

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM315451

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name	Formerly	Execution Date	Entity Type
Pinnacle Engines, Inc.	FORMERLY Cleeves Engines, Inc.	08/12/2014	CORPORATION: DELAWARE
RECEIVING PARTY DATA			
Name:	Venture Lending & Leasing VI, Inc.		
Street Address:	104 La Mesa Drive, Suite 102		
City:	Portola Valley		
State/Country:	CALIFORNIA		
Postal Code:	94028		
Entity Type:	CORPORATION: MARYLAND		
Name:	Venture Lending & Leasing VII, Inc.		
Street Address:	104 La Mesa Drive, Suite 102		
City:	Portola Valley		
State/Country:	CALIFORNIA		
Postal Code:	94028		
Entity Type:	CORPORATION: MARYLAND		
PROPERTY NUMBERS Total: 2			
Property Type	Number	Word Mark	
Serial Number:	85390349	PINNACLE	
Serial Number:	85390359	PINNACLE ENGINES	
CORRESPONDENCE DATA			
Fax Number:	4157774961		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>			
Phone:	415 981 1400		
Email:	gkiviat@grmslaw.com		
Correspondent Name:	Jeffrey T. Klugman		
Address Line 1:	Four Embarcadero Center, Suite 4000		
Address Line 4:	San Francisco, CALIFORNIA 94111		
ATTORNEY DOCKET NUMBER:	48046/0175 T		
NAME OF SUBMITTER:	Jeffrey T. Klugman		

OP \$65.00 85390349

SIGNATURE:	/Jeffrey T. Klugman/
DATE SIGNED:	08/28/2014
Total Attachments: 24 source=Pinnacle Engines, Inc. - 67-0175#page1.tif source=Pinnacle Engines, Inc. - 67-0175#page2.tif source=Pinnacle Engines, Inc. - 67-0175#page3.tif source=Pinnacle Engines, Inc. - 67-0175#page4.tif source=Pinnacle Engines, Inc. - 67-0175#page5.tif source=Pinnacle Engines, Inc. - 67-0175#page6.tif source=Pinnacle Engines, Inc. - 67-0175#page7.tif source=Pinnacle Engines, Inc. - 67-0175#page8.tif source=Pinnacle Engines, Inc. - 67-0175#page9.tif source=Pinnacle Engines, Inc. - 67-0175#page10.tif source=Pinnacle Engines, Inc. - 67-0175#page11.tif source=Pinnacle Engines, Inc. - 67-0175#page12.tif source=Pinnacle Engines, Inc. - 67-0175#page13.tif source=Pinnacle Engines, Inc. - 67-0175#page14.tif source=Pinnacle Engines, Inc. - 67-0175#page15.tif source=Pinnacle Engines, Inc. - 67-0175#page16.tif source=Pinnacle Engines, Inc. - 67-0175#page17.tif source=Pinnacle Engines, Inc. - 67-0175#page18.tif source=Pinnacle Engines, Inc. - 67-0175#page19.tif source=Pinnacle Engines, Inc. - 67-0175#page20.tif source=Pinnacle Engines, Inc. - 67-0175#page21.tif source=Pinnacle Engines, Inc. - 67-0175#page22.tif source=Pinnacle Engines, Inc. - 67-0175#page23.tif source=Pinnacle Engines, Inc. - 67-0175#page24.tif	

INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement (this "Agreement") is made as of August 12, 2014, by and between PINNACLE ENGINES, INC., a Delaware corporation ("Grantor"), and VENTURE LENDING & LEASING VI, INC. ("VLL6") and VENTURE LENDING & LEASING VII, INC. ("VLL7"), both Maryland corporations (sometimes referred to herein individually or together as "Secured Party").

RECITALS

A. Pursuant to that certain Loan and Security Agreement of even date herewith between Grantor, as borrower, and VLL6 and VLL7, as lenders, as such agreement may from time to time be amended, restated, supplemented or otherwise modified (the "Loan Agreement"), Secured Party has agreed to make certain advances of money and to extend certain financial accommodations to Grantor (the "Loans") in the amounts and manner set forth in the Loan Agreement. All capitalized terms used herein without definition shall have the meanings ascribed to them in the Loan Agreement.

B. Secured Party is willing to make the Loans to Grantor, but only upon the condition, among others, that Grantor shall grant to Secured Party a security interest in substantially all of Grantor's personal property whether presently existing or hereafter acquired. To that end, Grantor has executed in favor of Secured Party the Loan Agreement granting a security interest in all Collateral, and is executing this Agreement with respect to certain items of Intellectual Property, in particular.

