

ATTACHMENT 1

ARB Approved Engine Families for the Cleaire Allmetal System

Table 1.

**Engine families with a minimum exhaust temperature criterion of either:
 over 300 Celsius for at least 80 percent of the time, or
 over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
1996	Case	TX9505R6DTRA	8.3	*	*	*
1996	Case	TX9505R6DTRB	8.3	*	*	*
1996	Case	TX9505R6DTRC	8.3	*	*	*
1996	Caterpillar	TCP7.2RZDBRB	7.2	*	*	*
1996	Caterpillar	TCP7.2RZDBRC	7.2	*	*	*
1996	Caterpillar	TCP14.RZDBRJ	14.6	*	*	*
1996	Cummins	TCE505R6DTRA	8.3	*	*	*
1996	Cummins	TCE505R6DTRB	8.3	*	*	*
1996	Cummins	TCE505R6DTRC	8.3	*	*	*
1996	Deere	TJD6.8R6DBRC	6.8	*	*	*
1996	Deere	TJD6.8R6DBRD	6.8	*	*	*
1996	Deere	TJD7.6R6DBRA	7.6	*	*	*
1996	Deere	TJD7.6R6DBRB	7.6	*	*	*
1996	Deere	TJD8.1R6DBRA	8.1	*	*	*
1996	Deere	TJD8.1R6DBRC	8.1	*	*	*
1996	Deere	TJD10.R6DBRA	10.1	*	*	*
1996	Deere	TJD10.R6DBRB	10.1	*	*	*
1996	Deutz	TDZ7.1R6DARA	7.1	*	*	*
1996	Deutz	TDZ16.RGDARA	15.8	*	*	*
1996	Deutz	TDZ16.RGDARB	15.8	*	*	*
1996	International	TNV466R6DASC	7.6	*	*	*
1996	Iveco	TVE7.7R6DARA	7.7	*	*	*
1996	Iveco	TVE9.5R6DASA	9.5	*	*	*
1996	Iveco	TVE14.R6DARA	13.8	*	*	*
1996	Komatsu	TKL11.RZDARA	11	*	*	*
1996	Komatsu	TKL11.RZDARB	11	*	*	*
1996	Komatsu	TKL11.RZDARC	11	*	*	*
1996	Komatsu	TKL15.RZDARB	15.2	*	*	*
1996	Komatsu	TKL15.RZDARC	15.2	*	*	*
1996	Komatsu Dresser	TKD505R6DTRA	8.3	*	*	*
1996	Komatsu Dresser	TKD505R6DTRC	8.3	*	*	*
1996	Mercedes-Benz	TMB15.R6DARA	14.6	11	*	*
1996	Mercedes-Benz	TMB22.R6DARA	14.6	11	*	*
1996	Mitsubishi Motors	TMT460D6DARA	7.5	*	*	*
1996	Mitsubishi Motors	TMT729E6DARC	11.9	*	*	*
1996	New Holland	TNH7.5R6DARA	7.5	*	*	*
1997	AB Volvo Penta	VVP6.7R6DASA	6.7	*	*	*
1997	AB Volvo Penta	VVP9.6R6DASA	9.6	*	*	*
1997	Case	VX9505R6DTRA	8.3	*	*	*
1997	Case	VX9505R6DTRB	8.3	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
1997	Case	VX9505R6DTRC	8.3	*	*	*
1997	Caterpillar	VCP7.0RZDARB	7.0	*	*	*
1997	Caterpillar	VCP7.2RZDARB	7.2	*	*	*
1997	Caterpillar	VCP7.2RZDARC	7.2	*	*	*
1997	Caterpillar	VCP10.RZDARD	10.5	*	*	*
1997	Caterpillar	VCP10.RZDARG	10.5	*	*	*
1997	Caterpillar	VCP18.RZDARN	18.0	*	*	*
1997	Cummins	VCE505R6DTRB	8.3	*	*	*
1997	Cummins	VCE505R6DTRC	8.3	*	*	*
1997	Daewoo	VDW11.R6DARA	11	*	*	*
1997	DaimlerChrysler	VMB15.R6DARA	14.6	11	*	*
1997	DaimlerChrysler	VMB22.R6DARA	14.6	11	*	*
1997	Deere	VJD6.8R6DBRA	6.8	*	*	*
1997	Deere	VJD6.8R6DBRB	6.8	*	*	*
1997	Deere	VJD6.8R6DBRC	6.8	*	*	*
1997	Deere	VJD6.8R6DBRD	6.8	*	*	*
1997	Deere	VJD7.6R6DBRA	7.6	*	*	*
1997	Deere	VJD7.6R6DBRB	7.6	*	*	*
1997	Deere	VJD8.1R6DBRA	8.1	*	*	*
1997	Deere	VJD8.1R6DBRB	8.1	*	*	*
1997	Deere	VJD8.1R6DBRC	8.1	*	*	*
1997	Deere	VJD10.R6DBRA	10.1	*	*	*
1997	Deere	VJD10.R6DBRB	10.1	*	*	*
1997	Deutz	VDZ7.1R6DARA	7.2	*	*	*
1997	Deutz	VDZ16.RGDARB	15.9	*	*	*
1997	Deutz	VDZ18.RGDARA	17.5	*	*	*
1997	Isuzu	VSZ9.8R6DARB	9.8	*	*	*
1997	Iveco	VVE7.7R6DARA	7.7	*	*	*
1997	Iveco	VVE9.5R6DASA	9.5	*	*	*
1997	Iveco	VVE14.R6DARA	13.8	*	*	*
1997	Komatsu	VKD505R6DTRA	8.3	*	*	*
1997	Komatsu	VKD505R6DTRC	8.3	*	*	*
1997	Mitsubishi Motors	VMT460R6DARA	7.5	*	*	*
1997	Mitsubishi Motors	VMT729R6DARC	11.9	*	*	*
1997	New Holland	VNH7.5R6DARA	7.5	*	*	*
1998	AB Volvo Penta	WVPXL06.7AAA	6.7	*	*	*
1998	AB Volvo Penta	WVPXL09.6AAA	9.6	*	*	*
1998	Case	WX9XL0505AAA	8.3	*	*	*
1998	Case	WX9XL0505ABA	8.3	*	*	*
1998	Case	WX9XL0505ABB	8.3	*	*	*
1998	Case	WX9XL0505ACA	8.3	*	*	*
1998	Caterpillar	WCPXL07.0MRB	7	*	*	*
1998	Caterpillar	WCPXL07.2MRB	7.2	*	*	*
1998	Caterpillar	WCPXL07.2MRC	7.2	*	*	*
1998	Caterpillar	WCPXL10.5MRD	10.5	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
1998	Caterpillar	WCPXL18.0HRN	18	*	*	*
1998	Cummins	WCEXL0505AAA	8.3	*	*	*
1998	Cummins	WCEXL0505ABA	8.3	*	*	*
1998	Cummins	WCEXL0505ABB	8.3	*	*	*
1998	Cummins	WCEXL0505ACA	8.3	*	*	*
1998	Daewoo	WDWXL11.1AHT	11	*	*	*
1998	Daimler-Benz	WMBXL14.6R6B	15.1	*	*	*
1998	Deere	WJDXL06.8012	6.8	*	*	*
1998	Deere	WJDXL06.8013	6.8	*	*	*
1998	Deere	WJDXL06.8014	6.8	*	*	*
1998	Deere	WJDXL06.8015	6.8	*	*	*
1998	Deere	WJDXL07.6010	7.6	*	*	*
1998	Deere	WJDXL07.6011	7.6	*	*	*
1998	Deere	WJDXL08.1007	8.1	*	*	*
1998	Deere	WJDXL08.1008	8.1	*	*	*
1998	Deere	WJDXL08.1009	8.1	*	*	*
1998	Deere	WJDXL10.1005	10.1	*	*	*
1998	Deere	WJDXL10.1006	10.1	*	*	*
1998	Detroit Diesel Corporation	WMUXL12.0G2V	12	*	*	*
1998	Deutz	WDZXL07.1003	7.1	*	*	*
1998	Deutz	WDZXL17.5015	17.5	*	*	*
1998	Isuzu	WSZXL09.8DTB	9.8	*	*	*
1998	Iveco	WVEXL07.7DAR	7.7	*	*	*
1998	Iveco	WVEXL09.5DAS	9.5	*	*	*
1998	Iveco	WVEXL13.8DAR	13.8	*	*	*
1998	Komatsu	WKLXL7.15CC1	7.2	*	*	*
1998	Komatsu	WKLXL11.0DA1	11	*	*	*
1998	Komatsu	WKLXL11.0DB1	11	*	*	*
1998	Komatsu	WKLXL11.0DC1	11	*	*	*
1998	Komatsu	WKLXL15.2ED1	15.2	*	*	*
1998	Komatsu Dresser	WKDXL0505AAA	8.3	*	*	*
1998	Komatsu Dresser	WKDXL0505ABB	8.3	*	*	*
1998	Mercedes-Benz	WMBXL14.6R6A	14.6	11	*	*
1998	Mercedes-Benz	WMBXL21.9R6A	15	11	*	*
1998	Mitsubishi Motors	WMTXL07.5D6A	7.5	*	*	*
1998	New Holland	WNHXL07.5A3V	7.5	*	*	*
1999	AB Volvo Penta	XVPXL06.7AAA	6.7	*	*	*
1999	AB Volvo Penta	XVPXL09.6AAA	9.6	*	*	*
1999	Case	XX9XL0505AAA	8.3	*	*	*
1999	Case	XX9XL0505ABA	8.3	*	*	*
1999	Case	XX9XL0505ABB	8.3	*	*	*
1999	Case	XX9XL0505ACA	8.3	*	*	*
1999	Caterpillar	XCPXL07.0MRB	7	*	*	*
1999	Caterpillar	XCPXL07.2MRB	7.2	*	*	*
1999	Caterpillar	XCPXL07.2MRC	7.2	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
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Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
1999	Caterpillar	XCPXL10.5MRG	10.5	*	*	*
1999	Caterpillar	XCPXL18.0HRN	18	*	*	*
1999	Cummins	XCEXL0505AAA	8.3	*	*	*
1999	Cummins	XCEXL0505ABA	8.3	*	*	*
1999	Cummins	XCEXL0505ABB	8.3	*	*	*
1999	Cummins	XCEXL0505ACA	8.3	*	*	*
1999	Daewoo	XDWXL14.6CVT	14.6	*	*	*
1999	DaimlerChrysler	XMBXL14.6R6A	14.6	11	*	*
1999	DaimlerChrysler	XMBXL14.6R6B	15.1	*	*	*
1999	DaimlerChrysler	XMBXL21.9R6A	15	11	*	*
1999	Deere	XJDXL06.8012	6.8	*	*	*
1999	Deere	XJDXL06.8013	6.8	*	*	*
1999	Deere	XJDXL06.8014	6.8	*	*	*
1999	Deere	XJDXL06.8015	6.8	*	*	*
1999	Deere	XJDXL08.1007	8.1	*	*	*
1999	Deere	XJDXL08.1008	8.1	*	*	*
1999	Deere	XJDXL08.1009	8.1	*	*	*
1999	Deere	XJDXL08.1019	8.1	*	*	*
1999	Deere	XJDXL08.1024	8.1	*	*	*
1999	Deere	XJDXL10.1006	10.1	*	*	*
1999	Deutz	XDZXL17.5001	17.5	*	*	*
1999	Hino	XHMXL08.8PTD	8.8	*	*	*
1999	Isuzu	XSZXL09.8DTB	9.8	*	*	*
1999	Iveco	XVEXL07.7DAR	7.7	*	*	*
1999	Iveco	XVEXL13.8DAR	13.8	*	*	*
1999	Komatsu	XKLXL7.15CC1	7.2	*	*	*
1999	Komatsu	XKLXL11.0DA1	11	*	*	*
1999	Komatsu	XKLXL11.0DB1	11	*	*	*
1999	Komatsu	XKLXL15.2ED1	15.2	*	*	*
1999	Komatsu Dresser	XKDXL0505AAA	8.3	*	*	*
1999	Komatsu Dresser	XKDXL0505ABB	8.3	*	*	*
1999	Komatsu Dresser	XKDXL0505ACA	8.3	*	*	*
1999	Mitsubishi Motors	XMTXL07.5D6A	7.5	*	*	*
1999	Mitsubishi Motors	XMTXL07.5D6C	7.5	*	*	*
1999	Mitsubishi Motors	XMTXL11.9D6A	11.9	*	*	*
1999	New Holland	XNHXL07.5A3V	7.5	*	*	*
1999	Volvo Construction Equipment	XVFXL06.7CE1	6.7	*	*	*
2000	AB Volvo Penta	YVPXL06.7AAA	6.7	*	*	*
2000	AB Volvo Penta	YVPXL09.6AAA	9.6	*	*	*
2000	Case	YX9XL0505ABA	8.3	*	*	*
2000	Case	YX9XL0505ABB	8.3	*	*	*
2000	Case	YX9XL0505ACA	8.3	*	*	*
2000	Caterpillar	YCPXL07.0MRB	7	*	*	*
2000	Caterpillar	YCPXL07.2MRB	7.2	*	*	*
2000	Caterpillar	YCPXL10.5MRD	10.5	*	*	*

