

# Natural Gas Dual Fuel Solutions

December 2014

## PROVIDING A GAME-CHANGING TECHNOLOGY.

American Power Group's V5000 Dual Fuel Turbocharged Natural Gas® Dual Fuel System has met specific design, componentry, and emission compliance criteria set forth by new EPA Clean Alternative Fuel Vehicle and Engine Conversion regulations. The APG Dual Fuel System is a patented non-invasive upgrade technology that seamlessly displaces a large percent of diesel fuel consumption with natural gas (CNG or LNG) while maintaining the ability to return to 100% diesel operation at any time. This flexibility empowers the fleet owner to enjoy favorable dual fuel savings with diesel-like performance today while at the same time providing a safety net to return to original diesel engine operation as a hedge against future unknown risks. No other natural gas fueling system delivers this much freedom of choice at the lowest total cost of ownership.

The APG Dual Fuel hardware configuration does not change any of the OEM diesel engine components. Our read-only Engine Controller Module ("ECM") monitors and ensures OEM system parameters are always within performance specifications (ie: oil pressure coolant temp, exhaust gas temp, manifold air pressure, diesel fuel pressure, etc).

The APG Dual Fuel Controller will not allow natural gas (CNG or LNG) to flow unless the base engine parameters are within standard operating range, which means it starts and idles on diesel only. The APG Dual Fuel System is a negative pressure system, which utilizes the conventional diesel engine governor to reduce diesel fuel usage as the higher energy value of natural gas and air is recognized at the point of the compression flash-point.

The OEM diesel engine control system remains unchanged by APG's Dual Fuel System. If the engine parameters are not within standard operating ranges, the APG Dual Fuel System automatically turns



Photo Courtesy of Penn Power

off the source of natural gas and seamlessly returns the engine back to 100% diesel fuel operation. Also, if the natural gas fuel supply is depleted, the system automatically returns to 100% diesel fuel operation, alleviating any "range anxiety" as exhibited in dedicated natural gas fuel systems.

## V5000 BENEFITS

- Non-Invasive Conversion Technology
- No Modification to Base Diesel Engine
- No Loss of Power or Torque
- 350HP - 600HP Heavy-Haul Dual Fuel Solutions
- CNG or LNG
- Annual Fuel Savings (15% - 25%)
- No Increase in Maintenance Costs
- EPA Approved - Lowers Emissions
- Transition Back to 100% Diesel Anytime
- No Range Anxiety
- Favorable Trade-In Options
- Quick Payback Including Favorable Financing Options



# Current EPA Approvals for IUL Applications

Intermediate Useful Life (IUL) Applications include engine families that are older than two model years and less than 435,000 miles.

2012	Volvo	D13/MP8	CVPTH12.8S01
2011	Volvo	D13/MP8	BVPTH12.8S01
2010	Volvo	D13/MP8	AVPTH12.8S01
2009	Volvo	D13/MP8	9VPTH12.8H02
2008	Volvo	D13/MP8	8VPTH12.8H02
2007	Volvo	D13/MP8	7VPTH12.8H02
2006	Mack	E7	6MKXH11.9V71
2006	Mack	E7	6MKXH11.9V74
2006	Mack	E7	6MKXH11.9V67
2006	Mack	E7	6MKXH11.9V65
2006	Mack	E7	6MKXH11.9H70
2006	Mack	E7	6MKXH11.9H73
2006	Mack	MP8	6VPTH12.8H01
2006	Volvo	D12	6VTXH12.150S

2005	Mack	E7	5MKXH11.9V71
2005	Mack	E7	5MKXH11.9V65
2005	Mack	E7	5MKXH11.9V74
2005	Mack	E7	5MKXH11.9V67
2005	Mack	E7	5MKXH11.9H70
2005	Mack	E7	5MKXH11.9H73
2005	Volvo	D12	5VTXH12.150S
2004	Mack	E7	4MKXH11.9H64
2004	Mack	E7	4MKXH11.9H70
2004	Mack	E7	4MKXH11.9H73
2004	Mack	E7	4MKXH11.9V65
2004	Mack	E7	4MKXH11.9V67
2004	Mack	E7	4MKXH11.9V71
2004	Volvo	D12	4VTXH12.150S

# Current EPA Approvals for OUL Applications

## DESIGNED IN DETROIT

APG recruited the most talented team of engine calibration and emissions engineers from Detroit to create a third-generation design utilizing digital electronics and advanced automotive engine algorithms.

