



"Maintaining Oil and Equipment Through Science"

Coolant Analysis Report

North America: +1-877-971-7799

0	1	2	3	4
NORMAL		ABNORMAL		CRITICAL

Overall report severity based on comments.

Account Information			Component Information			Sample Information		
Account Number: Company Name: Contact: Address: Phone Number:			Component ID: 1FTNW21F33EA23489 EC Secondary ID: 2003 F250 FRONT Component Type: COOLANT - CONVENTIONAL EG Manufacturer: FORD Model: F250 Application: AUTOMOTIVE System Capacity:			Tracking Number: 20050K46057 Lab Number: I-146243 Lab Location: Indianapolis Data Analyst: JAS Sampled: 26-Feb-2020 Received: 06-Mar-2020 Resolved: 06-Mar-2020 Completed: 11-Mar-2020		
			Miscellaneous Information			Product Information		
						Product Manufacturer: Information Requested Product Name: Information Requested		

Comments Suggest flushing this system with water that meets specifications and install new recommended coolant; Copper is at a SEVERE level, copper can attack the other metals in the cooling system; Copper sources may be corrosion or erosion of the radiator (tubes, top tank, side-plates), heat exchanger, oil cooler, charge air cooler, thermostat, and/or residual from a previous issue. The nitrite level is low which may be due to precipitation from over treatment with inhibitor, an air leak, over extending service, or mixing coolant formulations. The pH level is moderately low and below specifications. This may indicate inadequate buffers, an air leak, combustion gas leak, localized overheating, mixing coolant formulations, or over extending coolant use. Aluminum corrosion is at a MODERATE level; Aluminum sources may be corrosion or erosion of the radiator, heat exchanger, oil cooler, charge air cooler, thermostat, and/or residual from a previous issue. Please provide missing COOLANT MANUFACTURER and PRODUCT NAME; Resample in 60 days;

	Sample Information							Corrosion Metals (ppm)							Contaminants (ppm)		Corrosion Inhibitors (ppm)				Carrier Salts (ppm/10)		
Sample#	DateSampled	DateReceived	Coolant Time	UnitTime	CoolantChange	SCA Added	FilterChange	Iron	Aluminum	Copper	Lead	Tin	Silver	Zinc	Titanium	Calcium	Magnesium	Silicon	Phosphates	Boron	Molybdenum	Sodium	Potassium
1	26-Feb-2020	06-Mar-2020	mi	mi	Unk	gal	Unk	4	10	23	0	0	0	0		6	4	9	46	816	6	397	120

Visual Testing							
#	Foam	Color	Oil	Fuel	Magnetic Precipitate	Non-Magnetic Precipitation	Odor
1	None	Clear Dark Yellow	None	None	None	None	None

Basic Testing								
#	Freeze Point (°F)	Boil Point (°F)	Antifreeze Percent (%)	pH Waters (pH)	Total Hardness (ppm)	Nitrite (ppm)	Specific Conductance (µS)	Carboxylic Acid (Pass / Fail)
1	-56	228	58	7.3	29	<5 - Strip	3870	0.0

Additional Testing	
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Sample#	Total Dissolved Solids ppm
1	2050

Comments are advisory only and are based on the assumption that the sample and data submitted are valid. Missing fluid or component information limits the evaluation. No warranty is expressed or implied. Measurement uncertainty available upon request.

Historical Comments



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Lubricant Analysis Report

North America: +1-877-971-7799

0	1	2	3	4
NORMAL		ABNORMAL	CRITICAL	

Overall report severity based on comments.

