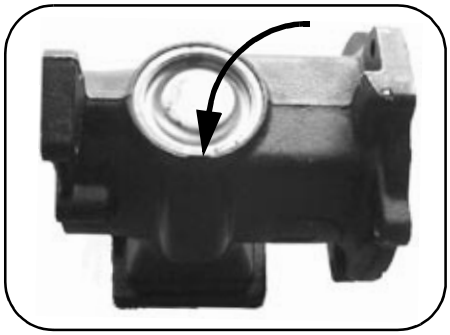
# Con Rod Assembly Service Kit for Single Cylinder 85mm Dia. Piston 4089211

## for Cummins C, ISC, ISL, L, M, ISM, N, K, ISX and Signature Engines

Kit contains a ready-to-use **con rod assembly** with bushing and screws. Also included, for field service, sump access plug, head bolts, and head and cover gaskets, since **the head must be removed and replaced to service the con rod**. See page three. **YOU must provide Loctite 648 or Euro-Lock A 64.80 to seal the sump plug.**

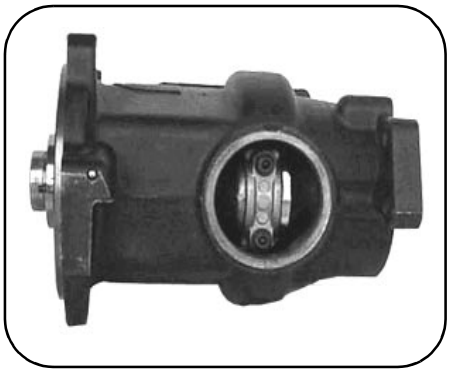
## Disassembly **(after Head removal--see page three)**

1. Using a large screwdriver or similar device, remove the sump plug using the cast slot in the crankcase.

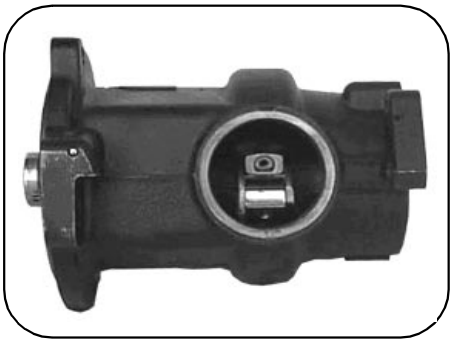


2. Rotate the crankshaft to position the rod cap in the access hole.

3. Remove the two Torx Socket rod bolts. **Discard the rod bolts.**.



4. Pull the rod cap off of the rod and crankshaft. **Discard the rod cap.**

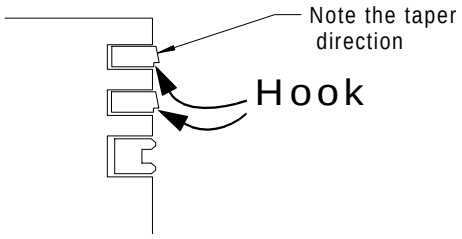


5. Push the piston and rod assembly out of the top of the crankcase with a wooden dowel ,or hammer handle; pushing on the bottom of the rod.

6. Remove one pin retaining clip. Push out the pin to separate the connecting rod from the piston assembly. **Keep** the Piston Assembly for reuse (unless the Piston Assembly is also being replaced).

# Reassembly

1. Check the piston assembly and, if necessary, stagger ring gaps so that they are about 90 apart. Also check to see that the “hook” of the upper rings is away from the top of the piston as shown.




2. Coat the piston pin, con rod bore and piston pin bores with light oil. Assemble the new rod, piston pin and retainers, insuring that the retainers are secure in their grooves. The rod should move freely.

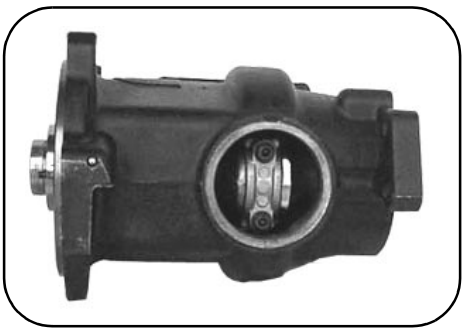
3. Coat the crankcase cylinder bore with light oil. Using a ring compressor, install the piston into the crankcase. Align the rod to permit it to match up to the crankshaft. Note the orientation features of the cap and rod.

