

True-Tension Stringing Machine Operations Manual

(Updated 01/01/12)

Section 4

Preventative Maintenance

The True-Tension Stringing Machine has proven that even after 25 years of daily professional use this machine continues to function as a new machine as long as it is maintained properly!

It was built to last!

Your Model 2020 True-Tension Stringing Machine was fully serviced and calibrated prior to leaving the factory. Simple preventative maintenance will normally assure many years of trouble-free service. Below are instructions that can be followed to properly maintain your True-Tension Stringing Machine. The lubrication schedules below are only a guide that is predicated upon daily stringing. Common sense, your own stringing schedule, and experience will let you know when and how often you should lubricate your machine.

Lubrication:

All pivot points and sliding functions should be lubricated regularly with a good grade of machine oil or a light grease, dependent upon the item to be lubricated. Tri-Flow Lubricant with Teflon® in small drip bottles is an excellent product that can be used for all the required oil lubrications described below. The bottle shown on the right also comes with a small tube that can apply the lubrication directly into confined areas. Shake the bottle well before using! Do not use a spray can!



Tri-Flow Lubricant in small squeeze bottles and small squeeze tubes of White Lithium Grease such as those manufactured by Lubriplate, Permatex, or equivalents are readily available at most hardware and sporting good stores.

Special care should be taken to avoid applying oil or grease to the Stringing and Pulling Clamp String Gripping Surfaces, the Brake Shoe Pads, or the Serrated Edge of the Control Wheel. To also avoid string slippage, do not use wax on the strings.

Prior to lubricating your True-Tension Stringing Machine download the Exploded Views of all the Major Assemblies of the True-Tension Stringing Machine from the Downloads Page to see the location of the items mentioned below that require lubrication.

Tensioning Assembly Lubrication:

Pawl Assembly Pivot Points: (Lubricate every 2 months)

Apply a small drop of oil to the Pawl Assembly Pivot Points (Items #51 & 62, 3 Pawls) bi-monthly. Also apply a small drop of oil into the holes where the Pawl Assembly Springs (Item #55, 2 Springs) are mounted.

Note: Failure to keep the pivot points of the Pawl Assembly Pawls and Pawl Springs lubricated has caused Tension holding problems with machines that have not been lubricated since leaving the factory ten to twenty five years ago! The old grease had turned into a sticky non-lubricating paste!

Brake Assemblies: (Lubricate every 2 months)

Apply a small drop of oil to the Brake Assemblies pivot points at the mounting bolts bi-monthly. Do not over lubricate and do not allow any oil on the Brake Pads! Clean up any excess oil!

Tensioning Assembly Ball Bearings: (Lubricate every 6 months)

There are 7 Bearings that were originally packed with a quality grease. A drop of quality machine oil such as Tri-Flow applied into each bearing once every 6 months will ensure that the bearings remain lubricated and never wear out. When you lubricate the bearing be sure to rotate the bearing to distribute the oil in the bearing. One bearing that is often overlooked is the Thrust Bearing (Item #3). This Thrust Bearing (Item #3) is installed in the Tension Plate (Item #40) right behind the Control Wheel (Item #47), next to the Control Wheel Hub (Item #48), and supports the Control Wheel Axle (Item #29). This bearing can be lubricated easily by using the small tube that comes with the Tri-Flow Bottle with the Tension Assembly off the machine and held upside down.

Tensioning Assembly Lead Screws: (Lubricate every 6 months)

The Lead Screws for adjusting the Main String Tension and the Pre-Stretch Tension should be lubricated at least every 6 months. The Main Tension Lead Screw (Item #4) can be removed by completely unscrewing the Main Tensioning Adjustment Knob (Item #1). The Pre-Stretch Lead Screw (Item #8) is exposed for lubrication by removing the Tensioning Assembly Cover (Item #96). A light coat of grease applied to the Main Tension and Pre-Stretch Lead Screw Threads and a drop of oil where the Pre-Stretch Adjust Knob (Item #5) contacts the Flat Washer (Item #7) will make for easy adjustments and long life.

Main Scale Indicator Contact With Tension Plate: (Lubricate every 6 months)

The Main Tension Scale Indicator (Item #12) has a locating slot on the bottom of the Indicator that slides along the top of the Tension Plate (Item #40). Every 6 months clean the top of the Tension Plate and the locating slot with a dry rag and apply a very light coat of grease along the top and top sides of the Tension Plate that contacts the Main Tension Scale Indicator. The Main Tension Scale Indicator and top of the Tension Plate are exposed for lubrication by removing the Tensioning Assembly Cover (Item #96).

