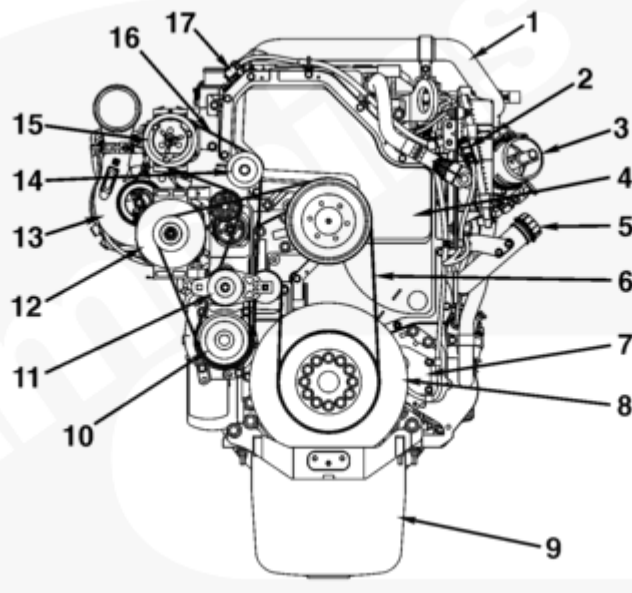


Engine Views

The following illustrations show the location of the major external engine components, filters, and other service and maintenance points. Some external components will be at different locations for different engine models.

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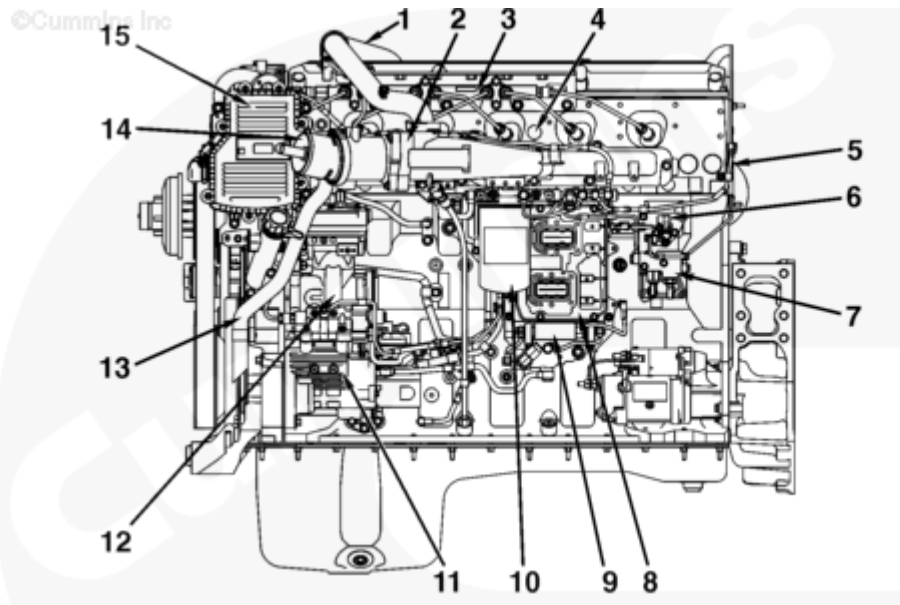


24100002

Front View

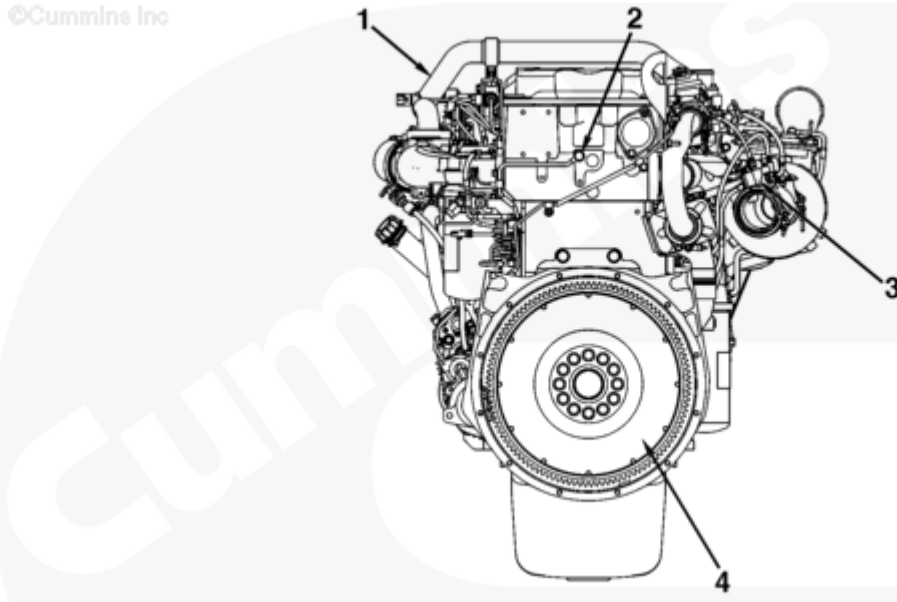
1. Exhaust gas recirculation (EGR) crossover tube
2. Crankcase breather pressure sensor
3. Air intake connection
4. Gear housing cover, upper
5. Lubricating oil fill tube
6. Water pump belt drive
7. Gear housing cover, lower
8. Vibration damper
9. Lubricating oil pan
10. Water pump, dual outlet
11. Belt tensioner, water pump

