RECOMMENDED MAINTENANCE SCHEDULE
May 28, 2011
# Table of Contents

## Midrange
3  QSB3.3 CM2150 & B3.3  
4  Automotive, RV & Bus B Series Engines  
5  Industrial B3.9, B4.5, & B5.9 Series Engines  
6  Recreational Marine B3.9 & B5.9 Series Engines  
7  Industrial BSB3.9-30, QSB4.5-30 & QSB5.9-30 Series Engines  
8  ISB Engine  
9  QSB5.9-44 Engine  
10  ISBe & ISB (Common Rail Fuel System) Series Engines  
11  QSB5.9 Marine Engine  
12  ISB CM2150  
13  QSB4.5 & QSB6.7 Engine  
14  Automotive, RV, & Transit Bus, C8.3 Series Engines  
15  Recreational Marine C8.3 Series Engines  
16  Industrial Marine & C8.3  
17  Commercial Marine C8.3  
18  ISC, ISCe, & ISL Engines with CM554 & CAPS Fuel Systems  
19  ISC, ISCe, & ISL Engines with CM850 & Common Rail System  
20  ISC CM2150  
21  ISL CM2150  
22  QSC8.3 & QSL9 Marine Engines  
23  QSC8.3 & QSL9 Engine  
24  ISB CM2250  
25  ISL CM2250  
26  ISC CM2250  
27  ISL CM2250  

## Heavy Duty
30  M11 Series Engines  
31  Industrial M11 Engines  
32  M11 Plus Series Engines  
33  ISM & ISMe Automotive with CM876  
34  ISM & ISMe Automotive with CM875, CM870 & CM570  
35  ISM & ISMe  
36  Industrial QSM11 Engine  
37  Marine QSM11 Engine  
38  N14 Series Engines  
39  Industrial & Marine N14 Series Engines  
40  N14 Plus Series Engines  
41  Signature & ISX Automotive with CM871  
42  Signature & ISX Automotive with CM870  
43  Signature & ISX Automotive with CM570  
44  Industrial & Power Generation QSX15 Engines  
45  ISX 11.9 CM2250  
47  ISX 15 CM2250
QSB3.3 CM2150 and B3.3

Maintenance Procedures at Daily Interval Section 3

- Fuel-Water Separator - Drain
- Engine Lubricating Oil Level - Check/Correct
- Engine Coolant Level - Check/Correct
- Drive Belts - Inspect/Correct
- Cooling Fan - Inspect/Correct
- Crankcase Breather Tube - Check

Maintenance Procedures at 250 Hours or 3 Months Section 4

- Lubricating Oil and Filters - Change\(^{(1)}\)
- Valve Lash Clearance - Adjust\(^{(2)}\)
- Air Intake System - Inspect
- Air Cleaner Restriction - Check/Correct

Maintenance Procedures at 500 Hours or 6 Months Section 5

- Fuel Filter - Replace
- Fuel Supply Lines - Vent
- Injection Pump - Vent
- Cooling System - Check\(^{(3)}\)

Maintenance Procedures at 1000 Hours or 1 Year Section 6

- Drive Belt Tension - Measure

Maintenance Procedures at 2000 Hours or 2 Years Section 7

- Cooling System - Drain, Flush, and Fill
- Valve Lash Clearance - Adjust\(^{(2)}\)

\(^{(1)}\) Oil change interval for naturally aspirated engines is every 500 hours or 6 months.
\(^{(2)}\) Initial valve lash clearance adjustment; subsequent adjustments must be performed at 2000-hour or 2-year intervals, whichever comes first.
\(^{(3)}\) Must use a heavy-duty year-around antifreeze that meets the chemical composition of GM6038M. The change interval is 2000 hours or 2 years, whichever comes first.
Automotive, Recreational Vehicle and Bus B Series Engines

Daily or Refueling - Maintenance Check Section 3

- Engine Lubricating Oil Level - Maintenance Check
- Engine Coolant Level - Maintenance Check
- Cooling Fan - Inspect
- Drive Belts - Inspect
- Fuel-Water Separator - Drain

Every 10,000 Kilometers [6000 Miles], 250 Hours, or 3 Months\(^1\,\,\,4\) Section 4

- Lubricating Oil - Change\(^1\)
- Lubricating Oil Filters - Replace
- Air Cleaner Restriction - Maintenance Check
- Air Intake Piping - Maintenance Check
- Charge-Air Cooler - Inspect\(^4\)
- Air Compressor - Maintenance Check
- Batteries - Inspect

Every 19,000 Kilometers [12,000 Miles], 500 Hours, or 6 Months\(^3\,\,\,5\) Section 5

- Fuel Filter (Spin-on-type) - Replace\(^5\)
- Antifreeze - Maintenance Check\(^3\)
- Cooling Fan Belt Tensioner - Inspect

Every 38,000 Kilometers [24,000 Miles], 1000 Hours, or 1 Year\(^2\) Section 6

- Overhead Set - Adjust\(^2\)
- Drive Belts - Test

Every 77,000 Kilometers [48,000 Miles], 2000 Hours, or 2 Years\(^3\) Section 7

- Air Compressor Discharge Lines - Maintenance Check
- Cooling System - Inspect\(^7\)
- Vibration Damper, Rubber - Inspect
- Vibration Damper, Viscous - Inspect
Industrial B3.9, B4.5, and B5.9 Series Engines

Daily or Refueling - Maintenance Check\(^{(4)}\) 3

- Air Intake Piping - Inspect
- Air Tank and Reservoirs - Drain
- Cooling Fan - Check/Correct
- Crankcase Breather Tube - Inspect
- Drive Belts - Check/Correct
- Engine Coolant Level - Check/Correct
- Engine Lubricating Oil Level - Check/Correct
- Fuel-Water Separator - Drain

Every 250 Hours or 3 Months - Maintenance Check \(^{(1,4)}\) 4

- Air Cleaner Restriction - Check/Correct
- Air Compressor Mounting Hardware - Check/Correct
- Charge Air Cooler - Check/Correct
- Charge Air Piping - Check/Correct
- Fuel Injection Pump Mounting Hardware - Check/Correct
- Lubricating Oil and Filters - Change
- Radiator Hoses - Check

Every 500 Hours or 6 Months - Maintenance Check \(^{(2,3,4)}\) 5

- Engine Coolant - Antifreeze Check
- Fuel Filter, Canister-Type - Replace
- Fuel Filter, Spin-on-Type - Replace
- Lubricating Oil and Filters - Change

Every 1000 Hours or 1 Year - Maintenance Check\(^{(4)}\) 6

- Cooling Fan Belt Tensioner - Check/Correct
- Fan Hub, Belt-Driven - Check/Correct
- Overhead Set - Adjust

Every 2000 Hours or 2 Years - Maintenance Check \(^{(3,4)}\) 7

- Air Compressor Discharge Line - Check/Correct
- Cooling System - Drain, Flush, and Fill
- Vibration Damper, Rubber - Check
- Vibration Damper, Viscous - Check
Recreational Marine B3.9 and B5.9 Series Engines

Maintenance Procedures at Daily Interval Section 3

- Coolant Level - Maintenance Check
- Fuel Water Separator - Drain
- Lubricating Oil Level - Maintenance Check
- Marine Gear - Maintenance Check
- Sea Water Strainer - Clean

Maintenance Procedures at 75 Hours or 3 Months Section 4

- Air Cleaner Restriction - Maintenance Check
- Battery - Maintenance Check
- Drive Belts - Maintenance Check
- Electrical Connections - Check
- Engine Hoses - Maintenance Check
- Sea Water Hoses - Maintenance Check
- Zinc Anode - Inspect

Maintenance Procedures at 300 Hours or 1 Year Section 5

- Aftercooler - Flush
- Air Cleaner Element - Clean and Inspect
- Air Intake Piping - Inspect
- Engine Coolant Heater - Maintenance Check
- Coolant Antifreeze - Check
- Engine Harness - Maintenance Check
- Fuel Filter (spin-on type) - Replace
- Fuel Water Separator Element - Replace
- Lubricating Oil and Filters - Replace
- Marine Gear Oil - Change
- Marine Gear Oil Cooler - Flush
- Sea Water Heat Exchanger - Flush
- Sea Water Pump - Inspect

Maintenance Procedures at 600 Hours or 2 Years Section 6

- Cooling Fan Belt Tensioner - Maintenance Check
- Cooling System - Flush
- Overhead Set - Adjust
- Vibration Damper, Rubber - Inspect
- Vibration Damper, Viscous - Inspect
Industrial QSB3.9-30, QSB4.5-30, and QSB5.9-30 Series Engines

Daily or Refueling - Maintenance Check 4 Section 3

- Air Intake Piping - Inspect
- Air Tank and Reservoirs - Drain
- Cooling Fan - Check/Correct
- Crankcase Breather Tube - Inspect
- Drive Belt - Check/Correct
- Engine Coolant Level - Check/Correct
- Engine Lubricating Oil Level - Check/Correct
- Fuel-Water Separator - Drain

Every 250 Hours or 3 Months - Maintenance Check 1, 4 Section 4

- Air Cleaner Restriction - Check/Correct
- Air Compressor Mounting Hardware - Check/Correct
- Charge Air Cooler - Check/Correct
- Charge Air Piping - Check/Correct
- Fuel Injection Pump Mounting Hardware - Check/Correct
- Lubricating Oil and Filters - Change
- Radiator Hoses - Check