APG's core design flexibility is centered around the most innovative 3D natural gas software mapping system in the industry for dual fuel operation. The software is non-invasive to the OEM CANBus and is accessed through APG's read-only electronic control module.

APG's proprietary software manages the introduction of natural gas to the airstream pre-turbo utilizing a variable fuel-metering device, which avoids the design restrictions and higher costs of a fuel-injector design.

2009	Cummins	ISC	9CEXH0505CAA
2009	Cummins	ISC	9CEXH0505CAB
2009	Cummins	ISC	9CEXH0505CAC
2009	Cummins	ISC	9CEXH0505CAZ
2009	Cummins	ISL	9CEXH0540LAL
2009	Cummins	ISL	9CEXH0540LAM
2009	Cummins	ISL	9CEXH0540LAO
2009	Cummins	ISM	9CEXH0661MAD
2009	Cummins	ISM	9CEXH0661MAE
2009	Cummins	ISM	9CEXH0661MAF
2009	Cummins	ISM	9CEXH0661MAY
2009	Cummins	ISM	9CEXH0661MAZ
2009	Cummins	ISX	9CEXH0912XAK
2009	Cummins	ISX	9CEXH0912XAL
2009	Cummins	ISX	9CEXH0912XAM
2009	Cummins	ISX	9CEXH0912XAN
2009	Cummins	ISX	9CEXH0912XAP
2009	Cummins	ISX	9CEXH0912XAQ
2009	Detroit Diesel	DD13	9DDXH12.8FED
2009	Detroit Diesel	DD13	9DDXH12.8FEY
2009	Detroit Diesel	DD15	9DDXH14.8EED
2009	Detroit Diesel	DD15	9DDXH14.8EEY

