

## Attachment 1

Table 1: ARB-Approved Engine Families for the ESW Canada On-Road ThermoCat™ System

(Note: Some engines within an approved engine family may not meet horsepower requirements. Check that each engine meets the terms and specifications of the Executive Order.)

Model Year	Manufacturer	Engine Family	(liters, l) Displacement (l)
1993	Cummins	PCE0505FDA5	8.3
1993	Detroit Diesel Corporation	PDD08.5FZK7	8.5
1994	Caterpillar	RCP403DZDAAA	6.6
1994	Caterpillar	RCP403DZDABA	6.6
1994	Cummins	RCE359D6DAAB	5.9
1994	Cummins	RCE359D6DAAW	5.9
1994	Cummins	RCE505D6DAAA	8.3
1994	Cummins	RCE505D6DAAB	8.3
1994	Cummins	RCE505D6DAAC	8.3
1994	Cummins	RCE505F6DAAW	8.3
1994	Detroit Diesel Corporation	RDD8.5EJDARA	8.5
1994	Detroit Diesel Corporation	RDD8.5EJDARW	8.5
1994	Detroit Diesel Corporation	RDD8.5FJDABA	8.5
1994	General Motors	RGM6.5C6DAAA	6.5
1994	General Motors	RGM6.5C6DAAC	6.5
1994	Hino	RHM6.5D7DARW	6.5
1994	International	RNV408D6DAAW	6.7
1994	International	RNV444C8DABA	7.3
1994	International	RNV466D6DAAA	7.6
1994	International	RNV466D6DARW	7.6
1994	International	RNV466D6DASW	7.6
1994	International	RNV466D6DOTW	7.6
1994	International	RNV530D6DAAA	8.7
1994	International	RNV7.3C8DAAA	7.3
1994	Mercedes-Benz	RMB6.0D6DAAA	6.0
1994	Mercedes-Benz	RMB6.0D6DARA	6.0
1994	Nissan	RND423D6DAAA	6.9
1994	Perkins	RPK365D6DAAA	6.0
1994	Volvo	RVT6.7D6DBRA	6.7
1995	Caterpillar	SCP403DZDAAA	6.6
1995	Caterpillar	SCP403DZDABA	6.6
1995	Caterpillar	SCP403DZDARK	6.6
1995	Caterpillar	SCP442DZDARK	7.1
1995	Cummins	SCE359D6DAAA	5.9
1995	Cummins	SCE505D6DAAA	8.3
1995	Cummins	SCE505D6DAAW	8.3
1995	Cummins	SCE505D6DABW	8.3
1995	Cummins	SCE505F6DAAW	8.3
1995	Detroit Diesel Corporation	SDD8.5EJDARA	8.5
1995	Detroit Diesel Corporation	SDD8.5EJDARW	8.5
1995	Detroit Diesel Corporation	SDD8.5FJDABA	8.5
1995	General Motors	SGM6.5C6DAAC	6.5
1995	General Motors	SGM6.5C6DAAW	6.5
1995	Hino	SHM6.5D7DARW	6.5
1995	International	SNV444C8DOAA	7.3