Every 500 Hours or 6 Months - Maintenance Check 2, 3, 4 Section 5

- Engine Coolant - Antifreeze Check
- Fuel Filter, Canister-Type - Replace
- Fuel Filter, Spin-on-Type - Replace
- Lubricating Oil and Filters - Change

Every 1000 Hours or 1 Year - Maintenance Check 4 Section 6

- Cooling Fan Belt Tensioner - Check/Correct
- Drive Belts - Check/Correct
- Fan Hub, Belt-Driven - Check/Correct
- Overhead Set - Adjust

Every 2000 Hours, or 2 Years - Maintenance Check 3, 4 Section 7

- Air Compressor Discharge Line - Check/Correct
- Cooling System - Drain, Flush, and Fill
- Vibration Damper, Rubber - Check
- Vibration Damper, Viscous - Check
ISB Engine

Daily or Refueling - Maintenance Check³ Section 3

- Air Intake Piping - Inspect
- Air Tank and Reservoirs - Drain
- Cooling Fan - Check/Correct
- Crankcase Breather Tube - Inspect
- Engine Coolant Level - Check/Correct
- Engine Lubricating Oil Level - Check/Correct
- Fuel-Water Separator - Drain

Every 12,000 km [7500 mi], 250 Hours, or 3 Months - Maintenance Check³ Section 4

- Air Cleaner Restriction - Check/Correct
- Air Compressor Mounting Hardware - Check/Correct
- Charge Air Cooler - Check/Correct
- Charge Air Piping - Check/Correct
- Fuel Injection Pump Mounting Hardware - Check/Correct
- Radiator Hoses - Check

Every 24,000 km [15,000 mi], 500 Hours, or 6 Months - Maintenance Check¹, ², ³ Section 5

- Engine Coolant - Antifreeze Check
- Fuel Filter, Canister-Type - Replace
- Fuel Filter, Spin-on-Type - Replace
- Lubricating Oil and Filters - Change

Every 48,000 km [30,000 mi], 1000 Hours, or 1 Year - Maintenance Check³ Section 6

- Cooling Fan Belt Tensioner - Check/Correct
- Drive Belts - Check/Correct
- Fan Hub, Belt-Driven - Check/Correct

Every 96,000 km [60,000 mi], 2000 Hours, or 2 Years - Maintenance Check², ³ Section 7

- Air Compressor Discharge Line - Check/Correct
- Cooling System - Drain, Flush, and Fill
- Vibration Damper, Rubber - Check
- Vibration Damper, Viscous - Check

Every 241,500 km [150,000 mi], 5000 Hours, or 4 Years - Maintenance Check³ Section 8

- Overhead Set - Adjust
QSB5.9-44 Engine

Daily or Refueling - Maintenance Check^3 Section 3

- Air Intake Piping - Inspect
- Air Tank and Reservoirs - Drain
- Cooling Fan - Check/Correct
- Crankcase Breather Tube - Inspect
- Engine Coolant Level - Check/Correct
- Engine Lubricating Oil Level - Check/Correct
- Fuel-Water Separator - Drain

Every 250 Hours or 3 Months - Maintenance Check^3 Section 4

- Air Cleaner Restriction - Check/Correct
- Air Compressor Mounting Hardware - Check/Correct
- Charge Air Cooler - Check/Correct
- Charge Air Piping - Check/Correct
- Fuel Injection Pump Mounting Hardware - Check/Correct
- Radiator Hoses - Check

Every 500 Hours or 6 Months - Maintenance Check^1, 2, 3 Section 5

- Engine Coolant - Antifreeze Check
- Fuel Filter, Canister-Type - Replace
- Fuel Filter, Spin-on-Type - Replace
- Lubricating Oil and Filters - Change

Every 1000 Hours or 1 Year - Maintenance Check^3 Section 6

- Cooling Fan Belt Tensioner - Check/Correct
- Drive Belts - Check/Correct
- Fan Hub, Belt-Driven - Check/Correct

Every 2000 Hours, or 2 Years - Maintenance Check^2, 3 Section 7

- Air Compressor Discharge Line - Check/Correct
- Cooling System - Drain, Flush, and Fill
- Vibration Damper, Rubber - Check
- Vibration Damper, Viscous - Check

Every 5000 Hours or 4 Years - Maintenance Check^3 Section 8

- Overhead Set - Adjust
ISBe and ISB (Common Rail Fuel System) Series Engines

Daily or Refueling - Maintenance Check  Section 3

- Air Intake Piping - inspect
- Cooling Fan - inspect
- Crankcase Breather Tube - inspect
- Engine Coolant Level - check/correct
- Engine Lubricating Oil Level - check/correct
- Fuel-Water Separator - drain

Every 12,000 km [7500 mi], 250 Hours, or 3 Months - Maintenance Check  Section 4

- Air Cleaner Restriction - check/correct
- Air Compressor Mounting Maintenance - check/correct
- Charge Air Cooler - check/correct
- Fuel Pump Mounting Maintenance - check/correct

Every 24,000 km [15,000 mi], 500 Hours, or 6 Months - Maintenance Check  Section 5

- Cooling System - antifreeze check
- Fuel Filter, Spin-on-Type - replace
- Lubricating Oil - change
- Lubricating Oil Filters - replace

Every 48,000 km [30,000 mi], 1000 Hours, or 1 Year - Maintenance Check  Section 6

- Drive Belts - check/correct
- Fan Belt Tensioner - check/correct
- Fan Hub, Belt-Driven - check/correct
- Air Compressor Carbon Build-up - check/correct

Every 96,000 km [60,000 mi], 2000 Hours, or 2 Years - Maintenance Check  Section 7

- Cooling System - drain/flush/fill
- Radiator Hoses - check
- Vibration Damper - check
- Vibration Damper (rubber) - check

Every 241,500 km [150,000 mi], 5000 Hours, or 4 Years - Maintenance Check  Section 8

- Overhead Measure (valve lash)
QSB5.9 Marine Engines

Daily or Refueling - Maintenance Check  Section 3

- Engine Coolant Level - check/correct
- Fuel-Water Separator - drain
- Engine Lubricating Oil Level - check/correct
- Marine Gear Oil - check/correct
- Seawater Strainer - check/clean

Every 125 Hours, or 3 Months - Maintenance Check  Section 4

- Sea Water Pump Belt - check/adjust
- Electrical Connections - check
- Air Cleaner Restriction - check/correct
- Sea Water Hoses - check
- Zinc Anode - check/replace

Every 250 Hours, or 6 Months - Maintenance Check  Section 5

- Lubricating Oil and Filters - change
- Engine Coolant System Anti-Freeze - check/correct
- Seawater Pump-Minor - check
- Fuel-Water Separator Element - replace
- Fuel Filter (Spin-on Type) - replace

Every 500 Hours, or 1 Year - Maintenance Check  Section 6

- Sea Water Pump - check
- Belt Tensioner - check/correct
- Batteries - check
- Drive Belts - check/replace
- Aftercooler - flush
- Marine Gear Oil Cooler - flush
- Sea Water Heat Exchanger - flush
- Air Cleaner Element - check
- Engine Mounting Bolts - check
- Vibration Isolators - check

Every 2000 Hours, or 2 Years - Maintenance Check  Section 7

- Cooling System - drain/flush/fill
- Vibration Damper, Viscous - check

Every 5000 Hours, or 4 Years - Maintenance Check  Section 8

- Overhead - check/adjust
ISB CM2150

Daily or Refueling  Section 3

- Air Intake Piping - check
- Fan, Cooling - check
- Air Tank and Reservoirs - drain
- Coolant Level - check
- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Aftertreatment Exhaust Piping - check

Every 12,000 km [7500 mi], 250 Hours, or 3 Months  Section 4

- Air Cleaner Restriction - check
- Charge-Air Piping - check
- Charge-Air Cooler - check

Every 24,000 km [15,000 mi], 500 Hours, or 6 Months  Section 5

- Fuel Filter (Spin-on Type) - change 1
- Lubricating Oil and Filters - change 2
- Engine Coolant Antifreeze - check
- Batteries - check
- Battery Cables and Connections - check

Every 48,000 km [30,000 mi], 1000 Hours, or 1 Year  Section 6

- Drive Belt, Cooling Fan- check
- Cooling Fan Belt Tensioner - inspect for reuse
- Air Compressor Discharge Lines - check

Every 96,000 km [60,000 mi], 2000 Hours, or 2 Years  Section 7

- Cooling System - flush 3
- Vibration Damper, Viscous - check
- Engine Steam Cleaning - clean
- Radiator Hoses - check
- Crankcase Ventilation Filter - inspect for reuse

Every 241,500 km [150,000 mi], 5000 Hours, or 4 Years  Section 8

- Overhead Set - adjust

Every 321,500 km [200,000 mi], or 6500 Hours  Section 9

- Aftertreatment Diesel Particulate Filter - clean 4
QSB4.5 and QSB6.7 Engine

Daily or Refueling - Maintenance Check 3  Section 3
- Air Intake Piping - Inspect
- Engine Lubricating Oil Level - Check/Correct
- Air Tank and Reservoirs - Drain
- Crankcase Breather Tube - Inspect
- Engine Coolant Level - Check/Correct
- Fuel-Water Separator - Drain

