

Roadranger®



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Roadranger® Products

See page 8-9

Approved Lubricant Suppliers

TCMT0020

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General Information

Eaton Lubrication Philosophy

In promoting component reliability and longevity, proper lubrication is the key to a sound and effective maintenance program. Without effective lubricants at proper levels, remaining maintenance procedures will not keep components functional.

We believe synthetic lubricants have proven to be superior to petroleum products and represent opportunities to promote superior maintenance and bottom line operating performance while significantly extending component service life and reliability.

Standard Fill Lubricants

Transmission and Drive Axle lubricants must meet a number of lubricant industry requirements. Refer to the enclosed charts to select the proper lubricant.

Extended Drain Lubricants

Extended Drain Roadranger synthetic lubricants offer superior thermal and oxidative stability for extended product performance and reliability.

The superior performance characteristics of these lubricants enable Eaton and Dana to offer extended drain and extended warranties. Added benefits include a more efficient drivetrain that translates into proven fuel economy savings over mineral based lubricants.

Important: Using Extended Drain Roadranger synthetic lubricants is required to maintain Eaton and Dana extended warranties.

It is important to use the lubricants that meet the current specifications set by Eaton and Dana. Look for the appropriate approval code on the container.

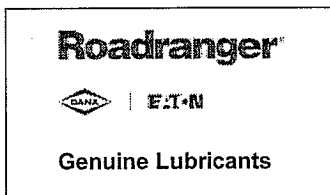
Transmission - Eaton Specification: PS-164 R7

Drive Axle - Dana Specification: SHAES-256 Rev C

Drive Axle - Dana Specification: SHAES 429 (Vocational)

Use of lubricants meeting these specifications will ensure the highest performing lubricants for maximum performance.

To identify Genuine Roadranger Lubricants - look for the Genuine Lubricants Label on the container to ensure you have Genuine Roadranger Lubricants.



Introduction to Manual

This Lubrication Manual, organized by product, provides easy access to the following lube information:

- Type of lubricant
- Change intervals
- Capacities
- General lubrication procedures
- Warnings and Cautions

Note: Refer to TCMT0021, Lubrication Manual, for service intervals and maintenance guidelines.

Line Haul - 500,000 Mile Extended Lube Drain Interval

The extended drain interval program applies to the Eaton/Dana transmissions and axles listed below that meet the following conditions:

- Heavy Duty and Medium Duty transmissions and axles
- Line haul service (On-highway)
 - Lubricant Approval Levels:
Transmission - PS 164 Rev 7
Drive Axle - SHAES 256 Rev C
- Factory filled with lubricants approved for 500,000 mile drain cycles (US/Canada) 250,000/400,000Km (Outside US/Canada)
- Refer to charts listed in this manual for transmission and axle drain intervals when using "Extended Drain Lubricants"
- A Roadranger approved lubricant must be used to keep the extended warranty in place. The extended drain program and any extended warranty program are separate programs.

Vocational - 180,000 Mile Extended Lube Drain Interval

This will outline the performance requirements of lubricants intended for use in vocational Eaton Transmissions and Dana Spicer® drive axles that are allowed the 180,000 mile or three (3) year extended drain interval. The approved lubricants may be factory installed at the truck manufacturer, or service filled up to 500 miles, and may remain in the trans-

mission and drive axles for the 180,000 mile or three (3) year drain interval (which ever comes first).

Lubricant approval levels:

- Transmission - PS 164 Rev 7
- Axle - SHAES 256 Rev C or SHAES 429

Note: For specific detail on Eaton extended warranty programs, refer to the Roadranger Warranty Guide, TCWY-0900, or call 1-800-826-HELP (4357).

Warnings and Cautions

⚠ WARNING

Before working on a vehicle, place transmission in neutral, set brakes, and block wheels.

Never mix engine oils and synthetic transmission oils in the same transmission. When switching between types of lubricants, all areas of each affected component must be thoroughly drained.

