# Instructions for Assembling and Operating the "DELTA" 4 Speed Lathe

## LINING UP BED AND CENTER

The central axis of the headstock spindle and the tailstock spindle should coincide and be in line with the center of the lathe bed. Proceed as follows: **1st.** The distance between the two angle-bars of lathe bed should be one-half inch. The free end of the angle-bars can be sprung together or spread apart as required. Insert a block of wood one-half inch thick as shown in Fig. 1, and hold the bars in position by means of a piece of wire as shown. Do not remove the block or wire until line up is completed. **2nd.** Put the tailstock in place near the left-hand end of the lathe bed and attach the headstock to the lathe bed with the two hexagon bolts furnished. The holes in the the headstock are drilled large enough to permit lining up of the spindles. **3rd.** Slide the tailstock up to the head stock and tighten it to the lathe bed. Now test the spindles for alignment with a straightedge as shown in Fig. 2. If they do not line up, loosen the hexagon bolts as shown in Fig. 2 and adjust headstock as required.

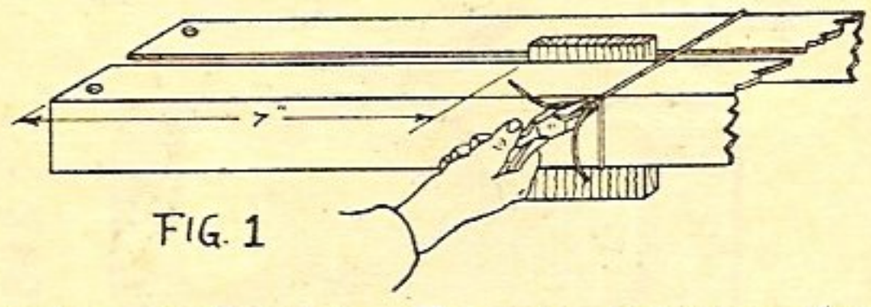



FIG. 1

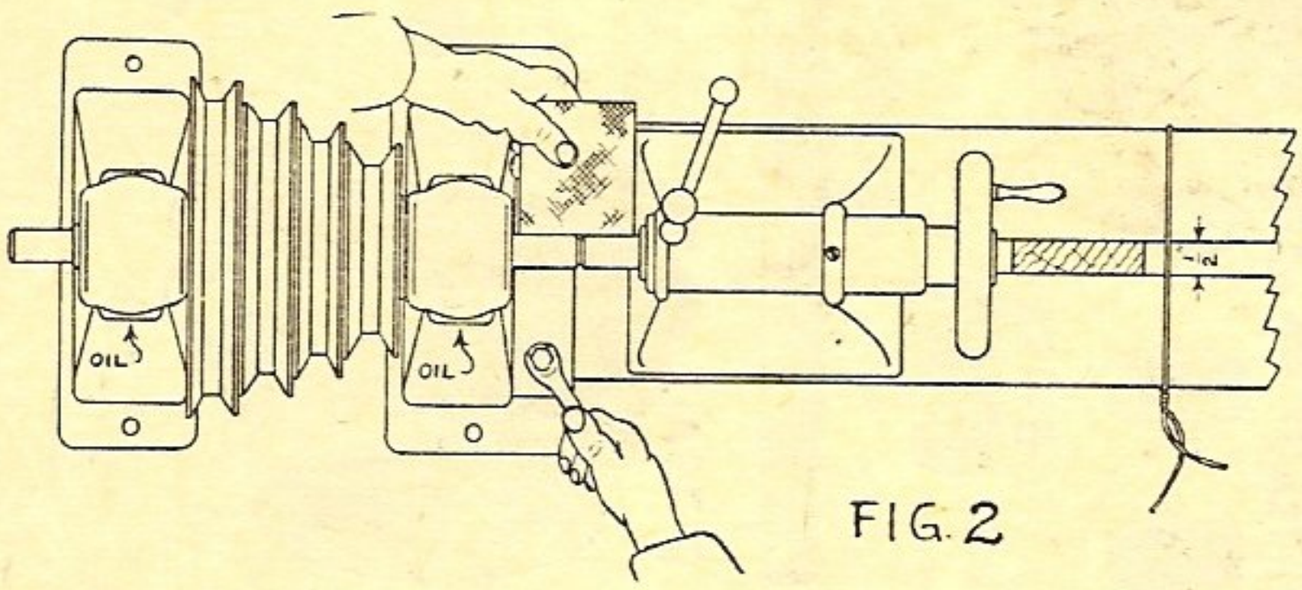



FIG. 2

## CONNECTION OF MOTOR

Any ¼ H. P. constant speed type motor will furnish ample power. A universal type motor is not recommended as it will race when idle and slow down when under load. Motor may be placed above, in rear, or below the bench. The latter position is the best as the motor is protected from dust and out of the way. A square hole should be cut in the bench large enough to clear the V-belt. Never have a V-belt tight. A V-belt drive is more efficient than gears. (98%) V-belts will not slip and are easy on bearings as they run with very little tension.