# Additional EPA Approvals

OUL Applications - December 2014

2002	Caterpillar	C-10	2CPXH0629ERK	2001	Mack	E7	1MKXH11.9H56	1998	Caterpillar	C-12	WCPXH0729ERK
2002	Caterpillar	C-12	2CPXH0729ERK	2001	Mack	E7	1MKXH11.9H59	1998	Caterpillar	C-15	WCPXH0893ERK
2002	Caterpillar	C-15	2CPXH0893ERK	2001	Mack	E7	1MKXH11.9V60	1998	Caterpillar	C-16	WCPXH0967ERK
2002	Caterpillar	C-16	2CPXH0967ERK	2001	Mack	EM7	1MKXH11.9V57	1998	Cummins	C8.3	WCEXH0505CAA
2002	Cummins	ISC	2CEXH0505CAM	2001	Mack	EM7	1MKXH11.9V61	1998	Cummins	ISC	WCEXH0505CAC
2002	Cummins	ISC	2CEXH0505CAN	2001	Volvo	VE D12	1VTXH12.150S	1998	Cummins	ISC	WCEXH0505CAD
2002	Cummins	ISC	2CEXH0505CAQ	2000	Caterpillar	C-10	YCPXH0629ERK	1998	Cummins	ISC	WCEXH0505CAE
2002	Cummins	ISL	2CEXH0540LAB	2000	Caterpillar	C-12	YCPXH0729ERK	1998	Cummins	ISC	WCEXH0505CAF
2002	Cummins	ISL	2CEXH0540LAC	2000	Caterpillar	C-15	YCPXH0893ERK	1998	Cummins	ISM	WCEXH0661MAD
2002	Cummins	ISM	2CEXH0661MAS	2000	Caterpillar	C-16	YCPXH0967ERK	1998	Cummins	ISM	WCEXH0661MAE
2002	Cummins	ISM	2CEXH0661MAT	2000	Cummins	ISC	YCEXH0505CAF	1998	Cummins	ISM	WCEXH0661MAF
2002	Cummins	ISX	2CEXH0912XAF	2000	Cummins	ISC	YCEXH0505CAG	1998	Cummins	ISX	WCEXH0912XAA
2002	Cummins	ISX	2CEXH0912XAG	2000	Cummins	ISC	YCEXH0505CAH	1998	Cummins	L10	WCEXH0611LAA
2002	Cummins	N14	2CEXH0855NAA	2000	Cummins	ISC	YCEXH0505CAI	1998	Cummins	M11	WCEXH0661MAA
2002	Daimler	OM457LA	2MBXH12.0DJA	2000	Cummins	ISL	YCEXH0540LAA	1998	Cummins	M11	WCEXH0661MAB
2002	Daimler	OM460LA	2MBXH12.8DJA	2000	Cummins	ISM	YCEXH0661MAH	1998	Cummins	N14	WCEXH0855NAA
2002	Detroit Diesel	S60-12.7L	2DDXH12.7EGL	2000	Cummins	ISM	YCEXH0661MAI	1998	Cummins	N14	WCEXH0855NAB
2002	Detroit Diesel	S60-14.0L	2DDXH14.0ELL	2000	Cummins	ISX	YCEXH0912XAC	1998	Cummins	N14	WCEXH0855NAC
2002	Mack	E7	2MKXH11.9H59	2000	Cummins	ISX	YCEXH0912XAD	1998	Detroit Diesel	S60-11.1L	WDDXH11.1EHD
2002	Mack	E7	2MKXH11.9H63	2000	Cummins	ISX	YCEXH0912XAE	1998	Detroit Diesel	S60-12.7L	WDDXH12.7EGD
2002	Mack	E7	2MKXH11.9H64	2000	Cummins	N14	YCEXH0855NAD	1998	Mack	E7	WMKXH0728V41
2002	Mack	E7	2MKXH11.9V60	2000	Cummins	N14	YCEXH0855NAE	1998	Mack	E7	WMKXH0728V43
2002	Mack	E7	2MKXH11.9V65	2000	Cummins	N14	YCEXH0855NAF	1998	Mack	E7	WMKXH11.9E51
2002	Mack	E7	2MKXH11.9V66	2000	Daimler	OM457LA	YMBXH12.0DJA	1998	Mack	E7	WMKXH11.9E52
2002	Mack	E7	2MKXH11.9V67	2000	Detroit Diesel	S60-12.7L	YDDXH12.7EGL	1998	Mack	EM7	WMKXH0728M44
2002	Mack	EM7	2MKXH11.9V61	2000	Detroit Diesel	S60-14.0L	YDDXH14.0ELL	1998	Mack	EM7	WMKXH0728V40
2002	Volvo	VE D12	2VTXH12.150S	2000	Mack	E7	YMKXH11.9H56	1998	Mack	EM7	WMKXH11.9E53
2001	Caterpillar	C-10	1CPXH0629ERK	2000	Mack	EM7	YMKXH11.9V57	1998	Volvo	VE D12	WVTXH12.150S
2001	Caterpillar	C-12	1CPXH0729ERK	2000	Volvo	VE D12	YVTXH12.150S	1997	Caterpillar	C-10	VCP629EZDARK
2001	Caterpillar	C-15	1CPXH0893ERK	1999	Caterpillar	C-10	XCPXH0629ERK	1997	Caterpillar	C-10	VCP629EZDARX
2001	Caterpillar	C-16	1CPXH0967ERK	1999	Caterpillar	C-12	XCPXH0729ERK	1997	Caterpillar	C-12	VCP729EZDARX
2001	Cummins	ISC	1CEXH0505CAM	1999	Caterpillar	C-15	XCPXH0893ERK	1997	Caterpillar	C-15	VCP893EZDARA
2001	Cummins	ISC	1CEXH0505CAN	1999	Caterpillar	C-16	XCPXH0967ERK	1997	Caterpillar	C-15	VCP893EZDARX
2001	Cummins	ISC	1CEXH0505CAO	1999	Cummins	ISC	XCEXH0505CAC	1997	Caterpillar	C-16	VCP967EZDARK
2001	Cummins	ISC	1CEXH0505CAP	1999	Cummins	ISC	XCEXH0505CAD	1997	Cummins	C8.3	VCE505D6DAAA
2001	Cummins	ISL	1CEXH0540LAA	1999	Cummins	ISC	XCEXH0505CAE	1997	Cummins	C8.3	VCE505D6DAAW
2001	Cummins	ISL	1CEXH0540LAB	1999	Cummins	ISC	XCEXH0505CAF	1997	Cummins	C8.3	VCE505D6DABW
2001	Cummins	ISL	1CEXH0540LAC	1999	Cummins	ISM	XCEXH0661MAH	1997	Cummins	C8.3	VCE505D6DARW
2001	Cummins	ISM	1CEXH0661MAQ	1999	Cummins	ISM	XCEXH0661MAI	1997	Cummins	C8.3	VCE505F6DAAW
2001	Cummins	ISM	1CEXH0661MAR	1999	Cummins	ISX	XCEXH0912XAB	1997	Cummins	C8.3	VCE505F6DABW
2001	Cummins	ISX	1CEXH0912XAC	1999	Cummins	ISX	XCEXH0912XAD	1997	Cummins	L10	VCE611EGDARW
2001	Cummins	ISX	1CEXH0912XAD	1999	Cummins	N14	XCEXH0855NAD	1997	Cummins	M11	VCE661EJDARB
2001	Cummins	ISX	1CEXH0912XAE	1999	Cummins	N14	XCEXH0855NAE	1997	Cummins	M11	VCE661EJDARC
2001	Cummins	N14	1CEXH0855NAD	1999	Cummins	N14	XCEXH0855NAF	1997	Cummins	M11	VCE661EJDASA
2001	Cummins	N14	1CEXH0855NAE	1999	Detroit Diesel	S60-11.1L	XDDXH11.1EHL	1997	Cummins	M11	VCE661EJDATW
2001	Cummins	N14	1CEXH0855NAF	1999	Detroit Diesel	S60-12.7L	XDDXH12.7EGL	1997	Cummins	N14	VCE855EJDARA
2001	Daimler	OM457LA	1MBXH12.0DJA	1999	Detroit Diesel	S60-14.0L	XDDXH14.0ELL	1997	Cummins	N14	VCE855EJDARB
2001	Daimler	OM460LA	1MBXH12.8DJA	1999	Mack	E7	XMKXH11.9E54	1997	Cummins	N14	VCE855EJDARC
2001	Detroit Diesel	S60-12.7L	1DDXH12.7EGL	1999	Volvo	VE D12	XVTXH12.150S	1997	Cummins	N14	VCE855EJDATW
2001	Detroit Diesel	S60-14.0L	1DDXH14.0ELL	1998	Caterpillar	C-10	WCPXH0629ERK	1997	Detroit Diesel	S55-12.0L	VDD12.EJDATA

