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5. Na ne and address of party to whom correspondence concerning document should be mailed:		6. Total number of applicati	ions and patents involved: 386
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Patent				
Number	Title	File Date	Grant Date	Entity
4,475,500	Automatic lash adjustment for engine		and the same of th	
4,475,500	compression brake	28-Dec-83	09-Oct-84	Cummins Engine
4,483,177	Transducer calibration verification fixture	:		
4,400,777	for multiple spindle torque units	06-Jan-83	20-Nov-84	Cummins Engine
	System and method for reducing			
4,485,621				
	combustion engines	07-Jan-83	04-Dec-84	Cummins Engine
4,495,907	Combustion chamber components for			
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	internal combustion engines	18-Jan-83	29-Jan-85	Cummins Engine
4,512,147	Method and apparatus for removing	07.1 00	00 4 05	O Engine
.,	carbon particles from engine exhausts	07-Jan-83	23-Apr-85	Cummins Engine
4,512,300	Oil temperature control system for internal	47 0 - 04	00 4 05	Oursing Engine
	compustion engine	17-Apr-84	23-Apr-85	Cummins Engine
4,520,542	Hand operable tool used in installing	44.0 00	04 1 05	Cummina Engine
	piston assemblies into an engine block	14-Sep-83	04-Jun-85	Cummins Engine
4,520,627	Turbocharged internal combustion engine	00 000 03	04 lun 95	Cummins Engine
1 500 707	7.1	09-Aug-83		Cummins Engine Cummins Engine
4,520,767	Low flow cooling system and apparatus	16-Sep-83	04-Jun-65	Cummins Engine
4,529,169	Hardfaced valves and method of making	07-Jan-83	16 Jul 95	Cummins Engine
	same	07-Jan-63	10-341-03	Cullilling Linguis
4 504 670	Solenoid operated unit injector having			
4,531,672	distinct timing, metering and injection	13-May-83	20. jul-85	Cummins Engine
4 550 600	periods 2 Cooling system	13-May-03		Cummins Engine
4,550,692	Integral fuel filter head and adapter for	10-1 00-0-4	00 1101 00	- Cummino Engino
4,552,662	multiple fuel filter canisters	02-Jul-84	12-Nov-85	Cummins Engine
4,553,504	Means and method for alternate fuel			
4,000,00	fumigation in internal combustion engines	30-Dec-83	19-Nov-85	Cummins Engine
4 557 221	Fuel additive injection system	27-May-83		Cummins Engine
	Turk ask argor drain line with reinforced			
4,559,782	flexible conduit	25-Mar-83	24-Dec-85	Cummins Engine
4.560.718	B High swell gasket material	13-Dec-84	24-Dec-85	Cummins Engine
	Monolithic ceramic cylinder liner and			
4,562,799	method of making same	17-Jan-83	07-Jan-86	Cummins Engine
4.565,177	7 Unitized cross tie aftercooler assembly	09-Sep-83	21-Jan-86	Cummins Engine
	Oil pump arrangement for supplying oil			
4,573,439	ounder pressure in an internal combustion		1	
, ,	engine	17-Jul-84	04-Mar-86	Cummins Engine
4,586,337	7 Turbocompound system	17-Jan-84	06-May-86	Cummins Engine
	Cylinder block for internal combustion		1	
4,587,933	engine	19-Aug-83	13-May-86	Cummins Engine
4,593,659	9 Engine valve cover	28-Jun-85	10-Jun-86	Cummins Engine
	Internal combustion engine with improved			
4,601,26	coolant arrangement	28-Jun-85	. 1	Cummins Engine
4,615,314	4 Reversible oil pan assembly	06-Jan-82	07-Oct-86	Cummins Engine
1	Disposable air filter assembly and method			
4,619,67	of making same	13-Dec-85	the contract of the second section of the	Cummins Engine
4,620,50	9 Twin-flow cooling system	05-Aug-85	04-Nov-86	Cummins Engine
4,621,60	Positive displacement fuel injection			- <u>-</u> -
4,021,00	system	30-Dec-83	11-Nov-86	Cummins Engine

Patent Number	Title	File Date	Grant Date	Entity
	Lubricant supply rail	28-Jun-85	16-Dec-86	Cummins Engine
	Engine compression braking system for			
4,648,365	an internal combustion engine	26-Nov-85	10-Mar-87	Cummins Engine
4 653 761	Coolant flow orificing head gasket	28-Jun-85		Cummins Engine
	Rocker arm support assembly	28-Jun-85		Cummins Engine
The second secon	Air filter unit	30-Jan-86		Cummins Engine
	Gas lubricated piston ring assembly	10-Jun-85		Cummins Engine
	Method for hardfacing valves	02-Apr-85		Cummins Engine
	Gasket for internal combustion engine	26-Nov-85		Cummins Engine
	Auxiliary heater controller	18-Jun-86		Cummins Engine
a company of the comp	Compression braking system for an			
4,711,210	internal combustion engine	26-Dec-86	08-Dec-87	Cummins Engine
	Tamper-proof adjustment screw	20 000 00		Commission Engine
A 718 828	arrangement for vehicle fuel supply			
4,7 10,020	systems and the like	23-Sep-86	12- lan-88	Cummins Engine
4 721 247	High pressure unit fuel injector	19-Sep-86		Cummins Engine
	Lubricant filter assembly	23-May-86		Cummins Engine
Commence of the sales of the sa	Valve assembly	08-Apr-86		Cummins Engine
4,733,200	Computer implemented go/no go gauging	00-7 (p1-00	20 0011 00	Odiffining Engine
4,754,417	system	29-Sep-86	28_ lun_88	Cummins Engine
4 766 955	Plasma jet ignition apparatus	23-Dec-86		Cummins Engine
4,700,000	Cooling system for an internal combustion	20-000-00	007 tag 00	Odminio Engine
4,771,739	engine	27-May-87	20-San-88	Cummins Engine
4 776 300	Venting filler cap	24-Sep-85		Cummins Engine
	Air filter housing for mounting on an	24-0ep-00	11-001-00	Outrilling Engine
D298,051	internal combustion engine	21-Feb-86	11-Oct-88	Cummins Engine
4 791 530	Compressor range improvement means	28-Jul-86		Cummins Engine
	Two-cycle engine with improved	20 001 00	011101 00	- Carring Engine
RE32,802	scavenging	07-Jul-87	20-Dec-88	Cummins Engine
	Fuel pump distribution assembly salvage		20 000 00	
4,793,043	method	07-Jul - 87	27-Dec-88	Cummins Engine
	Ceramic tipped pivot rod and method for			- Carring Linging
4,794,894	its manufacture	05-Mar-87	03- Jan-89	Cummins Engine
4 806 040	Ceramic ball and socket joint	17-Feb-87		Cummins Engine
4,000,040	Simplified pressure time dependent fuel		2110000	
4,813,600	injector	16-Oct-87	21-Mar-89	Cummins Engine
4 844 030	Thermal fatigue resistant cylinder head	07-Apr-88	<u> </u>	Cummins Engine
	Ceramic tiped pivot rod and method for its			:
4,848,286	manufacture	28-Sep-88	18-Jul-89	Cummins Engine
1 951 716	Crankshaft bearing cap location scheme	28-Jun-85		Cummins Engine
	BiOil change interval monitor	12-Jan-88	· _ 	Cummins Engine
	Pressure relief valve for roller bit	05-Oct-87		Cummins Engine
4,000,130	Dual spring air fuel control for the PT fuel	00-001-07	12 Ocp 00	, outrining Engine
4,869,219	1	23-Jun-88	26-Sen-80	Cummins Engine
4 070 407	system	29-Nov-88	I	Cummins Engine
4,0/2,42/	Position controller for a rotatable shaft	Z3-140V-00	10-001-08	, Januaria Engine
4,874,047	, Method and apparatus for retaining roller	21-Jul-88	17_Oct_90	Cummins Engine
4 DOE OF	cone of drill bit	21-Jul-86 02-Jul-84		Cummins Engine
	Gear train housing of an engine	02-3ui-84 06-Jan-89		Cummins Engine Cummins Engine
	Self-venting drain value assembly	29-Jan-88		Cummins Engine Cummins Engine
	Rankine-diesel integrated system	29-3411-00 16-Nov-88		Cummins Engine Cummins Engine
4,902,358	3 Ceramic to metal brazing	10-1107-00	ZU-1 ED-30	, Carrininis Lingine

