

06-30-2000



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RECORDATION FORM COVER SHEET TRADEMARKS ONLY

TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

Submission Type

- New
- Resubmission (Non-Recordation)
Document ID #
- Correction of PTO Error
Reel # Frame #
- Corrective Document
Reel # Frame #

Conveyance Type

- Assignment License
- Security Agreement Nunc Pro Tunc Assignment
Effective Date
Month Day Year
- Merger
- Change of Name
- Other Intellectual Property Security Agreement
and Collateral Assignment

Conveying Party

Mark if additional names of conveying parties attached

Execution Date
Month Day Year

Name

Formerly

- Individual General Partnership Limited Partnership Corporation Association
- Other
- Citizenship/State of Incorporation/Organization

Receiving Party

Mark if additional names of receiving parties attached

Name

DBA/AKA/TA

Composed of

Address (line 1)

Address (line 2)

Address (line 3)
City

State/Country

Zip Code

- Individual General Partnership Limited Partnership Corporation Association
 - Other
 - Citizenship/State of Incorporation/Organization
- If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative should be attached. (Designation must be a separate document from Assignment.)

06/30/2000 JJALLAH2 00000034 75370580

FOR OFFICE USE ONLY

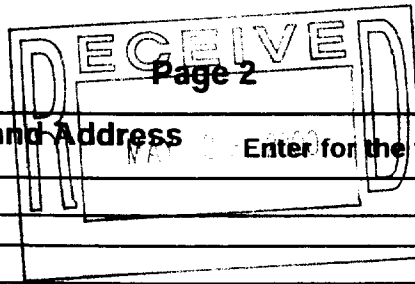
01 FC:481
02 FC:482

40.00 DP
150.00 DP

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Mail documents to be recorded with required cover sheet(s) information to:
Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20331
TRADEMARK

REEL: 002093 FRAME: 0948



Domestic Representative Name and Address

Enter for the first Receiving Party only.

Name

Address (line 1)

Address (line 2)

Address (line 3)

Address (line 4)

Correspondent Name and Address

Area Code and Telephone Number

Name

Address (line 1)

Address (line 2)

Address (line 3)

Address (line 4)

Pages

Enter the total number of pages of the attached conveyance document including any attachments.

#

Trademark Application Number(s) or Registration Number(s)

Mark if additional numbers attached

Enter either the Trademark Application Number or the Registration Number (DO NOT ENTER BOTH numbers for the same property).

Trademark Application Number(s)

Registration Number(s)

<input type="text" value="75/370580"/>	<input type="text"/>	<input type="text"/>
<input type="text" value="75/657954"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

<input type="text" value="251466"/>	<input type="text" value="1619742"/>	<input type="text"/>
<input type="text" value="254566"/>	<input type="text" value="2180075"/>	<input type="text"/>
<input type="text" value="574225"/>	<input type="text"/>	<input type="text"/>

Number of Properties

Enter the total number of properties involved.

#

Fee Amount

Fee Amount for Properties Listed (37 CFR 3.41):

\$

Method of Payment:

Enclosed

Deposit Account

Deposit Account

(Enter for payment by deposit account or if additional fees can be charged to the account.)

Deposit Account Number:

#

Authorization to charge additional fees:

Yes

No

Statement and Signature

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.

Gayle Aiken

Name of Person Signing

Gayle Aiken

Signature

5/23/00

Date Signed

**INTELLECTUAL PROPERTY SECURITY
AGREEMENT AND COLLATERAL ASSIGNMENT**

GMAC BUSINESS CREDIT, LLC, 300 Galleria Officentre, Suite 110, Southfield, Michigan 48034 ("Lender") and **ROCKFORD POWERTRAIN, INC.**, with a principal place of business at 1200 Windsor Road, Rockford, Illinois 61132 ("Borrower") enter into this Agreement on April 17, 2000.

Borrower has entered into a Loan and Security Agreement dated as of April 17, 2000 (the "Loan Agreement") with Lender under which Lender has agreed to make certain loans available to Borrower. The Lender is willing to make such loans under the Loan Agreement upon the condition, among others, that Borrower execute and deliver this Agreement.

In consideration of the above and of the mutual covenants in this Agreement and for other good and valuable consideration, the receipt of which is hereby acknowledged, the parties agree as follows:

1. **Incorporation of Loan Agreement.** The Loan Agreement (and all agreements referred to or incorporated in the Agreement) is incorporated by this reference. All capitalized terms, not otherwise defined in this Agreement, shall have the meanings specified in the Loan Agreement.

2. **Grant of Security Interest and Collateral Assignment of Trademarks, Copyrights and Patents.** To secure the prompt payment and performance of all of Borrower's present and future indebtedness and Obligations to Lender (collectively, the "Debt") Borrower hereby grants to Lender a continuing security interest in, and collaterally assigns to the Lender all right, title and interest, in the United States and throughout the world, in, to, and under the following (all of which are collectively referred to the "Collateral") whether now existing or hereafter created or acquired:

(a) all United States and foreign trademarks, trade names, corporate names, company names, business names, fictitious 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, trademark registrations and applications for registration, now owned or hereafter acquired by Borrower (including, without limitation, those listed on Schedule 1 attached hereto and made a part hereof) and all licenses thereof, together with the goodwill of the business connected with the use of, and symbolized by, the foregoing, and (a) the registration renewals thereof, (b) all income, royalties, damages and payments now and hereafter due or payable under and with respect thereto including, without limitation, payments under all licenses entered into in connection therewith and damages and payments for past or future infringements thereof, and (c) all rights corresponding thereto throughout the world, (all of the foregoing sometimes hereinafter individually or collectively referred to as the "Trademarks");

