

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety 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 the following compression-ignition engines and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2005	5HZXL3.43C42	2.574, 3.432	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection			Pump, Generator Set	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kW-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):


RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kW-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
37 ≤ kW < 75	Tier 2	STD	N/A	N/A	7.5	5.0	0.40	N/A	N/A	N/A
		CERT	--	--	7.1	3.4	0.21	--	--	--

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

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

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 9TH day of March 2005.


 Allen Lyons, Chief
 Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

Process Code: **Running Change NEW**

Manufacturer: **Motorenfabrik Hatz**

EPA Engine Family: **5HZXL3.43C42**

Manufacturer Family Name: **LJM41**

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm ³ /stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm ³ /stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
N/A	3M41	53,3@3000	44,0	7,4	93@3000	44,0	7,4	DDI
N/A	3M41	53,1@2950	44,0	7,2	95@2950	44,0	7,2	
N/A	3M41	52,7@2900	44,0	7,1	95@2900	44,0	7,1	
N/A	3M41	52,4@2850	44,0	7,0	97@2850	44,0	7,0	
N/A	3M41	52,0@2800	44,0	6,9	98@2800	44,0	6,9	
N/A	3M41	51,7@2750	44,5	6,8	99@2750	44,5	6,8	
N/A	3M41	51,3@2700	44,5	6,7	100@2700	44,5	6,7	
N/A	3M41	51,1@2650	44,5	6,6	101@2650	44,5	6,6	
N/A	3M41	50,7@2600	45,0	6,5	102@2600	45,0	6,5	
N/A	3M41	50,1@2550	45,0	6,4	103@2550	45,0	6,4	
N/A	3M41	52,1@2300	51,0	6,5	119@2300	51,0	6,5	
N/A	3M41	51,2@2250	51,0	6,4	120@2250	51,0	6,4	
N/A	3M41	50,1@2200	51,0	6,3	120@2200	51,0	6,3	
N/A	3M41Z	52,4@3000	44,0	7,4	92@3000	44,0	7,4	
N/A	3M41Z	52,0@2950	44,0	7,2	93@2950	44,0	7,2	
N/A	3M41Z	51,6@2900	44,0	7,1	93@2900	44,0	7,1	
N/A	3M41Z	51,3@2850	44,0	7,0	95@2850	44,0	7,0	
N/A	3M41Z	50,9@2800	44,0	6,9	96@2800	44,0	6,9	
N/A	3M41Z	50,7@2750	44,5	6,8	97@2750	44,5	6,8	
N/A	3M41Z	50,3@2700	44,5	6,7	98@2700	44,5	6,7	
N/A	3M41Z	50,0@2650	44,5	6,6	99@2650	44,5	6,6	
N/A	3M41Z	49,6@2600	45,0	6,5	100@2600	45,0	6,5	
N/A	3M41Z	51,2@2300	51,0	6,5	117@2300	51,0	6,5	
N/A	3M41Z	50,0@2250	51,0	6,4	117@2250	51,0	6,4	

