

LAW OFFICES
REA, CROSS & AUCHINCLOSS
SUITE 420
1920 N STREET, N.W.
WASHINGTON, D. C. 20036
(202) 785-3700
FACSIMILE: (202) 659-4934

RECORDATION NO. **20540**
FEB 6 1997

THOMAS M. AUCHINCLOSS, JR.
LEO C. FRANEY
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KEITH G. O'BRIEN
BRYCE REA, JR.
BRIAN L. TROLANO
ROBERT A. WIMBISH

DONALD E. CROSS (1923-1986)

BY HAND

February 6, 1997

Ms. Janice Fort
Equipment Recordation Office
Surface Transportation Board
12th and Constitution Ave., N.W.
Washington, D.C. 20423

RE: Lease of Railroad Equipment
National Railway Equipment Company - Lessor
Northern Vermont Railroad Company - Lessee

Dear Ms. Fort:

Enclosed for recordation pursuant to the provisions of 49 U.S.C. Section 11301 is the following document:

An executed original copy of an Equipment Lease Agreement dated February 3, 1997 -- a primary document as defined in the Commission's Rules for Recordation of Documents under 49 CFR § 1177. The names and addresses of the parties to this Equipment Lease are:

Lessor: National Railway Equipment Company
14400 S. Robey, P.O. Box 2270
Dixmoor, IL 60426

Lessee: Northern Vermont Railroad Company
Northern Maine Junction Park
RR#2, Box 45
Bangor, ME 04401-9602

A description of the railroad equipment covered by this Security Agreement is as follows:

Nineteen (19) GP35 locomotives
CDAC 500 - CDAC 518
(See Exhibit F of Lease Agreement for complete description)

RECEIVED
SURFACE TRANSPORTATION BOARD
FEB 6 2 58 PM '97

Debra Cross
Country Parts

Ms. Janice Fort
February 6, 1997
Page 2

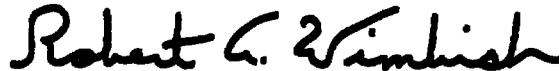
A short summary of the enclosed document to appear in the Board's index is:

Equipment Lease dated February 3, 1997 between National Railway Equipment Company (lessor) and Northern Vermont Railroad Company (lessee) covering nineteen (19) GP35 model locomotives bearing reporting marks CDAC 500 through CDAC 518.

A recordation fee of \$^{720.00}~~200.00~~ is enclosed.

Please let me know if you need anything else.

Sincerely Yours,


Robert A. Wimbish

Counsel for National Railway
Equipment Company

Enclosures

cc: Jerry Massie (NREC)

SURFACE TRANSPORTATION BOARD
WASHINGTON, D.C. 20423-0001

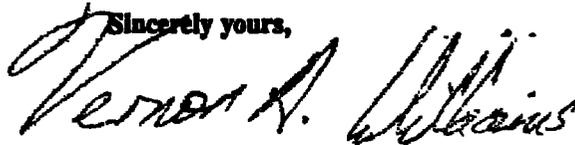
2/6/97

Robert A. Wimbish
Rea, Cross & Auchincloss
1920 N Street, NW., Ste. 420
Washington, DC., 20036

Dear Sir:

The enclosed document(s) was recorded pursuant to the provisions of Section 11303 of the Interstate Commerce Act, 49 U.S.C. 11303, on 2/6/97 at 3:00PM, and assigned recordation number(s). 20540.

Sincerely yours,

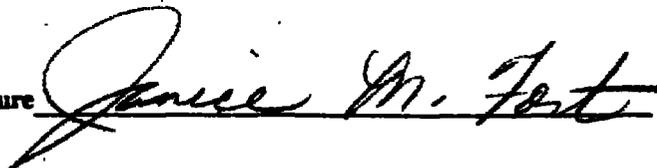


Vernon A. Williams
Secretary

Enclosure(s)

\$2.00 The amount indicated at the left has been received in payment of a fee in connection with a document filed on the date shown. This receipt is issued for the amount paid and in no way indicates acknowledgment that the fee paid is correct. This is accepted subject to review of the document which has been assigned the transaction number corresponding to the one typed on this receipt. In the event of an error or any questions concerning this fee, you will receive a notification after the Commission has had an opportunity to examine your document.

Signature



20540

1998

Counterpart - Robert C. Finch

EQUIPMENT LEASE

Dated as of 02/03, 1998

Between

NATIONAL RAILWAY EQUIPMENT COMPANY

LESSOR

And

NORTHERN VERMONT RAILROAD COMPANY

LESSEE

TABLE OF CONTENTS

SECTION 1.	<u>DEFINITIONS</u>	-1-
1.1.	<u>General Terms</u>	-1-
1.2.	<u>Other Definitional Provisions; Construction</u>	-6-
SECTION 2.	<u>LEASE OF UNITS</u>	-6-
2.1.	<u>Intent to Lease</u>	-6-
SECTION 3.	<u>ACCEPTANCE OF THE UNITS</u>	-6-
3.1.	<u>Inspection and Acceptance</u>	-6-
3.2.	<u>Certificate of Acceptance</u>	-6-
SECTION 4.	<u>RENTS AND PAYMENT DATES</u>	-6-
4.1.	<u>Rents for Units</u>	-6-
	<u>Interim Term</u>	-7-
	<u>Basic Rent</u>	-7-
	<u>Supplemental Rent</u>	-7-
4.2.	<u>Rent Payment Dates</u>	-7-
4.3.	<u>Place and Manner of Rent Payment</u>	-8-
4.4.	<u>Net Lease</u>	-8-
SECTION 5.	<u>TERM OF THE LEASE</u>	-9-
SECTION 6.	<u>OWNERSHIP AND MARKING OF UNITS</u>	-9-
6.1.	<u>Retention of Title</u>	-9-
6.2.	<u>Duty to Number and Mark Units</u>	-9-
6.3.	<u>Prohibition Against Certain Designations</u>	-9-
SECTION 7.	<u>DISCLAIMER OF WARRANTIES; QUIET ENJOYMENT</u>	-10-
SECTION 8.	<u>RULES, LAWS AND REGULATIONS</u>	-11-
SECTION 9.	<u>USE AND MAINTENANCE OF UNITS</u>	-11-
9.1.	<u>Use and Maintenance</u>	-11-
9.2.	<u>Replacement and Ownership of Parts; Alterations, Modifications and Additions</u>	-13-
	<u>Replacement of Parts</u>	-13-
	<u>Ownership of Parts</u>	-13-
	<u>Alterations, Modifications and Additions</u>	-13-
SECTION 10.	<u>LIENS ON THE UNITS</u>	-14-

SECTION 11. <u>INSURANCE; PAYMENTS FOR CASUALTY OCCURRENCE; EMINENT DOMAIN</u>	-14-
11.1. <u>Insurance.</u>	
(a) <u>Insurance Policies.</u>	-14-
(b) <u>Liability Policy Provisions</u>	-15-
(c) <u>Property Policy Provisions</u>	-15-
(d) <u>Certificates.</u>	-16-
(e) <u>Performance by Lessor</u>	-16-
(f) <u>Proceeds.</u>	-16-
11.2. <u>Duty of Lessee to Notify Lessor</u>	-17-
11.3. <u>Sum Payable for Casualty Loss</u>	-17-
11.4. <u>Rent Termination</u>	-17-
11.5. <u>Disposition of Units</u>	-18-
11.6. <u>Risk of Loss</u>	-18-
11.7. <u>Eminent Domain</u>	-18-
11.8. <u>Indemnification</u>	-18-
SECTION 12. <u>FINANCIAL REPORTS AND RIGHTS OF INSPECTION</u>	-20-
12.1. <u>Reports.</u>	-20-
12.2. <u>Record Keeping.</u>	-21-
12.3. <u>Filings.</u>	-22-
12.4. <u>Corporate Existence.</u>	-22-
12.5. <u>Affiliate Transactions.</u>	-22-
SECTION 13. <u>RETURN OF UNITS UPON EXPIRATION OF TERM.</u>	-22-
SECTION 14. <u>DEFAULT.</u>	-24-
14.1. <u>Events of Default.</u>	-24-
14.2. <u>Remedies.</u>	-25-
14.3. <u>Cumulative Remedies.</u>	-28-
14.4. <u>Lessor's Failure to Exercise Rights.</u>	-28-
SECTION 15. <u>RETURN OF UNITS UPON DEFAULT.</u>	-28-
15.1. <u>Lessee's Duty to Return.</u>	-28-
15.2. <u>Specific Performance.</u>	-29-
15.3. <u>Lessor Appointed Lessee's Agent.</u>	-29-
SECTION 16. <u>ASSIGNMENTS BY LESSOR.</u>	-29-
SECTION 17. <u>ASSIGNMENTS BY LESSEE; USE AND POSSESSION.</u>	-30-
17.1. <u>Lessee's Rights to the Units.</u>	-30-
17.2. <u>Permitted Subleases.</u>	-31-
SECTION 18. <u>PURCHASE OPTION; RENEWAL OPTION.</u>	-31-

18.1.	<u>Purchase Option</u>	-31-
18.2.	<u>Renewal Option</u>	-32-
18.3.	<u>Determination of Fair Market Value</u>	-32-
18.4.	<u>Delivery of Units</u>	-33-
SECTION 19. <u>TAXES</u>		-33-
SECTION 20. <u>REPRESENTATIONS AND WARRANTIES</u>		-34-
SECTION 21. <u>FEDERAL INCOME TAXES</u>		-35-
SECTION 22. <u>MISCELLANEOUS</u>		-36-
22.1.	<u>Notices</u>	-36-
22.2.	<u>Right of Lessor to Perform</u>	-36-
22.3.	<u>Execution in Counterparts</u>	-37-
22.4.	<u>Law Governing</u>	-37-
22.5.	<u>Headings and Table of Contents</u>	-37-
22.6.	<u>Severability, Effect and Modification of Lease</u>	-37-
22.7.	<u>Owner for all Purposes</u>	-37-
22.8.	<u>Interest on Overdue Rents and Amounts Paid by Lessor</u>	-37-
22.9.	<u>Survival</u>	-37-
SECTION 23. <u>SCHEDULE OF EXHIBITS</u>		-38-

EQUIPMENT LEASE

THIS EQUIPMENT LEASE (as from time to time supplemented or amended in accordance with the terms hereof, this "Lease") dated as of the ____ day of _____, 1996 between NATIONAL RAILWAY EQUIPMENT COMPANY, an Illinois corporation (the "Lessor"), and NORTHERN VERMONT RAILROAD COMPANY, a Delaware corporation (the "Lessee");

RECITALS:

Lessee desires to lease from Lessor, and Lessor desires to lease to the Lessee, certain railroad equipment in accordance with the terms and provisions of this Lease.

NOW, THEREFORE, in consideration of the premises, and the mutual covenants set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

SECTION 1. DEFINITIONS.

1.1. General Terms. In addition to terms defined elsewhere herein, when used herein, the following terms shall have the following meanings:

"AAR" shall mean the Association of American Railroads, and any successor thereto.

"Affiliate" shall mean any Person who or which, directly or indirectly, through one or more intermediaries controls, or is controlled by, or is under common control with, another Person. The term "control" shall mean the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise.

"Applicable Law" shall mean all applicable United States, foreign, federal, state and local laws, ordinances, statutes, rules, regulations, orders, injunctions, writs, treaties, decrees, licenses and permits of any Governmental Authority (including the Interchange Rules and all Environmental Laws).

"Bankruptcy Code" shall have the meaning specified in Section 20(F).

"Base Lease Term" shall have the meaning specified in Section 4.2.

"Base Lease Term Commencement Date" shall have the meaning specified in Section 4.1(b).

"Basic Rent" shall have the meaning specified in Section 4.1(b).

"Business Day" shall have the meaning specified in Section 4.2.

"Casualty Notice" shall have the meaning specified in Section 11.2(a).

"Casualty Occurrence" shall have the meaning specified in Section 11.2(a).

"Certificate of Acceptance" shall mean any Certificate of Acceptance in the form of annexed Exhibit A delivered pursuant to Section 3.2.

"CMO" shall have the meaning specified in Section 12.1.

"Code" shall mean the Internal Revenue Code of 1986, as amended from time to time, and the regulations thereunder.

"Default" shall mean an event or condition, which with the passage of time or notice (or both), would become an Event of Default.

"Default Payment Date" shall have the meaning specified in Section 14.2(d).

"Depreciation Deductions" shall have the meaning specified in Section 21.

"Designated Location" shall have the meaning specified in Section 13(a).

"DOT" shall mean the United States Department of Transportation and any successor Governmental Authority to the functions thereof.

"Election Notice" shall have the meaning specified in Section 18.1.

"Environmental Laws" shall mean any federal, state or local laws, ordinances, rules, orders, statutes, decrees, judgments, injunctions, directives, permits, licenses, approvals, codes and regulations relating to the environment, human health, natural resources or Hazardous Materials, as may from time to time be amended, supplemented or supplanted.

"EPA" shall mean the Environmental Protection Agency.

"Event of Default" (unless the context otherwise shall require) shall have the meaning specified in Section 14.1.

"Fair Market Rental Value" shall mean as to any Unit or Units, for any period, the fair market rental value of such Unit or Units for such period as reasonably determined by Lessor.

"Fair Market Value" shall have the meaning specified in Section 18.3.

"FRA" shall mean the Federal Railway Administration and any successor Governmental Authority to the functions thereof.

"GAAP" shall mean generally accepted accounting principles in the United States of America, as in effect as applied in the preparation of Lessee's and guarantor's financial statements.

"Governmental Authority" shall mean any foreign or domestic federal, state, county, local or other governmental authority, agency, board, body, instrumentality, tribunal, court or quasi-governmental authority (or any subdivision thereof).

"Guarantor" shall mean Iron Road Railways Incorporated, a Delaware corporation.

"Guaranty" shall mean the guaranty signed by the Guarantor in favor of Lessor with respect to this Lease. It is a condition of this Lease that a Guaranty be signed by the Guarantor contemporaneous with this Lease.

"Hazardous Material" shall mean any substance that is toxic, explosive, corrosive, flammable, infectious or radioactive, or defined as a "hazardous substance," "hazardous waste," "toxic substance" or the like under any Environmental Law, including petroleum, petroleum derivatives, crude oil or any fraction thereof.

"Holdover Rent" shall have the meaning specified in Section 13(b).

"Impositions" shall have the meaning specified in Section 19.

"Interchange Rules" shall have the meaning specified in Section 8.

"Interim Rent" shall have the meaning specified in Section 4.1(a).

"Late Rate" shall have the meaning specified in Section 22.8.

"Lease Assignee" shall have the meaning specified in Section 16.

"Lease Supplement" shall mean a Lease Supplement in the form of annexed Exhibit B hereto completed and delivered in accordance with the provisions of Section 3.2.

"Lease Term" shall have the meaning specified in Section 5.

"Lessee" shall have the meaning specified in the introductory paragraph of this Lease and shall include Lessee's successors and assigns.

"Lessee Retained Parts" shall have the meaning specified in Section 9.2(c).

"Lessor" shall have the meaning specified in the introductory paragraph of this Lease and shall include Lessor's successors and assigns.

"Lessor Lien" shall mean any lien, charge or encumbrance on any part of the Units which results from any act of or claim against the Lessor not related to or connected with the ownership, leasing, use or operation of the Units or to any transaction contemplated by the Operative Agreements.

"Lien" shall mean any mortgage, pledge, lien, charge, encumbrance, lease, adverse possession, exercise of rights, security interest, easement, servitude or claim of any kind, including any arising under any conditional sale or other title retention agreement.

"Manufacturer" shall mean General Motors Electro-Motive Division, and any successor to the business thereof.

"Operative Agreements" shall mean collectively this Lease, the Lease Supplements, Certificates of Acceptance, the Assignment, the Guaranty, the Security Agreements.

"Parts" shall mean any and all appliances, parts, instruments, appurtenances, accessories, furnishings, seats, and other equipment of whatever nature which may from time to time be incorporated or installed in or attached to any Unit.

"Permitted Liens" shall mean (i) the security interest created by any Security Agreement; (ii) undetermined or inchoate materialmen's, mechanic's, workmen's, repairmen's or employees' Liens or other like Liens against one or more Units arising in the ordinary course of business and securing obligations which are not delinquent or which shall have been bonded over to the reasonable satisfaction of Lessor or the enforcement of which shall have been suspended (but only for the duration of such suspension); (iii) Lessor Liens; and (iv) the right, title and interest of the Lessee in and to the Units under this Lease.

"Permitted Subleases" shall have the meaning specified in Section 17.2.

"Person" shall mean an individual, partnership, association, joint venture, corporation, limited liability company, business trust, estate, trust or unincorporated organization, or a government or agency or political subdivision thereof, domestic or foreign, or any other legal or commercial entity.

"Release" shall mean the release, deposit, disposal, discharge, emission, spill, leak or the like of any Hazardous Material into the environment.

"Renewal Election Notice" shall have the meaning specified in Section 18.2.

"Renewal Option" shall have the meaning specified in Section 18.2.

"Renewal Rent" shall have the meaning specified in Section 18.2(a).

"Renewal Term" shall have the meaning specified in Section 18.2(a).

"Rent" shall mean, collectively, Basic Rent (including any Renewal Rent), Interim Rent and Supplemental Rent.

"Rent Payment Date" shall have the meaning specified in Section 4.2.

"Required Modification" shall have the meaning specified in Section 9.2(c).

"Return Condition" shall have the meaning specified in Section 13(c).

"Secured Party" shall mean any secured party under a Security Agreement.

"Security Agreement" shall mean a security agreement and related loan documentation providing for a security interest in the Units or this Lease, or both, or a collateral assignment of the Lessor's interest in the Units or this Lease, or both, of which Lessee has received notice from the Secured Party.

"SLV Payment Date" shall have the meaning specified in Section 11.3.

"STB" shall mean the Surface Transportation Board of the DOT and any successor Governmental Authority to the functions thereof.

"Stipulated Loss Value" payable for any Unit as of any date of determination shall mean the amount set forth in Exhibit C to this Lease opposite the SLV Payment Date on which such Stipulated Loss Value will be paid (as such amount may be adjusted from time to time pursuant to Section 4.4 of this Lease).

"Supplemental Rent" shall have the meaning specified in Section 4.1(c).

"Tax Benefits" shall have the meaning specified in Section 21.

"Units" shall mean, collectively, all nineteen General Motors Electro-Motive Division model GP35 locomotives listed on Exhibit D together with any and all accessions, additions, improvements, substitutions and replacements from time to time incorporated or installed on such locomotives which are the property of the Lessor pursuant to the terms of this Lease or the other Operative Agreements, and **"Unit"** shall mean, individually, each of the Units.

1.2. Other Definitional Provisions: Construction. Whenever the context so requires, the neuter gender includes the masculine and feminine, the singular number includes the plural, and vice versa. The words "hereof," "herein" and "hereunder" and words of similar import when used in this Lease shall refer to this Lease as a whole and not to any particular provision of this Lease, and references to Section, Subsection, Annex, Schedule, Exhibit and like references are references to this Lease unless otherwise specified. References in this Lease to any Person shall include such Person's successors and permitted assigns. References to any "Subsection" shall be a reference to such Subsection of this Lease unless otherwise stated.

SECTION 2. LEASE OF UNITS.

2.1. Intent to Lease. The Lessor hereby leases to the Lessee and the Lessee hereby leases from the Lessor the Units for the rental and on and subject to the terms and conditions herein set forth.

SECTION 3. ACCEPTANCE OF THE UNITS.

3.1. Inspection and Acceptance. Lessor shall notify Lessee when the unit(s) are available for inspection by Lessee. Thereupon, Lessee shall inspect the Unit and Lessee shall, upon Lessee's determination that a Unit satisfies the Locomotive Requirements, notify Lessor and execute and deliver to Lessor a Certificate of Acceptance (each, a "Certificate of Acceptance") for such Unit in the form attached hereto as Exhibit A.

3.2. Certificate of Acceptance. The Lessee's execution and delivery of a Certificate of Acceptance with respect to a Unit pursuant to Section 3.1 hereof shall constitute (i) Lessee's acknowledgment to Lessor and agreement that, for the purposes of this Lease, the Lessee has inspected such Unit and that such Unit is acceptable to and accepted by the Lessee, and (ii) Lessee's representation and warranty to Lessor that such Unit is in good order and condition and conforms to the specifications applicable thereto and to all applicable requirements and specifications of DOT, STB, FRA, EPA and other Governmental Authority, if any, and conforms to all standards recommended by the AAR applicable to railroad equipment of the character of the Units as of the date of this Lease. Lessor shall execute and deliver to Lessee a Lease Supplement as to such (the "Lease Supplement") which shall set forth the amount of the Basic Rent and the Base Lease Term in the form attached hereto as Exhibit B. Lessee shall execute and deliver a counterpart of such Lease Supplement to Lessor.

SECTION 4. RENTS AND PAYMENT DATES.

4.1. Rents for Units. The Lessee agrees to pay the following rent for each Unit:

(a) **Interim Term.** An "Interim Term" shall commence upon the signing of this lease and shall end when the first 60 month Base Lease Term has started on the Base Lease Term Commencement Date (hereinafter defined). The rents payable during the Interim Term shall be \$0.00 prior to the day the acceptance certificate is executed, on which date rent per accepted unit shall be \$ _____ per day, all due on the last day of each month. The term "**Interim Rent**" shall mean rent amounts due during the Interim Period.

(b) **Basic Rent.** The Lessee shall pay rent ("Basic Rent") on each Unit in arrears on the last day of each month in the Base Lease Term as to such Unit, and on the day of termination of the Base Lease Term as to each Unit in an amount equal to \$ _____ per month per unit, for the next 60 months. The first 60 month Base Lease Term shall begin on the first day of the month following the acceptance of the nineteenth (19th) unit, which date shall be known as the "**Base Lease Term Commencement Date**". If the Renewal Option is exercised, Lessee shall pay Basic Rent on each unit in arrears in an amount per month equal to the amount determined pursuant to **Section 18.2(a)** hereof for the next 24 months of the Base Lease Term, **provided however**, that during the Renewal Term, the term "**Basic Rent**" shall mean Renewal Rent payable in accordance with **Section 18.2**. Basic Rent shall be prorated based on a month of 30 days and the actual number of days elapsed for any partial month.