Patent Number	Title	File Date	Grant Date	Entity
· ***	Solenoid valve stroke adjustment locking			
4,905,960	mechanism and method of forming the			
	same	08-Dec-88	06- M ar-90	Cummins Engine
4,909,197	Cam follower assembly with pinless roller	16-Aug-89	20 -M ar-90	Cummins Engine
4,909,219	Hydromechanical fuel pump system	19-Jan-89	20- M ar-90	Cummins Engine
4,911,127	Fuel injector for an internal combustion engine	12-Jul-89	27- M ar-90	Cummins Engine
4 914 268	Beam welding process	01-Jun-89		Cummins Engine
The second secon	Valve stop mechanism for internal			
4,922,867	combustion engines	30-Aug-89	08-May-90	Cummins Engine
4.000.047	Dual acting-double breakover throttle			
4,928,647	lever	01-Nov-89		Cummins Engine
4,930,979	Compressors	09-May-88	05-Jun-90	Cummins Engine
4,934,344	Modified four stroke cycle and mechanism	03-May-89	19-Jun-90	Cummins Engine
	Lubrication system for an earth boring drill		A AMERICAN I DESCRIPTION OF THE PERSON OF TH	
4,942,930	bit and methods for filling and retrofit			:
	installing thereof	28-Feb-89	24-Jul-90	Cummins Engine
4,944,275	Fuel injector train with variable injection			
	rate	10-Jul-89		Cummins Engine
4,947,814	Retractable throttle stop	14-Feb-89	14-Aug-90	Cummins Engine
4,955,337	High compression internal combustion engine	18-Dec-89	11-Sen-90	Cummins Engine
	Pollution control apparatus and method for	10 000 00	11 000 00	- Committee Linguis
4,960,080	a turbodiesel motor-generator set	28-Feb-89	02-Oct-90	Cummins Engine
	Coromic particulate tran and method of			1
4,960,449	making the same	28-Feb-89	02-Oct-90	Cummins Engine
4,962,743	Injection rate control cam	06-Jun-89	16-Oct-90	Cummins Engine
4,966,108	Sintered ceramic ball and socket joint			
4,900,100	assembly	28-Apr-89	30-Oct-90	Cummins Engine
4,971,016	Electronic controlled fuel supply system			
.,071,010	for high pressure injector	23-Sep-88	20-Nov-90	Cummins Engine
4,976,2 2 5	Cylinder head gasket for an internal	44 D 00	44 D 00	Oursian France
	compustion engine	11-Dec-89	<u> </u>	Cummins Engine
4,979,473	Piston cooling nozzle	20-Oct-89	25-Dec-90	Cummins Engine
4,986,472	High pressure unit fuel injector with timing chamber pressure control	05-Sep-89	22 Jan-01	Cummins Engine
4 003 453	Low pressure check valve	22-Dec-89		Cummins Engine
4,993,402	Apparatus and method for generating a	22-Dec-03	10-1 CD-01	Odmining Linging
4 996 967	highly conductive channel for the flow of			
4,550,507	plasma current	21-Nov-89	05-Mar-91	Cummins Engine
	Valve control system with a variable			
5,002,022	timing hydraulic link	30-Aug-89	26-Mar-91	Cummins Engine
	Unitary sealing system with internal	····· · · · · · · · · · · · · · · · ·		
5,009,435	venting	15-Aug-89	23-Apr-91	Cummins Engine
E 044 070	Unit injector and drive train with improved	.		
5,011,079	push rod-plunger connection	16-Aug-90	30-Apr-91	Cummins Engine
5,014,509	Diesel engine white smoke control system	27-Dec-89	14-Mav-91	Cummins Engine

	itent mber	Title	File Date	Grant Date	Entity
5	5,014,549	Test apparatus for air intake manifold heater system	09-Feb-90	14-May-91	Cummins Engine
5	5,020,203	Fuel injector installation and removal tool for an internal combustion engine	29- M ar-90	04-Jun-91	Cummins Engine
5	5,024,200	Viscosity responsive pressure regulator and timing control tappet system	27-Jul-89	40 Jun 04	Cummina Engina
5		Injection rate control injector	27-Jul-89 01-Jan-90		Cummins Engine Cummins Engine
	5,029,759	Curved hole machining method and fuel injector formed thereby	17-Nov-89	and the second s	Cummins Engine
		Radial combustion seal Fuel injector with multiple variable timing	22-Aug-90 19-Jan-89		Cummins Engine Cummins Engine
		Reduced trapped volume	25-Apr-90		Cummins Engine
5	5,040,5 07	Method and device for variable idle speed control of an internal combustion engine	07- M ar-90	20-Aug-91	Cummins Engine
5	5,0 4 0,7 27	Unit fuel injector with plunger minor diameter floating sleeve	19-Jul-90	20-Aug-91	Cummins Engine
	5,042,132	Hydraulic cam bushing installation and	10-Jan-90		Cummins Engine
·	5,042,444	Device and method for altering the acoustic signature of an internal combustion engine	07-Mar-90		Cummins Engine
Ę	5,042,4 4 5	for high pressure injector	24-Aug-90	27-Aug-91	Cummins Engine
5	5,042,721	Reduced gas flow open nozzle unit	19-Jul-90	27. Aug. Q1	Cummins Engine
(5,046,745	injector Constant volume protective boot	15-Sep-88		Cummins Engine
	5,052,178	Unitary hybrid exhaust system and method for reducing particulate emissions from internal combustion engines	08-Aug-89	01-Oct-91	Cummins Engine
į	5,063,736	Particulate filter trap load regeneration	02 Aug 90	12 Nov 01	Cummins Engine
	5 066 600	system Multiple waste isolation system	02-Aug-89 19-May-89		Cummins Engine
	5,067 ,464	Fuel injector for an internal combustion	29-Mar-90		Cummins Engine
	5 070 832	engine Engine protection system	29-Mar-91		Cummins Engine
	5,072,7 0 9	Fuel injection for an internal combustion	29- M ar-90		Cummins Engine
	5,075,947	Flexible injector puller	29-Mar-90	31-Dec-91	Cummins Engine
	5,076,236	Fuel cutoff for better transient control	19-Mar-90	31-Dec-91	Cummins Engine
	5,076,240	tuel injector	07-Jun-90	. 31-Dec-91	Cummins Engine
	5,078, 901	Automatic fuel decontamination system and method	13-Sep-89	07-Jan-92	2.Cummins Engine
:	5,082,479	Diesel particulate trap mounting system	16-Jul-90	21-Jan-92	Cummins Engine
		Air fuel control for a PT fuel system Solenoid controlled variable pressure	30-Nov-90	03-Mar-92	2 Cummins Engine
	5,094,215	inj ector	03-Oct-90	10-Mar-92	2 Cummins Engine