(b) all United States and foreign copyrights, registered or unregistered, in and to all copyrightable works including all registrations and applications therefor and all

licenses thereof and (a) any renewals or extensions of the registrations therefor that may be secured under the laws now or hereafter in effect in the United States or any other country or countries, (b) all income, royalties, damages and payments now and hereafter due or payable under and with respect thereto, including, without limitation, payments under all licenses entered into in connection therewith and damages and payments for past or future infringements thereof, and (c) all rights corresponding thereto throughout the world (sometimes individually or collectively referred to as the "Copyrights");

(c) all United States and foreign patents and patent applications, now owned or hereafter acquired by Borrower, including, without limitation, the inventions and improvements described and claimed therein, and those patents and patent applications listed on Schedule 1 attached hereto and made a part hereof, all licenses thereof and (a) the reissues, divisions, continuations, renewals, extensions and continuations-in-part thereof, (b) all income, royalties, damages and payments now and hereafter due or payable under and with respect thereto, including, without limitation, payments under all licenses entered into in connection therewith and damages and payments for past or future infringements thereof, and (c) all rights corresponding thereto throughout the world (all of the foregoing being sometimes hereinafter individually or collectively referred to as the "Patents"); and

(d) all other intellectual property rights, now owned or hereafter acquired by Borrower, including, without limitation, the intellectual property listed on Schedule 1, including, without limitation, trade secrets, know-how and confidential business information, computer software, computer programs, source code, data and documentation (including electronic media) and licenses thereof, and (a) all income, royalties, damages and payments now and hereafter due or payable under and with respect thereto, including, without limitation, payments under all licenses entered into in connection therewith and damages and payments for past or future infringements thereof, and (b) all rights corresponding thereto throughout the world (collectively referred to as "Intellectual Property Rights"); provided, however, that Collateral shall not include any of the foregoing Trademarks, Copyrights, Patents or Intellectual Property Rights (collectively, the "Intellectual Property") if the grant of a security interest hereunder causes Borrower's rights in such Intellectual Property to terminate or be terminated at will or to cause a breach of any agreement with respect thereto.

3. Continuing Liability. Borrower expressly agrees that, notwithstanding anything to the contrary in this Agreement, it shall remain liable under each license, interest and obligation assigned to the Lender under this Agreement to observe and perform all the conditions and obligations to be observed and performed by it thereunder, all in accordance with and pursuant to the terms and provisions applicable to Borrower and shall retain the right to sue and recover for past, present and future infringements thereof. The Lender shall have no obligation or liability under any such license, interest or obligation by reason of or arising out of this Agreement or the assignment thereof to the Lender or the receipt by the Lender of any payment relating to any such license, interest or obligation pursuant hereto, nor shall the Lender be required or obligated in any manner to perform or fulfill any of the obligations of Borrower thereunder or pursuant thereto, or to make any payment, or to

make any inquiry as to the nature or the sufficiency of any payment received by it or the sufficiency of any performance by any party under any such license, interest or obligation, or to present or file any claim, or to take any action to collect or enforce any performance of the payment of any amounts which may have been assigned to it or to which it may be entitled at any time or times.

4. **Effect of Collateral Assignment and Remedies.** Borrower agrees that upon the occurrence of an Event of Default (after any applicable grace or cure periods) under the Loan Agreement, the Lender, without demand of performance or other demand, advertisement or notice of any kind (except the notice specified below of time and place of public or private sale) to or upon Borrower or any other person (all and each of which demands, advertisements or notices are hereby expressly waived), may forthwith collect, and realize upon the Collateral, or any part thereof, or may forthwith sell, lease, assign, give option or options to purchase, or sell or otherwise dispose of and deliver said Collateral (or contract to do so), or any part thereof, in one or more public or private sale or sales, at any exchange, broker's board or at any of the Lender's offices or elsewhere at such prices as it may deem best, for cash or on credit or for future delivery without assumption of any credit risk, and the Lender shall apply the net proceeds (after expenses) of any such sale, lease, assignment or other disposition against the Obligations in such order as the Lender in its sole discretion shall determine, Borrower remaining liable for any deficiency therein. The Lender shall have the right upon any such public sale or sales, and, to the extent permitted by law, upon any such private sale or sales, to purchase the whole or any part of the Collateral so sold, free of any right or equity or redemption in Borrower, which right or equity is hereby expressly waived and released. To the extent permitted by applicable law, Borrower waives all the claims, damages and demand against the Lender arising out of the repossession, retention or sale of the Collateral. Borrower agrees that the Lender need not give more than 21 days' notice of the time and place of any public sale or of the time after which a private sale may take place and that such notice is reasonable notification of such matter.

5. **Refiling.** If, before the Debt is paid in full, Borrower obtains any rights in or to any new or additional Intellectual Property Rights, the provisions of this Agreement shall apply thereto and Lender is hereby authorized to amend Schedule 1 and refile this Agreement as appropriate.

6. **Power of Attorney.** Borrower hereby authorizes the Lender to make, constitute and appoint any officer or agent of the Lender as the Lender may select, in the Lender's sole discretion, as Borrower's true and lawful attorney-in-fact, with power (i) to endorse Borrower's name on all applications, documents, papers and instruments necessary or desirable for the Lender in the perfection of a security interest in the Collateral, (ii) from and after the occurrence of any Event of Default (after any applicable grace or cure periods) in accordance with this Agreement and applicable law, to assign, pledge, convey or otherwise transfer title in or dispose of the Collateral to anyone. Borrower hereby ratifies all that such attorney shall lawfully do or cause to be done by virtue of this Assignment. This power of attorney shall be irrevocable until all of the Debt has been paid in full and all of the

financing arrangements between Borrower and the Lender have been terminated and Lender has no further obligation to make loans to Borrower.