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over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2000	Caterpillar	YCPXL18.0HRN	18	*	*	*
2000	Cummins	YCEXL0505AAA	8.3	*	*	*
2000	Cummins	YCEXL0505ABA	8.3	*	*	*
2000	Cummins	YCEXL0505ABB	8.3	*	*	*
2000	Cummins	YCEXL0505ACA	8.3	*	*	*
2000	DaimlerChrysler	YMBXL14.6R6A	14.6	11	*	*
2000	DaimlerChrysler	YMBXL14.6R6B	14.6	*	*	*
2000	DaimlerChrysler	YMBXL21.9R6A	15	11	*	*
2000	Deere	YJDXL06.8012	6.8	*	*	*
2000	Deere	YJDXL06.8013	6.8	*	*	*
2000	Deere	YJDXL06.8014	6.8	*	*	*
2000	Deere	YJDXL06.8015	6.8	*	*	*
2000	Deere	YJDXL08.1007	8.1	*	*	*
2000	Deere	YJDXL08.1009	8.1	*	*	*
2000	Deere	YJDXL08.1019	8.1	*	*	*
2000	Deere	YJDXL08.1024	8.1	*	*	*
2000	Deere	YJDXL10.1006	10.1	*	*	*
2000	Deutz	YDZXL07.1004	7.2	*	*	*
2000	Deutz	YDZXL17.5001	17.5	*	*	*
2000	Hino	YHMXL06.7HTD	6.7	*	*	*
2000	Hino	YHMXL08.8PTD	8.8	*	*	*
2000	Isuzu	YSZXL09.8ATB	9.8	*	*	*
2000	Iveco	YVEXL07.7DAR	7.7	*	*	*
2000	Iveco	YVEXL13.8DAR	13.8	*	*	*
2000	Komatsu	YKLXL7.15CC1	7.2	*	*	*
2000	Komatsu	YKLXL0505ABB	8.3	*	*	*
2000	Komatsu	YKLXL0505ACA	8.3	*	*	*
2000	Komatsu	YKLXL11.0DA1	11	*	*	*
2000	Komatsu	YKLXL11.0DB1	11	*	*	*
2000	Komatsu	YKLXL11.0DC1	11	*	*	*
2000	Komatsu	YKLXL15.2ED1	15.2	*	*	*
2000	Mitsubishi Motors	YMTXL07.5D6C	7.5	*	*	*
2000	Mitsubishi Motors	YMTXL11.9D6A	11.9	*	*	*
2000	New Holland	YNHXL07.5A3V	7.5	*	*	*
2000	Volvo Construction Equipment	YVSSL06.7CE1	6.7	*	*	*
2001	AB Volvo Penta	1VPXL06.7AAA	6.7	*	*	*
2001	AB Volvo Penta	1VPXL09.6AAA	9.6	*	*	*
2001	Case	1X9XL0505ABA	8.3	*	*	*
2001	Case	1X9XL0505ABB	8.3	*	*	*
2001	Case	1X9XL0505ACA	8.3	*	*	*
2001	Caterpillar	1CPXL07.0MRB	7.0	*	*	*
2001	Caterpillar	1CPXL10.5MRG	10.5	*	*	*
2001	Cummins	1CEXL0505ABA	8.3	*	*	*
2001	Cummins	1CEXL0505ABB	8.3	*	*	*
2001	Cummins	1CEXL0505ACA	8.3	*	*	*

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over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2001	Cummins	1CEXL0505ACB	8.3	*	*	*
2001	Cummins	1CEXL0505ACE	8.3	*	*	*
2001	Daewoo	1DWXL11.1BIA	11.1	*	*	*
2001	DaimlerChrysler	1MBXL14.6R6A	11.0	*	*	*
2001	DaimlerChrysler	1MBXL14.6R6B	14.6	*	*	*
2001	DaimlerChrysler	1MBXL21.9R6A	11.0	*	*	*
2001	Deere	1JDXL06.8012	6.8	*	*	*
2001	Deere	1JDXL06.8013	6.8	*	*	*
2001	Deere	1JDXL08.1009	8.1	*	*	*
2001	Deere	1JDXL08.1019	8.1	*	*	*
2001	Deere	1JDXL08.1024	8.1	*	*	*
2001	Iveco	1VEXL07.7DAR	7.7	*	*	*
2001	Komatsu	1KLXL7.15CC1	7.2	*	*	*
2001	Komatsu	1KLXL0505ABB	8.3	*	*	*
2001	Komatsu	1KLXL0505ACA	8.3	*	*	*
2001	Komatsu	1KLXL11.0DA1	11.0	*	*	*
2001	Komatsu	1KLXL11.0DB1	11.0	*	*	*
2001	Komatsu	1KLXL11.0DC1	11	*	*	*
2001	Mitsubishi Motors	1MTXL07.5D6C	7.5	*	*	*
2001	Mitsubishi Motors	1MTXL11.9D6A	11.9	*	*	*
2002	AB Volvo Penta	2VPXL06.7AAA	6.7	*	*	*
2002	AB Volvo Penta	2VPXL09.6AAA	9.6	*	*	*
2002	Case	2X9XL0505ABA	8.3	*	*	*
2002	Case	2X9XL0505ABB	8.3	*	*	*
2002	Case	2X9XL0505ACA	8.3	*	*	*
2002	Caterpillar	2CPXL07.0MRB	7	*	*	*
2002	Cummins	2CEXL0505ABA	8.3	*	*	*
2002	Cummins	2CEXL0505ABB	8.3	*	*	*
2002	Cummins	2CEXL0505ACA	8.3	*	*	*
2002	Daewoo	2DWXL11.1BIA	11.1	*	*	*
2002	Daewoo	2DWXL14.6CVT	14.6	*	*	*
2002	Deere	2JDXL06.8012	6.8	*	*	*
2002	Deere	2JDXL06.8013	6.8	*	*	*
2002	Deere	2JDXL08.1007	8.1	*	*	*
2002	Deere	2JDXL08.1009	8.1	*	*	*
2002	Deere	2JDXL08.1019	8.1	*	*	*
2002	Deere	2JDXL08.1024	8.1	*	*	*
2002	Deere	2JDXL08.1045	8.1	*	*	*
2002	Deutz	2DZXL35.0001	17.5	*	*	*
2002	Komatsu	2KLXL7.15CC1	7.2	*	*	*
2002	Komatsu	2KLXL0505ABB	8.3	*	*	*
2002	Komatsu	2KLXL0505ACA	8.3	*	*	*
2002	Komatsu	2KLXL11.0DA1	11	*	*	*
2002	Komatsu	2KLXL11.0DB1	11	*	*	*
2002	Komatsu	2KLXL11.0DC1	11	*	*	*

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Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2002	Mitsubishi Motors	2MTXL07.5D6C	7.5	*	*	*
2002	Mitsubishi Motors	2MTXL11.9D6A	11.9	*	*	*
2003	Caterpillar	3CPXL07.2HSK	7.2	*	*	*
2003	Caterpillar	3CPXL18.0HRX	18	*	*	*
2003	CNH Engine Corporation	3X9XL0505AAB	8.3	*	*	*
2003	CNH UK Limited	3NHXL06.7DTA	6.7	*	*	*
2003	CNH UK Limited	3NHXL07.5B2H	7.5	*	*	*
2003	Deere	3JDXL06.8041	6.8	*	*	*
2003	Deere	3JDXL06.8044	6.8	*	*	*
2003	Deere	3JDXL06.8053	6.8	*	*	*
2003	Deere	3JDXL08.1045	8.1	*	*	*
2003	Deere	3JDXL08.1058	8.1	*	*	*
2003	Deere	3JDXL08.1059	8.1	*	*	*
2003	Deutz	3DZXL35.0001	17.5	*	*	*
2003	Mitsubishi Fuso	3MFTL07.5D6E	7.5	*	*	*
2004	Caterpillar	4CPXL18.0HRX	18	*	*	*
2004	CNH Engine Corporation	4X9XL0505AAB	8.3	*	*	*
2004	CNH UK Limited	4NHXL07.5B2H	7.5	*	*	*
2004	Deere	4JDXL06.8039	6.8	*	*	*
2004	Deere	4JDXL06.8041	6.8	*	*	*
2004	Deere	4JDXL06.8044	6.8	*	*	*
2004	Deere	4JDXL06.8053	6.8	*	*	*
2004	Deere	4JDXL08.1045	8.1	*	*	*
2004	Deere	4JDXL08.1058	8.1	*	*	*
2004	Deere	4JDXL08.1059	8.1	*	*	*
2004	Deutz	4DZXL35.0001	17.5	*	*	*
2004	Mitsubishi Fuso	4MFTL07.5D6E	7.5	*	*	*
2005	CNH Engine Corporation	5X9XL0505AAB	8.3	*	*	*
2005	CNH UK Limited	5NHXL07.5B2H	7.5	*	*	*
2005	Deere	5JDXL06.8039	6.8	*	*	*
2005	Deere	5JDXL06.8041	6.8	*	*	*
2005	Deere	5JDXL06.8078	6.8	*	*	*
2005	Deere	5JDXL06.8044	6.8	*	*	*
2005	Deere	5JDXL06.8053	6.8	*	*	*
2005	Deere	5JDXL08.1045	8.1	*	*	*
2005	Deere	5JDXL08.1058	8.1	*	*	*
2005	Deere	5JDXL08.1059	8.1	*	*	*
2005	Deutz	5DZXL35.0001	17.5	*	*	*
2005	Mitsubishi Fuso	5MFTL07.5D6E	7.5	*	*	*
2006	CNH UK Limited	6NHXL07.5B2H	7.5	*	*	*
2006	Deere	6JDXL06.8039	6.8	*	*	*
2006	Deere	6JDXL06.8041	6.8	*	*	*
2006	Deere	6JDXL06.8078	6.8	*	*	*
2006	Deere	6JDXL06.8044	6.8	*	*	*
2006	Doosan Infracore	6DWXL08.1BDA	8.1	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2006	Mitsubishi Fuso	6MFTL07.5D6E	7.5	*	*	*
2007	CNH UK Limited	7NHXL06.7DTA	6.7	*	*	*
2007	CNH UK Limited	7NHXL06.7DAA	6.7	*	*	*
2007	Deere	7JDXL06.8039	6.8	*	*	*
2007	Deere	7JDXL06.8041	6.8	*	*	*
2007	Deere	7JDXL06.8105	6.8	*	*	*
2007	Deere	7JDXL06.8044	6.8	*	*	*
2007	Iveco	7VEXL06.7DTA	6.7	*	*	*
2007	Iveco	7VEXL06.7DAA	6.7	*	*	*
2008	Deere	8JDXL06.8041	6.8	*	*	*
2008	Deere	8JDXL06.8105	6.8	*	*	*
2009	Deere	9JDXL06.8105	6.8	*	*	*

Table 2.