Do not introduce additives and friction modifiers.

Do not mix lubricants of different grades.

Do not mix mineral and synthetic lubricants.

Do not mix heavy-duty, multi-purpose lithium based (#2 grade) grease with Sodium based grease.

Vehicle Application Definitions

Line Haul (On-highway)

- High mileage operation (over 60,000 miles [96,500 Km] per year).
- On-highway or good to excellent concrete or asphalt.
- More than 30 miles [48 Km] between starting and stopping.
- 4x2, 6x2, 6x4 tractor/trailer combinations and straight tucks.
- Check fluid levels and inspect for leaks at regular PM maintenance intervals, not to exceed 12,000 miles

Vocational (Off-highway)

- Low mileage operation (under 60,000 miles [96,500 Km] per year).
- Off-highway or areas of unstable or loose unimproved road surfaces.
- Less than 30 miles [48 Km] between starting and stopping.
- Heavy-Duty, off-road or specialized application type vehicles.
- Check fluid levels and inspect for leaks every 50 hours.

Severe Service

- Consistent operation at or near maximum GCW or GVW ratings.
- Dirty or wet environments.
- Consistent operation on grades greater than 8%.

Approved Lubricants

The following is a list of lubricants approved by Eaton and Dana for use with the Roadranger® drivetrain components. These lubricants have passed the appropriate Performance Specification for the type of service and lubricant drain interval.

If the transmission and drive axles are factory filled with approved lubricants, any top off lubricant must also be an approved lubricant in order to keep the extended warranty (if applicable) and extended drain interval intact.

Approved Lubricant Specifications for Extended Drain Intervals

Transmission

LUBRICANT SPECIFICATION	DRAIN INTERVAL
PS-164 REV 7	500,000 Miles

Drive Axle

LUBRICANT SPECIFICATION	DRAIN INTERVAL
SHAES-256 Rev C	500,000 Miles
SHAES-429 (Vocational)	3 yr/ 180,000 miles

Lubrication Intervals

For additional information on Roadranger lubrication, see the Roadranger Products Lubrication Manual TCMT-0021.

**Approved Lubricants
PS 164 Rev 7 (Trans)
SHAES256 Rev C (Axle-Line Haul)
SHAES 429 (Axle - Vocational)**

**Approved Lubricants - United States
"Genuine Roadranger" Lubricants**

APPROVED LUBRICANTS - UNITED STATES "GENUINE ROADRANGER" LUBRICANTS		
SUPPLIER	PRODUCT	USE
Eaton Corporation Roadranger Synthetic Lubricants P.O. Box 4013 Kalamazoo, MI 49003-4013	Roadranger SAE 50 Roadranger EP 75W-90 Roadranger FE 75W-90 (Fuel Efficient) Roadranger EP 80W-140	Transmission Drive Axle Drive Axle Drive Axle (Vocational)
76 Lubricants Unocal Refining & Marketing Division 1920 East Deere Avenue Brea, CA 92621	Triton Synthetic Lube CD-50 Triton Synthetic Lube EP 75W-90 Triton Synthetic Lube EP 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Allied Oil & Supply Company P.O. Box 3687 Omaha, NE 68103	Allied Mag Synthetic 50 Allied Mag Synthetic EP 75W-90 Allied Mag Synthetic EP 80W-140	Transmission Drive Axle Drive Axle (Vocational)
American Refining Group 77 North Kendall Avenue Bradford, PA 16701	Roadranger SAE 50 Roadranger EP 75W-90 Roadranger EP 80W-140	Transmission Drive Axle Drive Axle (Vocational)
BP Lubricants USA, Inc. 1500 Valley Road Wayne, NJ 07470	Syn-Gear CD-50 Syn-Gear 75W-90 Syn-Gear 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Benz Oil 2724 West Hampton Milwaukee, WI 53209	Roadranger SAE 50 Roadranger EP 75W-90 Roadranger EP 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Chemtool Inc. P.O. Box 538 Crystal Lake, IL 60039-0538	Roadranger SAE 50 Roadranger EP 75W-90 Roadranger EP 80W-140	Transmission Drive Axle Drive Axle (Vocational)
CHS, Inc. 5500 Cenex Drive Inver Grove Heights, MN 55077	Maxtron MT SAE 50 Maxtron GL SAE 75W-90	Transmission Drive Axle
Cognis Corporation 5051 Estecreek Drive Cincinnati, OH 45232	Emgard SAE50 Synthetic Transmission Lube Emgard 75W-90 Synthetic Axle Lube Emgard FE 75W-90 Synthetic Axle Lube (Fuel Efficient) Emgard EP 80W-140 Synthetic Axle Lube	Transmission Drive Axle Drive Axle Drive Axle (Vocational)
Conoco, Inc. 600 North Dairy Ashford Road Houston, TX 77210-4784	Conoco Phillips Family Synthetic Transoil 50 Syncon HP Synthetic Gear Oil 75W-90 Syncon HP Synthetic Gear Oil 75W-140	Transmission Drive Axle Drive Axle (Vocational)

