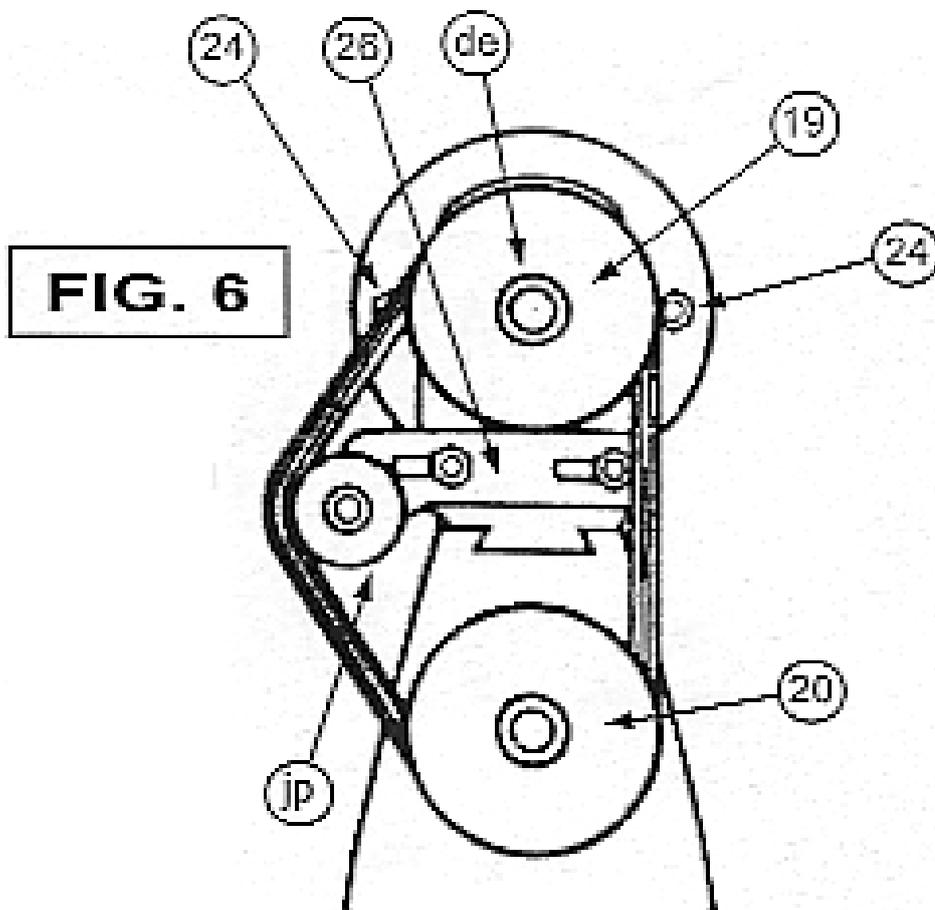
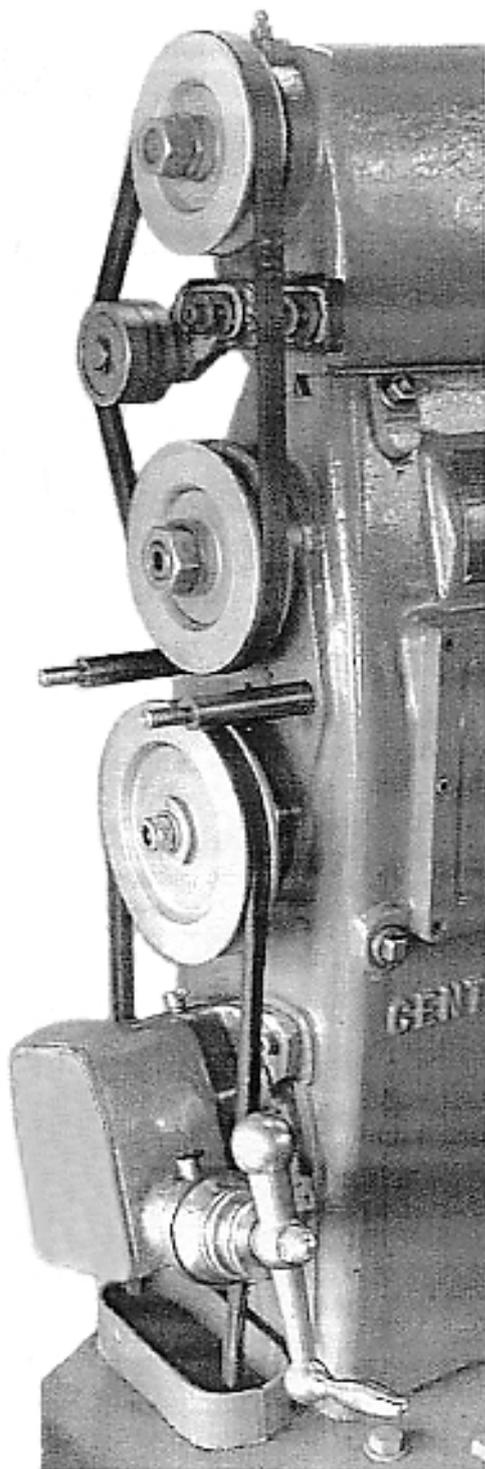