NOW, THEREFORE, THE PARTIES HERETO AGREE AS FOLLOWS:

1. Grant of Security Interest. As collateral security for the prompt and complete payment and performance of all of Grantor's present or future Obligations, Grantor hereby grants a security interest and mortgage to Secured Party, as security, in and to Grantor's entire right, title and interest in, to and under the following Intellectual Property, now owned or hereafter acquired by Grantor or in which Grantor now holds or hereafter acquires any interest (all of which shall collectively be called the "Collateral" for purposes of this Agreement):

(a) Any and all copyrights, whether registered or unregistered, held pursuant to the laws of the United States, any State thereof or of any other country; all registrations, applications and recordings in the United States Copyright Office or in any similar office or agency of the United States, and State thereof or any other country; all continuations, renewals, or extensions thereof; and any registrations to be issued under any pending applications, including without limitation those set forth on Exhibit A attached hereto (collectively, the "Copyrights");

(b) All letters patent of, or rights corresponding thereto in, the United States or any other country, all registrations and recordings thereof, and all applications for letters patent of, or rights corresponding thereto in, the United States or any other country, including, without limitation, registrations, recordings and applications in the United States Patent and Trademark Office or in any similar office or agency of the United States, any State thereof or any other country; all reissues, continuations, continuations-in-part or extensions thereof; all petty patents, divisionals, and patents of addition; and all patents to be issued under any such applications, including without limitation the patents and patent applications set forth on Exhibit B attached hereto (collectively, the "Patents");

(c) All trademarks, trade names, corporate names, business names, trade styles, service marks, logos, other source or business identifiers, prints and labels on which any of the foregoing have appeared or appear, designs and general intangibles of like nature, now existing or hereafter adopted or acquired, all registrations and recordings thereof, and any applications in connection therewith, including, without limitation, registrations,

recordings and applications in the United States Patent and Trademark Office or in any similar office or agency of the United States, any State thereof or any other country or any political subdivision thereof, and reissues, extensions or renewals thereof, and the entire goodwill of the business of Grantor connected with and symbolized by such trademarks, including without limitation those set forth on Exhibit C attached hereto (collectively, the "Trademarks");

(d) Any and all claims for damages by way of past, present and future infringement of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the intellectual property rights identified above;

(e) All licenses or other rights to use any of the Copyrights, Patents or Trademarks, and all license fees and royalties arising from such use to the extent permitted by such license or rights;

(f) All amendments, renewals and extensions of any of the Copyrights, Trademarks or Patents; and

(g) All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

Notwithstanding the foregoing the term "Collateral" shall not include: (a) "intent-to-use" trademarks at all times prior to the first use thereof, whether by the actual use thereof in commerce, the recording of a statement of use with the United States Patent and Trademark Office or otherwise, but only to the extent the granting of a security interest in such "intent to use" trademarks would be contrary to applicable law or (b) any contract, instrument or chattel paper in which Grantor has any right, title or interest if and to the extent such contract, instrument or chattel paper includes a provision containing a restriction on assignment such that the creation of a security interest in the right, title or interest of Grantor therein would be prohibited and would, in and of itself, cause or result in a default thereunder enabling another person party to such contract, instrument or chattel paper to enforce any remedy with respect thereto; provided, however, that the foregoing exclusion shall not apply if (i) such prohibition has been waived or such other person has otherwise consented to the creation hereunder of a security interest in such contract, instrument or chattel paper, or (ii) such prohibition would be rendered ineffective pursuant to Sections 9-407(a) or 9-408(a) of the UCC, as applicable and as then in effect in any relevant jurisdiction, or any other applicable law (including the Bankruptcy Code) or principles of equity); provided further that immediately upon the ineffectiveness, lapse or termination of any such provision, the term "Collateral" shall include, and Grantor shall be deemed to have granted a security interest in, all its rights, title and interests in and to such contract, instrument or chattel paper as if such provision had never been in effect; and provided further that the foregoing exclusion shall in no way be construed so as to limit, impair or otherwise affect Secured Party's unconditional continuing security interest in and to all rights, title and interests of Grantor in or to any payment obligations or other rights to receive monies due or to become due under any such contract, instrument or chattel paper and in any such monies and other proceeds of such contract, instrument or chattel paper.

2. Covenants and Warranties. Grantor represents, warrants, covenants and agrees as follows:

(a) Grantor is now the sole owner of the Collateral, except for Permitted Liens;

(b) During the term of this Agreement, Grantor will not transfer or otherwise encumber any interest in the Collateral, except for Permitted Liens or as otherwise permitted by the Loan Agreement;

(c) To its knowledge, each of the Patents is valid and enforceable, and no part of the Collateral has been judged invalid or unenforceable, in whole or in part, and no claim has been made that any part of the Collateral violates the rights of any third party;

(d) Grantor shall deliver to Secured Party within thirty (30) days of the last day of each fiscal quarter, a report signed by Grantor, in form reasonably acceptable to Secured Party, listing any applications or registrations that Grantor has made or filed in respect of any Patents, Copyrights or Trademarks and the status of any outstanding applications or registrations. Grantor shall promptly advise Secured Party of any material change in the composition of the Collateral, including but not limited to any subsequent ownership right of the Grantor in or to any Trademark, Patent or Copyright not specified in this Agreement;

(e) Grantor shall use reasonable commercial efforts to (i) protect, defend and maintain the validity and enforceability of the Trademarks, Patents and Copyrights, (ii) detect infringements of the Trademarks, Patents and Copyrights and promptly advise Secured Party in writing of material infringements detected and (iii) not allow any material Trademarks, Patents or Copyrights to be abandoned, forfeited or dedicated to the public without the written consent of Secured Party, which consent shall not be unreasonably withheld, conditioned or delayed;