Every 250 Hours or 3 Months - Maintenance Check 3  Section 4
- Air Cleaner Restriction - Check/Correct
- Air Compressor Mounting Hardware - Check/Correct
- Charge Air Cooler - Check/Correct
- Charge Air Piping - Check/Correct
- Radiator Hoses - Check
- Air Intake Piping — Inspect
- Cooling Fan — Check
- Coolant Level — Check/Correct
- Drive Belts — Check/Correct

Every 500 Hours or 6 Months - Maintenance Check 1, 2, 3  Section 5
- Engine Coolant - Antifreeze Check
- Fuel Filter, Spin-on-Type - Replace
- Lubricating Oil and Filters - Change

Every 1000 Hours or 1 Year - Maintenance Check 3  Section 6
- Cooling Fan Belt Tensioner - Check/Correct
- Fan Hub, Belt-Driven - Check/Correct

Every 2000 Hours, or 2 Years - Maintenance Check 2, 3  Section 7
- Air Compressor Discharge Line - Check/Correct
- Cooling System - Drain, Flush, and Fill
- Vibration Damper, Rubber - Check
- Vibration Damper, Viscous - Check

Every 5000 Hours or 4 Years - Maintenance Check 3  Section 8
- Overhead Set - Adjust
Automotive, Recreational Vehicle, and Transit Bus, C8.3 Series Engines

Maintenance Procedures at Daily Interval\(^4\) Section 3

- Drive Belts - Check
- Coolant Level - Check
- Cooling Fan - check
- Lubricating Oil Level - Check
- Fuel-Water Separator - Drain

Maintenance Procedures at 10,000 Kilometers [6000 miles], 250 Hours, or 3 Months\(^1,4\) Section 4

- Air Cleaner Restriction - Maintenance Check
- Charge Air Cooler - Maintenance Check
- Charge Air Piping - Maintenance Check
- Lubricating Oil and Filters - Replace
- Air Intake Piping - Maintenance Check
- Air Compressor - Maintenance Check

Maintenance Procedures at 19,000 Kilometers [12,000 miles], 500 Hours, or 6 Months\(^2,3,4\) Section 5

- Coolant Filter - Replace
- Supplemental Coolant Additive (SCA) and Antifreeze - Maintenance Check
- Cooling System - Maintenance Check
- Fuel Filter (Spin-On Type) - Replace

Maintenance Procedures at 38,000 Kilometers [24,000 miles], 1000 Hours, or 1 Year\(^4\) Section 6

- Cooling Fan Belt Tensioner - Maintenance Check
- Overhead Set - adjust
- Drive Belts - Maintenance Check

Maintenance Procedures at 77,000 Kilometers [48,000 miles], 2000 Hours, or 2 Years\(^2,3,4\) Section 7

- Air Compressor Discharge Lines - Maintenance Check
- Cooling System - Inspect
- Vibration Damper, Rubber - Inspect
- Vibration Damper, Viscous - Inspect
Recreational Marine C8.3 Series Engines

Maintenance Procedures at Daily Interval Section 3

- Coolant Level - Maintenance Check
- Fuel-Water Separator - Drain
- Lubricating Oil Level - Maintenance Check
- Marine Gear - Maintenance Check
- Sea Water Strainer - Clean
- Crankcase Breather Tube - Maintenance Check
- Drive Belts - Maintenance Check

Maintenance Procedures at 75 Hours or 3 Months Section 4

- Air Cleaner Restriction - Maintenance Check
- Battery - Maintenance Check
- Component Connector and Pin - Inspect
- Engine Hoses - Maintenance Check
- Sea Water Hoses - Maintenance Check
- Zinc Anode - Inspect

Maintenance Procedures at 300 Hours or 1 Year Section 5

- Aftercooler - Flush
- Air Cleaner Element - Replace
- Air Intake Piping - Inspect
- Coolant Filter - Replace
- Engine Coolant Heater - Maintenance Check
- Engine Harness - Maintenance Check
- Fuel Filter (spin-on type) - Replace
- Fuel Water Separator Element - Replace
- Lubricating Oil and Filters - Replace
- Marine Gear Oil - Maintenance Check
- Marine Gear Oil Cooler - Flush
- Sea Water Heat Exchanger - Flush
- Sea Water Pump - Inspect
- Supplemental Coolant Additive (SCA) - and Antifreeze - Maintenance Check

Maintenance Procedures at 600 Hours or 2 Years Section 6

- Cooling Fan Belt Tensioner - Maintenance Check
- Cooling System - Flush
- Overhead Set - Adjust
- Vibration Damper, Rubber - Inspect
- Vibration Damper, Viscous - Inspect
Commercial Marine and Industrial C8.3

Industrial Applications

For your convenience, listed below is the section numbers that contain specific instructions for performing the maintenance checks listed in the maintenance schedule.

Perform maintenance at whichever interval occurs first. At each scheduled maintenance interval, perform all previous checks that are due for scheduled maintenance.

Maintenance Procedures at Daily Interval\textsuperscript{4} Section 3

- Crankcase Breather Tube - check
- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Fan, Cooling - check
- Coolant Level - check
- Air Intake Piping - check\textsuperscript{4}
- Air Tanks and Reservoirs - drain\textsuperscript{4}
- Drive Belts - check

Maintenance Procedures at 250 Hours, or 3 Months\textsuperscript{1,2,4} Section 5

- Fuel Filter (Spin-On Type) - change
- Lubricating Oil and Filters - change\textsuperscript{1}
- Charge-Air Cooler - check\textsuperscript{4}
- Charge-Air Piping - check\textsuperscript{4}
- Air Cleaner Restriction - check\textsuperscript{4}
- Air Compressor - check\textsuperscript{4}

Maintenance Procedures at 500 Hours, or 6 Months\textsuperscript{2,3,4} Section 7

- Coolant Filter - change
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check\textsuperscript{2,3}
- Air Compressor Discharge Lines - check\textsuperscript{4}

Maintenance Procedures at 1000 Hours, or 1 Year\textsuperscript{4} Section 9

- Overhead Set - adjust
- Cooling Fan Belt Tensioner - check
- Air Cleaner Assembly (Engine-Mounted) - replace\textsuperscript{4}

Maintenance Procedures at 2000 Hours, or 2 Years\textsuperscript{2,3,4} Section 10

- Vibration Damper, Rubber - check
- Vibration Damper, Viscous - check
- Cooling System - flush\textsuperscript{2,3}
- Air Compressor Discharge Lines - check\textsuperscript{4}
Commercial Marine and Industrial C8.3

Marine Applications

Maintenance Procedures at Daily Interval\textsuperscript{1} Section 3

- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Coolant Level - check
- Sea Water Strainer - clean
- Marine Gear - check\textsuperscript{1}
- Drive Belts - check

Maintenance Procedures at 75 Hours or 3 Months\textsuperscript{3} Section 4

- Zinc Anode - check\textsuperscript{3}
- Cooling System Hoses - check
- Sea Water Hoses - check
- Air Cleaner Restriction - check
- Batteries - check
- Battery Cables and Connections - check
- Component Connector and Pin Inspection - check

Maintenance Procedures at 300 Hours or 1 Year\textsuperscript{1,2} Section 6

- Fuel Filter (Spin-On Type) - replace
- Fuel-Water Separator Element - replace
- Lubricating Oil and Filters - replace\textsuperscript{2}
- Coolant Filter - replace
- Engine Coolant Heater - check
- Marine Gear Oil Cooler - flush\textsuperscript{1}
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check\textsuperscript{2}
- Heat Exchanger - flush
- Sea Water Pump - replace
- Aftercooler Assembly (Sea Water) - flush
- Air Cleaner Assembly (Engine-Mounted) - check
- Air Intake Piping - check
- Marine Gear Oil - check\textsuperscript{1}
- Engine Wiring Harness - check

Maintenance Procedures at 600 Hours or 2 Years Section 8

- Vibration Damper, Rubber - check
- Vibration Damper, Viscous - check
- Overhead Set - adjust
- Cooling System - flush
- Cooling Fan Belt Tensioner - check
ISC, ISCe, and ISL Engines

With CM554 and CAPS Fuel System

Daily or Refueling - Maintenance Check  Section 3

- Air Intake Piping - inspect
- Cooling Fan - inspect
- Crankcase Breather Tube - inspect
- Air Tanks and Reservoirs - drain
- Engine Coolant Level - check/correct
- Engine Lubricating Oil Level - check/correct

Every 14,500 km [9000 mi], 250 Hours, or 3 Months - Maintenance Check  Section 5

- Air Cleaner Restriction - check
- Charge Air Piping - check/inspect
- Charge Air Cooler - check/inspect
- Fuel Injection Pump Mounting - check
- Air Compressor Mounting - check

Every 29,000 km [18,000 mi], 500 Hours, or 6 Months - Maintenance Check  Section 8

- Fuel Filter - replace
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration (2) - check
- Coolant Filter - replace
- Lubricating Oil and Filter (1) - replace
- Batteries (4) - check
- Battery cables and connections (4) - check

Every 58,000 km [36,000 mi], 1,000 Hours, or 1 Year - Maintenance Check  Section 11