# Additional EPA Approvals

OUL Applications - December 2014



1997	Detroit Diesel	S60-11.0L	VDD11.EJDARA
1997	Detroit Diesel	S60-12.7L	VDD12.EJDARA
1997	Mack	E7	VMK12.EJDARW
1997	Mack	E7	VMK12.EJDASW
1997	Mack	E7	VMK12.EJDATW
1997	Mack	E7	VMK728EGDARW
1997	Mack	E7	VMK728EGDATW
1997	Mack	E7	VMK728EJDARA
1997	Mack	E7	VMK728EJDASW
1997	Mack	E7	VMK728EJDATW
1997	Mack	E7	VMK728EJDATW
1997	Mack	E7	VMK728EJDARW
1997	Mack	E7	VMK728EJDAZW
1997	Mack	EM7	VMK728EGDARA
1997	Mack	EM7	VMK728EGDASW
1997	Mack	EM7	VMK728EJDARW
1997	Volvo	VE D12	VVT12.EJDBRA
1996	Caterpillar	C-10	TCP629EZDARK
1996	Caterpillar	C-10	TCP629EZDARM
1996	Caterpillar	C-12	TCP729EZDARL
1996	Caterpillar	C-15	TCP893EZDARK
1996	Caterpillar	C-15	TCP893EZDARW
1996	Cummins	C8.3	TCE505D6DAAA
1996	Cummins	C8.3	TCE505D6DAAW
1996	Cummins	C8.3	TCE505D6DABW
1996	Cummins	C8.3	TCE505D6DARW
1996	Cummins	C8.3	TCE505F6DAAW
1996	Cummins	C8.3	TCE505F6DABW
1996	Cummins	L10	TCE611EGDARW
1996	Cummins	M11	TCE661EJDARA
1996	Cummins	M11	TCE661EJDARB
1996	Cummins	M11	TCE661EJDARC
1996	Cummins	M11	TCE661EJDASW
1996	Cummins	M11	TCE661EJDATW
1996	Cummins	N14	TCE855EJDARA
1996	Cummins	N14	TCE855EJDARB
1996	Cummins	N14	TCE855EJDARW
1996	Cummins	N14	TCE855EJDASW
1996	Cummins	N14	TCE855EJDATW
1996	Detroit Diesel	S55-12.0L	TDD12.EJDATW
1996	Detroit Diesel	S60-11.1L	TDD11.EJDARA
1996	Detroit Diesel	S60-12.7L	TDD12.EJDARA
1996	Detroit Diesel	S60-12.7L	TDD12.EJDASW
1996	Mack	E7	TMK12.EJDARW
1996	Mack	E7	TMK12.EJDASW
1996	Mack	E7	TMK12.EJDATW
1996	Mack	E7	TMK728EGDARW
1996	Mack	E7	TMK728EGDATW
1996	Mack	E7	TMK728EJDARA
1996	Mack	E7	TMK728EJDASW
1996	Mack	E7	TMK728EJDATW
1996	Mack	EM7	TMK728EGDARA