(f) Grantor shall apply for registration on an expedited basis (to the extent not already registered) with the United States Patent and Trademark Office or the United States Copyright Office, as applicable: (i) those intellectual property rights listed on Exhibits A, B and C hereto within thirty (30) days of the date of this Agreement; and (ii) those additional intellectual property rights developed or acquired by Grantor from time to time in connection with any product or service, prior to the sale or licensing of such product or the rendering of such service to any third party (including without limitation revisions or additions to the intellectual property rights listed on such Exhibits A, B and C), except with respect to such rights that Grantor determines in its sole but reasonable commercial judgment need not be registered to protect its own business interests. Grantor shall, from time to time, execute and file such other instruments, and take such further actions as Secured Party may reasonably request from time to time to perfect or continue the perfection of Secured Party's interest in the Collateral. Grantor shall give Secured Party notice of all such applications or registrations; and

(g) Grantor shall not enter into any agreement that would materially impair or conflict with Grantor's obligations hereunder without Secured Party's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed. Grantor shall not permit the inclusion in any material contract to which it becomes a party of any provisions that could or might in any way prevent the creation of a security interest in Grantor's rights and interests in any property included within the definition of the Collateral acquired under such contracts.

3. Further Assurances: Attorney in Fact.

(a) On a continuing basis, Grantor will make, execute, acknowledge and deliver, and file and record in the proper filing and recording places in the United States, all such instruments, including appropriate financing and continuation statements and collateral agreements and filings with the United States Patent and Trademark Office and the Register of Copyrights, and take all such action as may reasonably be deemed necessary or advisable, or as reasonably requested by Secured Party, to perfect Secured Party's security interest in all Copyrights, Patents and Trademarks and otherwise to carry out the intent and purposes of this Agreement, or for assuring and confirming to Secured Party the grant or perfection of a security interest in all Collateral.

(b) Grantor hereby irrevocably appoints Secured Party as Grantor's attorney-in-fact, with full authority in the place and stead of Grantor and in the name of Grantor, from time to time in Secured Party's discretion, to take any action and to execute any instrument which Secured Party may deem necessary or advisable to accomplish the purposes of this Agreement, including (i) to modify, in its sole discretion, this Agreement without first obtaining Grantor's approval of or signature to such modification by amending Exhibits A, B and C, hereof, as appropriate, to include reference to any right, title or interest in any Copyrights, Patents or Trademarks acquired by Grantor after the execution hereof or to delete any reference to any right, title or interest in any Copyrights, Patents or Trademarks in which Grantor no longer has or claims any right, title or interest, (ii) to file, in its sole discretion, one or more financing or continuation statements and amendments thereto, relative to any of the Collateral without

the signature of Grantor where permitted by law, and (iii) after the occurrence of an Event of Default, subject to Part 2, Section 3 of the Supplement, to transfer the Collateral into the name of Secured Party or a third party to the extent permitted under the California Uniform Commercial Code.

4. Events of Default. The occurrence of any of the following shall constitute an Event of Default under this Agreement:

(a) An Event of Default under the Loan Agreement; or

(b) Grantor breaches any warranty or agreement made by Grantor in this Agreement and, as to any breach that is capable of cure, Grantor fails to cure such breach within thirty (30) days of the sooner to occur of Grantor's receipt of notice of such breach from Secured Party or the date on which such breach first becomes known to Grantor.

5. Amendments. This Agreement may be amended only by a written instrument signed by both parties hereto, except for amendments permitted under Section 3 hereof to be made by Secured Party alone.

6. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute the same instrument.

7. Several Nature of Secured Party's Obligations and Rights; Pari Passu Security Interests. This Agreement is and shall be interpreted for all purposes as separate and distinct agreements between Grantor and VLL6, on the one hand, and Grantor and VLL7, on the other hand, and nothing in this Agreement shall be deemed a joint venture, partnership or other association between VLL6 and VLL7. Each reference in this Agreement to "Secured Party" shall mean and refer to each of VLL6 and VLL7, singly and independent of one another. Without limiting the generality of the foregoing, the covenants and other obligations of "Secured Party" under this Agreement are several and not joint obligations of VLL6 and VLL7, and all rights and remedies of "Secured Party" under this Agreement may be exercised by VLL6 and/or VLL7 independently of one another. The security interests granted by Grantor to each of VLL6 and VLL7 hereunder and under the Loan Agreement shall be deemed to have been granted and perfected at the same time and shall be of equal priority.

[Signature Pages Follow]

[Signature page to Intellectual Property Security Agreement]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

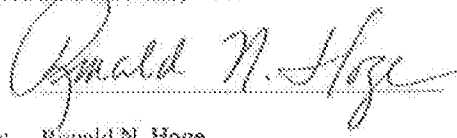
GRANTOR:

Address of Grantor:

1559 Industrial Road
San Carlos, CA 94070

PINNACLE ENGINES, INC.

By:



Name: Ronald N. Hoge

Its: Chief Executive Officer

SECURED PARTY:

Address of Secured Party:

104 La Mesa Dr., Suite 102
Portola Valley, CA 94028
Attn: Chief Financial Officer

VENTURE LENDING & LEASING VI, INC.

By:

Name:

Its:

Address of Secured Party:

104 La Mesa Drive, Suite 102
Portola Valley, CA 94028
Attn: Chief Financial Officer

VENTURE LENDING & LEASING VII, INC.