- Drive Belts - check/correct
- Fan Hub (4) - check/inspect
- Cooling Fan Belt Tensioner - check/inspect
- Turbocharger - check

Every 116,000 km [72,000 mi], 2,000 Hours, or 2 Years - Maintenance Check  Section 14

- Cooling System - flush
- Radiator Hoses - check
- Vibration Damper, Viscous (3) - check
- Engine Steam Cleaning - clean
- Air Compressor Discharge Lines - clean
- Engine Mounts - check

Every 241,500 km [150,000 mi], 5,000 Hours, or 4 Years - Maintenance Check  Section 17

- Overhead (5) - adjust
- Engine Brake Lash (4) - check
ISC, ISCe, and ISL Engines

With CM850 and Cummins Common Rail Fuel System

Daily or Refueling - Maintenance Check  Section 3

- Air Intake Piping - inspect
- Cooling Fan - inspect
- Crankcase Breather Tube - inspect
- Air Tanks and Reservoirs - drain
- Engine Coolant Level - check/correct
- Engine Lubricating Oil Level - check/correct

Every 16,000 km [10,000 mi], 250 Hours, or 3 Months - Maintenance Check  Section 6

- Air Cleaner Restriction - check
- Charge Air Piping - check/inspect
- Charge Air Cooler - check/inspect
- Fuel Injection Pump Mounting - check
- Air Compressor Mounting - check

Every 32,000 km [20,000 mi], 500 Hours, or 6 Months - Maintenance Check  Section 9

- Fuel Filter, Water-Stripping, Suction Side - replace
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration (2) - check
- Coolant Filter (if equipped) - replace
- Lubricating Oil and Filter (1) - replace
- Batteries (4) - check
- Battery cables and connections (4) - check

Every 64,000 km [40,000 mi], 1,000 Hours, or 1 Year - Maintenance Check  Section 12

- Fuel Filter, Pressure Side - replace
- Drive Belts - check
- Fan Hub (4) - check
- Cooling Fan Belt Tensioner - check
- Turbocharger - check

Every 128,000 km [80,000 mi], 2,000 Hours, or 2 Years - Maintenance Check  Section 15

- Cooling System - flush
- Vibration Damper, Viscous (3) - check
- Radiator Hoses - check
- Engine Steam Cleaning - clean
- Air Compressor Discharge Lines - clean
- Engine Mounts - check

Every 241,500 km [150,000 mi], 5,000 Hours, or 4 Years - Maintenance Check  Section 17

- Overhead (5) - adjust
- Engine Brake Lash (4) - check
ISC CM2150

Daily or Refueling  Section 3

- Air Intake Piping - check
- Fan, Cooling - check
- Crankcase Breather Tube - check
- Air Tanks and Reservoirs - check
- Coolant Level - check
- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Aftertreatment Exhaust Piping - check

Every 12,000 km [7,500 mi], 250 Hours, or 3 Months  Section 4

- Air Cleaner Restriction - check
- Charge-Air Piping - check
- Charge-Air Cooler - check

Every 24,000 km [15,000 mi], 500 Hours, or 6 Months  Section 6

- Fuel Filter (Spin-on Type) - replace
- Lubricating Oil System - replace
- Lubricating Oil Filter (Spin On) - replace
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check
- Coolant Filter - replace
- Batteries - check
- Battery Cables and Connections - check

Every 48,000 km [30,000 mi], 1000 Hours, or 1 Year  Section 8

- Fuel Filter (Spin-on Type) - replace
- Drive Belt, Cooling Fan - check
- Belt Tensioner, Automatic (Water Pump) - check

Every 96,000 km [60,000 mi], 2000 Hours, or 2 Years  Section 10

- Cooling System - flush
- Vibration Damper, Rubber - check
- Vibration Damper, Viscous - check
- Engine Steam Cleaning - clean
- Radiator Hoses - check
- Air Compressor Discharge Lines - clean
- Crankcase Breather Element - replace

Every 241,500 km [150,000 mi], 5000 Hours, or 4 Years  Section 12

- Overhead Set - adjust
- Engine Brake Assembly - adjust

Every 321,500 km [200,000 mi] or 6500 Hours  Section 13

- Aftertreatment Diesel Particulate Filter - clean
ISL CM2150

Daily or Refueling  Section 3

- Air Intake Piping - check
- Fan, Cooling - check
- Crankcase Breather Tube - check
- Air Tanks and Reservoirs - check
- Coolant Level - check
- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Aftertreatment Exhaust Piping - check

Every 16,000 km [10,000 mi], 250 Hours, or 3 Months  Section 5

- Air Cleaner Restriction - check
- Charge-Air Piping - check
- Charge-Air Cooler - check

Every 32,000 km [20,000 mi], 500 Hours, or 6 Months  Section 7

- Fuel Filter (Spin-on Type) - replace 7
- Lubricating Oil System - replace 1
- Lubricating Oil Filter (Spin On) - replace 1
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check 2
- Coolant Filter - replace
- Batteries - check 4
- Battery Cables and Connections - check 4

Every 64,000 km [40,000 mi], 1000 Hours, or 1 Year  Section 9

- Fuel Filter (Spin-on Type) - replace 8
- Drive Belt, Cooling Fan - check
- Belt Tensioner, Automatic (Water Pump) - check

Every 128,000 km [80,000 mi], 2000 Hours, or 2 Years  Section 11

- Cooling System - flush
- Vibration Damper, Rubber - check
- Vibration Damper, Viscous - check 3
- Engine Steam Cleaning - clean
- Radiator Hoses - check
- Air Compressor Discharge Lines - clean
- Crankcase Breather Element - replace

Every 241,500 km [150,000 mi], 5000 Hours, or 4 Years  Section 12

- Overhead Set - adjust 5  Engine Brake Assembly - adjust 4

Every 321,500 km [200,000 mi] or 6500 Hours  Section 13

- Aftertreatment Diesel Particulate Filter - clean 6
QSC8.3 and QSL9 Marine Engines

Maintenance Procedures at Daily Interval  Section 3

- Coolant Level - check
- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Marine Gear Oil - check
- Sea Water Strainer - clean

Maintenance Procedures at 125 Hours or 3 Months  Section 4

- Battery Cables and Connections - check
- Engine Wiring Harness - check
- Air Cleaner Assembly (Engine-Mounted) - check
- Sea Water Hoses - check
- Zinc Anode - replace

Maintenance Procedures at 250 Hours or 6 Months  Section 5

- Lubricating Oil and Filters - change
- Sea Water Pump - check
- Fuel-Water Separator - change
- Fuel Filter (Spin-On Type) - change
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check
- Coolant Filter - change

Maintenance Procedures at 500 Hours or 1 Year  Section 6

- Sea Water Pump - repair
- Belt Tensioner, Automatic (Water Pump) - check
- Batteries - check
- Drive Belt, Alternator - replace
- Aftercooler Assembly (Sea Water) - check
- Marine Gear Oil Cooler - flush
- Heat Exchanger - flush
- Marine Gear Oil and Fuel Cooler Assembly - flush
- Air Cleaner Assembly (Engine-Mounted) - clean
- Engine Mounting Bolts - inspect for reuse
- Marine Vibration Isolator - check

Maintenance Procedures at 2000 Hours or 2 Years  Section 7

- Cooling System - flush
- Vibration Damper, Viscous - check

Maintenance Procedures at 5000 Hours or 4 Years  Section 8

- Overhead Set - adjust
QSC8.3 and QSL9 Engine

Daily or Refueling - Maintenance Check  Section 3

- Air Intake Piping - check
- Cooling Fan - check
- Crankcase Breather Tube - check
- Air Tanks and Reservoirs - check
- Engine Coolant Level - check
- Fuel-Water Separator - drain
- Engine Lubricating Oil Level - check

Every 250 Hours or 3 Months  Section 4

- Air Cleaner Restriction - check
- Charge Air Piping - check
- Charge Air Cooler - check
- Fuel Injection Pump Mounting - check
- Air Compressor Mounting - check

Every 500 Hours or 6 Months  Section 5

- Fuel Filters (Cummins and OEM supplied) - replace
- Cooling System - check
- Coolant Filter - replace
- Lubricating Oil Filter and Oil - replace
- Batteries - check
- Battery Cables and Connections - check

Every 1000 Hours or 1 Year  Section 6

- Drive Belts - check
- Fan Hub Belt Driven - check
- Cooling Fan Belt Tensioner - check

Every 2000 Hours or 2 Years  Section 7

- Cooling System - flush
- Vibration Damper, rubber - check
- Vibration Damper, Viscous - check
- Engine Steam Cleaning - clean
- Air Compressor Discharge Lines - clean
- Engine Mounts - check

Every 5000 Hours or 4 Years  Section 8

- Overhead Set - adjust
ISB CM2250 Maintenance Checks

For your convenience, listed below are the section numbers that contain specific instructions for performing the maintenance checks.

Perform maintenance at whichever interval occurs first. At each scheduled maintenance interval, perform all previous maintenance checks that are due for scheduled maintenance.

