File

California Environmental Protection Agency AIR RESOURCES BOARD	CUSHMAN INC., TEXTRON TURF CARE AND SPECIALTY PRODUCTS - LINCOLN	EXECUTIVE ORDER M-8-21 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 2000 model-year engine and emission control systems (ECS) produced by the manufacturer are certified as described below for four-stroke gasoline-powered motorcycles:

Engine Family	Evaporative Family	Displacement (cm^3)	Class	ECS & Special Features
YCUXC.660CCC	YCUXE0140BBB	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:

	HC	CO	Evap HC
Standard: (Effective Standard)	1.0	12	2.0 (1.8)
Certification:	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.

Raphael Susnowitz

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

EO# M-8-21

0-1

Engine Family: YCUXC.660CCC

Motorcycle Test Information Form

27. Are you carrying over test results from a previously certified family? ____ Yes __X__ No
    a) If yes, indicate family name: _____
    b) Is the family being certified identical to the family from which the data is being carried over? ___

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) 191 NT (CA)

37. Inertia Mass: 870 kg (495T), 680kg (CA)

38. N/V: 101.95

39. EVAP. Bench Test Method Approved: N/A, assg DF
    Date: _____

    Reference: _____

40. Unscheduled Maintenance: __X__ Yes _____ No

41. If yes, Vehicle Log provided: Yes. See Section 8

42. Exhaust Emission Deterioration Factors:

		Emission Values	
Test Number	System Kilometers	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** = 0.28	**CO** = 3.5
Extrapolated Values at 30000 km:		**HC** = 0.40	**CO** = 3.6

Check One:	
Regular DF	X
Modified DF	
If different vehicle specify vehicle ID	

43. Emission Test Results:

Official Test Results		Test 1	Test 2	Test 3	Test 4		Deterioration Factors
g/km	CO	3.993				(X)	1.030
g/km	CO^2	217					--------
g/km	HC	0.347				(X)	1.429
g/km	Evap.	0.749				(+)	0.5

*Note: Assigned DF for Evap.

44. Certification Levels:

g/km	CO	4.1			
g/km	HC	0.50			
g/km	Evap.	1.249			

Processed by: [illegible] Date: 1/8/00 Reviewed by: [illegible] Date: 11/29/00

EO # M-8-21

Motorcycle Engine Family Information Form

1. Manufacturer: Cushman. Textron Turf Care and Specialty Products – Lincoln

2. Certification Contact Person, address, phone, and fax: EPA Cert. # CU-MC-00-04

Michael Ross
Cushman, TTCSP
900 N. 21st St., Lincoln, NE 68501-2409
Phone: (402) 474-8474
Fax: (402) 474-8727

3. Model Year: 2000

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

5. Engine Family: YCUXC.660CCC
   50s Engine Code: X
   49s Engine Code: _____
   Calif. Engine Code: _____

6. Emission Control System: OC, SFI, O2S

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

8. Projected Annual Sales:
CONFIDENTIAL

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

10. Displacement: 660

11. Number of Cylinders: 3

12. Cylinder Arrangement: Inline

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

14. Type of Cooling: Liquid

15. Combustion Cycle: 4 Stroke

16. Method of Aspiration: Natural

17. Fuel System: EFI, SFI

18. Number of Catalytic Converters: 1

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	Set at Idle	ECU Controlled	

20. AECDs in the Emission Control Systems:

Exhaust System	Evaporative System
AECDs in System: None	AECDs in System: None

EO#m-8-21

Engine Family: YCUXC.660CCC

Evaporative Emission Information

45. Evaporative Family: YCUXE0140BBB
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: 299
57. Engine Code: 660 cc
58. Evap. Emission Family Code: YCUXE0140BBB
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: _____
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
Modified DF
If different vehicle specify vehicle ID

Vehicle DF N/A

63. Test Vehicle ID: _____
64. 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: =** _____		
Vehicle Test D.F. = _____		