

Full

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-13-18

Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

DEUTZ AG

Pursuant to the authority vested in the Air Resources Board by Sections 43000.5, 43013 and 43018 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 Deutz AG 1999 model-year engine, with rated power between 175 and 750 horsepower, and exhaust emission control systems are certified as described below for use in heavy-duty off-road equipment:

Typical Equipment Usage: Compressor, Genset and Other Industrial Equipment

Fuel Type: Diesel

<u>Engine Family</u>	<u>Liters (Cubic Inches)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
XDZXL07.1004	7.15/4.76 (438/292)	Turbocharger Charge Air Cooler Smoke Puff Limiter

Engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM) certification exhaust emission standards, in grams per brake horsepower-hour (g/bhp-hr), and the opacity of smoke emission standards, in percent (%), during acceleration (Accel), lugging (Lug), and peak (Peak) modes, for this engine family are (Title 13, California Code of Regulations, Section 2423):

<u>Exhaust Emissions (g/bhp-hr)</u>				<u>Smoke Opacity (%)</u>		
<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
1.0	8.5	6.9	0.4	20	15	50

The THC, CO, NOx and PM exhaust emission certification values, in g/bhp-hr, and the opacity of smoke emission certification values, in percent (%), for this engine family are:

<u>Exhaust Emissions (g/bhp-hr)</u>				<u>Smoke Opacity (%)</u>		
<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
0.3	0.7	4.4	0.1	10	4	15

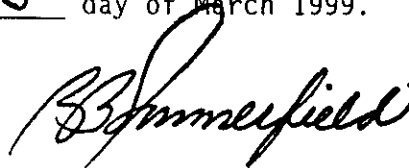
BE IT FURTHER RESOLVED: That the listed engine models comply with the "Exhaust Emission Standards and Test Procedures--Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with the "Emission Control Labels--1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Section 2425 et seq.).

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

Executed at El Monte, California this 3rd day of March 1999.