**Maintenance Procedures at Daily Interval  (Section3)**

- Air Intake Piping - Check
- Fan, Cooling - Check
- Crankcase Breather Tube - Check
- Air Tank and Reservoirs - Drain
- Coolant Level - Check
- Fuel-Water Separator - Drain
- Lubricating Oil Level - Check
- Aftertreatment Exhaust Piping - Check
- Diesel Exhaust Fluid (DEF) Level - Check

**Maintenance Procedures at 12,000 Kilometers [7500 Miles], 250 Hours, or 3 Months  (Section4)**

- Air Cleaner Restriction - Check
- Charge-Air Piping - Check
- Charge-Air Cooler - Check

**Maintenance Procedures at 24,000 Kilometers [15,000 Miles], 500 Hours, or 6 Months  (Section5)**

- Fuel Filter (Spin-On Type) - Change$^1$
- Lubricating Oil and Filters - Change$^2$
- Engine Coolant Antifreeze - Check
- Batteries - Check
- Battery Cables and Connections - Check
- Radiator Pressure Cap - Check

**Maintenance Procedures at 48,000 Kilometers [30,000 Miles], 1000 Hours, or 1 Year  (Section6)**

- Drive Belt, Cooling Fan- Check
- Cooling Fan Belt Tensioner - Inspect for Reuse
• Air Compressor Discharge Lines - Check

Maintenance Procedures at 96,000 Kilometers [60,000 Miles], 2000 Hours, or 2 Years (Section7)

• Cooling System - Flush³, ⁵
• Vibration Damper, Viscous - Check
• Engine Steam Cleaning - Clean
• Radiator Hoses - Check

Maintenance Procedures at 120,000 Kilometers [75,000 Miles], or 2500 Hours (Section8)

• Crankcase Ventilation Filter - Change

Maintenance Procedures at 241,500 Kilometers [150,000 Miles], 5000 Hours, or 4 Years (Section9)

• Overhead Set - Adjust

Maintenance Procedures at 321,500 Kilometers [200,000 Miles], or 6,500 Hours (Section10)

• Aftertreatment Diesel Particulate Filter - Clean⁴
• Aftertreatment Diesel Exhaust Fluid Dosing Unit Filter - Change
ISC CM2250 Engines Maintenance Checks

Perform maintenance at whichever interval occurs first.

At each scheduled maintenance interval, perform all previous maintenance checks that are due for scheduled maintenance.

**Maintenance Procedures at Daily Interval**  (Section3)

- Air Intake Piping - Check
- Fan, Cooling - Check
- Crankcase Breather Tube - Check
- Air Tanks and Reservoirs - Check
- Coolant Level - Check
- Fuel-Water Separator - Drain
- Lubricating Oil Level - Check
- Aftertreatment Exhaust Piping - Check
- Aftertreatment Diesel Exhaust Fluid (DEF) Level - Check

**Maintenance Procedures at 12,000 Kilometers [7500 Miles], 250 Hours, or 3 Months**  (Section4)

- Air Cleaner Restriction - Check
- Charge-Air Piping - Check
- Charge-Air Cooler - Check

**Maintenance Procedures at 24,000 Kilometers [15,000 Miles], 500 Hours, or 6 Months**  (Section6)

- Fuel Filter (Spin-On Type) - Change
- Lubricating Oil System - Drain
- Lubricating Oil Filter (Spin-On) - Change
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - Check
- Coolant Filter - Change
- Batteries - Check
- Battery Cables and Connections - Check
- Radiator Pressure Cap - Check

**Maintenance Procedures at 48,000 Kilometers [30,000 Miles], 1000 Hours,**
or 1 Year  (Section 8)

- Drive Belt, Cooling Fan - Check
- Belt Tensioner, Automatic (Water Pump) - Check

Maintenance Procedures at 96,000 Kilometers [60,000 Miles] or 2000 Hours  (Section 10)

- Crankcase Breather Element - Change

Maintenance Procedures at 96,000 Kilometers [60,000 Miles], 2000 Hours, or 2 Years  (Section 11)

- Cooling System - Flush\textsuperscript{2, 8}
- Vibration Damper, Rubber - Check
- Vibration Damper, Viscous - Check\textsuperscript{3}
- Engine Steam Cleaning - Clean
- Radiator Hoses - Check
- Air Compressor Discharge Lines - Clean

Maintenance Procedures at 241,500 Kilometers [150,000 Miles], 5000 Hours, or 4 Years  (Section 13)

- Overhead Set - Adjust\textsuperscript{5}
- Engine Brake Assembly - Adjust\textsuperscript{4}

Maintenance Procedures at 321,500 Kilometers [200,000 Miles] or 6500 Hours  (Section 14)

- Aftertreatment Diesel Particulate Filter - Clean\textsuperscript{6}
- Aftertreatment Diesel Exhaust Fluid Dosing Unit Filter - Change
ISL CM2250 Engines Maintenance Checks

Perform maintenance at whichever interval occurs first.

At each scheduled maintenance interval, perform all previous maintenance checks that are due for scheduled maintenance.

**Maintenance Procedures at Daily Interval**  (Section3)

- Air Intake Piping - Check
- Fan, Cooling - Check
- Crankcase Breather Tube - Check
- Air Tanks and Reservoirs - Check
- Coolant Level - Check
- Fuel-Water Separator - Drain
- Lubricating Oil Level - Check
- Aftertreatment Exhaust Piping - Check
- Diesel Exhaust Fluid (DEF) Level - Check

**Maintenance Procedures at 16,000 Kilometers [10,000 Miles], 250 Hours, or 3 Months**  (Section5)

- Air Cleaner Restriction - Check
- Charge-Air Piping - Check
- Charge-Air Cooler - Check

**Maintenance Procedures at 32,000 Kilometers [20,000 Miles], 500 Hours, or 6 Months**  (Section7)

- Fuel Filter (Spin-On Type) - Change\(^7\)
- Lubricating Oil System - Drain\(^1\)
- Lubricating Oil Filter (Spin-On) - Change\(^1\)
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - Check\(^2\)
- Coolant Filter - Change
- Batteries - Check\(^4\)
- Battery Cables and Connections - Check\(^4\)
- Radiator Pressure Cap - Check

**Maintenance Procedures at 64,000 Kilometers [40,000 Miles], 1000 Hours, or 1 Year**  (Section9)

- Drive Belt, Cooling Fan - Check
- Belt Tensioner, Automatic (Water Pump) - Check
Maintenance Procedures at 96,000 Kilometers [60,000 Miles] or 2000 Hours     (Section10)

- Crankcase Breather Element - Change

Maintenance Procedures at 128,000 Kilometers [80,000 Miles], 2000 Hours, or 2 Years     (Section12)

- Cooling System - Flush^2, ^8
- Vibration Damper, Rubber - Check
- Vibration Damper, Viscous - Check^3
- Engine Steam Cleaning - Clean
- Radiator Hoses - Check
- Air Compressor Discharge Lines - Clean

Maintenance Procedures at 241,500 Kilometers [150,000 Miles], 5000 Hours, or 4 Years     (Section13)

- Overhead Set - Adjust^5
- Engine Brake Assembly - Adjust^4

Maintenance Procedures at 321,500 Kilometers [200,000 Miles] or 6500 Hours     (Section14)

- Aftertreatment Diesel Particulate Filter - Clean^6
- Aftertreatment Diesel Exhaust Fluid Dosing Unit Filter - Change
## M11 Series Engines

### M11 Engine Maintenance Schedule:

<table>
<thead>
<tr>
<th>Daily or Refueling</th>
<th>Every 16,000 km [10,000 mi], 250 Hours or 6 Months (1) (3) (4)</th>
<th>Every 96,000 km [60,000 mi], 1,500 Hours or 1 Year (2) (3)</th>
<th>Every 385,000 km [240,000 mi], 6,000 Hours or 2 Years (3)</th>
<th>Every 385,000 km [240,000 mi], 6,000 Hours or 3 Years (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changing/Replacement</td>
<td>Check/Adjust</td>
<td>Inspection</td>
<td>View</td>
<td>Turbocharger</td>
</tr>
</tbody>
</table>

- Check operator's report.
- Check and correct - Engine Oil Level - Coolant Level
- Visually inspect fan.
- Visually inspect engine for damage, leaks, chunked or frayed belts and correct or record for future action.
- Visually inspect intake air piping and CAC for wear points, loose connections and damage to piping.
- Drain fuel-water separator.
- Visually check crankcase breather tube for ice buildup.
- Drain air tanks and reservoirs.
- Lubricating Oil
- Lubricating Oil Filter
- Fuel Filter
- Coolant Filter
- Replace element on Cummins 2 cylinder air compressor if equipped with an air cleaner.
- Visually check wiring harnesses on engine for external damage.
- Check engine coolant DCA4 concentration level. Add make-up DCA4, if required.
- Check air cleaner restriction
- Operate engine and check intake air system.
- Valves, injectors and engine brakes.
- Steam clean engine.
- Torque on turbocharger mounting nuts.
- Torque on engine mounting bolts.
- Replace hoses as required.
- Shutters and thermatic fans, if equipped.
- Crankcase breather; clean if necessary.
- Visually inspect water pump.
- Clean cooling system and change coolant and antifreeze.
Industrial M11 Engines

Maintenance Procedures at Daily Interval  Section 3

- Fuel-Water Separator - drain
- Engine Oil Level - check and correct
- Coolant Level - check and correct
- Cooling Fan - inspect
- Drive Belts - inspect
- Crankcase Breather Tube - inspect
- Air Tanks and Reservoirs - drain
- Charge air piping - inspect

