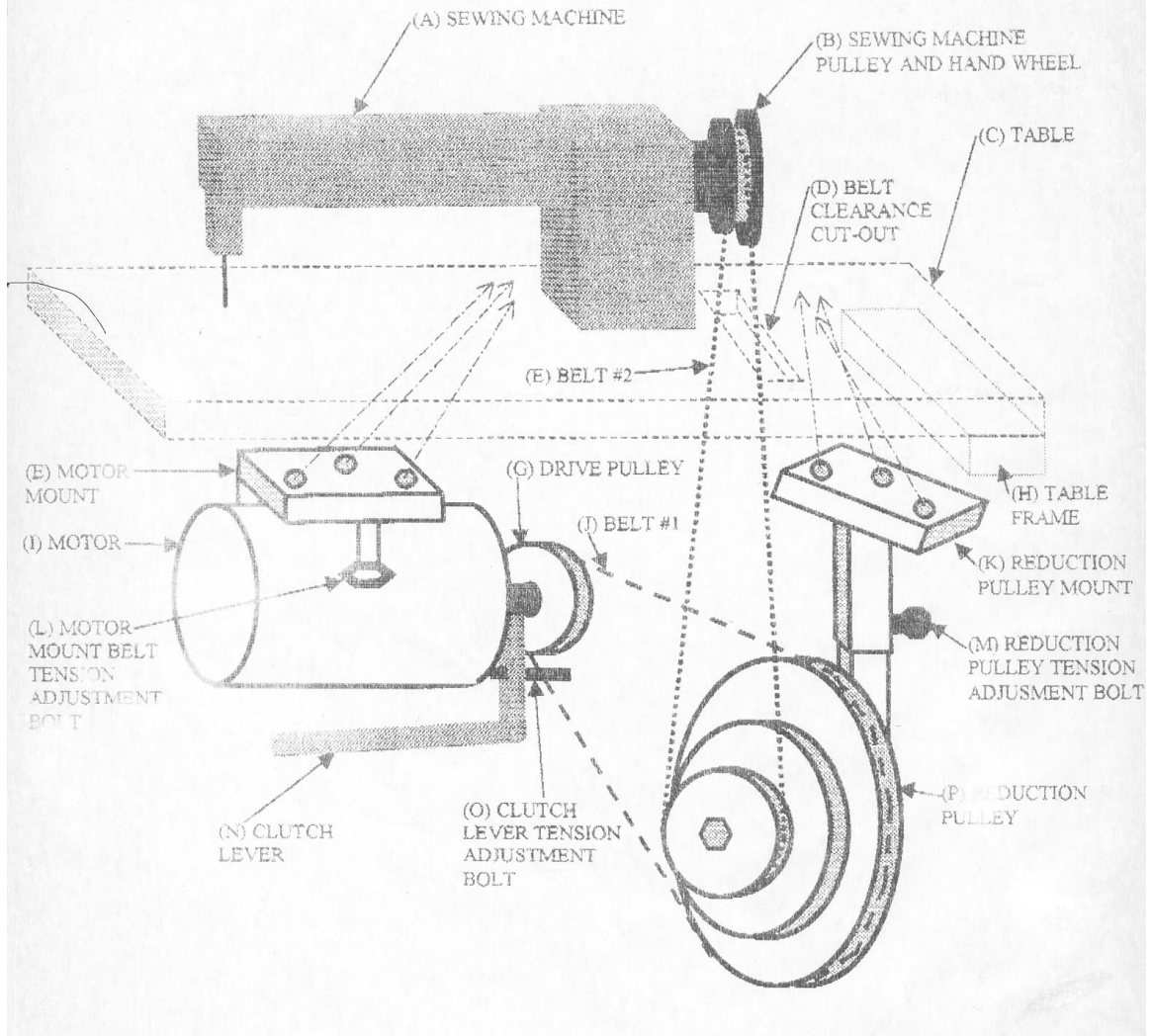


FIGURE ONE



DIRECTIONS FOR INSTALLING REDUCTION PULLEY MECHANISM IN INDUSTRIAL SEWING MACHINES

Industrial/commercial sewing machines run at speeds of 1,600 stitches per minute or higher. Even when the standard 3½-inch drive pulley on the motor is replaced with the smallest available pulley, the speed is reduced to only about 800 stitches per minute. Many applications, however, require machines to run much slower. In order to accomplish this sort of reduction on sewing machines costing less than \$5,000, some sort of reduction pulley mechanism must be installed between the drive pulley (motor) and the sewing machine pulley (hand wheel). A mechanism, such as the *Artisan 1:2:3 Reduction Pulley* fulfills this function at a reasonable cost.

