

September Edition of Natural Gas Engine Tech Talk

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Topic of the Month: How to Avoid Excessive Oil Consumption

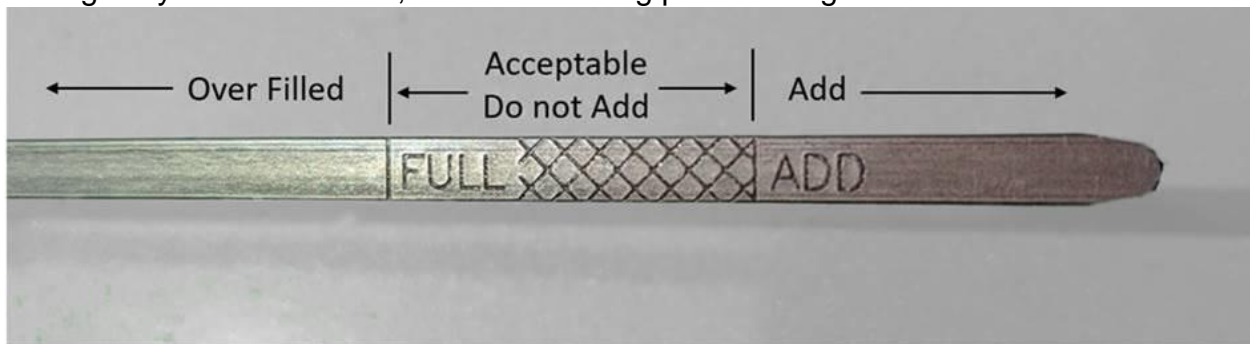
For an accurate measurement of engine oil level, the engine should be shut down for at least 15-30 minutes to allow oil drain back to the sump.

Daily Oil Level Check and Top off recommended best practices.

The Cummins Operation and Maintenance manuals recommend checking the engine oil level daily. To accurately check the level, below are some tips:

- Be sure the vehicle is parked on level ground.
- Allow 15+ minutes for the oil to drain back to the oil pan before checking the level. In testing we have seen it take 20-30 minutes for the oil level to stabilize in the pan. The oil level measurement can be off by up to 1 gallon if adequate time is not given.
- The dipstick needs to be fully inserted and locked prior to reading to accurately gauge the oil level.
- Only add oil if the level is below the ADD line.
- Overfilling can cause oil consumption.
- As long as the oil level is between the FULL and ADD marks, oil should not be added.

During daily oil level checks, use the following photo as a guide.



How to Avoid the Most Common Mistakes Fleets Make on Maintenance

1. Establishing Maintenance Intervals

- a. Intervals should be hours of operation, not miles
 - Calculate based upon your fleet's actual average speed (including idle time)

- Engine hours are best obtained through Insite (no calculation needed)
 - **Example:** (500hr interval) X (Ave MPH from Insite) = miles driven in 500 hrs.
- b. Only use **CES 20092** oil for best additive package
- c. Do all required maintenance **on time** (see Cummins recommended maintenance schedule below)
- Extended or missed oil drain intervals will lead to engine damage
 - Oxidized or depleted engine oil appears to be clean - oxidation is not visible to the naked eye.
- d. Change spark plug before you experience engine skipping (Refer to May's Edition of Tech Talk for more details):
- Prevents unburnt fuel from reaching the catalyst
 - Prevents Check Engine Lights on the dash
 - Use Cummins Genuine Parts

Resources:

Minimum methane number requirement for Cummins Natural Gas Engines:

C Gas Plus, B Gas Plus, and L Gas Plus	65
ISL G, ISX12 G, ISB6.7 G, and all 2018 engines	75

Fuel Quality Calculator:

<https://www.cumminswestport.com/fuel-quality-calculator>

Recommended Maximum GVW for Best Performance & Efficiency:

B6.7N	33,000lbs
L9N	66,000lbs
ISX12N	80,000lbs

ISB6.7 G & B6.7N Maintenance Intervals	
	Hours
Oil & Filter* - CES 20085	500
Oil & Filter* - CES 20092	750
Spark Plugs	750
Fuel Filter	1,000
Valve Adjustment	1,500
Crankcase Breather	2,000
Ignition Coil Extension	5,000

ISL G & L9N Maintenance Intervals	
	Hours
Oil & Filter* - CES 20085	500
Coolant Filter	500
Oil & Filter* - CES 20092	1,000
Fuel Filter	1,000
Valve Adjustment	1,000
Spark Plugs	1,500
Crankcase Breather Filter - L9N	2,000
Standard Coolant	2,000
Ignition Coil Extension	10,000

ISX12 G & ISX12 N Maintenance Intervals	
	Hours
Oil & Filter* - CES 20085	500
Oil & Filter* - CES 20092	1,000
Spark Plugs	1,000
Coolant Filter	1,500
Standard Coolant	6,000
Valve Adjustment	1,000 / 3,000
Ignition Coil Extension	10,000
Crankcase Breather Filter - ISX12N	10,000

*Per Cummins QSOL

ISB6.7 G & B6.7N Maintenance Part Numbers		
Component	Cummins Part #	Fleetguard Part #
Oil Filter	3937736	LF3970
Fuel Filter	3607140	NG5900
Crankcase Filter	5288839	x
Spark Plug Kit**	4376564	x
Ignition Coil Extension	5402163	x

**Kit includes spark plug and pregreased boot

ISL G & L9N Maintenance Part Numbers		
Component	Cummins Part #	Fleetguard Part #
Oil Filter	3401544	LF9009
Fuel Filter	3607140	NG5900
Crankcase Filter*	5288839	x
Spark Plug Kit**	5473009	x
Ignition Coil Extension	5265337	x

*If equipped

**Kit includes spark plug and pregreased boot

ISX12 G & ISX12 N Maintenance Part Numbers		
Component	Cummins Part #	Fleetguard Part #
Oil Filter	4367100	LF14000NN
Fuel Filter*	3607140	NG5900
Crankcase Filter*	4389517	CV53009
Spark Plug Kit**	4309391	x
Ignition Coil Extension	4387015	x

*If equipped

**Kit includes spark plug and pregreased boot

CES 20092 Oil Provider Recommendations

Company Name	Product Name	Vis Grade
Valvoline	Premium Blue 9200 - One Solution 10W-30	10W-30
Valvoline	Premium Blue 9200 - One Solution 15W-40	15W-40

Alternatives

Company Name	Product Name	Vis Grade
Association of Independent Oil Distributors	Purus TFO Synthetic Blend CK-4/SN	15W-40
Association of Independent Oil Distributors	Purus TFO Synthetic Blend CK-4/SN	10W-30
Castrol Ltd.	Castrol Duratec ES 15W-40	15W-40
Castrol Ltd.	Castrol Vecton Long Drain NG 15W-40	15W-40
CITGO Petroleum Corporation	Citgard® CNG/LNG Engine Oil 10W-30	10W-30
CITGO Petroleum Corporation	Citgard® CNG/LNG Engine Oil 15W-40	15W-40
Petro-Canada Lubricants Inc	Duron GEO LD 10W-30	10W-30
Petro-Canada Lubricants Inc	Duron GEO LD 15W-40	15W-40
SINOPEC LUBRICANT CO. LTD.	Sinopec Tulux G600 CNG/LNG/LPG 15W-40	15W-40
TongYi Petroleum Chemical Co.	TongYi Long Range Gas Engine Oil LPG/CNG	10W-30
TongYi Petroleum Chemical Co.	TongYi Long Range Gas Engine Oil LPG/CNG	15W-40
TongYi Petroleum Chemical Co.	TongYi Long Range Gas Engine Oil LPG/CNG/LNG 15W-40	15W-40
TOTAL LUBRIFIANTS	Total Rubia Gas 9M 15W-40	15W-40
TOTAL LUBRIFIANTS	Total Rubia Gas 9M FE 10W-30	10W-30