**Domestic Lubricant
Suppliers**

**Approved Lubricants
PS 164 Rev 7 (Trans)
SHAES256 Rev C (Axle - Line Haul)
SHAES 429 (Axle - Vocational)**

APPROVED LUBRICANTS - UNITED STATES "GENUINE ROADRANGER" LUBRICANTS		
SUPPLIER	PRODUCT	USE
Crane Carrier Co. 1919 North Sheridan Tulsa, OK 74115	Roadranger SAE 50 Roadranger EP 75W-90 Roadranger FE 75W-90 (Fuel Efficient) Roadranger EP 80W-140	Transmission Drive Axle Drive Axle Drive Axle (Vocational)
D. A. Lubricant Company Inc. 1340 West 29th Street Indianapolis, IN 46208	D-A SynSure Synthetic Lube SAE-50 D-A SynSure Synthetic Lube SAE 75W-90	Transmission Drive Axle
Daimler Truck N.A. 4747 N. Channel Avenue Portland, OR 97217-7699	Roadranger SAE 50 Roadranger EP 75W-90 Roadranger FE 75W-90 (Fuel Efficient) Roadranger EP 80W-140	Transmission Drive Axle Drive Axle Drive Axle (Vocational)
General Motors Service Parts 6200 Grand Point Drive Grand Blanc, MI 48439	Synthetic Manual Transmission Lubricant #12345724 Synthetic Axle Lubricant #12345841	Transmission Drive Axle
International Truck & Engine Corp. 5 Westbrook Corporate Center Westchester, IL 60154	Fleetrite Synthetic SAE 50 Transmission Oil Fleetrite Synthetic 75W-90 Gear Oil Fleetrite Synthetic 80W-140 Gear Oil	Transmission Drive Axle Drive Axle (Vocational)
IPAC 7027 Dublin Blvd., Suite 4 Dublin, CA 94568	Roadranger SAE 50 Roadranger EP 75W-90 Roadranger EP 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Kendall Refining Company 1801 Market Street Philadelphia, PA 19103	Conoco Phillips Kendall SHP Transoil 50 Kendall SHP Full Synthetic Gear Lube 75W-90 Kendall SHP Full Synthetic Gear Lube 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Paccar Parts 750 Houser Way North Renton, WA 98055	Kenworth SAE 50 Original Factory Fill Fluid Kenworth 75W-90 Original Factory Fill Fluid Kenworth FE 75W-90 (Fuel Efficient) Kenworth EP 80W-140	Transmission Drive Axle Drive Axle Drive Axle (Vocational)
Paccar Parts 750 Houser Way North Renton, WA 98055	Peterbilt SAE 50 Original Factory Fill Fluid Peterbilt 75W-90 Original Factory Fill Fluid Peterbilt FE 75W-90 (Fuel Efficient) Peterbilt EP 80W-140	Transmission Drive Axle Drive Axle Drive Axle (Vocational)
Pennzoil P.O. Box 4427 Houston, TX 77210	Pennzoil Long Life Transmission Fluid EW-50 Pennzoil Long Life Syn Gear EW 75W-90 (Fuel Efficient) Pennzoil Long Life EW 75W-90 Pennzoil Long Life EW 80W-140	Transmission Drive Axle Drive Axle Drive Axle (Vocational)
Phillips 66 Company Adams Building Room 795 Bartlesville, OK 74004	Transoil 50 (CD-50) Philguard (75W-90)	Transmission Drive Axle