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
1996	Caterpillar	TCP7.2RZDBRK	7.2	*	*	*
1996	Caterpillar	TCP10.RZDBRK	10.3	*	*	*
1996	Caterpillar	TCP10.RZDBRD	10.5	*	*	*
1996	Caterpillar	TCP10.RZDBRF	10.5	*	*	*
1996	Caterpillar	TCP12.RZDBRM	12	*	*	*
1996	Caterpillar	TCP14.RZDBRC	14.6	*	*	*
1996	Caterpillar	TCP14.RZDBRK	14.6	*	*	*
1996	Caterpillar	TCP18.RZDBRK	18	*	*	*
1996	Caterpillar	TCP18.RZDBRN	18	*	*	*
1996	Cummins	TCE505R6DTRD	8.3	*	*	*
1996	Cummins	TCE661RGDTRA	10.8	*	*	*
1996	Cummins	TCE855RGDTRA	14	*	*	*
1996	Cummins	TCE855RJDTRA	14	*	*	*
1996	Deere	TJD8.1R6DBRB	8.1	*	*	*
1996	Deere	TJD10.RJDBRA	10.5	*	*	*
1996	Deere	TJD10.RJDBRB	10.5	*	*	*
1996	Deere	TJD12.RJDBRA	12.5	*	*	*
1996	Detroit Diesel Corporation	TDD8.5TJDARE	8.5	*	*	*
1996	Detroit Diesel Corporation	TDD11.TJDARE	11.1	*	*	*
1996	Detroit Diesel Corporation	TDD12.TJDARE	12.7	*	*	*
1996	Deutz	TDZ7.1R6DARB	7.1	*	*	*
1996	Generac Corporation	TGN13.R6DARA	13.3	*	*	*
1996	International	TNV466R6DARA	7.6	*	*	*
1996	International	TNV466R6DARB	7.6	*	*	*
1996	International	TNV466R6DASD	7.6	*	*	*
1996	International	TNV530R6DARA	8.7	*	*	*
1996	International	TNV530R6DARB	8.7	*	*	*
1996	International	TNV530R6DASC	8.7	*	*	*
1996	International	TNV530R6DASD	8.7	*	*	*
1996	International	TNV530R8DASE	8.7	*	*	*
1996	Iveco	TVE9.5R6DARA	9.5	*	*	*
1996	Komatsu	TKL15.RZDARA	15.2	*	*	*
1996	Liebherr	TLH9.9R6DARA	9.9	*	*	*
1996	Liebherr	TLH9.9R6DASA	9.9	*	*	*
1996	Liebherr	TLH17.R6DARA	17.2	12.9	*	*
1996	Mercedes-Benz	TMB13.R6DARA	12.8	9.6	*	*
1996	Volvo Construction Equipment	TVS6.7R6DARA	6.7	*	*	*
1996	Volvo Construction Equipment	TVS9.6R6DARA	9.6	*	*	*
1996	Volvo Construction Equipment	TVS12.R6DARA	12	*	*	*
1996	Volvo Construction Equipment	TVS16.R6DARA	16.1	*	*	*
1997	AB Volvo Penta	VVP6.7R6DARA	6.7	*	*	*
1997	AB Volvo Penta	VVP12.R6DARA	12	*	*	*
1997	Caterpillar	VCP442DZDARK	7.1	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
1997	Caterpillar	VCP7.2RZDARK	7.2	*	*	*
1997	Caterpillar	VCP10.RZDARK	10.3	*	*	*
1997	Caterpillar	VCP12.RZDARM	12	*	*	*
1997	Caterpillar	VCP14.RZDARC	14.6	*	*	*
1997	Caterpillar	VCP14.RZDARK	14.6	*	*	*
1997	Caterpillar	VCP18.RZDARK	18	*	*	*
1997	Cummins	VCE505R6DTRD	8.3	*	*	*
1997	Cummins	VCE661RGDTRA	10.8	*	*	*
1997	Cummins	VCE855RGDTRA	14	*	*	*
1997	Cummins	VCE855RJDTRA	14	*	*	*
1997	Daewoo	VDW14.6R6ARA	14.6	*	*	*
1997	DaimlerChrysler	VMB13.R6DARA	12.8	9.6	*	*
1997	Deere	VJD10.RJDBRB	10.1	*	*	*
1997	Deere	VJD10.RJDBRA	10.5	*	*	*
1997	Deere	VJD12.RJDBRA	12.5	*	*	*
1997	Deere	VJD12.RJDBRB	12.5	*	*	*
1997	Detroit Diesel Corporation	VDD8.5TJDARE	8.5	*	*	*
1997	Detroit Diesel Corporation	VDD11.TJDARE	11.1	*	*	*
1997	Detroit Diesel Corporation	VDD12.TJDARE	12.7	*	*	*
1997	Deutz	VDZ7.1R6DARB	7.2	*	*	*
1997	Deutz	VDZ16.RGDARA	15.9	*	*	*
1997	Generac Corporation	VGN13.R6DARA	13	*	*	*
1997	International	VNV466R6DASC	7.6	*	*	*
1997	International	VNV466R6DASD	7.6	*	*	*
1997	International	VNV530R6DARA	8.7	7.6	*	*
1997	International	VNV530R6DARB	8.7	7.6	*	*
1997	International	VNV530R6DASC	8.7	*	*	*
1997	International	VNV530R6DASD	8.7	*	*	*
1997	International	VNV530R8DARA	8.7	*	*	*
1997	International	VNV530R8DASC	8.7	*	*	*
1997	International	VNV530R8DASE	8.7	*	*	*
1997	Iveco	VVE9.5R6DARA	9.5	*	*	*
1997	Liebherr	VLH9.9R6DARA	9.9	*	*	*
1997	Liebherr	VLH9.9R6DASA	9.9	*	*	*
1997	Liebherr	VLH17.R6DARA	17.2	12.9	*	*
1997	Volvo Construction Equipment	VVS6.7R6DARA	6.7	*	*	*
1997	Volvo Construction Equipment	VVS9.6R6DARA	9.6	*	*	*
1997	Volvo Construction Equipment	VVS12.R6DARA	12	*	*	*
1997	Volvo Construction Equipment	VVS16.R6DARA	16.1	*	*	*
1998	AB Volvo Penta	WVPXL06.7ABA	6.7	*	*	*
1998	AB Volvo Penta	WVPXL09.6ABA	9.6	*	*	*
1998	AB Volvo Penta	WVPXL09.6ACB	9.6	*	*	*
1998	AB Volvo Penta	WVPXL12.0ABA	12	*	*	*
1998	AB Volvo Penta	WVPXL12.0ACB	12	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
1998	Case	WX9XL0505ABC	8.3	*	*	*
1998	Caterpillar	WCPXL07.2HRK	7.2	*	*	*
1998	Caterpillar	WCPXL10.3ERK	10.3	*	*	*
1998	Caterpillar	WCPXL10.5MRG	10.5	*	*	*
1998	Caterpillar	WCPXL12.0ERM	12	*	*	*
1998	Caterpillar	WCPXL14.6ERK	14.6	*	*	*
1998	Caterpillar	WCPXL14.6MRC	14.6	*	*	*
1998	Caterpillar	WCPXL15.8ERK	15.8	*	*	*
1998	Caterpillar	WCPXL18.0HRK	18	*	*	*
1998	Cummins	WCEXL0505ABC	8.3	*	*	*
1998	Cummins	WCEXL0661AAA	10.8	*	*	*
1998	Cummins	WCEXL0855AAA	14	*	*	*
1998	Cummins	WCEXL0855AAB	14	*	*	*
1998	Daewoo	WDWXL11.1BHT	11.1	*	*	*
1998	Daewoo	WDWXL11.1BIA	11.1	*	*	*
1998	Daewoo	WDWXL14.6CVT	14.6	*	*	*
1998	Deere	WJDXL10.5003	10.5	*	*	*
1998	Deere	WJDXL10.5004	10.5	*	*	*
1998	Deere	WJDXL12.5001	12.5	*	*	*
1998	Deere	WJDXL12.5002	12.5	*	*	*
1998	Detroit Diesel Corporation	WDDXL08.5TJD	8.5	*	*	*
1998	Detroit Diesel Corporation	WDDXL11.1THD	11.1	*	*	*
1998	Detroit Diesel Corporation	WDDXL12.7TGD	12.7	*	*	*
1998	Detroit Diesel Corporation	WDDXL15.9TRE	15.9	*	*	*
1998	Deutz	WDZXL07.1004	7.1	*	*	*
1998	Deutz	WDZXL15.9002	11.9	15.9	*	*
1998	Deutz	WDZXL15.9001	15.9	15.9	*	*
1998	Generac Corporation	WGNXL13.3HTA	13.3	*	*	*
1998	International	WNVXL0466BNA	7.8	*	*	*
1998	International	WNVXL0530ANA	8.7	*	*	*
1998	International	WNVXL0530ANB	8.7	*	*	*
1998	International	WNVXL0530BNB	8.7	7.6	*	*
1998	International	WNVXL0530BNC	8.7	*	*	*
1998	International	WNVXL0530BND	8.7	*	*	*
1998	International	WNVXL0530BNA	8.8	7.8	*	*
1998	Iveco	WVEXL09.5DAR	9.5	*	*	*
1998	Komatsu	WKLXL7.15CB1	7.2	*	*	*
1998	Komatsu	WKLXL15.2EB1	15.2	*	*	*
1998	Komatsu	WKLXL15.2EC1	15.2	*	*	*
1998	Liebherr	WLHAL9.96ARA	9.9	*	*	*
1998	Liebherr	WLHAL9.96ASA	9.9	*	*	*
1998	Liebherr	WLHAL9.96ATA	9.9	*	*	*
1998	Liebherr	WLHAL17.2ARA	12.9	17.2	*	*
1998	Liebherr	WLHAL17.2ATA	17.2	12.9	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
1998	Mercedes-Benz	WMBXL12.9R6A	13	10	*	*
1998	Volvo Construction Equipment	WVSXL06.7CE1	6.7	*	*	*
1998	Volvo Construction Equipment	WVSXL09.6CE1	9.6	*	*	*
1998	Volvo Construction Equipment	WVSXL12.0CE1	12	*	*	*
1998	Volvo Construction Equipment	WVSXL16.0CE1	16.1	*	*	*
1999	AB Volvo Penta	XVPXL06.7ABA	6.7	*	*	*
1999	AB Volvo Penta	XVPXL07.3ABB	7.3	*	*	*
1999	AB Volvo Penta	XVPXL07.3ACB	7.3	*	*	*
1999	AB Volvo Penta	XVPXL09.6ABA	9.6	*	*	*
1999	AB Volvo Penta	XVPXL09.6ACB	9.6	*	*	*
1999	AB Volvo Penta	XVPXL12.0ABA	12	*	*	*
1999	AB Volvo Penta	XVPXL12.0ACB	12	*	*	*
1999	Case	XX9XL0505ABC	8.3	*	*	*
1999	Caterpillar	XCPXL07.2HRK	7.2	*	*	*
1999	Caterpillar	XCPXL10.3ERK	10.3	*	*	*
1999	Caterpillar	XCPXL10.5MRD	10.5	*	*	*
1999	Caterpillar	XCPXL10.5MRF	10.5	*	*	*
1999	Caterpillar	XCPXL12.0ERM	12	*	*	*
1999	Caterpillar	XCPXL14.6ERK	14.6	*	*	*
1999	Caterpillar	XCPXL14.6MRC	14.6	*	*	*
1999	Caterpillar	XCPXL15.8ERK	15.8	*	*	*
1999	Caterpillar	XCPXL18.0HRK	18	*	*	*
1999	Cummins	XCEXL0505ABC	8.3	*	*	*
1999	Cummins	XCEXL0661AAA	10.8	*	*	*
1999	Cummins	XCEXL0661AAB	10.8	*	*	*
1999	Cummins	XCEXL0855AAA	14	*	*	*
1999	Cummins	XCEXL0855AAB	14	*	*	*
1999	Daewoo	XDWXL11.1BHT	11.1	*	*	*
1999	Daewoo	XDWXL11.1BIA	11.1	*	*	*
1999	Daimler-Benz	XMBXL12.0RJA	11.9	*	*	*
1999	Daimler-Benz	XMBXL15.9RJA	15.9	*	*	*
1999	DaimlerChrysler	XMBXL12.9R6A	13	10	*	*
1999	Deere	XJDXL10.5003	10.5	*	*	*
1999	Deere	XJDXL10.5004	10.5	*	*	*
1999	Deere	XJDXL10.5022	10.5	*	*	*
1999	Deere	XJDXL12.5001	12.5	*	*	*
1999	Deere	XJDXL12.5002	12.5	*	*	*
1999	Deere	XJDXL12.5020	12.5	*	*	*
1999	Deere	XJDXL12.5021	12.5	*	*	*
1999	Detroit Diesel Corporation	XDDXL08.5TJD	8.5	*	*	*
1999	Detroit Diesel Corporation	XDDXL11.1THD	11.1	*	*	*
1999	Detroit Diesel Corporation	XDDXL12.7TGD	12.7	*	*	*
1999	Detroit Diesel Corporation	XDDXL15.9TRE	15.9	*	*	*
1999	Deutz	XDZXL07.1004	7.2	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
1999	Deutz	XDZXL07.1005	7.2	*	*	*
1999	Deutz	XDZXL15.9002	15.9	11.9	*	*
1999	Deutz	XDZXL15.9003	15.9	11.9	*	*
1999	Generac Corporation	XGNXL13.3HTA	13.3	*	*	*
1999	International	XNVXL0466ANA	7.6	*	*	*
1999	International	XNVXL0466BNA	7.6	*	*	*
1999	International	XNVXL0530ANA	8.7	*	*	*
1999	International	XNVXL0530ANB	8.7	*	*	*
1999	International	XNVXL0530ANC	8.7	*	*	*
1999	International	XNVXL0530AND	8.7	*	*	*
1999	International	XNVXL0530BNA	8.7	7.6	*	*
1999	International	XNVXL0530BNB	8.7	7.6	*	*
1999	International	XNVXL0530BNC	8.7	*	*	*
1999	International	XNVXL0530BND	8.7	*	*	*
1999	Iveco	XEVXL09.5DAR	9.5	*	*	*
1999	Komatsu	XKLXL7.15CB1	7.2	*	*	*
1999	Komatsu	XKLXL11.0DC1	11	*	*	*
1999	Komatsu	XKLXL15.2EB1	15.2	*	*	*
1999	Komatsu	XKLXL15.2EC1	15.2	*	*	*
1999	Liebherr	XLHAL9.96ARA	9.9	*	*	*
1999	Liebherr	XLHAL9.96ASA	9.9	*	*	*
1999	Liebherr	XLHAL9.96ATA	9.9	*	*	*
1999	Liebherr	XLHAL17.2ARA	17.2	12.9	*	*
1999	Liebherr	XLHAL17.2ATA	17.2	12.9	*	*
1999	Volvo Construction Equipment	XVSXL09.6CE1	9.6	*	*	*
1999	Volvo Construction Equipment	XVSXL12.0CE1	12.0	*	*	*
1999	Volvo Construction Equipment	XVSXL16.0CE1	16	*	*	*
2000	AB Volvo Penta	YVPXL06.7ABA	6.7	*	*	*
2000	AB Volvo Penta	YVPXL07.3ABB	7.3	*	*	*
2000	AB Volvo Penta	YVPXL07.3ACB	7.3	*	*	*
2000	AB Volvo Penta	YVPXL09.6ABA	9.6	*	*	*
2000	AB Volvo Penta	YVPXL09.6ACB	9.6	*	*	*
2000	AB Volvo Penta	YVPXL12.0ABA	12.0	*	*	*
2000	AB Volvo Penta	YVPXL12.0ACB	12.0	*	*	*
2000	Case	YX9XL0505ABC	8.3	*	*	*
2000	Caterpillar	YCPXL07.2HRK	7.2	*	*	*
2000	Caterpillar	YCPXL10.3ERK	10.3	*	*	*
2000	Caterpillar	YCPXL10.5MRG	10.5	*	*	*
2000	Caterpillar	YCPXL12.0ERM	12.0	*	*	*
2000	Caterpillar	YCPXL14.6ERK	14.6	*	*	*
2000	Caterpillar	YCPXL14.6MRC	14.6	*	*	*
2000	Caterpillar	YCPXL15.8ERK	15.8	*	*	*
2000	Caterpillar	YCPXL18.0HRK	18.0	*	*	*
2000	Cummins	YCEXL0505ABC	8.3	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2000	Cummins	YCEXL0661AAA	11	*	*	*
2000	Cummins	YCEXL0661AAB	11	*	*	*
2000	Cummins	YCEXL0855AAA	14	*	*	*
2000	Cummins	YCEXL0855AAB	14	*	*	*
2000	Cummins	YCEXL015.ACA	15	*	*	*
2000	DaimlerChrysler	YMBXL12.9R6A	10.0	13	*	*
2000	DaimlerChrysler	YMBXL12.0RJA	12.0	*	*	*
2000	DaimlerChrysler	YMBXL12.0RJB	12.0	*	*	*
2000	DaimlerChrysler	YMBXL15.9RJA	15.9	*	*	*
2000	Deere	YJDXL08.1008	8.1	*	*	*
2000	Deere	YJDXL10.5004	10.5	*	*	*
2000	Deere	YJDXL10.5022	10.5	*	*	*
2000	Deere	YJDXL12.5001	12.5	*	*	*
2000	Deere	YJDXL12.5002	12.5	*	*	*
2000	Deere	YJDXL12.5020	12.5	*	*	*
2000	Deere	YJDXL12.5021	12.5	*	*	*
2000	Detroit Diesel Corporation	YDDXL08.5TJD	8.5	*	*	*
2000	Detroit Diesel Corporation	YDDXL11.1THD	11.1	*	*	*
2000	Detroit Diesel Corporation	YDDXL12.7TGD	12.7	*	*	*
2000	Detroit Diesel Corporation	YDDXL14.0TLD	14	*	*	*
2000	Detroit Diesel Corporation	YDDXL15.9TRE	15.9	*	*	*
2000	Deutz	YDZXL07.1005	7.2	*	*	*
2000	Deutz	YDZXL15.9002	11.9	15.9	*	*
2000	Deutz	YDZXL15.9003	11.9	15.9	*	*
2000	Generac Corporation	YGNXL13.3HTA	13.3	*	*	*
2000	International	YNVXL0466ANA	7.6	*	*	*
2000	International	YNVXL0530ANA	8.7	*	*	*
2000	International	YNVXL0530ANB	8.7	*	*	*
2000	International	YNVXL0530ANC	8.7	*	*	*
2000	International	YNVXL0530AND	8.7	*	*	*
2000	Isuzu	YSZXL07.8EXA	7.8	*	*	*
2000	Iveco	YVEXL09.5DAR	9.5	*	*	*
2000	Komatsu	YKLXL7.15CD1	7.15	*	*	*
2000	Komatsu	YKLXL7.15CB1	7.2	*	*	*
2000	Komatsu	YKLXL15.2EB1	15.2	*	*	*
2000	Komatsu	YKLXL15.2EC1	15.2	*	*	*
2000	Liebherr	YLHAL9.96ARA	9.9	*	*	*
2000	Liebherr	YLHAL9.96ASA	9.9	*	*	*
2000	Liebherr	YLHAL9.96ATA	9.9	*	*	*
2000	Liebherr	YLHAL17.2ARA	12.9	17.2	*	*
2000	Liebherr	YLHAL17.2ATA	12.9	17.2	*	*
2000	Mitsubishi Motors	YMTXL07.5D6A	7.5	*	*	*
2000	Mitsubishi Motors	YMTXL11.9D2A	11.9	*	*	*
2000	Volvo Construction Equipment	YVSSL09.6CE1	9.6	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2000	Volvo Construction Equipment	YVXML12.0CE1	12	*	*	*
2000	Volvo Construction Equipment	YVXML16.0CE1	16.1	*	*	*
2001	AB Volvo Penta	1VPXL06.7ABA	6.7	*	*	*
2001	AB Volvo Penta	1VPXL07.3ABB	7.3	*	*	*
2001	AB Volvo Penta	1VPXL07.3ACB	7.3	*	*	*
2001	AB Volvo Penta	1VPXL09.6ABA	9.6	*	*	*
2001	AB Volvo Penta	1VPXL09.6ACB	9.6	*	*	*
2001	AB Volvo Penta	1VPXL12.1ACB	12.1	*	*	*
2001	Case	1X9XL0505ABC	8.3	*	*	*
2001	Case	1X9XL0505ACC	8.3	*	*	*
2001	Case	1X9XL0540AAA	8.8	*	*	*
2001	Caterpillar	1CPXL07.2HRK	7.2	*	*	*
2001	Caterpillar	1CPXL07.2HSK	7.2	*	*	*
2001	Caterpillar	1CPXL08.8HSK	8.8	*	*	*
2001	Caterpillar	1CPXL10.3ESK	10.3	*	*	*
2001	Caterpillar	1CPXL10.5MRD	10.5	*	*	*
2001	Caterpillar	1CPXL12.0ESK	12	*	*	*
2001	Caterpillar	1CPXL14.6ESK	14.6	*	*	*
2001	Caterpillar	1CPXL15.8ESK	15.8	*	*	*
2001	Caterpillar	1CPXL18.0HSK	18	*	*	*
2001	Cummins	1CEXL0505ABC	8.3	*	*	*
2001	Cummins	1CEXL0505ACC	8.3	*	*	*
2001	Cummins	1CEXL0540AAA	8.8	*	*	*
2001	Cummins	1CEXL0661AAA	10.8	*	*	*
2001	Cummins	1CEXL0661AAB	10.8	*	*	*
2001	Cummins	1CEXL0661AAD	10.9	*	*	*
2001	Cummins	1CEXL0661AAC	11	*	*	*
2001	Cummins	1CEXL015.AAA	15	*	*	*
2001	DaimlerChrysler	1MBXL7.20RJA	7.2	*	*	*
2001	DaimlerChrysler	1MBXL12.9R6A	10	*	*	*
2001	DaimlerChrysler	1MBXL12.0RJB	12	*	*	*
2001	DaimlerChrysler	1MBXL12.0RJC	12	*	*	*
2001	DaimlerChrysler	1MBXL15.9RJA	15.9	*	*	*
2001	Deere	1JDXL06.8038	6.8	*	*	*
2001	Deere	1JDXL06.8039	6.8	*	*	*
2001	Deere	1JDXL08.1007	8.1	*	*	*
2001	Deere	1JDXL08.1008	8.1	*	*	*
2001	Deere	1JDXL08.1036	8.1	*	*	*
2001	Deere	1JDXL08.1037	8.1	*	*	*
2001	Deere	1JDXL12.5002	12.5	*	*	*
2001	Deere	1JDXL12.5029	12.5	*	*	*
2001	Deere	1JDXL12.5035	12.5	*	*	*
2001	Detroit Diesel Corporation	1DDXL08.5TJD	8.5	*	*	*
2001	Detroit Diesel Corporation	1DDXL08.5YJD	8.5	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2001	Detroit Diesel Corporation	1DDXL12.7VGD	12.7	*	*	*
2001	Detroit Diesel Corporation	1DDXL14.0VLD	14	*	*	*
2001	Detroit Diesel Corporation	1DDXL14.0WLD	14	*	*	*
2001	Deutz	1DZXL07.1004	7.2	*	*	*
2001	Deutz	1DZXL07.1005	7.2	*	*	*
2001	Deutz	1DZXL15.9002	11.9	15.9	*	*
2001	Deutz	1DZXL15.9003	11.9	15.9	*	*
2001	International	1NVXL0466ANA	7.7	*	*	*
2001	International	1NVXL0530ANA	8.7	*	*	*
2001	International	1NVXL0530ANB	8.7	*	*	*
2001	International	1NVXL0530ANC	8.7	*	*	*
2001	International	1NVXL0530AND	8.7	*	*	*
2001	International	1NVXL0530ANE	8.7	*	*	*
2001	International	1NVXL0530ANF	8.7	*	*	*
2001	Isuzu	1SZXL07.8ATA	7.8	*	*	*
2001	Isuzu	1SZXL07.8EXA	7.8	*	*	*
2001	Isuzu	1SZXL09.8EXA	9.8	*	*	*
2001	Isuzu	1SZXL15.7ETA	15.7	*	*	*
2001	Isuzu	1SZXL15.7EXA	15.7	*	*	*
2001	Iveco	1VEXL07.8CRS	7.8	*	*	*
2001	Iveco	1VEXL09.5DAR	9.5	*	*	*
2001	Iveco	1VEXL10.3CRS	10.3	*	*	*
2001	Iveco	1VEXL12.9CRS	12.9	*	*	*
2001	Komatsu	1KLXL7.15CB1	7.2	*	*	*
2001	Komatsu	1KLXL7.15CD1	7.2	*	*	*
2001	Komatsu	1KLXL11.0DD3	11	*	*	*
2001	Komatsu	1KLXL11.0DD4	11	*	*	*
2001	Komatsu	1KLXL15.2EB1	15.2	*	*	*
2001	Komatsu	1KLXL15.2EC3	15.2	*	*	*
2001	Komatsu	1KLXL15.2ED3	15.2	*	*	*
2001	Liebherr	1LHAL9.96ARA	10	*	*	*
2001	Liebherr	1LHAL9.96ASA	10	*	*	*
2001	Liebherr	1LHAL9.96ATA	10	*	*	*
2001	Liebherr	1LHAL9.96AUA	10	*	*	*
2001	Liebherr	1LHAL17.2ARA	12.9	17.2	*	*
2001	Liebherr	1LHAL17.2ATA	12.9	17.2	*	*
2001	Liebherr	1LHAL17.2AUA	12.9	17.2	*	*
2001	Mitsubishi Motors	1MTXL07.5D6A	7.5	*	*	*
2001	Volvo Construction Equipment	1VSXL06.7CE1	6.7	*	*	*
2001	Volvo Construction Equipment	1VSXL09.6CE1	9.6	*	*	*
2001	Volvo Construction Equipment	1VSXL09.6CE2	9.6	*	*	*
2001	Volvo Construction Equipment	1VSXL12.0CE1	12	*	*	*
2001	Volvo Construction Equipment	1VSXL12.1CE2	12.1	*	*	*
2002	AB Volvo Penta	2VPXL06.7ABA	6.7	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2002	AB Volvo Penta	2VPXL07.3ABB	7.3	*	*	*
2002	AB Volvo Penta	2VPXL07.3ACB	7.3	*	*	*
2002	AB Volvo Penta	2VPXL09.6ABA	9.6	*	*	*
2002	AB Volvo Penta	2VPXL09.6ACB	9.6	*	*	*
2002	AB Volvo Penta	2VPXL12.1ABA	12.1	*	*	*
2002	AB Volvo Penta	2VPXL12.1ACA	12.1	*	*	*
2002	AB Volvo Penta	2VPXL12.1ACB	12.1	*	*	*
2002	Case	2X9XL0505ABC	8.3	*	*	*
2002	Case	2X9XL0505ABD	8.3	*	*	*
2002	Case	2X9XL0505ACC	8.3	*	*	*
2002	Case	2X9XL0540AAA	8.8	*	*	*
2002	Caterpillar	2CPXL07.2HRK	7.2	*	*	*
2002	Caterpillar	2CPXL07.2HSX	7.2	*	*	*
2002	Caterpillar	2CPXL08.8HSK	8.8	*	*	*
2002	Caterpillar	2CPXL08.8HSX	8.8	*	*	*
2002	Caterpillar	2CPXL10.3ESK	10.3	*	*	*
2002	Caterpillar	2CPXL10.3ESX	10.3	*	*	*
2002	Caterpillar	2CPXL10.5MRD	10.5	*	*	*
2002	Caterpillar	2CPXL12.0ESK	12	*	*	*
2002	Caterpillar	2CPXL14.6ESK	14.6	*	*	*
2002	Caterpillar	2CPXL15.8ESK	15.8	*	*	*
2002	Caterpillar	2CPXL18.0HSK	18	*	*	*
2002	Cummins	2CEXL0505ABC	8.3	*	*	*
2002	Cummins	2CEXL0505ABD	8.3	*	*	*
2002	Cummins	2CEXL0505ACB	8.3	*	*	*
2002	Cummins	2CEXL0505ACC	8.3	*	*	*
2002	Cummins	2CEXL0505ACE	8.3	*	*	*
2002	Cummins	2CEXL0540AAA	8.8	*	*	*
2002	Cummins	2CEXL0661AAD	10.3	*	*	*
2002	Cummins	2CEXL0661AAA	10.8	*	*	*
2002	Cummins	2CEXL0661AAB	10.8	*	*	*
2002	Cummins	2CEXL0661AAC	10.8	*	*	*
2002	Cummins	2CEXL015.AAA	15	*	*	*
2002	Cummins	2CEXL015.AAB	15	*	*	*
2002	DaimlerChrysler	2MBXL12.0RJB	12	*	*	*
2002	DaimlerChrysler	2MBXL12.0RJC	12	*	*	*
2002	DaimlerChrysler	2MBXL15.9RJA	15.9	*	*	*
2002	Deere	2JDXL06.8038	6.8	*	*	*
2002	Deere	2JDXL06.8039	6.8	*	*	*
2002	Deere	2JDXL06.8049	6.8	*	*	*
2002	Deere	2JDXL08.1008	8.1	*	*	*
2002	Deere	2JDXL08.1036	8.1	*	*	*
2002	Deere	2JDXL08.1037	8.1	*	*	*
2002	Deere	2JDXL12.5029	12.5	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2002	Deere	2JDXL12.5035	12.5	*	*	*
2002	Detroit Diesel Corporation	2DDXL08.5YJD	8.5	*	*	*
2002	Detroit Diesel Corporation	2DDXL12.7VGD	12.7	*	*	*
2002	Detroit Diesel Corporation	2DDXL14.0VLD	14	*	*	*
2002	Deutz	2DZXL07.1004	7.1	*	*	*
2002	Deutz	2DZXL07.1005	7.1	*	*	*
2002	Deutz	2DZXL07.1032	7.1	*	*	*
2002	Deutz	2DZXL15.9002	11.9	15.9	*	*
2002	Deutz	2DZXL15.9003	11.9	15.9	*	*
2002	International	2NVXL0444ANA	7.3	*	*	*
2002	International	2NVXL0466ANA	7.6	*	*	*
2002	International	2NVXL0530ANA	8.7	*	*	*
2002	International	2NVXL0530ANB	8.7	*	*	*
2002	International	2NVXL0530ANC	8.7	*	*	*
2002	International	2NVXL0530AND	8.7	*	*	*
2002	International	2NVXL0530ANE	8.7	*	*	*
2002	International	2NVXL0530ANF	8.7	*	*	*
2002	Isuzu	2SZXL07.8ATA	7.8	*	*	*
2002	Isuzu	2SZXL07.8EXA	7.8	*	*	*
2002	Isuzu	2SZXL09.8EXA	9.8	*	*	*
2002	Isuzu	2SZXL15.7ETA	15.7	*	*	*
2002	Isuzu	2SZXL15.7EXA	15.7	*	*	*
2002	Iveco	2VEXL07.7DAR	7.7	*	*	*
2002	Iveco	2VEXL07.8CRS	7.8	*	*	*
2002	Iveco	2VEXL10.3CRS	10.3	*	*	*
2002	Iveco	2VEXL12.9CRS	12.9	*	*	*
2002	Komatsu	2KLXL7.15CB1	7.2	*	*	*
2002	Komatsu	2KLXL7.15CD1	7.2	*	*	*
2002	Komatsu	2KLXL0505ABD	8.3	*	*	*
2002	Komatsu	2KLXL11.0DC3	11	*	*	*
2002	Komatsu	2KLXL11.0DD3	11	*	*	*
2002	Komatsu	2KLXL11.0DD4	11	*	*	*
2002	Komatsu	2KLXL11.0DD5	11	*	*	*
2002	Komatsu	2KLXL11.0DD6	11	*	*	*
2002	Komatsu	2KLXL15.2EB1	15.2	*	*	*
2002	Komatsu	2KLXL15.2EC3	15.2	*	*	*
2002	Komatsu	2KLXL15.2ED3	15.2	*	*	*
2002	Komatsu	2KLXL15.2EE3	15.2	*	*	*
2002	Liebherr	2LHAL9.96ARA	10	*	*	*
2002	Liebherr	2LHAL9.96ASA	10	*	*	*
2002	Liebherr	2LHAL9.96ATA	10	*	*	*
2002	Liebherr	2LHAL9.96AUA	10	*	*	*
2002	Liebherr	2LHAL17.2ARA	12.9	17.2	*	*
2002	Liebherr	2LHAL17.2ATA	12.9	17.2	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2002	Liebherr	2LHAL17.2AUA	12.9	17.2	*	*
2002	Mitsubishi Motors	2MTXL07.5D6A	7.5	*	*	*
2002	Mitsubishi Motors	2MTXL07.5D6D	7.5	*	*	*
2002	Mitsubishi Motors	2MTXL11.9D2C	11.9	*	*	*
2002	New Holland	2NHXL07.5A3A	7.5	*	*	*
2002	New Holland	2NHXL07.5A3F	7.5	*	*	*
2002	Volvo Construction Equipment	2VSXL06.7CE1	6.7	*	*	*
2002	Volvo Construction Equipment	2VSXL09.6CE2	9.6	*	*	*
2002	Volvo Construction Equipment	2VSXL12.1CE2	12.1	*	*	*
2002	Volvo Construction Equipment	2VSXL16.0CE2	16	*	*	*
2003	AB Volvo Penta	3VPXL07.3ACB	7.3	*	*	*
2003	AB Volvo Penta	3VPXL09.6ACB	9.6	*	*	*
2003	AB Volvo Penta	3VPXL12.1ABA	12.1	*	*	*
2003	AB Volvo Penta	3VPXL12.1ACA	12.1	*	*	*
2003	AB Volvo Penta	3VPXL12.1ACB	12.1	*	*	*
2003	Caterpillar	3CPXL07.2HSL	7.2	*	*	*
2003	Caterpillar	3CPXL08.8HSK	8.8	*	*	*
2003	Caterpillar	3CPXL08.8HSL	8.8	*	*	*
2003	Caterpillar	3CPXL10.3ESK	10.3	*	*	*
2003	Caterpillar	3CPXL10.5MRW	10.5	*	*	*
2003	Caterpillar	3CPXL12.0ESK	12	*	*	*
2003	Caterpillar	3CPXL14.6ESK	14.6	*	*	*
2003	Caterpillar	3CPXL15.8ESK	15.8	*	*	*
2003	Caterpillar	3CPXL18.0HSK	18	*	*	*
2003	CNH Engine Corporation	3X9XL0505ABC	8.3	*	*	*
2003	CNH Engine Corporation	3X9XL0505ABD	8.3	*	*	*
2003	CNH Engine Corporation	3X9XL0505ACC	8.3	*	*	*
2003	CNH Engine Corporation	3X9XL0540AAA	8.8	*	*	*
2003	CNH UK Limited	3NHXL06.7DCR	6.7	*	*	*
2003	CNH UK Limited	3NHXL07.5B3A	7.5	*	*	*
2003	CNH UK Limited	3NHXL07.5B3C	7.5	*	*	*
2003	CNH UK Limited	3NHXL07.5B3F	7.5	*	*	*
2003	Cummins	3CEXL0409AAA	6.7	*	*	*
2003	Cummins	3CEXL0505ABC	8.3	*	*	*
2003	Cummins	3CEXL0505ABD	8.3	*	*	*
2003	Cummins	3CEXL0505ACB	8.3	*	*	*
2003	Cummins	3CEXL0505ACC	8.3	*	*	*
2003	Cummins	3CEXL0540AAA	8.8	*	*	*
2003	Cummins	3CEXL0661AAC	10.8	*	*	*
2003	Cummins	3CEXL0661AAD	10.8	*	*	*
2003	Cummins	3CEXL0661AAE	10.8	*	*	*
2003	Cummins	3CEXL015.AAA	15	*	*	*
2003	Cummins	3CEXL015.AAB	15	*	*	*
2003	Daewoo	3DWXL08.1CPA	8.1	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
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over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2003	Daewoo	3DWXL11.1DJA	11.1	*	*	*
2003	DaimlerChrysler	3MBXL7.20RJA	7.2	*	*	*
2003	DaimlerChrysler	3MBXL12.0RJB	12	*	*	*
2003	DaimlerChrysler	3MBXL12.0RJC	12	*	*	*
2003	DaimlerChrysler	3MBXL15.9RJA	15.9	*	*	*
2003	Deere	3JDXL06.8038	6.8	*	*	*
2003	Deere	3JDXL06.8039	6.8	*	*	*
2003	Deere	3JDXL06.8048	6.8	*	*	*
2003	Deere	3JDXL06.8049	6.8	*	*	*
2003	Deere	3JDXL06.8052	6.8	*	*	*
2003	Deere	3JDXL08.1037	8.1	*	*	*
2003	Deere	3JDXL12.5035	12.5	*	*	*
2003	Detroit Diesel Corporation	3DDXL08.5YJD	8.5	*	*	*
2003	Detroit Diesel Corporation	3DDXL12.7VGD	12.7	*	*	*
2003	Detroit Diesel Corporation	3DDXL14.0VLD	14	*	*	*
2003	Deutz	3DZXL07.1032	7.2	*	*	*
2003	Deutz	3DZXL07.1034	7.2	*	*	*
2003	Deutz	3DZXL15.9002	11.9	15.9	*	*
2003	Hino	3HMXL12.8KUV	12.9	*	*	*
2003	International	3NVXL0530ANE	8.7	*	*	*
2003	International	3NVXL0530ANF	8.7	*	*	*
2003	Isuzu	3SZXL07.8ETA	7.8	*	*	*
2003	Isuzu	3SZXL07.8EXA	7.8	*	*	*
2003	Isuzu	3SZXL09.8EXA	9.8	*	*	*
2003	Isuzu	3SZXL15.7ETA	15.7	*	*	*
2003	Isuzu	3SZXL15.7EXA	15.7	*	*	*
2003	Iveco	3VEXL06.7DCR	6.7	*	*	*
2003	Iveco	3VEXL07.8CRS	7.8	*	*	*
2003	Iveco	3VEXL10.3CRS	10.3	*	*	*
2003	Iveco	3VEXL12.9CRS	12.9	*	*	*
2003	Komatsu	3KLXL0505ABD	8.3	*	*	*
2003	Komatsu	3KLXL11.0DC3	11	*	*	*
2003	Komatsu	3KLXL11.0DD3	11	*	*	*
2003	Komatsu	3KLXL11.0DD5	11	*	*	*
2003	Komatsu	3KLXL15.2EC3	15.2	*	*	*
2003	Komatsu	3KLXL15.2ED3	15.2	*	*	*
2003	Komatsu	3KLXL15.2EE3	15.2	*	*	*
2003	Liebherr	3LHAL9.96ARA	10	*	*	*
2003	Liebherr	3LHAL9.96ATA	10	*	*	*
2003	Liebherr	3LHAL9.96AUA	10	*	*	*
2003	Liebherr	3LHAL17.2ARA	12.9	17.2	*	*
2003	Liebherr	3LHAL17.2ATA	12.9	17.2	*	*
2003	Liebherr	3LHAL17.2AUA	12.9	17.2	*	*
2003	Mitsubishi Fuso	3MFTL07.5D6A	7.55	*	*	*

