



RV Recommendations

3116/3126/3126B/3126E/C7

OPERATION GUIDELINES

Engine Starting

1. Perform daily maintenance before starting the engine.
2. Set parking brake.
3. Turn the ignition switch (key) to the ON position. Wait for the inlet air heater lamp to go off.
4. Turn key to START position.
5. Release key when engine starts.
6. Wait for oil pressure gauge to indicate "normal." Oil pressure should rise within 15 seconds after engine starts.
7. Drive moderately under light load until engine reaches operating temperature.

Note: If engine does not start after 15 to 20 seconds of cranking, refer to section *Starting the Engine* in the Operation & Maintenance (O & M) manual. Do not keep starter motor engaged for more than 30 seconds at a time.

Normal Operating Conditions

Gauge	Range
Coolant Temperature	180° F – 215° F
Ammeter	Slightly Positive
Tachometer	700 – 2620 rpm
Warm Idle	700 – 800 rpm
Cold Idle	1000 rpm
Boost	0 – 28 psi

Engine Diagnostics (Flash Codes)

1. Turn cruise control switch to OFF position.
2. Move SET/RESUME switch to either position and hold.
3. Record two-digit flash codes:
 - short pause between digits
 - long pause between codes
4. Refer to Engine Diagnostics table in the O & M manual and consult your local Caterpillar dealer.
5. Flash code 55 is "No Detected Faults."

Driving Tips (Fuel Economy)

1. Lower coach speed = More MPG
2. Use cruise control on the highway. SoftCruise is recommended.
3. Use economy mode of the Allison transmission.
4. Use lowest engine rpm possible (1440 to 1800 rpm).
5. Minimize idle time — limit time on warm-up and cool-down to no more than three minutes under normal driving conditions.
6. Prior to shutdown, engine should be idled for three to five minutes after full throttle or high power operation such as climbing a steep grade.
7. Anticipate traffic and avoid sudden starts and stops.
8. Keep tires properly inflated to the tire manufacturer's recommendations.

Fuel Recommendations

1. Use a fuel/water separator.
2. Use ULSD fuel.
3. Use major fuel depots to assure quality fuels.
4. Keep fuel tank full when in storage.
5. Additives generally not recommended; however, biocides may be used to eliminate microorganism growth. Cat Diesel Fuel Conditioner (256-4968) is recommended and is available through your local Cat dealer.

Cooling System Recommendations

1. Use only distilled or deionized water.
2. Antifreeze must be a low silicate type that meets TMC RP329, ASTM D5345, or D4985 specifications. DO NOT use commercial antifreeze with high silicate content formulated for gasoline engines.
3. Use conditioner or inhibitor to maintain a three to six percent concentration in cooling system. Requirements are different for ELC (Extended Life Coolant) — consult your dealer.
4. Do not mix different antifreeze and conditioners.
5. Cat ELC recommended for six-year protection. Meets Cat EC-1 specification.

Customer Call Center (Toll Free) 877-777-3126
 Parts and Service Directory LEKT4302

Daily

- Walk-around inspection
- Check oil level
- Check coolant level
- Check air cleaner service indicator
- Drain water separator

PM Level 1

- Change oil and filter
- Scheduled Oil Sampling (S•O•SSM) analysis
- Drain water from fuel tanks and replace fuel filter
- Test coolant (supplemental coolant additive)
- Clean with soap and water (garden hose pressure is sufficient). High pressure water can damage fins.
- Inspect radiator and ATAAC aftercooler
- Clean crankcase breather (every other oil change)
- Check belts, hoses, and clamps
- Lube fan drive bearing — zerk fitting 3126B and 3126E
- Inspect, clean batteries
- Replace air compressor filter (if equipped)
- Inspect cylinder head ground stud

Thermostats

- Replace every three years

Fan Drive

- 3126 with serial number HEP15357 and below have grease zerk fittings. 3126 above HEP15357 and all C7 engines have permanently lubricated bearings.

PM 1 Recommended Change Intervals*

Serial # Prefix	Oil Pan	Sump	Miles/Years
1WM	19 Qts (18L)	Shallow	6000 Miles / 1 Year
1WM	29 Qts (27L)	Deep	10,000 Miles / 1 Year
7AS, 8YL, CKM, HEP	22 Qts (21L)	Shallow	11,000 Miles / 1 Year
7AS, 8YL, CKM, HEP	30 Qts (28L)	Deep	15,000 Miles / 1 Year
KAL, SAP, WAX**	19 Qts (18L)	Shallow	11,000 Miles / 1 Year
KAL, SAP, WAX**	27 Qts (25L)	Deep	15,000 Miles / 1 Year

* Fill volumes changed due to side mounted breather

** Refer to the O & M manual for S•O•S and storage recommendations.

Lubrication Specifications

Temperature Range	Oil Viscosity	API Grade
-4° F to +104° F	SAE 10W30	CJ-4
+5° F to +122° F	SAE 15W40	CJ-4

Below 0° F, block heater or oil pan heater is recommended.

Maintenance Intervals for 2007 Engines Only*

Oil	2007
C7/C9 CCV (Closed Crankcase Ventilation)	1500 hours or 3rd oil change or 90,000 miles
CRS Nozzle Cleaning	1500 hours or 50,000 miles
Spark Plug Inspection/Cleaning	1500 hours or 3rd oil change or 90,000 mile
DPF	Minimum 150,000 miles

* Serial numbers for 2007 C7S (C7 engines)

Recommended Maintenance Parts for 2007 Engines

Cat Regeneration System	304-7755
Wire Brush	305-2389

Cat Engine Oil

Oil Viscosity	Cat DEO (1 gallon)	Cat DEO (5 gallon)
SAE 10W30	3E9904	3E9709
SAE 15W40	3E9714	3E9713

PM Level 2

Years	Miles	Hours
2	100,000	2,000

Initial valve adjustment should be done around 30,000 miles for optimum engine performance. Additional valve adjustments required at 100,000 miles.

Antifreeze Protection

Protection Temperature	Concentration
To -34° F (-37° C)	50% antifreeze/50% water
To -60° F (-51° C)	60% antifreeze/40% water

(Recommended 50/50 glycol water coolant mixture)

Cat Extended Life Coolant (ELC)

(6-year life)

Part Number	Size
101-2844	1 gallon (3.8L)

Cat Extender

(Add at 3 years)

Part Number	Size
119-5152	quart bottle

PM Parts Reference

Oil Filter - Advanced Efficiency	1R1807
Filter Group with Water Separator	175-2949
Fuel Filter (secondary)	1R0751
Filter Kit (Antifreeze)	173-5326
Filter Kit [Extended Life Coolant (ELC)]	173-5325
Liquid Conditioner for Antifreeze	6V-3542
Test Kit for Antifreeze	8T5296
Test Kit for ELC	172-8851