Model Year	Manufacturer	Engine Family	Displacement (l)
1995	International	SNV444C8DORA	7.3
1995	International	SNV444C8DOSA	7.3
1995	International	SNV466D6DARA	7.6
1995	International	SNV466D6DASA	7.6
1995	International	SNV466D6DATA	7.6
1995	International	SNV466D8DARB	7.6
1995	International	SNV466D8DASB	7.6
1995	International	SNV466D8DATB	7.6
1995	International	SNV530D6DARA	8.7
1995	International	SNV530E6DASA	8.7
1995	International	SNV530F6DATA	8.7
1995	International	SNV7.3C8DAAA	7.3
1995	Isuzu	SSZ7.1D6DAAA	7.1
1995	Mercedes-Benz	SMB6.0D6DAAA	6.0
1995	Mercedes-Benz	SMB6.0D6DARA	6.0
1995	Mitsubishi	SMT460D7DAAA	7.5
1995	Nissan	SND423D6DAAA	6.9
1995	Perkins	SPK365D6DAAA	6.0
1995	Renault	SR3377D8DAAW	6.2
1995	Renault	SR3377D8DABW	6.2
1995	Volvo	SVT6.7D6DBRA	6.7
1996	Caterpillar	TCP403DZDAAA	6.6
1996	Caterpillar	TCP403DZDABA	6.6
1996	Caterpillar	TCP403DZDARK	6.6
1996	Caterpillar	TCP442DZDAAK	7.1
1996	Caterpillar	TCP442DZDARK	7.1
1996	Cummins	TCE359D6DABW	5.9
1996	Cummins	TCE505D6DAAA	8.3
1996	Cummins	TCE505D6DAAW	8.3
1996	Cummins	TCE505D6DABW	8.3
1996	Detroit Diesel Corporation	TDD8.5EJDARA	8.5
1996	Detroit Diesel Corporation	TDD8.5EJDARW	8.5
1996	Detroit Diesel Corporation	TDD8.5FJDABA	8.5
1996	General Motors	TGM6.5C6DABA	6.5
1996	General Motors	TGM6.5C6DABW	6.5
1996	Hino	THM6.5D7DARW	6.5
1996	International	TNV444C8DORA	7.3
1996	International	TNV444C8DOSA	7.3
1996	International	TNV466D6DARB	7.6
1996	International	TNV466D6DATB	7.6
1996	International	TNV466D8DARB	7.6
1996	International	TNV466D8DATB	7.6
1996	International	TNV530D6DARA	8.7
1996	International	TNV530D8DARA	8.7
1996	International	TNV530E6DASA	8.7
1996	International	TNV530E8DASA	8.7
1996	International	TNV7.3C8DAAA	7.3
1996	Isuzu	TSZ7.1D6DAAA	7.1
1996	Mitsubishi	TMT358D7DBAA	5.9
1996	Mitsubishi	TMT460D7DBAA	7.5
1996	Nissan	TND423D6DAAA	6.9
1996	Perkins	TPK365D6DAAA	6.0
1996	Renault	TR3377D8DAAW	6.2
1996	Renault	TR3377D8DABW	6.2
1996	Volvo	TVT6.7D6DBRA	6.7

Model Year	Manufacturer	Engine Family	Displacement (l)
1997	Caterpillar	VCP403DZDAAA	6.6
1997	Caterpillar	VCP403DZDABA	6.6
1997	Caterpillar	VCP403DZDARK	6.6
1997	Caterpillar	VCP442DZDAAK	7.1
1997	Caterpillar	VCP442DZDARK	7.1
1997	Cummins	VCE359D6DAAA	5.9
1997	Cummins	VCE359D6DABW	5.9
1997	Cummins	VCE359DJDARA	5.9
1997	Cummins	VCE505D6DAAA	8.3
1997	Cummins	VCE505D6DAAW	8.3
1997	Cummins	VCE505D6DABW	8.3
1997	Detroit Diesel Corporation	VDD8.5EJDARA	8.5
1997	Detroit Diesel Corporation	VDD8.5FJDABA	8.5
1997	General Motors	VGM6.5C6DABA	6.5
1997	General Motors	VGM6.5C6DABW	6.5
1997	General Motors	VGM6.5C6DARW	6.5
1997	Hino	VHM8.0DHDARA	8.0
1997	International	VNV444C8DARW	7.3
1997	International	VNV444C8DASW	7.3
1997	International	VNV466D6DARA	7.6
1997	International	VNV466D8DARW	7.6
1997	International	VNV466D8DASA	7.6
1997	International	VNV530D6DARA	8.7
1997	International	VNV530D8DARA	8.7
1997	International	VNV530E6DASA	8.7
1997	International	VNV530E8DASA	8.7
1997	International	VNV7.3C8DAAA	7.3
1997	International	VNV7.3C8DAAW	7.3
1997	Isuzu	VSZ7.1D6DAAA	7.1
1997	Isuzu	VSZ7.1D6DAAW	7.1
1997	Mitsubishi	VMT358D7DBAA	5.9
1997	Mitsubishi	VMT460D7DBAA	7.5
1997	Nissan	VND423D6DAAA	6.9
1997	Renault	VR3377D8DAAW	6.2
1997	Renault	VR3377D8DABW	6.2
1997	Volvo	VVT6.7D6DBRA	6.7
1998	Caterpillar	WCPXH0442HRK	7.1
1998	Caterpillar	WCPXH0442HSK	7.1
1998	Cummins	WCEXH0359BAD	5.9
1998	Cummins	WCEXH0359BAE	5.9
1998	Cummins	WCEXH0505CAC	8.3
1998	Cummins	WCEXH0505CAD	8.3
1998	Cummins	WCEXH0505CAE	8.3
1998	Cummins	WCEXH0505CAF	8.3
1998	Detroit Diesel Corporation	WDDXH08.5EJD	8.5
1998	Detroit Diesel Corporation	WDDXH08.5FJC	8.5
1998	General Motors	WGMXH06.5521	6.5
1998	General Motors	WGMXH06.5522	6.5
1998	General Motors	WGMXH06.5523	6.5
1998	Hino	WHMXH08.0JTR	5.3
1998	International	WNVXH0444CCB	7.3
1998	International	WNVXH0444CCD	7.3
1998	International	WNVXH0466CCB	7.6
1998	International	WNVXH0466CCD	7.6
1998	International	WNVXH0530CCB	8.7