Patent Number	Title	File Date	Grant Date	Entity
5,094,397	Unit fuel injector with injection chamber spill valve	11-Feb-91	10-Mar-92	Cummins Engine
5,119,633	Power turbine bypass for improved compression braking	25-Sep-90	09-Jun-92	Cummins Engine
5,142,868	Turbocompound engine with power turbine bypass control	30-Nov-90		Cummins Engine
5,144,884	Two-part piston assembly device	17-Jul-90	· · · · · · · · · · · · · · · · · · ·	Cummins Engine
5,150,572	Insulated exhaust port liner	21-Feb-91		Cummins Engine
5,1 52,144	Air to air heat exchanger internal bypass	26-Dec-91	06-Oct-92	Cummins Engine
5,159,815	Turbocharged internal combustion engine	15-Jul-91	03-Nov-92	Cummins Engine
5,159,911	Hot start open nozzle fuel injection systems	21-Jun-91	03-Nov-92	Cummins Engine
5,165,831	Capscrew head markings for torque-angle	06-Oct-89	24 Nov 92	Cummins Engine
5,183,018	tightening Master cylinder with two-piece master			
	piston :	24-Mar-92	02-Feb-93	Cummins Engine
5,192,026	Tuer injectors	29-Mar-90	09- M ar-93	Cummins Engine
5,199,261	Internal combustion engine with turbocharger system	04-Aug-92	06-Apr-93	Cummins Engine
5,207,112	Ductile iron gear and casting process for the production thereof	28-Feb-92	04-May-93	Cummins Engine
5,209,403	High proceure unit fuel injector with timing	12-Jul-91	11- Ma y-93	Cummins Engine
5,216,798	assembly	07-Feb-92	08-Jun-93	Cummins Engine
5,226,975	metnoa	20-Mar-91	13-Jul-93	Cummins Engine
5,268,842	Electronic control of engine fuel injection based on engine duty cycle	03-Dec-90	07-Dec-93	Cummins Engine
5,275,337	High pressure limiting valve with fast response and fuel injector equipped therewith	15-Jun-92	04-Jan-94	Cummins Engine
5,277,162	Infinitely variable hydromechanical timing control	22-Jan-93	11-Jan-94	Cummins Engine
5,279,211	ceramic pad	24-Apr-92	18-Jan-94	Cummins Engine
5,292,072	tuel injectors	15-Jul-93	08-Mar-94	Cummins Engine
5,295,300	Salvage method for turbocharger bearing housing	13-Jul-92	22- M ar-94	Cummins Engine
5,295,462	Coin insert for the firing deck in an internal combustion engine	16-Oct-92	22- M ar-94	Cummins Engine
5,299,738	High pressure fuel injector with cushioned	16-Sep-92	05-Apr-94	Cummins Engine
5,301,875	Force balanced electronically controlled	10-Jun-92		Cummins Engine
and the second of the second o	fuel injector Unit injector with interchangeable subassembly for converting from open	10-3411-92	12-401-94	Curininia Erigine
	nozzle to closed nozzle operation	04-Nov-92	12-Apr-94	Cummins Engine

Patent	714.			
Number	Title	File Date	Grant Date	Entity
5,303,681	Torsional tunable coupling for a diesel			
	engine αrive snaπ	15-Mar-93	The second of the second of the second of	Cummins Engine
5,308,169	Bearing system for turbocharger	20-Nov-92	03- Ma y-94	Cummins Engine
5,320,278	High pressure fuel injector with fuel			
0,020,270	drainage valve	26-Jul-93	14-Jun-94	Cummins Engine
5,321,582	Electronic component heat sink			
	attachment using a low force spring	26-Apr-93	14-Jun-94	Cummins Engine
5,323,964	High pressure unit fuel injector having			
	variable effective spill area	31-Mar-92	28-Jun-94	Cummins Engine
5,3 26,03 4	Compact closed nozzle assembly for a	07.1.100	05.1.04	
	ruei injector	27-Jul-93	05-Jul-94	Cummins Engine
5,329,908	Compressed natural gas injection system	00 1 - 00	40 1 104	0
	for gaseous fueled engines	08-Jun-93	19-Jul-94	Cummins Engine
5,333,786	Fuel injection device for an internal	00 1 00	00 4 04	O
	compustion engine	03-Jun-93		Cummins Engine
	Lubrication oil controlled unit injector	28-Jan-93		Cummins Engine
5,336,047	Self-sealing water pump seal	21-Oct-93	09-Aug-94	Cummins Engine
5,343,780	Variable power drivetrain engine control	07 1.1.00	00.00= 04	.C
and and the second of the second	system	27-Jul-92	06-Sep-94	Cummins Engine
5,347,966	Speed-dependent air intake system and	25 lun 02	20 San 04	Cummina Engina
	method for internal combustion engines	25-Jun-93	20-Sep-94	Cummins Engine
5,353,766	Distributor for a high pressure fuel system	08-Sep-93	11 Oct 94	Cummins Engine
	Dampaned pressure regulating and load	00-3ep-33	11-00:-34	Curininis Lingine
5,372, 11 4	Dampened pressure regulating and load cell tappet	29-Oct-93	13-Dec-94	Cummins Engine
	Carlo Car	20 001 00	10 000 04	Cumming Engine
5 377 636	Solenoid operated pump-line-nozzle fuel			
0,011,000	injection system and inline pump therefor	06-Aug-93	03-Jan-95	Cummins Engine
5 381 770	Breakover throttle lever	22-Sep-93		Cummins Engine
	Tamper-evident, self-locking cover for			
5,385,373	mechanical connections and related			!
, ,	objects	22-Mar-93	31-Jan - 95	Cummins Engine
	The state of the s			· · · · · · · · · · · · · · · · · · ·
5,386,698	Control system and method for governing			
	turbocharged internal combustion engines	13-Dec-93	07-Feb-95	Cummins Engine
5,386,809	Pressure relief valve for compression	The second secon	And the second s	19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
3,300,008	engine braking system	26-Oct-93	07-Feb-95	Cummins Engine
5,390,851	Solenoid operated unit fuel injector with	,		
3,390,03	supply line backflow pressure relief valve	21-Jan-94	21-Feb-95	Cummins Engine
	System for detection of low power in at			
5,392,642	leåst one cylinder of a multi-cylinder			
	engine	30-Jun-93	28-Feb-95	Cummins Engine
5,396,926	Force balanced three-way solenoid valve	17-Jun-94	14-Mar-95	Cummins Engine
5,402,313	Electronic component heat sink			
	attachment using a canted coll spring	21-May-93		Cummins Engine
5,402,643	Flexible oil drain tube for turbocharger	10-Dec-93	04-Apr-95	Cummins Engine
5,404,855	Variable displacement high pressure			
0,404,000	pump for fuel injection systems	30-Jun-94	11-Apr-95	Cummins Engine
5 406 795	Exhaust manifold to turbine casing flanges	_		
		21-Jan-94	18-Apr-95	Cummins Engine

