# 3100 Top Mounting Packages

This mounting package can be setup in either one of two positions (**A** or **D**, Figure 1).

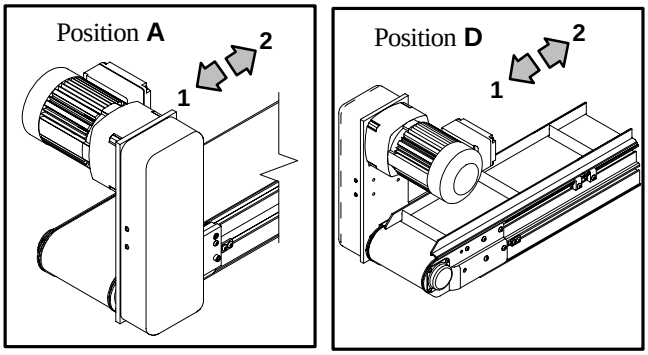



***Figure 1: Flat Belt (left) & Cleated Belt (right)***

In addition, the conveyor belt can be driven in either one of two directions (**1** or **2**, Figure 2). Arrows show belt travel direction.

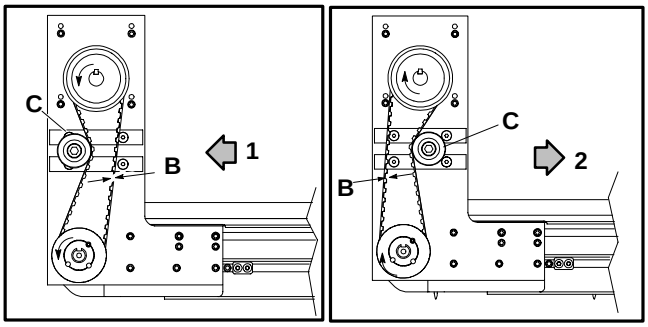



***Figure 2***

**NOTE:**

Item numbers shown below correspond with those shown in Figure 3 and on backside of instruction sheet.

1. The gearmotor (**E**) and M6 x 25 mm socket head cap screws (**13**), that mount it to mounting plate ( **5**), are shown assembled. These pieces are shipped as loose parts.
2. Attach the mounting plate to the conveyor (**F**) using one M6 x 30 mm socket head cap screw (**15**) in the top mounting hole of the mounting plate, two M6 x 16 socket head cap screws (**21**) in the middle holes and three M6 x 20 mm socket head cap screws (**14**) in bottom holes.

**NOTE:**

The upper set (of 4) gearmotor mounting plate holes is only used when both gearmotor and conveyor shafts will have 16 tooth pulleys mounted to them. All other pulley combinations use the lower set of mounting plate holes.

3. Attach gearmotor (**E**) to mounting plate ( **5**) using four M6 x 25 mm socket head cap screws (**13**) to secure it in place.
4. Assemble the drive and driven pulleys (**18** or **16**) and timing belt (**20**). Place a square key ( **1**) into the keyway on the gearmotor and conveyor shafts. Install the pulleys so that timing belt is centered on the belt tensioning roller assembly and the pulleys are in line with each other. Tighten the pulley set screws (**19**) or Taper Lock® bushing screws (**17**), which fasten the pulleys to the shafts. Determine which direction the conveyor belt is traveling and position the tensioning roller assembly on the slack side of the timing belt.
5. Adjust timing belt tension by loosening the M12 x 25 mm socket head cap screw (**12**) and sliding the belt tensioning roller assembly against the belt. Tension should be measured at mid-point (**B**) on the tension side of the timing belt. As a starting point for the tensioning process, there should be a 1/8″ (3 mm) deflection with 6 lb (3kg or 26 N) of force.
6. Every timing belt application exhibits its own individual operating characteristics. The optimum timing belt tension should be determined experimentally.

   If necessary, continue to slide the tensioning roller assembly against the timing belt until the belt is tensioned so as to prevent jumping of teeth under the most severe conditions which the drive will encounter. Tighten the M12 x 25 mm socket head cap screw after tension requirements are achieved.

