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Title: Navistar Switching From Shell Rotella (Yellow) Coolant to Fleetrite NOAT (Red) Coolant

Applies To: 2010 Emission Level MaxxForce 11, 13, 15 and N13 Engines

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

8/28/2015 - Initial Article Release

DESCRIPTION

Navistar® is switching from Shell® Rotella Ultra ELC (aka “Yellow” coolant; Type IIIa Coolant) to Fleetrite® NOAT (pre-treated with radiator conditioner) Extended Life Coolant (commonly referred to as “Red"coolant; Type III Coolant) in 2010 Emission Level Maxxforce 11L,13L, 15L and N13 Engines. It is identical in composition and heat transfer characteristics to the Shell® Rotella ELC "Red" coolant.

SHELL ROTELLA ULTRA ELC
Shell® Rotella Ultra ELC (aka "Yellow coolant") offers adequate protection for Maxxforce 11L,13L, 15L and N13 engine components. Increased service life of 600,000 miles or 12,000 hours without the need for extender additive. Shell® Ultra ELC and Fleetrite® NOAT ELC are fully compatible with each other and can be used interchangeably for top offs. However, it is recommended that Ultra cooling systems are topped off with only Ultra (nitrite free) products to maintain the premium protection and extended life offered by this product. If more than 20% of FLEETRITE® NOAT "RED" ELC is added to the cooling system, see the next section on switching coolant type.

Fleetrite® NOAT ELC
Navistar has approved the use of Fleetrite® NOAT ELC in MaxxForce 2010 and later cooling systems after extensive testing and validation. It is designed for a service life of 600,000 miles or 6,000 hours (with one extender addition at 300,000 miles or 3000 hours). Heat transfer chanracteristics of the Fleetrite® NOAT ELC match the current Yellow coolant. Test results proved that Fleetrite® NOAT ELC provides the needed protection for engine and cooling system components.

FACTORY FILLED NEW ENGINES WITH FLEETRITE® NOAT "RED" ELC	SERVICING TRUCKS WITH SHELL® ROTELLA ULTRA (YELLOW) ELC	SERVICING TRUCKS WITH SHELL® ROTELLA RED ELC (RELC)
		• Designed to last for 600,000 miles (with only one extender addition at 300,000 miles or 6,000 hours)

• Designed to last for 600,000 miles (with only one extender addition at 300,000 miles or 6,000 hours) • Provides complete component protection • Decreases hard water scale deposits • Lessens silicate "green goo" • Improves heat transfer	• Shell Rotella Ultra ELC (aka Yellow coolant) offers adequate protection for MaxxForce® 11L, 13L, 15L AND N13 engine components • Increased service life of 600,000 miles or 12,000 hours without the need for extender additive	• Provides complete cooling system component protection • Decreases hard water scale deposits • Lessens silicate "green goo" • Improves heat transfer

FREEZE PROTECTION
Use a traditional refractometer to test the percentage of ethylene glycol by volume. This method is preferred with other ELC coolants as well. The freeze point should be maintaine between -15ºF and -62ºF.
The optimum freeze protection point is -34ºF. Optimum freeze protection is obtained by maintaining a 50/50 concentration of coolant and distilled water.