Model Year	Manufacturer	Engine Family	Displacement (l)
1998	International	WNVXH0530CCD	8.7
1998	Isuzu	WSZXH07.84RA	7.8
1998	Nissan	WNDXH06.9FAB	6.9
1998	Volvo	WVTXH07.350S	7.3
1999	Caterpillar	XCPXH0442HRK	7.1
1999	Caterpillar	XCPXH0442HSK	7.2
1999	Cummins	XCEXH0359BAI	5.9
1999	Cummins	XCEXH0359BAJ	5.9
1999	Cummins	XCEXH0359BAK	5.9
1999	Cummins	XCEXH0505CAC	8.3
1999	Cummins	XCEXH0505CAD	8.3
1999	Cummins	XCEXH0505CAE	8.3
1999	Cummins	XCEXH0505CAF	8.3
1999	Detroit Diesel Corporation	XDDXH08.5EJL	8.5
1999	Detroit Diesel Corporation	XDDXH08.5FJN	8.5
1999	General Motors	XGMXH06.5521	6.5
1999	General Motors	XGMXH06.5523	6.5
1999	Hino	XHMXH08.0JTR	5.3
1999	International	XNVXH0444ANA	7.3
1999	International	XNVXH0444ANB	7.3
1999	International	XNVXH0466ANA	7.6
1999	International	XNVXH0466ANB	7.6
1999	International	XNVXH0530ACT	8.6
1999	International	XNVXH0530ANA	8.6
1999	International	XNVXH0530ANB	8.6
1999	International	XNVXH07.3ACA	7.3
1999	International	XNVXH07.3ANE	7.3
1999	Isuzu	XSZXH07.84RA	7.8
1999	Mercedes-Benz	XMBXH6.37DJA	6.4
1999	Mitsubishi	XMTXH05.8D6A	5.9
1999	Mitsubishi	XMTXH07.5D6A	7.5
1999	Nissan	XNDXH06.9FAB	6.9
1999	Renault	XR3XH0377KWC	6.2
1999	Renault	XR3XH0377LWC	6.2
1999	Volvo	XVTXH07.350S	7.3
1999	Volvo	XVTXH07.399B	7.3
2000	Caterpillar	YCPXH0442HRK	7.2
2000	Cummins	YCEXH0359BAI	5.9
2000	Cummins	YCEXH0359BAO	5.9
2000	Cummins	YCEXH0359BAP	5.9
2000	Cummins	YCEXH0505CAF	8.3
2000	Cummins	YCEXH0505CAG	8.3
2000	Cummins	YCEXH0505CAH	8.3
2000	Cummins	YCEXH0505CAI	8.3
2000	Cummins	YCEXH0540LAA	8.8
2000	DaimlerChrysler	YMBXH6.37DJA	6.4
2000	Detroit Diesel Corporation	YDDXH08.5EJB	8.5
2000	Detroit Diesel Corporation	YDDXH08.5EJL	8.5
2000	Detroit Diesel Corporation	YDDXH08.5FJN	8.5
2000	General Motors	YGMXH06.5521	6.5
2000	Hino	YHMXH08.0JTP	8.0
2000	Hino	YHMXH08.0JTR	8.0
2000	International	YNVXH0444ACT	7.3
2000	International	YNVXH0444ANA	7.3
2000	International	YNVXH0444ANB	7.3