**IMPORTANT:**

Do not over tension the timing belt. Over tensioning may cause reduced belt life or bearing and drive damage.

7. Attach the top drive cover ( **2**) using four M4 x 10 mm button head cap screws ( **3**).

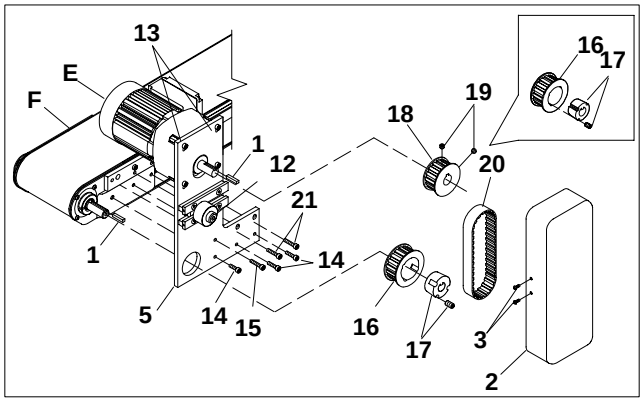
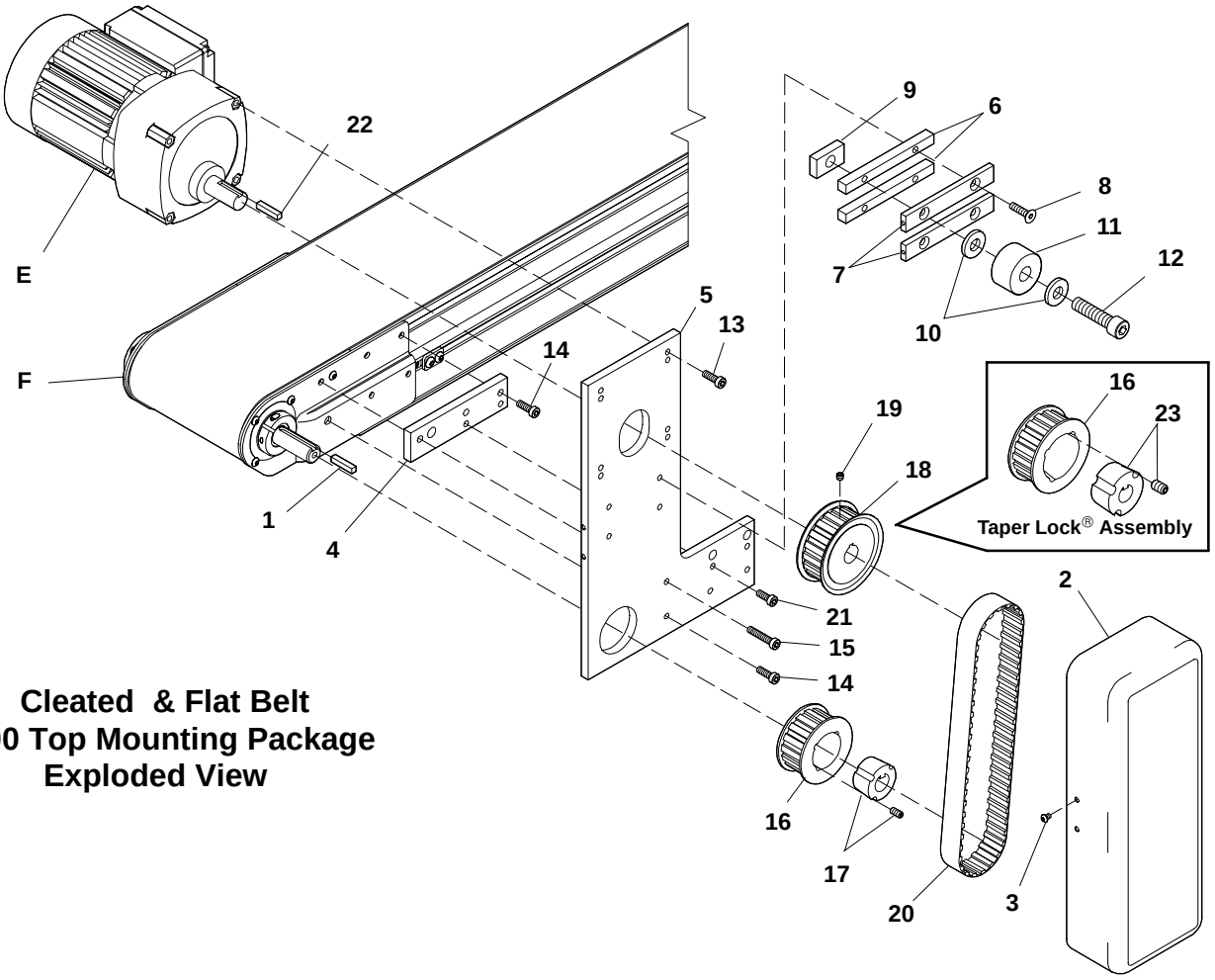