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over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2003	Mitsubishi Fuso	3MFTL07.5D6D	7.55	*	*	*
2003	Mitsubishi Motors	3MTXL11.9D2A	11.945	*	*	*
2003	Volvo Construction Equipment	3VSXL09.6CE2	9.6	*	*	*
2003	Volvo Construction Equipment	3VSXL12.1CE2	12.1	*	*	*
2003	Volvo Construction Equipment	3VSXL16.0CE2	16	*	*	*
2004	AB Volvo Penta	4VPXL07.3ACB	7.3	*	*	*
2004	AB Volvo Penta	4VPXL09.4ACA	9.4	*	*	*
2004	AB Volvo Penta	4VPXL09.4ACB	9.4	*	*	*
2004	AB Volvo Penta	4VPXL09.4ACC	9.4	*	*	*
2004	AB Volvo Penta	4VPXL09.6ACC	9.4	*	*	*
2004	AB Volvo Penta	4VPXL09.6ACB	9.6	*	*	*
2004	AB Volvo Penta	4VPXL12.1ABA	12.1	*	*	*
2004	AB Volvo Penta	4VPXL12.1ACA	12.1	*	*	*
2004	AB Volvo Penta	4VPXL12.1ACB	12.1	*	*	*
2004	Caterpillar	4CPXL07.2HSK	7.2	*	*	*
2004	Caterpillar	4CPXL07.2HSL	7.2	*	*	*
2004	Caterpillar	4CPXL08.8ESK	8.8	*	*	*
2004	Caterpillar	4CPXL08.8HSK	8.8	*	*	*
2004	Caterpillar	4CPXL08.8HSL	8.8	*	*	*
2004	Caterpillar	4CPXL10.3ESK	10.3	*	*	*
2004	Caterpillar	4CPXL10.5MRW	10.5	*	*	*
2004	Caterpillar	4CPXL11.1ESK	11.1	*	*	*
2004	Caterpillar	4CPXL12.5ESK	11.1	*	*	*
2004	Caterpillar	4CPXL12.0ESK	12	*	*	*
2004	Caterpillar	4CPXL14.6ESK	14.6	*	*	*
2004	Caterpillar	4CPXL15.2ESK	15.2	*	*	*
2004	Caterpillar	4CPXL15.8ESK	15.8	*	*	*
2004	Caterpillar	4CPXL18.0HSK	18	*	*	*
2004	Caterpillar	4CPXL18.1ESK	18.1	*	*	*
2004	CNH Engine Corporation	4X9XL0505ABC	8.3	*	*	*
2004	CNH Engine Corporation	4X9XL0505ABD	8.3	*	*	*
2004	CNH Engine Corporation	4X9XL0505ACC	8.3	*	*	*
2004	CNH Engine Corporation	4X9XL0540AAA	8.8	*	*	*
2004	CNH UK Limited	4NHXL06.7DCR	6.7	*	*	*
2004	CNH UK Limited	4NHXL07.5B3A	7.5	*	*	*
2004	CNH UK Limited	4NHXL07.5B3C	7.5	*	*	*
2004	CNH UK Limited	4NHXL07.5B3F	7.5	*	*	*
2004	Cummins	4CEXL0409AAA	6.7	*	*	*
2004	Cummins	4CEXL0505ABC	8.3	*	*	*
2004	Cummins	4CEXL0505ABD	8.3	*	*	*
2004	Cummins	4CEXL0505ACB	8.3	*	*	*
2004	Cummins	4CEXL0505ACC	8.3	*	*	*
2004	Cummins	4CEXL0540AAA	8.8	*	*	*
2004	Cummins	4CEXL0661AAC	10.8	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2004	Cummins	4CEXL0661AAD	10.8	*	*	*
2004	Cummins	4CEXL0661AAE	10.8	*	*	*
2004	Cummins	4CEXL015.AAA	15	*	*	*
2004	Cummins	4CEXL015.AAB	15	*	*	*
2004	Cummins	4CEXL015.AAC	15	*	*	*
2004	Cummins	4CEXL015.AAD	15	*	*	*
2004	Daewoo	4DWXL08.1CPA	8.1	*	*	*
2004	Daewoo	4DWXL11.1BIA	11.1	*	*	*
2004	Daewoo	4DWXL11.1DJA	11.1	*	*	*
2004	DaimlerChrysler	4MBXL7.20RJA	7.2	*	*	*
2004	DaimlerChrysler	4MBXL12.0RJB	12	*	*	*
2004	DaimlerChrysler	4MBXL12.0RJC	12.1	*	*	*
2004	DaimlerChrysler	4MBXL15.9RJA	15.9	*	*	*
2004	Deere	4JDXL06.8048	6.8	*	*	*
2004	Deere	4JDXL06.8049	6.8	*	*	*
2004	Deere	4JDXL06.8038	6.8	*	*	*
2004	Deere	4JDXL06.8052	6.8	*	*	*
2004	Deere	4JDXL06.8072	6.8	*	*	*
2004	Deere	4JDXL08.1037	8.1	*	*	*
2004	Deere	4JDXL12.5035	12.5	*	*	*
2004	Deere	4JDXL12.5073	12.5	*	*	*
2004	Detroit Diesel Corporation	4DDXL08.5YJD	8.5	*	*	*
2004	Detroit Diesel Corporation	4DDXL12.7VGD	12.7	*	*	*
2004	Detroit Diesel Corporation	4DDXL14.0VLD	14	*	*	*
2004	Deutz	4DZXL07.1032	7.2	*	*	*
2004	Deutz	4DZXL07.1034	7.2	*	*	*
2004	Deutz	4DZXL15.9002	11.9	15.9	*	*
2004	Hino	4HMXL12.8KUV	12.9	*	*	*
2004	International	4NVXL0530ANE	8.7	*	*	*
2004	International	4NVXL0530ANF	8.7	*	*	*
2004	Isuzu	4SZXL06.8ETA	7.8	*	*	*
2004	Isuzu	4SZXL07.8EXA	7.8	*	*	*
2004	Isuzu	4SZXL09.8EXA	9.8	*	*	*
2004	Isuzu	4SZXL15.7ETA	15.7	*	*	*
2004	Isuzu	4SZXL15.7EXA	15.7	*	*	*
2004	Iveco	4VEXL06.7DCR	6.7	*	*	*
2004	Iveco	4VEXL07.8CRS	7.8	*	*	*
2004	Iveco	4VEXL10.3CRS	10.3	*	*	*
2004	Iveco	4VEXL12.9CRS	12.9	*	*	*
2004	Iveco	4VEXL12.9GEN	12.9	*	*	*
2004	Iveco	4VEXL12.9VGT	12.9	*	*	*
2004	Komatsu	4KLXL0505ABC	8.3	*	*	*
2004	Komatsu	4KLXL0505ABD	8.3	*	*	*
2004	Komatsu	4KLXL11.0DC3	11	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
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over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2004	Komatsu	4KLXL11.0DD3	11	*	*	*
2004	Komatsu	4KLXL11.0DD5	11	*	*	*
2004	Komatsu	4KLXL15.2EC3	15.2	*	*	*
2004	Komatsu	4KLXL15.2ED3	15.2	*	*	*
2004	Komatsu	4KLXL15.2EE3	15.2	*	*	*
2004	Liebherr	4LHAL9.96ARA	9.96	*	*	*
2004	Liebherr	4LHAL9.96ATA	9.96	*	*	*
2004	Liebherr	4LHAL9.96AUA	9.96	*	*	*
2004	Liebherr	4LHAL17.2ARA	12.9	17.2	*	*
2004	Liebherr	4LHAL17.2ATA	12.9	17.2	*	*
2004	Liebherr	4LHAL17.2AUA	12.9	17.2	*	*
2004	Mitsubishi Fuso	4MFTL07.5D6A	7.55	*	*	*
2004	Mitsubishi Fuso	4MFTL07.5D6D	7.55	*	*	*
2004	Mitsubishi Fuso	4MFTL11.9D2A	11.945	*	*	*
2004	Volvo Construction Equipment	4VSXL09.4CE2	9.4	*	*	*
2004	Volvo Construction Equipment	4VSXL09.6CE2	9.6	*	*	*
2004	Volvo Construction Equipment	4VSXL12.1CE2	12.1	*	*	*
2004	Volvo Construction Equipment	4VSXL16.0CE2	16.1	*	*	*
2005	AB Volvo Penta	5VPXL07.3ACB	7.3	*	*	*
2005	AB Volvo Penta	5VPXL09.4ACA	9.4	*	*	*
2005	AB Volvo Penta	5VPXL09.4ACB	9.4	*	*	*
2005	AB Volvo Penta	5VPXL09.4ACC	9.4	*	*	*
2005	AB Volvo Penta	5VPXL09.6ACB	9.6	*	*	*
2005	AB Volvo Penta	5VPXL12.1ABA	12.1	*	*	*
2005	AB Volvo Penta	5VPXL12.1ACA	12.1	*	*	*
2005	AB Volvo Penta	5VPXL12.1ACB	12.1	*	*	*
2005	AB Volvo Penta	5VPXL16.1ACD	16.1	*	*	*
2005	AB Volvo Penta	5VPXL16.1ACE	16.1	*	*	*
2005	Caterpillar	5CPXL07.2ESL	7.2	*	*	*
2005	Caterpillar	5CPXL07.2HSK	7.2	*	*	*
2005	Caterpillar	5CPXL07.2HSL	7.2	*	*	*
2005	Caterpillar	5CPXL08.8ESK	8.8	*	*	*
2005	Caterpillar	5CPXL08.8ESL	8.8	*	*	*
2005	Caterpillar	5CPXL08.8HSL	8.8	*	*	*
2005	Caterpillar	5CPXL10.3ESK	10.3	*	*	*
2005	Caterpillar	5CPXL10.5MRW	10.5	*	*	*
2005	Caterpillar	5CPXL11.1ESK	11.1	*	*	*
2005	Caterpillar	5CPXL12.0ESK	12	*	*	*
2005	Caterpillar	5CPXL12.5ESK	12.5	*	*	*
2005	Caterpillar	5CPXL15.2ESK	15.2	*	*	*
2005	Caterpillar	5CPXL18.1ESK	18.1	*	*	*
2005	CNH Engine Corporation	5X9XL0505AAE	8.3	*	*	*
2005	CNH Engine Corporation	5X9XL0505ABC	8.3	*	*	*
2005	CNH Engine Corporation	5X9XL0505ABD	8.3	*	*	*