(c) **Supplemental Rent.** As supplemental rent hereunder ("**Supplemental Rent**"), the Lessee shall pay to the Person entitled to receive the same, an amount or amounts equal to any and all amounts, liabilities and obligations (other than) which the Lessee assumes or agrees to pay to the Lessor or any other Person hereunder or any other Operative Agreement, including interest on any part of any installment of Rent, Stipulated Loss Value and all other amounts due from Lessee to Lessor, or amounts expended by the Lessor on behalf of the Lessee, not paid when due for any period for which the same shall be overdue, as provided in **Section 22.8** hereof.

4.2. **Rent Payment Dates.** The basic term of this Lease shall begin immediately upon the expiration of the Interim Term, which date shall be specified in the Lease Supplement, and shall terminate 5 years after the Base Lease Term Commencement Date or such later date to which the term of this Lease is extended pursuant to **Section 18.2** hereof (the "**Base Lease Term**"), subject to termination of the Lease Term by Lessor pursuant to **Section 14.2**. Basic Rent and Interim Rent for each Unit shall be due and payable monthly in arrears on the last day of each month in the Base Lease Term as to each Unit, and upon termination of this Lease as to any Unit (each such date on which Basic Rent is due, a "**Rent Payment Date**"). Each payment of Supplemental Rent shall be due and payable on the date on which such amounts are stated to be due and payable or if no such due date is set forth, within 5 Business Days following written demand therefor. If any Rent Payment Date is not a Business Day, the Rent payment otherwise payable on such date shall be payable on the next succeeding Business Day without interest or penalty. The term "**Business Day**" means calendar days (excluding Saturdays, Sundays and holidays) on which banks in the State of Illinois are not authorized or required to close.

4.3. **Place and Manner of Rent Payment.** Subject to **Section 16**, the payments to be made by the Lessee under this Lease shall be made to the Lessor by 2:00 PM (New York time) on the date due by Federal Reserve wire transfer as Lessor may direct Lessee, identifying the same as a payment relating to the "NVR Locomotive Lease" and stating the nature of the payment (e.g., Rent or Stipulated Loss Value). Payments not received by the time set forth above shall be deemed to be received on the next succeeding Business Day.

4.4. **Net Lease.** This Lease is a net lease and the Lessee's obligation to pay all Interim Rent, Basic Rent and Supplemental Rent and other amounts payable hereunder shall be absolute and unconditional under any and all circumstances and, without limiting the generality of the foregoing, the Lessee shall not be entitled to any abatement of Rent or reduction thereof or setoff against Rent, including, but not limited to, abatements, reductions or setoffs due to any present or future claims of the Lessee against the Lessor under this Lease or otherwise or against any assignee of the Lessor pursuant to **Section 16** hereof; nor, except as otherwise expressly provided in **Sections 11** or **16** hereof, shall this Lease terminate, or the respective obligations of the Lessor or the Lessee be otherwise affected, by reason of any defect in the title, condition, design, operation or fitness for use of, or damage to or loss or destruction of, or requisitioning by any Governmental Authority or other Person by condemnation or otherwise of, all or any Unit, or by reason of any failure of any Unit to comply with Applicable Laws, any contamination of or Release from any Unit, the prohibition of Lessee's use of any Unit, the interference with such use by any Governmental Authority or other Person by the invalidity or unenforceability or lack of due authorization or other infirmity of this Lease or any other Operative Agreement, or lack of right, power or authority of the Lessor or Lessee to enter into this Lease, the insolvency of the Lessee or any other Person, the commencement of any proceeding by or against the Lessee or any other Person for relief under any bankruptcy or similar law for the relief of debtors, any Liens or rights of any Person with respect to any Unit (or any part thereof), or for any other cause whether similar or dissimilar to the foregoing, any present or future Applicable Law to the contrary notwithstanding, it being the intention of the parties hereto that the Rent and other amounts payable by the Lessee hereunder shall continue to be payable in all events unless the obligation to pay the same shall be terminated pursuant to **Section 11** hereof, or until, pursuant to **Section 13** hereof, all of the Units have been returned to the possession of the Lessor and the Lessee shall have paid to the Lessor all amounts due and owing hereunder and under the other Operative Agreements (for all purposes of this Lease any Unit shall not be deemed to have been returned to the Lessor's possession until all of the Lessee's obligations with respect to the return, transportation and storage thereof have been performed). To the extent permitted by Applicable Law, the Lessee hereby waives any and all rights (including any rights under Article 2A of the Illinois Uniform Commercial Code) which it may now have or which at any time hereafter may be conferred upon it, by statute or otherwise, to terminate, cancel, quit or surrender the lease of any of the Units except in accordance with the express terms hereof. Except for manifest error, each payment of Rent or other payment made by the Lessee hereunder shall be final and the Lessee shall not seek to recover all or any part of such payment from the Lessor or any assignee pursuant to **Section 16** hereof for any reason whatsoever. Nothing herein shall be interpreted or construed as waiving the Lessee's right to bring suit and seek damages for breach of this Lease or the other Operative Agreements to which the Lessee is a party.

SECTION 5. TERM OF THE LEASE.

The term of this Lease (the "Lease Term") as to each Unit shall consist of the Interim Term and the Base Lease Term (including, if and to the extent the Renewal Option is exercised, the Renewal Term).

SECTION 6. OWNERSHIP AND MARKING OF UNITS.

6.1. Retention of Title. The Lessor, as between the Lessor and the Lessee, shall and hereby does retain full legal title to, and beneficial ownership of, the Units notwithstanding the delivery thereof to and possession and use thereof by the Lessee or any sublessee under any Permitted Sublease.

6.2. Duty to Number and Mark Units. The Lessee will cause each Unit to be kept numbered with its identifying number as set forth in the definition of the term "Units" and will keep and maintain, plainly, distinctly, permanently and conspicuously marked by a plate or stencil printed in contrasting color upon each side of each Unit in letters not less than one inch in height as follows:

"OWNERSHIP SUBJECT TO A SECURITY AGREEMENT FILED WITH THE SURFACE TRANSPORTATION BOARD."

with appropriate changes thereof and additions thereto as from time to time may be required by law in order to protect the title of the Lessor to such Unit, its rights under this Lease and the rights of any assignee under Section 16 hereof. Promptly, and in any event on or before the , the Lessee at its expense shall mark each Unit or cause each Unit to be marked with the above-described legend and thereafter the Lessee will replace promptly any such names and word or words which may be removed, obliterated, defaced or destroyed. The Lessee will not change the identifying number of any Unit unless and until, at Lessee's sole cost and expense, (a) a statement of new identifying numbers to be substituted therefor shall have been delivered to the Lessor and any Secured Party by the Lessee and filed, recorded or deposited in all public offices where this Lease shall have been filed, recorded or deposited and (b) the Lessee shall have furnished any Secured Party and the Lessor an opinion of STB counsel and Canadian counsel to the effect that such statement has been so filed, recorded and deposited, such filing, recordation and deposit will protect, preserve and maintain the Lessor's title to, and any Secured Party's security interest in, such Units and no filing, recording, deposit or giving of notice with or to any other Governmental Authority thereof is necessary to protect, preserve and maintain the interests of any Secured Party and the Lessor in such Units.

6.3. Prohibition Against Certain Designations. Except as above provided, the Lessee will not allow the name of any Person to be placed on the Units as a designation that might be interpreted as a claim of ownership; provided, however, that the Lessee may to the extent not inconsistent with the foregoing cause the Units to be lettered with the names or initials or other insignia customarily

used by the Lessee or its Affiliates or any sublessees under Permitted Subleases on railroad equipment used by any of them of the same or a similar type for convenience of identification of the right of the Lessee to use the Units under this Lease or of any sublessee to use the Units under any Permitted Sublease.

SECTION 7. DISCLAIMER OF WARRANTIES: QUIET ENJOYMENT.

LESSEE ACKNOWLEDGES AND AGREES THAT THE LESSOR LEASES THE UNITS, AS-IS, WHERE-IS, WITH ALL FAULTS, IN WHATEVER CONDITION THEY MAY BE, WITHOUT ANY AGREEMENT, WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, BY THE LESSOR, AND THE LESSOR AND ANY SECURED PARTY EACH EXPRESSLY DISCLAIMS ANY WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, AS TO (A) THE FITNESS FOR ANY PARTICULAR PURPOSE OR MERCHANTABILITY OF ANY UNIT OR UNITS OR THE ABSENCE OF DEFECT (PATENT OR LATENT), (B) THE LESSOR'S TITLE THERETO, (C) THE DESIGN, CONDITION OR SPECIFICATIONS OF, OR THE QUALITY OF THE MATERIAL, OR WORKMANSHIP IN, ANY UNIT OR UNITS, (D) THE COMPLIANCE OF ANY UNIT (OR PART THEREOF) WITH ANY APPLICABLE LAWS AND (E) ANY OTHER MATTER WHATSOEVER WITH RESPECT TO ANY UNIT OR UNITS, IT BEING AGREED THAT ALL SUCH RISKS, AS AMONG THE LESSOR, ANY SECURED PARTY AND THE LESSEE, ARE TO BE BORNE BY THE LESSEE. Neither the Lessor, nor any Secured Party, shall have any responsibility or liability to the Lessee or any other Person with respect to any of the following: (i) any liability, loss or damage (including that resulting from any contamination of or Release from any Unit) caused or alleged to be caused directly or indirectly by any Unit or by any inadequacy thereof or deficiency or defect therein or by any other circumstances in connection therewith; (ii) the use, operation or performance of any Unit or any risks relating thereto; (iii) any interruption of service, loss of business or anticipated profits or consequential damages; or (iv) the delivery, operation, servicing, maintenance, repair, rebuilding, remanufacturing, improvement or replacement of any Unit. All Units are in all the foregoing respects satisfactory to the Lessee, and the Lessee will not assert any claim of any nature whatsoever against the Lessor or any Secured Party based on any of the foregoing matters or on any rebuilding or remanufacturing of the Units. If and so long as no Event of Default has occurred and is continuing, the Lessor hereby authorizes the Lessee during the Lease Term to assert and enforce, from time to time, in the name and for the account of the Lessee, and in all cases at the sole cost and expense of the Lessee, whatever claims and rights the Lessor may have as owner of the Units against the manufacturers and remanufacturer thereof, provided, however, that if at any time an Event of Default shall have occurred and be continuing, such power of attorney shall terminate, and the Lessor may assert and enforce, at the Lessee's sole cost and expense, such claims and rights, provided, that any amounts received by Lessor in exercising such rights shall be applied in the manner set forth in Section 14.2 hereof. **THE PROVISIONS OF THIS SECTION 7 HAVE BEEN NEGOTIATED AND ARE INTENDED TO BE A COMPLETE EXCLUSION AND NEGATION OF ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, BY LESSOR WITH RESPECT TO THE UNITS**

(OR ANY PORTION THEREOF), WHETHER ARISING PURSUANT TO THE UNIFORM COMMERCIAL CODE OF ANY APPLICABLE JURISDICTION OR ANY OTHER APPLICABLE LAW, NOW OR HEREAFTER IN EFFECT.

The foregoing notwithstanding, Lessor warrants that it has received such title to the Units, and, that so long as no Event of Default shall have occurred and be continuing, neither Lessor nor any Person claiming by or through Lessor shall interfere with Lessee's quiet use and enjoyment of the Units.

Lessee agrees to prepare and deliver to Lessor within a reasonable time prior to the required date of filing (or, to the extent permissible, file on behalf of Lessor) any and all mandatory reports of which Lessee has or reasonably should have actual knowledge, except income tax reports, to be filed by Lessor, with any federal, state or other regulatory authority by reason of the ownership by Lessor of the Units or the leasing of the Units to Lessee. Lessor shall notify Lessee of any such reports of which Lessor has actual knowledge.

SECTION 8. RULES, LAWS AND REGULATIONS.

The Lessee agrees to comply with all Applicable Laws (including, without limitation, the Applicable Laws of DOT, STB, EPA and the FRA and the current Field Manual of the AAR Interchange Rules or supplements thereto of the Mechanical Division of the AAR) as the same may be in effect from time to time) (collectively, the "Interchange Rules") with respect to the use and maintenance of each Unit subject to this Lease.

SECTION 9. USE AND MAINTENANCE OF UNITS.

9.1. Use and Maintenance. The Lessee shall be entitled to possession of the Units in the general operation of the Lessee's business in the continental United States and Canada; provided, however, that Lessee shall not (i) locate, or permit to be located, any Unit in areas excluded from coverage by any insurance policy required to be maintained pursuant to Section 11 or (ii) locate, or permit to be located, any Unit outside of the continental United States and Canada; and further provided, however, Lessee shall not permit any Unit to be located in Canada for more than 45% of any calendar year. The Lessee shall, at its own cost and expense, maintain and keep each Unit (i) in good working order and repair; (ii) in as good physical condition as when originally delivered to Lessee ordinary wear and tear excepted, suitable for use in interchange in accordance with federal regulations and the Interchange Rules and satisfactory for commercial use by a Class 1 railroad; (iii) in accordance with all Applicable Laws; (iv) in accordance with maintenance provisions (if any) of insurance required to be maintained hereunder; (v) in accordance with prudent industry practice for each such Unit; and (vi) only in the manner for which it was designed. The Lessee shall use, operate, service, repair, overhaul and test each Unit in accordance with all Applicable Laws and prudent industry practice and only in the manner for which it was designed. The Lessee shall not modify any

Unit in any manner which will decrease the fair market value, utility or remaining useful life of such Unit assuming the same was otherwise in the condition required hereunder. Without limiting the generality of the foregoing, the Lessee shall at all times, at its own cost and expense, maintain each of the Units (i) in good condition, repair and appearance, free of damage, clean and free of deterioration due to material metal rust or other corrosion (including without limitation any corrosion to metal that requires replacement to protect the utility, value, use, marketability or safety of a Unit), (ii) in efficient working order in accordance with Applicable Laws, the Interchange Rules and all FRA, AAR, EPA, STB and DOT guidelines and requirements, acceptable for unrestricted interchange service under load, able to make 2,000 horsepower (an acceptable variance of $\pm 10\%$ is allowed on horsepower) under a load test in conformity with the then applicable Interchange Rules for road locomotives, and operable in conformity with the requirements of any other Governmental Authority or nongovernmental agency having jurisdiction over the operation, safe condition, maintenance or use of the Units, and (iii) in accordance with the following provisions:

(A) Lessee shall use the proper amounts and types of fuel, lubricants, crankcase and air compressor oil, coolant and corrosion inhibitor that meet the Manufacturer's recommended guidelines and specifications (e. g., M.I. 1752, Maintenance Instruction, "Lubricating Oil For Domestic Locomotive Engines", and M.I. 1748 "Engine Coolant", copies of which are attached hereto as Exhibits D and E, respectively) to protect the Units' mechanical operation, and Lessee shall replace the oil filters and fuel filters and other similar items on a timely, as-needed basis to prevent damage to the Units and to ensure the Units' good mechanical operation and condition;

(B) All replacement parts, fuel, lubricants, oil, coolants and corrosion protectors shall meet the Manufacturer's recommended guidelines and specifications;

Without limiting the generality of the foregoing or anything else in this Lease to the contrary, Lessee will not adversely discriminate against the Units regarding their use, maintenance or repair because they are leased locomotives. The Lessee will maintain all records, logs and other materials required by any Governmental Authority having jurisdiction to be maintained by the Lessee or the Lessor in respect of any Unit. All such records, logs and other materials shall be the property of the Lessor (provided that such records, logs and other materials in respect of any Unit shall become the property of the Lessee upon the Lessee's purchase of such Unit upon the occurrence of a Casualty Occurrence and the Lessee's compliance with Section 11.3 hereof). The Lessee, at its own expense, will procure and pay for all permits, franchises, inspections and licenses necessary or appropriate to be held or maintained by the Lessee or the Lessor in connection with any Unit and any repair, restoration, replacement, renewal, addition or improvement thereof and thereto that may be required pursuant to Section 8 hereof or this Section 9.

9.2. Replacement and Ownership of Parts; Alterations, Modifications and Additions.

(a) **Replacement of Parts.** Without derogating from Lessee's obligations under **Section 9.1**, unless a Unit to which a Part relates has suffered a Casualty Occurrence, Lessee, at its own cost and expense, will during the Lease Term promptly replace, or cause to be replaced, all Parts that may from time to time become worn out, lost, stolen, destroyed, seized, confiscated, damaged beyond repair or permanently rendered unfit for use for any reason whatsoever. All replacement Parts shall be free and clear of all Liens (other than Permitted Liens) and shall be of the same or better type, model and capacity and in as good operating condition as, and shall have a utility, fair market value and expected remaining useful life at least equal to, the Parts replaced (assuming such replaced Parts were in the condition and repair required to be maintained by the terms hereof).

(b) **Ownership of Parts.** All Parts at any time removed from any Unit shall remain the property of Lessor and subject to this Lease, no matter where located, until such time as such Parts shall be replaced by parts that have been incorporated or installed in or attached to such Unit and that meet the requirements for replacement Parts specified in **Sections 9.1** and **9.2(a)** hereof. Immediately upon any replacement Part becoming incorporated or installed in or attached to a Unit as provided in **Section 9.1** or **9.2(a)** hereof, without further act, (i) ownership of the replaced Part shall thereupon vest in Lessor or its designee, free and clear of all rights of Lessee and shall no longer be deemed a Part hereunder; (ii) ownership of such replacement Part shall thereupon vest in Lessor (subject only to Permitted Liens); and (iii) such replacement Part shall become subject to this Lease and be deemed part of such Unit for all purposes hereof to the same extent as the Parts originally incorporated or installed in or attached to such Unit.

(c) **Alterations, Modifications and Additions.** Lessee, at its sole cost and expense, shall make or cause to be made such alterations and modifications in and additions to each Unit as may be required from time to time under Applicable Law or the terms or conditions of the insurance maintained under **Section 11** (each, a "**Required Modification**"). In addition, Lessee, at its sole cost and expense, may (with Lessor's prior written consent) from time to time make such modifications, additions and upgrades to each Unit as Lessee reasonably may deem desirable; **provided**, that such alterations, modifications or additions do not (i) in Lessor's judgment decrease, reduce or otherwise impair the structural integrity, fair market value, utility or remaining useful life of such Unit, (ii) cause any Unit to constitute "limited use property" within the meaning of Revenue Procedures 75-21 and 79-48, as amended, (iii) materially change the nature, use, type or capacity of such Unit, or (iv) cause such Unit to be subject to any Lien. Notwithstanding the foregoing, radios, rear-end telemetry on the Units shall be hereinafter referred to as "**Lessee Retained Parts**" and title to all Lessee Retained Parts shall remain with Lessee. Except as to Lessee Retained Parts, title to all Parts shall, without further act, vest in Lessor.

Notwithstanding anything herein to the contrary, Lessee shall not make any alteration, modification or addition to any Unit that would change the nature or use of such Unit from that for which it was originally designed. Lessee shall not replace any component with a lesser replacement component (e.g., Lessee will not replace a D77 model traction motor with a D67 model traction motor).

SECTION 10. LIENS ON THE UNITS.

The Lessee shall pay or satisfy and discharge any and all claims which, if unpaid, might constitute or become a Lien upon any Unit (other than Permitted Liens), and shall not create or suffer to exist, and as soon as possible, at its own expense, Lessee shall discharge any Liens which may be levied against or imposed upon any Unit or any Parts or any interest of the Lessor or any Secured Party in any of the foregoing (other than Permitted Liens), but so long as no Event of Default shall have occurred and be continuing, the Lessee shall not be required to pay or discharge any such Liens so long as it shall, in good faith and by appropriate legal proceedings contest the validity thereof in any commercially reasonable manner which will not involve (i) any material risk of any sale, loss or forfeiture of any title to, or interest in any Unit or the security interest or other rights of any assignee under Section 16 hereof in and to any of the Units, (ii) any risk of the imposition of criminal liability on Lessor or Secured Party or (iii) any risk of unindemnified civil liability on Lessor or any Indemnitee. Prior to commencement the Lessee shall give the Lessor and any Secured Party prompt written notice of any such contest setting forth in reasonable detail the nature of the contest and the Lessee's compliance with clauses (i) through (iii) above. The Lessee's obligations under this Section 10 shall survive the termination of this Lease.

SECTION 11. INSURANCE; PAYMENTS FOR CASUALTY OCCURRENCE; EMINENT DOMAIN.

11.1. Insurance.

(a) **Insurance Policies.** The Lessee will at all times during the Lease Term, at its own expense, carry and maintain or cause to be carried and maintained (i) property insurance with respect to each Unit, and (ii) public liability insurance (including pollution liability coverage to the extent available on commercially reasonable terms) with respect to bodily injury and property damage in such amounts, against such risks and with such insurance companies as are (except in case of property insurance) acceptable to the Lessor. Nothing contained in this Section 11.1 shall be deemed to relieve the Lessee from any of its other obligations under the operative agreements. Lessee shall maintain not less than (a) \$4,987,500 of property insurance coverage on the Units, with \$1,000,000 limit per occurrence, with a deductible of no more than \$50,000 per Unit and \$100,000 per occurrence, and (b) \$10,000,000 of public liability insurance with a deductible of no more than \$100,000 per occurrence. All insurance required hereunder shall be maintained with

insurance companies rated not less than A12+ or higher by A. M. Best Company, Inc. or other insurers of comparable or better claims paying ability which are not so rated (to the extent such insurance is available on commercially reasonable terms).

