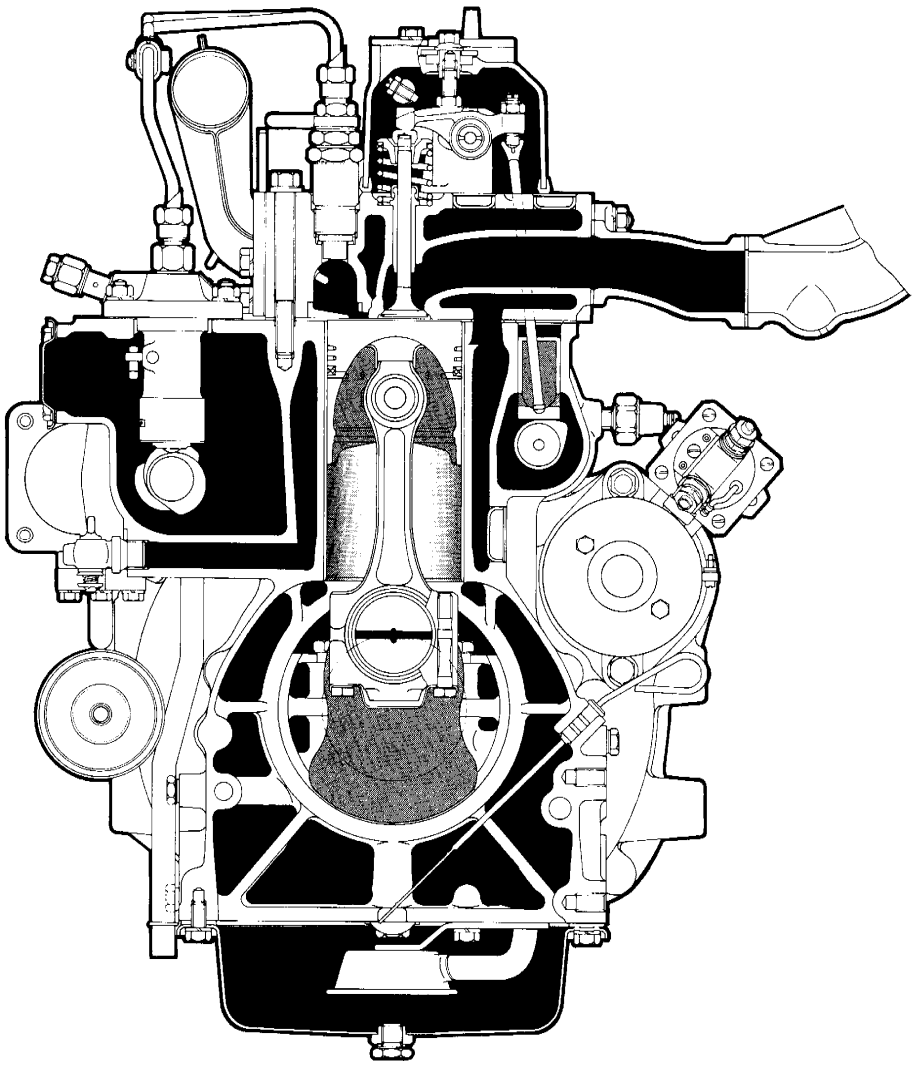
Section II

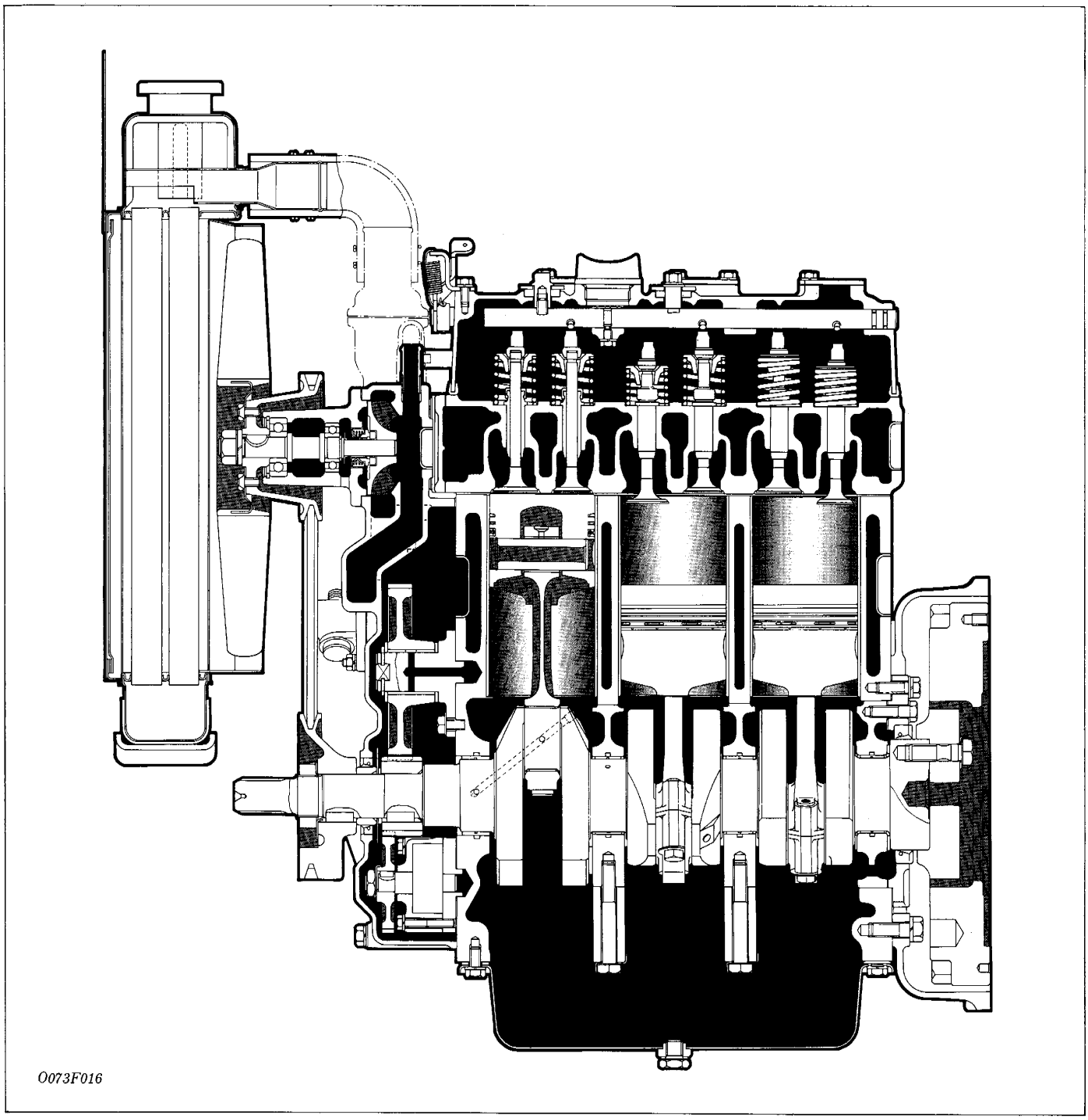
GENERAL DESCRIPTION

FEATURE



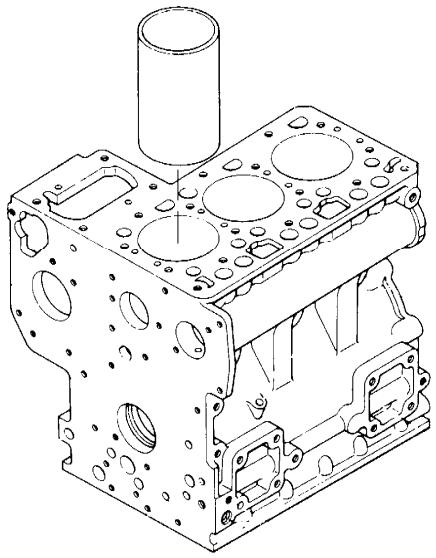
O073F015

The D1102-B, D1302-B, D1402-B, V1502-B, V1702-B, V1902-B are water-cooled, 4-cycle diesel engines, they concentrate Kubota's foremost technologies. With Kubota's designed spherical combustion chamber, well-known Bosch K type injection pump, well-balance designs, they feature greater power, low fuel consumption, little vibration and limited noise.



O073F016

(A) Tunnel Cylinder Block

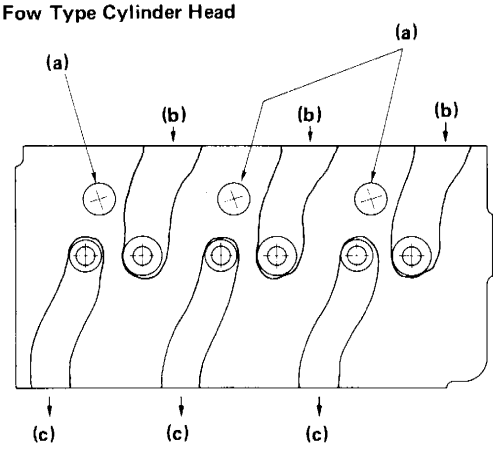


O011F012

1-1 CYLINDER BLOCK

The engine features a high durability tunnel-type cylinder block. Furthermore, dry-type cylinder liners are pressure-fitted into cylinders allow effective cooling, less distortion, higher wear-resistance quality and each cylinder has its own chamber helps to minimize noise.