Every 250 Hours or 6 Months \(^{(2), (3), (4)}\) Section 4

- Fuel Filter - change
- Lubricating Oil - change
- Lubricating Oil Filter - change
- Coolant Filter - change
- Engine Coolant Supplemental Coolant Additive (SCA) Concentration Level - check
- Air Compressor Discharge Lines - change
- Engine Wiring Harness - inspect

Every 1500 Hours \(^{(3)}\) Section 5

- Overhead Set - adjust
- Water Pump - check
- Radiator Shutter Assembly - check
- Turbocharger - check
- Engine Mounts - check
- Engine - clean
- Air Cleaner Restriction - check
- Intake Air System - operate engine and check

Every 6,000 Hours or 2 Years \(^{(3)}\) Section 6

- Coolant System - clean and change coolant

Every 6,000 Hours \(^{(3)}\) Section 7

- Vibration Damper - check
- Fan Drive Idler Pulley Assembly - check
- Turbocharger - check
- Fan Hub Belt Driven - check
- Air Compressor Carbon Buildup - check
M11 Plus Series Engines

Maintenance Procedures at Daily Intervals  Section 3

- Air Cleaner Restriction Indicator - check
- Engine Oil Level - check and correct
- Coolant Level - check and correct
- Air Tanks and Reservoirs - drain
- Fuel-Water Separator - drain
- Cooling Fan - inspect
- Intake Air Piping - inspect
- Charge Air Cooler - inspect
- Crankcase Breather Tube - inspect

Every 19,000 km [12,000 mi], 300 Hours or 6 Months (3), (4)  Section 4

- Coolant Filter - change (6)
- Fuel Filter - change (6)
- Lubricating Oil - change (1)
- Lubricating Oil Filter - change (1), (5), (6)
- Engine Coolant Supplemental Coolant Additive (SCA) Concentration Level - check (4), (6)
- Air Compressor Air Cleaner Element - check (6)
- Engine Steam Cleaning - clean (6)

Every 192,000 km [120,000 mi], 3,000 Hours or 2 Years (2), (3)  Section 5

- Automatic Belt Tensioner (if equipped) - check (7)
- Crankcase Breather - check
- Intake Air System - check
- Overhead - adjust (7)
- Air Cleaner Element - check (7)
- Water Pump - check (7)

Every 385,000 km [240,000 mi] 6,000 Hours or 3 Years (3)  Section 6

- Coolant System - clean and change coolant (8)
- Fan Hub - check
- Fan Idler Pulley Assembly - check
- Vibration Damper - inspect
- Air Compressor Discharge Lines - check (8)
- Turbocharger - check (8)
ISM and ISMe

Automotive with CM876

Daily or Refueling - Maintenance Check \(^{(1)}\) Section 3

- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Coolant Level - check
- Fan, Cooling - check
- Drive Belts - check
- Air Intake Piping - check
- Crankcase Breather Tube - check
- Air Tanks and Reservoirs - drain
- Aftertreatment Exhaust Piping - check
- Charge-Air Piping - check

Every 24,000 km [15,000 mi], 300 Hours, or 6 Months \(^{(1),(3)}\) Section 4

- Fuel Filter (Spin-on) - change
- Lubricating Oil and Filters - change \(^{(1)}\)
- Lubricating Oil Filter (Spin-on) - change
- Coolant Filter - change
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check \(^{(2)}\)
- Charge-Air Cooler - check

Every 192,000 km [120,000 mi], 3,000 Hours, or 2 Years \(^{(2),(5)}\) Section 5

- Belt Tensioner, Automatic - check
- Overhead Set - measure
- Engine Brakes - check (if equipped)
- EGR System Hoses - check

Every 240,000 Kilometers [150,000 Miles], 4,000 Hours, 2 Years Section 6

- Crankcase Breather Element - change

Every 320,000 Kilometers [200,000 Miles], 4,500 Hours Section 7

- Aftertreatment Diesel Particulate Filter - clean

Every 385,000 km [240,000 mi], 6,000 Hours, or 3 Years \(^{(2)}\) Section 8

- Cooling System - flush
- Vibration Damper, Viscous - check
- Engine Mounting Bolts - check
ISM and ISMe

Automotive with CM875, CM870 and CM570

Daily or Refueling - check  Section 3

- Fuel-Water Separator - drain  
- Lubricating Oil Level - check  
- Centinel™ - General Information - check  
- Coolant Level - check  
- Cooling Fan - check  
- Drive Belt - check  
- Air Intake Piping - check  
- Charge-Air Piping - check  
- Air Tanks and Reservoirs - drain  
- Crankcase Breather Tube - check

Every 24,000 km [15,000 mi], 300 Hours, or 6 Months  Section 4

- Coolant Filter - change  
- Lubricating Oil and Filter - change  
- Fuel Filter (Spin-on) - change  
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check  
- Charge-Air Cooler - test

Every 192,000 km [120,000 mi], 3000 Hours, or 2 Years \(^{(5)}\)  Section 5

- Belt Tensioner, Automatic - check  
- Overhead Set - measure  
- Engine Brakes - check  
- EGR System Hoses - check

Every 385,000 km [240,000 mi], 6000 Hours, or 3 Years  Section 8

- Vibration Damper, Viscous - check  
- Cooling System - flush  
- Air Compressor Discharge Lines - check

400,000 km [250,000 mi], 6000 Hours or 2 Years  Section 9

- Turbocharger Air Shutoff Valve Filter - change
ISM and ISMe

Daily or Refueling - (1) Section 3

- Fuel-Water Separator - drain
- Lubricating Oil Level - (Centinel™ make-up tank oil level, if equipped) - check
- Fan, Cooling - check
- Crankcase Breather Tube - check
- Air Tanks and Reservoirs - drain
- Air Cleaner Restriction (if equipped) - check
- Charge-Air Piping - check
- Engine and Accessories - check

Every 24,000 km [15,000 mi], 300 Hours, or 6 Months (4) Section 4

- Fuel Filter (Spin-on) - change
- Lubricating Oil and Filters - change
- Coolant Filter - change
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check (3)

Every 192,000 km [120,000 mi], 3000 Hours, or 2 Years (2)(5) Section 5

- Belt Tensioner, Automatic (if equipped) - check
- Overhead Set - measure
- Engine Brakes (if equipped) - check

Every 385,000 km [240,000 mi], 6000 Hours, or 3 Years (2) Section 8

- Cooling System - flush
- Air Compressor Discharge Lines - check
Marine and Industrial QSM11 Engine

Industrial Applications

Daily or Refueling - Maintenance Check  Section 3

• Operator's Report - check
• Fuel-Water Separator - drain
• Lubricating Oil Level - check
• Coolant Level - check
• Drive Belts - check
• Air Cleaner Restriction - check
• Air Tanks and Reservoirs - drain
• Crankcase Breather Tube - check
• Cooling Fan - check
• Charge-Air Piping - check

Maintenance Procedures at 250 Hours or 6 Months 1  Section 4

• Coolant Filter 3 - change
• Lubricating Oil and Filters 2 - change
• Fuel Filter - change
• SCA and Antifreeze Concentration - check
• Engine Wiring Harness - check

Maintenance Procedures at 1500 Hours or 1 Year 1  Section 6

• Overhead Set - adjust (Industrial applications)
• Water Pump - check
• Turbocharger - check
• Engine Mounting Bolts - check
• Air Leaks, Intake and Exhaust Systems - check
• Air Cleaner Assembly (Engine-Mounted) - check
• Cooling System Hoses - check
• Batteries - check
• Air Cleaner Restriction - check
• Engine - clean
• Radiator Shutter Assembly - check

Maintenance Procedures at 6000 Hours or 2 Years 1  Section 7

• Cooling System - flush
• Vibration Damper - check
• Fan Drive Idler Pulley - check
• Fan Hub, Belt Driven - check
• Turbocharger - check
• Air Compressor - check
Marine and Industrial QSM11 Engine

Marine Applications

Daily or Refueling - Maintenance Check  Section 3

- Operator's Report - check
- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Coolant Level - check
- Drive Belts - check
- Air Cleaner Restriction - check
- Seawater Strainer - disassemble, clean, prime, and assemble
- Marine Gear 2 - check

Maintenance Procedures at 250 Hours or 6 Months 1  Section 4

- Coolant Filter 4 - change
- Lubricating Oil and Filters 3 - change
- Fuel Filter - change
- SCA and Antifreeze Concentration - check
- Engine Wiring Harness - check
- Sacrificial Plug 5 - check

Maintenance Procedures at 600 Hours or 1 Year 1  Section 5

- Overhead Set - adjust

Maintenance Procedures at 1500 Hours or 1 Year 1  Section 6

- Water Pump - check
- Turbocharger - check
- Engine Mounting Bolts - check
- Air Leaks, Intake and Exhaust Systems - check
- Air Cleaner Assembly (Engine-Mounted) - check
- Cooling System Hoses - check
- Batteries - check
- Air Cleaner Restriction - check
- Engine - clean
- Sea Water Pump - check
- Sea Water System - clean