(b) **Liability Policy Provisions.** The policy or policies of public liability insurance carried in accordance with subsection (a) of this **Section 11.1** shall to the extent such provisions are commercially available (i) require at least 30 days' prior written notice to the Lessor and any Secured Party of cancellation, lapse, expiration or adverse change to reduce the coverage thereof, (ii) (A) cover the Lessor and any Secured Party as additional insureds or (B) provide that in the event that any additional insured is named in a certificate of insurance relating to such policy, the policy will be deemed to have been endorsed accordingly, (iii) provide that such insurance is primary with respect to any other insurance carried by or available to the Lessor and any Secured Party, (iv) provide that the insurer shall waive any right of subrogation and any setoff, counterclaim, or other deduction, whether by attachment or otherwise, against the Lessor and any Secured Party, (v) provide that such insurance as to the interests of the Lessor and any Secured Party shall not be invalidated by any action or inaction of the Lessee or any other Person, regardless of any breach or violation of any warranty, declaration or condition contained in such policies maintained by the Lessee or any other Person, notwithstanding the use of the Units for purposes more hazardous than permitted by the terms of the policies, (vi) provide that no additional insured shall have any obligation or liability for premiums in connection with such insurance and (vii) contain a cross-liability clause providing for coverage of the Lessor and any Secured Party as if separate policies had been issued to each of them.

(c) **Property Policy Provisions.** The policy or policies of property insurance carried in accordance with subsection (a) hereof shall to the extent such provisions are commercially available (i) require at least 30 days' prior written notice to the Lessor and any Secured Party of cancellation, lapse, expiration or adverse change to reduce the coverage thereof, (ii) (A) cover the Lessor and any Secured Party as a loss payee as their interests may appear (but without imposing on any such party liability to pay premiums with respect to such insurance) provided that the Lessor (or, if the Lessee shall not have been notified in writing that the assignment of this Lease from the Lessor to any Secured Party has been terminated, any Secured Party) shall be named as sole loss payee with respect to policies for physical damage insurance on the Units and as an additional insured or (B) provide that in the event that any additional insured or loss payee is named in a certificate of insurance issued in connection with such policy, the policy will be deemed to have been endorsed accordingly, (iii) provide that, in respect of the interest of the Lessor and any Secured Party in such policies, the insurance shall not be invalidated by any action or inaction by the Lessee or its Affiliates (other than a failure of the Lessee to pay premiums or other sums owing to the insurer), notwithstanding the use of the Units for purposes more hazardous than permitted by the terms of the policies, (iv) insure the Lessor and any Secured Party regardless of any breach or violation of any warranty, declaration or condition contained in such policies (or in the application therefor or in any other document submitted to the insurer in connection

therewith), (v) provide that such insurance is primary with respect to any other insurance carried by or available to the Lessor and any Secured Party, and (vi) provide that the insurer shall waive any right of subrogation and any setoff, counterclaim, or other deduction, whether by attachment or otherwise, against the Lessor and any Secured Party.

(d) **Certificates.** On or prior to the 30th day preceding the expiration of any policy maintained pursuant to this Section 11.1, the Lessee shall deliver to the Lessor and any Secured Party certificates of insurance issued by the insurers under the policies required pursuant to this Section 11.1 or, if unavailable, other evidence of the insurance maintained pursuant to this Section 11.1 reasonably satisfactory to the Lessor and any Secured Party, including a certificate of insurance naming the Lessor and any Secured Party. Lessee shall take prompt action to add any Secured Party to the insurance coverage required pursuant to this Agreement, and provide evidence thereof to Lessor, all as may be reasonably requested by Lessor. Within 30 days of each anniversary of the date hereof the Lessee shall deliver to the Lessor and any Secured Party a report of an insurance broker describing in reasonable detail the insurance maintained pursuant to this Section 11.1 and stating that in such broker's opinion such insurance complies with this Section 11.1.

(e) **Performance by Lessor.** In the event that Lessee shall fail to maintain insurance as herein provided, the Lessor or any Secured Party may at its option, but without obligation, provide such insurance and, in such event, the Lessee shall, upon demand from time to time, reimburse the Lessor and any Secured Party for the cost thereof, together with interest at the Late Rate computed from the date of payment of such cost to the date of reimbursement.

(f) **Proceeds.** As between the Lessor and the Lessee, any payments on account of a Casualty Occurrence with respect to any Unit or any Part received at any time by the Lessor, the Lessee or any permitted sublessee or any other Person from any Governmental Authority or other Person will be applied as follows: (x) so much of such payments as shall not exceed the amounts required to be paid by Lessee pursuant to Section 11.3 shall be paid to the Lessor and such payment to the Lessor shall be applied in reduction of the Lessee's obligation to pay such amounts by an amount equal to such payment and (y) the balance, if any, to Lessee.

Provided that no Default or Event of Default shall have occurred and be continuing, all casualty insurance proceeds in respect of any occurrence involving the Units that does not constitute a Casualty Occurrence shall be paid to the Lessee. During the continuance of any Default or an Event of Default, any such amounts shall be held by the Lessor as security for the performance by the Lessee of its obligations under this Lease and shall be promptly paid over to the Lessee at such time as the Default or Event of Default shall no longer be continuing.

11.5. Disposition of Units. Upon Lessee's full performance of its obligations under Section 11.3, Lessor shall convey to Lessee, all right, title, interest in and to all such Unit or Units having suffered a Casualty Occurrence. Any such disposition shall be on an "as-is", "where-is" basis without representation or warranty by Lessor, express or implied, except as to the absence of Lessor Liens.

11.6. Risk of Loss. Except as otherwise expressly provided herein, the Lessee shall bear the risk of loss and, except as hereinabove in this Section 11 provided, shall not be released from its obligations hereunder in the event of any Casualty Occurrence to any Unit from and after the date hereof and continuing until payment of the Stipulated Loss Value and all Rent and other sums due on and prior to the date of payment of such Stipulated Loss Value in respect of such Unit has been made, such Unit or the salvage thereof has been disposed of by the Lessee and the title to such Unit or the salvage thereof and all risk of loss and liabilities incident to ownership have been transferred to the purchaser of such Unit or the salvage thereof.

11.7. Eminent Domain. In the event that during the term of this Lease the use of any Unit is requisitioned or taken by any Governmental Authority under the power of eminent domain or otherwise for a period not constituting a Casualty Occurrence, the Lessee's obligation to pay all installments of Rent and other sums shall continue for the duration of such requisitioning or taking. So long as no Default or Event of Default shall have occurred and be continuing (in which case the following amounts shall be paid to Lessor), the Lessee shall be entitled to receive and retain for its own account from time to time during the Lease term all sums payable for any such period by such Governmental Authority as compensation for requisition or taking of possession.

11.8. Indemnification. Lessee hereby assumes liability for, and does hereby agree to indemnify, protect, save, defend, and hold harmless Lessor, any assignee of Lessor (including any Secured Party), and their respective officers, directors, stockholders, attorneys, counsel and agents (each being referred to in this Section 11.8 as an "indemnified party"), from and against any and all obligations, fees, liabilities, losses, damages, penalties, claims, demands, actions, suits, judgments, costs and expenses, including reasonable legal expenses, of every kind and nature whatsoever, imposed on, incurred by, or asserted against an indemnified party, relating to or arising out of this Lease or the Units, including (a) the remanufacturing of any Unit, ownership, titling, retitling, registration, re-registration, delivery, leasing, subleasing, re-leasing, possession, use, operation, maintenance, storage, removal, return, repossession, purchase, sale or other disposition of the Units, including, without limitation, any of such as may arise from (i) loss or damage to any property or death or injury to any Persons, (ii) patent defects in the Units (whether or not discoverable by Lessee or any indemnified party), (iii) any claims based on absolute or strict liability in tort, (iv) any claims based on patent, trademark, trade name or copyright infringement, and (v) any claims based upon any non-compliance with or violation of any Environmental Laws, including, without limitation, all costs, fines and penalties arising from any such violation or non-compliance, or from the failure to report to any applicable governing regulatory authority any spills, discharges or maintenance of hazardous waste substances, and including all costs and expenses of clean-up and removal of spills and hazardous waste substances; or (b) any failure on the part of Lessee to perform or comply with any of the terms of this Lease. Lessee shall give Lessor prompt notice of any occurrence, event or

condition known to Lessee as a consequence of which, to the best of Lessee's knowledge, an indemnified party may be entitled to indemnification hereunder. Lessee shall promptly, upon demand of an indemnified party, reimburse such indemnified party for amounts expended (which are, in the case of amounts over which such indemnified party exercises discretion, reasonable amounts) by such party in connection with any of the foregoing or pay such amounts directly. Lessee will be subrogated to an indemnified party's rights in any matter with respect to which Lessee has actually reimbursed such indemnified party for amounts expended by it or has actually paid such amounts directly pursuant to this Section 11.8. In case any action, suit or proceeding is brought against any indemnified party in connection with any claim indemnified against hereunder, Lessor will, promptly after receipt of notice of the commencement of such action, suit or proceeding, notify Lessee thereof, enclosing a copy of all papers served upon an indemnified party, but failure to give such notice or to enclose such papers shall not relieve Lessee from any liability hereunder. Lessee may, and upon such indemnified party's request will, at Lessee's expense, resist and defend such action, suit or proceeding, or cause the same to be resisted or defended by counsel selected by Lessee and reasonably satisfactory to Lessor, and in the event of any failure by Lessee to do so, Lessee shall pay all costs and expenses (which are, in the case of costs and expenses over which such indemnified party exercises discretion, reasonable costs and expenses, including, without limitation, reasonable attorneys' fees and expenses) incurred by such indemnified party in connection with such action, suit or proceeding.

The acceptance of any indemnified party of any amounts payable by Lessee hereunder shall constitute the agreement of such party to reimburse Lessee for such amounts, if and to the extent that it is ultimately determined in any proceeding that any such indemnified party is not entitled to be indemnified hereunder.

The provisions of this Section 11.8., and the obligations of the Lessee under this Section 11.8., shall not apply to any obligations, fees, liabilities, losses, damages, penalties, claims, demands, actions, suits, judgments, costs or expenses relating to any Unit, (a) to the extent based upon, arising from or relating to any act, event or failure to act which occurs after the earlier of: (i) the return of possession of such Unit to the Lessor pursuant to the terms of this Lease, or (ii) the expiration or earlier termination of the Lease Term with respect to such Unit except to the extent directly attributable to any failure by the Lessee to fully discharge its obligations hereunder, or (b) to the extent based upon, arising from or relating to the gross negligence or willful misconduct of an indemnified party. Subject to the next preceding sentence, the provisions of this Section 11.8. and the obligations of Lessee under this Section 11.8. shall apply from the date of this Lease, and shall survive the expiration or earlier termination of this Lease with respect to any Unit and shall be expressly made for the benefit of, and shall be enforceable by, each indemnified party. All payments made by Lessee under this Section 11.8 shall be made directly to the indemnified party entitled thereto.

11.2. Duty of Lessee to Notify Lessor.

(a) In the event that any Unit (i) suffers an actual or constructive total loss; (ii) remains lost or stolen for a period exceeding one hundred twenty (120) days or, if shorter, the period ending on the last day of the Lease Term after the Lessee becomes aware that such Unit may have been lost or stolen; (iii) as a result of damage or destruction, is beyond economic repair or is permanently unfit for commercial use; (iv) is taken (with respect to the title to such Unit) by any Governmental Authority; or (v) is taken or requisitioned for use by any Governmental Authority for a period extending beyond 360 days or if shorter, the period ending on the last day of the Lease Term (any such occurrence being hereinafter called a "Casualty Occurrence"), the Lessee shall promptly, and in any event within ten (10) days after Lessee becomes aware of such Casualty Occurrence, notify in writing (such notice, the "Casualty Notice") the Lessor and any Secured Party in regard thereto.

(b) In the event the Lessee becomes aware of (i) any pending or threatened liability, obligation, damage, penalty, fine, claim, judicial or administrative action, suit, expense or cost (including any investigation, remedial or response cost) under any Environmental Law relating to any Unit, (ii) the unlawful presence or suspected unlawful presence of any Hazardous Material on or in the Units or (iii) any other condition or event in connection with any Unit that violates or gives rise to liability under any Environmental Law with respect to a Unit or Hazardous Materials used on or in connection with a Unit, the Lessee shall (A) promptly notify in writing the Lessor of such condition or event, (B) deliver to the Lessor any documents or information relating to such condition or event as the Lessor may reasonably request, and (C) promptly and diligently take any and all actions necessary to bring the Units to a condition in compliance with this Lease.

11.3. Sum Payable for Casualty Loss. The Lessee, on the next succeeding Rent Payment Date following its Casualty Notice, or within 30 days after such notice and election in respect of any Casualty Occurrence after the expiration of the term of this Lease until such Unit has been returned to the Lessor in accordance with the terms of this Lease (including Sections 13 and 14 hereof) (such date the "SLV Payment Date"), shall pay to the Lessor (or, if the Lessee shall not have been notified in writing by the Secured Party that the assignment of this Lease from the Lessor to a Secured Party has been terminated, to any Secured Party) (i) all accrued and unpaid Rent or other sums with respect to such Unit due on or prior to the SLV Payment Date then remaining unpaid plus (ii) a sum equal to the Stipulated Loss Value of such Unit as of the SLV Payment Date or, in the case of any SLV Payment Date after the Lease Term, as of the last day of the Lease Term.

11.4. Rent Termination. Upon (but not until) payment of all sums required to be paid pursuant to Section 11.3 hereof in respect of any Unit or Units, the obligation to pay Rent for such Unit or Units accruing subsequent to the Stipulated Loss Value Payment Date shall terminate, but the Lessee shall continue to pay Rent for all other Units.

SECTION 12. FINANCIAL REPORTS AND RIGHTS OF INSPECTION; CERTAIN COVENANTS.

12.1 **Reports.** The Lessee agrees that it will, and it will cause the Guarantors to, furnish to the Lessor the following:

(a) within 120 days after the end of each fiscal year of the Lessee and each Guarantor, the following:

(i) with respect to Iron Road Railways Incorporated, consolidated balance sheets of such Person and its Subsidiaries as of the end of such fiscal year and the related statements of income, of cash flows and of changes in stockholders' equity for such fiscal year and including notes to such financial statements setting forth in each case as to such consolidated statements only in comparative form the figures for the previous fiscal year, all in reasonable detail and in accordance with GAAP and reported on without qualification by Pasquale & Bowers or other independent public accountants of nationally recognized standing (provided that the consolidating statements may be reported on without opinion); and

(ii) with respect to Lessee, a balance sheet of such Person as of the end of such fiscal year and the related statements of income, of cash flows and of changes in stockholders' equity for such fiscal year and including notes to such financial statements (if available), setting forth in each case in comparative form (if available) the figures for the previous fiscal year, all in reasonable detail, and certified by such Person's controller or Chief Financial Officer, to be true and accurate to the best of such Person's knowledge and to be in accordance with GAAP; and

(b) within 90 days after the end of each of the first three quarters of each fiscal year of the Lessee and each Guarantor, the following:

(i) with respect to Iron Road Railways Incorporated, consolidated balance sheets of such Person and its Subsidiaries as of the end of such quarter and the related statements of income, of cash flows and of changes in stockholders' equity for such quarter and for the fiscal year to date and including notes to such financial statements, if available, setting forth in each case in comparative form the figures for the previous fiscal year, all in reasonable detail, certified by such Person's controller or Chief Financial Officer to be true and accurate to the best of such Person's knowledge and to be in accordance with GAAP; and

(ii) with respect to Lessee, a balance sheet of such Person as of the end of such fiscal quarter and the related statements of income, of cash flows and of changes in stockholders' equity for such quarter and for the fiscal year to date and including notes to such financial statements (if available) setting forth in each case in comparative

form (if available) the figures for the previous fiscal year, all in reasonable detail, certified by such Person's controller or Chief Financial Officer to be true and accurate to the best of such Person's knowledge and to be in accordance to GAAP; and

(c) within 30 days after the end of each calendar quarter of each year, at Lessee's expense, for each of the Units, (i) a spectrographic analysis and viscosity test upon oil samples from the main engine and air compressor taken during such calendar quarter, and (ii) a water coolant analysis, in each case signed by Lessee's Superintendent-Motive Power as to locomotives ("CMO");

(d) on or before each January 31 during the term of this Lease, an accurate statement showing the amount, description and numbers of the Units then leased hereunder; and

(e) on or before each January 31 during the term of this Lease, a certificate signed by Lessee's Vice President-Finance and Administration stating that no Unit was used outside the United States for more than 45% of the preceding calendar year.

Lessee shall cause its CMO to carefully physically examine each Unit's interior (including without limitation floors, walls, ceiling, doors, electrical cabinets, control stand and lavatory), exterior (including without limitation car body, walkways, stairs, doors, ladders, stanchions, handrails, battery box, snow plow pilot blade, engine compartment, main generator compartment, equipment rack compartment, engine and cab roof, trucks, couplers, collection tank and fuel tanks) annually, preferably December of each year, and Lessee shall deliver to Lessor by December 31st of each year a certificate of Lessee's CMO or designated officer that no Unit has any material rust or other metal corrosion caused by third party damage or Lessee's neglect, or abuse, which requires metal replacement or other corrective action in order to comply with the terms of this Lease.

The Lessee shall, and the Lessee shall cause the Guarantors and Lessee's other Affiliates to, permit the Lessor (or such Person as the Lessor may designate) at its own cost and expense (unless a Default or Event of Default shall have occurred and be continuing, then at the cost and expense of the Lessee), risk and liability, but without interfering with the quiet enjoyment rights of Lessee under the Lease or any sublessee under any Permitted Sublease, to visit and inspect, under the Lessee's guidance, the Units, all with prior telephonic notice, during regular business hours and in a reasonable manner.

12.2 Record Keeping. The Lessee shall maintain good, thorough, accurate and timely maintenance records on all the Units, including the date and description of all lubricant and corrosion protectant additions and changes and of all replacements and repairs as to the following major component parts (as well as serial numbers of all such major component parts): engine, trucks, air compressor, crank shaft, main generator, auxiliary generator, power assemblies (heads, pistons and liners) injectors, rods, carriers, wrist pins, traction motors and governor. Copies of such maintenance records and serial numbers, signed by Lessee's CMO, shall be provided to Lessor at its request.

12.3 Filings. The Lessee will take, or cause to be taken, at Lessee's cost and expense, such action with respect to the recording, filing, re-recording and re-filing of this Lease and any financing statements or other instruments as are necessary to maintain in the U.S. and Canada the perfected ownership interest of the Lessor in each Unit and will furnish to the Lessor timely notice of the necessity of such action, together with such instruments, in execution form, and such other information as may be required to enable it to take such action.

12.4 Corporate Existence. Lessee shall at all times maintain its corporate existence; and it shall do or cause to be done all things necessary to preserve and keep in full force and effect its corporate rights, powers, privileges and franchises (including, without limitation, licenses), except for any corporate right, power, privilege or franchise (i) that it determines, in its reasonable, good faith business judgment, is no longer necessary or desirable in the conduct of its business and (ii) the loss of which could not reasonably be expected to have a material adverse effect on the Lessee's ability to perform its obligations under the Operative Agreements.

12.5 Affiliate Transactions. Lessee will not provide any direct or indirect financial support (loans, gifts, management fees, guarantees, subsidies, or otherwise) to, or otherwise deal or transact business with, any railroad which is an Affiliate of Lessee, including without limitation the Iowa Northern Railroad Company or the Canadian American Railroad Company, provided, however, that Lessee may enter into transactions in the ordinary course of business and pursuant to the reasonable requirements of Lessee's business and upon fair and reasonable terms no less favorable than Lessee would obtain in any arm's-length transaction with an unaffiliated Person, and provided that any receivables arising therefrom are paid in accordance with customary trade terms.

SECTION 13. RETURN OF UNITS UPON EXPIRATION OF TERM.

(a) Upon the expiration or termination of the Lease Term with respect to any Unit, the Lessee will, at its own risk, cost and expense, deliver possession of such Unit to the Lessor to Silvis, IL, hereinafter referred to as the "Designated Location". The Designated Location shall be designated by Lessor not later than 30 days prior to expiration or termination of the Lease Term as to such Unit. Lessee shall, at its own risk, cost and expense upon the expiration or termination of the Lease Term deliver to the Designated Location, in Return Condition (as hereinafter defined), of all Units (excluding those subject to a Casualty Occurrence).

(b) In the event that any Units are not assembled and delivered as hereinabove provided, the Lessee shall pay to the Lessor for each day from and after the expiration date of the Lease to but excluding the day each such Unit is returned in accordance with this Section 13 an amount ("Holdover Rent") equal to the higher of (i) 125% of average per diem Basic Rent and (ii) per diem Fair Market Rental Value for each such Unit; provided that, (i) during such holdover period, Lessee shall use its best efforts to secure the return of the Units as required under this Section 13 and (ii) in no event shall such holdover period exceed 90 days from the date of expiration of this Lease; provided, however, that if any such Unit is not returned within 60 days following the termination of

the Base Lease Term or Renewal Term, as the case may be, an Event of Default shall be deemed to have occurred hereunder and the Lessor shall have the right to exercise the remedies available to it pursuant to Section 14 hereof. The assembling, delivery, and transporting of the Units as hereinbefore provided are of the essence of this Lease, and, upon application to any court of equity having jurisdiction in the premises, the Lessor shall be entitled to a decree against the Lessee requiring specific performance thereof. After the Units have been assembled and delivered as required in this Lease and the Units are in the condition required by this Lease upon return of the Units (except for a good faith dispute between Lessee and Lessor as to whether the Units are in such condition) then Holdover Rent shall cease to accrue.

