

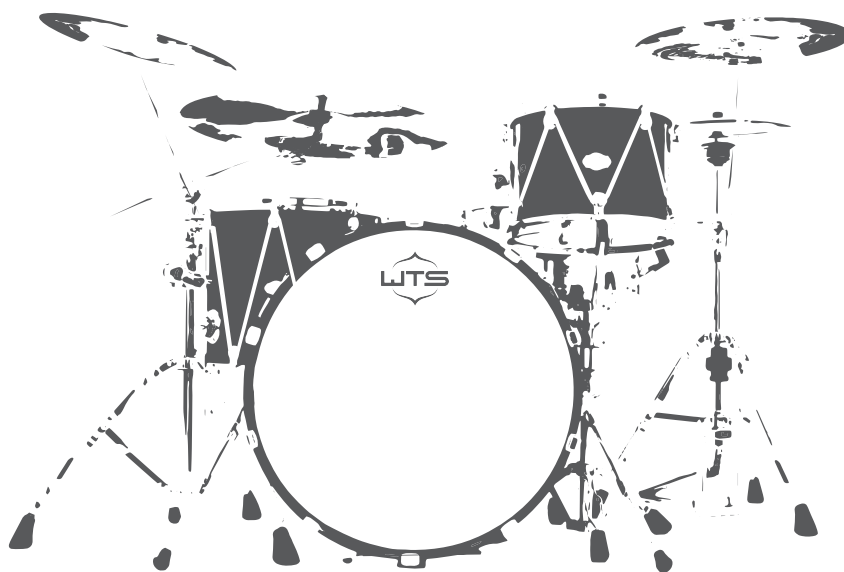


WELCH TUNING SYSTEMS, INC.

Welch Tuning System™ Owner's Manual

To get the most out of the Welch Tuning System (WTS) premium drum hardware, and use it in a safe manner, we urge you to read this Owner's Manual before using WTS.

The cautions given in the following Safety Precautions section are provided to prevent unexpected injuries or accidents. Please understand each of the cautions and use WTS in a safe and proper manner.

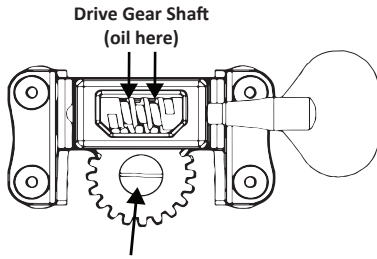


SAFETY PRECAUTIONS

Preventing Unexpected Injuries and Accidents

- Never use a damaged or defective cable. Breakage could result in injury. Carefully inspect cable for any flaws or defects prior to assembly.
- Follow all proper cable winding procedures outlined in this manual.
- Always replace cable if damaged or after 6 months of use.
- Never use a tool to assist in tensioning the cable. The tuning knob is designed to be turned by hand only.
- Do not over-tighten drum. When the tone of the drum chokes up or the hoops begin to deform, you are over-tightening the drum.
- Do not place your face close to the instrument when changing or adjusting the cable.
- Cable ends are sharp and can cause injuries.

TUNING KNOB



Break-in period: New tuning knobs will have a break-in period. In the initial couple of weeks of use, you will notice small metal particles and stiffening of the gear. This is normal. When you notice this, place 2-3 drops of 3-in-1 oil on the drive gear shaft of the tuning knob and use a clean rag to remove any metal residue.

Friction adjustment: To lock tension or make the handle harder to turn, lightly snug down the friction adjustment bolt on the front of the gear.

Caution: Do not over-oil. Use minimum amount for smooth operation; over-oiling can result in tension slippage.

PERIODIC MAINTENANCE

To ensure optimal performance from WTS, periodic maintenance is suggested:

1. Vibration from drums can sometimes cause bolts to loosen. Check to make sure all pulley assemblies are snug on hoops, and all nuts inside drum shell are snug.
2. Inspect that pulley assemblies are clean and free from debris, and that pulleys spin freely.
3. Inspect cable for damage and wear. Replace if damaged or after 6 months of use.

REPLACING HEADS/CABLE

Video tutorial: www.wtsdrums.com/how-to-change-drum-heads

or, scan QR code:



1. Remove cable from drum by loosening tensioner and unthreading cable from winding post.
2. Unlace cable from pulleys, and remove heads.
3. If you are replacing the cable, remove the old cable, thread the cut-end of the new cable through the large hole in the winding post, pull the cable through until cast ball stops in receptacle (**Fig. 1**).