12. Alternator
13. Turbocharger, variable geometry
14. Belt tensioner, refrigerant compressor
15. Refrigerant compressor
16. Refrigerant compressor belt drive
17. Camshaft position sensor.



Left Side View

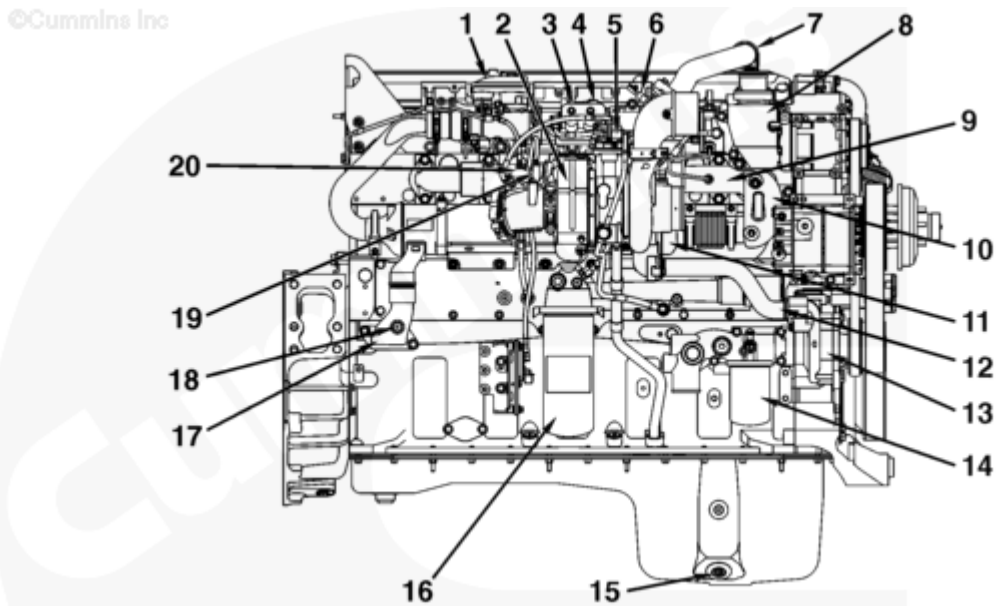
1. EGR crossover tube
2. Intake air throttle
3. Fuel rail
4. Cylinder head wiring harness pass-through connector
5. Cylinder head fuel return line
6. Aftertreatment purge air actuator
7. Aftertreatment fuel shutoff manifold
8. Engine control module (ECM)
9. Fuel lift pump
10. Fuel filter
11. Fuel pump
12. Air compressor
13. Crankcase breather vent tube
14. Air intake connection
15. Crankcase breather housing.