(c) Each Unit returned to the Lessor pursuant to this Section 13 shall (i) be in the same operating order, repair and condition as upon initial acceptance when originally delivered to the Lessee, ordinary wear and tear excepted, in good condition as prescribed by Section 9 of this Lease, (ii) meet the standards (including all safety and environmental standards) then in effect for railroad equipment of the same type and remanufactured age as the Units, and shall be eligible for unrestricted use under load in interchange, under the Interchange Rules and the Applicable Laws of any Governmental Authority with jurisdiction, (iii) have been maintained in accordance with provisions hereof, (iv) have attached or affixed thereto all Parts to which Lessor has title hereunder and have removed therefrom all Parts and property to which Lessee has title thereto pursuant to the terms hereof, (v) be free and clear of all Liens (other than Lessor Liens), (vi) be in compliance with all Applicable Laws, (vii) be free of any marks, special paint or insignia, other than those required for identification by the DOT or the STB and other than those required by Section 6.2 hereof, and (viii) satisfy each of the following requirements: (A) such Unit's interior (including without limitation floors, walls, ceiling, doors, electrical cabinets, control stand and lavatory), exterior (including without limitation car body, walkways, stairs, doors, ladders, stanchions, handrails, battery box, snow plow pilot blade, engine compartment, main generator compartment, equipment rack compartment, engine and cab roof, trucks, couplers, collection tank and fuel tanks) will be free of all material rust or other metal corrosion which requires metal replacement (in Lessor's reasonable discretion) in order to permit Lessor to promptly re-lease such Unit on a "net lease" basis in an arms-length transaction to a commercially viable railroad in accordance with then prevailing market standards, (B) such Unit, including fuel tanks, will be dent, damage and graffiti free prior to and after being placed in storage, (C) wheels on such Unit shall comply with minimum requirements of Interchange Rules, (D) all of the electronic systems on such Unit shall be fully functional and the related display monitors clean, readily legible, free of cracks and intact, and (E) Lessee shall have washed the exterior of such Unit, cleaned the interior cab and toilet areas of such Unit, and steam cleaned the engine compartments of such Unit, immediately prior to placing such Unit in storage for return to Lessor (the condition of the Units required pursuant to this Section 13 upon return of the Units is herein referred to as "Return Condition"). Concurrently with each delivery of a Unit to the Lessor hereunder, the Lessee will deliver to the Lessor all records in its possession relating to the repair and maintenance history of such Unit, including, without limitation, all logs, schedules and computer data relating to such history of the type maintained in the ordinary course of business of the Lessee with respect to similar equipment owned or leased by the Lessee and its Affiliates. The obligations and covenants of the Lessee shall continue in effect after the expiration or termination of the Lease Term with respect to

each Unit until the Lessee shall have fully complied with all such obligations and covenants with respect to each such Unit. In the event of a dispute as to whether the Units are in the condition required upon return pursuant to this Section 13, Lessor shall appoint an independent inspector consented to by Lessee (which consent shall not be unreasonably withheld) to inspect the Units and determine Lessee's compliance with the terms hereof. The decision of the inspector so chosen shall be final and binding on the parties hereto. The expense of such inspector shall be shared equally by the parties hereto.

SECTION 14. DEFAULT.

14.1. **Events of Default.** Each of the following events shall constitute an "**Event of Default**" hereunder:

(a) The Lessee shall fail to make payment when due of any part of , Basic Rent and Stipulated Loss Value or Fair Market Value for any Unit or any other amount due from Lessee to Lessor under this Lease or under any of the other Operative Agreements;

(b) The Lessee shall fail to maintain the insurance required by Section 11.1 hereof in compliance with the terms thereof;

(c) The Lessee or the Guarantor shall fail to perform or observe any covenants, conditions and agreements on the part of the Lessee contained herein or in any other Operative Agreement and such failure shall continue for 30 days;

(d) Any representation made by the Lessee or the Guarantor herein or in any other Operative Agreement or in any statement or certificate furnished by or on behalf of Lessee or the Guarantor to the Lessor or any Secured Party pursuant to or in connection with this Lease or any other Operative Agreement is untrue in any material respect as of the date of issuance or making thereof or any warranty in any such documents is breached;

(e) Lessee or the Guarantor shall file a voluntary petition in bankruptcy or a voluntary petition or an answer seeking reorganization in a proceeding under any bankruptcy, insolvency, moratorium or other similar laws (as now or hereafter in effect) or an answer admitting the material allegations of a petition filed against Lessee in any such proceeding, or Lessee or the Guarantor shall, by voluntary petition, answer or consent, seek relief under the provisions of any other now existing or future bankruptcy, insolvency or other similar law providing for the reorganization or winding-up of corporations or for an agreement, composition, extension or adjustment with its creditors; or shall adopt a resolution authorizing any of the foregoing; or the Lessee or the Guarantor becomes insolvent or fails generally to pay its debts as such debts become due, or causes an order for relief to be entered against it, or acquiesces in the entering of such an order against it, under applicable federal or state bankruptcy law, or makes an assignment for the benefit of creditors or applies for or consents

to the appointment of a custodian, trustee or receiver for the Lessee or any Guarantor or for the major part of its property;

(f) an order, judgment or decree shall be entered in any proceeding by any court of competent jurisdiction appointing, without the consent of Lessee or Guarantor, a receiver, trustee, assignee or liquidator or similar official of Lessee or any Guarantor, or of any substantial part of its property, or sequestering any substantial part of the property of Lessee or any Guarantor, and any such order, judgment or decree or appointment or sequestration shall remain in force undismitted or unvacated for a period of 30 days after the date of entry thereof;

(g) a petition against Lessee or Guarantor in a proceeding under applicable bankruptcy, insolvency, moratorium or similar laws as now and hereafter in effect, shall be filed and shall not be withdrawn or dismissed within 60 days thereafter, or if, under the provisions of any law providing for reorganization or winding-up of corporations which may apply to Lessee or any Guarantor, any court of competent jurisdiction shall assume jurisdiction, custody or control of Lessee or any Guarantor or of any substantial part of its property and such jurisdiction, custody or control shall remain in force undismitted or unvacated for a period of 60 days;

(h) Lessee attempts to remove, sell, transfer, encumber, part with possession or sublease the Units or any part thereof, except as permitted by this Lease;

(i) the Guarantor shall, or shall attempt to, terminate or revoke any of its obligations under any of the Guaranties or breach any of the terms of the Guaranties; and

(j) Lessee or any Sublessee shall cease to be a "railroad" (as defined in the Bankruptcy Code (11U.S.C. §101(441)) and as used in subchapter 4 of Chapter 11 of the Bankruptcy Code, or the Units shall cease to be "rolling stock equipment" subject to the provisions of Section 1168(a)(1) of the Bankruptcy Code.

14.2. **Remedies.** If any Event of Default has occurred and is continuing, the Lessor or, in the event this Lease shall have been assigned to an assignee pursuant to **Section 16** hereof, such assignee (including, without limitation, any Secured Party), at its option and sole discretion, may exercise any one or more of the following rights and remedies, all of which shall be cumulative (and none exclusive):

(a) proceed by appropriate court action or actions, either at law or in equity, to enforce performance by the Lessee of the applicable covenants of this Lease or to recover damages for the breach thereof, including reasonable attorneys' fees;

(b) by notice in writing to the Lessee, terminate this Lease, whereupon all rights of the Lessee to the use of the Units shall absolutely cease and terminate as though this Lease

had never been made, but the Lessee shall remain liable as hereinafter provided; and thereupon, at Lessee's sole cost and expense, Lessee shall return promptly all or such part of the Units as Lessor may demand to Lessor or upon its order in the manner and condition required by, and otherwise in accordance with all of the provisions of, Sections 13 and 15 hereof as if the Units was being returned at the end of the Lease Term; or Lessor, at its option, may enter upon the premises where all or any part of the Units is located or reasonably believed to be located and take immediate possession of and remove the same without the necessity to first institute proceedings, or by summary proceedings or otherwise, and the Lessee shall promptly execute and deliver to Lessor such instruments of title or other documents as Lessor may deem necessary or advisable to enable the Lessor or its agent to obtain possession of all or any part of the Units, all without liability to the Lessor for or by reason of such entry or taking possession, whether for the restoration of damage to property caused by such entry and taking or otherwise; provided, however, that if the Lessee shall for any reason fail to execute and deliver such instruments and documents after such request, the Lessor shall be entitled, in a proceeding to which the Lessee shall be a necessary party, to a judgment for specific performance, conferring the right to immediate possession upon the Lessor and requiring the Lessee to execute and deliver such instruments and documents to the Lessor;

(c) with or without taking possession thereof, sell or otherwise dispose of all or any part of the Units, at public or private sale and with notice to the Lessee but with or without advertisement, and hold the Lessee liable for any installment of Basic Rent due on or before the date of such sale, as the Lessor may determine or hold, use, operate, lease to others or keep idle all or any part of the Units as the Lessor, in its sole discretion, may determine, in any such case free and clear of any rights of the Lessee, except as hereinafter set forth in this Section 14.2 and without any duty to account to the Lessee with respect to such action or inaction or for any proceeds with respect thereto except to the extent required by Section 14.2(e) below in the event Lessor elects to exercise its rights under said paragraph in lieu of its rights under Section 14.2(d) below;

(d) whether or not the Lessor shall have exercised, or shall thereafter at any time exercise, any of its rights under Section 14.2(a), Section 14.2(b) or Section 14.2(c) above with respect to all or any part of the Units, by written notice to the Lessee specifying a payment date not earlier than 10 days from the date of such notice (the "Default Payment Date"), cause the Lessee to pay to the Lessor, and the Lessee shall, on the Default Payment Date, pay to the Lessor, as liquidated damages for loss of a bargain and not as a penalty (x) (in lieu of the Basic Rent due after the Default Payment Date occurs but in addition to any installments of Basic Rent due on or prior to the Default Payment Date), any installment of Rent (including Supplemental Rent) due on or prior to such Default Payment Date plus (y) an amount computed as of the Default Payment Date occurring on or immediately preceding the payment date specified in such notice, equal to the excess, if any, of the remaining Rent due under the Lease for the remainder of the Lease Term (before giving effect to any early termination thereof), after discounting such Rent to present worth as of the Default Payment

Date at a rate of 6% per annum, over the Fair Market Rental Value of the Units for the remainder of the Lease Term, after discounting such Fair Market Rental Value monthly in advance to present worth as of the Default Payment Date at a rate of 6% per annum; together with interest, to the extent permitted by Applicable Law, at the Late Rate on the amount of such excess, if any, from the Default Payment Date, to the date of actual payment of such amount, provided that if the Units cannot be repossessed Fair Market Rental Value shall be deemed to be equal to zero;

(e) in the event that the Lessor shall have sold all or any part of the Units pursuant to Section 14.2(c), then in lieu of exercising its rights under Section 14.2(d) above with respect to the Units or any part thereof, if the Lessor shall so elect, cause the Lessee to pay the Lessor, and the Lessee shall pay to the Lessor, on the date of such sale, as liquidated damages for loss of a bargain and not as a penalty (in lieu of the Basic Rent due after the date on which such sale occurs but in addition to any installments of Basic Rent due on or prior to the date on which such sale occurs), any unpaid Rent due on or before such date and the amount of any deficiency between the net proceeds of such sale and the Stipulated Loss Value of the Units or such part thereof, determined as of the Rent Payment Date occurring on or next preceding such sale together with interest, to the extent permitted by Applicable Law, at the Late Rate on the amount of such deficiency from the date of sale to the date of actual payment;

(f) so long as any or all of the Units have not been sold pursuant to Section 14.2(b) above, by written notice to the Lessee specifying a payment date which shall not be earlier than 30 days from the date of such notice, cause the Lessee to pay the Lessor and the Lessee shall pay to the Lessor, on the Rent Payment Date specified in such notice, as liquidated damages for loss of a bargain and not as a penalty (in lieu of the and Basic Rent due after such payment date specified in such notice), an amount equal to the higher of the Stipulated Loss Value (determined as of the preceding Rent Payment Date), the Fair Market Value or the Fair Market Rental Value (at Lessor's election) for such Units that have not been sold computed as of such date; and upon such payment of liquidated damages and the payment of all other Rent then due and payable by the Lessee hereunder, the Lessor shall transfer, without recourse or warranty (except as to the absence of Lessor Liens), all right, title and interest of the Lessor in and to such Units to the Lessee or as it may direct, and Lessor shall execute and deliver such documents evidencing such transfer and take such further action as may be required to effect such transfer; and

(g) terminate this Lease as to any or all Units, avoid any sublease or other transfer of possession, or exercise any other right or remedy which may be available under any Applicable Law or proceed by appropriate court action to enforce the terms hereof or to recover damages for the breach hereof.

If the Lessor and the Lessee are unable to agree upon a determination of the Fair Market Rental Value or the Fair Market Value of such Units within 10 days after receipt by Lessee of written

notice setting forth the method to be used to calculate damages pursuant to Section 14.2, such value shall be determined by any independent, nationally recognized locomotive appraiser (the "Appraiser") reasonably selected by the Lessor with the consent of the Lessee which shall not be unreasonably withheld. The Appraiser shall be instructed to make such determination within a period of 30 days following appointment, and shall promptly communicate such determination in writing to the Lessor and the Lessee. The determination so made shall be conclusively binding upon both the Lessor and the Lessee. The expenses and fees of the Appraiser shall be borne by the Lessee.

14.3. Cumulative Remedies. The remedies in this Lease provided in favor of the Lessor shall not be deemed exclusive, but shall be cumulative and shall be in addition to all other remedies in its favor existing at law or in equity. The Lessee hereby waives any mandatory requirement of Applicable Law, now or hereafter in effect, which might limit or modify any of the remedies herein provided, to the extent that such waiver is permitted by Applicable Law. However, regardless of the remedies exercised by the Lessor, the Lessor shall only be entitled to be made whole for its damages. To the extent of any conflict between this Lease and the Uniform Commercial Code as enacted in the State of Illinois (including, without limitation, Section 2-A thereof), the terms and conditions of this Lease shall govern. The Lessee hereby waives any and all existing or future claims of any right to assert any offset against the Rent payments due hereunder, and agrees to make the Rent payments regardless of any offset or claim which may be asserted by the Lessee on its behalf in connection with the lease of the Units.

14.4. Lessor's Failure to Exercise Rights. The failure of the Lessor to exercise the rights granted it hereunder upon any occurrence of any of the contingencies set forth herein shall not constitute a waiver of any such right upon the continuation or recurrence of any such contingencies or similar contingencies.

SECTION 15. RETURN OF UNITS UPON DEFAULT.

15.1. Lessee's Duty to Return. If the Lessor or any assignee of the Lessor pursuant to Section 16 hereof shall terminate this Lease pursuant to Section 14 hereof, the Lessee shall forthwith deliver possession of the Units to the Lessor in the condition required under Sections 9 and 13 hereof. For the purpose of delivering possession of any Unit to the Lessor as above required, the Lessee shall at its own cost, expense and risk (except as hereinafter stated):

(a) Permit the Lessor to store such Units on such tracks without charge for insurance, rent or storage until such Units have been sold, leased or otherwise disposed of by the Lessor and during such period of storage the Lessee shall continue to maintain all insurance required by Section 11.1 hereof; and

(b) Transport the Units to any place within the continental United States as the Lessor may direct in writing.

Concurrently with the delivery to the Lessor of any Unit hereunder, the Lessee will deliver to the Lessor all records relating to such Unit required to be delivered by Section 13. Except as hereinafter provided, during any storage period, the Lessee will, at its own expense, maintain and keep the Units in the condition required by Section 9 hereof and will permit the Lessor or any Person designated by it, including the authorized representative or representatives of any prospective purchaser, lessee or user of any such Unit, to inspect the same. All amounts earned in respect of the Units after the date of termination of this Lease, but not exceeding the rent, per diem, or other similar charge for equipment received therefor, shall be paid to the Lessor or in the event this Lease has been assigned pursuant to Section 16 hereof, to such assignee, and, if received by the Lessee, shall be promptly turned over to the Lessor, or in the case of such assignment, to such assignee. In the event any Unit is not assembled, delivered and/or stored as hereinabove provided within 15 days after the termination of this Lease, the Lessee shall, in addition, pay to the Lessor or, in the case of such assignment, to such assignee, for each day thereafter an amount equal to the amount, if any, by which the higher of (i) 125% of the average Basic Rent during the Lease Term and (ii) Fair Market Rental Value (determined in the manner provided in Section 14.2 hereof) for such Unit for each such day exceeds the amount, if any, received by the Lessor or such assignee (either directly or from the Lessee) for such day for such Unit pursuant to the preceding sentence.

15.2. Specific Performance. The assembling, delivery, storage and transporting of the Units as hereinbefore provided are of the essence of this Lease, and upon application to any court of equity having jurisdiction in the premises, the Lessor shall be entitled to a decree against the Lessee requiring specific performance of the covenants of the Lessee so to assemble, deliver, store and transport the Units.

15.3. Lessor Appointed Lessee's Agent. Without in any way limiting the obligation of the Lessee under the foregoing provisions of this Section 15, the Lessee hereby irrevocably appoints the Lessor as the agent and attorney of the Lessee, with full power and authority, at any time while the Lessee is obligated to deliver possession of any Units to the Lessor pursuant to Section 15.1 hereof, to demand and take possession of such Unit in the name and on behalf of the Lessee from whomsoever shall be at the time in possession of such Unit.

SECTION 16. ASSIGNMENTS BY LESSOR.

This Lease and all Rent and all other sums due or to become due hereunder may be assigned in whole or in part by the Lessor without the consent of the Lessee (except to a railroad competitor of Lessee). Rent and other sums payable by the Lessee which are the subject matter of any such assignment shall be paid to or upon the written order of the assignee. Without limiting the foregoing, the Lessee further acknowledges and agrees that (a) subject to the terms and conditions set forth in such assignment, the rights of any such assignee in and to the sums payable by the Lessee under any provision of this Lease shall not be subject to any abatement whatsoever and shall not be subject to any defense, set-off, counterclaim or recoupment whatsoever whether by reason of failure of or defect in the Lessor's title, or any interruption from whatsoever cause in the use, operation or possession

of the Units or any part thereof, or any damage to or loss or destruction of the Units or any part thereof, or by reason of any other indebtedness or liability, howsoever and whenever arising, of the Lessor to the Lessee or to any other Person, firm or corporation or to any Governmental Authority or for any cause whatsoever, it being the intent hereof that the Lessee shall be unconditionally and absolutely obligated to pay such assignee all of the Rent and other sums which are the subject matter of the assignment, and (b) subject to the terms and conditions set forth in such assignment to the contrary, all obligations of the Lessor to the Lessee under this Lease shall be and remain enforceable by the Lessee against, and only against, the Lessor. Pursuant to a Security Agreement, the Lessor may assign to a Secured Party certain of its right, title and interest in and to (i) this Lease, including the right to receive certain payments of Rent and (ii) the Units. Upon notice of such assignment from the Lessor of this Lease, the Lessee hereby (x) agrees to pay directly to any Secured Party at any Secured Party's office (until the Lien of the Security Agreement shall have been released and discharged) all amounts of Rent due or to become due to the Lessor, and (y) agrees that, to the extent provided in a Security Agreement (until the Lien of the Security Agreement shall have been released and discharged), any Secured Party shall have or shall share with the Lessor such rights of the Lessor hereunder as are specified in the Security Agreement.

Without limiting the generality of the foregoing, Lessee acknowledges that Lessor may in future seek financing for or to sell the Units and to grant to the Lease Assignee (as hereinafter defined) providing such financing both an assignment of this Lease and a security interest in the Units. In connection with such financing or sale, Lessee shall, and Lessee shall cause the Guarantors to, use reasonable efforts to cooperate with Lessor upon Lessor's reasonable request and to answer reasonable questions of a prospective Lease Assignee. It is understood and agreed that Lessor or any Lease Assignee may assign this Lease with respect to some or all of the Units to any security trustee, secured party or owner of such Units (each herein a "Lease Assignee"). Lessee shall consent to and acknowledge in writing, upon receipt of notice of assignment, such assignment of this Lease by Lessor or any Lease Assignee.

It is understood and agreed that the right, title and interest of any such assignee in, to and under this Lease and the Rent and other sums due and to become due hereunder shall by the express terms granting and conveying the same be subject to the interest of the Lessee in and to the Units so long as no Event of Default shall have occurred hereunder.

SECTION 17. ASSIGNMENTS BY LESSEE; USE AND POSSESSION.

17.1. **Lessee's Rights to the Units.** So long as no Event of Default shall have occurred and be continuing, the Lessee shall be entitled to the quiet possession and use of the Units in accordance with the terms of this Lease, subject to any Liens or defects of title existing at the time of original conveyance of the Units from Lessee to Lessor. The Lessee shall not assign or transfer its leasehold interest under this Lease in any or all of the Units without Lessor's prior written consent. Lessee shall pay on demand all costs and expenses of Lessor incurred in connection with any such security interest or assignment, included Lessor's attorneys' fees and expenses.

17.2. Permitted Subleases. Lessee shall not sublease any Unit; provided that so long as no Event of Default shall have occurred and be continuing and to the extent that the Lessor shall consent thereto (which consent will not be unreasonably withheld), the Lessee may sublease any Unit to any sublessee (leases to such sublessee being herein referred to as "Permitted Subleases"). Such Permitted Sublease (i) shall in no way relieve Lessee from any obligations under this Lease, and the Lessee hereby waives any rights it may now have or hereafter acquire to avoid any such obligation by reason of such Permitted Sublease or any circumstances arising from such Permitted Sublease, (ii) shall not extend beyond the expiration of the Base Lease Term or any extension thereof pursuant to a renewal option that has been exercised by the Lessee pursuant to the provisions of Section 18 hereof, (iii) shall, by its express terms, be subject and subordinate to this Lease and the Security Agreement and the rights and interests of the Lessor and any Secured Party and their respective successors and assigns hereunder and thereunder, (iv) shall not contain terms that are inconsistent with the terms of this Lease (including, without limitation, Lessor's repossession rights and other remedies upon an Event of Default and Lessor's inspection rights hereunder), (v) shall contain the covenant and agreement of the Sublessee thereunder, for the benefit of the Lessor, that it will not sub-sublease any Unit, (vi) shall not cause any Default or Event of Default hereunder, and (vii) shall be to a solvent corporation not in bankruptcy and organized under the laws of any state of the United States or province of Canada. The Lessee shall deliver to the Lessor within 5 days after the execution thereof a copy of any sublease. The number of Permitted Subleases hereunder shall never be greater than two at any one time. Notwithstanding any Permitted Sublease, the Lessee will remain primarily liable for the performance of its obligations under this Lease and the other Operative Agreements to which it is a party to the same extent as if such Permitted Sublease were not in effect. Lessee shall (i) upon request of Lessor, assign any sublease to Lessor pursuant to agreements satisfactory in form and substance to Lessor, (ii) file and record all subleases, and assignments thereof to Lessor, and take such other action as Lessor may reasonably request, to protect Lessor's, Lessee's and any Secured Party's interest, and (iii) pay on demand all of Lessor's and Secured Party's reasonable out-of-pocket expenses (including attorneys' fees and expenses) incurred in connection with any sublease or pursuant to this sentence.

