

RV Maintenance and Operation

ISL Electronic Diesel



Quick Reference Guide

Cooling

Routine Maintenance Recommendations

The ISL was designed to utilize supplemental coolant additive (SCA) and heavy-duty coolant. Check SCA concentration annually or when make-up coolant is added to the system.

Coolant level should be checked routinely. A good practice is to be observant of liquids that may have leaked on the ground while the motorhome is stopped.

Check coolant concentration annually or whenever coolant is added to the system. A refractometer such as a Fleetguard #C2806 is recommended to test coolant concentration versus a floating ball device due to accuracy.

Definition of Heavy-Duty Coolant

A combination of 50/50 water and low silicate antifreeze (ethylene glycol or propylene glycol are acceptable) protects to -34°F. Freeze protection decreases above 68% antifreeze. In addition to freeze protection, antifreeze is essential for overheat and corrosion protection.

Antifreeze must meet ASTM D4985 (GM6038M) specs.

Water Quality Requirements

Calcium/Magnesium Chloride	Max. 170 ppm as CaCO ₃ +MgCO ₃
Sulfur	Max. 40 ppm as Cl
	Max. 100 ppm as SO ₄

A conservative approach to cooling system maintenance would include an analysis of your home-base tap water supply. Your Cummins distributor can provide this service as well as sample bottles and other coolant test devices. Consider using pre-formulated antifreeze when on the road or when water quality is unknown. The use of distilled water is also acceptable.

Fully Formulated Coolant

Fully formulated coolant, such as Fleetguard Compleat, is recommended by Cummins and offers a vehicle owner the convenience of a pre-mixed antifreeze solution containing high quality water and antifreeze.

Ether

Ether MUST NOT be used for ISL engines. The ISL comes equipped from the factory with an integrated grid heater for cold starting.

Information

Cummins	1-800-DIESELS (1-800-343-7357)
Cummins Website	everytime.cummins.com

Consult Owners Manual or a Cummins Distributor for additional details.

Lubricating Oil

Routine Maintenance Recommendations

A good general practice is to check oil level as part of the daily pre-trip procedure.

Oil Drain Interval

High-Pressure Common Rail Fuel System: 20,000 mile or 1 year, whichever comes first

CAP Fuel System: 18,000 mile or 1 year, whichever comes first

Lube Oil Filter	Fleetguard	Cummins
ISL (all models)	LF9009	3401544

Lube Oil Specifications

The primary Cummins recommendation is to use SAE 15W-40 oil for normal operation at ambient temperatures above 5 °F (-15 °C). Consult the Owners Manual or a Cummins Distributor for recommendations concerning colder operating temperatures.

ISL CM2150 ... Use high quality SAE 15W-40 heavy duty oil which meets or exceeds CES 20081 (API CJ-4/SL). Note an oil may meet API CJ-4/SL and not Cummins Engineering Standard (CES) 20081. CES 20081 represents a low ash oil that will maximize the efficiency of the Cummins Particulate Filter (CPF) and extend the CPF service interval. A non-low ash oil meeting CES 20078 (CI-4/SK) can be used with no change to the oil change interval, but will reduce the service interval of the CPF.

High-Pressure Common Rail Fuel System (Pre ISL CM2150) ... Use high quality SAE 15W-40 heavy duty oil which meets or exceeds CES 20078 (API CI-4/SK).

ISL CAP Fuel System ... Use high quality SAE 15W-40 heavy duty oil which meets or exceeds CH-4/CI-4 oil.

Synthetic Oils

Use of synthetic engine oil made with API group 3 or 4 base stocks is permitted subject to the same performance and viscosity limitations of petroleum (mineral) based engine oils. The same oil change intervals as petroleum based engine oil must be applied.

Supplemental Oil Additives

Cummins does not recommend the use of aftermarket oil additives. Current high quality engine oils are very sophisticated, with precise amounts of additives blended into the lubricating oil to meet stringent requirements. Aftermarket oil additives are not necessary to enhance engine oil performance and in some cases can reduce the engine oil's capability to protect the engine.