Patent Number	Title	File Date	Grant Date	Entity
5,409,165	Wear resistant fuel injector plunger assembly	14-Mar-94	25-Apr-95	Cummins Engine
5,410,995	Valve crosshead assembly with wear- reducing contact pad	15-Apr-94	02-May-95	Cummins Engine
5,411,003	Viscosity sensitive auxiliary circuit for hydromechanical control valve for timing control of tappet system	05-Apr-94	02-May-95	Cummins Engine
5,417,403	Captured ring and threaded armature solenoid valve	14-Jan-94		Cummins Engine
5,419,492	Force balanced electronically controlled fuel injector	10-Mar-94	30- M ay-95	Cummins Engine
5,423,301	Timing control valve for hydromechanical fuel system	17-Feb-94	13-Jun-95	Cummins Engine
	Shared runner intake ports for I.C. engine Mechanically retained wear-resistant	14-Feb-94	04-Jul-95	Cummins Engine
5,435,234	ceramic pad Swirl control system for varying in-cylinder	29-Oct-93	25-Jul-95	Cummins Engine
5,435,283 5,435,286	swirl Rall link assembly for vehicle engine drive	07-Jan-94	25-Jul-95	Cummins Engine
5,441,027	Individual timing and injection fuel	02-May-94		Cummins Engine
5,442,920	Altitude compensation for spark-ignited turbocharged internal combustion engines	10- M ar-94	15-Aug-95	Cummins Engine
5,445,323	High pressure fuel injector including a	28-Mar-94 07-Nov-94		Cummins Engine Cummins Engine
5,450,835	Oil separator for reducing oil losses from crankcase ventilation	15- N ov-94	The state of the s	Cummins Engine
5,452,693	Oil pan noise enclosure and attachment system for same	09-Dec-94		Cummins Engine
5 459 360	Crankcase ventilation system Piston-mounted power generator, especially for telemetry systems	27-Jul-94 14-Jan-94		Cummins Engine Cummins Engine
5,460,133	Solenoid operated pump-line-nozzle fuel	14-3a11-34	17-001-93	Curininis Engine
	injection system and inline pump therefor Two-piece collet adjusting nut for a fuel	19-Oct-94	24-Oct-95	Cummins Engine
5,467,963 5,469,817	injector solenoid valve Turbulator for a liner cooling jacket	13-Apr-94 01-Sep-94		Cummins Engine Cummins Engine
5,472,463	Pressure side integrated air filter and filtering networks for engines	14-Jun-94	12-Dec-95	Cummins Engine
5,474,041	Engine lubrication system with decreased power draw Piston for internal combustion engine	28-Dec-94 05-Apr-95		Cummins Engine Cummins Engine
5,477,821	Solenoid valve for compression-type engine retarder	14-Jul-94		Cummins Engine
	Engine oil capacitor Air intake heating and diagnostic system	12-May-95	make a company of the	Cummins Engine
5,482, 013	for internal combustion engines	23-Sep-94	09-Jan-96	Cummins Engine

Patent				
Number	Title	File Date	Grant Date	Entity
5.503.128	Distortion control ring for a fuel injector	28-Dec-94	02-Apr-96	Cummins Engine
The second second	Three-way flow valve with variable drain	·- · · · · · · · · · · · · · · · · · ·		
5,518,030	orifice area	12-Dec-94	21-May-96	Cummins Engine
5 522 760	Method of microdeburring a bore	22-Aug-94		Cummins Engine
	Accessory control system for a vehicle	07-Jun-95		Cummins Engine
	Active engine misfire detection system	09-May-95		Cummins Engine
	Oil pan noise enclosure and attachment			
5,531,196	system for same	01-Sep-95	02-Jul-96	Cummins Engine
	Dual event pozzle for low opening and			÷
5,533,672	high closing pressure injector	06-Sep-94	09-Jul-96	Cummins Engine
	Automatic water drain and priming numn	о оор от		
5,534,161	for fuel systems	16-Dec-94	09-111-96	Cummins Engine
	High pressure pump for fuel injection			· · · · · · · · · · · · · · · · · · ·
5,538,403	systems	06-May-94	23-Jul-96	Cummins Engine
	Ball guide for an electronically actuated	00-Way-0-	20-001-00	- Odminio Engino
5,549,274	control valve	20-Apr-94	27-Aug-96	Cummins Engine
	Spark plug including magnetic field	20-7101-04	27-7 tag-50	Culturians Engine
E EEE 060	producing means for generating a variable			
5,555,662	length arc	19-Jul-94	17_Sen_96	Cummins Engine
E EEO 066	Fuel system vibration damper	02-Feb-95	.	Cummins Engine
5,556,060	Double pulsing electronic unit injector	02-1 60-93	24-3ep-30	Cultilling Linguis
E EEO 067	solenoid valve to fill timing chamber			
5,556,067	before metering chamber	24-Aug-95	24 San 96	Cummins Engine
	Nitrous oxide decomposition using a solid	24-Aug-93	24-3ep-30	Cullinins Linguie
5,562,888	•	10 May 05	08 00+ 06	Cummins Engine
	oxide solution	19-May-95	00-001-90	Cultinins Engine
5,564,999	Method and apparatus for gear down	07-Jun-95	15 Oct 06	Cummins Engine
	operation prevention	07-3411-93	13-001-30	Cultillins Linguie
5,566,658	Clamping load distributor and top stop for	21-Apr-95	22 Oct 06	Cummins Engine
	a fuel injector Mechanical air-fuel control for feedback	2 I-Api-93	22-00-90	Cullilling Linguis
5,572,972	control of external devices	10-Feb-94	12 Nov 96	Cummins Engine
	Control of external devices	10-1-60-34	12-1404-90	Cummins Engine
5,577,472	Spring-energized cylinder head combustion seal assembly	07-Jun - 95	26 Nov 06	Cummins Engine
	Compusition sear assembly	28-Nov-95		Cummins Engine Cummins Engine
5,586,53	Engine retarder cycle	20-1100-95	24-Dec-30	Cummins Engine
E ED4 400	Apparatus and method for controlling a			
5,591,102	2 manual-automatic transmission after a	07 lun 05	07 lon 07	Cummina Engina
5 500 000	power reset	07-Jun-95		Cummins Engine
5,596,968	Flow conditioning gas mass sensor	02-Oct-95	20-Jan-97	Cummins Engine
5,597,047	, Radiator mounting for integrated power	04 Nav. 05	20 Jan 07	Cummina Engina
	module	01-Nov-95	 	Cummins Engine
5,606,937	/ In-block cooling arrangement	17-Jan-96	U4-Mar-97	Cummins Engine
5,607,106	Low inertia, wear-resistant valve for	40.4.04	0.4.1407	. O
	engine ruei injection systems	10-Aug-94	04-Mar-97	Cummins Engine
5,609,136	Model predictive control for HPI closed-			
3,333,133	loop ruel pressure control system	28-Jun-94	11-Mar-97	Cummins Engine
	Apparatus and method for commanding a			
5,609,548	gear after an aborted shift attempt in			
5,555,540	controlling a manual-automatic		•	
	transmission	07-Jun-95	11-Mar-97	' Cummins Engine
5,611,203	Ejector pump enhanced high pressure			
3,011,200	EGR system	17-Oct-95	18-Mar-97	' Cummins Engine

