

## RT4000 Series

### For V-belt, V-ribbed, Synchronous Belt Drives and Roller Chain Drives

#### Mounting Requirements — Before beginning the installation, review the following:

- Mounting bracket and supporting framework must be rigid to prevent twisting under load.
- Mounting bracket and rotary tensioner must be located to allow for correct alignment of the idler with the driveR and driveN pulleys.
- Rotary tensioner should always be mounted on the slack side of the belt drive. See Fig. 1.
- The preferred location of a rotary tensioner/idler is on the inside of the drive. Optimum location would be where the idler provides nearly equal arcs of contact on both the driveR and driveN pulleys.
- As a rule of thumb, the inside idler pulley should be the same diameter as the driveR pulley.
- An outside spring-loaded rotary tensioner may be used, but it imposes a back bend on the belt. Follow the belt manufacturer's recommendations for diameter and location. Typically, this diameter should be 1/3 larger than the driveR pulley.
- Never use a spring-loaded rotary tensioner/idler on a reversing drive.

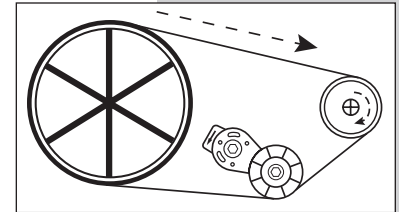


Fig. 1

#### Assembly Instructions

1. Establish the location of the tensioner and check the directional arrow at the bottom of the housing. This arrow must point in the direction of the belt(s) with which the idler will be in contact. If not, it is necessary to disassemble the tensioner and reverse the spring. See steps 2 and 3 for instruction. Otherwise, proceed to step 4.
2. RT4100/RT4902 — Remove the 1/2" bolt and washer from the body of the tensioner.  
RT4101/RT4900 — Remove the cable tie from the tensioner. This model does not have a bolt to hold the assembly together; when handling, be certain to securely hold both the housing/arm and base to prevent the unit from coming apart.
3. Lift off the aluminum housing/arm assembly, exposing the spring. Remove the spring, flip it over, and replace it on the tensioner base. The spring's center "tail" must engage the slot in the center shaft. On the aluminum housing/arm assembly, push out the directional arrow piece (you may need to squeeze it to disengage the catch). Reverse it so the arrow points the opposite way and snap it back into place. Note: if arrow is not pointing in the correct direction, the tensioner cannot be reassembled. Replace the housing/arm assembly onto the tensioner base.  
RT4100/RT4902 — Reinsert 1/2" bolt with washer and tighten.  
RT4101/RT4900 — Hold tensioner together securely.
4. Drill a hole in the mounting bracket positioned to meet the above Mounting Requirements, corresponding to mounting bolt sizes 1/2-13 for RT4100/RT4902 and .510" for RT4101/RT4900.
5. Mount the idler to the tensioner arm. The holes in the arm are designed to accept a 1/2" diameter bolt. The hole closest to the tensioner body yields the highest force but accommodates a smaller idler diameter. The hole farthest from the tensioner body has a lesser force but will accommodate a larger idler. See Table 1.
6. Bolt the tensioner/idler assembly onto the mounting bracket. Hand tighten only! Check the alignment of the idler with the driveR and driveN pulleys. Any misalignment must be corrected.
7. Place belt over all pulleys.
8. The tensioner spring is not yet under tension. Put the idler in light contact with the belt(s) and rotate the tensioner base clockwise if the arrow points to "CW" or counterclockwise if the arrow points to "CCW" until you feel light spring pressure. Use a marking pencil to mark a line on both the housing and base of the tensioner. This will be reference point 0° for establishing tensioner force and degrees of rotation. See Fig. 2.
9. The housing of the tensioner has equally spaced graduation marks (every 10°) that can be used to establish rotational degrees and resulting tensioner force. See Fig. 3. For reference you may want to place a mark on or near the desired graduation mark.
10. Using a 3 1/16" fixed head hook-style spanner wrench on the outside of the tensioner base, rotate the wrench (use the same direction as step 8) until the 0° marks are aligned. From the 0° mark, continue to rotate the base to the desired degrees of rotation (graduation mark). Holding the spanner wrench securely at the desired degrees of rotation, tighten the 1/2" mounting bolt holding the tensioner to the bracket. Remove the spanner wrench.
11. Before starting drive, recheck drive alignment and check all mounting fasteners for tightness.

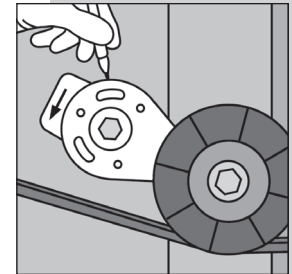


Fig. 2

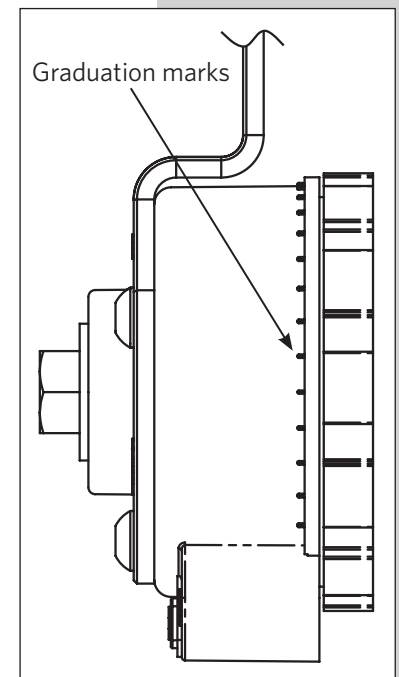


Fig. 3

Tensioner Model	Maximum Idler Diameter		Maximum Rotation & Force	
	Closest Hole	Farthest Hole	Closest Hole	Farthest Hole
RT4100, RT4101	4.50"	6.25"	85° @ 85 lbs	85° @ 70 lbs
RT4900, RT4902	—	6.25"	—	85° @ 70 lbs

Table 1 Note — At closest hole, 1° rotation = 1 lb. force. At farthest hole, 1° rotation = .83 lb. force. All forces (lbs.) are nominal.

Once installed, the tensioner has considerable force. A spanner wrench must be used to hold the tensioner base when loosening the mounting bolt.

Tensioner comes with a limited use spanner wrench. To assemble, align arrows and push together.

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