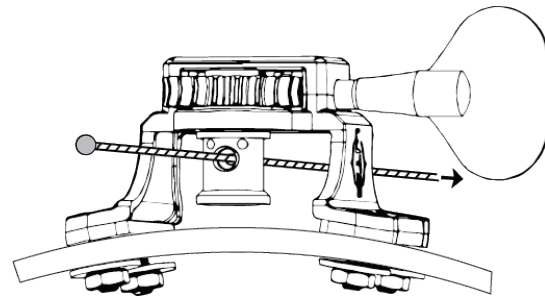


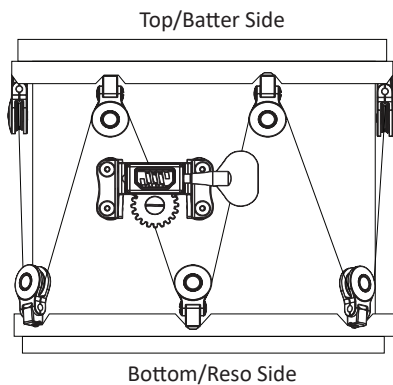
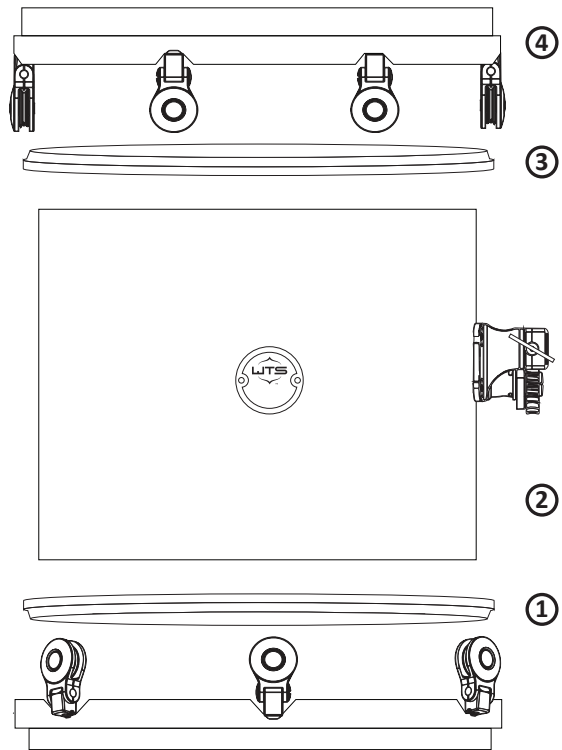
Fig. 1

4. Before re-assembling the drum, check the Alignment and Assembly guide for each of the drums you are replacing heads (see following pages). Having the proper alignment of the top and bottom hoop is essential for proper assembly.

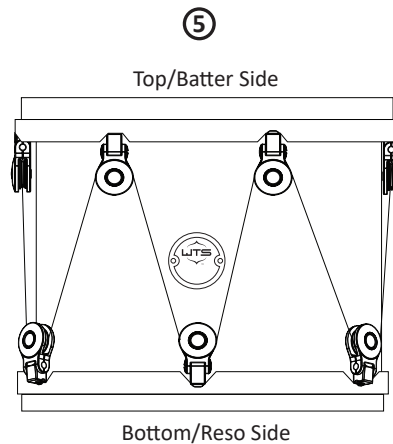
(Step 5 continues on page 7 following Alignment and Assembly guides.)

10" Tom Tom Alignment and Assembly

1. Place resonant head into bottom hoop.
2. Place shell onto resonant head.
3. Place batter head on shell.
4. Place top hoop over batter head.
5. Align hoops as pictured below, using the badge as a reference point.
6. Assemble cable (follow instructions for replacing heads/cable on page 7).
7. Check that your fully assembled drum looks like the drawing below.