1996	Mack	EM7	TMK728EGDASW
1996	Mack	EM7	TMK728EJDARW
1996	Volvo	VE D12	TVT12.EJDBRA
1995	Caterpillar	C-15	SCP893EZDARK
1995	Cummins	C8.3	SCE505D6DARW
1995	Cummins	L10	SCE611EGDARW
1995	Cummins	M11	SCE661EJDARA
1995	Cummins	M11	SCE661EJDARC
1995	Cummins	M11	SCE661EJDARW
1995	Cummins	M11	SCE661EJDASW
1995	Cummins	M11	SCE661EJDATW
1995	Cummins	N14	SCE855EJDARA
1995	Cummins	N14	SCE855EJDARB
1995	Cummins	N14	SCE855EJDARW
1995	Cummins	N14	SCE855EJDASW
1995	Cummins	N14	SCE855EJDATW
1995	Detroit Diesel	S60-11.1L	SDD11.EJDARA
1995	Detroit Diesel	S60-12.7L	SDD12.EJDARA
1995	Detroit Diesel	S60-12.7L	SDD12.EJDASW
1994	Caterpillar	C-15	RCP893EZDARA
1994	Cummins	C8.3	RCE505D6DARW
1994	Cummins	M11	RCE661EJDARA
1994	Cummins	M11	RCE661EJDARC
1994	Cummins	M11	RCE661EJDARW
1994	Cummins	N14	RCE855EJDARW
1994	Cummins	N14	RCE855EJDASW
1994	Cummins	N14	RCE855EJDATW
1994	Detroit Diesel	S60-11.1L	RDD11.EJDARA
1994	Detroit Diesel	S60-12.7L	RDD12.EJDARA
1994	Detroit Diesel	S60-12.7L	RDD12.EJDASW
1993	Caterpillar	C-15	PCT0893FPB7
1993	Caterpillar	C-15	PCT0893FZE3
1993	Cummins	C8.3	PCE0505FAAX
1993	Cummins	C8.3	PCE0505FAB0
1993	Cummins	L10	PCE0611FZAX
1993	Cummins	L10	PCE0611FZB0
1993	Cummins	L10	PCE0611FZE3
1993	Cummins	M11	PCE0661FZA2
1993	Cummins	M11	PCE0661FZB3
1993	Cummins	N14	PCE0855FZC5
1993	Cummins	N14	PCE0855FZB4
1993	Cummins	N14	PCE0855FZD6
1993	Cummins	N14	PCE0855FZF8
1993	Cummins	N14	PCE0855FZA3
1993	Detroit Diesel	S60-11.1L	PDD11.1FZAX
1993	Detroit Diesel	S60-11.1L	PDD11.1FZD2
1993	Detroit Diesel	S60-12.7L	PDD12.7FZA7
1993	Detroit Diesel	S60-12.7L	PDD12.7FZDX
1992	Cummins	C8.3	NCE0505FAA1
1992	Cummins	C8.3	NCE0505FAB2
1992	Cummins	L10	NCE0611FZA2
1992	Cummins	L10	NCE0611FZB2