(A) Cross-Fow Type Cylinder Head



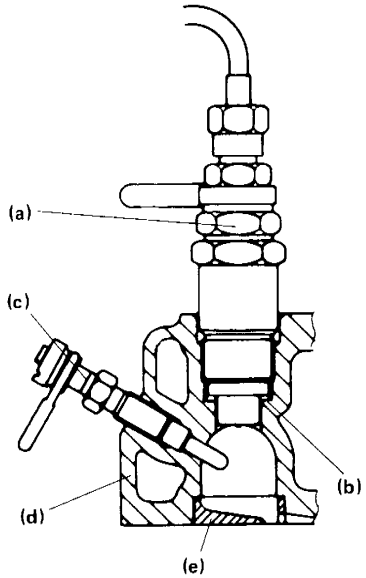
O011F014

1-2 CYLINDER HEAD

To prevent the effect of air expansion due to exhausted heat, cross-flow type inlet and exhaust ports are provided. The Kubota's exclusive spherical combustion chamber (e) changes the entered air into a swirling flow to improve combustion and reduce fuel consumption. In addition, the sheathed type glow plugs (c) permit easy and quick engine start, regardless of weather condition, even when the temperature is −15°C (5°F).

(a) Combustion Chamber
(b) Suction
(c) Exhaust

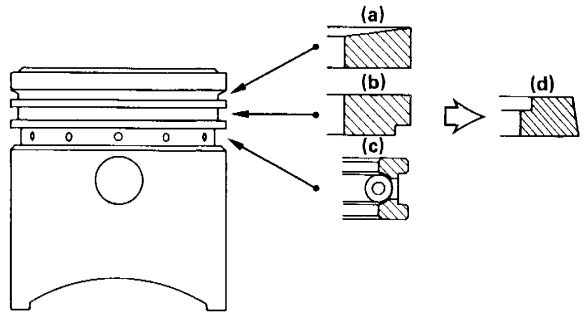
(B) Combustion Chamber



O011F013

(a) Nozzle Assembly
(b) Nozzle Piece Gasket
(c) Glow Plug
(d) Cylinder Head
(e) Combustion Chamber

(A) Piston and Piston Rings



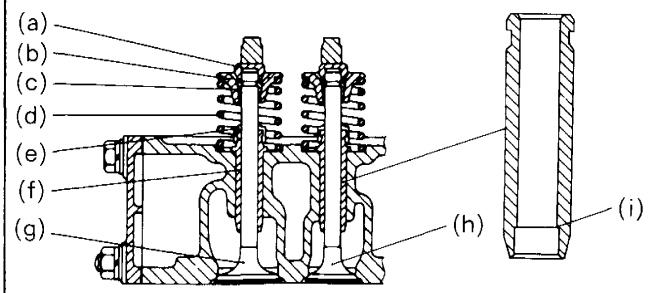
O011F015

1-3 PISTON AND PISTON RINGS

A piston of special elliptic shape is designed in consideration of explosion heat. Furthermore, to enhance piston's strength, a rib is provided between the piston and the piston boss.
Three piston rings are provided; two compression rings and one oil ring. All of them have different functions and shapes. Be careful when reassembling.

(a) Plated Keystone Ring
(b) Undercut Ring
(c) Coil Expander Ring
(d) Taper and Inside Cut Ring
(V1702-B Only
Engine Serial Number : 37196 and beyond)

(A) Inlet and Exhaust Valve



O011F019

1-4 INLET AND EXHAUST VALVES

All parts are quenched and tempered to resist wear. For enhancing the filling-up of air into engine, the inlet valve head is bigger the exhaust (h) one. To prevent the carbon adhesion on exhaust valve stem, a "carbon-scraper" (i) is provided at the lower part of exhaust valve guide.

(a) Valve Cap
(b) Valve Spring Retainer
(c) Valve Spring Collet
(d) Valve Spring
(e) Valve Stem Seal
(f) Valve Guide
(g) Inlet Valve
(h) Exhaust Valve
(i) Carbon Scraper