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Rear View

1. EGR crossover tube
2. Cylinder head fuel return line
3. Aftertreatment fuel injector
4. Flywheel.



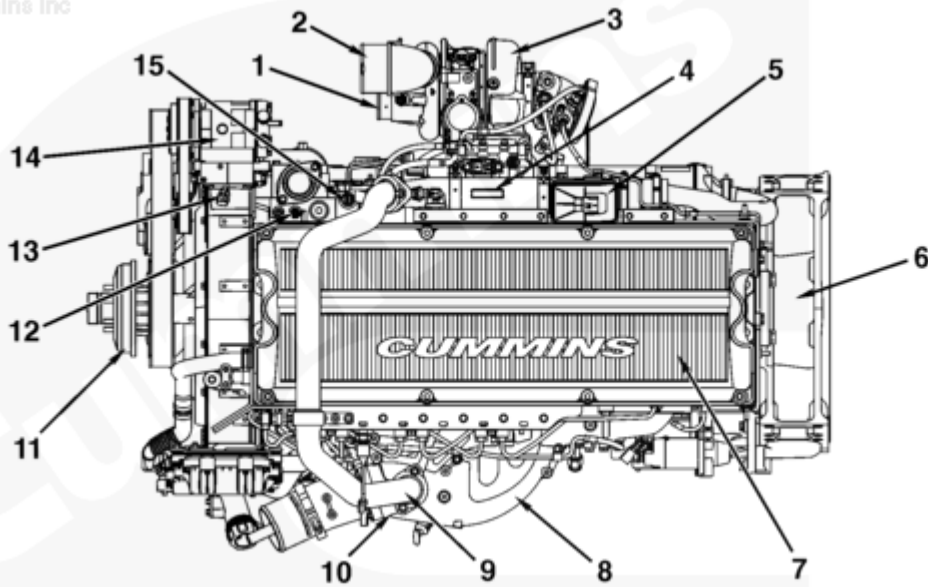
24100005

Right Side View

1. EGR valve
2. Turbocharger heat shield
3. EGR orifice pressure sensor
4. EGR differential pressure sensor
5. Variable geometry turbocharger actuator, electric
6. EGR temperature sensor

7. EGR crossover tube
8. Thermostat housing
9. Exhaust manifold
10. Exhaust manifold heat shield
11. EGR cooler
12. EGR cooler coolant inlet tube
13. Water pump, dual outlet
14. Coolant filter, if equipped (use of coolant filter(s) is optional when using coolants meeting Cummins' Coolant Requirements)
15. Lubricating oil drain plug
16. Lubricating oil filter
17. EGR cooler coolant return tube
18. Aftertreatment coolant supply port
19. Aftertreatment intake mon-nitrogen oxides (NOx) sensor
20. Aftertreatment fuel injector.

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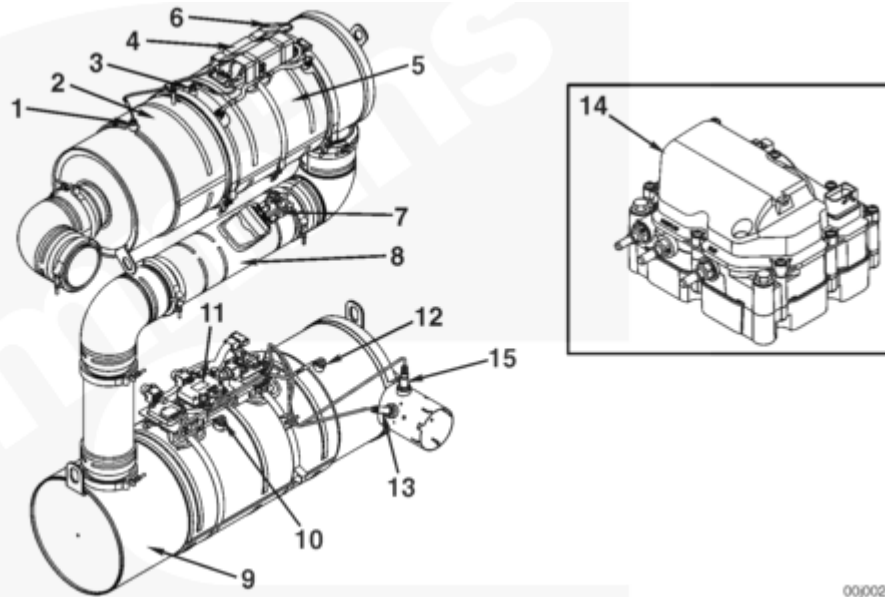
2400006

Top View

1. Turbocharger air inlet
2. Turbocharger compressor outlet
3. Turbocharger, variable geometry
4. Exhaust mass flow measurement
5. EGR valve
6. Flywheel housing
7. Rocker lever cover
8. Air intake manifold
9. EGR crossover tube
10. Air intake throttle
11. Fan hub

12. Coolant temperature sensor
13. Camshaft position sensor
14. Refrigerant compressor
15. Exhaust gas pressure sensor.

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Aftertreatment Components

1. Aftertreatment diesel oxidation catalyst (DOC) intake temperature sensor
2. Aftertreatment DOC
3. Aftertreatment diesel particulate filter (DPF) intake temperature sensor
4. Aftertreatment DPF differential pressure sensor and tubes (beneath shield)
5. Aftertreatment DPF
6. Aftertreatment DPF outlet temperature sensor
7. Aftertreatment diesel exhaust fluid (DEF) dosing valve
8. Aftertreatment decomposition tube
9. Aftertreatment selective catalytic reduction (SCR) catalyst
10. Aftertreatment SCR intake temperature sensor
11. Aftertreatment SCR catalyst NH3 sensor, if equipped
12. Aftertreatment SCR outlet temperature sensor
13. Aftertreatment outlet NOx sensor
14. Aftertreatment DEF dosing unit
15. Aftertreatment particulate sensor, if equipped.

