



Texas T Parts

711 Ashford Hills Drive
Bryan, Texas 77801

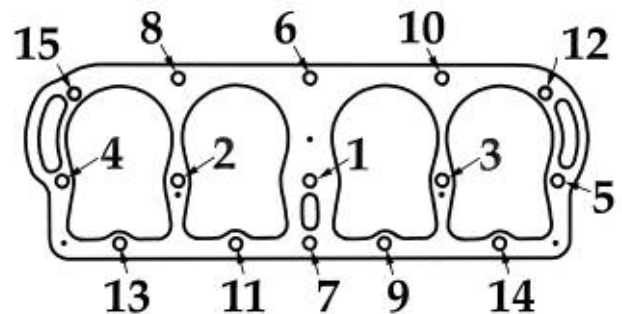
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www.TexasTParts.com

Note our
New Address
Everything else
remains the same.



High Compression "Z" Head for Model T Fords Installation Instructions

1. Read all of these instructions before installing your High Compression Head.
2. Remove the old head and clean the block of any old gasket material.
3. Clean out block holes with an undersized drill and, if needed, a 7/16 NC tap.
4. We recommend that you use a new copper gasket and a good gasket sealer.
5. Install four bolts and tighten. Rotate the crank by hand to make sure pistons do not hit the head. Sometimes the top of a block has been surfaced, which causes the piston to come up higher than normal.
6. Install using high head bolts and the stainless washers supplied with this head. Torque to 45 ft/lbs using the torque order shown below.
7. Use anti-seize when installing spark plugs and water outlet bolts into the aluminum threads.
8. Re-torque the head bolts after 50 to 100 miles. **LET THE ENGINE COOL DOWN FIRST!!**
9. Never remove the head while it is hot. It will warp.
10. When running this head, use 50% anti-freeze / 50% water.
13. We also recommend the use of an "Aluminum Head Saver" to eliminate corrosion that might occur when using any aluminum components along with cast iron components. The aluminum head saver is available from Texas T Parts as item A-6010-AHS at a cost of \$ 7.95.



Head Bolt Torque Order

If you like our product, tell your friends. If you have a question or a problem, let us know.

Thanks . . . and Smooth Running,

TEXAS 'T' PARTS

The "Z" High Compression Head

Purpose: To produce complete combustion of all the gases entering combustion chamber. In an engine with an ordinary head the fuel charge separates after it enters the combustion chamber, which permits the outer layer of the charge to cling to the walls to cool and become stagnant, or slow to ignite, while the other part is burned. These dead, stagnant gases fail to burn during the explosion period--they burn afterwards or during the exhaust stroke (known as after-burning); therefore this heat and energy is wasted. After-burning causes high power losses, excessive engine temperatures, which in turn cause detonation, more commonly called "pinging" or "knocking."

Detonation: The now accepted theory of detonation is that the knock is due to a secondary explosion caused by an extraordinarily high pressure of compression due to too long a flame run from the point of ignition to the combustion chamber wall. Detonation is not a spark knock. About one one-thousandth of a second after the mixture has been ignited, the detonation takes place. Then the pressure in the combustion chamber jumps from low pressure to a very high pressure. It is this sudden secondary explosion which makes the ping. Elimination of this ping was the initial purpose of the "Z" head which creates turbulence.

Turbulence is produced by the piston forcing the gas up into the combustion chamber and causing a rapid swirling of the main body of the charge, thus distributing the flame rapidly throughout the mixture.

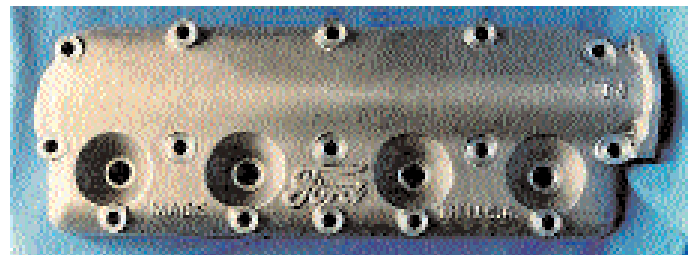
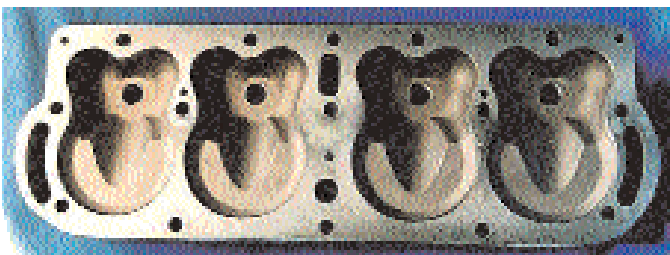
The "Z" Head: The fuel charge (due to the shape and design) enters the combustion chamber during the compression stroke as a swirling, intensively turbulent, wholly combustible mass. This turbulence, or the swirling motion of the fuel charge, is of the utmost importance. Because of it, the outer layers of the fuel charge are dug off the combustion chamber walls and hurled into the energy-producing explosive mass, and thus the great bulk of the gas is reached more quickly by the spark and 8 to 12 percent of otherwise wasted fuel is made to burn in time to contribute its power to the piston rather than to heat the exhaust.

This dark stagnant layer, in a lazy moving mixture approximately 1/16 inch thick, constitutes between 8 and 12 percent of the total volume of useful fuel in a combustion chamber. This layer burns too slowly to contribute its power to the piston before the exhaust valve is open.

Due to the turbulence in a "Z" head, this stagnant layer of gas is eliminated and the fuel is driven out into the body of the flame. Thus the 8 to 12 percent of otherwise wasted fuel is made to burn in time to contribute power to the piston rather than to heat the exhaust.

When operating an engine equipped with a "Z" head, the spark should not be advanced too far. The fuel mixture in a "Z" head burns much faster than in the conventional head, and because of this increased combustion speed, the explosion does not need to occur so soon.

The advantages - - more power with much less fuel, more speed, quicker acceleration, easier and quicker starting, fast getaway, and elimination of engine pinging and detonation (even with less expensive grades of gasoline) are results of the use of this head.



High Compression "Z" Head for Model T Fords

- Made in the U. S. A. Better than anything else to improve power of the "T" engine.
- It is a bolt on performer on a "T" without any other changes. Just remove the old head and replace it with this head.
- Outside appearance is identical to the high head made in 1917 - 1927 except for individual foundry marks.
- Built to fit over pistons 5/16 high over the block. High dome pistons cannot be used with this head.
- Compression Ratio: 6 to 1
- Aluminum Alloy casting
- Holds extra water for cooling (Approximately 1 quart)
- Has wedge shaped combustion chamber with improvements. Less fuel, more speed, quicker starting and getaway, flattens the hills.
- About 27 Horsepower; Ford standard was 20 HP.
- Used on hundreds of Model Ts with no adverse babbit problems.
- Now being run on cars in all states with high praise.