R. B. Summerfield, Chief
Mobile Source Operations Division

List of emission related components

XDZXL07.1004

Engine type	Displacement	Engine code	Nominal Power ± 5%	Nominal Power ± 5%	Nominal speed ± 50 rpm	Mean effective pressure	Injection rate at nom. speed, ±4mm³	Peak torque ± 5%	Speed at peak torque ± 100 rpm	Mean effective pressure at peak torque	Injection rate at peak torque ±4mm³	Low idle (+300 rpm, 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	Smoke limiter, part of speed governor, - 5mm³	Turbocharger
	cm³		HP	kW	rpm	bar	mm³/ stroke	Nm	rpm	bar	mm³/ stroke	rpm	rpm	part numb.	part numb.	part numb.	*bldc	draw. numb.		mm³/ stroke - rpm	part numb.
BF 6M 1013 ECP	7146	C186/1	249	186	2600	12.01	110	907	1500	15.95		700	2600	02111335KZ	02111700KZ	04251111KZ	8	02111252UA		95-800	S2B155L
BF 6M 1013 ECP	7146	C195	261	195	2500	13.10	118	907	1500	15.95		700	2600	02111335KZ	02111700KZ	04251111KZ	8	02111252UA		95-800	S2B155L
BF 6M 1013 ECP	7146	C176	236	176	2300	12.85	113	850	1400	14.95		700	2400	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		95-800	S2B155L
BF 6M 1013 ECP	7146	C170	228	170	2200	12.98	113	850	1400	14.95		700	2300	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		97-800	S2B147K
BF 6M 1013 ECP	7146	C162/2	217	162	2200	12.37	113	850	1400	14.95		700	2300	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		97-800	S2B147K
BF 6M 1013 ECP	7146	C165	221	165	2100	13.19	113	850	1400	14.95		700	2180	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		97-800	S2B147K
BF 6M 1013 ECP	7146	C166	222	166	2000	13.94	118	897	1400	15.78		700	2080	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		99-800	S2B147K
BF 6M 1013 ECP	7146	C158	212	158	2000	13.27	113	850	1400	14.95		700	2080	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		97-800	S2B147K
BF 6M 1013 CP	7146	C190	255	190	2500	12.76	118	899	1500	15.81		700	2600	02111335KZ	02111700KZ	04251111KZ	8	02111252UA		95-800	S2B155L
BF 6M 1013 CP	7146	C171	229	171	2300	12.48	113	843	1400	14.83		700	2400	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		95-800	S2B155L
BF 6M 1013 CP	7146	C161/2	216	161	2300	11.75	106	800	1400	14.07		700	2400	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		95-800	S2B155L
BF 6M 1013 CP	7146	C166/1	222	166	2200	12.67	113	843	1400	14.83		700	2300	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		97-800	S2B147K
BF 6M 1013 CP	7146	C161	216	161	2100	12.87	113	843	1400	14.83		700	2180	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		97-800	S2B147K
BF 6M 1013 CP	7146	C163	218	163	2000	13.69	118	890	1400	15.66		700	2080	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		97-800	S2B147K
BF 6M 1013 CP	7146	C160/1	214	160	2000	13.43	116	890	1400	15.66		700	2080	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		97-800	S2B147K
BF 6M 1013 CP	7146	C155	208	155	2000	13.01	113	843	1400	14.83		700	2080	02111335KZ	02111700KZ	04251110KZ	8	02111252UA		97-800	S2B147K
BF 6M 1013 CP	7146	C147	197	147	1800	13.71	116	843	1400	14.83		700	1880	02111335KZ	02111698KZ	04251110KZ	8	02111252UA		97-800	S2B148K
BF 6M 1013 EC	7146	C174	233	174	2300	12.70	112	854	1400	15.02		700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2B147K
BF 6M 1013 EC	7146	C165/1	221	165	2300	12.05	106	811	1400	14.27		700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2B147K
BF 6M 1013 EC	7146	C157	210	157	2300	11.46	101	769	1400	13.53		700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2B147K
BF 6M 1013 EC	7146	C169/1	226	169	2200	12.90	112	854	1400	15.02		700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2B147K
BF 6M 1013 EC	7146	C162/1	217	162	2200	12.37	112	811	1400	14.27		700	2300	02111335KZ	02111698KZ	04251110KZ	9	EMR		102-800	S2B147K
BF 6M 1013 EC	7146	C160	214	160	2200	12.21	106	811	1400	14.27		700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2B147K
BF 6M 1013 EC	7146	C152	204	152	2200	11.60	101	769	1400	13.53		700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2B147K
BF 6M 1013 EC	7146	C162	217	162	2100	12.95	111	854	1400	15.02		700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2B147K
BF 6M 1013 EC	7146	C154	206	154	2100	12.31	106	811	1400	14.27		700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2B147K
BF 6M 1013 EC	7146	C146	196	146	2100	11.67	100	769	1400	13.53		700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2B147K
BF 6M 1013 EC	7146	C150	201	150	2000	12.59	106	811	1400	14.27		700	2080	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2B147K
BF 6M 1013 EC	7146	C149	200	149	2000	12.51	106	811	1400	14.27		700	2080	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2B147K
BF 6M 1013 EC	7146	C142	190	142	2000	11.92	101	769	1400	13.53		700	2080	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2B147K

En. (U-R-13-18)

