

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-45-9;

**IT IS ORDERED AND RESOLVED:** That the following compression-ignition engine 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)
2001	1DZXL02.9012	2.19, 2.91	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger			Loader, Pump, Compressor, Other Industrial Equipment	
ENGINE MODELS (rated power in kilowatts, kw)	See Attachment (1 page)			

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 1	STD	N/A	9.2	N/A	N/A	N/A	20	15	50
		CERT	--	7.3	--	--	--	8	2	25

**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 18<sup>th</sup> day of June 2001.

  
 R. B. Summerfield, Chief  
 Mobile Source Operations Division

Engine type	Displacement	Engine code	Nominal Power ± 5%		Nominal speed ± 50 rpm	Mean effective pressure	Injection rate at nom. speed, ±4mm³				Torque at 1000 rpm		Mean effective pressure at 1000 rpm	Injection rate at 1000 rpm	Low idle (+ 400rpm, dep. on engine applic.)	High idle (+300 rpm, dep. on engine applic.)	Fuel injection pump	Fuel injection nozzle	Camshaft	Injection timing ( ±1°)	Speed governor	Speed governor, optionally	Turbocharger
			HP	kW			mm³/stroke	Nm	rpm	bar	mm³/stroke	Nm											
BF4M1011F	2914	C58/1	78	58.0	3000	8.0	52.0	245	1800	10.57	58.5				900	2920	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C61	82	61.0	2800	9.0	55.0	255	1800	11.00	60				900	2920	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C58.2	78	58.2	2800	8.6	53.0	245	1800	10.57	58.5				900	2920	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C58	78	58.0	2750	8.7	53.0	245	1800	10.57	59				900	2920	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C58.4	78	58.4	2650	9.1	54.5	249	1800	10.74	59				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C55.8	75	55.8	2650	8.7	52.0	240	1800	10.35	57				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C56.2	75	56.2	2500	9.3	54.0	244	1800	10.53	58.5				900	2600	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C53.5	72	53.5	2500	8.8	51.0	235	1800	10.14	55.5				900	2600	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C53.6	72	53.6	2350	9.4	53.5	239	1800	10.31	57				900	2600	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C52.7	71	52.7	2300	9.4	53.5	238	1800	10.27	56.5				900	2400	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C50.1	67	50.1	2300	9.0	51.5	230	1800	9.92	54				900	2400	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C48.5	67	48.5	2300	8.7	48.5	222	1800	9.92	51.5				900	2400	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C47	67	47.0	2000	9.7	53.0	232	1800	9.92	54.5				900	2400	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	C44.4	67	44.4	2000	9.1	50.5	220	1800	9.92	51				900	2400	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	D48	64	48.0	1800	11.0	50.5	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272325EY
BF4M1011F	2914	D45.6	61	45.6	1800	10.4	48.0	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		04272458EY
BF3M1011F	2185	C45.5	61	45.5	2800	8.9	54.5	182	1800	10.47	58				900	2920	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3M1011F	2185	C43.5	58	43.5	2800	8.5	52.5	174	1800	10.01	55				900	2920	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3M1011F	2185	C44.2	59	44.2	2700	9.0	54.0	179	1800	10.30	57				900	2920	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3M1011F	2185	C43.6	58	43.6	2650	9.0	53.5	179	1800	10.30	57				900	2920	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3M1011F	2185	C41.6	56	41.6	2650	8.6	51.5	172	1800	9.89	54				900	2920	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3M1011F	2185	C42	56	42.0	2500	9.2	53.0	179	1800	10.30	57				1300	2600	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3M1011F	2185	C40/1	54	40.0	2500	8.8	51.0	172	1800	9.89	54				1300	2600	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3M1011F	2185	C39.4	53	39.4	2300	9.4	52.5	177	1800	10.18	56				1300	2600	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3M1011F	2185	C37.4	50	37.4	2300	8.9	50.5	169	1800	9.72	53				1300	2600	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3L1011FL	2185	C42/1	56	42.0	2800	8.2	52.5	164	1800	9.43	53				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3L1011FL	2185	C40/2	54	40.0	2800	7.8	51.0	156	1800	8.97	50				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3L1011FL	2185	C38/1	51	38.0	2800	7.5	50.0	150	1800	8.63	49				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3L1011FL	2185	C40	54	40.0	2650	8.3	51.5	162	1800	9.32	53				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3L1011FL	2185	C38	51	38.0	2650	7.9	50.0	154	1800	8.86	50				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3L1011FL	2185	C39.5	53	39.5	2600	8.3	51.5	162	1800	9.32	53				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3L1011FL	2185	C39	52	39.0	2500	8.6	49.0	163	1800	9.38	53				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3L1011FL	2185	C37	50	37.0	2500	8.1	47.5	153	1800	8.80	50				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005
BF3L1011FL	2185	C37/1	50	37.0	2300	8.8	48.0	162	1800	9.32	53				900	2760	PFE1A80S3010	DLA144P527	04178277UB	5	04178095UA		S100S 005