7. **Specific Performance; Injunctive Relief.** Borrower agrees that, in addition to all other rights and remedies granted to Lender in this Agreement, the Loan Agreement and any other collateral security document, Lender shall be entitled to specific performance and injunctive and other equitable relief, and Borrower further agrees to waive any requirement for the securing or posting of any bond or other security in connection with the obtaining of any such specific performance and injunctive or other equitable relief.

8. **Grant of License to Use Intangibles.** In addition to and for the purpose of enabling the Lender to exercise rights and remedies under Sections 4 and 5 hereof, Borrower shall permit Lender reasonable access to all media in which any of the Collateral may be recorded or stored and to all computer programs used for the compilation or printout thereof. In addition, upon an Event of Default (after any applicable grace or cure periods), Lender, and its assigns, shall have a non-exclusive license throughout the world in all Trademarks, Patents, Copyrights, and Intellectual Property Rights for the manufacture, sale and distribution of inventory or other goods of Borrower and for the sale and use of any assets of Borrower in which Lender has a security interest (whether now or in the future.)

9. **Representation and Warranties.** Borrower represents and warrants that Schedule 1 contains a complete and correct list of all the trademark registrations and trademark applications, copyright registrations and copyright applications and patents and patent applications, respectively, if any, (i) owned by Borrower or (ii) licensed to or by Borrower (together with the terms of such licenses). Borrower additionally represents and warrants to the best of its knowledge that except as set forth in Schedule 1, there is no currently pending patent application on which any agent or employee of Borrower is listed as an inventor. Except as set forth in Schedule 1, Borrower owns free and clear of all liens all right, title and interest in, or has full right and authority to use, all Collateral necessary or desirable for the conduct of its business as currently conducted or as currently proposed to be conducted. Except as set forth in Schedule 1, no claim by any other person or entity ("Person") contesting the validity or ownership of any Collateral has been made, is currently outstanding or, to the best of Borrower's knowledge, is threatened and neither Borrower nor any executive thereof has received any notice of, or is aware of any fact which would indicate a likelihood of, any infringement or misappropriation upon, or conflict with, any other Person's intellectual property. Except as set forth in the Schedule 1, none of the Collateral infringes or misappropriates upon, or conflicts with, any intellectual property of any Person, and no infringement, misappropriation or conflict will occur as a result of the continued operation of the businesses as now conducted as currently proposed to be conducted. The transactions contemplated by this Agreement will have no adverse effect on any of Borrower's rights in and to the Collateral. Borrower has taken all action necessary or desirable in its judgment to protect the Collateral and will continue to take such action prior to Closing so as to not adversely affect the validity or enforcement of the Collateral, except as set forth in Schedule 1. Borrower further agrees that it will at its expense, at the Lender's request, defend the Lender's and Borrower's respective interests in the Collateral from any and all claims and demands of any other person and that it will not

grant, create or permit to exist any lien upon or security interest in the Collateral in favor of any other person except liens permitted by the Loan Agreement; provided, however, that prior to the occurrence of an Event of Default and until the expiration of any applicable grace or cure period, nothing contained in this Agreement shall affect Borrower's right to grant non-exclusive licenses to third parties to use any portion of the Collateral.

10. **Restrictions on Future Agreements.** Borrower agrees that until all of the Obligations have been satisfied in full and the Loan Agreement has been terminated and Lender has no further obligation to make loans to Borrower, it will not, without Lender's prior written consent, enter into any agreement, including, without limitation, any license agreement, which is materially inconsistent with Borrower's obligations under this Agreement and Borrower further agrees that it will not take any action or permit any action to be taken by others subject to its control, including licensees, or fail to take any action, which would materially affect the validity or enforcement of any of the rights transferred to Lender under this Agreement.

11. **Covenants Regarding Collateral.**

(a) Except as to Collateral which Borrower in its judgment determines to be in its best interests to abandon or not to enforce or protect, Borrower (either itself or through licensees) shall (i) continue to use each Trademark on each and every trademark class of goods applicable to its current line as reflected in its current catalogs, brochures and price lists in order to maintain each Trademark in full force free from any claim of abandonment for non-use, (ii) employ each Trademark, Copyright and Patent with the appropriate notice of application or registration on applicable products or services, (iii) not (and not permit any licensee or sublicensee thereof to) do any act or knowingly omit to do any act whereby any Patent may become invalidated or unenforceable, any Trademark right may become abandoned or unenforceable, any Copyright right may become unenforceable, or any Intellectual Property Right may become unenforceable, (iv) prosecute diligently any trademark application, copyright application or any patent application which is pending as of the date of this Agreement or thereafter, until the Obligations shall have been paid in full, and (v) preserve and maintain all rights in and to the Collateral.

(b) Except as set forth in Schedule 1, Borrower shall notify the Lender reasonably promptly if it knows, or has reason to know, that any application or registration relating to any of the Collateral may become abandoned, or of any adverse determination or development (including, without limitation, the institution of, or any such determination or development in, any proceeding in the United States Patent and Trademark Office, the United States Copyright Office or any court) regarding Borrower's ownership of any of the Collateral, its right to register the same, or to keep and maintain the same, except for such abandonment or determination which is permitted under subparagraph (a) above.

(c) Borrower will take all necessary steps, including, without limitation, in any proceeding before the United States Patent and Trademark Office, the United States Copyright Office or any similar office or agency in any other country or any political subdivision thereof, to maintain and pursue each application (and to obtain the relevant

registration) and to maintain each registration of the Collateral, including, without limitation, filing of applications for renewal, affidavits of use, affidavits of incontestability and opposition, interference and cancellation proceedings (except to the extent that abandonment or invalidation is permitted under subparagraphs (a) and (b) above) or as set forth in Schedule 1.

