



C-SERIES CYLINDER HEAD BOLT KITS

NEW CTP TORQUE-TO-YIELD BOLT KITS FOR CATERPILLAR® C-SERIES ENGINES

Torque-to-yield cylinder head bolts are vital for engine integrity, designed to undergo controlled elastic deformation during torquing for a secure clamping force. This ensures a proper seal, preventing leaks and optimizing combustion efficiency. However, reusing these bolts poses a significant risk of engine failure as their single-use design ensures proper tension and structural integrity. Over time, repeated stress and strain compromise the bolts, leading to reduced clamping force, inadequate sealing, and potential catastrophic failure. Adhering to manufacturer guidelines and replacing these bolts during each assembly is crucial for reliability.

* Other part no. not included in the list are available. Please contact your sales representative if you have any questions. Part Numbers are used for reference purposes only. Cat® and Caterpillar® are registered trademarks of Caterpillar, Inc.

DID YOU KNOW.....

All C-Series engines require that the used head bolts be discarded and replaced with new head bolts every time there is a repair.



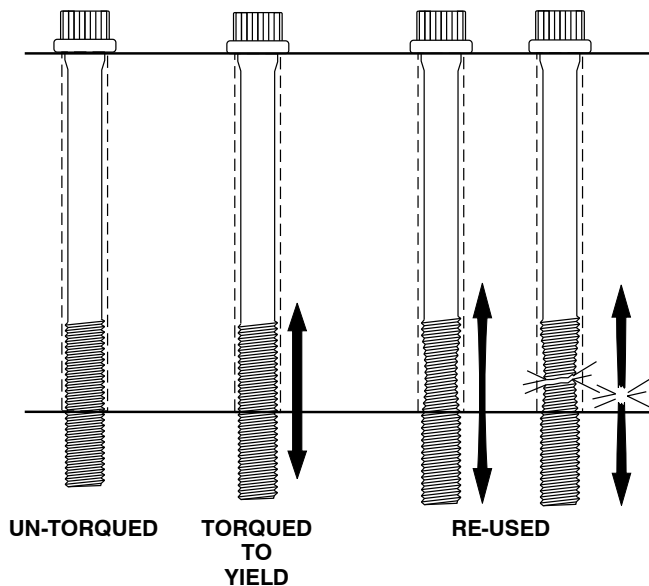
Used TTY (Torque-To-Yield) head bolts will snap in the process of re-torquing the cylinder head. If they do not snap, the already permanently stretched bolts will stretch even further and rapidly lose clamping load. The loss of clamping load could ultimately lead to head gasket failure.



STANDARD
ROLL-SHAFT BOLT

TORQUE-TO-YIELD
REDUCED-SHAFT BOLT

The way Torque-To-Yield bolts work is simple; the bolts are longer and thinner when compared to early bolt designs.



When an engine operates, the cylinder head expands as it heats up and contracts when it cools down. The spring like clamping force of the TTY bolts allows for this expansion and contraction without losing the clamping pressure on the cylinder head, and thus maintaining the sealing integrity of the head gasket.

When these bolts get torqued (tightened) “to yield” meaning to almost the breaking point, the bolts will stretch. This stretching (like a spring) provides a constant clamping force on the cylinder head.

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C-SERIES HEAD BOLTS

| Part Number | Engine | Part No. | Description | Specifications | QTY. |
|---------------|--------|----------|--------------------|----------------------------------|------|
| CTP-HBKIT-C7 | C7 | 1383252 | BOLT-12 POINT HEAD | M20X2.5X170MM | 14 |
| | | 8T3282 | WASHER HARD | 22X35X3.5-MM THK | 14 |
| | | 8T7950 | BOLT | M10X1.5X180-MM | 6 |
| | | 6V5839 | WASHER HARD | 11X21X2.5-MM THK | 6 |
| CTP-HBKIT-C9 | C9 | 2632915 | BOLT-12 POINT | M16-2.00 X 180MM 12 POINT | 26 |
| | | 9X8268 | WASHER | 17.5 X 30 X 3.5 MM THK | 26 |
| CTP-HBKIT-C10 | C10 | 1750454 | HEAD BOLT | M16-2.00 X 160 11.9 HEX | 26 |
| | | 2S5658 | WASHER HARD | 17 X 29 X 3MM THK | 26 |
| CTP-HBKIT-C11 | C11 | 2421811 | BOLT HEX | M16 - 2.00 X 220MM 12.9 HX PL | 26 |
| | | 2104460 | HEX CAP SCREW | M10 - 1.50 X 130MM 10.9 PLAIN ST | 8 |
| | | 2S5658 | WASHER HARD | 17 X 29 X 3MM THK | 26 |
| CTP-HBKIT-C12 | C12 | 1750454 | HEAD BOLT | M16-2.00 X 160 11.9 HEX | 26 |
| | | 2S5658 | WASHER HARD | 17 X 29 X 3MM THK | 26 |
| CTP-HBKIT-C13 | C13 | 2421811 | BOLT HEX | M16 - 2.00 X 220MM 12.9 HX PL | 26 |
| | | 2104460 | HEX CAP SCREW | M10 - 1.50 X 130MM 10.9 PLAIN ST | 8 |
| | | 2S5658 | WASHER HARD | 17 X 29 X 3MM THK | 26 |
| CTP-HBKIT-C15 | C15 | 1241855 | BOLT-12 POINT HEAD | 3/4 - 16 X 7.638 - IN. | 16 |
| | | 5H1504 | WASHER HARD | 20 X 33.5 X 5 MM THK | 26 |
| | | 1241854 | BOLT-12 POINT HEAD | 3/4 - 16 X 8.5 - IN. | 10 |
| CTP-HBKIT-C16 | C16 | 1241855 | BOLT-12 POINT HEAD | 3/4 - 16 X 7.638 - IN. | 16 |
| | | 5H1504 | WASHER HARD | 20 X 33.5 X 5 MM THK | 26 |
| | | 1241854 | BOLT-12 POINT HEAD | 3/4 - 16 X 8.5 - IN. | 10 |
| CTP-HBKIT-C18 | C18 | 1241855 | BOLT-12 POINT HEAD | 3/4 - 16 X 7.638 - IN. | 16 |
| | | 5H1504 | WASHER HARD | 20 X 33.5 X 5 MM THK | 26 |
| | | 1241854 | BOLT-12 POINT HEAD | 3/4 - 16 X 8.5 - IN. | 10 |
| CTP-HBKIT-C27 | C27 | 1241855 | BOLT-12 POINT HEAD | 3/4 - 16 X 7.638 - IN. | 32 |
| | | 5H1504 | WASHER HARD | 20 X 33.5 X 5 MM THK | 52 |
| | | 1241854 | BOLT-12 POINT HEAD | 3/4 - 16 X 8.5 - IN. | 20 |
| CTP-HBKIT-C30 | C30 | 2K2813 | BOLT | 3/4 - 16 X 10 - IN. | 40 |
| | | 5H1504 | WASHER HARD | 20 X 33.5 X 5 MM THK | 40 |
| CTP-HBKIT-C32 | C32 | 1241855 | BOLT-12 POINT HEAD | 3/4 - 16 X 7.638 - IN. | 32 |
| | | 5H1504 | WASHER HARD | 20 X 33.5 X 5 MM THK | 52 |
| | | 1241854 | BOLT-12 POINT HEAD | 3/4 - 16 X 8.5 - IN. | 20 |

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