

GF50MH-70T CBN Crankshaft Grinder

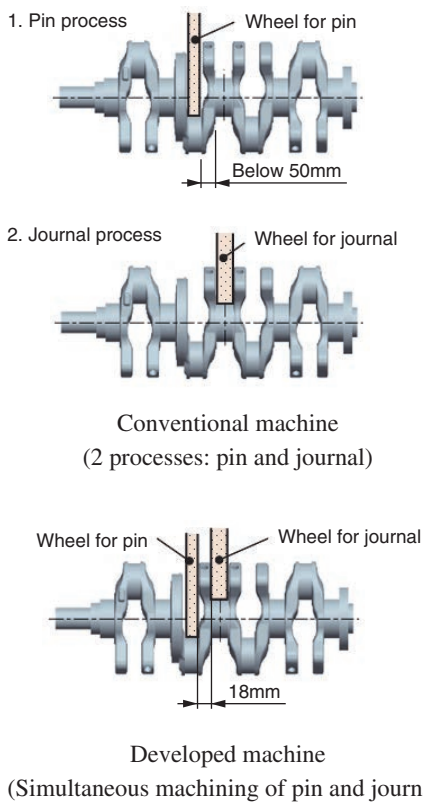


Being equipped with two wheelheads, the GF50Mi-70T grinder can perform simultaneous cutting of both a crankshaft pin and journal with two wheels. This report introduces our newly developed product, which have improved productivity, flexibility and reliability of the grinder to meet the demands for higher labor productivity and small lot production of multiple models in automobile engine manufacturing.

Features

1. Improved productivity through shorter cycle time

- ① Minimized the approach of the right and left wheels
By changing the closest approach of the right and left wheels from 50 to 18mm, simultaneous grinding of the adjacent pin and journal of the crankshaft became possible, leading to a reduction of grinding time by a maximum of 13% in comparison with the conventional machine.

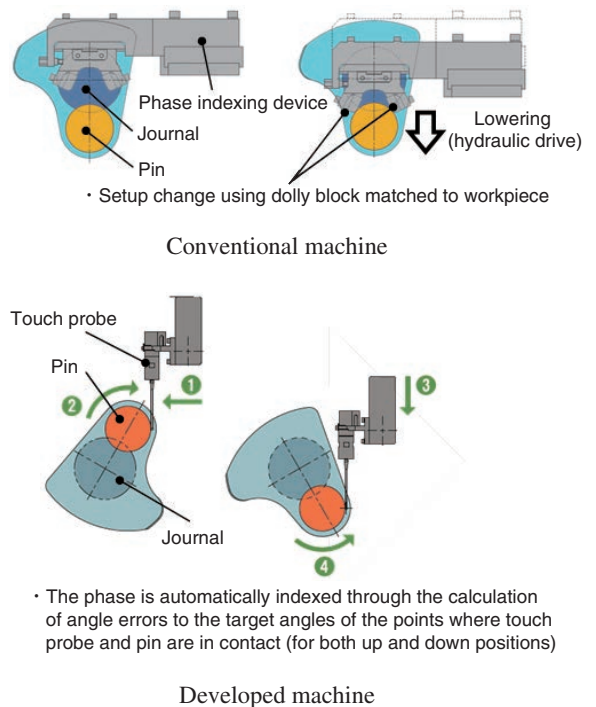


② Faster rapid feed of wheelhead traverse

By changing the rapid feed rate from 20 to 40 m/min, the wheelhead indexing time is reduced by a maximum of 36%.

2. Improved flexibility

- ① Equipped with an automatic pin phase indexing device that supports multiple types of workpieces using a touch probe, the setup change of pin diameter and pin stroke of multiple types of workpieces that conventionally took approximately 30 minutes became unnecessary.



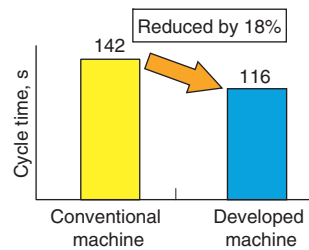
3. Improved reliability

① Electrification of auto sizer

In the conventional hydraulic drive system, accurate measurement was not obtained in some cases owing to the varying speeds of auto sizer insertion caused by the changing viscosity due to oil temperature change. The new electrically driven auto sizer allows the insertion speed to be constant, and thus enables the stable measurement at any time.

Results

The cycle time for grinding the pins and journals of the 4-cylinder crankshaft has been reduced by 18%, leading to an improvement in productivity (The cycle time differs depending on the workpiece specifications, tooling, etc.).



(Machine Tools Development Dept., Machine Tools & Mechatronics Operations Headquarters)