(d) In the event that any of the Collateral is infringed, misappropriated or diluted by a third party, Borrower shall provide reasonably prompt notice to Lender and take such action as Borrower shall reasonably deem appropriate under the circumstances, which may include suit for infringement, misappropriation or dilution and to recover any and all damages for such infringement, misappropriation or dilution to protect such Collateral.

(e) At its option, Lender may discharge taxes, liens or security interests or other encumbrances at any time levied or placed on the Collateral, may place and pay for insurance on the Collateral upon failure by Borrower to provide insurance satisfactory to the Lender. Borrower agrees to reimburse Lender on demand for any payment reasonably made in any expense incurred by Lender pursuant to the foregoing authorization. Until an Event of Default occurs and after expiration of any applicable grace or cure period and an acceleration of the loans, Borrower may have possession of the Collateral and use it in any lawful manner not inconsistent with this Agreement.

12. **Notice.** All notices or other communications hereunder shall be given in the manner and to the addresses determined under the Loan Agreement.

13. **Severability.** Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall not invalidate the remaining provisions hereof, any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

14. **No Waiver; Cumulative Remedies.** The Lender shall not by any act, delay, omission or otherwise be deemed to have waived any of its rights or remedies hereunder, and no waiver shall be valid unless in writing, signed by the Lender, and then only to the extent therein set forth. A waiver by the Lender of any right or remedy hereunder on any one occasion shall not be construed as a bar to any right or remedy which the Lender would otherwise have had on any future occasion. No failure to exercise nor any delay in exercising on the part of the Lender any right, power or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or privilege hereunder preclude any other right, power or privilege. The rights and remedies hereunder provided are cumulative and may be exercised singly or concurrently, and are not exclusive of any rights and remedies provided by law or in the License Agreement or any other agreements between the parties.

15. **Waivers; Amendments.** None of the terms and provisions of this Agreement may be waived, altered, modified or amended except by an instrument in writing executed by the parties hereto.

16. **Limitations by Law.** All rights, remedies and powers provided in this Agreement may be exercised only to the extent that the exercise thereof does not violate any applicable provision of law which may be controlling and are limited to the extent necessary so that they will not render this Agreement invalid, unenforceable in whole or in part or not entitled to be recorded, registered or filed under the provisions of any applicable law.

17. **Successors and Assigns.** This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns, and nothing herein or in the Loan Agreement or any other collateral security document is intended or shall be construed to give any other person any right, remedy or claim under, to or in respect of this Agreement, the Loan Agreements or any other collateral security document. This Agreement may be signed in separate counterparts.

18. **Termination and Reassignment.** The Lender agrees that upon the termination or expiration of the Loan Agreement and termination of any obligations of Lender to make loans to Borrower and the payment and performance in full of all the Obligations, the Lender will promptly execute documents releasing the security interests created hereby and to reassign Lenders interest in the collateral to Borrower, without warranty, representation or guaranty of any nature or kind.

19. **Applicable Law.** This Agreement shall be governed by, and be construed and interpreted in accordance with, the internal laws (and not the laws of conflict) of the State of Michigan

20. **Entire Agreement.** This Agreement constitutes the entire understanding of the parties relating to the subject matter of this Agreement, and may only be amended or modified in writing signed by all parties.

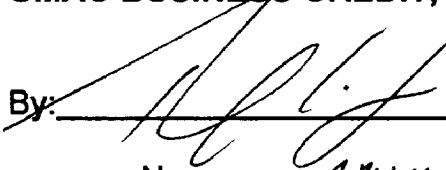
21. **Waiver Of Jury Trial.** THE LENDER AND THE BORROWER, AFTER CONSULTING OR HAVING HAD THE OPPORTUNITY TO CONSULT WITH COUNSEL, KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY RIGHT EITHER OF THEM MAY HAVE TO A TRIAL BY JURY IN ANY LITIGATION BASED UPON OR ARISING OUT OF THIS GUARANTY OR ANY RELATED INSTRUMENT OR AGREEMENT, OR ANY OF THE TRANSACTIONS CONTEMPLATED BY THIS GUARANTY, OR ANY COURSE OF CONDUCT, DEALING, STATEMENTS (WHETHER ORAL OR WRITTEN), OR ACTIONS OF EITHER OF THEM. NEITHER THE LENDER NOR THE BORROWER SHALL SEEK TO CONSOLIDATE, BY COUNTERCLAIM OR OTHERWISE, ANY ACTION IN WHICH A JURY TRIAL HAS BEEN WAIVED WITH ANY OTHER ACTION IN WHICH A JURY TRIAL CANNOT BE OR HAS NOT BEEN WAIVED.

THESE PROVISIONS SHALL NOT BE DEEMED TO HAVE BEEN MODIFIED IN ANY RESPECT OR RELINQUISHED BY EITHER THE LENDER OR THE BORROWER EXCEPT BY A WRITTEN INSTRUMENT EXECUTED BY BOTH OF THEM.

ROCKFORD POWERTRAIN, INC.
An Illinois Corporation

By: 
Title: VP, CFO

GMAC BUSINESS CREDIT, LLC

By: 
Name: RAYMOND E. GREEN
Title: MANAGING DIRECTOR

Schedule 1
Patents, Trademarks and Copyrights, etc.

DET_C\328073.2

Rockford Powertrain, Inc.
Schedule 1
Intellectual Property

See the attached summary of status of intellectual property.