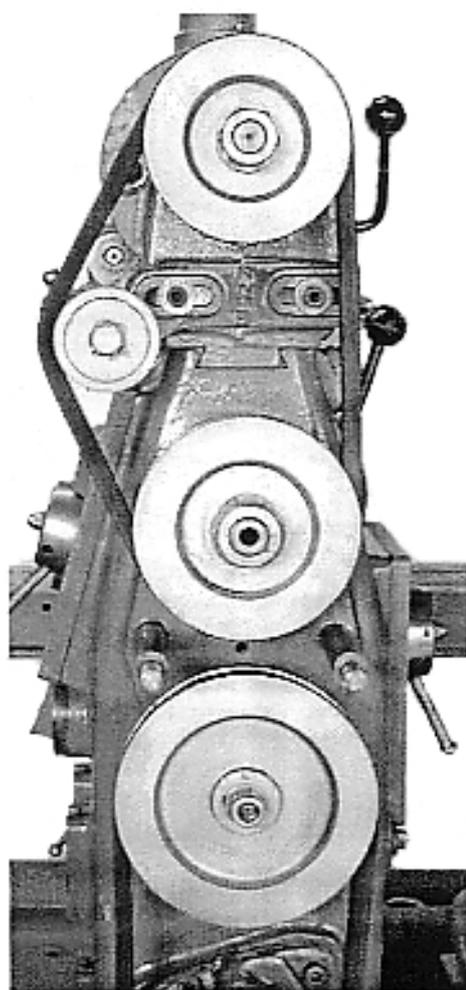
Change over to Vertical Milling.

Holding the arbor with a spanner on the 2 flats provided, unscrew the draw bar at the back of the machine until the arbor is ejected. Then slacken the two press-finger nuts previously described. Slide off the overarm and remove arbor by tapping on the draw bar end (de) with a hide or lead mallet. As the spindle is located in a Morse taper it may be necessary to use a little force to remove this. Slide on Vertical attachment from the front of the machine into such a position the V pulley (19) at the rear is vertically in line with the V pulley (20) at the rear of the machine. Tighten up the press-finger nuts and slip on the V-belt as shown in Fig.6 No 26 is a bracket, with jockey pulley (jp), which moves outwards to tension the belt as required. The belt may also be run in the inside of the pulley, in which case a greater wrap around is achieved and the drive able to transmit more power.