4. Apply light oil to the crankshaft rod journal and assemble rod cap.

**Bolt A is the one nearer the “W” of cast word “WABCO”.**

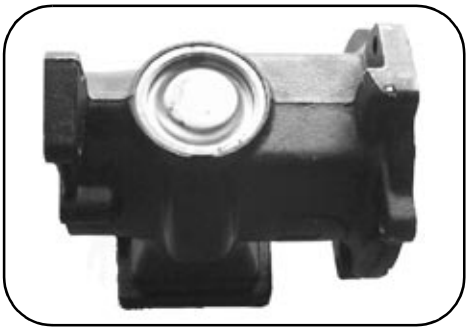
.

| Step | Bolt | Torque Nm | Rotation Degrees |
|---|---|---|---|
| 1 | **A** | $6^{+.6}_{-.6}$ | not yet |
| 2 | B | $6^{+.6}_{-.6}$ | not yet |
| 3 | **A** | | $70°^{+15}_{-5}$ |
| 4 | B | | $70°^{+15}_{-5}$ |



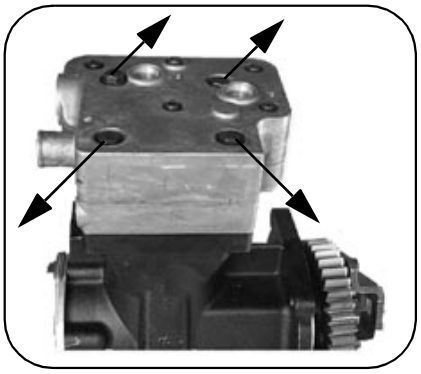
5. Check that the crankshaft rotates without binding or excessive torque. The maximum torque is 6 Nm.

6. Apply **Loctite 648** or Euro-Lock A 64.80 sealant to the cylindrical surface of the sump plug and press it evenly into the crankcase until the flange seats.



7. Continue with the remainder of the compressor reassembly, **referring to the following page.**

**For reference:** Head Assembly **removal** and **reassembly** (with fresh gaskets and head bolts).

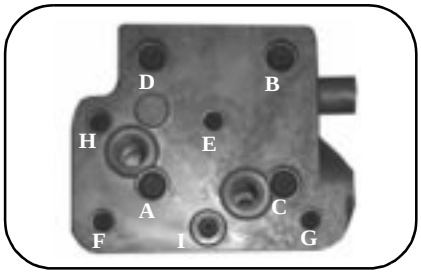


1. Remove the larger headbolts, and then the smaller screws. Save the smaller screws for reuse. Find the new headbolts in the kit and then discard the old ones.
2. Rotate the crankshaft so that the piston is at TDC to avoid getting dirt in the cylinder bore.
3. Carefully remove the head assembly. Notice the position of valves and sliding leaf. Remove the upper and lower gaskets. Replace them with the new ones in the kit.
4. Set aside these items while the Rod Assembly is replaced according to instructions on pages one and two.
5. **Proceed with the Con Rod replacement and reassembly** of the con rod and piston assemblies. Clean off any dirt or gasket residue from the crankcase. Avoid getting dirt into the clearance between the piston and the crankcase bore.
6. Insure that sliding valve is in place and that guide pins are in the correct direction to enter the larger diameters in the valve body and crankcase. Position mounting gasket and Head Assembly. Insert the four head bolts in locations A, B, C, and D in the picture. Replace the five cover screws and start all screws by hand until "finger tight"... then follow the tightening sequence in the below table..

**Bolt Tightening Sequence**

| Step | Bolt | Torque Nm | Rotation Degrees |
|---|---|---|---|
| 1 | A | $25^{+0}_{-5}$ | |
| 2 | B | $25^{+0}_{-5}$ | |
| 3 | C | $25^{+0}_{-5}$ | |
| 4 | D | $25^{+0}_{-5}$ | |
| 5 | A | | $90° ^{+15}_{-5}$ |
| 6 | B | | $90° ^{+15}_{-5}$ |
| 7 | C | | $90° ^{+15}_{-5}$ |
| 8 | D | | **60** $° ^{+15}_{-5}$ |
| 9 | E | $6^{+0.6}_{-0.6}$ | |
| 10 | F | $6^{+0.6}_{-0.6}$ | |
| 11 | G | $6^{+0.6}_{-0.6}$ | |
| 12 | H | $6^{+0.6}_{-0.6}$ | |
| 13 | I | $6^{+0.6}_{-0.6}$ | |
| 14 | E | | $90° ^{+15}_{-5}$ |
| 15 | F | | $90° ^{+15}_{-5}$ |
| 16 | G | | $90° ^{+15}_{-5}$ |
| 17 | H | | $90° ^{+15}_{-5}$ |
| 18 | I | | $90° ^{+15}_{-5}$ |

Bolt Identification Letters Refer To Table and Picture




Use the proper tools to perform this torque-turn bolt tightening sequence EXACTLY. Accuracy will be CRITICAL to your field service SUCCESS !