

©Turntide Technologies. All Rights Reserved.

## **Belt Tension Instructions**

Best Practices, November 24, 2025

# Best Practices for Installing Belt



**Caution:** To properly follow these instructions, you will need a belt tensioning tool that utilizes a spring depressor that reads in pounds and fractions of an inch.

**Do not attempt to tension the belt without the proper testing tools.**

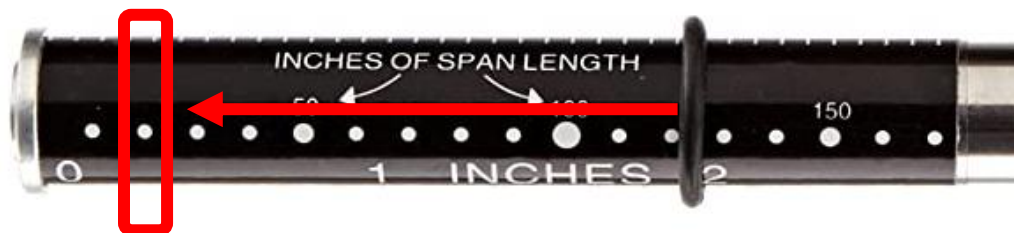
**Failure to properly tension the belt may cause bearing failure or permanent damage to the motor.**

**Belts will loosen after running and warming up. Final adjustments should be made after 10 minutes of run time.** If the existing belt shows signs of excessive wear, it should be replaced.

1. Measure the distance (inches) from the center shaft of the motor to the center shaft of the blower wheel.



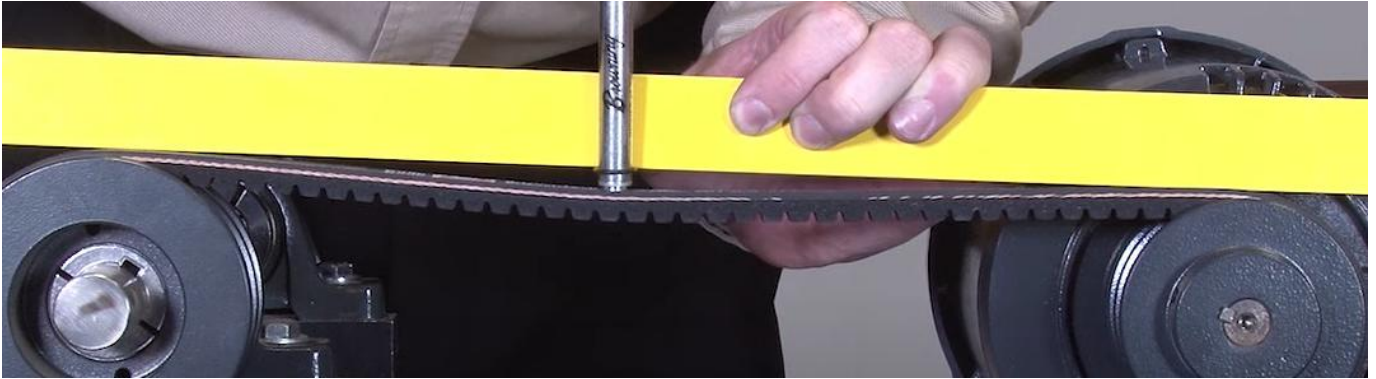
2. Round the distance to the closest value. If evenly divided, round down. *For example, 20 1/2 inches is rounded down to 20 inches.*
3. Set the bottom O-ring of the belt tension gauge to that value. *For example, slide the O-ring to the 20-inch mark or notch on your gauge.*



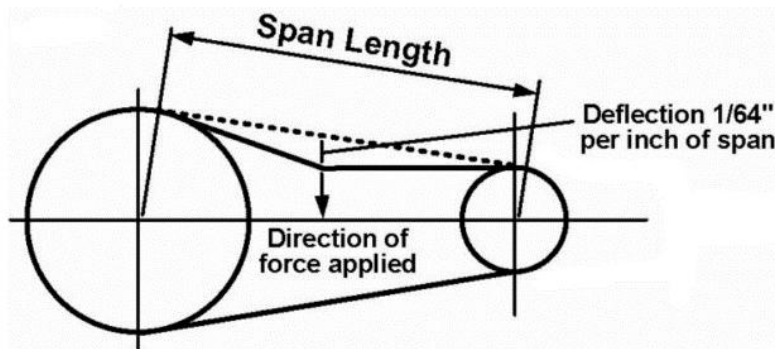
4. Set the top O-ring at zero (0). (Slide the O-ring to the base.)



