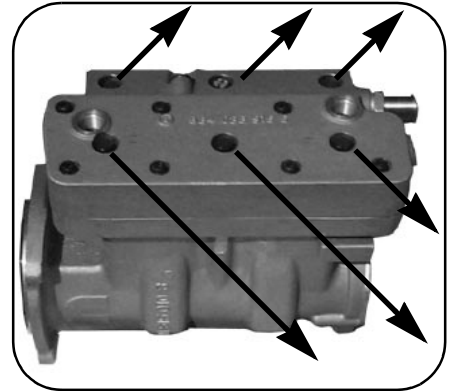


# Head Assembly Service Kit for 85mm Twin with Metric Coolant Ports 4089214 for Cummins ISX and Signature Engines

Kit contains a complete Head Assembly (manifold, valves, cover, etc.) and new Head Bolts for field service.

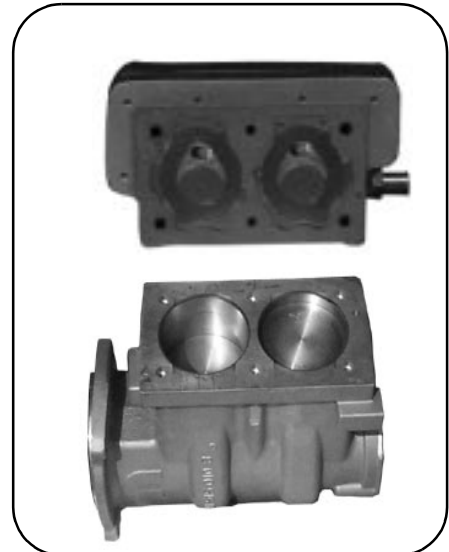
## Disassembly

1. Remove the six M8 head bolts. **Discard the original bolts.** (There is no need to remove the smaller cover screws.)
2. Remove and **discard original head assembly and gasket.** Note the position of the ports with respect to the crankcase for reassembly. **Save** coolant and air fittings for reuse.



## Cleaning

Rotate crankshaft until piston is at the top of cylinder bore. Remove any accumulated carbon and varnish by carefully scraping and with light application of solvents. **Avoid** getting debris and solvents into the clearance between the piston and bore. **Avoid** the use of abrasive products similar to "Scotch Brite" because any abrasive grit left after cleaning will shorten the life of **your** air compressor.

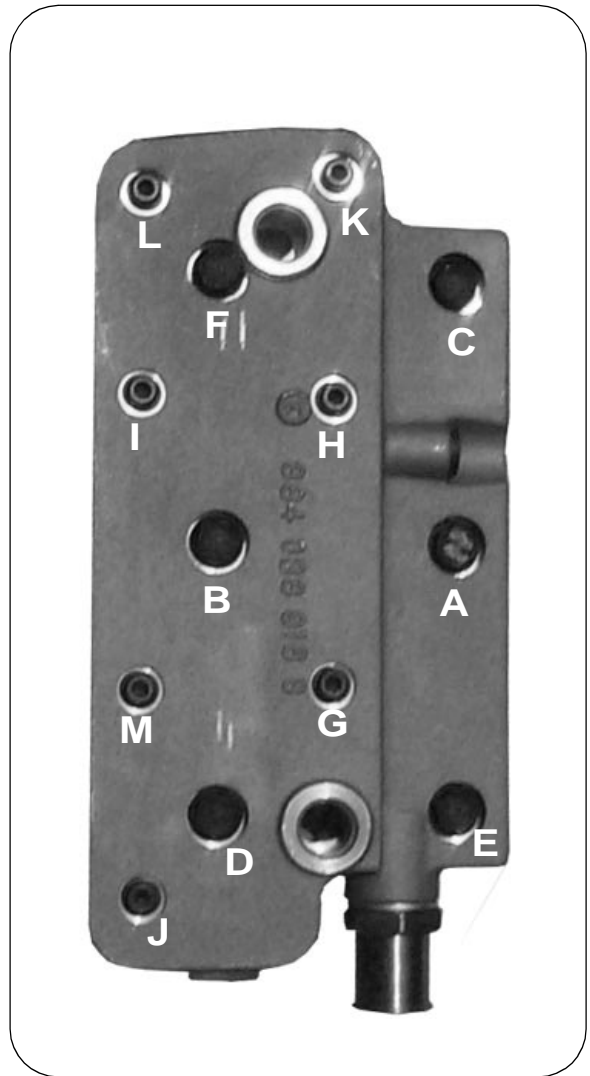


## Reassembly

1. Place the head, upside-down, on a bench to begin the head reassembly. Place both unloader valves into the recesses so that the unloader pin engages the valve and the valve pivots around the stationary pin near the center of the head. A **small** amount of Lubriplate grease can be used under the valves to insure that they stay in place.
2. Lay the head gasket in place. Be sure that it fits over the guide bushings so that the unloader hole will allow pressure communication between the head and crankcase.
3. Place the inlet valves over the guide pins provided. Be sure the pads are up and that the valves will lie flat against the head openings. A small amount of Lubriplate grease can be used to insure they remain in place for the remainder of the reassembly.
4. Turn the crankcase upside-down (with the compressor mounting flange end away from the air inlet as pictured) and carefully place it onto the head assembly. When the guide bushings find the counterbores in the crankcase, the head assembly will drop into position.
5. Holding the head assembly on the crankcase, turn the compressor right-side up. Place the crankcase into an appropriate fixture to begin the head bolt assembly.
6. Install the six 80mm long head bolts.
7. Tighten the six head bolts and the seven smaller head cover bolts according to the following table:

## Bolt Tightening Sequence

Step	Bolt	Torque (NM)	Rotation (Degrees)
1	A	25 <sup>+0</sup> <sub>-5</sub>	
2	B	25 <sup>+0</sup> <sub>-5</sub>	
3	C	25 <sup>+0</sup> <sub>-5</sub>	
4	D	25 <sup>+0</sup> <sub>-5</sub>	
5	E	25 <sup>+0</sup> <sub>-5</sub>	
6	F	25 <sup>+0</sup> <sub>-5</sub>	
7	A		<b>150°</b> <sup>+15</sup> <sub>-5</sub>
8	B		<b>150°</b> <sup>+15</sup> <sub>-5</sub>
9	C		120° <sup>+15</sup> <sub>-5</sub>
10	D		120° <sup>+15</sup> <sub>-5</sub>
11	E		120° <sup>+15</sup> <sub>-5</sub>
12	F		120° <sup>+15</sup> <sub>-5</sub>
13	G	6 <sup>+0.6</sup> <sub>-0.6</sub>	
14	H	6 <sup>+0.6</sup> <sub>-0.6</sub>	
15	I	6 <sup>+0.6</sup> <sub>-0.6</sub>	
16	J	6 <sup>+0.6</sup> <sub>-0.6</sub>	
17	K	6 <sup>+0.6</sup> <sub>-0.6</sub>	
18	L	6 <sup>+0.6</sup> <sub>-0.6</sub>	
19	M	6 <sup>+0.6</sup> <sub>-0.6</sub>	
20	G		135° <sup>+15</sup> <sub>-5</sub>
21	H		135° <sup>+15</sup> <sub>-5</sub>
22	I		135° <sup>+15</sup> <sub>-5</sub>
23	J		135° <sup>+15</sup> <sub>-5</sub>
24	K		135° <sup>+15</sup> <sub>-5</sub>
25	L		135° <sup>+15</sup> <sub>-5</sub>
26	M		135° <sup>+15</sup> <sub>-5</sub>



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