Torq-PRO Winding Tool Operation Manual

CAUTION:

Before using this Torsion Spring Winding Tool (Torq-PRO) read this manual and follow all of its safety rules and Operating Instructions. Failure to do so could result in serious injury and or death. Torsion Engineering LLC cannot be held liable for any misuse or potential injury caused by this tool.

WINDING TOOL SAFETY

GENERAL SAFETY - Safety is a combination of common sense, staying alert, and knowing how to use your tool.

1) READ and become familiar with the entire Operator’s Manual. LEARN the tools application, Limitations, and Possible Hazards.
2) KEEP WORK AREA CLEAN – cluttered areas and benches invite accidents
3) DO NOT USE IN DANGEROUS ENVIRONMENTS – Do not use this tool in rain or snow. Keep work area well lit.
4) KEEP CHILDREN AWAY – all visitors and bystanders should be kept a safe distance from work area.
5) DO NOT FORCE THE TOOL – It will do the job better and safer at the rate for which it was designed
6) USE THE RIGHT TOOL – Do not force the tool or an attachment to do a job for which it was not designed
7) WEAR PROPER APPAREL – Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear Protective hair covering to contain long hair.
8) ALWAYS WEAR EYE PROTECTION – Any tool can throw foreign objects into the eyes and could cause permanent eye damage. ALWAYS wear safety Goggles (not glasses) that comply with ANSI Safety Standard Z87.1. Everyday eyeglasses have only impact-resistant lenses. They ARE NOT safety glasses.
   NOTE: Glasses or goggles not in compliance with ANSI Z87.1 could seriously injure you when they break.
9) SECURE WORK – Use clamps or locking pliers to hold tool in position when practical. It is safer than using your hand and it frees both hands to operate the tool.
10) **DISCONNECT TOOL FROM SPRING** before servicing, and when changing accessories such as winding hubs.

11) **USE ONLY ACCESSORIES SUPPLIED BY TORSION ENGINEERING** – Consult Torsion Engineering LLC for recommended accessories for this tool. The use of improper accessories may cause risk of injury to yourself or others.

12) **CHECK FOR DAMAGED PARTS**—Before further use of this tool, a guard, or other part that is damaged should be carefully be checked by a service professional at Torsion Engineering to determine that it will operate properly and perform its intended function. If damaged, the tool must be sent to Torsion Engineering for a safety evaluation of all moving parts. All guards or other damaged parts must be properly repaired or replaced to ensure proper operation.

13) **NEVER LEAVE THE TOOL UNATTENDED. REMOVE THE TOOL FROM ITS POWER SOURCE, THE SPRING.** Do not walk away from a tool in use. Make sure your winding tool is properly removed from the spring when you have completed using it.

14) **DO NOT OVERREACH** – Keep proper footing and balance at all times.

15) **MAINTAIN TOOLS WITH CARE** – Keep tools clean and free from debris for safe and proper performance.

**INSTRUCTIONS FOR WINDING TORSION SPRINGS:**

A) Install the correct winding hub size per (the winding hub sizing chart) onto the coupling shaft. This is accomplished by removing the 6 bolts and changing winding hubs to accommodate the different sizes of winding cones across the industry. (Illustration 1)

B) Install both halves of the Coupling Shaft (2) to the Garage Door Torsion Spring above the garage door of the customer needing service. The Coupling Shaft Locking Bolts (4) can already be installed on the Coupling Shaft (2). Hand Tighten all 4 Locking Bolts (4) into the winding bar slots on the winding cone. (Illustrations 2, 3, 4, 5, & 6)

C) Next Take the Gearbox and remove the pin on the Gearbox Coupling End Cap (7). Move Gearbox up to the Coupling Shaft (2) which is already installed on the garage door torsion spring. Use the Gearbox Coupling End Cap (7) and wrap them around the Coupling Shaft (2) in the proper location and close the end cap, reinstall the pin, thus securing the gearbox assembly to the Coupling Shaft (2). (Illustrations 7, 8, 9, 10, & 11)
**Note:** Install the gearbox in the correct direction on the Coupling Shaft (2) to wind the spring in the desired direction. Gearbox can attach the Coupling shaft (2) in both directions to accommodate left and right wound springs.

D) Adjust Sliding Lever Arm (12), if required, up or down to snug it to the garage door inside face. This will lever the device on itself, therefore not allowing it to spin when in use. (Illustration 12)

E) Now use an Electric Drill with socket attachment (Supplied by Others) and apply force to the Input Driveshaft (14) from either side, in a winding direction only. (Illustrations 13, 14, & 15)

**Note:** Attempting to apply force to the Input Driveshaft (14) in an unwinding direction without releasing the ratcheting gear, by following the unwinding directions below can cause internal damage to the gearbox thus making it unusable.