Use V-belt No. 286 if you want to mount motor above or towards rear of lathe. (Center to center distance of 12½".) It is better to mount motor underneath the bench. Our V-belt No. 330 will give center to center distance of 22¾".

## LINING UP PULLEYS

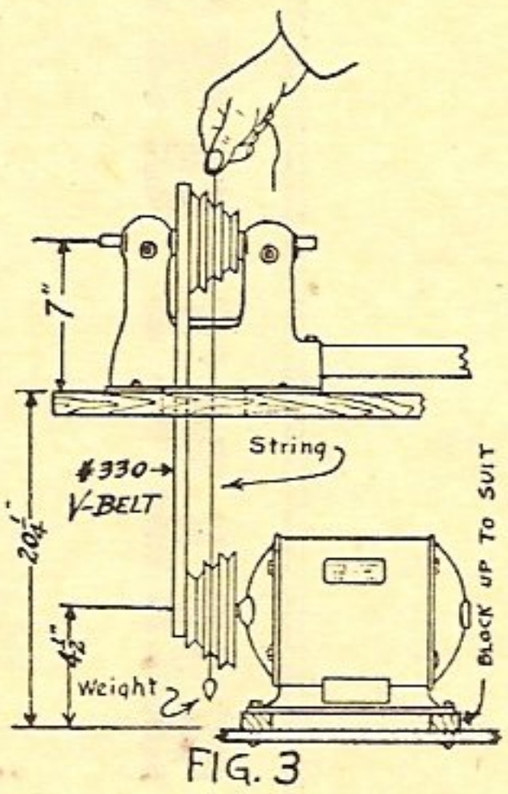



FIG. 3

Our No. 288 motor pulley is made to run on a line shaft or motor shaft, having a speed of 1750 R. P. M. Always place the pulley so that the largest diameter is next to the motor bearing. This arrangement prevents undue wear on the motor bearing. The headstock pulley can be reversed to suit pulley on motor. All grooves should be in line. See Fig. 3 for method of lining up pulleys when motor is above or below headstock. When motor is placed in back of the headstock, line up the pulleys by means of a straightedge held along the face of the pulleys. The spindle and the motor shaft should also be parallel with each other.

