**OPERATION MANUAL**

**DRILLING UNIT FD3-55**

1. Check and confirm the application voltage of electrical motor (71), and its rotation direction.
2. Proximity switches of (56) and (57) can be AC or DC.
3. The fitting of flow control valve is in 0 6.0mm.
4. The application pressure of pneumatic power is 55-85 PSI.
5. Use right lubricant in filter and lubrication set to maintain proper performance of O-rings and packings.
6. The method of adjusting fast forward stroke (B), and drilling stroke (C) are shown in figure 1.
7. The stroke of hydro-check should be longer than the machining stroke. For instance, if the required stroke is 26 mm, we have to choose hydro-check in 50 mm.
8. For precision machining, we may install a timer to delay the retraction of spindle for about 0.5 – 2.0 seconds after it touches forward end proximity switch (57). That will allow adjusting bolt (29) to touch the tip of hydro-check, and then make spindle retract.
9. The speed of fast forward and backward can be adjusted on flow control valve (55).
10. The spindle RPM should be considered by tooling, machining dimension, and part material. If decided RPM is within 6000 RPM, we may select different poles of electrical motor, and pulley.

$$\textbf{RPM=} \frac{\text{Motor RPM x diameter of pulley on motor shaft}}{\text{Diameter of pulley on spindle}}$$

11. To protect the spindle under power off, we had better not use 2- position flow control valve.
12. There are 4 types of mounting motor on the unit: A. B. C. D. Please specify the requirement when placing order if you choose type B. or D.
13. To maintain proper performance of pulleys, we have to keep belt (42) in proper tension. To adjust the belt tension, loosen screw (65) and push motor outward and tighten screw (65).
14. After complete of any adjustment, and start process automatic machining, we had better to put cover (48) back to keep chips out of the unit body.
15. If choose type A. or C. mounting, we have to put cooling fan 2” away from separation board to avoid chips and coolant being sucked into motor.