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12/1/07

LARGE ENGINE MODEL SUMMARY

Process Code: **Running-Change**

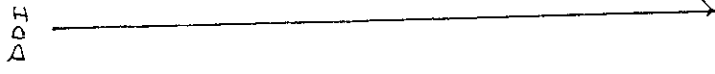
NEW

Manufacturer: **Motorenfabrik Hatz**

Manufacturer Family Name: **L/M41**

EPA Engine Family: **5HZXL3.43C42**

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
N/A	3M41	53,3@3000	44,0	7,4	93@3000	44,0	7,4	
N/A	3M41	53,1@2950	44,0	7,2	95@2950	44,0	7,2	
N/A	3M41	52,7@2900	44,0	7,1	95@2900	44,0	7,1	
N/A	3M41	52,4@2850	44,0	7,0	97@2850	44,0	7,0	
N/A	3M41	52,0@2800	44,0	6,9	98@2800	44,0	6,9	
N/A	3M41	51,7@2750	44,5	6,8	99@2750	44,5	6,8	
N/A	3M41	51,3@2700	44,5	6,7	100@2700	44,5	6,7	
N/A	3M41	51,1@2650	44,5	6,6	101@2650	44,5	6,6	
N/A	3M41	50,7@2600	45,0	6,5	102@2600	45,0	6,5	
N/A	3M41	50,1@2550	45,0	6,4	103@2550	45,0	6,4	
N/A	3M41	52,1@2300	51,0	6,5	119@2300	51,0	6,5	
N/A	3M41	51,2@2250	51,0	6,4	120@2250	51,0	6,4	
N/A	3M41	50,1@2200	51,0	6,3	120@2200	51,0	6,3	
N/A	3M41Z	52,4@3000	44,0	7,4	92@3000	44,0	7,4	
N/A	3M41Z	52,0@2950	44,0	7,2	93@2950	44,0	7,2	
N/A	3M41Z	51,6@2900	44,0	7,1	93@2900	44,0	7,1	
N/A	3M41Z	51,3@2850	44,0	7,0	95@2850	44,0	7,0	
N/A	3M41Z	50,9@2800	44,0	6,9	96@2800	44,0	6,9	
N/A	3M41Z	50,7@2750	44,5	6,8	97@2750	44,5	6,8	
N/A	3M41Z	50,3@2700	44,5	6,7	98@2700	44,5	6,7	
N/A	3M41Z	50,0@2650	44,5	6,6	99@2650	44,5	6,6	
N/A	3M41Z	49,9@2600	45,0	6,5	100@2600	45,0	6,5	
N/A	3M41Z	51,2@2300	51,0	6,5	117@2300	51,0	6,5	
N/A	3M41Z	50,0@2250	51,0	6,4	117@2250	51,0	6,4	



11/29/04

LARGE ENGINE MODEL SUMMARY

NEW
Process Code: **Running Change**

Manufacturer: **Motorenfabrik Hatz**

EPA Engine Family: **5HZXL3.43C42**

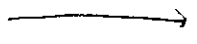
L/M41

Manufacturer Family Name:

1. Engine Code	2. Engine Model	3. BHP@RPM (SAE Gross)	4. Fuel Rate: mm ³ /stroke @ peak HP (for diesel only)	5. Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mm ³ /stroke @ peak torque	8. Fuel Rate: (lbs/hr) @ peak torque	9. Emission Control Device Per SAE J1930
N/A	4M41	71,2@3000	44,0	7,4	125@3000	44,0	7,4	DPF
N/A	4M41	70,8@2950	44,0	7,2	126@2950	44,0	7,2	
N/A	4M41	70,4@2900	44,0	7,1	127@2900	44,0	7,1	
N/A	4M41	69,8@2850	44,0	7,0	129@2850	44,0	7,0	
N/A	4M41	69,4@2800	44,0	6,9	130@2800	44,0	6,9	
N/A	4M41	69,0@2750	44,5	6,8	132@2750	44,5	6,8	
N/A	4M41	68,6@2700	44,5	6,7	134@2700	44,5	6,7	
N/A	4M41	68,2@2650	44,5	6,6	135@2650	44,5	6,6	
N/A	4M41	67,8@2600	45,0	6,5	137@2600	45,0	6,5	
N/A	4M41	67,0@2550	45,0	6,4	138@2550	45,0	6,4	
N/A	4M41	66,1@2500	46,0	6,4	139@2500	46,0	6,4	
N/A	4M41	65,3@2450	46,0	6,3	140@2450	46,0	6,3	
N/A	4M41	64,5@2400	46,0	6,2	141@2400	46,0	6,2	
N/A	4M41	63,1@2350	46,0	6,0	141@2350	46,0	6,0	
N/A	4M41	69,7@2300	51,0	6,5	159@2300	51,0	6,5	
N/A	4M41	68,3@2250	51,0	6,4	160@2250	51,0	6,4	
N/A	4M41	67,0@2200	51,0	6,3	160@2200	51,0	6,3	
N/A	4M41	65,7@2150	51,0	6,1	160@2150	51,0	6,1	
N/A	4M41	64,3@2100	51,0	6,0	161@2100	51,0	6,0	
N/A	4M41	63,0@2050	51,0	5,8	161@2050	51,0	5,8	
N/A	4M41	61,6@2000	51,0	5,7	162@2000	51,0	5,7	
N/A	4M41	60,0@1950	49,0	5,3	162@1950	49,0	5,3	
N/A	4M41	58,6@1900	48,0	5,2	162@1900	49,0	5,2	
N/A	4M41	57,0@1850	48,0	5,1	162@1850	49,0	5,1	
N/A	4M41	55,3@1800	49,0	4,9	162@1800	49,0	4,9	
N/A	4M41	64,1@3000	40,0	6,7	112@3000	40,0	6,7	
N/A	4M41	63,7@2950	40,0	6,6	113@2950	40,0	6,6	
N/A	4M41	63,2@2900	40,0	6,5	115@2900	40,0	6,5	
N/A	4M41	62,8@2850	40,0	6,4	116@2850	40,0	6,4	
N/A	4M41	62,4@2800	40,0	6,2	117@2800	40,0	6,2	
N/A	4M41	62,2@2750	40,5	6,2	119@2750	40,5	6,2	
N/A	4M41	61,8@2700	40,5	6,1	120@2700	40,5	6,1	
N/A	4M41	61,4@2650	40,5	6,0	122@2650	40,5	6,0	