Maintenance Procedures at 6000 Hours or 2 Years 1  Section 7

- Cooling System - flush
- Vibration Damper - check
## N14 Series Engines

### N14 Engine Maintenance Schedule: \(^{(1)}\)

<table>
<thead>
<tr>
<th></th>
<th>Every 16,000 km [10,000 MI.], 250 Hours or 6 Months (^{(3)}) (whichever occurs first)</th>
<th>Every 96,000 km [60,000 MI.], 1,500 Hours or 1 Year (^{(1)}) (whichever occurs first)</th>
<th>Every 385,000 km [240,000 MI.], 6,000 Hours or 2 Years (^{(3)}) (whichever occurs first)</th>
<th>Every 385,000 km [240,000 MI.], 6,000 Hours or 3 Years (^{(3)}) (whichever occurs first)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Daily or Refueling</strong></td>
<td>• Check operator's report.</td>
<td>• Check and adjust valve, injector, and engine brake lash.</td>
<td>• Clean cooling system and change coolant and antifreeze.</td>
<td>• Inspect Turbocharger</td>
</tr>
<tr>
<td></td>
<td>• Check and bring to correct level</td>
<td>• Steam clean engine</td>
<td>• Check/clean crankcase breather/tube.</td>
<td>• Inspect Air Compressor</td>
</tr>
<tr>
<td></td>
<td>○ Engine oil</td>
<td>• Check torque on turbocharger mounting nuts.</td>
<td>• Check Turbocharger</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Visually inspect fan.</td>
<td>• Check torque on engine mounting bolts.</td>
<td>• Inspect Air Compressor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Visually inspect engine for damage, leaks, loose or frayed belts and correct or record for future action.</td>
<td>• Replace hoses as required.</td>
<td>• Inspect Water Pump_idler pulley assembly</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Drain fuel-water separator.</td>
<td>• Check shutterstats and thermatic fans (if equipped).</td>
<td>• Inspect External Vibration Damper</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Check air intake system and charge air cooler circuit for wear points, damage to piping or loose clamps.</td>
<td>• Check crankcase breather/tube.</td>
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<tr>
<td></td>
<td>• Drain air tanks and reservoirs.</td>
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<tr>
<td></td>
<td>• Change/replace Lubricating Oil (^{(2)})</td>
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<tr>
<td></td>
<td>• Change/replace Lubricating Oil Filters (^{(2)})</td>
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<td></td>
<td>• Change/replace Fuel Filter</td>
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<tr>
<td></td>
<td>• Change/replace Coolant Filter</td>
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<tr>
<td></td>
<td>• Check air cleaner restriction</td>
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<tr>
<td></td>
<td>• Check coolant additive (DCA4) concentration (^{(4)}).</td>
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<td></td>
<td>• Drain water from the fuel tank(s).</td>
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<tr>
<td></td>
<td>• Replace element on Cummins 2 cylinder air compressor if equipped with an air cleaner.</td>
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<td>• Visually check wiring harnesses on engine for external damage.</td>
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<td>• Operate engine and check intake air system.</td>
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<td>• Clean cooling system and change coolant and antifreeze.</td>
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<td>• Check/clean crankcase breather/tube.</td>
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Industrial and Marine N14 Series Engines

Daily or Refueling Section 3

- Engine Oil Level - Check
- Coolant Level - Check
- Air Cleaner Restriction Indicator - Check
- Intake Air Piping and Charge Air Cooler - Inspect
- Air Tanks and Reservoirs - Drain
- Drive Belts - Check
- Fuel-Water Separator - Drain
- Marine Gear - Check
- Cooling Fan - Inspect
- Seawater Strainer - Inspect

Maintenance Procedures at 250 Hours or 6 Months (2), (4) Section 4

- Coolant Filter - Change
- Fuel Filter - Change
- Lubricating Oil - Change (1)
- Lubricating Oil Filter - Change (1)
- Engine Coolant Supplemental Coolant Additive (SCA) Concentration Level - Check (4)
- Engine Harness - Check
- Air Compressor - Check
- Intake and Exhaust System - Inspect
- Zinc Anode - Inspect

Maintenance Procedures at 1500 Hours or 1 Years (2) Section 5

- Overhead Set - adjust
- Engine - Steam Clean
- Cooling System Hoses - Inspect
- Radiator Shutter Assembly - Inspect
- Turbocharger - Inspect
- Seawater Pump - Inspect
- Engine Oil Heater - Check
- Batteries - Check
- Engine Mounts - Check
- Seawater Heat Exchanger - Check

Maintenance Procedures at 6000 Hours or 2 Years (2) Section 6

- Coolant System - Clean and Change Coolant
- Fan Hub, Belt Driven - Check
- Turbocharger - Inspect
- Water Idler Pulley Assembly - check
- Water Pump - Check
- Air Compressor - Check     Vibration Damper - inspect

Maintenance Procedures at 6000 Hours or 3 Years Section 7

- Engine - Storage (Long Term)     Engine - Storage (Short Term)     Injector - Check     Fuel Pump - Check
N14 Plus Series Engines

Daily or Refueling  Section 3

- Air Cleaner Restriction Indicator - Check
- Engine Oil Level - Check
- Coolant Level - Check
- Air Tanks and Reservoirs - Drain
- Fuel-Water Separator - Drain
- Cooling Fan - Inspect
- Intake Air Piping and Charge Air Cooler - Inspect
- Crankcase Breather Tube - Inspect

Every 19,000 km [12,000 mi], 300 Hours or 6 Months (3), (4)  Section 4

- Coolant Filter - Change
- Fuel Filter - Change
- Lubricating Oil - Change (1)
- Lubricating Oil Filter - Change (1)
- Engine Coolant Supplemental Coolant Additive (SCA) Concentration Level - Check (4)

Every 121,000 km [75,000 mi] (If Centinel™)

- Lubricating Oil Filter - Change

Every 192,000 km [120,000 mi], 3,000 Hours or 2 Years (2), (3), (5)  Section 5

- Automatic Belt Tensioner, If Equipped - Check
- Crankcase Breather - Check
- Engine Brakes - Adjust
- Intake Air System - Check
- Overhead Set - Adjust

Every 385,000 km [240,000 mi] 6,000 Hours or 3 Years (3)  Section 6

- Fan Hub - Check
- Fan Idler Pulley Assembly - Check
- Vibration Damper - Inspect
Signature and ISX

Automotive With CM871

Daily or Refueling - Maintenance Check (1) Section 3

- Air Intake Piping - check
- Air Tanks and Reservoirs - drain
- Coolant Level - check
- Charge-Air Piping - check
- Crankcase Breather Tube - check
- Drive Belts - check
- Fan, Cooling - check
- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Centinel™ Oil Level - check
- Aftertreatment Exhaust Piping - check

Every 40,000 km [25,000 mi], 800 Hours, or 6 Months (1)(2) Section 5

- Fuel Filter (Spin-On Type) - change
- Lubricating Oil and Filters - change
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check
  Charge-Air Cooler – check

Every 80,000 km [50,000 mi], 1,500 Hours, or 1 Year (3) Section 6

- Air Cleaner Restriction - check
- Air Compressor Discharge Lines - check
- Air Compressor Air Cleaner Element - check
- Air Leaks, Air Intake and Exhaust Systems - check
- Cooling Fan Belt Tensioner - inspect for reuse
- Coolant Filter - change
- Engine Wiring Harness - check

Every 200,000 km [125,000 mi], 3,000 Hours, or 1 Year (4) Section 7

- Crankcase Breather Element – change

Every 200,000 km [125,000 mi], 3,000 Hours, or 2 Years Section 8

- Radiator Hoses - check
- Cold Starting Aid - check
- Radiator Shutter Assembly - check
- Vibration Damper, Viscous - check
- Engine Steam Cleaning - clean

Every 320,000 km [200,000 mi] or 4,500 Hours (5) Section 9

- Aftertreatment Diesel Particulate Filter - clean

Every 400,000 km [250,000 mi], 6,000 Hours, or 2 Years Section 10

- Turbocharger Air Shutoff Valve Filter - change
- Cooling System – flush

Every 800,000 km [500,000 mi], 10,000 Hours, or 5 Years (6) Section 11

- Engine Brake Assembly - test
- Fan Hub, Belt Driven - inspect for reuse
- Overhead Set - adjust
Signature and ISX

Automotive with CM870

Daily or Refueling - Maintenance Check (1) Section 3

- Air Intake Piping - check
- Air Tanks and Reservoirs - drain
- Coolant Level - check
- Charge-Air Piping - check
- Crankcase Breather Tube - check
- Drive Belts - check
- Fan, Cooling - check
- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Centinel™ Oil Level - check

Every 40,000 km [25,000 mi], 800 Hours, or 6 Months (1)(3) Section 5

- Fuel Filter (Spin-On Type) - change
- Lubricating Oil and Filters - change
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check
- Charge-Air Cooler - check

Every 80,000 km [50,000 mi], 1,500 Hours, or 1 Year (2) Section 6

- Air Cleaner Restriction - check
- Air Compressor Discharge Lines - check
- Air Compressor Air Cleaner Element - check
- Air Leaks, Air Intake and Exhaust Systems - check
- Cooling Fan Belt Tensioner - inspect for reuse
- Coolant Filter - change
- Engine Wiring Harness - check

Every 200,000 km [125,000 mi], 3,000 Hours, or 2 Years Section 8

- Radiator Hoses - check
- Cold Starting Aid - check
- Radiator Shutter Assembly - check
- Vibration Damper, Viscous - check
- Engine Mounting Bolts - check
- Engine Steam Cleaning - clean