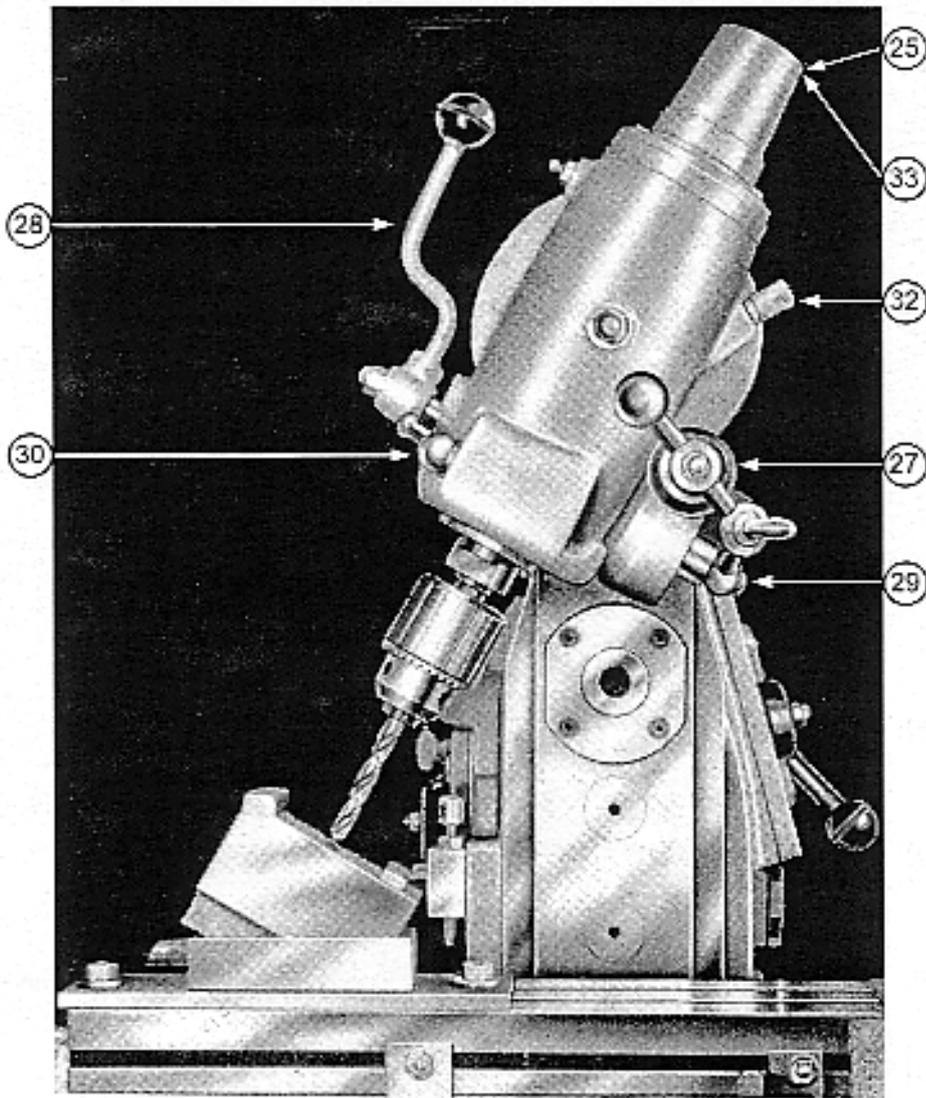




Centec
2A and 2B drive system



The top drive belt can also be arranged so as to pass on the inside of the jockey pulley.



Sliding-Spindle Vertical Milling and Drilling Attachment (Fig. 8) S/S V.M.A.