*V-belts should never be twisted. They would wear quickly if run that way.*

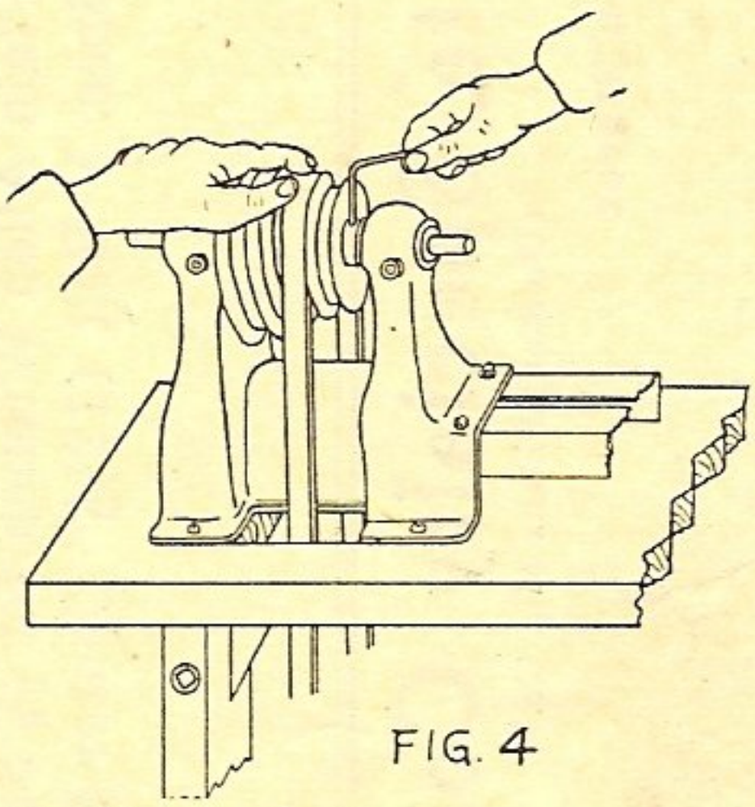


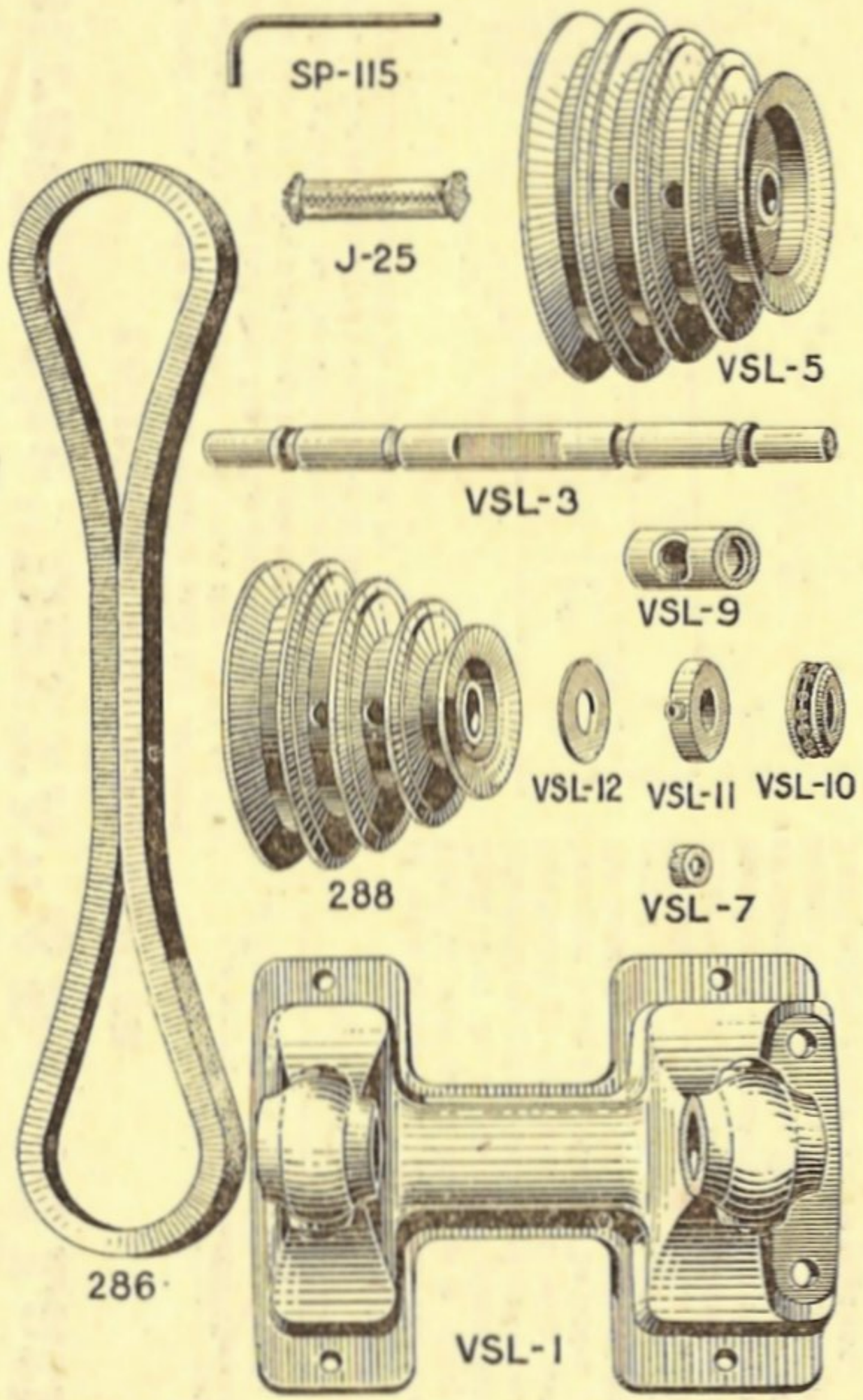
FIG. 4

## TAKING UP END-PLAY OF SPINDLE

The headstock is provided with a thrust bearing at the left-hand end and an adjustable collar and a fibre washer at the right-hand end. To take up end-play, loosen the collar set screw and push the collar against the fibre washer, at the same time pushing the pulley to the left against the thrust bearing. See Fig. 4. Now tighten the collar set screw. When properly adjusted, the spindle will revolve freely when spun by hand, yet there will be no end-play.

## OILING

The lathe bearings are oiled at the factory. They need oiling only after about 100 hours of use. Saturate the wicks with a few drops of good light automobile oil about every 100 working hours. Oil where indicated in Fig. 2.




Form No. 3-20-30

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# 4-SPEED LATHE PARTS

## PRICE LIST

| Part No. | Description | Price Each |
|---|---|---|
| VSL-1 | Headstock with two Bushings, Wicks and Cover all line reamed | $4.20 |
| VSL-3 | Spindle | 1.15 |
| 288 | Drive Pulley and Set Screw | 1.50 |
| VSL-5 | Driven Pulley and Set Screw | 1.85 |
| VSL-7 | Wick Cover | .05 |
| VSL-9 | Bronze Bushing | .35 |
| VSL-10 | Thrust Bearing (5/8 Hole) | .95 |
| VSL-11 | Collar with 5/16 Allen Set Screw | .50 |
| VSL-12 | Fibre Washer | .05 |
| J-25 | Oil Wick | .08 |
| SP-115 | Plain Allen Wrench for 5/16 Screw | .05 |
| 286 | Spec. V Belt (12½" Center to Center) | 1.15 |

**Delta Specialty Company**

(Division of Delta Mfg. Co.)

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