamper Resistance Method (or N/A)	Method Approved
Idle Speed	950 +/- 50 RPM	ECU Controlled	
Valve Lash	.08mm INT, .10mm EXH	N/A	
Ignition Timing	5° BTDC	ECU Controlled	
Idle A/F Ratio	N/A	ECU Controlled	

20. AECDS in the Emission Control Systems:

Exhaust System	Evaporative System
AECDS in System: <u>None</u>	AECDS in System: <u>NONE</u>
_____	_____
_____	_____
_____	_____
_____	_____