Servicing Existing Vehicles

Option 1: Navistar recommendation is to continue with FLEETRITE® NOAT "RED" ELC	Option 1: Navistar Recommends TOP-OFF COOLING SYSTEM BE DONE WITH FLEETRITE® NOAT RED ELC	Option 1: Navistar recommends switiching to FLEETRITE® NOAT "RED" ELC
FLEETRITE® NOAT "RED" ELC KEY MAINTENANCE POINTS: **PROPER top-off** • Proper top-off fluid must be used. Adding more than 15% of nonequivalent technology coolants or water is not recommended. Excessive coolant loss should be investigated and corrected. • Use of 50/50 pre-diluted FLEETRITE® NOAT "RED" ELC is the best way to maintain cooling system inhibitor level. • If FLEETRITE® NOAT "RED" ELC is not available,	**PROCEDURE TO CHANGE FROM SHELL® ULTRA TO FLEETRITE® NOAT "RED" ELC**: If switching to FLEETRITE® NOAT "RED" ELC in a factory-filled Ultra cooling system (where more than 20% of an ELC with nitrite is used), follow these guidelines: 1. Verify current coolant quality: • Perform a visual check: Coolant should be yellow or golden color (100% Ultra); reddish/orange if already topped off with FLEETRITE® NOAT "RED" ELC (or similar product) and have no cloudiness, floating debris or oil visible. • Check coolant freeze protection and add FLEETRITE® NOAT "RED" ELC or water to adjust to proper coolant concentration. 2. Add radiator conditioner • Add Phosphate conditioner to the radiator p/n FLTRC1L (1L bottle) then top off with Fleetrite® Coolant p/n FLTRELC5050G. See IK0900032 for more information on the Phosphate conditioner. • System is now ready to be topped off (above the 20 contamination limit) and maintained as an ELC system with nitrites (NOAT). 3. Install Surge Tank Decal • Install decal p/n 3528274C3 in place of the current Ultra ELC Surge Tank Decal.	**FLEETRITE® NOAT "RED" ELC KEY MAINTENANCE POINTS:** **PROPER top-off** • Proper top-off fluid must be used. Adding more than 15% of nonequivalent technology coolants or water is not recommended. Excessive coolant loss should be investigated and corrected. Use of 50/50 pre-diluted FLEETRITE® NOAT "RED" ELC is the best way to maintain your cooling system inhibitor level. • If FLEETRITE® NOAT "RED" ELC is not available, equivalent technology coolants can be used in any quantity (this does not count against the 15% non-equivalent contamination). • If FLEETRITE® NOAT "RED" ELC equivalent coolants are unavailable, distilled water can be used for top offs. Coolant concentration evaluation should be made ASAP. **TESTING** Testing of FLEETRITE® NOAT "RED" ELC is not necessary. The use of nitrite or nitrite/ molybdate test strips to evaluate FLEETRITE® NOAT "RED" ELC is not recommended, as they will not provide accurate information concerning the inhibitors used in FLEETRITE® NOAT "RED" ELC. Coolant color can be used as an initial indicator of coolant condition. Coolant should be a clear reddish/orange with no cloudiness, floating debris or oil visible. Contamination of FLEETRITE® NOAT "RED" ELC with similar-colored products will not be obvious. To determine if non-equivalent coolants have been

equivalent technology coolants can be used in any quantity (this does not count against the 15% non-equivalent contamination).
• If FLEETRITE® NOAT "RED" ELC equivalent coolants are unavailable, water can be used for top offs. Coolant concentration evalution should be made ASAP.

TESTING

Testing of FLEETRITE® NOAT "RED" ELC is not necessary. The use of nitrite or nitrite/ molybdate test strips to evaluate FLEETRITE® NOAT "RED" ELC is not recommended, as they will not provide accurate information concerning the inhibitors used in FLEETRITE® NOAT "RED" ELC.
Coolant color can be used as an initial indicator of coolant condition. Coolant should be a clear reddish/orange with no cloudiness, floating debris or oil visible.
Contamination of FLEETRITE® NOAT "RED" ELC with similar-colored products will not be obvious.
To determine if non-equivalent coolants have been added to FLEETRITE® NOAT "RED" ELC, or if concerns of over-contamination with nonequivalent technology coolants is present, use the following test method:
•Fleetrite Coolant Test Strips p/n FLTELCTS

NOTE: DO NOT ADD SCAs to

added to FLEETRITE® NOAT "RED" ELC, or if concerns of over-contamination with nonequivalent technology coolants is present, use the following test method:
•Fleetrite Coolant Test Strips p/n FLTELCTS

NOTE: DO NOT ADD SCAs to FLEETRITE® NOAT "RED" ELC. Doing so will increase the maintenance cost but not enhance coolant performance.