1992	Cummins	L10	NCE0611FZD4
1992	Cummins	N14	NCE0855FZC7
1992	Cummins	N14	NCE0855FZA5
1992	Cummins	N14	NCE0855FZB6
1992	Cummins	N14	NCE0855FZD8
1992	Cummins	N14	NCE0855FZFX
1992	Cummins	N14	NCE0855FZG0
1992	Detroit Diesel	S60-11.1L	NDD11.1FZA1
1992	Detroit Diesel	S60-12.7L	NDD12.7FZA9
1991	Cummins	C8.3	MCE0505FAA2
1991	Cummins	L10	MCE0611FZA2
1991	Cummins	L10	MCE0611FZB3
1991	Cummins	N14	MCE0855FZA6
1991	Cummins	N14	MCE0855FZB7
1991	Cummins	N14	MCE0855FZC8
1991	Cummins	N14	MCE0855FZD9
1991	Detroit Diesel	S60-11.1L	MDD11.1FZA2
1991	Detroit Diesel	S60-12.7L	MDD12.7FZAX
1990	Detroit Diesel	S60-11.1L	LDD11.1FZA3
1990	Detroit Diesel	S60-12.7L	LDD12.7FZA0
1989	Detroit Diesel	S60-12.7L	KDD12.7FZA1
1988	Detroit Diesel	S60-12.7L	JDD12.7FZA2
1987	Detroit Diesel	S60-12.7L	HGM12.7FZA0

## V5000 BENEFITS

- Non-Invasive Conversion Technology
- No Modification to Base Diesel Engine
- No Loss of Power or Torque
- 350HP - 600HP Heavy-Haul Dual Fuel Solutions
- CNG or LNG
- Annual Fuel Savings (15% - 25%)
- No Increase in Maintenance Costs
- EPA Approved - Lowers Emissions
- Transition Back to 100% Diesel Anytime
- No Range Anxiety
- Favorable Trade-In Options
- Quick Payback Including Favorable Financing Options



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2009	Detroit Diesel	MBE 4000	9DDXH12.8DJA
2009	Detroit Diesel	MBE 4000	9DDXH12.8DJD
2009	Detroit Diesel	NA	9DDXH12.8TER
2009	Detroit Diesel	S60-14.0L	9DDXH14.0ELD
2009	Detroit Diesel	S60-14.0L	9DDXH14.0ELY
2009	Volvo	D11	9VPTH10.8H03
2009	Volvo	D11	9VPTH10.8H04
2009	Volvo	D13	9VPTH12.8H02
2009	Volvo	D16	9VPTH16.1H01
2008	Cummins	ISC	8CEXH0505CAA
2008	Cummins	ISC	8CEXH0505CAZ
2008	Cummins	ISL	8CEXH0540LAL
2008	Cummins	ISL	8CEXH0540LAM
2008	Cummins	ISL	8CEXH0540LAO
2008	Cummins	ISM	8CEXH0661MAA
2008	Cummins	ISM	8CEXH0661MAY
2008	Cummins	ISM	8CEXH0661MAZ
2008	Cummins	ISX	8CEXH0912XAK
2008	Cummins	ISX	8CEXH0912XAL
2008	Cummins	ISX	8CEXH0912XAM
2008	Detroit Diesel	DD15	8DDXH14.8EBC
2008	Detroit Diesel	DD15	8DDXH14.8EED
2008	Detroit Diesel	MBE 4000	8DDXH12.8DJA
2008	Detroit Diesel	MBE 4000	8DDXH12.8DJC
2008	Detroit Diesel	NA	8DDXH12.8TER
2008	Detroit Diesel	S60-14.0L	8DDXH14.0ELC
2008	Detroit Diesel	S60-14.0L	8DDXH14.0ELY
2008	Volvo	D11	8VPTH10.8H03
2008	Volvo	D11	8VPTH10.8H04
2008	Volvo	D13	8VPTH12.8H02
2008	Volvo	D16	8VPTH16.1H01
2007	Cummins	ISC	7CEXH0505CAA
2007	Cummins	ISC	7CEXH0505CAZ
2007	Cummins	ISL	7CEXH0540LAL
2007	Cummins	ISL	7CEXH0540LAM
2007	Cummins	ISL	7CEXH0540LAO
2007	Cummins	ISM	7CEXH0661MAA
2007	Cummins	ISM	7CEXH0661MAB
2007	Cummins	ISM	7CEXH0661MAY
2007	Cummins	ISM	7CEXH0661MAZ
2007	Cummins	ISX	7CEXH0912XAK
2007	Cummins	ISX	7CEXH0912XAL
2007	Cummins	ISX	7CEXH0912XAM
2007	Detroit Diesel	OM460LA	7DDXH12.8DJA
2007	Detroit Diesel	S60-14.0L	7DDXH14.0ELY
2007	Volvo	D11	7VPTH10.8H03
2007	Volvo	D11	7VPTH10.8H04
2007	Volvo	D13	7VPTH12.8H02
2007	Volvo	D16	7VPTH16.1H01
2006	Caterpillar	C11	6CPXH0680EBK
2006	Caterpillar	C13	6CPXH0763EBK

