

GF32M-63 Crankshaft Grinder



A small size C-X crankpin grinder exclusively for a CBN grinding wheel with a single head wheel spindle stock has been developed for grinding the pin portion of a crankshaft which is a main component of an engine. Incorporating a linear motor for spindle stock as well as in-house developed high-speed CNC "GC50," it realizes high-precision generation grinding of the pin portion through synchronization of the spindle stock movement and the workpiece rotation.

Features

- Stabilized accuracy
- Pursuit for ultimate roundness
- Simple and flexible
- Space saving

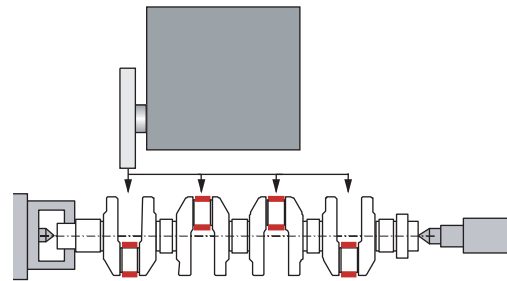


Fig. 1 Single head wheel spindle stock

Structure

1. Linear motor high-precision feeding of wheel spindle stock

Direct driving of wheel spindle stock improves the responsiveness of the machine without power transmission elements such as a screw, nut and coupling.

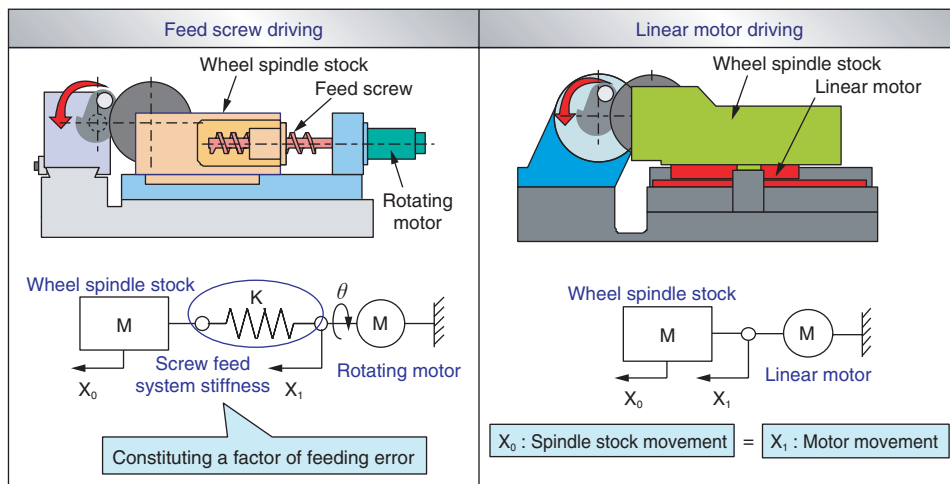


Fig. 2 Linear motor driven wheel spindle stock

2. Flexible C-X grinding

The C-X generation grinding of the pin portion with the crankshaft supported by dual centering eliminates troublesome setup and adjustment process of both eccentric chuck and rest.

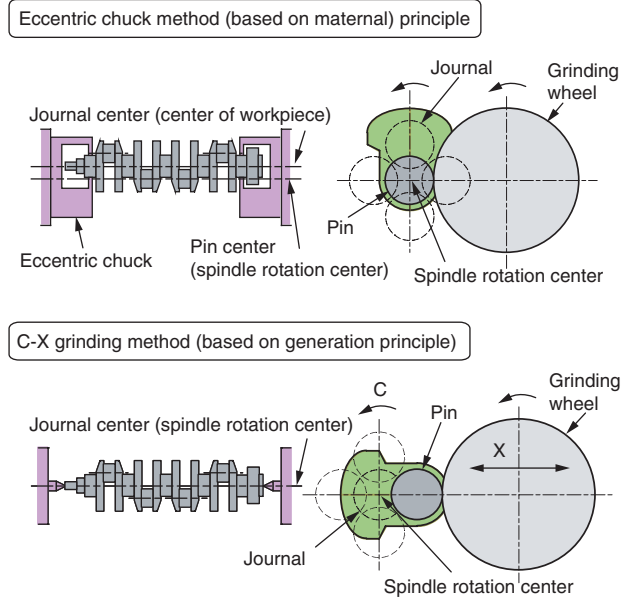


Fig. 3 Crankpin grinding mechanisms

3. Space saving

Adoption of traversing wheel stock, elimination of eccentric chucks and automatic pin stroke device, adoption of built-in motor and minimization of grinding wheel diameter not interfering with counterweight combine to reduce the floor space requirements by 68% compared to the conventional machine (GV70B).

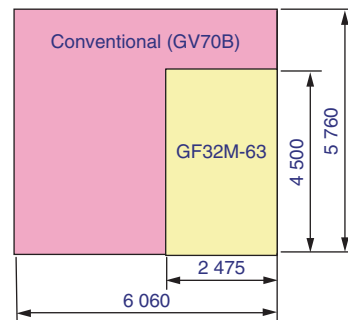


Fig. 4 Floor space required is 32% of the conventional

(Product Development Department, Machine Tools & Mechatronics Division Headquarters)