By:

Name:

Its:

[Signature page to Intellectual Property Security Agreement]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

GRANTOR:

Address of Grantor:

1559 Industrial Road
San Carlos, CA 94070

PINNACLE ENGINES, INC.

By:

Name:


Its:

SECURED PARTY:

Address of Secured Party:

104 La Mesa Dr., Suite 102
Portola Valley, CA 94028
Attn: Chief Financial Officer

VENTURE LENDING & LEASING VI, INC.

By: 

Name: Rudy Ruano

Its: Investment Partner

Address of Secured Party:

104 La Mesa Drive, Suite 102
Portola Valley, CA 94028
Attn: Chief Financial Officer

VENTURE LENDING & LEASING VII, INC.

By: 

Name: Rudy Ruano

Its: Investment Partner

EXHIBIT A

Copyrights

<u>Description</u>	<u>Registration Number</u>	<u>Registration Date</u>
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None

EXHIBIT B

Patents

<u>Description</u>	<u>Registration/Serial Number</u>	<u>Registration/Application Date</u>
<p>Internal Combustion Engine - The issued claims in US7,559,298 (38328-502001US) are generally directed to an internal combustion engine having an internal volume (i.e. of the cylinder) whose minimum size can be adjusted between a large size for a large power delivery and a small size for a small power delivery. An inlet valve can allow an increased amount of air into the internal volume during the large power delivery and a decreased amount of air during the small power delivery for one cycle of the pistons. The issued claims in US7,921,817 (38328-502C02US) feature a sleeve valve with a lip feature that receives a positive internal pressure differential that assists in closing the valve. The allowed claims in app. no. 12/478,622 (38328-502C01US) feature an oil path-defining piece adjacent to an exterior surface of a sleeve valve and a flexible seal.</p>	USA - App. Serial No.: 60/853,095	Filing Date: Oct-20-2006
	USA - App. Serial No.: 11/695,536 USA - Patent No.: 7,559,298	Filing Date: Apr-02-2007 Issue Date: Jul-14-2009
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2007/065870	Filing Date: Apr-03-2007
	BRAZIL - App. Serial No.: 0710178-3	Filing Date: Apr-03-2007
	CHINA - App. Serial No.: 200780013940.2	Filing Date: Apr-03-2007
	EUROPEAN PATENT CONVENTION - App. Serial No.: 07760035.1	Filing Date: Apr-03-2007
	INDIA - App. Serial No.: 6270/CHENP/2008	Filing Date: Apr-03-2007
	JAPAN - App. Serial No.: 2009-506678 JAPAN - Patent No. 5175268	Filing Date: Apr-03-2007 Issued Date: Jan-11-2013
	KOREA - App. Serial No.: 10-20008-7028179 KOREA - Patent No. 10-1349902	Filing Date: Apr-03-2007 Issued Date: Jan-03-2014
	USA - App. Serial No.: 12/478,629 USA - Patent No.: 7,921,817	Filing Date: Jun-04-2009 Issue Date: Apr-12-2011
	JAPAN - App. Serial No.: 2013-000228	Filing Date: Apr-03-2007
	USA - App. Serial No.: 12/478,622 USA - Patent No.: 8,365,697	Filing Date: Jun-04-2009 Issued Date: Feb-05-2013
	JAPAN - App. Serial No.: 2013-000227	Filing Date: May-09-2013
	KOREA - App. Serial No.: 10-2013-7026796	Filing Date: Apr-03-2007
USA - App. Serial No.: 13/758822 USA - Patent No.: 8,651,086	Filing Date: Feb-04-2013 Issue Date: Feb-18-2014	

EXHIBIT B

Patents

<u>Description</u>	<u>Registration/Serial Number</u>	<u>Registration/Application Date</u>
Spark Plug - The issued claims in US7,098,581 (38328-503F01US) are directed to a spark plug with multiple gaps sized between one to two thirds of an optimum gap distance for a single gap. In US7,309,951 (38328-503C01US), electrodes forming multiple gaps are coupled.	USA - App. Serial No.: 10/663,162 USA - Patent No.: 7,098,581	Filing Date: Sep-15-2003 Issue Date: Aug-26-2006
	USA - App. Serial No.: 12/624,276 USA - Patent No.: 7,309,951	Filing Date: May-31-2006 Issue Date: Dec-18-2007
Sleeve Valve Assembly (with Cooling Path) - The pending claims are generally directed to an assembly including a sleeve valve and seat and a fluid path-defining piece having an inlet port, an outlet port and a plurality of cooling passages. The sleeve valve is slidably in contact with the fluid path-defining piece.	USA - App. Serial No.: 61/155010	Filing Date: Feb-24-2009
	USA - App. Serial No.: 12/710248 USA - Patent No.: 8,573,178	Filing Date: Feb-22-2010 Issued Date: Nov-05-2013
	USA - App. Serial No.: 14/071509	Filing Date: Nov-04-2013
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2010/025013	Filing Date: Feb-23-2010
	BRAZIL - App. Serial No.: PI1008005-8	Filing Date: Feb-23-2010
	CHINA - App. Serial No.: 201080019406.4	Filing Date: Feb-23-2010
	EUROPEAN PATENT CONVENTION - App. Serial No.: 10705521.2 EPC Patent No: 2401481	Filing Date: Feb-23-2010 Issued Date: Jul-17-2014
	UNITED KINGDOM- App. Serial No.: 10705521.2 UNITED KINGDOM Patent No.: 2401481	Filing Date: Feb-23-2010 Issued Date: Jul-17-2014
	GERMANY - App. Serial No.: 10705521.2 GERMANY Patent No.: 2401481	Filing Date: Feb-23-2010 Issued Date: Jul-17-2014
	FRANCE - App. Serial No.: 10705521.2 FRANCE Patent No.: 2401481	Filing Date: Feb-23-2010 Issued Date: Jul-17-2014
	INDIA - App. Serial No.: 6868/CHENP/2011	Filing Date: 23-Feb-2010
	JAPAN - App. Serial No.: 2011-551287	Filing Date: 23-Feb-2010
	KOREA - App. Serial No.: 10-2011-	Filing Date: Exam Date: 23-