Model Year	Manufacturer	Engine Family	Displacement (l)
2000	International	YNVXH0444ANC	7.3
2000	International	YNVXH0466ANA	7.6
2000	International	YNVXH0466ANB	7.6
2000	International	YNVXH0530ANA	8.7
2000	International	YNVXH0530ANB	8.7
2000	International	YNVXH07.3ANA	7.3
2000	Isuzu	YSZXH07.84RA	7.8
2000	Mitsubishi	YMTXH05.8D6A	5.9
2000	Mitsubishi	YMTXH07.5D6A	7.5
2000	Nissan	YNDXH06.9FAB	6.9
2000	Renault	YR3XH0377KWC	6.2
2000	Volvo	YVTXH07.350S	7.3
2001	Caterpillar	1CPXH0442HAK	7.2
2001	Caterpillar	1CPXH0442HBK	7.2
2001	Caterpillar	1CPXH0442HRK	7.3
2001	Cummins	1CEXH0359BAO	5.9
2001	Cummins	1CEXH0359BAU	5.9
2001	Cummins	1CEXH0359BAV	5.9
2001	Cummins	1CEXH0505CAM	8.3
2001	Cummins	1CEXH0505CAN	8.3
2001	Cummins	1CEXH0505CAO	8.3
2001	Cummins	1CEXH0505CAP	8.3
2001	Cummins	1CEXH0540LAA	8.8
2001	Cummins	1CEXH0540LAB	8.9
2001	Detroit Diesel Corporation	1DDXH08.5EJB	8.5
2001	Detroit Diesel Corporation	1DDXH08.5EJL	8.5
2001	General Motors	1GMXH06.5521	6.5
2001	Hino	1HMXH08.0JTP	8.0
2001	Hino	1HMXH08.0JTR	8.0
2001	International	1NVXH0444ANA	7.3
2001	International	1NVXH0444ANB	7.3
2001	International	1NVXH0444ANC	7.3
2001	International	1NVXH0466ANA	7.6
2001	International	1NVXH0466ANB	7.6
2001	International	1NVXH0530ACT	8.7
2001	International	1NVXH0530ANA	8.7
2001	International	1NVXH0530ANB	8.7
2001	International	1NVXH07.3ACE	7.3
2001	International	1NVXH07.3ANA	7.3
2001	Isuzu	1SZXH07.84RA	7.8
2001	Mercedes-Benz	1MBXH6.37DJA	6.4
2001	Mercedes-Benz	1MBXH6.37DJC	6.4
2001	Mitsubishi	1MTXH05.8D6A	5.9
2001	Mitsubishi	1MTXH07.5D6A	7.6
2001	Nissan	1NDXH06.9FAB	7.0
2001	Volvo	1VTXH07.350S	7.3
2002	Caterpillar	2CPXH0442HAK	7.2
2002	Caterpillar	2CPXH0442HBV	7.2
2002	Caterpillar	2CPXH0442HBX	7.2
2002	Caterpillar	2CPXH0442HRK	7.2
2002	Caterpillar	2CPXH0629EBX	10.0
2002	Caterpillar	2CPXH0629ERK	9.9
2002	Cummins	2CEXH0359BAB	5.9
2002	Cummins	2CEXH0359BAO	5.9
2002	Cummins	2CEXH0505CAM	8.3