FIG. 8

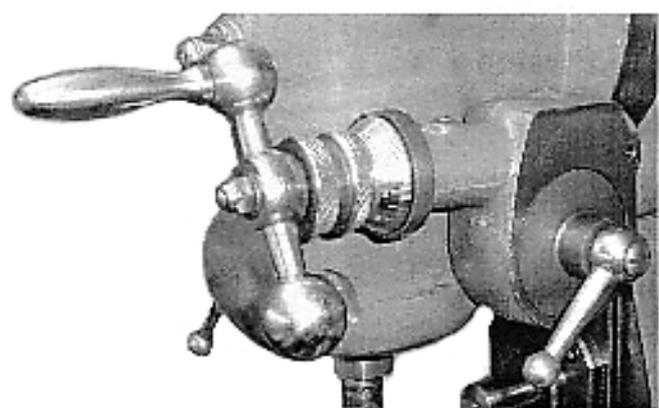
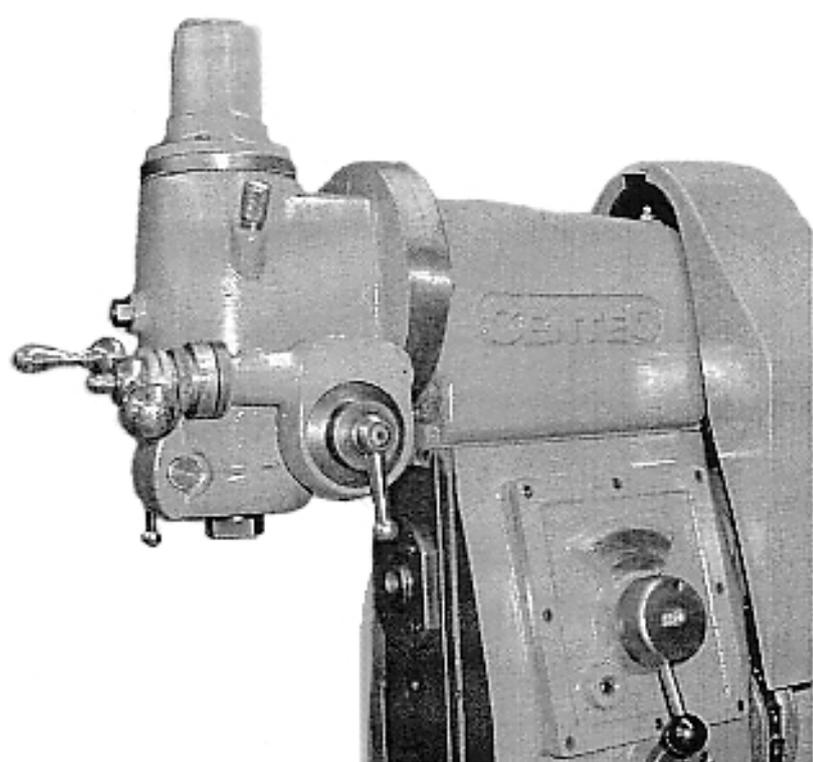
Insert cutters or chuck into the spindle which has a No.2 Morse taper and tighten down the draw bar (25) which pulls the cutter or chuck into the spindle.

To pivot the S/S V.M.A. into any desired position slacken off the 2 nuts (24) in fig.6.

The vertical movement of the spindle is accomplished either by hand lever (28) or the micrometer handwheel (27). To operate by micrometer ball handle tighten the small lever (29) in a clockwise direction and if desired, handle (28) can be prevented from moving by slckening off the little nut that holds it on the taper. To operate the spindle by the handle (28) unscrew clutch nut (29) and fix handle in any desired position by locking with the little nut on the taper. The spindle can be locked in any desired position by tightening the handle (30). Before operation the head should be filled with lubricating oil through the dip stick hole (32). When doing this the quill should be in top position. The draw-bar does not come away from the head in normal use but it can be removed by unscrewing the lock nut (33) in an anti-clockwise direction.

Keep the mating faces of the front and back sections of the heads clean and free from oil.

The vertical speeds are the same as for the horizontal mode.