7022414

Feb-2010

EXHIBIT B

Patents

<u>Description</u>	<u>Registration/Serial Number</u>	<u>Registration/Application Date</u>
<p>Multi-Mode High Efficiency Internal Combustion Engine ("Over-Compressed Engine") - An internal combustion engine can be operated in an efficiency mode to provide a first power output range between zero and a transition power output level and in a power mode to provide a second power output range between the transition power output level and a maximum power output level. A first ignition timing and a first air/fuel ratio of the mixture can be used in the efficiency mode to avoid premature auto-ignition of a mixture of inlet air and a fuel according to an octane rating of the fuel and a compression ratio exceeding approximately 13:1. A second ignition timing and a second air/fuel ratio of the mixture can be used in the power mode to avoid premature auto-ignition of the mixture according to the octane rating of the fuel and the compression ratio exceeding approximately 13:1. To further enable knock free operation of such an engine, turbulence can be imparted to the mixture to promote a faster burn duration and high temperatures that may lead to premature auto-ignition of the mixture can be avoided.</p>	USA - App. Serial No.: 12/720,457 USA - Patent No.: 8,544,445	Filing Date: Mar-09-2010 Issued Date: Oct-01-2013
	USA - App. Serial No.: 13/344,515	Filing Date: Jan-05-2012
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2011/027775	Filing Date: Mar-09-2011
	BRAZIL - App. Serial No.: BR112012022627-4	Filing Date: Mar-09-2011
	CHINA - App. Serial No.: 201180023262.4	Filing Date: Mar-09-2011
	EUROPEAN PATENT CONVENTION - App. Serial No.: 11713398.3	Filing Date: Mar-09-2011
	INDIA - App. Serial No.: 8455/CHENP/2012	Filing Date: Mar-09-2011
	JAPAN - App. Serial No.: 2012-557223	Filing Date: Mar-09-2011
KOREA - App. Serial No.: 10-2012-7026251	Filing Date: Mar-09-2011	

EXHIBIT B

Patents

<u>Description</u>	<u>Registration/Serial Number</u>	<u>Registration/Application Date</u>
<p>Internal Combustion Engine Valve Actuation and Adjustable Lift and Timing - Improved rocker pivot locations and cam phasing are described for use in internal combustion engines to that can reduce forces on a cam and thereby minimize the need for roller followers. Also described are approaches to altering valve timing and/or lift to optimize engine breathing in relation to current operating conditions.</p>	USA - App. Serial No.: 61/391,476	Filing Date: Oct-08-2010
	USA - App. Serial No.: 13/270,173 USA - Patent No.: 8,776,739	Filing Date: Oct-10-2011 Issue Date: Jul-15-2014
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2011/55500	Filing Date: Oct-08-2011
	CHINA - App. Serial No.: 201180055884.5	Filing Date: Oct-08-2011
	INDIA - App. Serial No.: 3498/CHENP/2013	Filing Date: Oct-08-2011
<p>Use of Pressurized Fuels in an Internal Combustion Engine - Direct injection of compressed gas-phase fuels to a combustion volume of an internal combustion engine can eliminate the need for regulators and other hardware otherwise necessary for premixing such fuels with air before delivery to the combustion volume. While premixing generally causes some of the air to be displaced by expansion of the compressed fuel, direct injection after admission of air to the combustion volume and closing of the intake valve can increase the total intake air flow and also increase the density of the fuel charge within the combustion volume to provide a "supercharger" bonus. In another aspect, a compressed fuel cylinder can be incorporated as a structural part of a vehicle.</p>	USA - App. Serial No.: 61/391,487	Filing Date: Oct-08-2010
	USA - App. Serial No.: 13/270,176	Filing Date: Oct-10-2011
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2011/055501	Filing Date: Oct-08-2011
	INDIA - App. Serial No.: 3506/CHENP/2013	Filing Date: Oct-08-2011