Patent				:
Number	Title	File Date	Grant Date	Entity
	FOR and blanck for black	i lie Date	Giant Date	Little
5,611,204	EGR and blow-by flow system for highly	07 1 00	40 May 07	O
	turbocharged diesel engines	27-Jun-96	18-Mar-97	Cummins Engine
5,611,317	Open nozzle fuel injector having drive	00 4 05	40.14 07	
	train wear compensation	09-Aug-95	18-Mar-97	Cummins Engine
5,617,726	Cooled exhaust gas recirculation system	04.14 05	22.4.07	
	with load and ambient bypasses	31-Mar-95		Cummins Engine
5,619,412	Remote control of engine idling time	19-Oct-94	08-Apr-97	Cummins Engine
	Spark plug including magnetic field	•		
5,619,959	producing means for generating a variable		45.4.05	
	length arc	30-Jan-96	15-Apr-97	Cummins Engine
5.619.969	Fuel injection rate shaping control system			
		28-Nov-95	15-Apr-97	Cummins Engine
	Apparatus and method for determining			
5,621,160	start of injection in a fuel injected internal			
	combustion engine	01-Apr-96	15-Apr-97	Cummins Engine
5,623,835	System for controlling air flow to a vehicle			
	air conditioning unit	31-Aug-95	29-Apr-97	Cummins Engine
	Dedicated rocker lever and cam assembly			
5,626,116	for a compression braking system			
		28-Nov-95	06-May-97	Cummins Engine
5,626,325	High pressure control valve for a fuel	:		
	injection system	14-Sep-95		Cummins Engine
	Stepped rotation fuel distribution valve	05-Jun-96		Cummins Engine
5,634,446	Cruise control based retarder control	01-Sep-95	03-Jun-97	Cummins Engine
5,636,600	Rocker lever assembly for internal			· ·
	compustion engine	31-Oct-95	10-Jun-97	Cummins Engine
	Apparatus and method for assisting gear			
5,638,271	engagement in controlling the automatic			
-,,	shifting of a manual-automatic			
	transmission	04-Jan-95	10-Jun-97	Cummins Engine
5,647,536	Injection rate shaping nozzle assembly for			
	a fuel injector	23-Jan-95	15-Jul-97	Cummins Engine
5,649,505	Multiple-hole, piston cooling nozzle and			
	assembly arrangement therefore	18-Jan-96	22-Jul-97	Cummins Engine
5,666,913	Variable timing cam follower lever			
	assembly	29-May-96	16-Sep-97	Cummins Engine
5,669,285	Spherical joint connecting rod holder rings			
		07-Feb-96	and a comment of the second of	Cummins Engine
5,6/1,/0/	Rocker level oil shroud	28-Feb-96	30-Sep-97	Cummins Engine
5,673,853	Electromagnetic fuel injector control valve	40.0 05	07.0.1.07	
		13-Sep-95	07-Oct-97	Cummins Engine
5,676,114	Needle controlled fuel system with cyclic			
	pressure generation	25-Jul-96	14-Oct-97	Cummins Engine
5,678,521	System and methods for electronic control			
0,010,021	of an accumulator fuel system	17-Apr-96	21-Oct-97	Cummins Engine
5,680,309	Control system for automatic resumption			
	of speed control after gear change	07-Jun-95		Cummins Engine
	Oil fill cap	16-Jan-96		Cummins Engine
	Spherical joint connecting rod	07-Feb-96	ren in the contract of the con	Cummins Engine
5,687, 68 7	Oil level sensor system	07-Jun-95	18-Nov-97	Cummins Engine

Patent Number	Title	File Date	Grant Date	Entity
5,697,345	Clamping load distributor for a fuel injector	28-Dec-94	16-Dec-97	Cummins Engine
5,706,199	System for controlling engine speed in response to detection of vehicle speed			
	signal tampering Distortion reducing load ring for a fuel	17-Jul-95	06-Jan-98	Cummins Engine
5,706,786	injector Method of manufacturing coated piston	28-Dec-94	13-Jan-98	Cummins Engine
5,713,129	ring	16- M ay-96	ON ALL AND A CONTRACTOR TO A CONTRACTOR OF THE C	Cummins Engine
5,713,333	Wear-resistant fuel distributor rotor	21-Oct-96	03-Feb-98	Cummins Engine
5,713,335	Variable injection timing and injection pressure control arrangement	06-Jun-96	03-Feb-98	Cummins Engine
E 742 240	System for fueling an internal combustion engine with low and high pressure			
	gaseous fuel	12-Jun-96	03-Feb-98	Cummins Engine
5,715,7 88	assembly	29-Jul-96	10-Feb-98	Cummins Engine
5,720,248	Torsional tunable coupling for a diesel engine drive shaft	29-Nov-95	24-Feb-98	Cummins Engine
5,732,688	System for controlling recirculated exhaust gas temperature in an internal combustion engine	11-Dec-96	31-Mar-98	Cummins Engine
5,735,242	Fuel pressure activated engine compression braking system	17-Apr-96	07-Apr-98	Cummins Engine
5,738,606	torque of an internal combustion engine	30-Sep-96	14-Apr-98	Cummins Engine
5,749,339	lubricating oil replacement system	28-Feb-96	12-May-98	Cummins Engine
5,752,482	Integrated fuel measurement and control	28- Mar- 97	19- M ay-98	Cummins Engine
5,752,489	system for gaseous fuels Electronic turbocharger wastegate	10-Feb-97	19- M ay-98	Cummins Engine
5,755,101	controller	28-Mar-96		Cummins Engine
	Piston ring compressor Internal combustion engine cylinder head	07-Aug-95	16-Jun-98	Cummins Engine
5,765,282	method of manufacture	26-Jun-96	16-Jun-98	Cummins Engine
5,765,532	engine control	27-Dec-96	16-Jun-98	Cummins Engine
5,765,755	a ruei injector	23-Jan-97	16-Jun-98	Cummins Engine
5,769,319	a ruel injector	14-Mar-97	23-Jun-98	Cummins Engine
5,771,861	Apparatus and method for accurately controlling fuel injection flow rate	01-Jul-96	30-Jun-98	Cummins Engine
	High pressure fuel pump assembly	28-Jan-97		Cummins Engine
5 P. C.	Electronic throttle pedal nonlinear filter	01-Oct-96		Cummins Engine
	High Pressure Fuel Line Connection	30-Jun-95	07-Jul-98	Cummins Engine
-	Camshaft for internal combustion engines	26-Feb-97 01-Nov-96	4	Cummins Engine Cummins Engine
5,797,364	Top trough cam roller pin	01-1404-96	25-Aug-98	Curininis Engine