**Approved Lubricants
PS 164 Rev 7 (Trans)
SHAES 256 Rev C (Axle-Line Haul)
SHAES 429 (Axle - Vocational)**

APPROVED LUBRICANTS - UNITED STATES "GENUINE ROADRANGER" LUBRICANTS		
SUPPLIER	PRODUCT	USE
Rosemead Oil Products 12402 Los Nietos Road Sante Fe Springs, CA 90670	Premium Express SAE 75W-90 Gear Oil	Transmission Drive Axle
Schaeffer Manufacturing Company 102 Barton Street St. Louis, MO 63104	Roadranger SAE 50 Roadranger EP 75W-90 Roadranger EP 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Sea Land 868 Corporate Way West Lake, OH 44145	Roadranger SAE 50 Roadranger EP 75W-90 Roadranger EP 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Shell Lubricants P.O. Box 4427 Houston, TX 77210	Shell SPIRAX® GSX SAE 50 Shell SPIRAX® ASX R 75W-90 (Fuel Efficient) Shell SPIRAX® EW 75W-90 Shell SPIRAX® EW 80W-140 Shell SPIRAX® ASX R 80W-140	Transmission Drive Axle Drive Axle Drive Axle (Vocational) Drive Axle (Vocational)
Texas Refinery Corporation 901 North Houston Street Fort Worth, TX 76106	Syntex 2000 Syntex 2700 SAE 75W-90	Transmission Drive Axle
Total Lubricants USA Southwest, LLC 400 Chisholm Place Suite 418 Plano, TX 75075	Transmission SYN SAE 50 Transmission SYN FE 75W-90 (Fuel Efficient) Transmission SYN NA 75W-90 Transmission SYN NA 80W-140	Transmission Drive Axle Drive Axle Drive Axle (Vocational)
Valvoline, Inc. A Subsidiary of Ashland Oil, Inc. 3499 Blazer Parkway Lexington, KY 40512	Valvoline HD Synthetic Trans Oil SAE 50 Valvoline HD Synthetic Gear Oil EP 75W-90 Valvoline HD Synthetic Gear Oil EP 80W-140	Transmission Drive Axle Drive Axle (Vocational)

**Domestic Lubricant
Suppliers**

Other Approved Lubricants - United States

Marketers of approved fluids meeting the Eaton and Dana Extended Drain Specifications:

OTHER APPROVED LUBRICANTS - UNITED STATES		
SUPPLIER	PRODUCT	USE
American AGIP 539 Marwood Road Cabot, PA 16023	Syntrans CD-50 Syngear EP 75W-90 AGIP Syngear EP 5/6	Transmission Drive Axle Drive Axle (Vocational)
Amsoil Amsoil Building Superior, WI 54880	Amsoil 260 SAE 50 Synthetic Transmission Fluid Amsoil 115 SAE 75W-90 Synthetic Gear Oil Amsoil 120 SAE 80W-140 Synthetic Gear Lube	Transmission Drive Axle Drive Axle (Vocational)