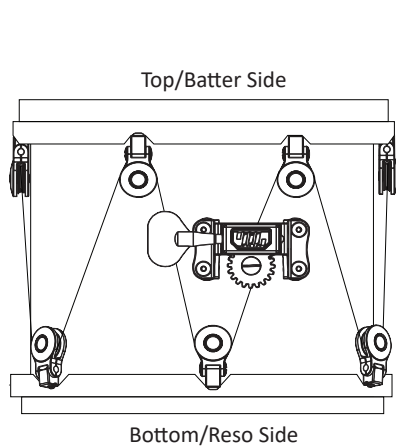
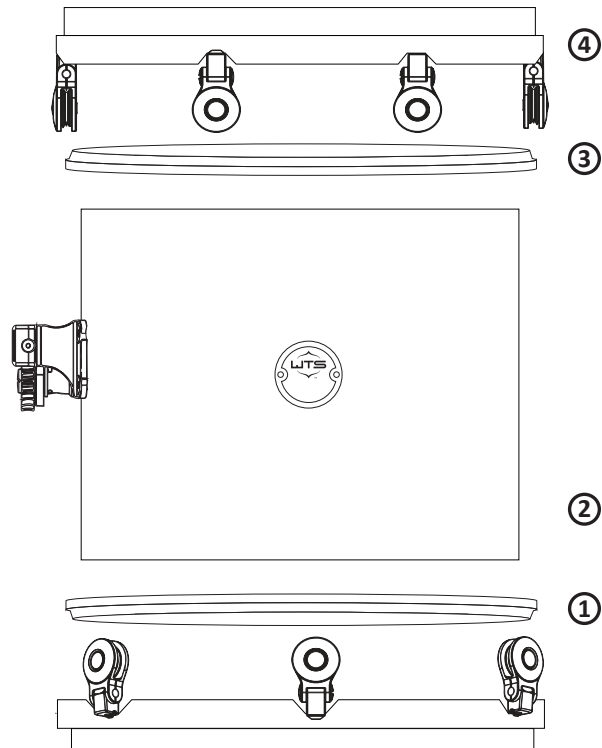
SIDE VIEW (A)



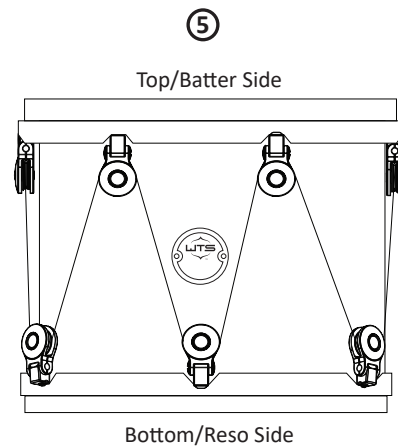
SIDE VIEW (B)

12" Tom Tom Alignment and Assembly

1. Place resonant head into bottom hoop.
2. Place shell onto resonant head.
3. Place batter head on shell.
4. Place top hoop over batter head.
5. Align hoops as pictured below, using the badge as a reference point.
6. Assemble cable (follow instructions for replacing heads/cable on page 7).
7. Check that your fully assembled drum looks like the drawing below.



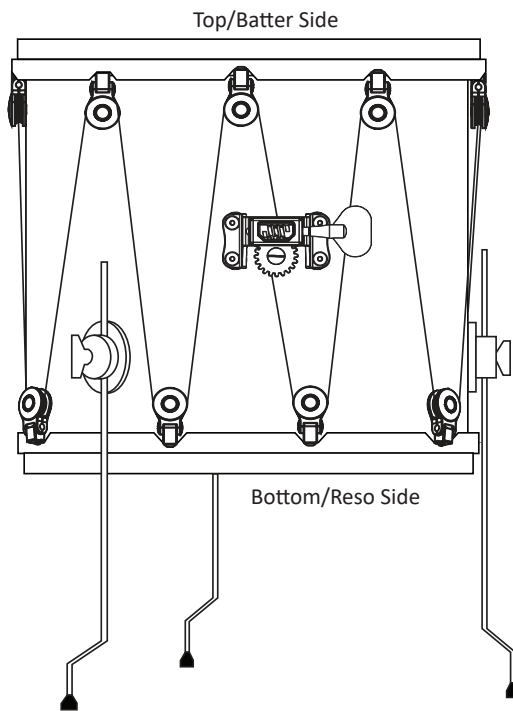
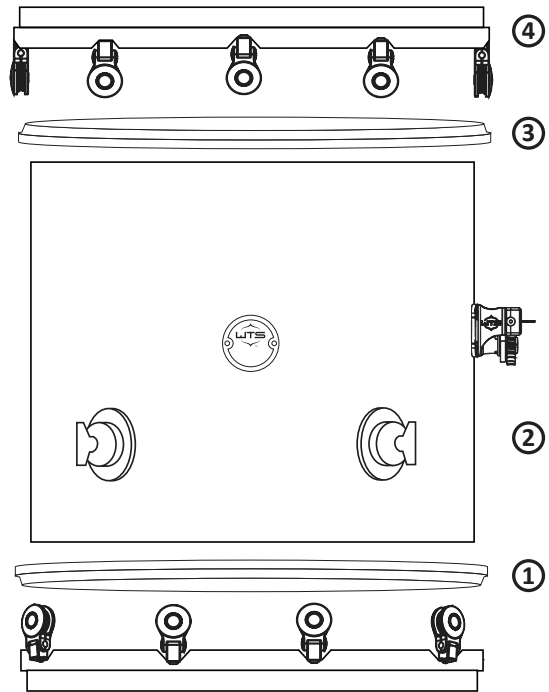
SIDE VIEW (A)