SECTION 18. PURCHASE OPTION; RENEWAL OPTION.

18.1. Purchase Option. Lessee shall have the option to purchase all, but not less than all, of the Units for a purchase price equal to the greater of (i) \$100,000 per Unit or (ii) the then Fair Market Value (as hereinafter defined), such purchase to be effective at the end of expiration of the Base Lease Term before giving effect to any renewal of this Lease pursuant to Section 18.2. If Lessee renews this Lease as to the Units pursuant to Section 18.2 of this Lease, then Lessee shall not have an option to purchase any of the Units under this Section 18.1. The purchase option set forth in this Section 18.1 shall be exercised, if at all, upon not less than 90 days (but not more than 180 days) written notice from Lessee to Lessor prior to the end of the Base Lease Term ("Election Notice"). Upon delivery of an Election Notice, Lessee shall be obligated to purchase the Units unless it revokes such notice by notice received by Lessor within 5 days after the determination of Fair

Market Value. Promptly after the receipt by the Lessor of an Election Notice, the Fair Market Value of the Units shall be determined as provided in Section 18.3. Provided no Default or Event of Default shall have occurred and be continuing at the time of exercise or upon the expiration of the Base Lease Term, upon payment of the Fair Market Value of each Unit, together with all other accrued and unpaid Rent, in compliance with Section 4, Lessor, at Lessee's sole cost and expense, shall deliver to Lessee a bill of sale transferring and assigning on an "as-is, where-is" basis to the Lessee all right, title and interest of the Lessor in and to the Units and containing a warranty against any Lessor Liens. The Lessor shall not be required to make any other representation or warranty as to the condition of the Units or any other matters, and will specifically disclaim any such representations or warranties.

18.2. Renewal Option. Provided that no Default or Event of Default shall have occurred and be continuing at the time of exercise or upon expiration of the Base Lease Term and the first initial renewal term, as to each Unit, the Lessee shall have an option to renew the term of the Lease as to the Units as provided in this Section as to all and not less than all of the Units then subject to this Lease (the "Renewal Option"). The Renewal Option set forth in this Section 18.2 shall be exercised, if at all, upon not less than 90 days (but not more than 180 days) written notice from Lessee to Lessor prior to the end of the Base Lease Term before giving effect to any renewal under this Section 18.2 ("Renewal Election Notice"). The Renewal Option may only be exercised twice and only as to all, and not less than all, of the Units then subject to this Lease. Delivery of the Renewal Election Notice shall irrevocably commit and bind the Lessee to renew the Lease at the end of the Base Lease Term as to each of the Units on the following terms:

(a) the renewal term ("Renewal Term") shall be for a period of two (2) years and each monthly installment of Basic Rent payable during the Renewal Term ("Renewal Rent") per Unit shall be in an amount equal to the average of monthly Basic Rent per Unit for such Unit during the Base Lease Term and shall be payable monthly in arrears on the last day of each month during the Renewal Term; and

(b) the Renewal Term shall commence immediately upon the expiration of the Base Lease Term.

18.3. Determination of Fair Market Value. "Fair Market Value" for any Unit or any other property shall be determined on the basis of, and shall be equal in amount to, the value which would obtain in an arm's-length transaction at the time of determination between an informed and willing buyer (other than a buyer currently in possession) and an informed and willing seller under no compulsion to sell. Any such determination with respect to any Unit shall be made (i) on the assumption that such Unit is in the condition and state of repair required by this Lease (including Sections 9 and 13); provided, that any determination under Section 14 shall instead be on as "as-is", "where-is" basis, and (ii) on the assumption that such Unit are not subject to this Lease or any other lease or sublease. Notwithstanding the foregoing, the Fair Market Value of each Unit shall be equal to the greater of \$100,000.00 or the amount determined pursuant to the preceding provisions of this Section 18.3. If the Lessor and the Lessee are unable to agree upon a determination of the Fair Market Value of the Units, such value shall be determined in accordance with the foregoing definition

by any independent nationally recognized locomotive appraiser selected by the Lessor and acceptable to the Lessee. Such appraiser shall be instructed to make such determination within a period of 10 Business Days following appointment, and shall promptly communicate such determination in writing to the Lessor and the Lessee. The determination so made shall be conclusively binding upon both the Lessor and the Lessee. The expenses and fees of such appraiser shall be paid by the Lessee if the Units are not purchased by Lessee. If the Units are purchased by the Lessee the appraisal expense shall be equally shared by Lessee and Lessor.

18.4. Delivery of Units. Unless the Lessee has elected to purchase, or renew this Lease with respect to, all of the Units then leased hereunder as provided in this Section 18, all of the Units shall be returned to the Lessor at the end of the Base Lease Term in accordance with Section 13 hereof.

SECTION 19. TAXES.

All payments to be made by the Lessee hereunder will be free of expense to the Lessor for collection or other charges and will be free of expense to the Lessor with respect to the amount of any local, state, provincial, United States federal, or foreign taxes (other than any United States federal and State of Illinois tax payable by the Lessor on its net income in consequence of the receipt of payments provided for herein and other than the aggregate of all state or city income taxes or franchise taxes measured by net income based on such receipts, up to the amount of any such taxes which would be payable to the state and city in which the Lessor has its principal place of business without apportionment to any other state, except any such tax which is in substitution for or relieves the Lessee from the payment of taxes which it would otherwise be obligated to pay or reimburse as herein provided) or license fees, levies, imposts, deductions, withholdings, assessments, charges, fines or penalties (all such expenses, taxes, license fees, levies, imposts, deductions, withholdings, assessments, charges, fines and penalties being hereinafter called "impositions") hereafter levied or imposed upon or in connection with or measured by this Lease or any sale, rental, use, payment, shipment, delivery or transfer of title under the terms hereof, or the purchase of the Units by Lessor from Lessee, all of which impositions the Lessee assumes and agrees to pay on demand in addition to the payments to be made by it provided for herein. The Lessee will also pay promptly all impositions which may be imposed upon any Unit or for the use or operation thereof or upon the earnings arising therefrom (except as provided above) or upon the purchase or sale of any Unit pursuant to Section 18.2 of the Purchase Agreement or upon the Lessor solely by reason of its ownership thereof and will keep at all times all and every part of such Unit free and clear of all impositions which might in any way affect the title of the Lessor or result in a lien upon any such Unit; *provided, however*, that the Lessee shall be under no obligation to pay any impositions of any kind so long as it is contesting in good faith and by appropriate legal proceedings such impositions and the nonpayment thereof does not, in the opinion of the Lessor, adversely affect the title, property or rights of the Lessor. If any impositions shall have been charged or levied against the Lessor directly and paid by the Lessor, the Lessee shall reimburse the Lessor on presentation of an invoice therefor. If the Lessee shall be required by law to deduct any impositions from or in respect of any sum payable hereunder (A) the sum payable shall be increased as may be necessary so that after

making all required deductions of impositions (including deductions of impositions applicable to additional sums payable under this Section 19) Lessor receives an amount equal to the sum it would have received had no such deductions been made, (B) the Lessee shall make such deductions and (C) the Lessee shall pay the full amount so deducted to the relevant taxation authority or other authority in accordance with applicable law.

In the event any reports with respect to impositions are required to be made, the Lessee will either make such reports in such manner as to show the interests of the Lessor in such Units or notify the Lessor of such requirement and make such reports in such manner as shall be satisfactory to the Lessor.

In the event that, during the continuance of this Lease, the Lessee becomes liable for the payment or reimbursement of any imposition, pursuant to this Section 19, such liability shall continue, notwithstanding the expiration of this Lease, until all such impositions are paid or reimbursed by the Lessee.

SECTION 20. REPRESENTATIONS AND WARRANTIES.

Lessee hereby represents and warrants to Lessor that:

- A. The Lessee is a corporation legally incorporated, validly existing and in good standing under the laws of the State of Delaware with adequate corporate power to enter into this Lease;
- B. This Lease has been duly authorized, executed and delivered by the Lessee and constitutes the valid, legal and binding agreements of the Lessee, enforceable in accordance with its terms;
- C. No approval is required from any public regulatory body with respect to the entering into or performance of this Lease;
- D. The entering into and performance of this Lease will not result in any breach of, or constitute a default under, any indenture, mortgage, deed of trust, bank loan or credit agreement or other agreement or instrument to which the Lessee is a party or by which it may be bound;
- E. No mortgage, deed of trust, or other Lien of any nature whatsoever which now covers or affects, or which may hereafter cover or affect, any property or interests therein of the Lessee, now attaches or hereafter will attach to the Units or in any manner affects or will affect adversely the Lessor's right, title and interest therein;
- F. In accordance with the terms of this Lease the Units are rolling stock equipment pursuant to, and subject to, Section 1168 ("Section 1168") of The Bankruptcy Code of 1978, as amended (the "Bankruptcy Code"). This Lease is to be treated as a "lease" for federal income tax

purposes. Lessor is entitled to the rights of a lessor as to the Units under Section 1168 to take possession of the Units, subject to Section 1168(a)(1)(A) and Section 1168(a)(1)(B). The Lessee is a "railroad" as defined in the Bankruptcy Code (11U.S.C. §101(441) and as used in subchapter 4 of Chapter 11 of the Bankruptcy Code.

G. Lessee shall provide, at its sole expense, an opinion from legal counsel acceptable to the Lessor as to the good standing of Lessee corporation, as to the correctness of paragraphs A through F herein, and as to such other matters as may be reasonably requested by counsel for Lessor.

SECTION 21. FEDERAL INCOME TAXES.

The Lessor, as the owner of the Units, shall be entitled to such deductions, credits and other benefits (such deductions, credits and other benefits being in this Section 21 called "Tax Benefits") as are provided by the Code to an owner of property with respect to the Units.

Lessee agrees that neither it nor any other Affiliate, directly or indirectly, will at any time take any action or file any returns or other documents inconsistent with the foregoing and that each of such Persons will file such returns, take such action and execute such documents as may be reasonable and necessary to facilitate accomplishment of the intent thereof. Lessee agrees to keep and make available for inspection and copying by Lessor such records as will enable Lessor to determine whether it is entitled to the full benefit of the Class Life Deduction with respect to the Units.

If (A) the Lessor shall lose, or shall not have or shall lose the right to claim, any portion of the Tax Benefits with respect to any Unit as a result of any one or more of the following events or circumstances: (i) any representation, warranty, fact, estimate, opinion or other statement made or stated by the Lessee (or any officer, sublessee, employee or agent thereof) contained herein or otherwise made in writing in connection herewith or therewith, shall prove to be fraudulent, untrue, incorrect, inaccurate, misleading, unreasonable or insufficient in whole or in part; or the Lessee shall take any action in respect of its income tax returns or otherwise which shall be inconsistent with, or in contravention of, any of the transactions contemplated hereby or thereby; or the Lessee (or any officer, employee, agent or other person (other than Lessor) thereof) shall take any other action whatsoever which shall cause the loss of any portion of the Tax Benefits; or (ii) the failure of the Lessee to perform or observe any covenant, condition or agreement to be performed or observed by it under this Lease or said related documents; or (B) Lessee shall for any reason become entitled to any portion of the Tax Benefits; or (C) Lessor shall not be entitled to deduct (for any reason other than insufficient income), for federal or state income tax purposes, the Depreciation Deductions; then Lessee shall pay the Lessor, as Supplemental Rent, upon written demand made by the Lessor at any time after such Tax Benefit or Depreciation Deductions could have been claimed by the Lessor if it were allowable or by the Lessee if it becomes entitled thereto or, if claimed and then lost, at any time after payment of the tax attributable thereto, the following: in the case of clauses (A) and (C) above, (i) an amount which, after deduction of all taxes required to be paid by the Lessor or its shareholders in respect of the receipt thereof under the laws of the United States or of any state or of any political

subdivision thereof (after giving credit for any savings in respect of any such taxes by reason of deductions, credits or allowances in respect of the payment of any other such taxes), shall be equal to the increased tax paid by the Lessor or its shareholders by reason of such loss plus (ii) the amount of any interest which may be assessed by the United States or of any state or of any political subdivision thereof against the Lessor or its shareholders attributable thereto, plus (iii) in the event the Lessor or its shareholders shall pay the tax claimed (which payment Lessee shall furnish Lessor upon notice thereof) and then seek a refund and the final determination of such claim shall be adverse to the Lessor or its shareholders, interest on the amount of the tax paid attributable to the Tax Benefit or Depreciation Deductions disallowed by such claim, computed at the Late Rate from the date of payment of such tax to the date the Lessee shall reimburse the Lessor for such tax in accordance with the provision of this Section 21; and, in the case of clause (B) above, without duplication of any payment made by Lessee pursuant to clause (A) above, the amount of any savings in taxes accruing to Lessee by reason of its entitlement to such Tax Benefits or Depreciation Deductions. The Section shall survive the termination of the Lease as to any Unit. Lessee's obligations under Section 19 and 21 of this Lease shall survive the expiration of the Lease Term.

SECTION 22. MISCELLANEOUS.

22.1. **Notices.** Any notice required or permitted to be given by either party hereto to the other shall be deemed to have been given 3 Business Days after the same is deposited in the United States registered mail, first-class postage prepaid, addressed as follows:

(a) if to the Lessor, at 14400 S. Robey, P.O. Box 2270, Dixmoor, Il 60426, Attn: Lawrence J. Beal, President; with a copy to Richard F. Loritz, Loritz & Associates, 1100 Ravinia Place, Orland Park, IL 60462; and

(b) if to the Lessee, at Northern Maine Junction Park, RR #2, Box 45, Bangor, ME 04401-9602 Attn: President, Northern Vermont Railroad Company; and

(c) if to the Guarantor, at 1300 Connecticut Avenue, N.W., Suite 903, Washington, D.C. 20036, Attn: President.

or addressed to either party at such other address as such party shall hereafter furnish to the other party in writing.

22.2. **Right of Lessor to Perform.** If the Lessee shall fail to comply with any of its covenants herein contained, Lessor or, in the case of an assignment by the Lessor pursuant to Section 16 hereof, the assignee thereunder (including, without limitation, any Secured Party) may, but shall not be obligated to, make advances to perform the same and to take all such action as may be necessary to obtain such performance. Any payment so made by any such party and all cost and expense (including, without limitation, reasonable attorneys' fees and expenses) incurred in connection

therewith shall be payable by the Lessee to the party making the same upon demand as Supplemental Rent hereunder, with interest at the rates provided in Section 22.8.

22.3. Execution in Counterparts. This Lease, and any Lease Supplement hereto, may be executed in several counterparts, each of which so executed shall be deemed to be an original and in each case such counterparts shall constitute but one and the same instrument.

22.4. Law Governing. THIS LEASE SHALL BE CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF ILLINOIS WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAW.

22.5. Headings and Table of Contents. All Section headings and the Table of Contents are inserted for convenience only and shall not affect any construction or interpretation of this Lease.

22.6. Severability, Effect and Modification of Lease. Any provision of this Lease which is prohibited or unenforceable in any jurisdiction shall be as to such jurisdiction ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provisions in any other jurisdiction.

This Lease exclusively and completely states the rights of the Lessor and the Lessee with respect to the Units and supersedes all other agreements, oral or written, with respect to the Units, except any purchase agreement or bill of sale received by Lessor from Lessee as to the Units and the other Operative Agreements. No variation or modification of this Lease and no waiver of any of its provisions or conditions shall be valid unless in writing and signed by duly authorized officers of the Lessor and the Lessee.

22.7. Owner for all Purposes. It is hereby agreed between the Lessee and the Lessor that the Lessor will treat itself as the owner of the Units to be delivered under this Lease and the Lessee will treat itself as the lessee thereof for all purposes.

22.8. Interest on Overdue Rents and Amounts Paid by Lessor. Anything to the contrary herein contained notwithstanding, any nonpayment of Rent due hereunder, or amounts expended by the Lessor on behalf of the Lessee, shall result in the additional obligation on the part of the Lessee to pay also an amount equal to 12% per annum or, if greater, a rate per annum equal to 6% plus the most recent "auction average" (as of the date on which such sum initially becomes due and payable) for one year U.S. Treasury Bills (as published in Federal Reserve Statistical Release H.15[519]) (but not in any case greater than the maximum rate of interest permitted by Applicable Law, whichever is less) (the "Late Rate") on the overdue Rent and amounts expended for the period of time during which they are overdue or expended and not repaid.

22.9. Survival. All representations, warranties and covenants made by the Lessee herein or in any certificate or other instrument delivered by any such party or on the behalf of any such party

under this Lease or any of the other Operative Agreements or in connection herewith or therewith shall be considered to have been relied upon by each other party hereto and shall survive the consummation of the transactions contemplated hereby regardless of any investigation made by any such party or on the behalf of any such party.

SECTION 23. SCHEDULE OF EXHIBITS

Exhibits to this Lease are:

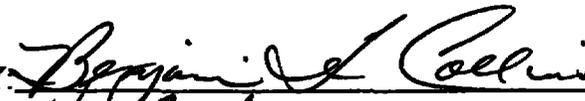
- Exhibit A - Certificate of Acceptance
- Exhibit B - Lease Supplement
- Exhibit C - Stipulated Loss Value Schedule
- Exhibit D - Lubricating Oil for Domestic Locomotives
- Exhibit E - Engine Coolant

IN WITNESS WHEREOF, the parties hereto have caused this Lease to be executed by their respective officers thereunder duly authorized and the corporate seals to be hereto affixed as of the day and year first above written.

NATIONAL RAILWAY EQUIPMENT CO.,
As Lessor

BY: 
ITS: President

NORTHERN VERMONT RAILROAD COMPANY
As Lessee

BY: 
ITS: Vice President

THIS IS COUNTERPART NUMBER 008 OF 008 SERIALY NUMBERED, MANUALLY EXECUTED COUNTERPARTS. TO THE EXTENT, IF ANY, THAT THIS LEASE CONSTITUTES CHATTEL PAPER UNDER THE UNIFORM COMMERCIAL CODE, NO SECURITY INTEREST, AND NO RIGHT, TITLE OR INTEREST IN THIS LEASE, MAY BE EFFECTED BY THE TRANSFER AND POSSESSION OF ANY COUNTERPART OTHER THAN COUNTERPART NUMBER ONE.

STATE OF ILLINOIS)
) SS
)
COUNTY OF WILL COOK)

On this 3rd day of February, 1997, before me personally appeared Lourence J. Beal, to me personally known, who, being by me duly sworn, says that he is President of NATIONAL RAILWAY EQUIPMENT COMPANY, that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors, and he acknowledged that the execution of the foregoing instrument was the free act and deed of said corporation.



Debra L. Radtke
Notary Public

My commission expires 4-18-97

STATE OF MICH.)
) SS
COUNTY OF WAYNE)

On this 16TH day of JANUARY, 1997, before me personally appeared B.F. COLLINS, to me personally known, who, being by me duly sworn, did say that (s)he is the VICE PRESIDENT of NORTHERN VERMONT RAILROAD COMPANY, a Delaware corporation, and that the foregoing instrument was signed on behalf of said corporation by authority of its Board of Directors, and (s)he acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the County and State aforesaid, the day and year first above written.

Dianne M. Plumley
Notary Public

My commission expires 4-15-98

nrc07n1596

DIANNE M. PLUMLEY, NOTARY PUBLIC
LAPEER COUNTY, MICHIGAN
MY COMMISSION EXPIRES 4-15-98
ACTING IN WAYNE COUNTY, MICHIGAN

EXHIBIT A

**CERTIFICATE OF ACCEPTANCE
UNDER EQUIPMENT LEASE**

TO: National Railway Equipment Company ("the Lessor")

Reference is hereby made to that certain Equipment Lease dated as of _____, 1996, between Lessor and Northern Vermont Railroad Company ("the Lessee"), as amended, modified or supplemented from time to time (the "Lease").

I, a duly appointed and authorized representative of the Lessee under the Equipment Lease dated as of _____, 1996 between the Lessor and the Lessee, do hereby certify on behalf of the Lessee that I have received, approved and accepted delivery under the Lease of the following Units:

UNITS: _____

DATE ACCEPTED: _____

I do further certify that the foregoing units have been inspected by the Lessee and are in good order and condition, and conform to the specifications applicable thereto, that there is no defect in any of the foregoing Units with respect to design, manufacture, remanufacture, condition or in any other respect, and that each Unit has been labeled by means of a plate or a stencil printed in contrasting colors upon each side of the Unit in letters not less than one inch in height as follows:

**"OWNERSHIP SUBJECT TO A SECURITY
AGREEMENT FILED WITH THE SURFACE
TRANSPORTATION BOARD."**

Dated: _____

NORTHERN VERMONT RAILROAD COMPANY

BY: _____

ITS: _____

Stipulated Loss Value Schedule

Exhibit C

Number
of
Basic
Rent
Payments
Made

Stipulated
Loss
Value
Per Unit

0	\$262,500
1	\$261,309
2	\$260,105
3	\$258,888
4	\$257,658
5	\$256,415
6	\$255,158
7	\$253,887
8	\$252,603
9	\$251,305
10	\$249,993
11	\$248,666
12	\$247,325
13	\$245,969
14	\$244,598
15	\$243,213
16	\$241,813
17	\$240,397
18	\$238,966
19	\$237,519
20	\$236,057
21	\$234,579
22	\$233,085
23	\$231,574
24	\$230,047
25	\$228,503
26	\$226,943
27	\$225,366
28	\$223,771
29	\$222,159
30	\$220,530
31	\$218,883
32	\$217,218
33	\$215,535
34	\$213,834
35	\$212,114
36	\$210,375
37	\$208,617
38	\$206,840
39	\$205,044
40	\$203,228
41	\$201,393
42	\$199,538
43	\$197,663
44	\$195,767
45	\$193,851
46	\$191,914
47	\$189,956
48	\$187,976

105. Law Governing. THIS SUPPLEMENT SHALL BE CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF ILLINOIS WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAW.