2006	Caterpillar	C15	6CPXH0928EBK
2006	Cummins	ISC	6CEXH0505CAV
2006	Cummins	ISC	6CEXH0505CAW
2006	Cummins	ISC	6CEXH0505CAX
2006	Cummins	ISC	6CEXH0505CAY
2006	Cummins	ISC	6CEXH0505CAZ
2006	Cummins	ISC	6CEXH0540LAG
2006	Cummins	ISL	6CEXH0540LAI
2006	Cummins	ISL	6CEXH0540LAJ
2006	Cummins	ISL	6CEXH0540LAL
2006	Cummins	ISM	6CEXH0661MAA
2006	Cummins	ISM	6CEXH0661MAT
2006	Cummins	ISM	6CEXH0661MAU
2006	Cummins	ISM	6CEXH0661MAX
2006	Cummins	ISM	6CEXH0661MAY
2006	Cummins	ISM	6CEXH0661MAZ
2006	Cummins	ISX	6CEXH0912XAH
2006	Cummins	ISX	6CEXH0912XAJ
2006	Cummins	ISX	6CEXH0912XAK
2006	Cummins	ISX	6CEXH0912XAL
2006	Cummins	ISX	6CEXH0912XAM
2006	Detroit Diesel	MBE 4000	6MBXH12.8DJA
2006	Detroit Diesel	S60-12.7L	6DDXH12.7EGY
2006	Detroit Diesel	S60-14.0L	6DDXH14.0ELY
2006	Mack	E7	6MKXH11.9H70
2006	Mack	E7	6MKXH11.9H73
2006	Mack	E7	6MKXH11.9V65
2006	Mack	E7	6MKXH11.9V67
2006	Mack	E7	6MKXH11.9V71
2006	Mack	E7	6MKXH11.9V74
2006	Mack	E7	6MKXH11.9V75
2006	Mack	MP7	6MKXH10.8C02
2006	Mack	MP7	6VPTH10.8H01
2006	Mack	MP7	6VPTH10.8H02
2006	Mack	MP8	6VPTH12.8H01
2006	Volvo	D12	6VTXH12.150S
2006	Volvo	D16	6VTXH16.1C01
2005	Caterpillar	C11	5CPXH0680EBK
2005	Caterpillar	C13	5CPXH0763EBK
2005	Caterpillar	C15	5CPXH0928EBK
2005	Cummins	ISC	5CEXH0505CAR
2005	Cummins	ISC	5CEXH0505CAV
2005	Cummins	ISC	5CEXH0505CAW
2005	Cummins	ISC	5CEXH0505CAX
2005	Cummins	ISC	5CEXH0505CAY
2005	Cummins	ISL	5CEXH0540LAE
2005	Cummins	ISL	5CEXH0540LAG
2005	Cummins	ISL	5CEXH0540LAH
2005	Cummins	ISL	5CEXH0540LAI
2005	Cummins	ISM	5CEXH0661MAT
2005	Cummins	ISM	5CEXH0661MAU

APG is leading the industry with 28 IUL and 456 OUL engine family approvals... and counting

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**UPCOMING APPROVAL SUBMITTALS**

**INTERMEDIATE USEFUL LIFE (IUL)**

Detroit Diesel  
 Cummins  
 International

**OUTSIDE USEFUL LIFE (OUL)**

International  
 DT466, DT530 & MaxxForce

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**EPA Approvals for 2002 and Older**