Attachment 2 of 5

List of emission related components

XDZXL07.1004

Engine type	Displacement	Engine code	Nominal Power ± 5%	Nominal Power ± 5%	Nominal speed ± 50 rpm	Mean effective pressure	Injection rate at nom. speed, ±4mm³	Peak torque ± 5%	Speed at peak torque ± 100 rpm	Mean effective pressure at peak torque	Injection rate at peak torque ±4mm³	Low idle (+300 rpm, 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	Smoke limiter, part of speed governor, - 5mm³	Turbocharger	
	cm³		HP	kW	rpm	bar	mm³/stroke	Nm	rpm	bar	mm³/stroke	rpm	rpm	part numb.	part numb.	part numb.	*btdc	draw. numb.		mm³/stroke - rpm	part numb.	
BF 4M 1013 EC	4764	C101	135	101	2100	12.11	105	520	1400	13.72												
BF 4M 1013 EC	4764	C101/5	135	101	2100	12.11	104	520	1400	13.72	115	700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2A153E	
BF 4M 1013 EC	4764	C103	138	103	2000	12.97	112	548	1400	14.46												
BF 4M 1013 EC	4764	C103/1	138	103	2000	12.97	112	548	1400	14.46	122	700	2080	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2A153E	
BF 4M 1013 EC	4764	C98	131	98	2000	12.34	106	520	1400	13.72												
BF 4M 1013 EC	4764	C98/1	131	98	2000	12.34	106	520	1400	13.72	115	700	2080	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2A153E	
BF 4M 1013 C	4764	C115/1	154	115	2500	11.59	108	573	1400	15.12												
BF 4M 1013 C	4764	C115/2	154	115	2300	12.59	115	573	1400	15.12												
BF 4M 1013 C	4764	C115/4	154	115	2300	12.59	114	573	1400	15.12	127	700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2A153E	
BF 4M 1013 C	4764	C112	150	112	2300	12.27	112	544	1400	14.35												
BF 4M 1013 C	4764	C112/1	150	112	2300	12.27	112	544	1400	14.35	122	700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2A153E	
BF 4M 1013 C	4764	C104/1	139	104	2300	11.39	104	516	1400	13.61												
BF 4M 1013 C	4764	C104/3	139	104	2300	11.39	103	516	1400	13.61	115	700	2400	02111335KZ	02111698KZ	04251113KZ	6	02111252UA		99-800	S2A153E	
BF 4M 1013 C	4764	C111/1	149	111	2200	12.71	115	573	1400	15.12												
BF 4M 1013 C	4764	C111/2	149	111	2200	12.71	115	573	1400	15.12	127	700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2A153E	
BF 4M 1013 C	4764	C108	145	108	2200	12.37	112	544	1400	14.35												
BF 4M 1013 C	4764	C108/2	145	108	2200	12.37	112	544	1400	14.35	122	700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2A153E	
BF 4M 1013 C	4764	C101/1	135	101	2200	11.56	105	516	1400	13.61												
BF 4M 1013 C	4764	C101/3	135	101	2200	11.56	105	516	1400	13.61	115	700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2A153E	
BF 4M 1013 C	4764	C108/1	145	108	2100	12.95	115	573	1400	15.12												
BF 4M 1013 C	4764	C108/3	145	108	2100	12.95	113	573	1400	15.12	127	700	2180	02111335KZ	02111698KZ	04251113KZ	6	02111252UA		97-800	S2A153E	
BF 4M 1013 C	4764	C104/2	139	104	2100	12.47	111	544	1400	14.35												
BF 4M 1013 C	4764	C104/4	139	104	2100	12.47	111	544	1400	14.35	122	700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2A153E	
BF 4M 1013 C	4764	C99	133	99	2100	11.87	105	516	1400	13.61												
BF 4M 1013 C	4764	C99/1	133	99	2100	11.87	104	516	1400	13.61	115	700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2A153E	
BF 4M 1013 C	4764	C101/2	135	101	2000	12.72	112	544	1400	14.35												
BF 4M 1013 C	4764	C101/4	135	101	2000	12.72	112	544	1400	14.35	122	700	2080	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2A153E	
BF 4M 1013 C	4764	C96	129	96	2000	12.09	106	516	1400	13.61												
BF 4M 1013 C	4764	C96/1	129	96	2000	12.09	106	516	1400	13.61	115	700	2080	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2A153E	
BF 6M 1013 ECP	7146	D195	261	195	2400	13.64	121	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111542KZ	04251110KZ	6	02111252UA		97-800	S2A153E	
BF 6M 1013 ECP	7146	D190	255	190	2400	13.29	118	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111542KZ	04251110KZ	8	02111252UA		n.a.	S2B155L	

(0-R-13-18)