This Supplement shall be construed in connection with and as a part of the Lease, and all terms, conditions and covenants contained therein, as herein modified, shall be and remain in full force and effect.

This Supplement may be executed in several counterparts, such counterparts together constituting but one and the same agreement.

IN WITNESS WHEREOF, Lessor has executed this Lease Supplement pursuant to the terms of the Lease as of the date first above written.

NORTHERN VERMONT RAILROAD COMPANY

BY: _____

ITS: _____

Accepted and agreed on this _____ day of _____, 199____.

NATIONAL RAILWAY EQUIPMENT CO.

BY: _____

ITS: _____

STATE OF DELAWARE)
) SS
COUNTY OF _____)

On this _____ day of _____, 1996, before me personally appeared _____, to me personally known, who, being by me duly sworn, says that he is the _____ of Northern Vermont Railroad Company, that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its Board

of Directors, and he acknowledged that the execution of the foregoing instrument was the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the City and State aforesaid, the day and year first above written.

Notary Public

[Seal]

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

On this _____ day of _____, 1996, before me personally appeared _____, to me personally known, who, being by me duly sworn, says that he is the _____ of National Railway Equipment Co., that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors, and he acknowledged that the execution of the foregoing instrument was the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the City and State aforesaid, the day and year first above written.

Notary Public

[Seal]

EXHIBIT B

LEASE SUPPLEMENT

EQUIPMENT LEASE SUPPLEMENT, dated _____, 1996, (this "Supplement") to Northern Vermont Railroad Company, a Delaware corporation ("Lessee") from National Railway Equipment Co., an Illinois corporation ("Lessor").

WITNESSETH:

WHEREAS, Lessor and Lessee heretofore have entered into that certain Equipment Lease dated as of _____, 1996 (herein, together with any amendments and supplements heretofore made thereto, the "Lease"); and

WHEREAS, the Lease provides for the execution and delivery of a Lease Supplement (such term and other defined terms in the Lease being herein used with the same meanings and rules of interpretation applicable to the Lease being applicable thereto) thereto substantially in the form hereof;

NOW, THEREFORE, pursuant hereto Lessor hereby agrees, and by its acceptance hereof, Lessee hereby agrees as follows:

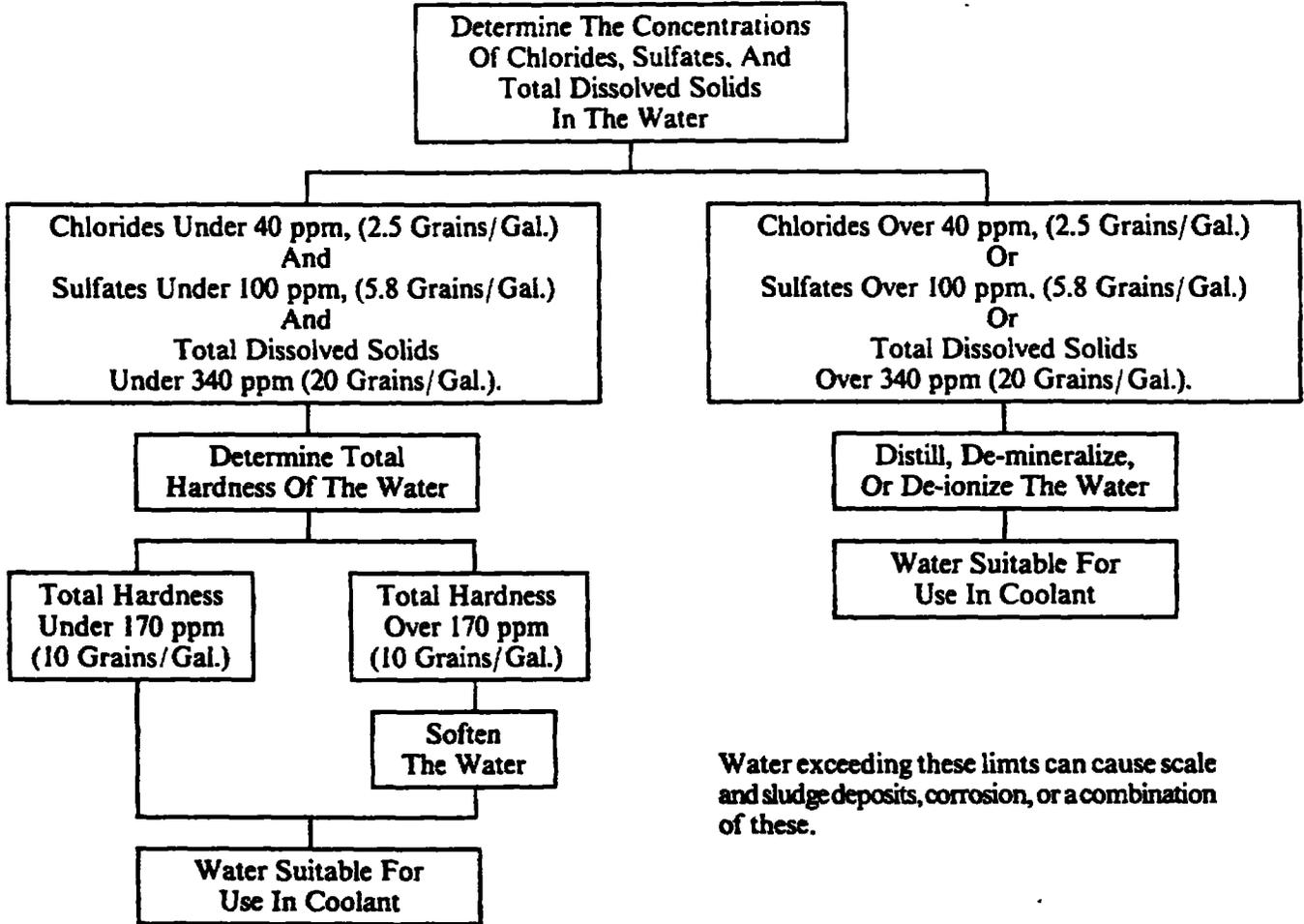
1.01 Acceptance and Lease. Lessee hereby acknowledges and confirms that on the date hereof the Units described in Schedule 1 hereto have been unconditionally accepted by Lessee from Lessor and are now leased under the Lease and have been marked in accordance with Section 6 of the Lease.

1.02. Basic Rent and Stipulated Loss Values. The Basic Rent for each Unit under the Lease shall be \$4,045.42 for each of the first 60 monthly installments. Attached as Exhibit C hereto are Stipulated Loss Values under the Lease. The amount for Basic Rent and Stipulated Loss Values under the Lease supersede the amounts set forth in the Lease therefor.

1.03. Term. The Interim Term with respect to the Units shall terminate _____ (Chicago time) on _____, 199__. The Basic Lease Term shall commence immediately upon the expiration of the Interim Term and shall terminate on _____, 199__.

1.04. Miscellaneous. Any and all notices, requests, certificates and other instruments executed and delivered after the execution and delivery of this Supplement may refer to the Lease without making specific reference hereto, but nevertheless all such references shall be deemed to include the Supplement unless the context thereof shall otherwise require.

TABLE 1



Water exceeding these limits can cause scale and sludge deposits, corrosion, or a combination of these.

INHIBITOR

CAUTION

Uninhibited water should never be used to fill a cooling system (even temporarily) because of the possibility of rapid corrosion and rusting. This applies to all uninhibited water but is especially true for distilled, de-ionized, or demineralized waters, including steam condensate. Prior to application, the water should be mixed with the inhibitor or inhibited antifreeze-coolant which is to be used in the coolant.

Two basic types of inhibitors, chromate and borate-nitrite, are the most commonly used in EMD cooling systems.

Soluble oil and an organic product, have seen very limited use in EMD cooling systems in field service.

Dry Measure:
16 Ounces = 1 Pound = 453.6 Grams

Liquid Measure:
32 Fluid Ounces = 1 Quart = 0.946 Liter
4 Quarts = 1 Gallon = 3.785 Liters

Stipulated Loss Value Schedule

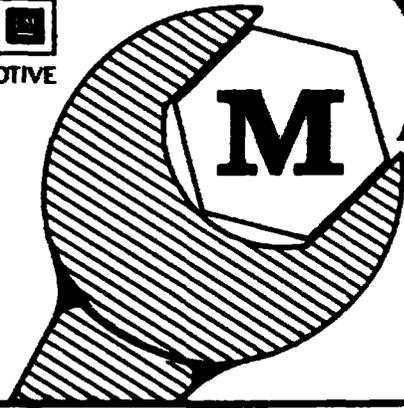
Exhibit C

**Number
of
Basic
Rent
Payments
Made****Stipulated
Loss
Value
Per Unit**

49	\$185,975
50	\$183,952
51	\$181,907
52	\$179,840
53	\$177,750
54	\$175,638
55	\$173,503
56	\$171,344
57	\$169,162
58	\$166,956
59	\$164,726
60	\$162,472



ELECTRO-MOTIVE



MAINTENANCE INSTRUCTION

M.I. 1752

*Rev. L

LUBRICATING OIL FOR DOMESTIC LOCOMOTIVE ENGINES

The necessity for properly lubricating the dynamic components of any engine is readily apparent. The recommendations, suggestions, and comments included in this Maintenance Instruction are offered as a guide in the selection of a suitable engine lubricating oil.

OIL QUALITY

It must be recognized that the only real measure of quality in a lubricating oil is its actual performance in the diesel engine. This is apparent because of the impossibility of establishing limits on all physical and chemical properties of oils which can affect their performance in the engine over a broad range of environmental influences.

Oil quality is the responsibility of the oil supplier, a term applicable to refiners, blenders, and rebranders

of engine lubricants. As there are a substantial number of commercial lubricants marketed today, engine manufacturers and consumers cannot completely evaluate the entire spectrum of products available. As a result, the selection of a suitable, heavy duty lubricant must be made in consultation with a reliable oil supplier capable of making product recommendations commensurate with the engine builders specifications and specific environmental influences as well as furnishing such a product on a consistent quality level.

OIL TYPE

An SAE 40, heavy duty additive type engine lubricant conforming to the following specifications should be used in all EMD engine applications:

<u>PROPERTY</u>	<u>ASTM TEST DESIGNATION</u>	<u>NEW, UNUSED OIL LIMITS</u>
Viscosity: Saybolt Universal Seconds at 210° F (98.9 ° C)	D88 or D445	70-85 (12.9-16.8 cSt)
Viscosity Index	D567	60-100
Flash Point	D92	420° F Min. (216° C)
Fire Point	D92	475° F Min. (246° C)
Pour Point	D97	40° F Max. (4.5° C)
Zinc Content (†)		10 ppm Max.
Total Base Number (††)	D-664 D-2896	5-17 7-20

*This bulletin is revised and supersedes previous issues of this number. Areas of change are indicated by vertical bars.

NOTE

† Zinc additive compounds, such as zinc dithiophosphate, must not be present in lubricant for FMD engines. Oil containing more than 10 ppm zinc are considered excessively contaminated with zinc dithiophosphate or similar additive compounds which will not satisfactorily lubricate the silver bearings in EMD engines.

†† The use of oils with Total Base Numbers over 13 (ASTM D-2896) are generally not required unless fuel sulfur levels exceed 0.5% or the higher levels of detergency and/or dispersancy associated with these higher base number products is demanded.

In addition to the above properties, the oil formulation should have a high resistance to oxidation, a low tendency toward the formation of harmful carbonaceous and/or additive ash deposits, and must be non-corrosive to silver metal at 285° F (140° C) (EMD L.O. 201 test). Oils with sufficient alkaline reserve (TBN) and highly effective detergent-dispersant systems should be employed in line with fuel quality and/or service demands.

MULTIGRADE OILS

At the present time there is increased activity relative to the use of SAE 20W40 multigrade oils in EMD engines. The Qualification and Development Programs for these products are the same as for conventional SAE 40 lubricants except that the field test requirements are more extensive to assure high levels of confidence relative to performance and engine protection.

Currently, the number of multigrade engine oils recognized by EMD is very limited. As a result, physical property requirements (other than the product be free of zinc dithiophosphate) have not yet been fully developed for publication at this time.

Customers considering the use of multigrade oils are encouraged to contact EMD regarding products that are recognized as having successfully fulfilled the EMD Qualification and Development Programs, and to consult with the suppliers of such products regarding the results of such evaluations.

FUEL EFFICIENT LUBRICANTS

Future lubricating oil products may have associated claims relating to improved fuel economy due to the use of multigrading, friction modifiers, or combinations of both.

EMD policy requires that the diesel engine lubricating oil satisfactorily lubricate the entire engine and does not address the fuel economy aspects of such products. As a result, the responsibility for any such claims must rest with the oil/additive supplier.

QUALIFICATION TESTS FOR ENGINE LUBRICATING OILS

The diesel engine lubricating oil must satisfactorily lubricate the entire engine under all conditions expected to be encountered. While the condition and performance of the engine in actual service provides the criteria in reaching a final judgment of oil suitability, there are several laboratory tests which are useful in making preliminary evaluations of a product, namely:

1. Physical and chemical properties (as previously noted).
2. Corrosion of metals:
 - a. Silver and copper - EMD No. L.O. 201 method.
 - b. Lead S.O.D Method No. 5321-1 (modified).
3. Overall evaluation of oxidation stability by the EMD L.O. 201 method, including:
 - a. Viscosity increase characteristics
 - b. Retention of alkalinity (additive concentrate)
 - c. Development of insolubles.

DEVELOPMENT PROGRAM REQUIREMENTS FOR NEW OIL FORMULATIONS**1. Laboratory Evaluations**

The supplier of the lubricant base stock and the supplier of the additive concentrate are expected to conduct complete laboratory and bench test qualifications by ASTM and EMD methods. EMD will review and monitor such tests and if all results are in good agreement and within acceptable limits, the oil formulation will be considered worthy of 2-567 engine evaluation to determine its silver lubricity characteristics.

2. 2-567 Silver Lubricity Test

The purpose of this test is to determine that the laboratory qualified oil formulation will satisfactorily lubricate the silver wrist pin bearing. This test evaluation is also expected to

be conducted and/or contracted by the oil or additive supplier with review and monitoring of the results by EMD.

3. Full Scale Field Test

Upon successful completion of the laboratory and silver lubricity tests, an oil formulation will be considered worthy of full scale field test evaluation. Field tests should be conducted in a minimum of three (3) EMD engines, preferably in heavy duty service, for a period of not less than one year.

During the field evaluation and its conclusion, EMD will review the oil and engine performance data generated by the supplier(s).

After successful completion of the field test program the oil will be considered satisfactory for limited use, but should be closely monitored during the following two years of commercial introduction.

Oil formulations established and proven by this development program must remain exactly the same with no subsequent changes in their make-up.

If an oil or additive improvement program is desirable or necessary, the revised formulation must be evaluated by going through the complete development program.

USE OF ONE OIL

The use of a single brand name lubricant is recommended for locomotive fleets. This recommendation of long standing is substantially supported by observations of the performance of fleets lubricated with mixed oil products.

MIXING OF LUBRICATING OILS

EMD has continually recommended that lubricating oils should not be mixed. The combining of lubricants with different additive and base stock components creates a chemical mixture which cannot be readily evaluated in the laboratory, and its field performance cannot be reliably predicted.

If mixing of oils is mandatory, the following approach is suggested in an effort to minimize potential risk factors associated with this practice:

1. The lubricating oils considered for mixing should contain the same additive concentrate.
2. The viscosity and viscosity index properties should be virtually identical.
3. The number of lubricating oils to be mixed should be limited to no more than three for a given fleet operation.
4. The brand name oil which is the parent of the common additive selected should, because of its full qualification and fleet experience, be the primary component of the mixture.
5. Only premium base stocks should be considered for the other two components. Each base stock and common additive formulation are to be evaluated by the standard procedures of laboratory analysis and laboratory engine testing.
6. After the three common additive lube oils are selected, an equally proportioned mixture of these oils should undergo the same laboratory and test engine evaluations. Upon satisfactory completion of these tests, the mixture should then be evaluated in at least three EMD engines in heavy duty service for a period of not less than one year.

RECLAIMED OILS

Considered as a general category, reclaimed oils are not recommended for lubrication of our engines.

If reclaimed oils are to be used, it is our judgment that their use requires a maximum of evaluation and control, and the following suggestions are offered:

1. The reclaimed oil must have the same additive package as the name brand oils with which it will be mixed.
2. The reclaimed oil must pass all analysis and quality control requirements of brand name oils.
3. It should be introduced into the main supply tank of the railroad facility at a rate not to exceed a 20% ratio.
4. Reclaimed oil should never be used as a full engine charge.

FILTER CHANGES

Regular monitoring of lube oil filter tank pressure should be used to determine filter condition.

INTERPRETATION OF LUBE OIL SAMPLE ANALYSIS

LUBE OIL ANALYSIS	BASIS FOR ANALYSIS	NORMAL No Action Required	BORDERLINE Take Extra Oil Samples	HIGH Correct Condition	RECOMMENDED ACTION
Fuel Leak	Viscosity & Flash Point — Check for dilution if flash point less than 400° F or oil viscosity drops 15% or more at 100° F.	0 to 2%	2 to 5%		Shut Down Engine. Drain Lube Oil. Change Filters. Change Filters Only.
Water Leak	Free Water	None			Borderline — find and fix fuel leak.
	Chromate Inhibitor	0 to 20 ppm	20 to 40 ppm	Above 40 ppm	Find and fix water leak. Check lube oil filter tank pressure.
	Boron Inhibitor	0 to 10 ppm	10 to 20 ppm	Above 20 ppm	
Air Filtration	Silicon	0 to 5 ppm	5 to 10 ppm	Above 10 ppm	Improved air filter maintenance required. Anti-foam agent present in new oil.
Excessive Oxidation	TBN (D-664) TBN (D-2896)				Check fuel cleanliness. Notify fuel supplier. If engine smokes, check injector calibration and tip erosion. Check if piston rings are excessively worn.
	Viscosity Rise				
	pH Pentane Insolubles				
Contaminated fuel (cracking catalyst)	Aluminum, Silicon, and/or Magnesium		Above 5 ppm		Check fuel cleanliness. Notify fuel supplier. If engine smokes, check injector calibration and tip erosion. Check if piston rings are excessively worn.
	Zinc	0 to 10 ppm	Above 10 ppm more damage increase		
Oil Contamination	Silver	0 to 1 ppm	1 to 2 ppm		

Abnormal Wear Or Corrosion (Rapid increases within normal range should be considered borderline condition).	Chromium (Not applicable if chromate coolant inhibitor is used)	0 to 10 ppm	10 to 20 ppm	Above 20 ppm	Check for rapid wear of rings & liners
	Copper	0 to 75 ppm	75 to 150 ppm	Above 150 ppm	Measure piston to head clearance with lead readings to locate worn piston thrust washers. Check connecting rod bearing blade thrust faces for distress.
			High iron and copper increase oxidation rates.		
	Iron	0 to 75 ppm	75 to 125 ppm	Above 125 ppm	Check for rapid wear of rings & liners.
	Lead	0 to 50 ppm	50 to 75 ppm	Above 75 ppm	Most likely lead flash is dissolving off bearings. Premature lead removal, before bearings are broken in, can lead to bearing distress. Inspect and replace upper con rod bearings in service less than 6 months if lead flash has been removed from the unloaded area of the fishback bearing surface on turbocharged engines. If con rod bearings require replacement, wrist pin bearings should also be checked and replaced if lead flash has been removed.
In Combination	Copper Iron Lead				
In Combination	Tin	0 to 20 ppm	20 to 40 ppm	Above 40 ppm	1. When in combination with iron or chrome rise, check for piston distress. 2. When in combination with lead or copper rise, check for bearing distress.

† Due to carbon buildup on both the fire face of the cylinder head and the crown of the piston during service life, lead wire readings should not be used as a basis for power assembly changeout. Lead wire readings may continue to be used to indicate wear trends. Significant clearance increases should be investigated as possible component failures.

Replacement of oil filter elements should be made according to the Scheduled Maintenance Program unless pressure monitoring or laboratory analysis of the lubricating oil dictates earlier replacement.

Replacement elements must be of the EMD type or equivalent in all respects. Elements intended for use with other types of engines are not suitable.

Where highly dispersant oils are employed, carbonaceous matter may be suspended so finely in the oil that it is essentially unfilterable. In such situations, it might appear that an extension of the filter replacement interval may be justified. Caution should be exercised when contemplating such action since filter materials have not yet been developed that will tolerate prolonged exposure to lubricants at high temperature without deterioration and/or possible disintegration of the filter media.

LUBRICATING OIL CHANGES

Oil change intervals prescribed in the applicable Scheduled Maintenance Program are based on average operating conditions with quality fuels of less than 0.5% sulfur content.

When oil change intervals are overextended, serious and costly engine problems may result. This can occur if the additive concentrate is depleted beyond acceptable limits, and the lubricant loses essential properties including alkalinity, detergency, and dispersancy. In the absence of vital reserves of these properties, the lubricant no longer provides satisfactory protection of the engine in limiting harmful deposit formations from oxidized oil and other contaminants, or adequate control of the corrosive products of combustion.