- Set a straight edge across the top of the belt. Deflect the belt until the bottom **O-ring** is in the same plane as the straight edge.



HVAC industry standard



- The top O-ring will have moved up the gauge and show the amount of force used. For example, say 7 pounds.
- Measure the diameter of the smaller pulley. ***The diameter of the smaller pulley determines pressure to the belt that should be applied to the belt.***



- Using a deflective force chart, find the value your tension gauge registered and compare it with the diameter of the smaller pulley.

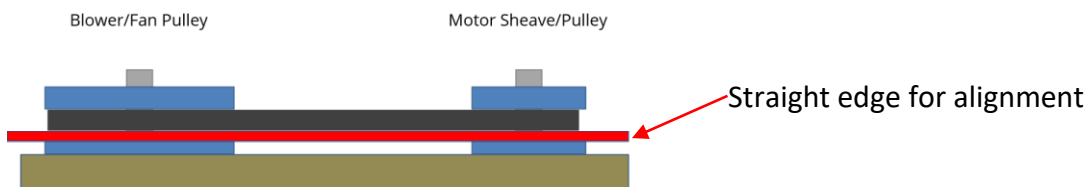
**For example,** if you are using a BX type belt, your tension gauge registered 10 pounds of force, and the smaller pulley is 5 inches in diameter, then the belt tension is in the acceptable range.

	Smallest Pulley Diameter Range	RPM Range	Belt Deflection Setting			
			uncogged belts		cogged belts	
			used belt	new belt	used belt	new belt
4L, A, AX	2.0 - 2.9	1000 - 2500	1.8	2.6	2.0	3.0
		2501 - 4000	1.4	2.0	1.6	2.4
	3.0 - 3.6	1000 - 2500	3.6	5.4	4.0	6.0
		2501 - 4000	2.8	4.1	3.3	4.9
	3.8 - 4.8	1000 - 2500	4.4	6.6	4.9	7.3
		2501 - 4000	3.7	5.7	4.3	6.4
	5.0 - 7.0	1000 - 2500	5.3	7.8	5.7	9.2
		2501 - 4000	4.6	6.8	5.1	7.6
5L, B, BX	3.4 - 4.2	860 - 2500			4.8	7.2
		2501 - 4000			4.1	6.2
	4.4 - 5.6	860 - 2500	5.2	7.9	7.1	10.5
		2501 - 4000	4.5	6.6	7.1	9.1
5.8 - 8.6	860 - 2500	6.2	9.4	8.4	12.4	
	2501 - 4000	6.0	6.8	7.3	10.7	

**Important:** If the belt cannot be properly tensioned, install a longer or shorter belt, as necessary.

## Fan Pulley and Motor Pulley Alignment

- For proper belt seating, ensure the centerline of the pulleys are aligned.
- Use a straight edge to verify pulley alignment.
- Verify that all pulley setscrews are secure.



# Troubleshooting a Stalled Motor (Belt Tension Issues)

## If motor stalling:

1. Remove the belt and test if the motor still stalls. (Manual mode in the Turntide Technician App.)
2. If motor runs *properly* without the belt:
  - a. **Slightly reduce the belt tension and test motor operation in small increments or upsize the belt if necessary.**
  - b. If you installed isolator feet, you may need to increase the belt by 2 sizes.
  - c. Note however, if the belt is too loose, it will slip and cause reduced airflow, excessive wear, and early failure.
3. If the motor is *still stalling* without a belt:
  - a. With the motor off, spin the motor by hand to feel bearings or if anything within the motor is clunking around.
  - b. Verify that power wiring is correctly wired. For example, are P2 & P3 correct or flipped?
  - c. Using the Turntide Technician App (**General** screen), verify that you have the correct motor model and voltage selected and that it matches the motor nameplate.
  - d. Confirm there aren't any rub-outs or exposed copper along the motor power wiring (Applicable check only if the motor has been in operation for some time).
  - e. If the motor continues to stall, contact Turntide Technical support.

## TURNTIDE TECHNOLOGIES

Turntide Technologies | 11720 Amber Park Drive, Suite 160, Alpharetta, GA 30009 | [turntide.com](https://turntide.com) | [support@turntide.com](mailto:support@turntide.com)