***Figure 3: Sample Flat Belt Top Drive***

# Mounting Package Assembly Instructions




**Cleated & Flat Belt**
**3100 Top Mounting Package**
**Exploded View**

| Item | Part No. | Part Description |
|---|---|---|
| 1 | 980018M | Square Key (Undersized), 6 mm x 18 mm |
| 2 | 300871M | Top Drive Cover |
| 3 | 910410M | Button Head Cap Screw, M4-0.70 x 10 mm |
| 4 | 300038M | Spacer, 3/8 Thick |
| 5 | 310045M | Drive Top Mounting Plate |
| 6 | 300187 | Idler Spacer Bar |
| 7 | 300186M | Idler Guide Bar |
| 8 | 930625M | Flat Head Cap Screw, M5-1.0 x 25 mm |
| 9 | 628144M | Cam Follower Nut |
| 10 | 605284 | Hard Washer, Black Oxide |
| 11 | 802-059 | Cam Follower Bearing |
| 12 | 921250M | Socket Head Cap Screw, M12-1.75 x 50 mm |
| 13 | 902-157 | Socket Head Cap Screw, 1/4-28 x 3/4" |
| 14 | 920620M | Socket Head Cap Screw, M6-1.0 x 20 mm |
| 15 | 920630M | Socket Head Cap Screw, M6-1.0 x 30 mm |

| Item | Part No. | Part Description |
|---|---|---|
| 16 | 811-126 | Pulley, 16 Tooth, Taper Lock®-TL1108 |
| | 811-127 | Pulley, 18 Tooth, Taper Lock®-TL1210 |
| | 811-133 | Pulley, 14 Tooth, Taper Lock®-TL1108 |
| | 811-135 | Pulley, 20 Tooth, Taper Lock®-TL1210 |
| | 811-136 | Pulley, 22 Tooth, Taper Lock®-TL1610 |
| | 811-137 | Pulley, 24 Tooth, Taper Lock®-TL1610 |
| 17 | 811-204 | Taper Lock® Bushing-TL1108, 19 mm Bore |
| 18 | 300549 | Drive Pulley, 19 Tooth, 3/4" Bore |
| 19 | 907-141 | Socket Head Set Screw, 1/4-28 x 1/4" |
| 20 | 814-059 | Timing Belt, 27″ (685 mm) Long |
| | 814-060 | Timing Belt, 28″ (711 mm) Long |
| 21 | 920616M | Socket Head Cap Screw, M6-1.0 x 16 mm |
| 22 | 912-078 | Key, 3/16" x 3/4" Long |
| 23 | 811-167 | Taper Lock® Bushing-TL1610, 3/4" Bore |
| | 811-074 | Taper Lock® Bushing-TL1210, 3/4" Bore |



**DORNER MFG. CORP.**
975 Cottonwood Ave., PO Box 20
Hartland, WI 53029-0020 USA
**USA**
**TEL 1-800-397-8664 (USA)**
**FAX 1-800-369-2440 (USA)**
Outside the USA:
TEL 1-414-367-7600, FAX 1-414-367-5827

**DORNER**
Arnold-Sommerfeld-Ring 2
D-52499 Baesweiler
**Germany**
**TEL (02401) 80 52 90**
**FAX (02401) 80 52 93**