EXHIBIT B

Patents

<u>Description</u>	<u>Registration/Serial Number</u>	<u>Registration/Application Date</u>
<p>Control of Combustion Mixtures and Variability thereof with Engine Load - Variable control of combustion mixtures delivered to an internal combustion engine can be provided using specialized carburetor geometries and/or computer controlled fuel injection. Independent variation of combustion mixture richness and air flow can be important in maximizing fuel efficiency and/or controlling pollutant generation. Mechanically simple, inexpensive mechanisms are described that enable operation of a carburetor in which these variables can be independently controlled. Other implementations include features relating to physical feedback mechanisms to indicate to a vehicle operator when engine operation is transitioning between one of multiple modes with differing efficiency and power characteristics.</p>	USA - App. Serial No.: 61/391,502	Filing Date: Oct-08-2010
	USA - App. Serial No.: 13/270,182	Filing Date: Oct-10-2011
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2011/055502	Filing Date: Oct-08-2011
<p>Sealing of Sleeve Valves- Improved sleeve valve actuation and sealing mechanisms are described. Variations include optimizing an interference angle of a spring used to force a sleeve valve into a sealed position, using a sleeve valve reverse angle seal profile (e.g by optimizing the sleeve valve tip seal geometry), a double-walled gas-assisted valve, and piston-style rings.</p>	USA - App. Serial No.: 61/391,519	Filing Date: Oct-08-2010
	USA - App. Serial No.: 13/270,192	Filing Date: Oct-10-2011
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2011/055503	Filing Date: Oct-08-2011
	CHINA - App. Serial No.: 201180059309.2	Filing Date: Oct-08-2011
	INDIA - App. Serial No.: 3504/CHENP/2013	Filing Date: Oct-08-2011

EXHIBIT B

Patents

<u>Description</u>	<u>Registration/Serial Number</u>	<u>Registration/Application Date</u>
<p>Single Piston Sleeve Valve / Single Piston Sleeve Valve with Variable Compression Ratio - An internal combustion engine can include a piston having a piston head and being disposed in a cylinder of the internal combustion engine and configured to move in a reciprocating motion within the cylinder parallel to an axis of the cylinder. A junk head can be disposed opposite the piston head in the cylinder and can optionally be moveable between a higher compression ratio position closer to a top dead center of the piston and a lower compression ratio position further from the top dead center position of the piston. At least one intake port can deliver a fluid comprising inlet air to a combustion volume within the cylinder. Combustion gases can be directed out of the combustion volume through at least one exhaust port an exhaust port. One or both of the intake port and the exhaust port can be opened and closed by operation of a sleeve valve that at least partially encircles the piston. Related articles, systems, and methods are described.</p>	USA - App. Serial No.: 61/391,525	Filing Date: Oct-08-2010
	USA - App. Serial No.: 61/501,462	Filing Date: Jun-27-2011
	USA - App. Serial No.: 13/270,200	Filing Date: Oct-10-2011
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2011/055457	Filing Date: Oct-07-2011
	CHINA - App. Serial No.: 201180059310.5	Filing Date: Oct-08-2011
	EUROPEAN PATENT CONVENTION - App. Serial No.: 11779008.9	Filing Date: Oct-07-2011
	INDIA - App. Serial No.: 3503/CHENP/2013	Filing Date: Oct-07-2011
	TAIWAN - App. Serial No.: 100136538	Filing Date: Oct-07-2011



CHINA- App. Serial No.: 099127962

Filing Date: Aug-20-2010

EXHIBIT B

Patents

<u>Description</u>	<u>Registration/Serial Number</u>	<u>Registration/Application Date</u>
<p>Variable Compression Ratio System for Opposed-Piston and Other Internal Combustion Engines, and Related Methods of Manufacture and Use - Various embodiments of methods and systems for varying the compression ratio in opposed-piston engines are disclosed herein. In one embodiment, an opposed-piston engine can include a first phaser operable coupled to a first crankshaft and a second phaser operably coupled to a corresponding second crankshaft. The phase angle between the crankshafts can be changed to reduce or increase the compression ratio in the corresponding combustion chamber to optimize or at least improve engine performance under a given set of operating conditions.</p>	USA - App. Serial No.: 61/501,677	Filing Date: Jun-27-2011
	USA - App. Serial No.: 61/511,521	Filing Date: Jul-25-2011
	USA - App. Serial No.: 13/269,541 USA - Patent No.: 8,413,619	Filing Date: Oct-07-2011 Issued Date: Apr-09-2013
	USA - App. Serial No.: 13/858790	Filing Date: Apr-08-2013
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2011/055486	Filing Date: Oct-07-2011
	BRAZIL- App. Serial No.: BR112013009242-4	Filing Date: Oct-07-2011
	CHINA - App. Serial No.: 201110301836.1	Filing Date: Oct-08-2011
	CHINA - App. Serial No.: 201120379279.0 CHINA Patent No.: ZL201120379279.0	Filing Date: Oct-08-2011 Issued Date: Sep-05-2012
	INDIA- App. Serial No.: 3501/CHENP/2013	Filing Date: Oct-07-2011
	EUROPEAN PATEN CONVENTION- App. Serial No.: 11831731.2	Filing Date: Oct-07-2011