List of emission related components

XDZXL07.1004

Engine type	Displacement	Engine code	Nominal Power ± 5%	Nominal Power ± 5%	Nominal speed ± 50 rpm	Mean effective pressure	Injection rate at nom. speed, ±4mm³	Peak torque ± 5%	Speed at peak torque ± 100 rpm	Mean effective pressure at peak torque	Injection rate at peak torque ±4mm³	Low idle (+300 rpm, 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	Smoke limiter, part of speed governor, - 5mm³	Turbocharger
	cm³		HP	kW	rpm	bar	mm³/ stroke	Nm	rpm	bar	mm³/ stroke	rpm	rpm	part numb.	part numb.	part numb.	°bt/dc	draw numb.		mm³/ stroke - rpm	part numb.
BF 6M 1013 C	7146	C170/1	228	170	2300	12.41	112	847	1400	14.90		700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2B147K
BF 6M 1013 C	7146	C161/1	216	161	2300	11.75	106	804	1400	14.14		700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2B147K
BF 6M 1013 C	7146	C153	205	153	2300	11.17	101	762	1400	13.40		700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2B147K
BF 6M 1013 C	7146	C144	205	144	2300	10.51	95	720	1400	13.41		700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		95-800	S2B147K
BF 6M 1013 C	7146	C165/2	221	165	2200	12.59	112	847	1400	14.90		700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2B147K
BF 6M 1013 C	7146	C156	209	156	2200	11.91	106	804	1400	14.14		700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2B147K
BF 6M 1013 C	7146	C148	198	148	2200	11.30	101	762	1400	13.40		700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2B147K
BF 6M 1013 C	7146	C159	213	159	2100	12.71	111	847	1400	14.90		700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2B147K
BF 6M 1013 C	7146	C151	202	151	2100	12.07	106	804	1400	14.14		700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2B147K
BF 6M 1013 C	7146	C143	192	143	2100	11.43	100	762	1400	13.40		700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2B147K
BF 6M 1013 C	7146	C146/1	196	146	2000	12.26	106	804	1400	14.14		700	2080	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2B147K
BF 6M 1013 C	7146	C139	186	139	2000	11.67	101	762	1400	13.40		700	2080	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2B147K
BF 6M 1013 C	7146	C120	161	120	1500	13.43	101	762	1400	13.40		700	1600	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2B147K
BF 4M 1013 EC	4764	C118	158	118	2500	11.89	108	577	1400	15.22		700	2600	02111335KZ	02111698KZ	04251115KZ	9	02111252UA		102-800	S2A162E
BF 4M 1013 EC	4764	C115/3	154	115	2500	11.59	105	548	1400	14.46		700	2600	02111335KZ	02111698KZ	04251115KZ	9	02111252UA		102-800	S2A162E
BF 4M 1013 EC	4764	C118/1	158	118	2300	12.92	115	577	1400	15.22		700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2A153E
BF 4M 1013 EC	4764	C118/2	158	118	2300	12.92	114	577	1400	15.22	127	700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2A153E
BF 4M 1013 EC	4764	C115	154	115	2300	12.59	112	548	1400	14.46		700	2400	02111335KZ	02111698KZ	04251113KZ	6	02111252UA		99-800	S2A153E
BF 4M 1013 EC	4764	C115/5	154	115	2300	12.59	112	548	1400	14.46	122	700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2A153E
BF 4M 1013 EC	4764	C107	143	107	2300	11.72	104	520	1400	13.72		700	2400	02111335KZ	02111698KZ	04251113KZ	6	02111252UA		97-800	S2A153E
BF 4M 1013 EC	4764	C107/1	143	107	2300	11.72	103	520	1400	13.72	115	700	2400	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2A153E
BF 4M 1013 EC	4764	C114	153	114	2200	13.05	115	577	1400	15.22		700	2300	02111335KZ	02111698KZ	04251113KZ	6	02111252UA		102-800	S2A153E
BF 4M 1013 EC	4764	C114/1	153	114	2200	13.05	115	577	1400	15.22	127	700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2A153E
BF 4M 1013 EC	4764	C111	149	111	2200	12.71	112	548	1400	14.46		700	2300	02111335KZ	02111698KZ	04251113KZ	6	02111252UA		102-800	S2A153E
BF 4M 1013 EC	4764	C111/3	149	111	2200	12.71	112	548	1400	14.46	122	700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2A153E
BF 4M 1013 EC	4764	C104	139	104	2200	11.91	105	520	1400	13.72		700	2300	02111335KZ	02111698KZ	04251113KZ	6	02111252UA		97-800	S2A153E
BF 4M 1013 EC	4764	C104/5	139	104	2200	11.91	105	520	1400	13.72	115	700	2300	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		97-800	S2A153E
BF 4M 1013 EC	4764	C110	147	110	2100	13.19	115	577	1400	15.22		700	2180	02111335KZ	02111698KZ	04251113KZ	6	02111252UA		102-800	S2A153E
BF 4M 1013 EC	4764	C110/1	147	110	2100	13.19	113	577	1400	15.22	127	700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		102-800	S2A153E
BF 4M 1013 EC	4764	C106	142	106	2100	12.71	111	548	1400	14.46		700	2180	02111335KZ	02111698KZ	04251113KZ	6	02111252UA		99-800	S2A153E
BF 4M 1013 EC	4764	C106/1	142	106	2100	12.71	111	548	1400	14.46	122	700	2180	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		99-800	S2A153E