Account Information			Component Information			Sample Information		
Account Number: Company Name: Contact: Address: Phone Number:			Component ID: 1FTNW21F33EA23489 TF Secondary ID: 2003 F250 FRONT Component Type: AUTO/POWERSHIFT TRANSMISSION Manufacturer: FORD Model: F250 Application: AUTOMOTIVE Sump Capacity:			Tracking Number: 20050J46054 Lab Number: I-143186 Lab Location: Indianapolis Data Analyst: SAT Sampled: 26-Feb-2020 Received: 06-Mar-2020 Completed: 09-Mar-2020		
Filter Information			Miscellaneous Information			Product Information		
Filter Type: Information Requested Micron Rating: 0						Product Manufacturer: Information Requested Product Name: Information Requested Viscosity Grade: Information Requested		

Comments

Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Viscosity is MODERATELY LOW. Causes include contamination, incorrectly identified viscosity grade, or adding a different viscosity grade to the component. Acid Number is SLIGHTLY HIGH, which may be due to oxidation, contamination with an acidic product, extended drain interval, or lubricant mixing. Please provide missing lubricant information. Manufacturer, product name, and viscosity grade are needed to properly evaluate lubricant properties. LUBRICANT TIME was not provided for this sample.

Sample#	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)						Additive Metals (ppm)				
	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	29	0	1	6	23	3	2	0	0	0	6	6	0	0	0	0	0	0	42	0	128	0	194	15

Sample Information								Contaminants			Fluid Properties					
Sample#	DateSampled	DateReceived	LubeTime	UnitTime	LubeChange	Lube Added	FilterChange	Fuel Dilution	Soot	Water	Viscosity 40	Viscosity 100	Acid Number	BaseNo. D4739	Oxidation	Nitration
			mi	mi		gal		% Vol	% Vol	% Vol	cSt	cSt	mg KOH/g	mg KOH/g	abs/cm	abs/0.1 mm
1	26-Feb-2020	06-Mar-2020	0	203330	Unk	0	Unk			<.1 - FTIR		5.3	0.84		19	4

Particle Count (particles/mL)										Additional Testing					
Sample#	ISO Code Based On 4/6/14	> 4 µm	> 6 µm	> 10 µm	> 14 µm	> 21 µm	> 38 µm	> 70 µm	> 100 µm	Test Method					
1	//														

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Historical Comments



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Overall report severity based on comments.

Account Information	Component Information	Sample Information
Account Number: Company Name: Contact: Address: Phone Number:	Component ID: 1FTNW21F33EA23489 EO Secondary ID: F250 2003 FRONT Component Type: DIESEL ENGINE Manufacturer: FORD Model: F250 Application: AUTOMOTIVE Sump Capacity:	Tracking Number: 20050J46055 Lab Number: I-143168 Lab Location: Indianapolis Data Analyst: RMF Sampled: 26-Feb-2020 Received: 06-Mar-2020 Completed: 09-Mar-2020
Filter Information	Miscellaneous Information	Product Information
Filter Type: Information Requested Rating: 0		Product Manufacturer: SHELL Product Name: ROTELLA T Viscosity Grade: SAE 15W40

Comments Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Flagged additive levels are different than what should be present for the identified lubricant. This may have been topped off with a different lubricant, the fluid may be misidentified, or a different lubricant or formulation may have been in use prior to a recent change. Continue to use fluid for 3,000 miles (5,000km) and resample at that time;

	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)						Additive Metals (ppm)				
Sample#	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	25	1	1	2	1	2	0	0	0	0	8	4	6	0	14	0	0	0	138	192	2123	0	1075	1245

	Sample Information							Contaminants			Fluid Properties					
Sample#	DateSampled	DateReceived	LubeTime	UnitTime	LubeChange	Lube Added	FilterChange	Fuel Dilution	Soot	Water	Viscosity 40	Viscosity 100	Acid Number	BaseNo. D4739	Oxidation	Nitration
			mi	mi		gal		% Vol	% Vol	% Vol	cSt	cSt	mg KOH/g	mg KOH/g	abs/cm	abs/0.1 mm
1	26-Feb-2020	06-Mar-2020	4230	203330	Unk	0	Unk	<1 - Estimate	<.1	<.1 - FTIR		13.8		6.93	13	7

	Particle Count (particles/mL)										Additional Testing					
Sample#	ISO Code Based On 4/6/14	> 4 µm	> 6 µm	> 10 µm	> 14 µm	> 21 µm	> 38 µm	> 70 µm	> 100 µm	Test Method						
1	//															

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Historical Comments