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Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2005	CNH Engine Corporation	5X9XL0505ACC	8.3	*	*	*
2005	CNH Engine Corporation	5X9XL0540AAA	8.8	*	*	*
2005	CNH Engine Corporation	5X9XL0540AAB	8.8	*	*	*
2005	CNH UK Limited	5NHXL06.7DCR	6.7	*	*	*
2005	CNH UK Limited	5NHXL07.5B3A	7.5	*	*	*
2005	CNH UK Limited	5NHXL07.5B3C	7.5	*	*	*
2005	CNH UK Limited	5NHXL07.5B3F	7.5	*	*	*
2005	Cummins	5CEXL0409AAA	6.7	*	*	*
2005	Cummins	5CEXL0409AAB	6.7	*	*	*
2005	Cummins	5CEXL0409AAC	6.7	*	*	*
2005	Cummins	5CEXL0505AAE	8.3	*	*	*
2005	Cummins	5CEXL0505ABC	8.3	*	*	*
2005	Cummins	5CEXL0505ABD	8.3	*	*	*
2005	Cummins	5CEXL0505ACB	8.3	*	*	*
2005	Cummins	5CEXL0540AAA	8.8	*	*	*
2005	Cummins	5CEXL0540AAB	8.8	*	*	*
2005	Cummins	5CEXL0661AAE	10.8	*	*	*
2005	Cummins	5CEXL0661AAF	10.8	*	*	*
2005	Cummins	5CEXL015.AAA	15	*	*	*
2005	Cummins	5CEXL015.AAC	15	*	*	*
2005	Cummins	5CEXL015.AAD	15	*	*	*
2005	Daewoo	5DWXL08.1CPA	8.1	*	*	*
2005	Daewoo	5DWXL11.1BIA	11.1	*	*	*
2005	Daewoo	5DWXL11.1DJA	11.1	*	*	*
2005	DaimlerChrysler	5MBXL7.20RJA	7.2	*	*	*
2005	DaimlerChrysler	5MBXL12.0RJB	12	*	*	*
2005	DaimlerChrysler	5MBXL12.0RJC	12	*	*	*
2005	DaimlerChrysler	5MBXL15.9RJA	15.9	*	*	*
2005	Deere	5JDXL06.8049	6.8	*	*	*
2005	Deere	5JDXL06.8038	6.8	*	*	*
2005	Deere	5JDXL06.8048	6.8	*	*	*
2005	Deere	5JDXL06.8052	6.8	*	*	*
2005	Deere	5JDXL06.8072	6.8	*	*	*
2005	Deere	5JDXL06.8080	6.8	*	*	*
2005	Deere	5JDXL08.1037	8.1	*	*	*
2005	Deere	5JDXL12.5035	12.5	*	*	*
2005	Deere	5JDXL12.5073	12.5	*	*	*
2005	Detroit Diesel Corporation	5DDXL08.5YJD	8.5	*	*	*
2005	Deutz	5DZXL07.1032	7.2	*	*	*
2005	Deutz	5DZXL07.1034	7.2	*	*	*
2005	Deutz	5DZXL15.9002	11.9	15.9	*	*
2005	Hino	5HMXL12.8KUV	12.9	*	*	*
2005	Isuzu	5SZXL07.8ETA	7.8	*	*	*
2005	Isuzu	5SZXL07.8EXA	7.8	*	*	*