Power Feed Attachment

(a) The following procedure is to be adopted for the operation of this equipment:-

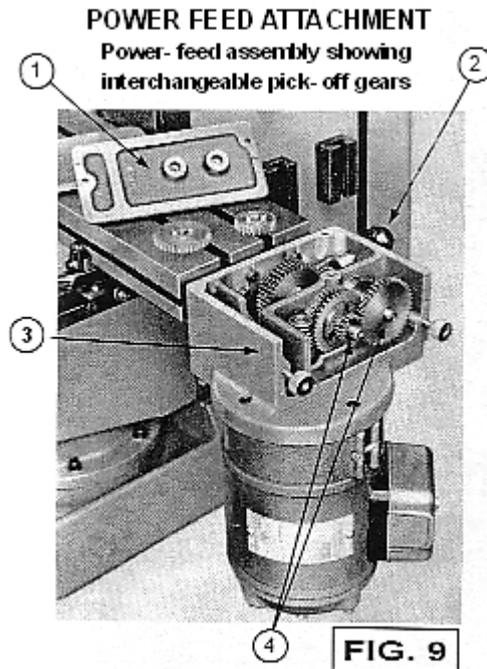
(b) Disengage table rack-feed lever or the capstan handle, where fitted.

(c) Disengage the power selector lever No.2 on **Fig.9** Switch on the power feed motor by pressing the starter button situated on the right-hand side of the pedestal. Engage the dog clutch by the small lever No.2 to its maximum extent so that the catch holds it in position.

(d) The cut-out stop found in the front tee-slot of the table should be set to disengage lever No.2 at the position required. Note that it is essential to have this stop attached to the machine as there is no emergency cut-out.

(e) To return the table rapidly after the power feed is disengaged, it is only necessary to lift the lever No.3 into a vertical position and then it should be turned in an anti-clockwise direction, pulling it slightly towards the operator to engage the clutch provided.

(f) To operate the table lead screw by ball handle disengage the power feed clutch by means of the small knobbed lever protruding from the power feed gearbox.



To Change the rate of Feed

Remove the support cover No.1 at the right-hand end of the table. Two pick-off gears will be found to be in engagement and two spare ones will be found in the left-hand cast-in pocket (3). By running combinations of these gears on each of the two shafts (4) four rates of feed are obtained.

When using power feed - check that the rack-feed lever is **NOT ENGAGED**.

It is necessary to introduce a small amount of oil into this feed box from time to time, but the level should never exceed the height of the small lip found at the side of the box when the cover mentioned above has been removed. Only light oil should be used.

CENTEC 2A and 2B SERVICING

1 - 2BA Set Spanner	1 - 3/16"x1/4" Set Spanner
1 - 5/16" Set Spanner	1 - 3/32" A/F Allen Key
1 - 5/32" A/F Allen Key	1 - 1/4" A/F Allen Key
1 - 3/16" A/F Allen Key	1 - 1" A/F Spanner
2 - C Spanners	

Lubrication. All parts provided with oilers should be lubricated with Shell Vitrea 41 or near equivalent. Grease nipples should be lubricated with Alvania 3 or near equivalent. Oiling should be once a day and greasing done at 2/3 monthly intervals. The gear box oil in the 2A and 2B milling machine should be completely drained and refilled once every six months: remove the side plate which holds the two speed change levers and thoroughly clean out the gear box compartment - use a small powerful magnet to collect any metal "dust" which may have accumulated. It should be refilled with Shell Vitrea 41 and the side plate re-secured with a trace of non-hardening gasket cement.

If the machine is used in a location where there are wide changes in temperature during any 24 hour period change the gear box oil more frequently to remove water fom condensation - which forms on the inside wall of the housing and runs into the sump.

ADJUSTMENTS FOR WEAR

All slides on the machine can be adjusted for wear by tightening up the appropriate Allen screws pressing on the gib strips. The main spindle runs in Timken tapered roller bearings and adjustment for wear can be taken up by pulling up the lock nuts on the back of the main spindle - do this gently, a little at a time and test for free, smooth running without end float.

In case of severe overload on the table power feed attachment a shear pin is provided. This is found behind the second pick-up gear, ie; on the rear spindle in the power-feed box behind the pick-up gear.