Oil Analysis

Oil analysis, as a method to extend drain intervals, is NOT recommended. Different methods of measuring soot, lack of correlation among testing labs, and differing driving patterns and idle time are the basis of right recommendation.

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Fuel

Routine Maintenance Recommendations

Fuel filter should be changed at EVERY oil change.
Part numbers for:

Fuel Filter Part Number	Fleetguard	Cummins
ISL CM2150 (EPA'07)		
- Primary filter (pressure side)	FF 5636	4940647
- Secondary (suction side)	FF 1065*	4934879*
Common Rail Fuel System Pre EPA'07		
- Primary filter (pressure side)	FF 5488	
- Secondary (suction side)	FF 1003*	
CAPS Fuel System	FS 1022*	

*Denotes to transfer water sensor/drain to new filter.

Some RV manufacturers may install a fuel filter on the vehicle before the engine. Please follow the RV/vehicle manufacturer's recommended filter change interval.

Fuel filters with water drains should be routinely opened to remove captured water. A good general practice is to make the water check part of the daily pre-trip procedure. This is also a good practice even when the filter is equipped with a Water-in-Fuel sensor.

Ultra Low Sulfur Diesel (ULSD) Fuel (ISL CM2150)

ULSD is required for an engine equipped with the Cummins Diesel Particulate Filter (CPF). If ULSD is not used, the engine might not meet emissions regulations and the CPF could be damaged.

Fuel Additives

Fuel lubricity additives are NOT required when using commercially available #2, #1, or #1/2 winter blend diesel fuels. A biocide or fungicide can be used when fuels are prone to contamination with bacteria or fungus (black slime). Fuel additive products should be accompanied with performance data supporting its performance and benefits. Engine failures caused by incorrect fuel are NOT covered under warranty. It is not the policy of Cummins to test, approve, or endorse any product not manufactured or sold by Cummins Inc.

Extended Shutdown Start Procedure

When starting an engine that has not been operated for more than 30 days:

1. If oil pressure does NOT register during cranking or within 15 seconds after engine starts, consult the Owners Manual or a Cummins Distributor.
2. Operate engine under light load (light throttle) until engine coolant temperature reaches approximately 150 degrees.

Component Maintenance

The following components require periodic maintenance / inspection. Please refer to the appropriate vehicle / engine manual for details.

Valve Adjustment Interval

No adjustment required. Check at 150,000 miles.

Air Filter and Intake System

Consult chassis manufacturer's information for maintenance procedures. Visually inspect intake air components at each oil change for cracks or loose connections. Routinely inspect Filter Minder/vacuum hose to ensure functioning properly.

Crankcase Breather (ISL CM2150)

Replace every 80,000 miles or 2 years.

Cummins Part Number	4939749
Fleetguard Part Number	CV5060300

Cummins Particulate Filter (ISL CM2150)

CJ-4 oil:	200,000 – 400,000
CI-4 oil:	150,000 – 350,000

Vibration Damper

Inspection required at 80,000 mi. / 2 yrs. which includes visual inspection for deformation.

Fan Idler Pulley, Hub and Belt Tension

Inspection required at 40,000 mi. / 1 yr. which includes visual inspection of all components.

Additional details can be found in the 'Maintenance Guidelines' section of the engine's Owner's Manual.

Idle / Warm-up / Cooldown

Fast Idle

ISL engines with the Common Rail Fuel System may automatically increase engine speed under cold ambient conditions to decrease time for engine warm up.

Engine Warm-up

Idling the engine for warm-up is not necessary. When oil pressure is indicated, put motorhome in motion. Operate with a light throttle and limited RPM until coolant temperature reaches approximately 150°F.

Engine Cooldown

Under normal driving conditions, such as exiting the highway or parking, cool-down is not required. If operating under extended high power (full throttle/high boost) conditions immediately prior to shut-down, the engine should be idled for 3-5 minutes.



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