# SERVICE MANUAL

## Cursor 11
## Tier 4B (final) and Stage IV
## Engine

*See the following page for engine model numbers*

CNH INDUSTRIAL

**Part number 47608463**
1st edition English
September 2015

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| | |
|---|---|
| - Oil control ring | **0.040 - 0.080 mm (0.002 - 0.003 in)** |
| Piston ring end gap in cylinder liners | |
| - Combustion ring | **0.30 - 0.40 mm (0.01 - 0.02 in)** |
| - Intermediate ring | **0.65 - 0.80 mm (0.026 - 0.031 in)** |
| - Oil control ring | **0.40 - 0.75 mm (0.016 - 0.030 in)** |
| **Connecting rod** | |
| Small end bush housing | |
| - Nominal | **62 mm (2 in)** |
| Big end bearing housing | |
| - Nominal | **98.000 - 98.030 mm (3.858 - 3.859 in)** |
| - Class 1 | **98.000 - 98.010 mm (3.858 - 3.859 in)** |
| - Class 2 | **98.011 - 98.020 mm (3.859 - 3.859 in)** |
| - Class 3 | **98.021 - 98.030 mm (3.859 - 3.859 in)** |
| Small end bush diameter | |
| - Outside | **62.360 - 62.976 mm (2.455 - 2.479 in)** |
| - Inside | **58.060 - 58.076 mm (2.286 - 2.286 in)** |
| Big end bearing shell thickness | |
| - Red | **2.465 - 2.475 mm (0.097 - 0.097 in)** |
| - Green | **2.475 - 2.485 mm (0.097 - 0.098 in)** |
| - Yellow | **2.485 - 2.495 mm (0.098 - 0.098 in)** |
| Clearance between piston pin and bush | **0.060 - 0.082 mm (0.002 - 0.003 in)** |
| Connecting rod weight | |
| - Class A | **5000 - 5033 g (176 - 178 oz)** |
| - Class B | **5034 - 5067 g (178 - 179 oz)** |
| - Class C | **5068 - 5100 g (179 - 180 oz)** |
| Maximum connecting rod axis misalignment tolerance | **0.08 mm (0.003 in)** |
| **Crankshaft** | |
| Main journals | |
| - Class 1 | **99.970 - 99.977 mm (3.936 - 3.936 in)** |
| - Class 2 | **99.978 - 99.985 mm (3.936 - 3.936 in)** |
| - Class 3 | **99.986 - 99.993 mm (3.936 - 3.937 in)** |
| - Class 4 | **99.994 - 100.000 mm (3.937 - 3.937 in)** |
| Crankpins | |
| - Class 1 | **92.970 - 92.979 mm (3.660 - 3.661 in)** |
| - Class 2 | **92.980 - 92.989 mm (3.661 - 3.661 in)** |
| - Class 3 | **92.990 - 93.000 mm (3.661 - 3.661 in)** |
| Main bearing shells | |
| - Red | **3.115 - 3.122 mm (0.123 - 0.123 in)** |
| - Green | **3.123 - 3.130 mm (0.123 - 0.123 in)** |
| - Yellow | **3.131 - 3.138 mm (0.123 - 0.124 in)** |
| Main bearing housings | |
| - Rated value | **106.300 - 106.330 mm (4.185 - 4.186 in)** |
| - Class 1 | **106.300 - 106.307 mm (4.185 - 4.185 in)** |
| - Class 2 | **106.308 - 106.315 mm (4.185 - 4.186 in)** |
| - Class 3 | **106.316 - 106.323 mm (4.186 - 4.186 in)** |
| Clearance between bearing shells and main journals | **0.020 - 0.140 mm (0.001 - 0.006 in)** |
| Clearance between bearing shells and big ends | **0.060 - 0.100 mm (0.002 - 0.004 in)** |
| Main journal, thrust bearing | **45.95 - 46.00 mm (1.81 - 1.81 in)** |
| Main bearing housing, thrust bearing | **38.94 - 38.99 mm (1.53 - 1.54 in)** |
| Thrust bearing thickness | **3.350 - 3.400 mm (0.132 - 0.134 in)** |
| Crankshaft end play | **0.10 - 0.30 mm (0.0039 - 0.0118 in)** |
| Main journals and crankpins | |
| - Alignment | Less than or equal to **0.025 mm (0.0010 in)** |
| - Ovalization | **0.012 mm (0.00047 in)** |

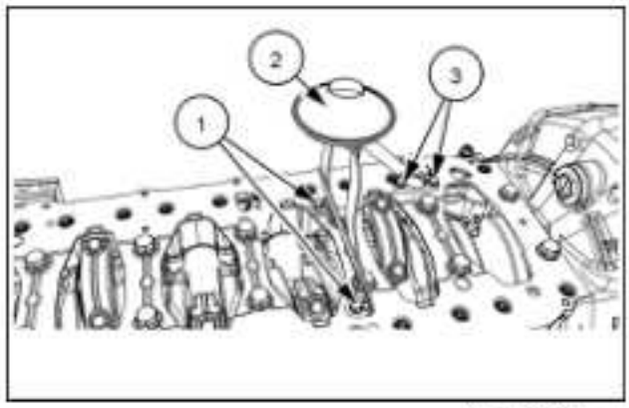


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# Engine oil pan - Install

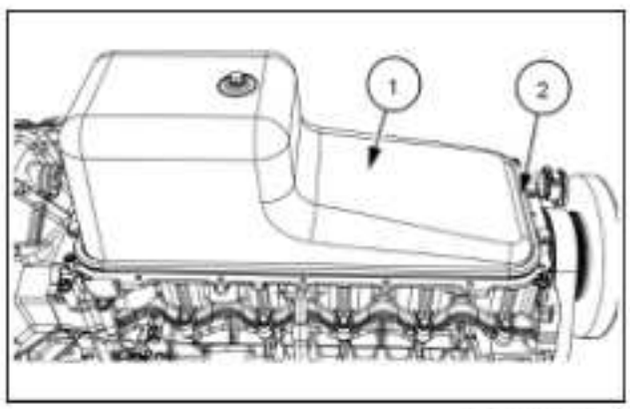
**Prior operation:**
**Engine oil pan - Remove (10.102)**

1. Install the oil pick-up tube **(2)** to the engine block.
2. Install the M8 x 16 bolts **(1)** in the oil pick-up tube support.
3. Install the M8 x 25 oil pick-up tube bolts **(3)**.
4. Torque the M8 bolts to **20 N·m** (**15 lb ft**).