Licenses

Pursuant to the License Agreement between the Borrower and Twin Disc, Incorporated ("TDI") dated January 4, 1999, Borrower granted to TDI:

(a) a perpetual, royalty free and non-exclusive license to Borrower's rights to utilize its designs in order to manufacture (i) the Rockford 10", 11" and 12" spring-loaded clutch and related Components used in conjunction with spring-loaded PTOs, and (ii) the Rockford 5.5" LOC clutch and related Components for use in conjunction with the small engine PTOs for sale and service of Rockford spring-loaded PTOs and Rockford small engine PTOs, respectively.

(b) the right to use the registered trademark "ROCKFORD" in conjunction with the name "TWIN DISC" as identifying the Rockford Line of PTOs for a period of five (5) years after Closing and including use of such name on Products and Components as well as printed materials involving the Rockford Line of PTOs supplied to customers and other third parties in advertising and promoting the Rockford Line of PTOs.

Pursuant to the Patent, Copyright and Trade Secret Assignment and License Agreement by and between the Borrower and Borg-Warner Corporation ("Borg-Warner") dated June 26, 1988 (the "Agreement"), Borg-Warner granted to the Borrower:

(a) a non-exclusive royalty-free, license under the inventions, with no right to sublicense except to subsidiaries of Borrower (as defined in the Agreement), patents and patent applications listed hereafter to make, have made, use and sell Products (as defined in the Agreement), for the life of such licensed properties; and

(b) a non-exclusive royalty-free license to practice the software programs and trade secrets listed hereafter.

Licensed Properties:

Borg-Warner Automotive Patents:

Magnetostrictive Transducer Patents:

No. 4,100,794
No. 4,106,334

No. 4,406,168
No. 4,306,462
No. 4,479,390

Control System Patents:

No. 4,031,782

No. 4,259,882

No. 4,116,321

Software Programs:

1. TORVIB - torsional vibration analysis program
2. GEAR2 - gear design program
3. Heat treat hardness program
4. Vehicle performance program

Trade Secrets:

1. Hydraulic Torque Converter Blade Geometries
2. Composite Torque Converter Element Research

Borrower granted to Borg-Warner, a non-exclusive royalty-free license, with no right to sublicense except to Borg-Warner's subsidiaries (as defined in the Agreement), under the "Borrower Licensed Patents" listed hereafter (which) have been assigned to Borrower (under the terms of the Agreement) to make, have made, use and sell products covered by such Borrower Licensed Patents for the life of such patents.

Borrower Licensed Patents

<u>Country</u>	<u>Application No.</u>	<u>Patent No.</u>
U.S.A.		4,474,082
E.P.O.		E--074616
Canada		1,180,636
Great Britain		E--074616
France		E--074616
West Germany		P32765916
Italy		E--074616
Japan	158729/82	
Australia		552096

UNEXPIRED UNITED STATES PATENTS

1982

4,337,628	Expires August 20, 2000	Greene	Universal Joint With Unitary Face Seal and Retainer Assembly
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A universal joint includes a unitary face seal and retainer assembly which provides a face seal for retaining lubricant and excluding contamination. The assembly determines the limits of relative movement between the trunnion and bearing block during assembly, shipment and installation such that the seal members are not damaged during assembly and the face seal is not broken during shipment and installation.

1985

4,555,910	Expires January 23, 2004	Sturges	Coolant/Refrigerant Temperature Control System
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A variable speed fan drive, operated in response to the sensed coolant temperature in an internal combustion engine for a vehicle, blows a controlled amount of air through the engine's radiator to maintain the coolant temperature in a desired narrow operating range. The air pulled in by the fan also cools the refrigerant flowing through the condenser of the vehicles' air conditioning system, the condenser being positioned in front of the coolant radiator. If insufficient condenser cooling occurs, even though the coolant may be adequately cooled, the refrigerant temperature rises and causes the compressor discharge pressure in the air conditioning system to increase. That pressure is monitored or sensed and if it exceeds a pre-determined maximum allowable level the normal operation of the control system is overridden and the fan is driven at its maximum speed to maximize the air blown through the condenser and radiator, thereby decreasing the refrigerant temperature and thus the discharge pressure.

1989

4,810,233	Expires March 7, 2006	Crane et al	Interlocking Universal Joint Seal Assembly
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An interlocking seal assembly for a universal joint which acts both to seal the bearing assembly as well as to retain the bearing block from falling off the spider in the joint. This assembly includes a resilient sealing member engaging a trunnion and having a backing ring housing the seal and adapted to be press fitted into the bearing block on the trunnion and a loose fitting generally cylindrical shield adapted to be press fitted onto a diameter of the spider. The backing ring and shield have overlapping lips providing the interlock to retain the bearing block on the spider.

1990

4,899,861	Expires March 16, 2007	Cummings	Variable Speed Drive for Engine Cooling Fans
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A variable speed fan drive including a cantilevered support and axially spaced bearings for mounting an input drive member with a cylinder portion and an output fan hub assembly for rotational movement relative to each other and to the support. A modulatable wet type clutch assembly is operably effective to couple the input drive member to the fan hub assembly. The output speed of the fan hub is regulated by the axial compressive force a clutch engaging member applies against interleaved members of the clutch assembly. The clutch engaging member cooperates with the cylinder portion of the input drive member to define an expansible chamber so designed that all clutch clamping forces are confined within the drive member. As such, sub-stantially no axial thrust load is exerted on the axially spaced bearings during clutch application. The drive unit may further include cooperative elements arranged on the drive member and the fan hub assembly for preventing belt cord debris from becoming entangled thereabout.

1993

5,222,574	Expires June 24, 2012	Miller	Drive Train for an Articulated Vehicle
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This patent discloses a drivetrain for an articulated vehicle having front and rear sections which are pivotally connected. The drivetrain connects a transmission on the front vehicle section to a differential on the rear vehicle section and transmits power between the transmission and the differential while allowing the rear section to articulate relative to the front section. The drive train includes a shaft of fixed length extending from the transmission to a universal joint and includes a shaft of variable length extending from the universal joint to the differential.