Oils which have experienced severe additive depletion will result in accelerated engine wear, stuck or broken piston rings, liner scuffing, and corrosive attack and/or frictional failure of vital bearing surfaces.

Regular laboratory analysis of the lubricant is a valuable means of judging the condition of the lubricant, and is of equal value in reflecting the condition of the engine. Both engine and oil condition must be given careful consideration when planning to extend oil change intervals beyond those recommended.



SAFETY INFORMATION

M.I. 1748 MAINTENANCE INSTRUCTION

*Rev. E

ENGINE COOLANT

Table Of Contents

DESCRIPTION	2
COOLANT SOLUTIONS	2
WATER	3
INHIBITOR	4
CHROMATE TYPE	5
BORATE-NITRITE TYPE	5
INHIBITOR GUIDELINES	5
SOLUBLE OIL INHIBITORS	5
SILICATE DROPOUT	6
DRAINING OF COOLING SYSTEMS CONTAINING ANTIFREEZE-COOLANT	6
ALCOHOL TYPE	6
ETHYLENE-GLYCOL TYPE	7
ETHYLENE-GLYCOL TYPE WITH DEIONIZED WATER	8
PROPYLENE-GLYCOL TYPE ANTIFREEZE-COOLANT	8
GENERAL COMMENTS	x
QUALIFICATION TESTS FOR CORROSION INHIBITORS AND ANTIFREEZE-COOLANT CONCENTRATES	8
LABORATORY EVALUATION TESTS	9
GLASSWARE CORROSION TESTS FOR INHIBITORS AND ANTIFREEZE-COOLANTS	9
INTERPRETATION OF GLASSWARE CORROSION TEST RESULTS	10
ELASTOMER IMMERSION TEST	10
APPARATUS	10
TEST SPECIMENS	11
TEST SOLUTION	11
PROCEDURE	11
INTERPRETATION OF TEST RESULTS	12
FIELD QUALIFICATION TESTS FOR CORROSION INHIBITORS AND ANTIFREEZE-COOLANTS	13
INTERPRETATION OF FIELD QUALIFICATION TEST RESULTS	14
CLEANING EMD ENGINE COOLING SYSTEMS	14
SERVICE DATA	15
U.S. TO METRIC CONVERSIONS	16

*This publication is revised. It supersedes previous issue of this number.

DESCRIPTION

Coolant is circulated throughout the engine to provide the means for heat transfer from the engine components. Water, corrosion inhibitor and, in some applications, antifreeze are used in coolant solutions.

Because the function of the coolant is necessary for efficient operation of the engine, it is important that the selection of a coolant solution be carefully considered.

Failure to meet any *one* of the following requirements will inevitably result in costly system damage, downtime and repair costs. Typical corrosion failures are shown in Figs. 1, 2, and 3.

COOLANT SOLUTIONS

A coolant suitable for use in EMD engine cooling systems must meet four basic requirements:

1. It must adequately transfer heat energy through the cooling system.
2. It can't form scale or sludge deposits in the cooling system.
3. It must prevent corrosion within the cooling system.
4. It can't deteriorate any of the cooling system seal materials.

These requirements are normally satisfied by combining a suitable water with a reliable corrosion inhibitor. Certain operating conditions may dictate the use of antifreeze-coolant. In this case the basic requirements can be satisfied with a combination of suitable water and an ethylene-glycol or propylene-glycol type antifreeze-coolant which contains an adequate corrosion inhibitor. However, the use of antifreeze-coolant involves special consideration regarding Items 1 and 3 above. This will be discussed in detail under "Antifreeze-Coolant."

It should be recognized that coolants which perform satisfactorily in other applications may not be satisfactory for use in EMD engine cooling systems. Differences in coolant volume-to-cooling system surface area ratios, coolant velocities, temperatures, and the types of materials employed make such comparisons meaningless.

The formulation of home-made corrosion inhibitors and antifreeze-coolants is not recommended. The formulations may lack individual inhibitor chemicals which are necessary to protect all the cooling system metals from corrosion. Improper blending sequences of the individual inhibitor chemicals may result in excessive precipitation of the total inhibitor package. This condition may result in reducing the effectiveness of the corrosion inhibitor. Further, the home-made corrosion inhibitor packages may be difficult to monitor and control. The ready availability of suitable proprietary products makes these practices uneconomical and impractical.

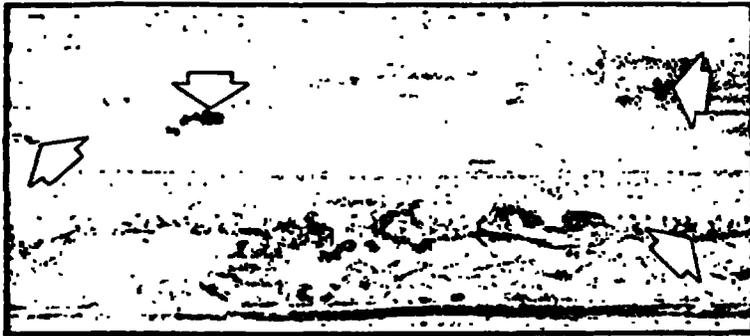
Water quality should be evaluated whenever a new water source is to be used, or when changes in existing water sources occur. Likewise, the inhibitor concentration of the coolant solution should be tested when a new engine is put into service, and at regular intervals thereafter. The inhibitor concentration of coolant should always be known and should be maintained as required.

Aids in determining the effectiveness of a corrosion inhibitor or antifreeze-coolant are as follows:

1. Glassware corrosion test.
2. Visual inspection of the coolant relative to its clarity.
3. Regular inspection of engine components such as the coolant jumper lines, coolant inlet deflectors, oil cooler tubes, and water pump impeller and seals.
4. Maintaining the recommended inhibitor concentration by regularly scheduled tests.

WATER

The water used in the cooling system of EMD engines should be of such quality that it does not contain excessive solids, hardness salts, or corrosive elements such as chlorides. Water containing these constituents in undesirable amounts can either be softened or de-ionized to make it suitable for use. Steam condensate is also suitable for use in the cooling system as an equivalent to distilled water.



27144

Fig. 1 — Section Of Cooling Water Radiator Tube

Cooling water radiator tube cut apart and enlarged to show severe corrosion after approximately 1000 hours operation. Coolant consisted of fairly soft well water and an ethylene glycol antifreeze, without additional inhibitor.

This tube was photographed against a black background. The dark black areas show complete penetration of the tube wall.

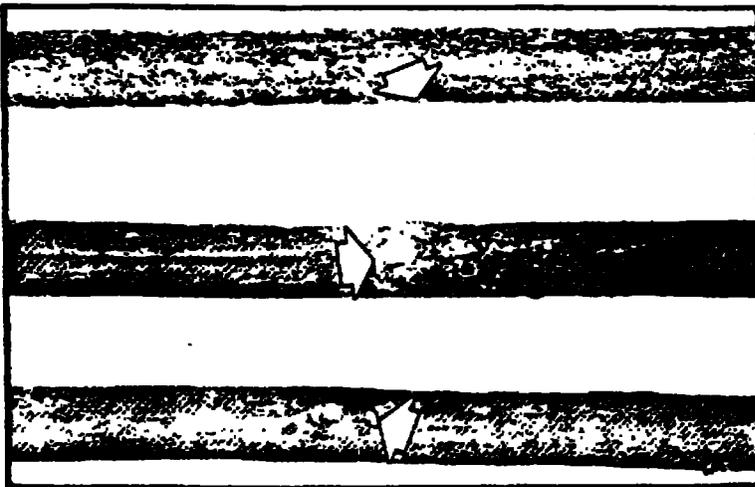


27145

Fig. 2 — Section Of Cylinder Liner Water Jumper

Cylinder liner water jumper sectioned to show corrosion after approximately 5000 hours operation. Coolant consisted of hard water, an ethylene glycol antifreeze and a corrosion inhibitor which obviously did not provide adequate protection.

NOTE
Severe reduction of tube section. This jumper was removed because of leakage from several holes corroded through the tube wall.



27146

Fig. 3 — Section Of Heat Exchanger Tubes

Heat exchanger tubes sectioned to show corrosion failures after approximately 6 months operation. Coolant consisted of untreated brackish water.

CHROMATE TYPE

Chromate type inhibitors are generally furnished in the form of powder or pellets. The pH of these inhibitors, when mixed with water, ranges from 7.5 to 9.0. The recommended inhibitor dosage for an initial fill is 4.5 grams per liter (0.6 ounce per gallon [4500 ppm]). Thereafter, the inhibitor concentration should be maintained above 3.0 grams per liter (0.4 ounce per gallon [3000 ppm]). Dissolve the inhibitor in water before adding it to the cooling system. When coolant is lost from the system, the makeup coolant should contain inhibitor in the recommended dosage (0.4 ounce/gallon).

All states have restrictions relative to the discharge of chromates. Federal, state and local pollution restrictions should be investigated before discharging of chromate inhibitors.

Chromate type inhibitors should not be used in cooling systems containing antifreeze-coolant. The use of chromate with antifreeze-coolants may, under certain conditions, result in an insoluble sludge forming in the cooling system.

BORATE-NITRITE TYPE

Borate-nitrite type inhibitors are furnished in the form of powder, pellets, and liquids. The pH of these inhibitors, when mixed with water, ranges from 8.5 to 10.0. They also contain a dye, which is distinctive in color and stable at 88°C (190°F). The recommended inhibitor dosage for the powder or pellets at the initial fill is 7.5 grams per liter (1.0 ounce per gallon of water [7500 ppm]). Dissolve the inhibitor in water before adding it to the cooling system. Thereafter, the inhibitor concentration should be maintained above 5.6 grams per liter (0.75 ounce per gallon [5625 ppm]).

The recommended dosage of liquid inhibitor for an initial fill is 23.4 cubic centimeters per liter (3.0 fluid ounces per gallon). Thereafter, the inhibitor concentration should be maintained above 15.6 cubic centimeters per liter (2 fluid ounces per gallon). When coolant is lost from the system the makeup coolant should contain inhibitor in the recommended 15.6 cubic centimeters per liter (2 fluid ounces per gallon) dosage.

SOLUBLE OIL (EMULSIFIABLE OILS) INHIBITORS

Soluble oils are not considered suitable for use in EMD engine cooling systems for the following reasons:

1. It is difficult to run quick tests to determine the concentration.
2. The emulsifiers tend to break down causing an oily film to float on the water.
3. In some instances the oil layer may interfere with heat transfer or cause sludge accumulation in the system.
4. They may be harmful to the elastomers in the cooling system thereby causing coolant leaks.
5. The soluble oil-type inhibitors do not contain an element which can be used as a tracer to detect the presence of coolant leaks into the lubricating oil.

INHIBITOR GUIDELINES

WARNING

Safety and hygienic precautions should always be exercised when handling corrosion inhibitors to avoid possible irritation of eyes, nose, and skin. This is especially important when handling chromate inhibitors.

1. The recommended inhibitor concentrations have been found suitable for most corrosion inhibitors. However, the user should always contact the inhibitor supplier for recommendations as to the proper concentration level for his application.

2. When used in EMD systems, inhibitors should contain specific concentrations of a strong tracer element to help determine the degree of water contamination in lube oil analysis.
3. It is important that the inhibitor concentration be determined. Most suppliers are prepared to furnish a kit for this purpose. Instructions for EMD recommended laboratory and field evaluation appear later in this instruction.
4. The chemicals in corrosion inhibitors are slowly depleted in service. The effective life of an inhibitor depends on such factors as the cooling system condition, hours of operations, coolant and metal temperatures, aeration, and rate of contamination of the coolant. As a general rule the coolant should be discarded at least annually, and the cooling system filled with new inhibited coolant.
5. Draining an inhibited coolant from one engine and reusing in another is not recommended. If drained coolant is reused, particular attention should be given to piping and holding tanks to *ensure freedom from dirt and oil*.
6. Most manufacturers advise against mixing of different brands of corrosion inhibitors. This restriction recognizes the fact that some corrosion inhibitors may not be compatible with other brands. This incompatibility may lead to foaming, precipitation, or accelerated corrosion. EMD concurs with the manufacturer's advice in this respect.
7. Prior to fleetwide application of a new inhibitor formulation, it is advisable to test these formulations in a few engines. This will determine whether the inhibitor is compatible with the operating environment to which it will be exposed.

SILICATE DROPOUT

With the increased use of aluminum in automobile engines, many of the antifreeze coolant manufacturers have introduced high silicate antifreeze formulations. The primary purpose of the new formulations is to prevent corrosion of the aluminum heat rejection surfaces as well as other aluminum parts.

The combination of a high silicate antifreeze, supplemental corrosion inhibitors and hard water results in silicate dropout (gelation). The resultant silica creates deposits which plug radiators and heat exchanger equipment.

To reduce silicate dropout in EMD engine cooling systems, the following is recommended:

1. Use a low-silicate, (no more than 0.10%) sodium silicate antifreeze-coolant meeting GM standard 6038-M (ASTM D4985). Generally, the recommended antifreeze-coolant concentration shall never exceed 68% by volume.
2. Do not add supplemental inhibitors or additives to either fresh or used antifreeze-coolant. Further, do not mix different brands of antifreeze-coolant.

DRAINING OF COOLING SYSTEMS CONTAINING ANTIFREEZE-COOLANT

If it is necessary to drain the cooling system, it is suggested that the antifreeze-coolant be placed into a clean retention tank such as a rubber bag. Reusing antifreeze-coolant solution from one engine in another engine is a poor practice which can cause corrosion. If it becomes necessary to discard the antifreeze-coolant, remember that the antifreeze-coolant or inhibitor ingredients may be considered pollutants. Federal, state and local pollution restrictions should be investigated before discarding the antifreeze-coolant solution.

ANTIFREEZE

ALCOHOL TYPE

Alcohol type antifreeze-coolants are not recommended for use in EMD engine cooling systems because of the high coolant operating temperatures.

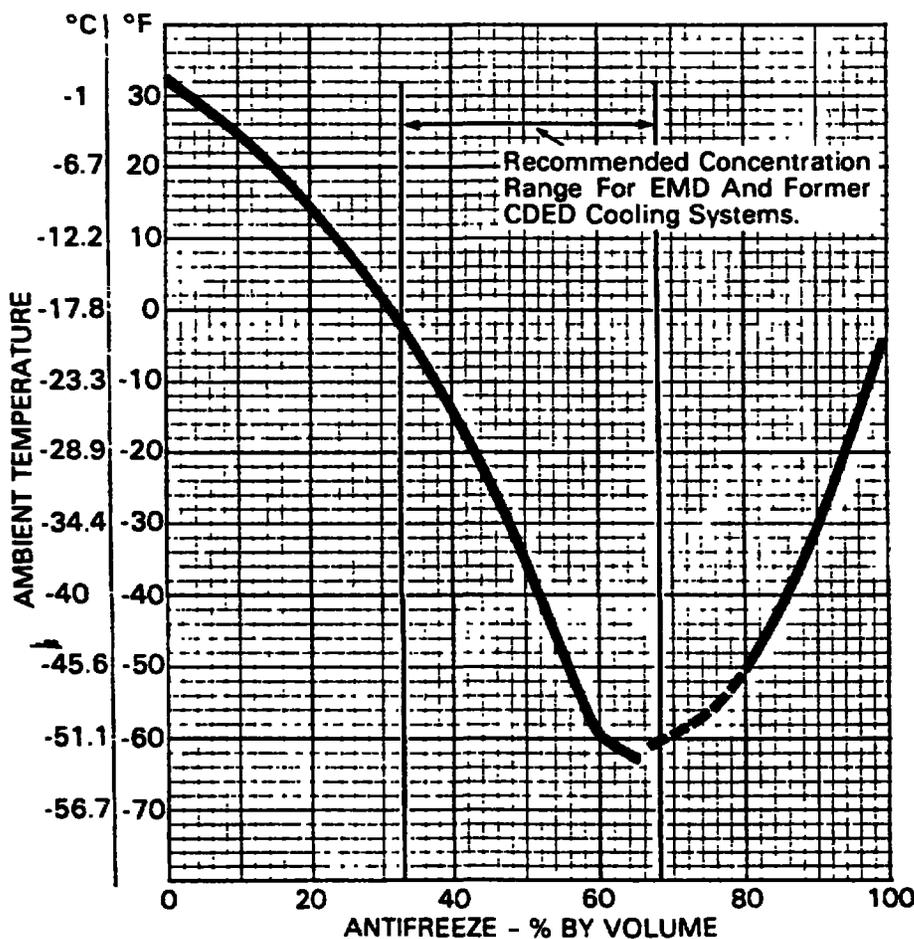
ETHYLENE-GLYCOL TYPE

Where EMD engine cooling systems must be protected from freezing, an antifreeze-coolant meeting GM 6038M (ASTM D4985) specification is recommended. The antifreeze-coolant shall contain a balanced blend of corrosion inhibitors, anti-foam and a distinctive color dye. Further, the antifreeze-coolant shall not contain more than 0.10% of sodium silicate. (Note: See comments under Silicate Dropout).

Ethylene-glycol type antifreeze should be used at concentrations between 33% and 68% by volume, as required to prevent freezing. Antifreeze concentrations below 33% do not provide sufficient inhibitors to give adequate corrosion protection. Using antifreeze concentrations above 68% will raise the freezing point and will not provide good heat transfer. Because antifreeze affects heat transfer rates, it should not be used without prior consultation with EMD Service representatives regarding the specific engine installation and possible engine derating requirements.

The corrosion inhibitors incorporated in antifreeze-coolant are slowly depleted in service. How long these inhibitors will remain effective depends on factors, such as, the cooling system condition, hours of operation, coolant and metal temperatures, aeration, and rate of contamination of the solution. Usually the antifreeze-coolant manufacturers recommend using their products for only one year.

In special applications involving large capacity systems, such as EMD engines, the antifreeze-coolant solutions may be usable for a longer period of time. The customer should contact the manufacturer for instructions which may include periodic tests of the antifreeze-coolant solution by the antifreeze-coolant manufacturer.



27147

Fig. 4 — Freezing Points of Aqueous Solutions Of Ethylene-Glycol Antifreeze

Fig. 4 depicts the freezing points of typical ethylene-glycol antifreeze and water solutions. The freezing points of specific brands may vary slightly from prints shown on the graph. However, the graph is sufficiently accurate for use in estimating antifreeze-coolant requirements, regardless of brands.

ETHYLENE-GLYCOL TYPE WITH DEIONIZED WATER

Because hardness, total solids, and corrosiveness of water varies throughout the world, antifreeze containing inhibitors and deionized water should be used in areas where the water does not meet the standards listed in Table I "Water." This type of antifreeze contains the proper amount of ethylene-glycol to protect the cooling system from freezing to -40°C (-40°F).

These products are generally identified as full-fill antifreeze-coolants. These products shall not be diluted with water.

PROPYLENE-GLYCOL TYPE ANTIFREEZE-COOLANT

Propylene-glycol type antifreeze coolant are analogues of ethylene-glycol type antifreeze. The inhibitor package added to ethylene-glycol is also soluble in a propylene-glycol product. The reported advantage in using propylene-glycol is that it is less toxic. The specific heat and thermal conductivity of aqueous solutions of ethylene and propylene-glycols are similar. Lower freeze points may be obtained with propylene-glycols. The propylene-glycol products may be obtained as a concentrate or pre-diluted with deionized water.

The freezing point of aqueous solutions may be determined by hydrometer or refractometer field testers which are specifically calibrated for propylene-glycol. Ethylene-glycol field testers may be used, however, it will be necessary to obtain a conversion table from the supplier to convert the reading to propylene-glycol.

GENERAL COMMENTS

The thermal conductivity of an antifreeze-coolant is lower than that of an inhibited water coolant. Thus, antifreeze-coolant should not be used without prior consultation with an EMD Service Representative regarding the specific installation and possible engine derating requirements.

The corrosion inhibitors incorporated in antifreeze-coolants are slowly depleted in service. How long these inhibitors will remain effective depends on such factors as the cooling system condition, hours of operation, coolant and metal temperatures, aeration and rate of contamination of solution. Usually the antifreeze-coolant manufacturers guarantee their products for only one year. In applications involving large capacity systems, such as EMD diesel engines, the antifreeze solutions may be guaranteed for a longer period of time. In these applications, the customer should contact the manufacturer for instructions which may include periodic tests of the antifreeze-coolant solution by the antifreeze-coolant manufacturer.

The freezing point of antifreeze-coolants may be determined by hydrometer-thermometer field tester (ASTM method D1124) or refractometer (ASTM method D3321).

QUALIFICATION TESTS FOR CORROSION INHIBITORS AND ANTIFREEZE-COOLANT CONCENTRATES

Before a cooling system additive is placed in general service, qualification tests should be undertaken on a sample of both new and old cooling systems.

A corrosion inhibitor or antifreeze-coolant is not considered suitable for use in EMD engine cooling systems until the product passes the qualification test. Placing an untested product in general field service may result in widespread cooling system damage and expensive repair. Unfortunately, damage to the cooling system may not appear early. It may take as long as a year before the damage is visible.

All corrosion inhibitors and antifreeze-coolants contain a blend of chemical compounds which prevents corrosion of the metals common to the cooling system. These compounds also maintain a suitable pH range, alkalinity and reduces foam and scale formation.

CAUTION

Do not place an unqualified additive in general service. Such additives may cause widespread cooling system damage, and result in very expensive repair.

To ensure adequate protection, the chemical compounds must be present in the proper proportions. Precipitation of these compounds in the corrosion inhibitor or antifreeze-coolant indicates improper blending sequence by the manufacturer. Improper blending sequences or inadequate reaction time will result in excessive precipitation of the chemical compounds. This condition will reduce the effectiveness of the corrosion inhibitor. Precipitation of the corrosion inhibitor compounds is considered unacceptable and the product is considered unsuitable for use in EMD engine cooling systems.