A. STANDARD INSTALLATION

1. The *Artisan 1:2:3 Reduction Pulley* is designed to be installed under the top of the sewing machine table, to the right of the drive motor, with the reduction pulley mounting base to the right and the multiple pulley wheel facing left. FIGURE ONE identifies the parts of a typical industrial/commercial sewing machine, and illustrates the orientation of the reduction pulley mechanism on such a machine. The lettered references in the following directions refer to the parts identified in FIGURE ONE.

2. Replace the standard 3½-inch ^{motor} drive pulley (G) with the smaller 2-inch ^{motor} drive pulley.

3. All pulleys that are to be connected to each other must be installed in the same vertical planes. Otherwise, the belts connecting the pulleys will run off-center, causing them to lose traction and possibly fall off during operation.

4. Depending on which level of reduction is desired (1-to-2 or 1-to-3) the middle or smallest of the reduction pulley wheels (P) must be aligned in the same vertical plane as the sewing machine pulley and hand wheel (B). This must be decided prior to installation, as such alignment will be permanent. For the greatest reduction of speed, use the smallest pulley on the reduction pulley wheel (P). Take care at this stage, that the reduction pulley is positioned so that the belt will clear the front and back of the belt clearance cut-out (D) on the table (C).

[CAUTION: If, in attempting to achieve the alignment of the middle or smallest of the reduction pulley wheels (P) in the same vertical plane as the sewing machine pulley and hand wheel (B), the table frame (H) interferes with the base of the reduction pulley mount (K), you will need to devise an alternate placement of the reduction pulley mount (K). If so, refer to supplemental directions below.]

5. The drive pulley (G) must be installed in the same vertical plane as the largest pulley on the reduction pulley (P). In order to achieve proper alignment of these pulleys, it will be necessary to move the motor mount (E) along with the motor (I) to the right, either ½ inch if you are using the middle wheel for a 1-to-2 reduction, or one inch if you are using the smallest wheel for a 1-to-3 reduction.

[CAUTION: at this point, check to make sure that the clutch lever tension adjustment bolt (O) does not interfere with the path of belt #1 (J). If it does, refer to supplemental directions below.]

B. SUPPLEMENTAL DIRECTIONS

6. If you are trying to install the reduction pulley mechanism on a machine other than an Artisan, especially on a different table, you may experience interference from two sources: a) the table frame at the top right (H) may prevent you from positioning the reduction pulley mount (M) far enough to the right to achieve the alignment of the smallest of the three pulleys on the reduction pulley (P) in the same vertical plane as the sewing machine pulley and hand wheel (B); and/or the clutch lever tension adjustment bolt on the motor (O) may block the path of belt #1 (J).

7. Unfortunately, there are no "standard" supplemental directions. If your installation suffers from either of the conditions above, you will have to devise some modification to the standard installation, or even an alternative placement of the reduction pulley. Your solution may be as simple as inserting a spacer block between the top of the reduction pulley mount (K) and the underside of the table so that the mount will clear the table frame (H), or as complex as relocating the reduction pulley (P) on the bottom of the table frame. Attached is a photograph of a bottom-mounted modified installation.

8. In any modification to the standard installation, you should keep the following points in mind:

a. The drive pulley on the motor (G), *when the clutch is engaged*, must be in the same vertical plane as the largest pulley on the reduction pulley mechanism (P);

b. The orientation of the reduction pulley (P) in relation to the drive pulley on the motor (G) should be such that both the reduction pulley tension adjustment bolt (M) and the motor mount tension adjustment bolt (L) will perform their respective functions of tightening or loosening belt #1 (J) and belt #2 (E), without canceling the effect of each other. In order to achieve this, it may be necessary to add some additional belt adjustment mechanism to your modified installation design.

c. The reduction pulley mechanism (P) must be positioned in such a manner that the clutch lever tension adjustment bolt (O) does not interfere with the movement of belt #1 (J);

d. Any modification must be rigid. Stove bolts or machine bolts should be favored over lag bolts, wood screws, or sheet metal screws. If metal is used, it should be of a gage at least equal to that of the table base; if wood is used, it should be heavy stock (2x3, 1x6, etc.) and/or hard wood (e.g., 3/4x6 oak).