1994

5,299,982	Expires August 15, 2011	Burton	Slip Joint Seal for a Driveshaft
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This patent discloses a slip joint seal for a driveshaft between two universal joint yokes. A male splined shaft rotates with a first yoke and a female splined shaft rotates with a second yoke, with the two being mechanically engaged for slidable but nonrotational movement during operation of the driveshaft. A sealing sleeve extends from the first yoke around the male splined shaft and is of a larger diameter than the female splined shaft. The female splined shaft has a single, outwardly-facing, annular seal at its outer end, away from the second yoke, which seal engages the inner surface of a the sealing sleeve. The female splined shaft also has a grease fitting for supplying grease to the shafts, with excess grease being capable of passing by the seal, which also acts as a wiper to remove contaminants within the sealing sleeve.

1997

5,667,045	Expires September 18, 2015	Cummings	Continuously Variable Fan Drive Clutch Arrangement
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This patent is a continuation-in-part of Cummings application, Serial Number 529,357 filed on September 18, 1995, which was abandoned upon the filing of this application.

This patent discloses a clutch mechanism for a cooling fan of a size capable of fitting into the limited envelope available in an over-the-road diesel tractor. A compact housing has a belt drive input and an output connected to the fan hub. A wet clutch is included within the housing lubricated by oil from the engine lubrication system. The housing includes an internal positive displacement booster pump cooperating with a controllable valve in the oil return line to the engine sump. When it is desired to operate the clutch, the valve is controllably closed to restrict flow from the clutch mechanism to the engine sump line. The positive displacement pump thereupon causes an increase in pressure in a pressure chamber in the housing, which acts on an internal piston to translate the clutch in a continuously variable manner between engaged and disengaged conditions.

1999

			Fan Clutch for
Vehicles	Expires		Configured for Low
5,855,266	April 22, 2017	Cummings	Engine Speed

This patent discloses a clutch mechanism provided for a cooling fan of a size capable of fitting into the limited envelope available in an over-the-road diesel tractor. A compact housing has a belt drive input and an output connected to the fan hub. The housing includes a pressure chamber in fluid communication with a pressurized air supply line for regulating the pressure in the pressure chamber when the clutch must be operated. The air pressure actuates an internal piston to translate the clutch in a continuously variable manner between engaged and disengaged conditions.

A small envelope clutch, having an outer diameter less than about 9.8 inches in diameter within the fan hub and less than about 6 inches under the belts and 7.3 inches overall so the housing may be positioned between the radiator and the engine, is capable of generating 150 foot-pounds of torque, running a 55 horsepower fan at 2100rpm, and dissipating 10 horsepower of heat while in the slip mode. The clutch also has at least 130 inches in the clutch area.

Fan speed is controlled utilizing a closed loop control system. The control system is capable of monitoring engine conditions and controlling fluid pressure actuating the clutch assembly to control the fan speed in response to the engine conditions.

Expires
5,937,979 September 19, 2015 Cummings Continuously
Variable Fan Drive
Clutch

This application is a continuation-in-part of Cummings application, Serial Number 532,226 filed on September 19, 1995.

This application discloses a clutch mechanism provided for a cooling fan of a size capable of fitting into the limited envelope available in an over-the-road diesel tractor. A compact housing has a belt drive input and an output connected to the fan hub. The housing includes a pressure chamber in fluid communication with a pressurized air supply and a controllable valve in the air supply line for regulating the pressure in the pressure chamber when the clutch must be operated. The air pressure actuates an internal piston to translate the clutch in a continuously variable manner between engaged and disengaged conditions.

A small envelope clutch, having an outer diameter less than about 9.8 inches in diameter within the fan hub and less than about 6 inches under the belts and 7.3 inches overall so the housing may be positioned between the radiator and the engine, is capable of generating 150 foot-pounds of torque, running a 55 horsepower fan at 2100rpm, and dissipating 10 horsepower of heat while in the slip mode. The clutch also has at least 130 inches in the clutch area.

Fan speed is controlled utilizing a closed loop control system. The control system is capable of monitoring engine conditions and controlling fluid pressure actuating the clutch assembly to control the fan speed in response to the engine conditions.

Expires
5,947,247 September 19, 2015 Cummings Continuously
Variable Fan Drive
Clutch

This application is a continuation-in-part of Cummings application, Serial Number 532,226 filed on September 19, 1995.

This application discloses a clutch mechanism provided for a cooling fan of a size capable of fitting into the limited envelope available in an over-the-road diesel tractor. A compact housing has a belt drive input and an output connected to the fan hub. The housing includes a pressure chamber in fluid communication with a pressurized air supply and a controllable

valve in the air supply line for regulating the pressure in the pressure chamber when the clutch must be operated. The air pressure actuates an internal piston to translate the clutch in a continuously variable manner between engaged and disengaged conditions.

A small envelope clutch, having an outer diameter less than about 9.8 inches in diameter within the fan hub and less than about 6 inches under the belts and 7.3 inches overall so the housing may be positioned between the radiator and the engine, is capable of generating 150 foot-pounds of torque, running a 55 horsepower fan at 2100rpm, and dissipating 10 horsepower of heat while in the slip mode. The clutch also has at least 130 inches in the clutch area.

Fan speed is controlled utilizing a closed loop control system. The control system is capable of monitoring engine conditions and controlling fluid pressure actuating the clutch assembly to control the fan speed in response to the engine conditions.