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Number	Title	File Date	Grant Date	Entity
5,806,499	Dedicated overhead cam shaft for unit		en man i i manageria i i i i	
3,000,400	injector	18-Mar-97	15-Sep-98	Cummins Engine
	Electronic assembly for selective heat			
5,812,375	sinking and two-sided component			
	attachment	06- M ay-96	22-Sep-98	Cummins Engine
5,816,710	Engine block bearing saddle reinforcing			
	inserts	01-Jul-97	06-Oct-98	Cummins Engine
5,819,704	Needle controlled fuel system with cyclic			,
	pressure generation	30-Jul-97	13-Oct-98	Cummins Engine
5,826,331	Method for the production of a fracture	:		
	split connection component	04-Dec-96		Cummins Engine
the second secon	Vehicle anti-theft system	25-Jun-97	The second secon	Cummins Engine
the second secon	Wear-resistant fuel distributor rotor	29-Sep-97		Cummins Engine
	Articulated piston	07-Aug-96		Cummins Engine
The second secon	Spark plug boot with ventable seal	12-Aug-97		Cummins Engine
5,844,430	Controllable signal conditioning circuit	21-May-96	01-Dec-98	Cummins Engine
5,845,397	Static timing method for heavy duty diesel	.		: _
	engines	21-Feb-97	08-Dec-98	Cummins Engine
E 0.4E 000	Variable volume chamber device for			
5,845,623	preventing leakage in an open nozzle	40.4 0***		
	injector	13-Aug-97	08-Dec-98	Cummins Engine
	Method and apparatus for control of			
RE36,007	engine compression brakes before during			
	and after an electronically controlled gear shift	04 Nov. 00	00.5	
	High proceure coalable connector for a	21-Nov-96	22-Dec-98	Cummins Engine
5,855,397	pressure sensor	02-Apr-97	05 lan 00	Cummina Engina
	Injection rate change possels accomply for	02-Api-97	05-Jan-99	Cummins Engine
5,860,597	a fuel injector	24-Mar-97	10- lan-00	Cummins Engine
	Deep angle injection nozzle and piston	24 19101 - 37	19-0411-99	Cummins Engine
5,868,112	having complementary combustion bowl	19-Dec-96	09-Feh-99	Cummins Engine
	Cruice control governor using entimal		0010000	Odmining Linguic
5,868,214	droop selection logic	29-Aug-95	09-Feb-99	Cummins Engine
5,870,928	Anti-lash gear with alignment device	08-May-97		Cummins Engine
	Engine drive train having a front gear train			
5,875,752	with improved torsional dynamics	16-Jun-97	02-Mar-99	Cummins Engine
C 077 E 4E	Encapsulated printed circuit assembly and			
5,877,545	method and manufacturing the	21-Mar-97	02-Mar-99	Cummins Engine
E 070 717	Cylinder pressure based air-fuel ratio and			
5,878,717	engine control	20-Mar-98	09-Mar-99	Cummins Engine
5,880,674	System for processing output signals		- · · · · · · · · · · · · · · · · · · ·	
3,000,074	associated with multiple vehicle	12-May-97	09-Mar-99	Cummins Engine
5,881,688	Electronically controlled continuous			
3,001,000	lubricating oil replacement system	14-Jan-98	16-Mar-99	Cummins Engine
5,882,013	Integrated gear housing/air compressor		:	
J,00Z,013	gasket	15-Sep-97	16-Mar-99	Cummins Engine
5,882,181	Barring adaptor for an engine air	· · · · · · · · · · · · · · · · · · ·		
J,002,101	compressor	01-Oct-96	16-Mar-99	Cummins Engine
5,884,611	Effervescent injector for diesel engines	14-Oct-97	23-Mar-99	Cummins Engine
5,884,848	Euel injector with piezoelectric and	· · · · ·		**
3,000,000	hydraulically actuated needle valve	09-May-97	23-Mar-99	Cummins Engine

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Number		File Date	Grant Date	Entity
5,890,470	Constant horsepower throttle progression	12 Aug 07	06 4 00 6-	
	control system and method	13-Aug-97	06-Apr-99 Ct	ımmins Engine
RE36,186	Method and device for controlling critical	00.0.1.00	00 4 00 0	
	switch failure and neutral conditions	08-Oct-96	06-Apr-99 Ct	ummins Engine
5,894,991	Unit injector with hard stop timing plunger	22-Aug-97	20-Apr-99 Cu	ummins Engine
5,894,992	Hydraulically actuated fuel injector with injection rate shaping pressure	18-Jul-96	20-Apr-99 Cu	ımmins Engine
E 000 400	Low leakage plunger and barrel assembly			
5,899,136	for high pressure fluid system	18-Dec-96	04-May-99 Cเ	ummins Engine
5,899,383	Ceramic fuel injector timing plunger	20-Feb-97		ummins Engine
and the second s	Two stage fuel injector nozzle assembly	02-Jun-97		ummins Engine
the second secon	Sensor assembly for easy removal	14-Jul-97		ummins Engine
	Internal combustion engine with air/fuel			
5,904,131	ratio control	28-Dec-95	18-May-99 Cu	ummins Engine
5,908,475	Gas/air mixer	02-Jan-96		ummins Engine
	Apparatus and method for minimizing			
5,911,772	transient filter effects on speed signal	1 4-Nov- 97	15-Jun-99 Cu	ummins Engine
5.913.239	Mass flow measurement device	1 7 -Jun-97		ummins Engine
	Pin-within-a-sleeve three-way solenoid			
5,918,630	valve with side load reduction	22-Jan-98	06-Jul-99 Cu	ummins Engine
	System for managing engine retarding			
5,921,883	torque during coast mode operation	18-May-98	13-Jul-99 Cu	ummins Engine
and the second s			10 001 00 00	Ziminio Engine
5,928,065	Centerless grinding machine with optimal regulating wheel truing and dressing			
		09-Feb-98	27-Jul-99 Cu	ummins Engine
5,934,174	Lightweight articulated piston head and			
	method of making the piston head	02-Oct-98	· · · · · · · · · · · · · · · · · · ·	ummins Engine
5,934,254	Top stop assembly for a fuel injector	27-Mar-98	10-Aug-99 Cւ	ummins Engine
5,937,807	Early exhaust valve opening control			
	system and method	30-Mar-98	17-Aug-99 Cւ	ummins Engine
5,937,812	Camshaft for internal combustion engines	18-Dec-97	17-Aug-99 Cu	ummins Engine
	Apparatus for controlling a fuel system of	10-20-37	17-Aug-33 Ot	Jillinia Engine
5,937,826	an internal combustion engine	02-Mar-98	17-Aug-99 Cu	ummins Engine
	System for customizing vehicle engine	02-Wai-30	17-Aug-33 Ot	arrilling Erigine
5,938,716	control computer operation	08-Sep-97	17-Aug-99 Ci	ummins Engine
	System for providing accurately time	00-оер-эт	17-Aug-33 Ct	Jillians Engine
5,941,915	stamped vehicle operational messages	18-Feb-97	24 Aug 00:Cu	Immine Engine
E 044 002			i i i i i i i i	ummins Engine ummins Engine
	Self-venting grommet for coil-on-plug	17-Apr-98		ummins Engine
5,947,442	Solenoid actuated valve assembly	10-Sep-97	07-Sep-99 Ct	ummins Engine
5,949,1 4 6	Control technique for a lean burning	00 1 107	07.0	
	engine system	0 2-Jul-97	07-Sep-99 Ct	ummins Engine
5,951,260	System and method for electronic air	04.44 07	44.0	
	compressor control	01- M ay-97	14-Sep-99 Ct	ummins Engine
5,954,029	Unit fuel injector having constant start of	05 1 05	04.0 00.0	
	injection	25-Jan-95		ummins Engine
5,954,038	Combustion face insert	02-Sep-97	21-Sep-99 Cu	ummins Engine
E 054 047	System for controlling internal combustion			
5,954,61 <u>7</u>	engine performance in accordance	24 1 07	21 0 22 0	unamaina Farrica
		31-Jan-97	∠ 1-Sep-99 Ct	ummins Engine