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over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2005	Isuzu	5SZXL09.8EXA	9.8	*	*	*
2005	Isuzu	5SZXL15.7ETA	15.7	*	*	*
2005	Isuzu	5SZXL15.7EXA	15.7	*	*	*
2005	Iveco	5VEXL06.7DCR	6.7	*	*	*
2005	Iveco	5VEXL06.7DGA	6.7	*	*	*
2005	Iveco	5VEXL07.8CRS	7.8	*	*	*
2005	Iveco	5VEXL10.3CRS	10.3	*	*	*
2005	Iveco	5VEXL10.3TR3	10.3	*	*	*
2005	Iveco	5VEXL10.3VGT	10.3	*	*	*
2005	Iveco	5VEXL12.9CRS	12.9	*	*	*
2005	Iveco	5VEXL12.9GEN	12.9	*	*	*
2005	Iveco	5VEXL12.9TR3	12.9	*	*	*
2005	Iveco	5VEXL12.9VGT	12.9	*	*	*
2005	Komatsu	5KLXL0409AAB	6.7	*	*	*
2005	Komatsu	5KLXL0409AAC	6.7	*	*	*
2005	Komatsu	5KLXL0505AAE	8.3	*	*	*
2005	Komatsu	5KLXL0505ABC	8.3	*	*	*
2005	Komatsu	5KLXL0505ABD	8.3	*	*	*
2005	Komatsu	5KLXL11.0DC3	11	*	*	*
2005	Komatsu	5KLXL11.0DD3	11	*	*	*
2005	Komatsu	5KLXL11.0DD5	11	*	*	*
2005	Komatsu	5KLXL15.2EC3	15.2	*	*	*
2005	Komatsu	5KLXL15.2ED3	15.2	*	*	*
2005	Komatsu	5KLXL15.2EE3	15.2	*	*	*
2005	Liebherr	5LHAL9.96ARA	10	*	*	*
2005	Liebherr	5LHAL9.96ATA	10	*	*	*
2005	Liebherr	5LHAL9.96AUA	10	*	*	*
2005	Liebherr	5LHAL10.5LPA	10.5	*	*	*
2005	Liebherr	5LHAL17.2ARA	12.9	17.2	*	*
2005	Liebherr	5LHAL17.2ATA	12.9	17.2	*	*
2005	Liebherr	5LHAL17.2AUA	12.9	17.2	*	*
2005	Mitsubishi Fuso	5MFTL07.5D6A	7.5	*	*	*
2005	Mitsubishi Fuso	5MFTL07.5D6D	7.5	*	*	*
2005	Mitsubishi Fuso	5MFTL11.9D2A	11.9	*	*	*
2005	Sisu Diesel	5SIDL07.4G4A	7.4	*	*	*
2005	Sisu Diesel	5SIDL07.4G4B	7.4	*	*	*
2005	Sisu Diesel	5SIDL07.4G5A	7.4	*	*	*
2005	Sisu Diesel	5SIDL07.4G5B	7.4	*	*	*
2005	Sisu Diesel	5SIDL08.4H4A	8.4	*	*	*
2005	Sisu Diesel	5SIDL08.4H5A	8.4	*	*	*
2005	Sisu Diesel	5SIDL08.4H5B	8.4	*	*	*
2005	Volvo Construction Equipment	5VSXL09.4CE2	9.4	*	*	*
2005	Volvo Construction Equipment	5VSXL12.1CE2	12.1	*	*	*
2006	AB Volvo Penta	6VPXL9.4BAA	9.4	*	*	*

