

File

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER M-8-20
Relating to Certification of New Motorcycles

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

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 2000 model-year Cushman, Inc., Textron Turf Care and Specialty Products – Lincoln exhaust emission control systems are certified as described below for four-stroke gasoline-powered motorcycles:

<u>Engine Family</u>	<u>Displacement Cubic Centimeters</u>	<u>Class</u>	<u>Exhaust Emission Control Systems & Special Features</u>
YCUXC.660BBB	660	III	Oxidation Catalytic Converter Exhaust Gas Recirculation

Vehicle models and transmissions are listed on the attachment. Production motorcycles shall be in all material respects the same as those for which certification is granted.

The following are the exhaust emission standards and exhaust emission certification values in grams per kilometer for this engine family:

<u>Hydrocarbons</u>		<u>Carbon Monoxide</u>	
<u>Standard</u>	<u>Certification</u>	<u>Standard</u>	<u>Certification</u>
1.0	0.4	12	8

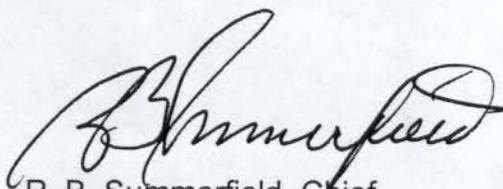
BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Code of Regulations, Section 2035 et seq.).

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with "California Evaporative Emission Standards and Test Procedures for 1978 Through 2000 Model Motor Vehicles."

BE IT FURTHER RESOLVED: That these motorcycles are found exempt from compliance 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 22nd day of February 2000.



R. B. Summerfield, Chief
Mobile Source Operations Division

Motorcycle Engine Family Information Form

1. Manufacturer: Cushman, ^{Inc} Textron Turf Care and Specialty Products

0.3

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

Ben Kimes Cushman, TTCSP 900 N. 21 st St., Lincoln, NE 68501-2409	Phone: (402) 474-8474 Fax: (402) 474-8727
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3. Model Year: 2000

10. Displacement: 660

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

11. Number of Cylinders: 3

5. Engine Family: YCUXC.660BBB
 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, EGR

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: Carburetor

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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	N/A	
Valve Lash	.08mm INT, .10mm EXH	N/A	
Ignition Timing	4-5° BTDC	N/A	
Idle A/F Ratio	Set at Idle	Screw Cap	

20. AECDs in the Emission Control Systems:

Exhaust System	Evaporative System
AECDs in System: <u>None</u>	AECDs in System: <u>None</u>
_____	_____
_____	_____
_____	_____
_____	_____

Processed by: Steve Vada Date: 2/8/00
 Reviewed by: [Signature] Date: 2/9/2000

Motorcycle Test Information Form

27. Are you carrying over test results from a previously certified family? Yes No
 a) If yes, indicate family name: XCUXC.660BBB
 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: 898486
 29. Test Information Number: 7102
 30. Vehicle ID: 1HMH6604VL000124
 31. Service Accumulation Duration: 8000 (km)
 32. Maximum Rated Power: 31 kW@5500 RPM
 33. Displacement: 660 cc
 34. Certification Fuel: Indolene HO III
 35. Test Data Set(s): 98092201, 98091101
98091502, 98081802

36. Road Load: 213.5 NT
 37. Inertia Mass: 870 kg
 38. N/V: 81.6
 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	3659	0.42	9.4
2	5137	0.36	8.1
3	6696	0.39	9.2
4	8333	0.37	7.7
5			
6			
7			
Interpolated Values at 8000 km:		HC = 0.37	CO = 8.1
Extrapolated Values at 30000 km:		HC = 0.22	CO = 2.5

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	<u>8.1</u>			
g/km	CO ²	<u>185</u>			
g/km	HC	<u>0.37</u>			
g/km	Evap.	0.38			

	Deterioration Factors
(X)	1.000

(X)	1.000
(+)	0.5

*Note: Assigned DF for Evap.

44. Certification Levels:

g/km	CO	<u>8.1</u>			
g/km	HC	<u>0.37</u>			
g/km	Evap.	<u>0.88</u>			

Evaporative Emission Information

45. Evaporative Family: YCUXC.0140BBB

46. Number of Evap. Canisters: 1

47. Design Working Capacity: 140 g

48. Configuration: Single canister

49. Number of Storage Areas: 1

50. Fuel Reservoir Volume: 3700 cc

51. Vent System Configuration: Non-vented

52. Nominal Tank Capacity: 6 Gallons

53. Engine Displacement Class: III

54. Storage Medium Composition: Activated Charcoal

55. Evap. Canister Medium Volume: 480 cc

56. Evap. Family Sales:

57. Engine Code: 660 cc

58. Evap. Emission Family Code: YCUXC0140BBB

59. Evap. Emission Family Group: N/A

60. Overall Evap D.F. = 0.5 Assigned

*note canister is Harley Davidson 27042-84A

Bench DF: N/A

61. Test Vehicle ID: 1HMH6604VL000124

62. Test Results:

Test Number	System Kilometers [±]	Evap. Emission Values (g/test)
1		
2		
3		
4		
5		
6		
7		
Interpolated Values at km: =		
Extrapolated Values at km: =		
Bench Test D.F. =		

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

Vehicle DF: N/A

63. Test Vehicle ID: 1HMH6604VL000124

64. Test Results:

Test Number	System Kilometers	Evap. Emission Values (g/test)
1	<u>3659</u>	<u>0.38</u>
2		
3		
4		
5		
6		
7		
Interpolated Values at km: =		
Extrapolated Values at km: =		
Vehicle Test D.F. =		