Model Year	Manufacturer	Engine Family	Displacement (l)
2002	Cummins	2CEXH0505CAN	8.3
2002	Cummins	2CEXH0505CAQ	8.3
2002	Cummins	2CEXH0540LAB	8.8
2002	Cummins	2CEXH0540LAC	8.8
2002	DaimlerChrysler	2MBXH6.37DJA	6.4
2002	DaimlerChrysler	2MBXH6.37DJC	6.4
2002	Detroit Diesel Corporation	2DDXH08.5EJL	8.5
2002	General Engine Products	2GEPH06.5521	6.5
2002	General Engine Products	2GEPH06.5527	6.5
2002	General Motors	2GMXH06.5521	6.5
2002	Hino	2HMXH08.0JTP	8.0
2002	Hino	2HMXH08.0JTR	8.0
2002	International	2NVXH0444ANA	7.3
2002	International	2NVXH0444ANB	7.3
2002	International	2NVXH0444ANC	7.3
2002	International	2NVXH0466ANA	7.6
2002	International	2NVXH0466ANB	7.6
2002	International	2NVXH0530ANA	8.6
2002	International	2NVXH0530ANB	8.7
2002	International	2NVXH0530ANC	8.6
2002	International	2NVXH07.3ACE	7.3
2002	International	2NVXH07.3ANA	7.3
2002	Isuzu	2SZXH06.64RA	6.6
2002	Isuzu	2SZXH07.84RA	7.8
2002	Mitsubishi	2MTXH05.8D6A	5.9
2002	Mitsubishi	2MTXH07.5D6A	7.5
2002	Nissan	2NDXH06.9FAB	6.9
2002	Volvo	2VTXH07.350S	7.3
2003	Caterpillar	3CPXH0442HBV	7.2
2003	Caterpillar	3CPXH0442HBX	7.2
2003	Caterpillar	3CPXH0629EBV	10.0
2003	Caterpillar	3CPXH0629EXB	10.0
2003	Cummins	3CEXH0505CAN	8.3
2003	Cummins	3CEXH0505CAQ	8.3
2003	Cummins	3CEXH0540LAC	8.8
2003	DaimlerChrysler	3MBXH6.37DJA	6.4
2003	DaimlerChrysler	3MBXH6.37DJC	6.4
2003	General Engine Products	3GEPH06.5521	6.5
2003	General Engine Products	3GEPH06.5527	6.5
2003	Hino	3HMXH08.0JTP	8.0
2003	Hino	3HMXH08.0JTR	8.0
2003	International	3NVXH0444ANB	7.3
2003	International	3NVXH0444ANC	7.3
2003	International	3NVXH0466ANA	7.6
2003	International	3NVXH0466ANB	7.6
2003	International	3NVXH0530ANA	8.7
2003	International	3NVXH0530ANB	8.7
2003	International	3NVXH0530ANC	8.7
2003	Isuzu	3SZXH06.64RA	6.6
2003	Isuzu	3SZXH07.84AA	7.8
2003	Isuzu	3SZXH07.84RA	7.8
2003	Mitsubishi	3MTXH05.8D6A	5.9
2003	Mitsubishi	3MTXH07.5D6A	7.5
2003	Nissan	3NDXH06.9FAB	6.9
2004	Caterpillar	4CPXH0442HBK	7.2

Model Year	Manufacturer	Engine Family	Displacement (l)
2004	Caterpillar	4CPXH0537HBX	8.8
2004	Cummins	4CEXH0505CAR	8.3
2004	Cummins	4CEXH0540LAE	8.8
2004	International	4NVXH0466ANA	7.6
2004	International	4NVXH0466ANB	7.6
2004	International	4NVXH0530ANA	8.7
2004	International	4NVXH0530ANB	8.7
2004	International	4NVXH0530ANC	8.7
2005	Caterpillar	5CPXH0442HBK	7.2
2005	Caterpillar	5CPXH0537HBK	8.8
2005	Cummins	5CEXH0505CAR	8.3
2005	Cummins	5CEXH0505CAX	8.3
2005	Cummins	5CEXH0505CAY	8.3
2005	Cummins	5CEXH0540LAE	8.8
2005	Cummins	5CEXH0540LAI	8.9
2005	Isuzu	5SZXH07.84RB	7.8
2006	Caterpillar	6CPXH0442HBK	7.2
2006	Caterpillar	6CPXH0537HBK	8.8
2006	Cummins	6CEXH0359BAI	5.9
2006	Cummins	6CEXH0505CAX	8.3
2006	Cummins	6CEXH0505CAY	8.3
2006	Cummins	6CEXH0540LAI	8.9
2006	Cummins	6CEXH0540LAJ	8.9