(U-R-13-18)

Attachment 4pfs

List of emission related components

XDZXL07.1004

Engine type	Displacement	Engine code	Nominal Power ± 5%		Nominal speed ± 50 rpm	Mean effective pressure	Injection rate at nom. speed, ±4mm³	Peak torque ± 5%	iSpeed at peak torque ± 100 rpm	Mean effective pressure at peak torque	Injection rate at peak torque ±4mm³	Low idle (+300 rpm, 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	Smoke limiter, part of speed governor, -5mm³	Turbocharger
	cm³		HP	kW	rpm	bar	mm³/stroke	Nm	rpm	bar	mm³/stroke	rpm	rpm	part numb.	part numb.	part numb.	°btdc	draw. numb.		mm³/stroke - rpm	part numb.
BF 6M 1013 ECP	7146	D173	232	173	2400	12.10	108	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111542KZ	04251110KZ	8	02111252UA		n.a.	S2B155L
BF 6M 1013 ECP	7146	D165	221	165	2000	13.85	118	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	8	02111252UA		n.a.	S2B147K
BF 6M 1013 ECP	7146	D158	212	158	1846	14.37	121	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	8	02111252UA		n.a.	S2B148K
BF 6M 1013 CP	7146	D190/1	255	190	2400	13.29	121	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111542KZ	04251110KZ	8	02111252UA		n.a.	S2B155L
BF 6M 1013 CP	7146	D185	248	185	2400	12.94	118	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111542KZ	04251110KZ	8	02111252UA		n.a.	S2B155L
BF 6M 1013 CP	7146	D167	224	167	2400	11.68	108	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111542KZ	04251110KZ	8	02111252UA		n.a.	S2B155L
BF 6M 1013 CP	7146	D162	217	162	2000	13.60	118	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	8	02111252UA		n.a.	S2B147K
BF 6M 1013 CP	7146	D156	209	156	1846	14.19	121	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	8	02111252UA		n.a.	S2B148K
BF 6M 1013 CP	7146	D160/2	214	160	1800	14.93	128	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	8	02111252UA		n.a.	S2B148K
BF 6M 1013 EC	7146	D170	228	170	2400	11.89	106	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111540KZ	04251110KZ	9	02111252UA		n.a.	S2B155L
BF 6M 1013 EC	7146	D155	208	155	2400	10.85	97	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111540KZ	04251110KZ	9	02111252UA		n.a.	S2B155L
BF 6M 1013 EC	7146	D163/1	218	163	2000	13.69	116	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2B147K
BF 6M 1013 EC	7146	D148	198	148	2000	12.43	106	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2B147K
BF 6M 1013 EC	7146	D156/1	209	156	1846	14.19	119	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	8	02111252UA		n.a.	S2B148K
BF 6M 1013 EC	7146	D142	190	142	1846	12.92	109	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	8	02111252UA		n.a.	S2B148K
BF 6M 1013 EC	7146	D163	218	163	1800	15.21	128	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	7	02111252UA		n.a.	S2B148K
BF 6M 1013 EC	7146	D155/1	208	155	1800	14.46	121	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	7	02111252UA		n.a.	S2B148K
BF 6M 1013 C	7146	D165/1	221	165	2400	11.54	106	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	7	02111252UA		n.a.	S2B148K
BF 6M 1013 C	7146	D150	201	150	2400	10.50	97	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111540KZ	04251110KZ	9	02111252UA		n.a.	S2B155L
BF 6M 1013 C	7146	D160/1	214	160	2000	13.43	116	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111540KZ	04251110KZ	9	02111252UA		n.a.	S2B155L
BF 6M 1013 C	7146	D146	196	146	2000	12.26	106	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2B147K
BF 6M 1013 C	7146	D154	206	154	1846	14.01	119	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	8	02111252UA		n.a.	S2B148K
BF 6M 1013 C	7146	D140	188	140	1846	12.74	109	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	8	02111252UA		n.a.	S2B148K
BF 6M 1013 C	7146	D160	214	160	1800	14.93	128	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	7	02111252UA		n.a.	S2B148K
BF 6M 1013 C	7146	D152	204	152	1800	14.18	121	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	7	02111252UA		n.a.	S2B148K
BF 6M 1013 C	7146	D130	174	130	1800	12.13	102	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	7	02111252UA		n.a.	S2B148K
BF 4M 1013 EC	4764	D113	151	113	2400	11.86	107	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A162E
BF 4M 1013 EC	4764	D103	138	103	2400	10.81	97	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A162E
BF 4M 1013 EC	4764	D108	145	108	2000	13.60	117	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A153E
BF 4M 1013 EC	4764	D98	131	98	2000	12.34	106	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A153E
BF 4M 1013 EC	4764	D104	139	104	1846	14.19	121	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A157C