**Approved Lubricants
PS 164 Rev 7 (Trans)
SHAES256 Rev C (Axle-Line Haul)
SHAES 429 (Axle - Vocational)**

OTHER APPROVED LUBRICANTS - UNITED STATES		
SUPPLIER	PRODUCT	USE
Chevron Products Company 6001 Bollinger Canyon Road San Ramon, CA 94583-0729	Chevron Delo Synthetic Transmission Fluid SAE 50 Chevron Delo Synthetic Gear Lube 75W-90	Transmission Drive Axle
Chevron Products Company 6001 Bollinger Canyon Road San Ramon, CA 94583-0729	Texaco Syn-Star TL SAE 50 Texaco Syn-Star GL 75W-90	Transmission Drive Axle
Citgo Petroleum Corporation P.O. Box 3758 One Warren Place Tulsa, OK 74102	Citgo Synthetic Gear Lube CD 50 Citgo Synthetic Gear Lube 75W/90 Citgo Synthetic Gear Lube 80W-140	Transmission Drive Axle Drive Axle (Vocational)
David Weber Oil Co. 601 Industrial Road Calstadt, NJ 07072	Gibraltar Synthetic Gear Lube CD 50 Gibraltar Synthetic Gear Lube 75W-90 Gibraltar Synthetic Gear Lube 80W-140	Transmission Drive Axle Drive Axle (Vocational)
ExxonMobil Lubricants & Specialties 3225 Gallows Road Fairfax, VA 22037	Mobil Delvac Synthetic Transmission Fluid 50 Mobil Delvac Synthetic Gear Oil 75W-90 Mobil Delvac Synthetic Gear Oil 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Industrial Oils Unlimited P.O. Box 3066 Tulsa, OK 74101	Hi-Tek Synthetic SAE 50 Hi-Tek Synthetic SAE 75W-90 Hi-Tek Synthetic SAE 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Lubricants USA 400 Chisholm Place Plano, TX 75075	FINA Synpro Transmission Oil 50 FINA Synpro Gear Oil 75W-90 FINA Synpro Gear Oil 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Mack Truck Company 2100 Mack Boulevard Allentown, PA 18105	Bulldog Syn Trans Lube SAE 50 Bulldog Syn Gear Lube SAE 75W-90	Transmission Drive Axle
Mystik Lubricants Houston, TX	SX-7000 50 SX-7000 75W-90 SX-7000 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Northland Products Company P.O. Box 418 100 Rainbow Drive Waterloo, IA 50701	Northland Synergy Synthetic Trans Fluid 50W Northland Synergy Synthetic Gear Lube EP 70W-90 Northland Synergy Synthetic Gear Lube EP 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Royal MFG Company LP 516 South 25th West Avenue Tulsa, OK 74101	Monarch SynGear Plus SAE 50 Monarch SynGear Plus SAE 75W-90 Monarch SynGear Plus SAE 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Warren Oil Company, Inc. 434 Riverside Drive San Antonio, TX 78210	Autoguard Fleet Synthetic SAE 50 Autoguard Fleet Synthetic 75W-90 Autoguard Fleet Synthetic 80W-140	Transmission Drive Axle Drive Axle (Vocational)
Warren Oil Company, Inc. 434 Riverside Drive San Antonio, TX 78210	Lubriguard Fleet Synthetic SAE 50 Lubriguard Fleet Synthetic 75W-90 Lubriguard Fleet Synthetic 80W-140	Transmission Drive Axle Drive Axle (Vocational)

Approved Lubricants
PS 164 Rev 7 (Trans)
SHAES256 Rev C (Axle-Line Haul)
SHAES 429 (Axle - Vocational)

OTHER APPROVED LUBRICANTS - UNITED STATES		
SUPPLIER	PRODUCT	USE
Warren Oil Company, Inc. 434 Riverside Drive San Antonio, TX 78210	Service Pro Synthetic SAE 50. Service Pro Synthetic 75W-90 Service Pro Synthetic 80W-140	Transmission Drive Axle Drive Axle (Vocational)

Domestic Lubricant
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