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<u>Description</u>	<u>Registration/Serial Number</u>	<u>Registration/Application Date</u>
<p>Enhanced Efficiency and NOx Control by Multi-Variable Control of Engine Operation - One or more operation parameters of an internal combustion engine can be monitored. Based on the monitored operation parameters, a set of engine operation conditions necessary to provide combustion stability in a combustion volume of the engine, optimized fuel efficiency, and minimized production of nitrogen oxides can be determined. The set of engine operation conditions can include ignition timing in the combustion volume, ignition energy provided within the combustion volume, compression ratio, air-fuel ratio, and amount of exhaust gas recirculation. The new set of engine operation conditions can be dynamically implemented to change from a first set of engine operation conditions in a first engine cycle to the new set for a second engine cycle.</p>	USA - App. Serial No.: 61/501,594	Filing Date: Jun-27-2011
	USA - App. Serial No.: 61/501654	Filing Date: Jun-27-2012
	USA - App. Serial No.: 13/535165	Filing Date: Jun-27-2012
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2012/044471	Filing Date: Jun-27-2012
	BRAZIL- App. Serial No.: BR112013033554-8	Filing Date: Jun-27-2012
	CHINA - App. Serial No.: 201280041625.1	Filing Date: Jun-27-2012
	EUROPEAN PATEN CONVENTION- App. Serial No.: 12737945.1	Filing Date: Jun-27-2012
	INDIA- App. Serial No.: Pending	Filing Date: Jun-27-2012

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<u>Description</u>	<u>Registration/Serial Number</u>	<u>Registration/Application Date</u>
<p>Positive Control (Desmodronic) Valve Systems for Internal Combustion Engines - Various types of valve systems are disclosed herein. In one embodiment, a positive control reciprocating sleeve valve system for use with an internal combustion engine includes opening and closing rockers controlled by corresponding opening and closing cam lobes. In one aspect of this embodiment, interference can be designed into the valve control system to provide additional "hold-closed" force to hold the valve against its seat during a portion of the engine cycle. In another aspect of this embodiment, positive control valve systems can include compliant components and systems, hydraulic systems, pneumatic systems, and/or mechanical spring systems to control valve lash, facilitate sealing, etc.</p>	USA - App. Serial No.: 61/498,481	Filing Date: Jun-17-2011
	USA - App. Serial No.: 61/511,519	Filing Date: Jul-25-2011
	USA - App. Serial No.: 13/269,539	Filing Date: Oct-07-2011
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2011/055485	Filing Date: Oct-07-2011
	BRAZIL- App. Serial No.: BR112013008208-9	Filing Date: Oct-07-2011
	CHINA - App. Serial No.: 201110303034.4	Filing Date: Oct-08-2011
	CHINA - App. Serial No.: 201120379280.3 CHINA Patent No.: ZL 201120379280.3	Filing Date: Oct-08-2011 Issued Date: Jan-09-2013
	EUROPEAN PATEN CONVENTION- App. Serial No.: 11831730.4	Filing Date: Oct-07-2011
	INDIA- App. Serial No.: 3509/CHENP/2013	Filing Date: Oct-07-2011
	TAIWAN - App. Serial No.: 100136788	Filing Date: Oct-11-2011
<p>Opposed Piston Engine with Non-Collinear Axes of Translation - In an opposed cylinder engine, the two opposed pistons can be aligned such that their axes of translation within a cylinder are not collinear. One or more advantages can be realized including but not limited to providing additional clearance for a spark plug in a low displacement volume, spark ignited engine, enhancing turbulence in a compressed air-fuel mixture, and improving oil drainage.</p>	INDIA- App. Serial No.: 1296/CHE/2011	Filing Date: Apr-15-2011
	USA - App. Serial No.: 61/536,401	Filing Date: Sep-19-2011
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2012/033685	Filing Date: Apr-13-2012
	USA - App. Serial No.: 14/111989	Filing Date: Dec-26-2013
	CHINA - App. Serial No.: 201280029012.6	Filing Date: Apr-13-2012

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Description	Registration/Serial Number	Registration/Application Date
<p>Variable Compression Ratio Diesel Engine - Diesel opposed piston engines, optionally with variable compression ratio and/or turbocharging, can provide improved fuel efficiency by adapting a compression ratio of the engine in accordance with an engine load such that larger compression ratios are used for smaller loads and smaller compression ratios are used for larger loads. Turbocharging can provide improved efficiency at the smaller compression ratio operating conditions. Optionally, one or more current engine parameters can be modified to maintain a peak combustion chamber temperature below a threshold temperature at which an acceptable level of nitrogen oxide pollutants (NOX) is expected to be formed. One or more swirl inducing features can be included on piston crowns in an opposed piston engine.</p>	USA - App. Serial No.: 61/667369	Filing Date: Jul-02-2012
	USA - App. Serial No.: 13/934153	Filing Date: Jul-02-2012
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2013/049160	Filing Date: Jul-02-2012
<p>Deceleration Fuel Shut Off For Carbureted Engines - Fuel efficiency of small carbureted engines can be improved through the use of a fuel shut off valve that ceases fuel flow in the carburetor upon determination that the engine throttle has been closed and the engine is not at or near an idle condition. Based on the international search report results, we have decided not to pursue this matter further. NO NATIONAL PHASE applications currently planned, although Mintz will remind before the deadline of January 2015.</p>	USA - App. Serial No.: 61/669590	Filing Date: Jul-09-2012
	USA - App. Serial No.: 13/937964	Filing Date: Jul-09-2013
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2013/049752	Filing Date: Jul-09-2013

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TRADEMARK
REEL: 005353 FRAME: 0344