LABORATORY EVALUATION TESTS

The purpose of the laboratory tests is to ensure complete solubility of the corrosion inhibitor in soft and hard water. Further, the pH of the corrosion inhibitor, at a concentration of two times the recommended dosage, should range between 7.5 and 10.5. A pH of 11 or above will result in erosion-corrosion of the non-ferrous metals in the cooling system. Any engine coolant with a pH in excess of 10.5 is generally considered unsuitable for use in EMD engine cooling systems.

All corrosion inhibitors and antifreeze-coolant concentrates contain a blend of chemical compounds which protect metals, common to the cooling system, from corrosion. To ensure adequate protection, these compounds must be present in the coolant in proper proportions.

NOTE

It is essential to follow the blending sequence, especially when using liquid concentrated formulations. Improper blending sequence or inadequate reaction time will result in an excessive amount of precipitate in the liquid concentrate and reduce the effectiveness of the inhibitor.

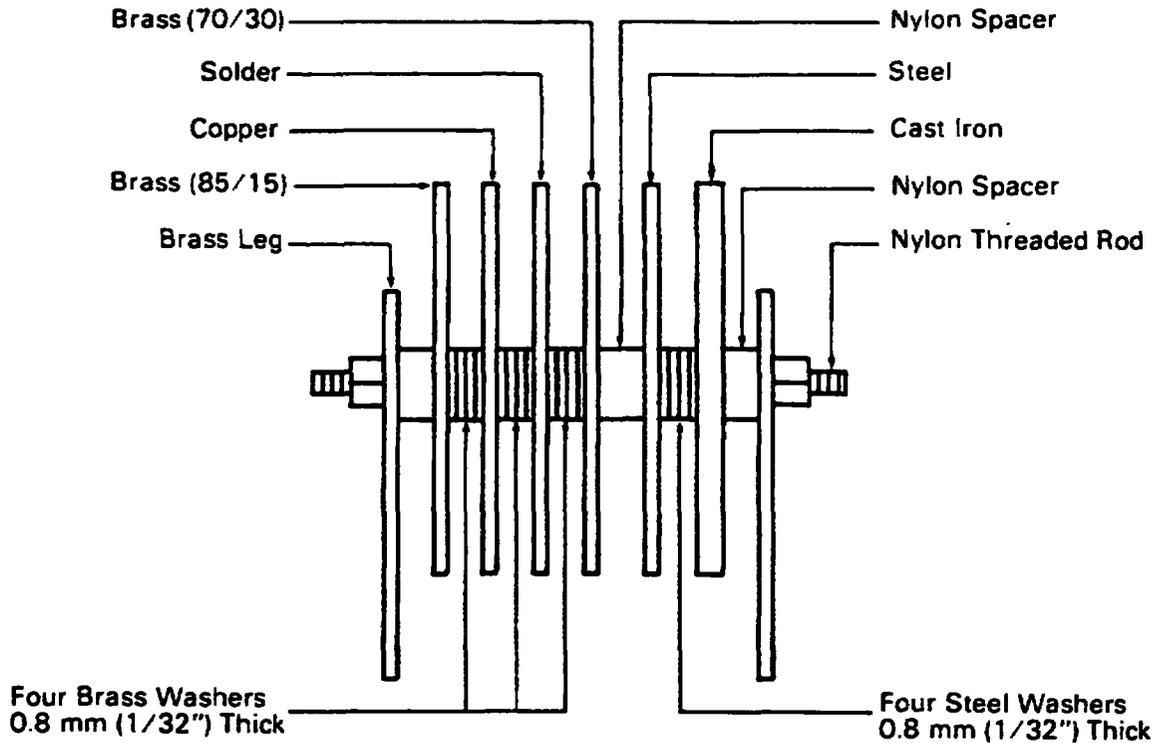
GLASSWARE CORROSION TESTS FOR INHIBITORS AND ANTIFREEZE-COOLANTS

The glassware corrosion test will generally differentiate between products having good corrosion inhibiting properties and those which are detrimental to the metal test specimens. This test must conform with the standards set forth in ASTM D1384-80 "Corrosion Test for Engine Coolants in Glassware." However, the glassware corrosion test should be modified to reflect the metals in the EMD cooling system, and the operational characteristics in the field. These modifications are as follows:

1. Do not incorporate aluminum in the coupon bundle, Fig. 5, since it is not present in EMD engine cooling systems. However, red brass (85% copper - 15% zinc) should be included in the coupon bundle since this metal is used in the cooling system.
2. Because some inhibitors react differently, the glassware corrosion test should be performed in both soft and hard waters. Corrosive water obtained by adding sodium salts to distilled water, as specified in D1384, is considered a soft water. Hard water containing calcium and magnesium compounds will often be used in the engine cooling system, but must be limited to 170 ppm. The laboratory sample of hard water should observe the same limitation.

NOTE

Before conducting glassware corrosion tests on unknown products, it is suggested that the user conduct tests on known quality products. Conducting glassware tests on a quality product will familiarize laboratory personnel with the test procedure and the variations which may be encountered.



27148

Fig. 5 — Arrangement Of Metal Test Specimens

INTERPRETATION OF GLASSWARE CORROSION TEST RESULTS

In general, an inhibitor or antifreeze-coolant is considered unsuitable for use in EMD engine cooling systems when the weight loss of the metal test specimens exceeds the following recommended limits:

- Cast Iron and Steel 5 milligrams per coupon.
- Solder 10 milligrams per coupon.
- Brass and Copper 10 milligrams per coupon.

If the weight losses of the metal test coupons do not exceed the above limits but the coupons show signs of pitting or crevice-type corrosion, the corrosion protection properties of the coolant are considered inadequate. Further, an excessive amount of precipitate is undesirable. An excessive amount of precipitate may cause fouling or erosion in the cooling system.

ELASTOMER IMMERSION TEST

The elastomer immersion test determines whether exposure to a corrosion inhibitor or antifreeze-coolant solution will have adverse effects on the elastomeric seals used in the EMD engine cooling system. This procedure is a standard compression set determination utilizing excerpts from ASTM D1384, D395 (Method C), and D471 as follows:

APPARATUS

1. Container - D1384
2. Condenser - D1384

3. Oil Bath - D1384
4. Aerator Tube - D1384
5. Air Supply - D1384
6. Three compression set fixtures each consisting of:
 - a. Two 2-1/4" (57 mm) diameter steel discs with 3.8" (10 mm) diameter holes drilled into the center of each disc. Drill three 1.4" (6 mm) equally spaced holes, 3.4" (19 mm) from the bolt hole center.
 - b. An 8 mm (5/16") threaded bolt for insertion through drilled discs.
 - c. An 8 mm (5/16") nut to fit the bolt for compressing discs together upon tightening.
7. Several 13 mm (1/2") square spacers of a thickness necessary to produce a 30% deflection of elastomers as specified below in "Test Specimens" section.

TEST SPECIMENS (Figs. 6 and 8)

Silicone Rubber Seals (See Service Data)

Fluoroelastomer Seals (See Service Data)

TEST SOLUTIONS

The concentration of the engine coolant to be tested shall be as follows:

1. Corrosion Inhibitor

Corrosion inhibitor shall be mixed with the proper quantity of distilled water to give the resulting solution twice the minimum concentration as specified by the manufacturer.

2. Antifreeze

Antifreeze shall be mixed with distilled water in the ratio of 50% by volume (1 to 1).

PROCEDURE

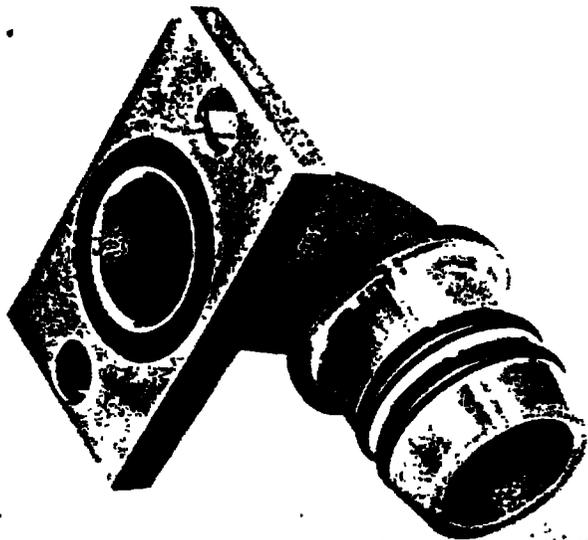
Cut a 30 mm (1-1/4") length from each of five silicone rubber and fluoroelastomer seals. Use three of each seal type in the test for compression set. The remaining seals will be used for volume change and durometer hardness change determination.

1. Compression set determination (according to ASTM D395, Method C), except as follows:

Measure initial thickness of three silicone rubber seals. Prepare two sets of spacers of appropriate thickness to obtain a 30% deflection of the seals. Place the spacers on the flat side of a steel disc at the outside edges, diametrically opposed, Fig. 7.

Place the silicone seals on the disc allowing sufficient space between samples. Place the second disc on top, and insert bolt through the center holes from the bottom. Carefully tighten the nut with a wrench, using care not to dislodge the spacers. Tighten until solid contact is made between the spacers and steel disc.

Repeat procedure outlined above for fluoroelastomer seals using the second compression set fixture.

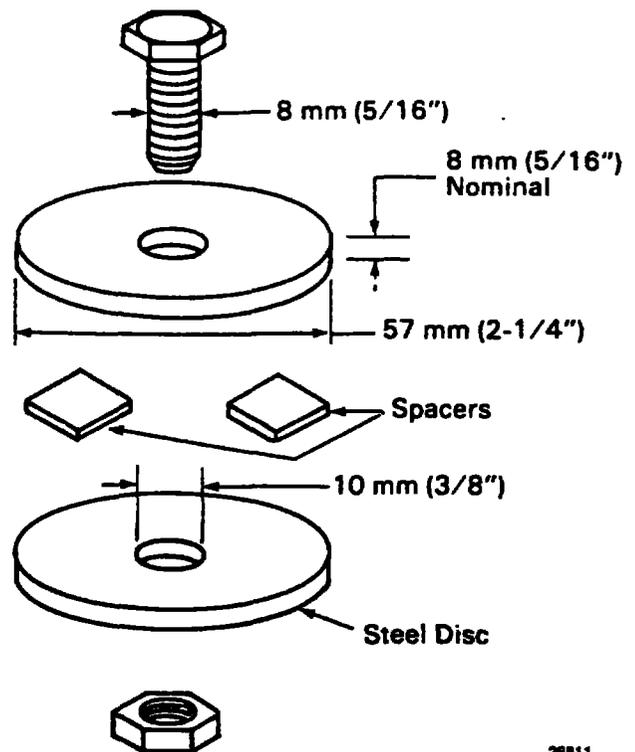


Red - 8305815

Black - 9317972

15788

Fig. 6 — Usage Reference For Test Sample Seals



28811

Fig. 7 — Compression Set Fixture And Spacers

2. Volume Change and Duro Hardness Change

NOTE

Measure the initial durometer hardness and initial weight in air and water of the two silicone seals and the two fluoroclastomer seals per ASTM D471.

Place the two compression set fixtures and all the seals measured for volume change into the glassware corrosion container which has been filled with 600 ml of the test solution and insert the rubber stopper and aerating tube, as outlined in D-1384. Place the container in the oil bath heated to 88°C (190°F). Adjust air supply at a rate of 100 ml/min. Insert condenser tube into the rubber stopper.

After 70 hours in the heated oil bath, remove the container from the bath. Immediately remove the compression fixtures and disassemble. Remove the seals from the fixture and allow to cool on a thermally non-conducting surface, such as wood, for 30 minutes before measuring thickness and determining the compression set per ASTM D395.

Allow the volume change samples to remain in the container (do not drain any coolant). Place container in a water bath and cool to 25°C (77°F). After 30 to 60 minutes, remove the samples from the container, blot the surface, and quickly weigh in air and then weigh in water. Measure durometer hardness. Determine volume change and hardness change per ASTM D471.

INTERPRETATION OF TEST RESULTS

If the changes in the elastomeric properties after the immersion tests exceed the limits listed below, the inhibitor or antifreeze-coolant is considered unsuitable for use in EMD cooling systems:

Volume change for —	Duro hardness change for —	Compression set for —
Fluoroelastomer } Silicone Rubber }	Fluoroelastomer } Silicone Rubber }	Fluoroelastomer } Silicone Rubber }
0 to + 10%	10 Points Max.	20% Max.

FIELD QUALIFICATION TESTS FOR CORROSION INHIBITORS AND ANTIFREEZE-COOLANTS

The glassware corrosion test should be recognized as a controlled laboratory test. It is possible that a coolant which appears satisfactory in glassware corrosion tests may fail in the field. The glassware corrosion test is conducted statically; the final evaluation of a coolant must be made in the field where the inhibitor will be subjected to the cooling system turbulence, heat, and flow rates.

Whenever possible, the recommended concentration of inhibitor or antifreeze-coolants should be tested in five new and five old engine cooling systems. The engines used in the qualification test should be in heavy duty service on the highest horsepower units available. New inlet water jumper lines and inlet deflectors should be installed on the right bank front and rear of the NEW engines tested in order to establish a valid baseline. The engines should be identified as test units. The first inspection of the cooling system components should be made three months after the initiation of the tests. This inspection should include the following:

1. Coolant Sample

Operate the engine for a minimum of 15 minutes before obtaining a representative coolant sample. Purge the sight glass to remove any accumulated sediment by draining a minimum of one quart of coolant. After sediment is purged from the glass, collect one quart in a clear, clean glass bottle. Allow the sample to settle for 24 hours; then inspect the bottom for sediment.

If sediment completely covers the bottom of the glass bottle, it may indicate that excessive corrosion or inhibitor depletion is occurring. Note the color of both the sediment and the coolant. (The density of the color dye in the coolant should be strong enough to indicate the presence of the inhibitor or antifreeze-coolant.) The inhibitor or antifreeze-coolant manufacturer should be contacted to analyze the coolant to determine whether there has been excessive depletion of the inhibitor ingredients.

2. Visual Inspection of Jumper Lines and Inlet Deflectors

Remove two water jumper lines and inlet deflectors from the right bank front and rear of engine. With a strong light, visually inspect the interior of the jumper lines for corrosion as indicated by well defined irregular spots or corrosion products 1 mm (1/32") or more in thickness. (Note that the removal of the solid corrosion products by pickling or abrasion will reveal pitting.)

Inspect both sides of the deflectors for signs of pitting which may indicate corrosion-erosion or impingement corrosion. Generally, the surface of the deflectors will have a tarnish coating. If the surfaces are clean and bright, this condition may indicate metal deterioration caused by inadequate inhibitor protection.

3. Visual Inspection of the Oil Cooler

Remove the most accessible oil cooler flexible coupling clamp plate from the oil ring and the water inlet pipe. With a strong light and telescoping mirror, inspect the interior of the oil cooler tubes. Clean bright metal or pitting are indications of corrosion. Also inspect the top of the tubes for erosion (wearing away of the metal).

4. Visual Inspection of the Water Pump

Remove and disassemble one of the water pumps. Inspect the carbon seal for excessive wear, and check the water pump impeller for bright shiny surfaces which may indicate corrosion.

INTERPRETATION OF FIELD QUALIFICATION TEST RESULTS

If there are no indications of corrosion problems after three months, the field test may be continued. However, the cooling system should be inspected at 3-month intervals in the same manner as described for the 3-month inspection.

After completion of the 12-month field tests, if the results are considered satisfactory by EMD, the corrosion inhibitor or antifreeze-coolant can be considered suitable for use in EMD engine cooling systems.

CLEANING EMD ENGINE COOLING SYSTEMS

Cooling systems on new EMD engines are protected from corrosion during testing and storage periods. Thus it is unnecessary, and it is not recommended, that the cooling system be cleaned prior to use.

Cooling systems which have been maintained with a quality inhibitor and water should not require cleaning. Field history has shown that EMD cooling systems are rarely cleaned.

Before cleaning a cooling system, symptoms of the cooling system problem should be identified. For example: excessive coolant and/or oil temperatures, excessive amount of rust and/or sediment in the coolant, or oil contamination of the coolant.

Excessive coolant and/or oil temperatures may be due to dirty radiator fins, fouled radiator coolant screens or plugged radiator tubes. Radiator fins and coolant screens should be cleaned as recommended in the EMD Maintenance Instructions. Plugged radiator tubes are difficult to clean by chemical treatment. It should be noted that chemical solutions that are capable of dissolving the debris may also, to some degree, attack the radiator metal. The only practical method of cleaning the radiator is to rod-out the tubes. The radiator should be pressure-tested to insure that the rodding operation did not damage the tubes.

Excessive oil temperature may be due to the oil cooler having dirty fins or tubes coated with water hardness salts. To remove carbonaceous deposits from the fin side, the cooler may be cleaned in a vapor degreaser or a water soluble cleaner. It should be noted that a strong alkaline cleaner shall not be used to clean the aluminum fins. *Strong alkaline cleaners will attack and/or dissolve aluminum.* The deposits in the tubes should be cleaned by mechanical rodding.

Excessive temperatures may also be attributed to hard water salts. The hardness salts of magnesium and calcium will coat the hot surfaces of the fire face side of the cylinder head. To a lesser extent, the hardness salts will coat the oil cooler tubes.

Generally, the only indication of excessive scale on the coolant side of the fire face is failure (cracking) of the cylinder head. To determine the severity of the scale coating, the failed cylinder head may be sectioned (cut) approximately one inch from the fire face (valve) seat side. Scale thickness greater than 1/64 inch (0.0156 inch) is considered detrimental to efficient heat transfer. If the other cylinder heads have been in the engine for a similar period of time as the failed head, it can be assumed that the scale thickness is also similar. The most efficient method, with the least damage to the engine, is to remove the cylinder head for cleaning. Cleaners based on inhibited sulfamic acid are recommended for removing water hardness scale. It is suggested that the acid be flushed thru the cylinder head. Flushing the head with acid will effect faster dissolution of the hardness scale.

Rust is an obvious sign of active corrosion in the cooling system. Generally the area most susceptible to corrosive attack are the coolant jumper lines. The coolant jumper lines should be inspected for pitting corrosion. Evidence of pitting corrosion indicates the jumper line has been weakened to some degree. Rather than cleaning the jumper lines, it is recommended that they be replaced. Rust may also plug the cylinder liner coolant ports. Past experience has shown that acid cleaners are not effective in dissolving rust in a blocked port. Further, the acid may damage the base metal. The only effective way of opening a blocked port is rodding.

Oil contamination of the coolant will adversely affect the heat transfer. Oil may be removed by flushing the cooling system with a mild automatic dishwashing detergent.

The cleaner concentrations must be decided on an individual basis. Generally the customer should contact the cleaner representative with information as to the type of scale to be removed. Cleaner concentration, time and temperature should be decided by the representative.

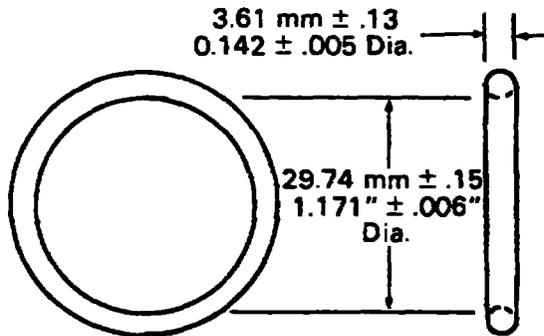
NOTE

Cleaning solutions containing hydrochloric acid (muriatic acid) shall not be used in EMD engine cooling systems.

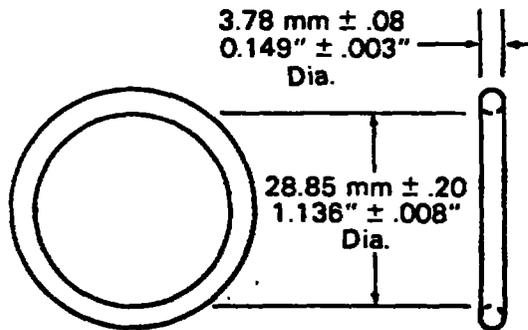
Questions concerning cleaning engine cooling systems should be directed to the EMD Service Department.

SERVICE DATA

Silicone Rubber Seals	8305815 and 8384772
Fluoroelastomer Seals	9317972



Silicone Rubber - 8305815
(Red Seal)



Fluoroelastomer - 9317972
(Black Seal)

27150

Fig. 8 — Dimensional Reference For Seal Applications

U.S. TO METRIC CONVERSIONS

1 to 3 fluid ounces per gallon	7.8 to 23.4 cubic centimeters per liter
0.4 fluid ounce per gallon	3 cubic centimeters per liter
1.0 fluid ounce per gallon	7.5 grams per liter
.75 ounce per gallon	5.6 grams per liter
2 to 4 fluid ounces per gallon	15.6 to 31.2 cubic centimeters per liter

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**Electro-Motive Division Of General Motors Corporation
La Grange, Illinois 60525 USA
Telex: 270041 McCook, Illinois USA
Cable: ELMO DIV LaGrange, Illinois USA
Telephone: 708-387-6000**

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**EXHIBIT F
SCHEDULE OF EQUIPMENT COVERED BY THE LEASE**

**MAKE: GENERAL MOTORS ELECTRO-MOTIVE DIVISION
MODEL: GP35**

ROAD NUMBER	FORMER ROAD NUMBER
CDAC 500	SSW 4200
CDAC 501	SP 6300
CDAC 502	SP 6302
CDAC 503	SP 6305
CDAC 504	SP 6314
CDAC 505	SP 6324
CDAC 506	SP 6325
CDAC 507	SP 6328
CDAC 508	SP 6329
CDAC 509	SP 6330
CDAC 510	SP 6331
CDAC 511	SP 6332
CDAC 512	SP 6335
CDAC 513	SP 6336
CDAC 514	SP 6337
CDAC 515	SP 6339
CDAC 516	SP 6341
CDAC 517	SP 6345
CDAC 518	SP 6350

