

Initial diesel engine startup and break in guide: This is a general guide only, superceeded by all manufacture's recommended procedures.

\*\*\*Start clean, end clean\*\*\*

\*\*\*Safety\*\*\* Before you start, are you protected? Do you know how to shut down? Do you have something to shut air intake? Contingency plan? Fire extinguisher? Safety goggles, and ear muffs? Moving parts clear of loose hoses, belts, wires, coveralls?

\*\*\*Gauges\*\*\* Oil pressure, Tachometer, Coolant temp, Voltmeter, Manometer for crankcase pressure and boost pressure

\*\*\*Look, Listen and Feel\*\*\* How does the smoke look? Listen for scratching, pinging, clanking? Feel for out of normal vibrations, and shudders?

pre-procedure checks

- prelube engine
- attache all sensors
- coolant fill
- check for visible leaks
- check valve lash
- fuel timing
- bar engine two complete revs in direction of rotation
- connect electrical to good batteries!

For engines in machinery. Ie. boat, truck, stationary, etc.

1)Start

2)Check for oil pressure, adequate? Check for coolant leaks

3)Let it warm up at idle, 650-1000 rpm

4)Operate at varying speed/load for three hours. Should be operated at more than 1000 rpm, and not more than 75% rated horsepower.

5)Cool down at idle for five minutes. Shut down.

6)Check valve lash, adjust if necessary. Some fuel systems need adjusting at this point.

\_\_\_\_\_intake    \_\_\_\_\_exhaust

7)Take oil sample and send to lab. Wash engine and paint.

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For engines on Dynamometer:

- 1)Start
- 2)Check for oil pressure, adequate? Check for coolant leaks
- 3)Let it warm up at idle, 1000 rpm.
- 4)Set fuel control to 75% of top unloaded rpm.
- 5)Load to 50% rated horsepower for 15 minutes.
- 6)Idle for 5 minutes
- 7)Set fuel control to 85% of top unloaded rpm.
- 8)Load to 75% rated horsepower for 15 minutes.
- 9)Idle for 5 minutes.
- 10)Full peak load, at full rated rpm for five minutes.
- 11)Idle for 5 minutes.
- 12)Take oil sample send to lab. Wash engine and paint.