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Description	Registration/Serial Number	Registration/Application Date
<p>Carburetors for Providing Air-To-Fuel Ratio Variability Independent of Engine Load - Carburetor features, which can include but are not limited to varying slope angles in different sections of a multi-sectioned carburetor needle, can provide combustion mixtures to an engine that include a fuel-air ratio that is variable independent of the rate of air flow through the carburetor.</p>	USA - App. Serial No.: 61/669597	Filing Date: Jul-09-2012
	USA - App. Serial No.: 13/938087	Filing Date: Jul-09-2013
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2013/049787	Filing Date: Jul-09-2013
<p>Gear Assembly With Thermal Expansion Matching - A gear assembly can include a gear core of a material whose thermal expansion properties are tuned to those of a support structure (e.g. an engine block) separating the axes of rotation of two or more gears in a gear train that is exposed to a wide range of operating temperatures. A ring gear of a more robust material is added to the perimeter for improved wear characteristics.</p>	USA - App. Serial No.: 61/704418	Filing Date: Sep-21-2012
	USA - App. Serial No.: 14/033357	Filing Date: Sep-21-2013
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2013/060839	Filing Date: Sep-21-2013
<p>Low Temperature Catalyst Light-Off - Relates to heating a catalyst from a low temperature at which it is not effective at removing exhaust pollutants to an operating temperature at which such pollutants are efficiently removed from engine exhaust, for example by operating at a rich mixture condition during times that the current temperature of the catalyst is below a target minimum operating temperature (e.g. initial engine start-up or other times when the catalyst temperature drops below the target minimum operating temperature.)</p>	USA - App. Serial No.: 61/821584	Filing Date: May-09-2013
	USA - App. Serial No.: 14/274612	Filing Date: May-09-2014
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2014/037544	Filing Date: May-09-2014

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Description	Registration/Serial Number	Registration/Application Date
<p>Sleeve Valve Oil Seal - Relates to achieving a lubricant seal between a sleeve valve and an engine block, for example by including a sealing apparatus that moves with the sleeve valve rather than be stationary relative to the engine block.</p>	USA - App. Serial No.: 61/837101	Filing Date: Jun-19-2013
	USA - App. Serial No.: 14/309825	Filing Date: Jun-19-2014
	PATENT COOPERATION TREATY - App. Serial No.: PCT/US2014/043289	Filing Date: Jun-19-2014
<p>Early Exhaust Valve Opening For Improved Catalyst Light Off - Seeks to accelerate catalyst light-off by allowing a richer combustion mixture at start-up such that hydrocarbon oxidation at the catalyst generates additional heat.</p>	USA - App. Serial No.: 61/859036	Filing Date: Jul-26-2013
<p>Scissor Gear with Hydraulic Backlash Removal and Hydraulic Torsional Damping – Seeks to reduce the audible rattle or hammering due to reversal of the backlash gap</p>	USA - App. Serial No.: 61/868511	Filing Date: Aug-21-2013
	USA - App. Serial No.: 61/871265	Filing Date: Aug-28-2013
<p>Engine Valve Lash Adjuster with Eccentric Pivot - Valve lash adjusters with variable pivot characteristics</p>	USA - App. Serial No.: 61/935251	Filing Date: Feb-03-2014

EXHIBIT C

Trademarks

<u>Description</u>	<u>U.S. Registration/Application Number</u>	<u>Registration/Application Date</u>
CHINESE CHARACTERS -- KE SHI XUN HUAN	CHINA - SERIAL NUMBER: 9590796	JUN-14-2011
CHINESE CHARACTERS -- KE SHI XUN HUAN	CHINA - SERIAL NUMBER: 9590797	JUN-14-2011
CHINESE CHARACTERS -- YUE DING DONG LI	CHINA - SERIAL NUMBER: 9590794	JUN-14-2011
CHINESE CHARACTERS -- YUE DING DONG LI	CHINA - SERIAL NUMBER: 9590795	JUN-14-2011
CLEEVES CYCLE	CHINA - SERIAL NUMBER: 9491009	MAY-20-2011
CLEEVES CYCLE	CHINA - SERIAL NUMBER: 9491006	MAY-20-2011
MISCELLANEOUS DESIGN -- TRIANGLE DESIGN	CHINA - SERIAL NUMBER: 9529013	MAY-30-2011
MISCELLANEOUS DESIGN -- TRIANGLE DESIGN	CHINA - SERIAL NUMBER: 9529012	MAY-30-2011
PINNACLE	INDIA - SERIAL NUMBER: 2276649	FEB-03-2012
PINNACLE	INDIA - SERIAL NUMBER: 2276651	FEB-03-2012
PINNACLE	USA - SERIAL NUMBER: 85/390349	AUG-05-2011
PINNACLE ENGINES	CHINA - SERIAL NUMBER: 9491008	MAY-20-2011
PINNACLE ENGINES	CHINA - SERIAL NUMBER: 9491011	MAY-20-2011
PINNACLE ENGINES	INDIA - SERIAL NUMBER: 2276650	FEB-03-2012
PINNACLE ENGINES	INDIA - SERIAL NUMBER: 2276652	FEB-03-2012
PINNACLE ENGINES	USA - SERIAL NUMBER: 85/390359	AUG-05-2011