(U-R-15-18)

Attachment

KofS

List of emission related components

XDZXL07.1004

Engine type	Displacement	Engine code	Nominal Power ± 5%		Nominal speed ± 50 rpm	Mean effective pressure	Injection rate at nom. speed, ±4mm³	Peak torque ± 5%	Speed at peak torque ± 100 rpm	Mean effective pressure at peak torque	Injection rate at peak torque ±4mm³	Low idle (+300 rpm, 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	Smoke limiter, part of speed governor, - 5mm³	Turbocharger
	cm³		HP	KW	rpm	bar	mm³/stroke	Nm	rpm	bar	mm³/stroke	rpm	rpm	part numb.	part numb.	part numb.	*bt/dc	draw. numb.		mm³/stroke - rpm	part numb.
BF 4M 1013 EC	4764	D95	127	95	1846	12.96	110	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A157C
BF 4M 1013 EC	4764	D105	141	105	1800	14.69	125	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	5	02111252UA		n.a.	S2A157C
BF 4M 1013 C	4764	D110/1	147	110	2400	11.54	107	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A162E
BF 4M 1013 C	4764	D100	134	100	2400	10.50	97	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A162E
BF 4M 1013 C	4764	D106	142	106	2000	13.35	117	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A153E
BF 4M 1013 C	4764	D96	129	96	2000	12.09	106	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A153E
BF 4M 1013 C	4764	D103/1	138	103	1846	14.05	121	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A157C
BF 4M 1013 C	4764	D93	125	93	1846	12.69	110	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	9	02111252UA		n.a.	S2A157C
BF 4M 1013 C	4764	D92	123	92	1800	12.87	125	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	02111335KZ	02111698KZ	04251110KZ	5	02111252UA		n.a.	S2A157C

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