FLEETRITE® NOAT "RED" ELC. Doing so will increase the maintenance cost but not enhance coolant performance.		
	Option 2: Continue with Ultra (Yellow) ELC • No need for any additional treatments except when replacing radiators. • When replacing radiator, add coolant conditioner.	**Option 2: Continue with Shell Rotella RED ELC** **RELC KEY MAINTENANCE POINTS:** **PROPER top- off** • Proper top-off fluid must be used. Adding more than 15% of nonequivalent technology coolants or water is not recommended. Excessive coolant loss should be investigated and corrected. Use of 50/50 pre-diluted RELC is the best way to maintain cooling system inhibitor level. • If RELC is not available, equivalent technology coolants can be used in any quantity (this does not count against the 15% non-equivalent contamination). • If RELC equivalent coolants are unavailable, water can be used for top offs. Coolant concentration evaluation should be made ASAP. **TESTING** Testing of RELC is not necessary. The use of nitrite or nitrite/ molybdate test strips to evaluate RELC is not recommended, as they will not provide accurate information concerning the inhibitors used in RELC. Coolant color can be used as an initial indicator of coolant condition. Coolant should be a clear reddish/orange with no cloudiness, floating debris or oil visible. Contamination of RELC with similar-colored products will not be obvious. To determine if non-equivalent coolants have been added to RELC, or if concerns of over-contamination with nonequivalent technology coolants is present, use the following test method: •Fleetrite Coolant Test Strips p/n FLTELCTS NOTE: DO NOT ADD SCAs to RELC. Doing so will increase the maintenance cost but not enhance coolant performance.

NOTE: Phosphate conditioner is required whenever the High Temperature Radiator (HTR) and/or Low Temperature Radiator (LTR) are replaced on any applicable chassis. The conditioner coats the internal components for improved cooling characteristics and corrosion resistance. See IK0900032 for more details.

SPECIAL TOOL(s) / SOFTWARE

Tool Description	Tool Number	Comments
Fleetrite Coolant Test Strips	FLTELCTS	

SERVICE PARTS INFORMATION

Kit Description	Part Number	Concentration	Notes
FLEETRITE RELC CONC GAL	FLTRELCCG	Concentrate	Fleetrite Red Extended Life Coolant Concentrate Gallon
FLEETRITE RELC CONC DRUM	FLTRELCCD	Concentrate	Fleetrite Red Extended Life Coolant Concentrate Drum
FLEETRITE RELC 5050 GAL	FLTRELC5050G	50-50	Fleetrite Red Extended Life Coolant 50-50 Gallon
FLEETRITE RELC 5050 DRUM	FLTRELC5050D	50-50	Fleetrite Red Extended Life Coolant 50-50 Drum
FLEETRITE UELC CONC GAL	FLTUELCCG	Concentrate	Fleetrite Nitrite Free Red Extended Life Coolant Concentrate Gallon
FLEETRITE UELC CONC DRUM	FLTUELCCD	Concentrate	Fleetrite Nitrite Free Red Extended Life Coolant Concentrate Drum
FLEETRITE UELC 5050 GAL	FLTUELC5050G	50-50	Fleetrite Nitrite Free Red Extended Life Coolant 50- 50 Gallon
FLEETRITE UELC 5050 DRUM	FLTUELC5050D	50-50	Fleetrite Nitrite Free Red Extended Life Coolant 50- 50 Drum
FLEETRITE RADIATOR CONDITIONER	FLTRC1L	N/A	Radiator Phosphate Conditioner

DIAGNOSTIC STEP(s)

Not applicable.

REPAIR STEP(s)

Not applicable.

WARRANTY INFORMATION

Conversion of Cooling Systems from OAT to NOAT will not be considered a warrantable item.

OTHER RESOURCES

Master Service Information Site

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