DDI

N/A	4M41	61,0@2600	40,5	5,9	123@2600	40,5	5,9
N/A	4M41	60,3@2550	40,5	5,8	124@2550	40,5	5,8
N/A	4M41	59,5@2500	41,0	5,7	125@2500	41,0	5,7
N/A	4M41	58,7@2450	41,0	5,6	126@2450	41,0	5,6
N/A	4M41	57,9@2400	41,0	5,5	127@2400	41,0	5,5
N/A	4M41	56,8@2350	41,0	5,4	127@2350	41,0	5,4
N/A	4M41	62,7@2300	47,0	6,0	143@2300	47,0	6,0



Attachment 5 of 8
 U-R-034-0066
 11/24/0.

LARGE ENGINE MODEL SUMMARY

Process Code: **NEW Running Change**

Manufacturer: **Motorenfabrik Hatz**

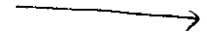
EPA Engine Family: **5HZXL3.43C42**

Manufacturer Family Name: **L/M41**

1. Engine Code	2. Engine Model	3. BHP@RPM (SAE Gross)	4. Fuel Rate: mm ³ /stroke @ peak HP (for diesel only)	5. Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mm ³ /stroke@peak torque	8. Fuel Rate: (lbs/hr)@peak torque	9. Emission Control Device Per SAE J1930
N/A	4M41Z	69,1@3000	44,0	7,4	121@3000	44,0	7,4	DBI
N/A	4M41Z	68,7@2950	44,0	7,2	122@2950	44,0	7,2	
N/A	4M41Z	68,3@2900	44,0	7,1	124@2900	44,0	7,1	
N/A	4M41Z	67,8@2850	44,0	7,0	125@2850	44,0	7,0	
N/A	4M41Z	67,4@2800	44,0	6,9	127@2800	44,0	6,9	
N/A	4M41Z	67,0@2750	44,5	6,8	128@2750	44,5	6,8	
N/A	4M41Z	66,6@2700	44,5	6,7	130@2700	44,5	6,7	
N/A	4M41Z	66,2@2650	44,5	6,6	131@2650	44,5	6,6	
N/A	4M41Z	65,8@2600	45,0	6,5	133@2600	45,0	6,5	
N/A	4M41Z	65,0@2550	45,0	6,4	134@2550	45,0	6,4	
N/A	4M41Z	64,7@2500	46,0	6,4	136@2500	46,0	6,4	
N/A	4M41Z	63,9@2450	46,0	6,3	137@2450	46,0	6,3	
N/A	4M41Z	63,1@2400	46,0	6,2	138@2400	46,0	6,2	
N/A	4M41Z	61,8@2350	46,0	6,0	138@2350	46,0	6,0	
N/A	4M41Z	68,3@2300	47,0	6,0	156@2300	47,0	6,0	
N/A	4M41Z	67,0@2250	51,0	6,4	156@2250	51,0	6,4	
N/A	4M41Z	65,7@2200	51,0	6,3	157@2200	51,0	6,3	
N/A	4M41Z	64,3@2150	51,0	6,1	157@2150	51,0	6,1	
N/A	4M41Z	63,0@2100	51,0	6,0	158@2100	51,0	6,0	
N/A	4M41Z	61,6@2050	51,0	5,8	158@2050	51,0	5,8	
N/A	4M41Z	60,3@2000	51,0	5,7	158@2000	51,0	5,7	
N/A	4M41Z	58,7@1950	49,0	5,3	158@1950	49,0	5,3	
N/A	4M41Z	57,2@1900	49,0	5,2	158@1900	49,0	5,2	
N/A	4M41Z	55,6@1850	49,0	5,1	158@1850	49,0	5,1	
N/A	4M41Z	54,0@1800	49,0	4,9	158@1800	49,0	4,9	
N/A	4M41Z	62,0@3000	40,0	6,7	109@3000	40,0	6,7	
N/A	4M41Z	61,6@2950	40,0	6,6	110@2950	40,0	6,6	
N/A	4M41Z	61,2@2900	40,0	6,5	111@2900	40,0	6,5	
N/A	4M41Z	60,8@2850	40,0	6,4	112@2850	40,0	6,4	
N/A	4M41Z	60,4@2800	40,0	6,2	113@2800	40,0	6,2	
N/A	4M41Z	60,2@2750	40,5	6,2	115@2750	40,5	6,2	
N/A	4M41Z	59,8@2700	40,5	6,1	116@2700	40,5	6,1	
N/A	4M41Z	59,4@2650	40,5	6,0	118@2650	40,5	6,0	