PENDING UNITED STATES PATENT APPLICATIONS

(** indicates formal allowance)

Serial No. 09/179,161, filed October 26, 1998, Inventor: Chong Khen Lim

This application discloses a dust cover assembly for a slip spline assembly and acts as mechanical fuse in response to fluid pressure and includes a cup shaped dust cover and two snap rings for securing the dust cover in the yoke bore end of the slip spline assembly. The larger snap ring is fitted in an annular groove in the yoke while the smaller snap ring is fitted in an annular groove in cylindrical side wall of the dust cover. The groove in the side wall of the dust cover divides the side wall up into exposed and unexposed segments. By selecting the radial thicknesses of the groove in the side wall or the axial length of unexposed segment, the failure limit at which the dust cover pops out from the yoke due to pressures or forces in the yoke bore can be readily predicted. The dust cover assembly provides increased reliability of the slip spline assembly by providing a consistent pressure or load in the yoke bore which will cause the dust cover to release from the yoke and relieve the yoke bore pressure.

UNITED STATES TRADEMARK REGISTRATIONS

<u>Req. No.</u>	<u>Trademark</u>	<u>Date</u>	<u>Renewal</u>	<u>Goods and Class</u>
251,466	MECHANICS	1-8-29	1-8-09	Universal joints and change-speed transmissions. U. S. Cl. 23
254,566	PULLMORE	3-26-29	3-26-09	Power transmission clutches and parts thereof. U. S. Cl. 23
574,225	ROCKFORD	5-12-53	5-12-03	Clutch assemblies, clutch driven discs, multiple disc clutches, power take-off and gear reduction units for internal combustion engines, gear tooth drives, jaw type clutches, clutches for sprocket drives, clutches for pulley drives and fixtures for reconditioning clutches, and parts of the aforesaid goods for replacement and repair. U. S. Cl. 23

1,619,742	ROCKFORD POWERTRAIN	10-30-90	10-30-00	Clutches, torque converters, drivelines, universal joints, power take-offs, trans-missions and power dividers. Cl. 7
2,180,075	EX-TEND	8-11-98	8-11-08	Drive Trains and Axles, Cl. 12

PENDING U.S. TRADEMARK APPLICATIONS

<u>Ser. No.</u>	<u>Trademark</u>	<u>Filing Dat</u>	<u>Goods and Services</u>
75/370,580	IN-SIGHT	10/09/97	Customer service system enabling customers to quickly determine availability of product, status of products being manufactured, time necessary for manufacture of products not in inventory; and a confidence level as to each variable. Cl. 35
75/657,954	ROCKFORD POWERTRAIN & DESIGN	03/10/99	Land vehicle powertrain components, namely, clutches torque converters, driveline universal joints, transmissions and power dividers. Cl. 12

UNEXPIRED CANADIAN PATENTS

<u>Pat. No.</u>	<u>Expiration Date</u>	<u>Inventor</u>	<u>Corres.U.S.</u>	<u>Title</u>
1,169,670	6-26-01	Greene	Pat.4,337,628	Universal Joint With Unitary Seal and Retainer Assembly
1,175,252	10-1-01	Smith	Pat.4,352,276	Constant Velocity Universal Joint With Improved Centering Device and Boot Seal
1,180,636	1-8-02	Spokas et al	Pat.4,474,082	Control System for Power Shifted Transmission
1,230,397	12-15-04	Sturges	Pat.4,546,742	Temperature Control System for Internal Combustion Engine
1,231,154	1-5-05	Sturges	Pat.4,555,910	Coolant/Refrigerant Temperature Control System
1,250,148	2-21-06	Crane et al	Pat.4,810,233	Interlocking Universal Joint Seal Assembly
1,267,371	4-3-07	Rule, et al.	Pat.4,637,504	Combination Range and Master Clutch Assembly
1,302,918	6-9-09	Cummings	Pat.4,899,861	Variable Speed Drive for Engine Cooling Fans

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PENDING CANADIAN PATENT APPLICATIONS

(**indicates formal allowance)

NONE

FOREIGN PATENTS
AND PENDING APPLI-CATIONS

Interlocking Universal Joint Seal Assembly

U. S. Pat. No. 4,810,233 - Crane et al

France - Pat. No. 156,552
(EPC) Expires March 6, 2005
Taxes due March 6

Great Britain - Pat. No. 156,552
(EPC) Expires March 6, 2005
Taxes due March 6

Variable Speed Drive for Engine Cooling Fans

U. S. Pat. No. 4,899,861 - Cummings

Australia - Pat. No. 604,840
Expires February 12, 2008
Taxes due February 12

Great Britain - Pat. No. 282,741
(EPC) Expires February 12, 2008
Taxes due February 12

Japan - Pat. No. 2,693,471
Expires Mach 16, 2008
Taxes due September 5

Constant Velocity Universal Joint With Improved Centering Device
and Boot Seal

U. S. Pat. No. 4,352,276 - Smith

Japan - Pat. No. 1,600,646
Expires December 14, 2001
All taxes paid

Articulated Vehicle Drive Shaft System

U. S. Patent No. 5,222,574 - Miller

Japan - Application Ser. No. 119794/93
Filed May 21, 1993

Under the Japanese procedure,
there will be no action in this
application unless Rockford
Power-train petitions for formal
examina-tion. This petition may be
filed any time prior to May 21,
2000.