Patent Number	Title	File Date	Grant Date	Entity
5,957,116	Integrated and separable EGR distribution manifold	28-Aug-97	28-Sep-99	Cummins Engine
5,958,237	Fuel filter and water separator apparatus with integrated fuel pump	19-Feb-97		Cummins Engine
5,960,772	Apparatus and method for knock detection in internal combustion engines	08-Jun-98	05-Oct-99	Cummins Engine
5,965,806	Engine crankshaft sensing system System and method for engine parameter	06-Nov-97	12-Oct-99	Cummins Engine
5,968,107	trending	31-Oct-97	19-Oct-99	Cummins Engine
5,970,942	Electronically controlled continuous lubricating oil replacement system	27-Feb-98	26-Oct-99	Cummins Engine
5,971,888	Method and apparatus for controlling engine speed during power take-off	02-Mar-98	26-Oct-99	Cummins Engine
5,975,060	Dedicated overhead cam shaft for unit injector	20-Jan-98	02-Nov-99	Cummins Engine
5,979,259	Gear train assembly including a scissor gear	08- M ay-97	·	Cummins Engine
	Anti-lash gear assembly Control cooled cylinder liner	08- M ay-97 12-Jun-98		Cummins Engine Cummins Engine
5,979,407	Passive and active misfire diagnosis for	01-Jun-98		Cummins Engine
5,979,789	internal combustion engines Fuel injector with internal component load	.,	· · · · · · · · · · · · · · · · · · ·	
5,979,803	protection Fuel injector with pressure balanced	26-Nov-97		Cummins Engine
5,983,156	needle valve System for controlling engine fueling	26-Sep-97		Cummins Engine
5,983,863	according to vehicle location Compact high performance fuel system	03-Sep-97		Cummins Engine
	with accumulator System and method for detecting and	16-Jun-95	16-Nov-99	Cummins Engine
5,983,876	correcting cylinder bank imbalance	02-Mar-98 17-Feb-98		Cummins Engine Cummins Engine
	Fuel cooler and coolant filter assembly Air compressor engine barring adaptor	28-Dec-98	<u> </u>	Cummins Engine
5,999,876	Method and system for communication with an engine control module in sleep mode	01-Apr-98	07-Dec-99	Cummins Engine
6,002,980	System and method for engine cylinder power diagnosis by cylinder(s) cut-off		44.0	
6 002 206	snap throttle engine acceleration tests System for controlling downshift points of automatically selectable transmission	14-Nov-97	14-Dec-99	Cummins Engine
6,003,390	gears	20-Apr-98	21-Dec-99	Cummins Engine
6,006,154	System and method for cylinder power imbalance prognostics and diagnostics Apparatus and method for diagnosing and	02-Mar-98	21-Dec-99	Cummins Engine
	controlling an ignition system of an internal combustion engine Management of programming and	11-Dec-97	21-Dec-99	Cummins Engine
	engine control system Real-time clock back-up battery	01-Oct-97 03-Feb-99		Cummins Engine Cummins Engine
0,010,040	Treat time clock back up battery	30 , 00 00		

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	umber	Title	File Date	Grant Data	Entite
IN	umber		riie Date	Grant Date	Entity
	0.040.000	Redundant sensor apparatus for			
	6,019,086	determining engine speed and timing	22.1. 22		
		values	28- M ay-98	01-Feb-00	Cummins Engine
	6,021,370	Vehicle/engine acceleration rate			
		management system	05-Aug-97	01-Feb-00	Cummins Engine
	6,021,758	Method and apparatus for engine cylinder	!		
		balancing using sensed engine speed	26-Nov-97	08-Feb-00	Cummins Engine
	6,027,046	Pinned injector assembly	27-Mar-98	22-Feb-00	Cummins Engine
	6,029,902	1	,		
		Fuel injector with isolated spring chamber	26-Mar-98	29-Feb-00	Cummins Engine
	6,029,913	Swirl tip injector nozzle	01-Sep-98	29-Feb-00	Cummins Engine
		High infeed rate method for grinding			
	6,030,277	ceramic workpieces with silicon carbide			
		grinding wheels	30-Sep-97	29-Feb-00	Cummins Engine
		Method and apparatus for control of			1900
	6,031,707	current rise time during multiple fuel			
		injector events	23-Feb-98	29-Feb-00	Cummins Engine
	6,035,838	Controlled energy ignition system for an	**************************************		
	0,033,636	internal combustion engine	20-Apr-98	14-Mar-00	Cummins Engine
	6,036,194	Combustion gas seal for an internal		1	
	6,036,194	combustion engine	03-Sep-97	14-Mar-00	Cummins Engine
	6,036,449	Air compressor control	24-Mar-98		Cummins Engine
	C 044 7CE	Internal combustion engine with air/fuel			
	6,041,765	ratio control	04-Mar-99	28-Mar-00	Cummins Engine
	C 042 F0F	System for controlling operation of an			· <u></u> <u></u> <u></u> <u></u>
	6,042,505	internal combustion engine	18-Jun-98	28-Mar-00	Cummins Engine
	6,044,809	Method for controlling a vehicle engine			· · · · · · · · · · · · · · · · · · ·
	0,044,609	coolant fan	08-Jan-98	04-Apr-00	Cummins Engine
	0.044.004	Durable cylinder liner and method of			
	6,044,821	making the liner	19-Nov-98	04-Apr-00:	Cummins Engine
	6,045,120	Flow balanced spill control valve	13-Jan-98		Cummins Engine
	6,045,140	Retention gasket with cooperating cover	11-Jul-97	04-Apr-00	Cummins Engine
-				· · · · · · · · · · · · · · · · · · ·	·
	6,045,482	System for controlling air flow to a cooling			
		system of an internal combustion engine	02-Mar-98	04-Apr-00	Cummins Engine
					<u> </u>
		Apparatus and method for diagnosing			
	6,053,147	erratic pressure sensor operation in a fuel	*	!	
		system of an internal combustion engine	02-Mar-98	25-Apr-00	Cummins Engine
		Method and apparatus for estimation of			
	6.055.852	relative cylinder compression balance by		1	
	-,, 	cranking speed analysis	06-Nov-98	02-May-00	Cummins Engine
		Solenoid actuated flow control valve		52 May 50	Carrier C Linguis
	6,056,264	assembly	19-Nov-98	02-May-00	Cummins Engine
		Rotary distributor for a high pressure fuel	10 1404-00	02 May-00	Januaria Laignie
	6,058,910	system	18-Apr-98	UO-M2v-UU	Cummins Engine
**	6 062 197	Hybrid power governor	15-Jun-98		Cummins Engine
		Exhaust gas recirculation valve with	10 3411-30	TO Way-00	Curininia Liigine
	6,062,535	variable flow area	12-Feb-97	16-May-00°	Cummins Engine
		TOTALION HOW WILL	12 1 60-31	10-iviay-00	Committee Friding