**Include:**

**CAT** C-10, C-12, C-15, C-16

**Daimler** OM457LA, OM460LA

**Detroit Diesel**

Series 55 & 60

**Cummins** C8.3, ISC, ISL, ISM, ISX, L10, M11, N14

**Mack** E7, EM7

**Volvo** D11, D12, D13, D16, VE D12

# Additional EPA Approvals for OUL Applications

2005	Cummins	ISM	5CEXH0661MAX
2005	Cummins	ISX	5CEXH0912XAH
2005	Cummins	ISX	5CEXH0912XAJ
2005	Detroit Diesel	MBE 4000	5MBXH12.8DJA
2005	Detroit Diesel	S60-12.7L	5DDXH12.7EGY
2005	Detroit Diesel	S60-14.0L	5DDXH14.0ELY
2005	Mack	E7	5MKXH11.9H70
2005	Mack	E7	5MKXH11.9H73
2005	Mack	E7	5MKXH11.9V65
2005	Mack	E7	5MKXH11.9V67
2005	Mack	E7	5MKXH11.9V71
2005	Mack	E7	5MKXH11.9V74
2005	Volvo	D12	5VTXH12.150S
2004	Caterpillar	C11	4CPXH0680EBK
2004	Caterpillar	C13	4CPXH0763EBK
2004	Caterpillar	C15	4CPXH0928EBK
2004	Cummins	ISC	4CEXH0505CAR
2004	Cummins	ISC	4CEXH0505CAS
2004	Cummins	ISC	4CEXH0505CAU
2004	Cummins	ISL	4CEXH0540LAE
2004	Cummins	ISM	4CEXH0661MAT
2004	Cummins	ISM	4CEXH0661MAU
2004	Cummins	ISX	4CEXH0912XAH
2004	Cummins	ISX	4CEXH0912XAJ
2004	Detroit Diesel	MBE 4000	4MBXH12.8DJA
2004	Detroit Diesel	S60-12.7L	4DDXH12.7EGY
2004	Detroit Diesel	S60-14.0L	4DDXH14.0ELY
2004	Mack	E7	4MKXH11.9H64
2004	Mack	E7	4MKXH11.9H70

2004	Mack	E7	4MKXH11.9H73
2004	Mack	E7	4MKXH11.9V65
2004	Mack	E7	4MKXH11.9V67
2004	Mack	E7	4MKXH11.9V71
2004	Volvo	D12	4VTXH12.150S
2003	Caterpillar	C-10	3CPXH0629EBV
2003	Caterpillar	C-10	3CPXH0629EBX
2003	Caterpillar	C-12	3CPXH0729EBV
2003	Caterpillar	C-12	3CPXH0729EBX
2003	Caterpillar	C-15	3CPXH0893EBV
2003	Cummins	ISC	3CEXH0505CAM
2003	Cummins	ISC	3CEXH0505CAN
2003	Cummins	ISC	3CEXH0505CAQ
2003	Cummins	ISL	3CEXH0540LAB
2003	Cummins	ISL	3CEXH0540LAC
2003	Cummins	ISM	3CEXH0661MAT
2003	Cummins	ISM	3CEXH0661MAU
2003	Cummins	ISX	3CEXH0912XAH
2003	Cummins	ISX	3CEXH0912XAJ
2003	Daimler	OM457LA	3MBXH12.0DJA
2003	Daimler	OM460LA	3MBXH12.8DJA
2003	Detroit Diesel	S60-12.7L	3DDXH12.7EGY
2003	Detroit Diesel	S60-14.0L	3DDXH14.0ELY
2003	Mack	E7	3MKXH11.9H64
2003	Mack	E7	3MKXH11.9H70
2003	Mack	E7	3MKXH11.9V65
2003	Mack	E7	3MKXH11.9V67
2003	Mack	E7	3MKXH11.9V68

See insert for additional approvals for 2002 and older.

## APG Partners with Leading Truck Service Network

The WheelTime Network is North America's highest quality truck service network. Its 18 Member Companies provide installation and warranty support through nearly 200 service centers, 2,800 service bays, 3,000 factory trained technicians and 30 training facilities located across the United States and Canada. WheelTime's premier repair and maintenance service management program ensures customers receive consistent levels of service and consistent hours of labor per repair or service regardless of the Network location.



APG has engaged the WheelTime Member Companies to become Certified Installers and Authorized Dealers of our products and services. WheelTime is building a natural gas service capability throughout their network. This strategic milestone provides APG's customers the peace of mind that wherever they may be in the USA and Canada, an authorized APG Dealer with natural gas service capabilities is nearby and ready to help.

## About American Power Group

American Power Group's innovative dual fuel system reduces operating costs, lowers emissions and harnesses the potential of alternative energy sources. Realizing the potential for more cost-efficient, greener and cleaner fuels aligns with stimulus initiatives for new energy solutions. Through the science of combustion, we create systems for stationary and back-up power, as well as commercial transportation that reduces our dependency on imported oil and puts Americans back to work.



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