Continuously Variable Fan Drive Clutch

U. S. Patent No. 5,937,979 - Cummings

EP- Application Ser. No. 98919878.3
Filed February 17, 1999

Based on PCT/US98/08307

Fan Clutch for Vehicles Configured For Low Engine Speed

U. S. Patent No. 5,855,266 - Cummings

EP- Application Ser. No. 989198790.1
Filed May 21, 1993

Based off PCT/US98/08308

PENDING PCT APPLICATIONS

Inverted Slip Driveline

Inventor: Bruce S. Giersch, Brian J. Thoele, John J. Crane and
David Wilfong

PCT application filed on February 11, 1998 based on Ser. Nos.
09/022,517

FOREIGN TRADEMARK REGISTRATIONS

<u>Country</u>	<u>Req. No.</u>	<u>Mark</u>	<u>Term</u>	<u>Renew</u>	<u>Goods and Class</u>
Australia	A97,179	MECHANICS	14	11-26-04	Universal joints and change-speed transmissions. Cl. 7
Australia	A100,499	ROCKFORD	14	10-26-05	Clutches and clutch parts. Cl. 7
Australia	A186,666	ROCKFORD	14	10-26-05	Clutches and clutch parts. Cl. 7
Benelux	472,092	ROCKFORD POWERTRAIN	10	10-12-09	Clutches, torque converters, drivelines, universal joints, power take-offs, transmissions and power dividers. Cl. 7
Benelux	488,551	ROCKFORD	10	9-13-00	Power take-offs, torque converters, mechanical and hydraulic clutches and fan drives. Cl. 7 & 12
Benelux	491,574	MECHANICS	10	9-13-00	Universal joints and drive shafts. Cl. 7 and 12

Brazil	003233162	MECHANICS	10	1-15-06	Universal joints and change-speed transmissions. Cl. 7
Brazil*	006817351	ROCKFORD	10	12-10-08	Clutches, discs, power take-off and gear reduction units. Cl. 7
Canada	UCA/761	MECHANICS	15	2-28-08	Universal joints and change-speed transmissions and parts thereof.
Canada	N.S.- 68/17940	MECHANICS	15	4-30-03	Universal joints, change-speed transmissions, drive lines for vehicles, centrifugal pumps and parts therefor, industrial drives and farm implement drives and parts therefor.

* Trademark not assigned from Borg-Warner Corporation. Decision re assignment to be made at time mark becomes due for renewal.

Canada	116,495	ROCKFORD	15	1-8-05	Clutches, clutches for vehicles and spring loaded clutches, clutches for industrial machinery, over-center clutches and multiple disc machine tool clutches, gear reduction units for transmission systems, power take-offs, clutches for oil field machinery.
Canada	380,420	ROCKFORD POWERTRAIN	15	2-22-06	Clutches, torque converters, drivelines, universal joints, power take-offs, transmission and power dividers. Cl. 7
China	160,479	MECHANICS	10	7-29-02	Universal joints. Cl. 19

China	160,484	ROCKFORD	10	7-30-02	Clutches, clutch assemblies and parts thereof for replacement and repair, power take-off and gear reduction units for internal combustion engines, gear tooth drives, torque converters. Cl. 19
France	1,303,110	MECHANICS	10	3-21-05	Universal joints, change-of-speed transmissions. Cl. 7 and 12
France	1,645,607	ROCKFORD	10	10-9-00	Power take-offs, torque converters, mechanical and hydraulic clutches and fan drives. Cl. 7 and 12
Great Britain	B749,842	ROCKFORD	14	1-11-05	Clutches and parts thereof, none being for land vehicle propulsion systems. Cl. 7
Great Britain	B749,843	ROCKFORD	14	1-11-05	Clutches and parts thereof. Cl. 12
Great Britain	B1439104	MECHANICS	7	9-18-07	Universal joints and drive shafts. Cl. 12

Italy	306,689	MECHANICS	20	2-11-03	Universal joints, propeller shafts and change-speed transmissions. Cl. 11
Italy (renewal pending)	573,215	ROCKFORD POWER-TRAIN	10	11-3-99	Clutches, torque converters, drivelines, universal joints, power take-offs, transmissions and power dividers. Cl. 7
Italy	606,217	ROCKFORD	10	10-1-00	Power take-offs, torque converters, mechanical and hydraulic clutches and fan drives. Cl. 7 & 12
Japan	566,247	ROCKFORD	10	2-6-01	Clutches, power take-offs and gear reduction units for use in vehicles and all other goods belonging to this class. Cl. 12
Japan	1,822,569	MECHANICS	10	11-29-05	Transport machines, apparatus and implements; parts and accessories thereof (excluding those belonging to any other class). Cl. 12

Japan	2,588,511	ROCKFORD POWERTRAIN	10	10-29-03	Clutches, torque converters, drivelines, universal joints, power take-offs, transmissions and power dividers. Cl. 7
Spain	334,277	ROCKFORD	20	10-22-98	Driving members, particularly vehicle clutches and parts there-of. Cl. 7 and 12
Sweden	253,006	ROCKFORD	10	10-29-03	Power take-offs, torque converters, mechanical and hydraulic clutches and fan drives. Cl. 7 & 12
Sweden	302,013	MECHANICS	10	5-26-05	Universal joints and drive shafts. Cl. 12
Germany	1,187,761	ROCKFORD	10	9-14-00	Power take-offs, torque converters, mechanical and hydraulic clutches and fan drives. Cl. 7 and 12

Japan 4,278,045 IN-SIGHT 10 5-28-09 Customer service system enabling customers to quickly determine availability of products, status of products being manufactures, time necessary for manufacture of products not in inventory; and a confidence level as to each variable.

EP 000793141 IN-SIGHT 10 4-8-08 Customer service system enabling customers to quickly determine availability of products, status of products being manufactured, time necessary for manufacture of products not in inventory; and a confidence level as to each variable.

PENDING FOREIGN TRADEMARK APPLICATIONS

NONE

AUTHORIZED APPLICATIONS

Case No.	64378	U.S. Patent Application Continuously Variable Fan Drive Clutch With Electromechanical Actuator Gordon F. Cummings, III
Case No.	500042	U.S. Patent Application Dust Cover with U-shaped Ear for Yoke Bore End