Pulling Clamp Jaws Pivot Points: (Lubricate every 6 months)

To lubricate the Pulling Clamp Jaws (Items #84 and #85) the Hex Head Shoulder Bolts (Items #87) can be removed and the Hex Head Shoulder Bolt Shafts (Items #87) that contact the Pulling Clamp Jaws should be lubricated with oil. At the same time, while exposed, the String Contact surfaces of the Pulling Clamp Jaws should be cleaned of any oils, grease, graphite, or wax.

Caution: The Hex Nuts (Items #95) that lock the Hex Head Shoulder Bolts in position have to be removed before attempting to loosen or remove the Hex Head Shoulder Bolts (Items #87) from the Tension Plate (Item #40). Do not fail to remove the Hex Nuts (Items #95) that lock the Hex Head Shoulder Bolts, and do not over tighten the Hex Head Shoulder Bolts (Items #87), as the Hex Head Shoulder Bolts can break at the shoulder if over stressed. Do not forget to reinstall the Washers (Items #83) upon reassembly.

Note: If your Pulling Clamp Jaws are clean you can lubricate the two Pulling Clamp Jaws pivot points without removing the Hex Head Shoulder Bolts by applying one very small drop of oil to the Hex Head Shoulder Bolts where the bolt heads contact the Pulling Clamp Jaws and sufficient lubrication will work into the areas needing lubrication. Be very careful to not over lubricate!

String Clamps and Turret Assembly Lubrication:

String Clamp Cam Rollers: (Lubricate every 2 months with Grease when used daily)

Do not use oil on the String Clamps. Lubricate the String Clamps by removing the Pin Retaining Set Screws (Item #10, upper and lower Jaws) on one side of the clamp. Fill the Set Screw hole with grease, then tighten the screw to force the grease onto the cam roller. After tightening, loosen the setscrew 1/2 turn. Download the String Clamp Assemblies Exploded Views from the Downloads Page to see the location of the String Clamp Assembly Cam Roller Pin Retaining Set Screws.

Turret Assembly Spindle: (Lubricate as needed with Grease)

If the Turret becomes hard to turn, loosen the Turret Assembly Retaining/Locking Knob located below the Tool Tray where the Turret Assembly Spindle enters the top hole of the Main Support Post and remove the Turret to grease the Turret Spindle.

Racquet Support Mounting Bolts: (Lubricate every 2 months if stringing daily)

Put a small drop of oil on the threads of the 1/4-20 x 3/4" Mounting Bolts that hold the Racquet Supports.

Glide Bar Rails: (Lubricate as needed)

When the ends of the glide bars become dry or sticky, lubricate with a white grease. If the rod becomes greasy or dirty, clean with Alcohol or a Cleaning Solvent.

Preventative Maintenance:

Main Spring Tension: (Daily after use - This is VERY Important!)

After using your True-Tension Stringing Machine reduce the Tension Setting to -0- lbs as you should with any calibrated piece of equipment/tool that uses a calibrated spring such as a Torque Wrench and your True-Tension Stringing Machine. Failure to leave the spring tension backed off to 10 lbs or less will cause the Main Spring to take a set and lose Calibration.

Brake Pads: (Inspect Daily when the Brake Pads show wear)

Once the Brake Pads are worn to less than 3/16" it is getting time to plan on having the Brake Assemblies overhauled or having a spare set of Brake Assemblies ready to install. Failure to ignore worn Brake Pads can result in failure of the Tensioning Assembly to hold tension.

Check the String Clamp Handle Assemblies: (Inspect Daily)

Since the very first String Clamps were manufactured over 25 years ago there have been many ways of attaching the String Clamp Handle to the Cam Assembly. Some were press fit, some were welded, and for the last 15 plus years the String Clamp Handles have been threaded into the Cam Assembly and secured with a Threadlocker 262 Permanent by Loctite. If you ever find a loose String Clamp Handle immediately stop all use of the String Clamps until the String Clamp Handles are properly secured or replaced. Failure to do so can result in severe injury to your hand while closing the clamp.

Tension Assembly Pinion Set Screws (2): (Inspect monthly)

Check that both Pinion Set Screws (Item #30) that secure the Pinion Gear (Item #31) to the Wheel Axle (Item #29) are tight. Use a 1/8" hex wrench to tighten if necessary. It is very rare to find one loose but it could happen.

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Use the email address as I don't always monitor the phone calls or might be traveling

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