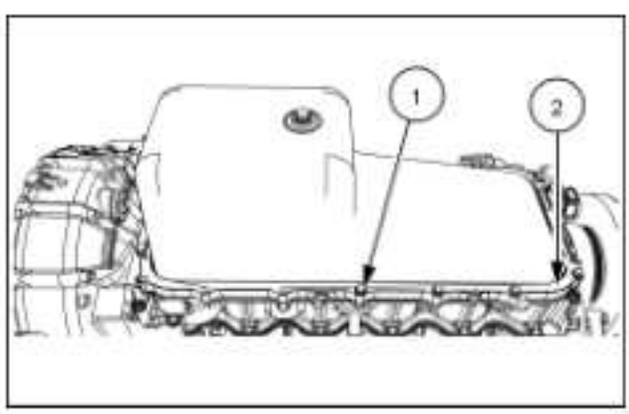

NI6L14ENG0700AA 1

5. Install the oil pan **(1)** onto the under block.
6. Install a new gasket **(2)** over the oil pan.




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7. Install the oil pan retaining plate **(2)**.
8. Install the M10 x 45 oil pan bolts **(1)**.

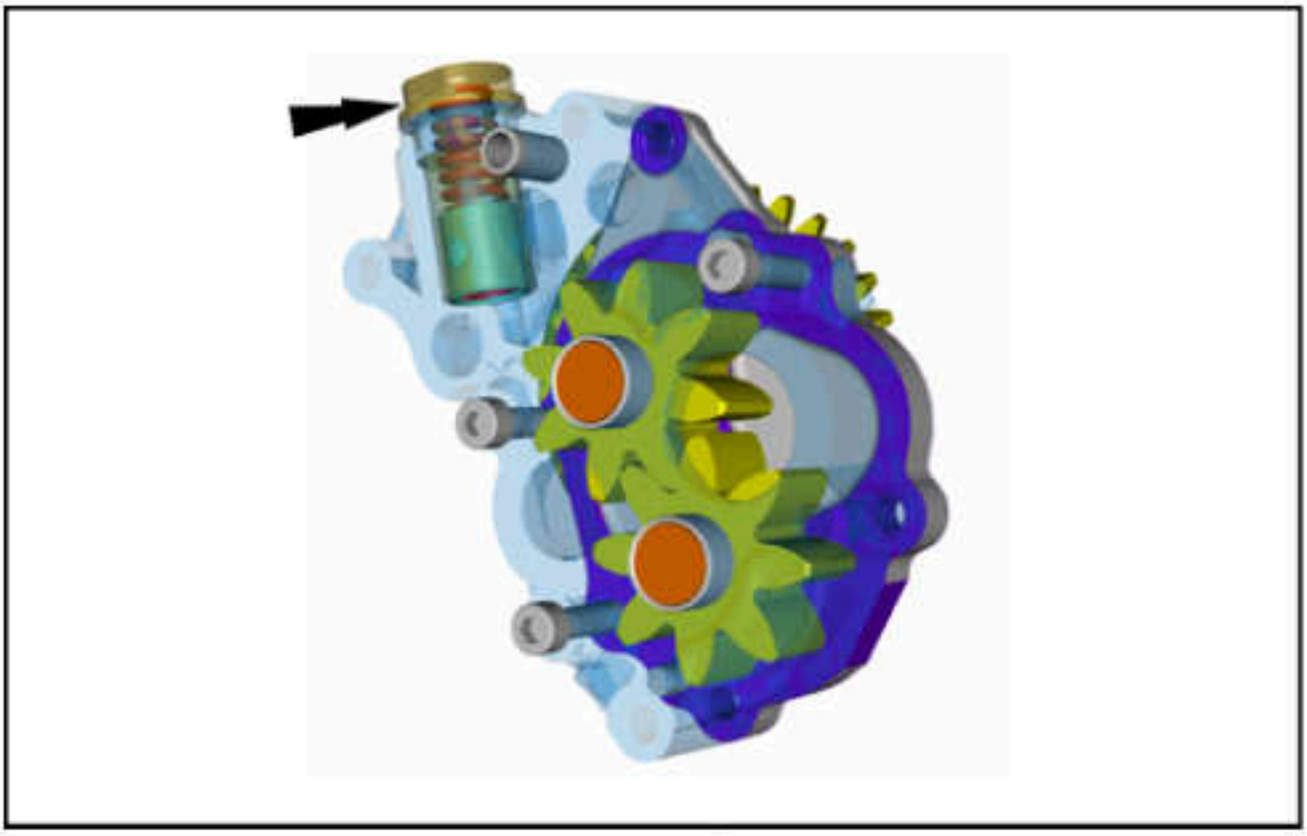



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# Oil pressure valve - General specification – Overpressure valve



NHL10ENG0166AA 1

**Start of opening pressure 9 - 11 bar (131 - 160 psi).**



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