U-12-034-0066

DDI



N/A	4M41Z	59,0@2600	5,9	119@2600	40,5	5,9
N/A	4M41Z	58,3@2550	5,8	120@2550	40,5	5,8
N/A	4M41Z	58,2@2500	5,7	122@2500	41,0	5,7
N/A	4M41Z	57,4@2450	5,6	123@2450	41,0	5,6
N/A	4M41Z	56,5@2400	5,5	124@2400	41,0	5,5
N/A	4M41Z	55,5@2350	5,4	124@2350	41,0	5,4
N/A	4M41Z	61,4@2300	6,0	140@2300	47,0	6,0

12/1/00

LARGE ENGINE MODEL SUMMARY

Process Code: **Running Change**

NEW

Manufacturer: **Motorenfabrik Hatz**

EPA Engine Family: **5HZXL3.43C42**

L/M41

Manufacturer Family Name:

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
N/A	4L41C	65,4@3000	42,5	7,1	115@3000	42,5	7,1	D D I
N/A	4L41C	64,9@2950	42,5	7,0	116@2950	42,5	7,0	
N/A	4L41C	64,5@2900	42,5	6,9	117@2900	42,5	6,9	
N/A	4L41C	63,9@2850	42,5	6,8	118@2850	42,5	6,8	
N/A	4L41C	63,5@2800	42,5	6,6	119@2800	42,5	6,6	
N/A	4L41C	63,0@2750	43,0	6,6	120@2750	43,0	6,6	
N/A	4L41C	62,4@2700	43,0	6,5	122@2700	43,0	6,5	
N/A	4L41C	62,0@2650	43,0	6,4	123@2650	43,0	6,4	
N/A	4L41C	61,5@2600	43,5	6,3	124@2600	43,5	6,3	
N/A	4L41C	60,7@2550	43,5	6,2	125@2550	43,5	6,2	
N/A	4L41C	59,9@2500	43,5	6,1	126@2500	43,5	6,1	
N/A	4L41C	59,1@2450	43,5	5,9	127@2450	43,5	5,9	
N/A	4L41C	58,3@2400	43,5	5,8	128@2400	43,5	5,8	
N/A	4L41C	57,1@2350	43,5	5,7	128@2350	43,5	5,7	
N/A	4L41C	63,0@2300	49,0	6,3	144@2300	49,0	6,3	
N/A	4L41C	61,6@2250	49,0	6,1	144@2250	49,0	6,1	
N/A	4L41C	60,3@2200	49,0	6,0	144@2200	49,0	6,0	
N/A	4L41C	59,0@2150	49,0	5,9	145@2150	49,0	5,9	
N/A	4L41C	57,6@2100	49,0	5,7	144@2100	49,0	5,7	
N/A	4L41C	56,3@2050	49,0	5,6	145@2050	49,0	5,6	
N/A	4L41C	54,9@2000	49,0	5,5	144@2000	49,0	5,5	
N/A	4L41C	53,6@1950	48,0	5,2	144@1950	48,0	5,2	
N/A	4L41C	52,3@1900	48,0	5,1	145@1900	48,0	5,1	
N/A	4L41C	50,9@1850	48,0	5,0	145@1850	48,0	5,0	
N/A	4L41C	49,6@1800	48,0	4,8	145@1800	48,0	4,8	
N/A	4L41C	58,8@3000	38,5	6,4	103@3000	38,5	6,4	
N/A	4L41C	58,4@2950	38,5	6,3	104@2950	38,5	6,3	
N/A	4L41C	58,0@2900	38,5	6,2	105@2900	38,5	6,2	
N/A	4L41C	57,5@2850	38,5	6,1	106@2850	38,5	6,1	
N/A	4L41C	57,1@2800	38,5	6,0	107@2800	38,5	6,0	
N/A	4L41C	56,7@2750	38,5	5,9	108@2750	38,5	5,9	
N/A	4L41C	56,3@2700	38,5	5,8	110@2700	38,5	5,8	
N/A	4L41C	55,7@2650	38,5	5,7	111@2650	38,5	5,7	

DDI

5,7
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44,0

55,3@2600
54,7@2550
53,9@2500
53,2@2450
52,5@2400
51,3@2350
56,7@2300

4L41C
4L41C
4L41C
4L41C
4L41C
4L41C
4L41C

N/A
N/A
N/A
N/A
N/A
N/A
N/A