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over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2006	AB Volvo Penta	6VPXL12.1BAA	12.1	*	*	*
2006	Caterpillar	6CPXL07.2ESL	7.2	*	*	*
2006	Caterpillar	6CPXL07.2HSK	7.2	*	*	*
2006	Caterpillar	6CPXL08.8ESK	8.8	*	*	*
2006	Caterpillar	6CPXL11.1ESK	11.1	*	*	*
2006	Caterpillar	6CPXL12.5ESK	12.5	*	*	*
2006	Caterpillar	6CPXL15.2ESK	15.2	*	*	*
2006	Caterpillar	6CPXL18.1ESK	18.1	*	*	*
2006	CNH Engine Corporation	6X9XL0505AAE	8.3	*	*	*
2006	CNH Engine Corporation	6X9XL0505ABD	8.3	*	*	*
2006	CNH Engine Corporation	6X9XL0540AAB	8.8	*	*	*
2006	CNH Engine Corporation	6X9XL0540AAC	8.8	*	*	*
2006	CNH UK Limited	6NHXL06.7DCR	6.7	*	*	*
2006	CNH UK Limited	6NHXL06.7DCA	6.7	*	*	*
2006	CNH UK Limited	6NHXL06.7DCB	6.7	*	*	*
2006	CNH UK Limited	6NHXL06.7DCC	6.7	*	*	*
2006	Cummins	6CEXL0409AAB	6.7	*	*	*
2006	Cummins	6CEXL0409AAC	6.7	*	*	*
2006	Cummins	6CEXL0505AAE	8.3	*	*	*
2006	Cummins	6CEXL0505ABD	8.3	*	*	*
2006	Cummins	6CEXL0540AAB	8.8	*	*	*
2006	Cummins	6CEXL0661AAF	10.8	*	*	*
2006	Cummins	6CEXL0661AAG	10.8	*	*	*
2006	Cummins	6CEXL015.AAA	15	*	*	*
2006	Cummins	6CEXL015.AAC	15	*	*	*
2006	Cummins	6CEXL015.AAD	15	*	*	*
2006	Cummins	6CEXL015.AAE	15	*	*	*
2006	DaimlerChrysler	6MBXL7.20RJA	7.2	*	*	*
2006	DaimlerChrysler	6MBXL12.8RJB	12.8	*	*	*
2006	Deere	6JDXL06.8049	6.8	*	*	*
2006	Deere	6JDXL06.8038	6.8	*	*	*
2006	Deere	6JDXL06.8048	6.8	*	*	*
2006	Deere	6JDXL06.8052	6.8	*	*	*
2006	Deere	6JDXL06.8080	6.8	*	*	*
2006	Deere	6JDXL06.8104	6.8	*	*	*
2006	Deere	6JDXL08.1037	8.1	*	*	*
2006	Deere	6JDXL12.5035	12.5	*	*	*
2006	Deere	6JDXL12.5073	12.5	*	*	*
2006	Deutz	6DZXL07.1053	7.1	*	*	*
2006	Deutz	6DZXL07.1034	7.2	*	*	*
2006	Doosan Infracore	6DWXL07.6UPA	7.6	*	*	*
2006	Doosan Infracore	6DWXL11.0UJA	11	*	*	*
2006	Iveco	6VEXL06.7DCR	6.7	*	*	*
2006	Iveco	6VEXL06.7DCA	6.7	*	*	*

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over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2006	Iveco	6VEXL06.7DCB	6.7	*	*	*
2006	Iveco	6VEXL06.7DCC	6.7	*	*	*
2006	Iveco	6VEXL06.7DGB	6.7	*	*	*
2006	Iveco	6VEXL06.7DGS	6.7	*	*	*
2006	Iveco	6VEXL08.7TR3	8.7	*	*	*
2006	Iveco	6VEXL10.3MLR	10.3	*	*	*
2006	Iveco	6VEXL10.3TR3	10.3	*	*	*
2006	Iveco	6VEXL12.9IGR	12.9	*	*	*
2006	Iveco	6VEXL12.9MLR	12.9	*	*	*
2006	Iveco	6VEXL12.9TR3	12.9	*	*	*
2006	Komatsu	6KLXL0409AAB	6.7	*	*	*
2006	Komatsu	6KLXL0409AAC	6.7	*	*	*
2006	Komatsu	6KLXL0505AAE	8.3	*	*	*
2006	Komatsu	6KLXL0505ABD	8.3	*	*	*
2006	Liebherr	6LHAL9.96ARA	10	*	*	*
2006	Liebherr	6LHAL9.96ATA	10	*	*	*
2006	Liebherr	6LHAL9.54SPA	9.5	*	*	*
2006	Liebherr	6LHAL10.5LPA	10.5	*	*	*
2006	Liebherr	6LHAL12.0KPA	12	*	*	*
2006	Sisu Diesel	6SIDL07.4G4B	7.4	*	*	*
2006	Sisu Diesel	6SIDL07.4G4D	7.4	*	*	*
2006	Sisu Diesel	6SIDL07.4G5B	7.4	*	*	*
2006	Sisu Diesel	6SIDL08.4H5B	8.4	*	*	*
2007	AB Volvo Penta	7VPXL09.4BAA	9.4	*	*	*
2007	Caterpillar	7CPXL07.2ESL	7.2	*	*	*
2007	Caterpillar	7CPXL08.8ESK	8.8	*	*	*
2007	Caterpillar	7CPXL11.1ESK	11.1	*	*	*
2007	Caterpillar	7CPXL12.5ESK	12.5	*	*	*
2007	Caterpillar	7CPXL15.2ESK	15.2	*	*	*
2007	Caterpillar	7CPXL18.1ESK	18.1	*	*	*
2007	CNH Engine Corporation	7X9XL0505AAE	8.3	*	*	*
2007	CNH Engine Corporation	7X9XL0540AAB	8.8	*	*	*
2007	CNH UK Limited	7NHXL06.7DCA	6.7	*	*	*
2007	CNH UK Limited	7NHXL06.7DCB	6.7	*	*	*
2007	CNH UK Limited	7NHXL06.7DCC	6.7	*	*	*
2007	Cummins	7CEXL0409AAB	6.7	*	*	*
2007	Cummins	7CEXL0409AAC	6.7	*	*	*
2007	Cummins	7CEXL0409AAD	6.7	*	*	*
2007	Cummins	7CEXL0505AAE	8.3	*	*	*
2007	Cummins	7CEXL0540AAB	8.8	*	*	*
2007	Cummins	7CEXL0661AAJ	10.8	*	*	*
2007	Cummins	7CEXL0661AAF	11	*	*	*
2007	Cummins	7CEXL0661AAG	11	*	*	*
2007	Cummins	7CEXL015.AAE	15	*	*	*