F) Continue to apply force with the electric drill until the spring is fully wound up per manufactures spec, remove drill and stretch spring to desired location. Then tighten the set screw on the Garage Door Torsion Spring to lock the spring in its final location. (Illustrations 16, 17, & 18)

**Note:** If you over wind the spring please refer to the unwinding section below to learn how to safely unwind the spring. You will be able to jump ahead to step (F) in the unwinding section.

G) Remove Gearbox Coupling End Cap (7) from the Coupling Shaft (2). This can be accomplished by following the reverse instructions from step (C).

H) Remove Coupling Shaft (2) from the garage door torsion spring. This can be accomplished by following the reverse instructions from step (B).

I) Process is complete. Thanks for using **Torsion Engineering’s Torq-PRO**.

Please see our website for Demo Video’s at:  
www.torsionengineering.com
INSTRUCTIONS FOR UN-WINDING TORSION SPRINGS:

A) Install the correct winding hub size per (the winding hub sizing chart) onto the coupling shaft. This is accomplished by removing the 6 bolts and changing winding hubs to accommodate the different sizes of winding cones across the industry. (Illustration 1)

B) Install both halves of the Coupling Shaft (2) to the Garage Door Torsion Spring above the garage door of the customer needing service. The Coupling Shaft Locking Bolts (4) can already be installed on the Coupling Shaft (2). Hand Tighten all 4 Locking Bolts (4) into the winding bar slots on the winding cone. (Illustrations 2, 3, 4, 5, & 6)

C) Next Take the Gearbox and remove the pin on the Gearbox Coupling End Cap (7). Move Gearbox up to the Coupling Shaft (2) which is already installed on the torsion spring. Use the Gearbox Coupling End Cap (7) and wrap them around the Coupling Shaft (2) in the proper location and close the end cap, reinstall the pin, thus securing the gearbox assembly to the Coupling Shaft (2). (Illustrations 7, 8, 9, 10, & 11)

**Note:** Install the gearbox in the correct direction on the Coupling Shaft (2) to wind the spring in the desired direction. Gearbox can attach the Coupling shaft (2) in both directions to accommodate left and right wound springs.

D) Adjust Sliding Lever Arm (12), if required, up or down to snug it to the garage door inside face. This will lever the device on itself, therefore not allowing it to spin when in use. (Illustration 12)

E) Loosen the set screw on the Garage Door Torsion Spring to unlock the spring from its previous location allowing it to transfer all the force onto the gears of the gearbox. (Illustrations 16, 17, & 18)

F) Now use an Electric Drill (WITH AN INTERNAL BRAKE ONLY) with socket attachment (Supplied by Others) and apply force to the Input Driveshaft (14) in a (winding) direction MANUALLY in order to take some of the force off the internal ratchet gear. This will allow you to release the ratchet gear with the release button (Illustrations 13, 14, 15, & 20)

**Note:** ALWAYS USE A DRILL THAT HAS AN INTERNAL BRAKE. FAILURE TO DO SO WILL RESULT IN LACK OF CONTROL OF THE SPRING IN UNWINDING SITUATIONS. (Most cordless drills have this brake feature)

G) Next hold the gearbox release button (20) on top of the box down fully to release all the spring’s potential energy into the gearbox. This will allow the spring to
Input the forces to the internal workings of the gearbox and allowing the Drill to control the springs power easily. (Illustrations 19, 20, & 21)

**Note:** If at any time you feel unsafe in completing this task release your finger from the release button (20) and everything will stop moving immediately. If you allow the gearbox to stop in this manner you must send the complete gearbox back to Torsion Engineering Immediately for a thorough safety Inspection to ensure that the tool is not damages and will not malfunction in the future.

H) Now switch the drill into reverse and press the trigger. The drill will release the tension of the spring as fast you feel comfortable with by using the drills trigger. Continue to hold the trigger down until the spring is fully unwound.

I) The unwinding Process is complete.

J) Remove Gearbox Coupling End Cap (7) from the Coupling Shaft (2). This can be accomplished by following the reverse instructions from step (C).

K) Remove Coupling Shaft (2) from the garage door torsion spring. This can be accomplished by following the reverse instructions from step (B).

L) Thanks for using *Torsion Engineering's Torq-PRO*.

Illustration 1
Illustration 12

Illustration 13