Every 400,000 km [250,000 mi], 6,000 Hours, or 2 Years Section 10

- Turbocharger Air Shutoff Valve Filter - change
- Cooling System - flush

Every 800,000 km [500,000 mi], 10,000 Hours, or 5 Years (4) Section 11

- Engine Brake Assembly - test
- Fan Hub, Belt Driven - inspect for reuse
- Overhead Set - adjust
Signature and ISX

Automotive with CM570
Daily or Refueling - Maintenance Check (1) Section 3

- Air Intake Piping - check
- Air Tanks and Reservoirs - drain
- Coolant Level - check
- Charge-Air Piping - check
- Crankcase Breather Tube - check
- Drive Belts - check
- Fan, Cooling - check
- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Centinel™ Oil Level - check

Every 32,000 km [20,000 mi], 625 Hours, or 6 Months (1)(3) Section 4

- Charge-Air Cooler - check
- Lubricating Oil and Filters - change
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check

Every 80,000 km [50,000 mi], 1,500 Hours, or 1 Year (2) Section 6

- Air Cleaner Restriction - check
- Air Compressor Discharge Lines - check
- Air Compressor Air Cleaner Element - check
- Air Leaks, Air Intake and Exhaust Systems - check
- Cooling Fan Belt Tensioner - inspect for reuse
- Coolant Filter - change
- Engine Wiring Harness - check

Every 200,000 km [125,000 mi], 3,000 Hours, or 2 Years Section 8

- Radiator Hoses - check
- Cold Starting Aid - check
- Radiator Shutter Assembly - check
- Vibration Damper, Viscous - check
- Engine Mounting Bolts - check
- Engine Steam Cleaning - clean

Every 400,000 km [250,000 mi], 6,000 Hours, or 2 Years Section 10

- Cooling System - flush

Every 800,000 km [500,000 mi], 10,000 Hours, or 5 Years (4) Section 11

- Engine Brake Assembly - test
- Fan Hub, Belt Driven - inspect for reuse
- Overhead Set - adjust
Industrial & Power Generation
QLX15 Engines

Daily or Refueling - Maintenance Check \(^{(1)}\) Section 3

- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Coolant Level - check
- Fan, Cooling - check
- Drive Belts - check
- Air Intake Piping - check
- Charge-Air Piping - check
- Air Tanks and Reservoirs - drain
- Crankcase Breather Tube - check

Every 250 Hours, or 6 Months \(^{(1)}, (4)\) Section 4

- Lubricating Oil and Filters - change
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check
- Fuel Filter (Spin-On Type) - change

Every 1,500 Hours, or 1 Year \(^{(2)}, (3)\) Section 5

- Coolant Filter - change
- Coolant Filter Head - Inspect for reuse
- Cooling Fan Belt Tensioner - check
- Air Leaks, Air Intake and Exhaust Systems - check
- Air Cleaner Restriction - check
- Engine Wiring Harness - check

Every 6,000 Hours, or 2 Years \(^{(3)}\) Section 6

- Crankcase Breather Tube - check
- Radiator Hose - check
- Cold Weather Starting Aids - check
- Engine Steam Cleaning - clean
- Engine Mounting Bolts - check
- Vibration Damper, Viscous - inspect for reuse
- Overhead Set - adjust

Every 10,000 Hours, or 5 Years \(^{(3)}\) Section 7

- Fan Hub, Belt Driven - replace
- Air Compressor Discharge Lines - check
Maintenance Checks    ISX11.9 CM2250

Automotive Applications

Perform maintenance at whichever interval occurs first. At each scheduled maintenance interval, perform all previous maintenance checks that are due for scheduled maintenance.

Maintenance Procedures at Daily Interval

- Air Cleaner Restriction - Check
- Air Intake Piping - Check
- Air Tanks and Reservoirs - Drain
- Coolant Level - Check
- Charge-Air Piping - Check
- Crankcase Breather Tube - Check
- Drive Belts - Check
- Fan, Cooling - Inspect
- Fuel-Water Separator - Drain
- Lubricating Oil Level - Check
- Aftertreatment Exhaust Piping - Check
- Diesel Exhaust Fluid (DEF) Level - Check

Maintenance Procedures at 40,000 Kilometers [25,000 Miles], 400 Hours, or 6 Months\(^{(1),(3)}\)

- Pressure Fuel Filter - Change
- Fuel Filter Suction - Change
- Lubricating Oil and Filters - Change
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - Check
- Radiator Pressure Cap - Test
- Charge-Air Cooler - Check

Maintenance Procedures at 80,000 Kilometers [50,000 Miles], 1500 Hours, or 1 Year\(^{(2)}\)

- Air Compressor Discharge Lines - Check
- Air Compressor Air Cleaner Element - Check
- Air Leaks, Air Intake and Exhaust Systems - Check
- Belt Tensioner, Refrigerant Compressor, Automatic - Check
- Cooling Fan Belt Tensioner - Check
- Coolant Filter - Change
• Engine Wiring Harness - Check

**Maintenance Procedures at 200,000 Kilometers [125,000 Miles], 3000 Hours, or 2 Years**

• Radiator Hoses - Check  
• Cold Starting Aid - Check  
• Radiator Shutter Assembly - Check  
• Engine Mounting Bolts - Check  
• Engine Steam Cleaning - Clean

**Maintenance Procedures at 240,000 Kilometers [150,000 Miles] or 4000 Hours**(4)

• Crankcase Breather Element - Change  
• Aftertreatment Fuel Injector - Clean

**Maintenance Procedures at 320,000 Kilometers [200,000 Miles], 4,500 Hours**

• Aftertreatment Diesel Exhaust Fluid Dosing Unit Filter - Change

**Maintenance Procedures at 400,000 Kilometers [250,000 Miles], 6000 Hours, or 2 Years**(5)

• Cooling System - Flush  
• Vibration Damper, Viscous - Inspect  
• Engine Brake - Adjust  
• Overhead Set - Adjust

**Maintenance Procedures at 480,000 Kilometers [300,000 Miles] or 6750 Hours**(6)

• Aftertreatment Diesel Particulate Filter - Check

**Maintenance Procedures at 800,000 Kilometers [500,000 Miles], 10,000 Hours, or 5 Years**
Maintenance Checks   ISX15 CM2250

Automotive Applications

Listed below are the section numbers that contain specific instructions for performing the maintenance checks listed in the maintenance schedule.

Perform maintenance at whichever interval occurs first. At each scheduled maintenance interval, perform all previous maintenance checks that are due for scheduled maintenance.

Maintenance Procedures at Daily Interval\(^{(1)}\)   (Section3)

- Air Cleaner Restriction - check
- Air Intake Piping - check
- Air Tanks and Reservoirs - drain
- Coolant Level - check
- Charge-Air Piping - check
- Crankcase Breather Tube - check
- Drive Belts - check
- Fan, Cooling - check
- Fuel-Water Separator - drain
- Lubricating Oil Level - check
- Aftertreatment Exhaust Piping - check
- Diesel Exhaust Fluid (DEF) Level - check

Maintenance Procedures at 40,000 Kilometers [25,000 Miles], 800 Hours, or 6 Months\(^{(1)}\)\(^{(3)}\)   (Section4)

- Pressure Fuel Filter - change
- Fuel Filter Suction - check
- Lubricating Oil and Filters - change
- Radiator Pressure Cap - check
- Supplemental Coolant Additive (SCA) and Antifreeze Concentration - check
- Charge-Air Cooler - check

Maintenance Procedures at 80,000 Kilometers [50,000 Miles], 1500 Hours, or 1 Year\(^{(2)}\)   (Section5)

- Air Compressor Discharge Lines - check
- Air Compressor Air Cleaner Element - check
- Air Leaks, Air Intake and Exhaust Systems - check
- Cooling Fan Belt Tensioner - check
- Coolant Filter - change
- Engine Wiring Harness - check

**Maintenance Procedures at 200,000 Kilometers [125,000 Miles] or 3000 Hours** (Section6)

- Crankcase Breather Element - change

**Maintenance Procedures at 200,000 Kilometers [125,000 Miles], 3000 Hours, or 2 Years** (Section7)

- Radiator Hoses - check
- Cold Starting Aid - check
- Radiator Shutter Assembly - check
- Vibration Damper, Viscous - check
- Engine Mounting Bolts - check
- Engine Steam Cleaning - clean

**Maintenance Procedures at 241,000 Kilometers [150,000 Miles] or 4500 Hours** (Section8)

- Aftertreatment Fuel Injector - clean

**Maintenance Procedures at 320,000 Kilometers [200,000 Miles] or 4,500 Hours** (Section9)

- Aftertreatment Diesel Exhaust Fluid Dosing Unit Filter - change

**Maintenance Procedures at 400,000 Kilometers [250,000 Miles], 6000 Hours, or 2 Years** (Section10)

- Cooling System - flush

**Maintenance Procedures at 480,000 Kilometers [300,000 Miles] or 6750 Hours** (Section11)

- Aftertreatment Diesel Particulate Filter - clean

**Maintenance Procedures at 800,000 Kilometers [500,000 Miles], 10,000 Hours, or 5 Years** (Section12)

- Engine Brake Assembly - test
- Fan Hub, Belt Driven - check
- Overhead Set - adjust