**Engine families with a minimum exhaust temperature criterion of either:
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over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.**

Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2007	Cummins	7CEXL015.AAH	15	*	*	*
2007	DaimlerChrysler	7MBXL15.9RJA	12	15.9	*	*
2007	DaimlerChrysler	7MBXL12.8RJB	12.8	*	*	*
2007	Deere	7JDXL06.8038	6.8	*	*	*
2007	Deere	7JDXL06.8048	6.8	*	*	*
2007	Deere	7JDXL06.8049	6.8	*	*	*
2007	Deere	7JDXL06.8080	6.8	*	*	*
2007	Deere	7JDXL06.8104	6.8	*	*	*
2007	Deere	7JDXL08.1037	8.1	*	*	*
2007	Deere	7JDXL12.5035	12.5	*	*	*
2007	Deere	7JDXL12.5073	12.5	*	*	*
2007	Detroit Diesel Corporation	7DDXL7.20RJA	7.2	*	*	*
2007	Deutz	7DZXL07.1034	7.2	*	*	*
2007	Doosan Infracore	7DWXL07.6UPA	7.6	*	*	*
2007	Doosan Infracore	7DWXL11.0UJA	11	*	*	*
2007	Iveco	7VEXL06.7DGB	6.7	*	*	*
2007	Iveco	7VEXL06.7DCA	6.7	*	*	*
2007	Iveco	7VEXL06.7DCB	6.7	*	*	*
2007	Iveco	7VEXL06.7DCC	6.7	*	*	*
2007	Iveco	7VEXL06.7DGS	6.7	*	*	*
2007	Iveco	7VEXL08.7TR3	8.7	*	*	*
2007	Iveco	7VEXL10.3MLR	10.3	*	*	*
2007	Iveco	7VEXL10.3TR3	10.3	*	*	*
2007	Iveco	7VEXL12.9IGR	12.9	*	*	*
2007	Iveco	7VEXL12.9MLR	12.9	*	*	*
2007	Iveco	7VEXL12.9TCD	12.9	*	*	*
2007	Iveco	7VEXL12.9TR3	12.9	*	*	*
2007	Komatsu	7KLXL0409AAB	6.7	*	*	*
2007	Komatsu	7KLXL0409AAC	6.7	*	*	*
2007	Komatsu	7KLXL0505AAE	8.3	*	*	*
2007	Liebherr	7LHAL9.54SPA	9.5	*	*	*
2007	Liebherr	7LHAL10.5LPA	10.5	*	*	*
2007	Liebherr	7LHAL12.0KPA	12	*	*	*
2007	Liebherr	7LHAL24.2VCI	16.2	*	*	*
2007	Perkins	7PKXL15.2TAG	15.2	*	*	*
2007	Sisu Diesel	7SIDL07.4G4D	7.4	*	*	*
2007	Sisu Diesel	7SIDL07.4G5B	7.4	*	*	*
2007	Sisu Diesel	7SIDL08.4H5B	8.4	*	*	*
2008	Caterpillar	8CPXL07.2ESL	7.2	*	*	*
2008	Caterpillar	8CPXL08.8ESK	8.8	*	*	*
2008	Caterpillar	8CPXL11.1ESK	11.1	*	*	*
2008	Caterpillar	8CPXL12.5ESK	12.5	*	*	*
2008	Caterpillar	8CPXL15.2ESW	15.2	*	*	*
2008	Caterpillar	8CPXL18.1ESK	18.1	*	*	*

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Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2008	CNH Engine Corporation	8X9XL0505AAE	8.3	*	*	*
2008	CNH Engine Corporation	8X9XL0540AAB	8.8	*	*	*
2008	CNH Engine Corporation	8X9XL0540AAC	8.8	*	*	*
2008	CNH Engine Corporation	8X9XL0540AAD	8.8	*	*	*
2008	Cummins	8CEXL0409AAB	6.7	*	*	*
2008	Cummins	8CEXL0409AAC	6.7	*	*	*
2008	Cummins	8CEXL0409AAD	6.7	*	*	*
2008	Cummins	8CEXL0505AAE	8.3	*	*	*
2008	Cummins	8CEXL0540AAB	8.8	*	*	*
2008	Cummins	8CEXL0661AAF	11	*	*	*
2008	Cummins	8CEXL0661AAG	11	*	*	*
2008	Cummins	8CEXL0661AAJ	11	*	*	*
2008	Cummins	8CEXL015.AAA	15	*	*	*
2008	Cummins	8CEXL015.AAE	15	*	*	*
2008	Cummins	8CEXL015.AAH	15	*	*	*
2008	DaimlerChrysler	8MBXL07.2RJA	7.2	*	*	*
2008	DaimlerChrysler	8MBXL15.9RJA	12	15.9	*	*
2008	DaimlerChrysler	8MBXL12.8RJB	12.8	*	*	*
2008	Deere	8JDXL06.8104	6.8	*	*	*
2008	Deere	8JDXL06.8038	6.8	*	*	*
2008	Deere	8JDXL06.8049	6.8	*	*	*
2008	Deere	8JDXL06.8080	6.8	*	*	*
2008	Deere	8JDXL08.1037	8.1	*	*	*
2008	Deere	8JDXL09.0114	9	*	*	*
2008	Deere	8JDXL12.5035	12.5	*	*	*
2008	Doosan Infracore	8DWXL07.6UPA	7.6	*	*	*
2008	Doosan Infracore	8DWXL11.0UJA	11	*	*	*
2008	Iveco	8VEXL06.7DGB	6.7	*	*	*
2008	Iveco	8VEXL06.7DGS	6.7	*	*	*
2008	Iveco	8VEXL08.7TR3	8.7	*	*	*
2008	Iveco	8VEXL10.3MLR	10.3	*	*	*
2008	Iveco	8VEXL10.3TR3	10.3	*	*	*
2008	Iveco	8VEXL12.9IGR	12.9	*	*	*
2008	Iveco	8VEXL12.9MLR	12.9	*	*	*
2008	Iveco	8VEXL12.9TCD	12.9	*	*	*
2008	Komatsu	8KLXL0409AAB	6.7	*	*	*
2008	Komatsu	8KLXL0409AAC	6.7	*	*	*
2008	Komatsu	8KLXL0505AAE	8.3	*	*	*
2008	Liebherr	8LHAL9.54SPA	9.5	*	*	*
2008	Liebherr	8LHAL10.5LPA	10.5	*	*	*
2008	Liebherr	8LHAL12.0KPA	12	*	*	*
2008	Liebherr	8LHAL24.2VCI	16.2	*	*	*
2008	Perkins	8PKXL15.2TAG	15.2	*	*	*
2008	Scania	8Y9XL11.7BBA	8.9	11.7	*	*

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Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2008	Scania	8Y9XL11.7BBB	8.9	11.7	15.6	*
2009	Caterpillar	9CPXL07.2ESL	7.2	*	*	*
2009	Caterpillar	9CPXL08.8ESK	8.8	*	*	*
2009	Caterpillar	9CPXL11.1ESK	11.1	*	*	*
2009	Caterpillar	9CPXL12.5ESK	12.5	*	*	*
2009	Caterpillar	9CPXL12.5ESX	12.5	*	*	*
2009	Caterpillar	9CPXL15.2ESW	15.2	*	*	*
2009	Caterpillar	9CPXL18.1ESK	18.1	*	*	*
2009	Cummins	9CEXL0409AAB	6.7	*	*	*
2009	Cummins	9CEXL0409AAC	6.7	*	*	*
2009	Cummins	9CEXL0409AAD	6.7	*	*	*
2009	Cummins	9CEXL0505AAE	8.3	*	*	*
2009	Cummins	9CEXL0540AAB	8.8	*	*	*
2009	Cummins	9CEXL0540AAD	8.8	*	*	*
2009	Cummins	9CEXL0661AAF	11	*	*	*
2009	Cummins	9CEXL0661AAG	11	*	*	*
2009	Cummins	9CEXL0661AAJ	11	*	*	*
2009	Cummins	9CEXL015.AAA	15	*	*	*
2009	Cummins	9CEXL015.AAE	15	*	*	*
2009	Cummins	9CEXL015.AAH	15	*	*	*
2009	DaimlerChrysler	9MBXL07.2RJA	7.2	*	*	*
2009	Deere	9JDXL06.8049	6.8	*	*	*
2009	Deere	9JDXL06.8080	6.8	*	*	*
2009	Deere	9JDXL06.8104	6.8	*	*	*
2009	Deere	9JDXL08.1037	8.1	*	*	*
2009	Deere	9JDXL09.0114	9	*	*	*
2009	Doosan Infracore	9DICL07.6UPA	7.6	*	*	*
2009	Doosan Infracore	9DICL11.0UJA	11	*	*	*
2009	Iveco	9VEXL06.7DGB	6.7	*	*	*
2009	Iveco	9VEXL06.7DGS	6.7	*	*	*
2009	Iveco	9VEXL08.7TR3	8.7	*	*	*
2009	Iveco	9VEXL10.3MLR	10.3	*	*	*
2009	Iveco	9VEXL10.3TR3	10.3	*	*	*
2009	Iveco	9VEXL12.9IGR	12.9	*	*	*
2009	Iveco	9VEXL12.9MLR	12.9	*	*	*
2009	Iveco	9VEXL12.9TCD	12.9	*	*	*
2009	Komatsu	9KLXL0409AAB	6.7	*	*	*
2009	Komatsu	9KLXL0409AAC	6.7	*	*	*
2009	Komatsu	9KLXL0505AAE	8.3	*	*	*
2009	Liebherr	9LHAL9.54SPA	9.5	*	*	*
2009	Liebherr	9LHAL10.5LPA	10.5	*	*	*
2009	Liebherr	9LHAL12.0KPA	12	*	*	*
2009	Liebherr	9LHAL24.2VCI	16.2	*	*	*
2009	Perkins	9PKXL12.5TAG	12.5	*	*	*

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Model Year	Manufacturer	Engine Family	Displacement (L)			
			1	2	3	4
2009	Perkins	9PKXL15.2TAG	15.2	*	*	*
2009	Scania	9Y9XL11.7BBA	11.7	8.9	*	*
2009	Scania	9Y9XL11.7BBB	15.6	11.7	8.9	*
2010	Caterpillar	ACPXL08.8ESX	8.8	*	*	*
2010	Caterpillar	ACPXL14.6ESK	14.6	*	*	*
2010	Caterpillar	ACPXL15.2ESX	15.2	*	*	*
2010	Caterpillar	ACPXL07.2ESL	7.2	*	*	*
2010	Caterpillar	ACPXL11.1ESK	11.1	*	*	*
2010	Caterpillar	ACPXL15.2ESW	15.2	*	*	*
2010	Caterpillar	ACPXL12.5ESX	12.5	*	*	*
2010	Caterpillar	ACPXL10.3ESL	10.3	*	*	*
2010	Caterpillar	ACPXL12.5ESK	12.5	*	*	*
2010	Cummins	ACEXL0409AAB	6.7	*	*	*
2010	Cummins	ACEXL0409AAD	6.7	*	*	*
2010	Cummins	ACEXL0505AAE	8.3	*	*	*
2010	Cummins	ACEXL0540AAB	8.8	*	*	*
2010	Cummins	ACEXL0540AAC	8.8	*	*	*
2010	Cummins	ACEXL0540AAD	8.8	*	*	*
2010	Cummins	ACEXL015.AAE	15	*	*	*
2010	Cummins	ACEXL015.AAH	15	*	*	*
2010	Cummins	ACEXL0661AAG	11	*	*	*
2010	Cummins	ACEXL0661AAH	11	*	*	*
2010	Cummins	ACEXL0661AAJ	11	*	*	*
2010	Komatsu	AKLXL0409AAB	6.7	*	*	*
2010	Komatsu	AKLXL0409AAC	6.7	*	*	*
2010	Komatsu	AKLXL0505AAE	8.3	*	*	*