Patent Number	Title	File Date	Grant Date	Entity
Mulliper	Duel throttle control to a single throttle		Orant Bate	
6,065,448	Dual throttle control to a single throttle	17 Jul 09	22 May 00	Cummine Engine
-	input	17-Jul-98	23-IVIAY-00	Cummins Engine
6,067,946	Dual-pressure hydraulic valve-actuation	16 Dec 06	20 May 00	Cummina Engine
	system	16-Dec-96	30-iviay-00	Cummins Engine
0.070.504	Apparatus for diagnosing failures and fault			'
6,076,504	conditions in a fuel system of an internal combustion engine	02-Mar-98	20. Jun 00	Cummins Engine
w va	Pump system for preventing hot start	02-iviai-90	20-3411-00	Cumining Linguie
6,076,507	knock in a diesel engine	28-Aug-98	20- Jun-00	Cummins Engine
	Engine block bearing saddle reinforcing	20-Aug-30	20-3011-00	Outniting Engine
6,076,971	inserts	15-Sep-98	20- Jun-00	Cummins Engine
	Method and apparatus for real-time data	13-3ep-30	20-3411-00	Odmining Engine
6 078 873	stamping via datalink and volatile ECM			
0,070,073	timer/clock	02-Oct-97	20- lun-00	Cummins Engine
	Electronically controlled lubricating oil and	02-00(-07	20 0011 00	Odinimio Engine
6,079,380	fuel blending system	02-Oct-98	27lun-00	Cummins Engine
	Electronically controlled continuous			Oddinino Liigiio
6,082,322	lubricating oil replacement system	23-Dec-98	04-Jul-00	Cummins Engine
	Apparatus and method for diagnosing and			
6 085 144	controlling an ignition system of an			
0,000,111	internal combustion engine	23-Apr-99	04-Jul-00	Cummins Engine
6,085,725	Throttle control response selection system	21-May-99	11-Jul-00	Cummins Engine
				<u>,</u>
6,089,207	Throttle control response selection system	18-Sep-98	18-Jul-00	Cummins Engine
0.000.505	Intake port injection system with shared			·
6,098,595	injectors	17-Aug-98	08-Aug-00	Cummins Engine
	System and method for detecting a valve-		00 at 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	A STATE OF THE STA
6,101,442	related fault condition for an internal			
	combustion engine	17-Dec-98	08-Aug-00	Cummins Engine
10.000000000000000000000000000000000000	Turbocharged internal combustion engine			<u> </u>
6,105,555	with system and method for enhancing			
	turbocharger power	01-Apr-99	29-Aug-00	Cummins Engine
6,109,129	Apparatus and method for adjusting a			
0,103,123	gear	04-Nov-98	29-Aug-00	Cummins Engine
6,109,542	Servo-controlled fuel injector with leakage			
0,100,042	limiting device	21-Sep-98	29-Aug-00	Cummins Engine
6,112,148	System and method for controlling			
0,112,110	diagnostic annunciators	18-Dec-98	29-Aug-00	Cummins Engine
	Fuel injector seat assembly with positive			
6,112,722	contact seal between fuel injector sleeve			·
	and cylinder head	19-Jun-98	05-Sep-00	Cummins Engine
6,113,474	Constant force truing and dressing	04.0 4.0-	05.0	
-, -, -, -, -, -, -, -, -, -, -, -, -, -	apparatus and method	01-Oct-97	05-Sep-00	Cummins Engine
6,116,198	Replaceable cylinder liner with improved		40.0	
	cooling	21-Jul-97	12-Sep-00	Cummins Engine
~==	Fuel metering check valve arrangement			
6,116,273	for a time-pressure controlled unit fuel	00 5 - 07	40.0 00	Cumamine Frein-
	injector	08-Dec-97	_ ,	Cummins Engine
6,123,061	Crankcase ventilation system	25-Feb-97	∠o-Sep-00	Cummins Engine

Attachment A

Patent Number	Title	File Date	Grant Date	Entity
6,123,144	Integrated heat exchanger and expansion tank	15-Apr-97	26-Sep-00	Cummins Engine
6,127,046	Formation of a graphite-free surface in a ferrous material to produce an improved intermetallic bond	04-Dec-97	03-Oct-00	Cummins Engine
6,131,547	cannarative for camenait near annications	27-Feb-98	17-Oct-00	Cummins Engine
6,131,555	System for controlling ignition energy of an internal combustion engine	09-Jun-99	17-Oct-00	Cummins Engine
	System for controlling road speed of a vehicle driven by an internal combustion engine	29- M ay-98	17-Oct-00	Cummins Engine
6,135,918	System for controlling operation of an internal combustion engine	20- M ay-99	24-Oct-00	Cummins Engine

BILL OF ASSIGNMENT

Made this 1st day of October 2000, from Cummins Engine Company, Inc., a Indiana corporation ("Seller"), to Cummins Engine IP, Inc., a Delaware corporation ("Buyer").

WHEREAS, Seller wishes to better manage its intellectual property and to enhance the value of its trademarks, service marks, patents, trade secrets and other intellectual property,

WITNESSETH:

FOR AND IN CONSIDERATION OF One Hundred shares of Buyer's Common Stock, Seller has agreed to transfer unto Buyer those assets listed in Attachment A and Attachment B hereto (the "Acquired Assets").

NOW, THEREFORE, KNOW ALL PERSONS BY THESE PRESENTS, that for and in consideration of the premises and other good and valuable consideration to it in hand paid, the receipt and sufficiently of which is hereby acknowledged, Seller has conveyed, granted, sold, transferred, assigned, and set over, and by these presents does hereby grant, sell, convey, transfer, assign and set over to Buyer, its successors and assigns, TO HAVE AND TO HOLD FOREVER, including, without limitation, all right, title and interest of Seller in and to the Acquired Assets.

The foregoing transfer is made upon the following express conditions:

Indemnification: Buyer agrees to indemnify and hold Seller harmless from and against any claims arising from Buyer's ownership or use of the Acquired Assets.

As-Is: The Acquired Assets are sold on the basis of asis-where-in.

IN WITNESS WHEREOF, Seller and Buyer have executed this instrument on the date and year first set forth above.

CUMMINS ENGINE COMPANY, INC.

By:

Ma#k R'. Gerstle

Vice President - Cummins Business Services, General Counsel and Secretary

CUMMINS ENGINE IP, INC.

Bv:

Paul H. Plahn

President

PATENT REEL: 013868 FRAME: 0392

RECORDED: 10/11/2001