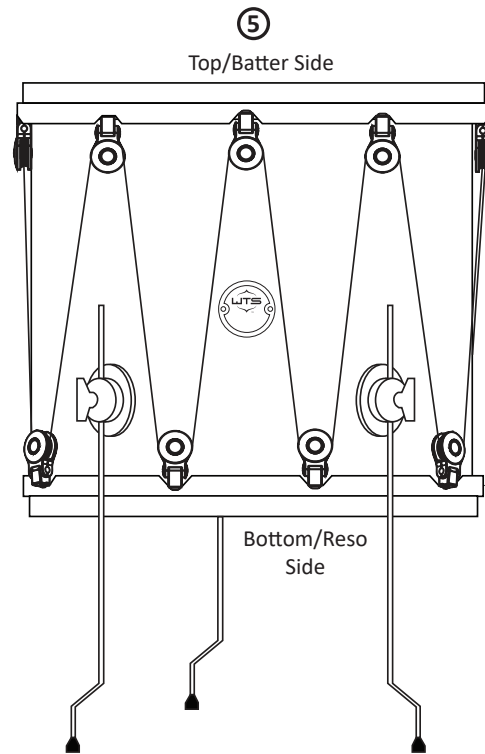
SIDE VIEW (B)

Floor Tom Alignment and Assembly

1. Place resonant head into bottom hoop.
2. Place shell onto resonant head.
3. Place batter head on shell.
4. Place top hoop over batter head.
5. Align hoops as pictured below, using the badge as a reference point.
6. Assemble cable (follow instructions for replacing heads/cable on page 7).
7. Check that your fully assembled drum looks like the drawing below.



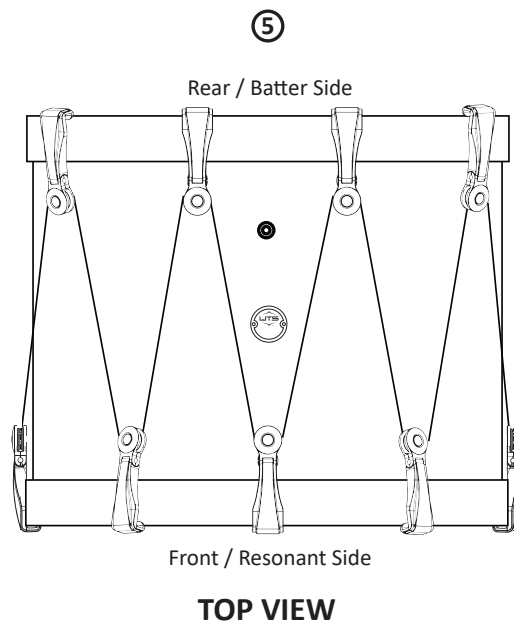
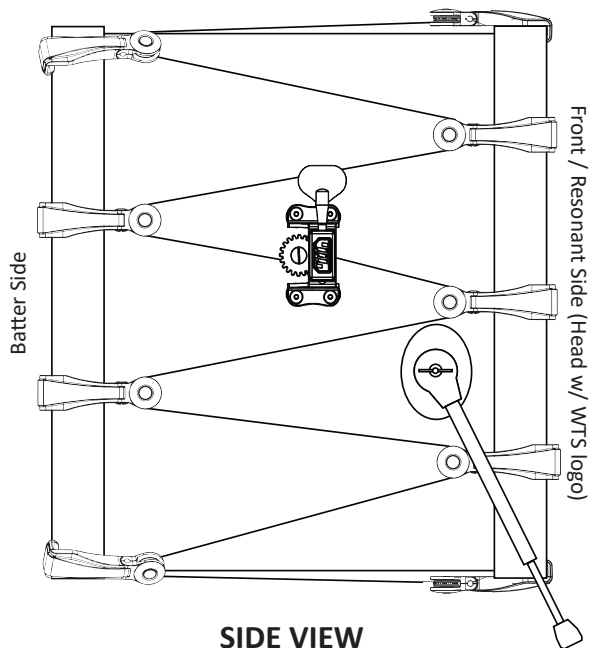
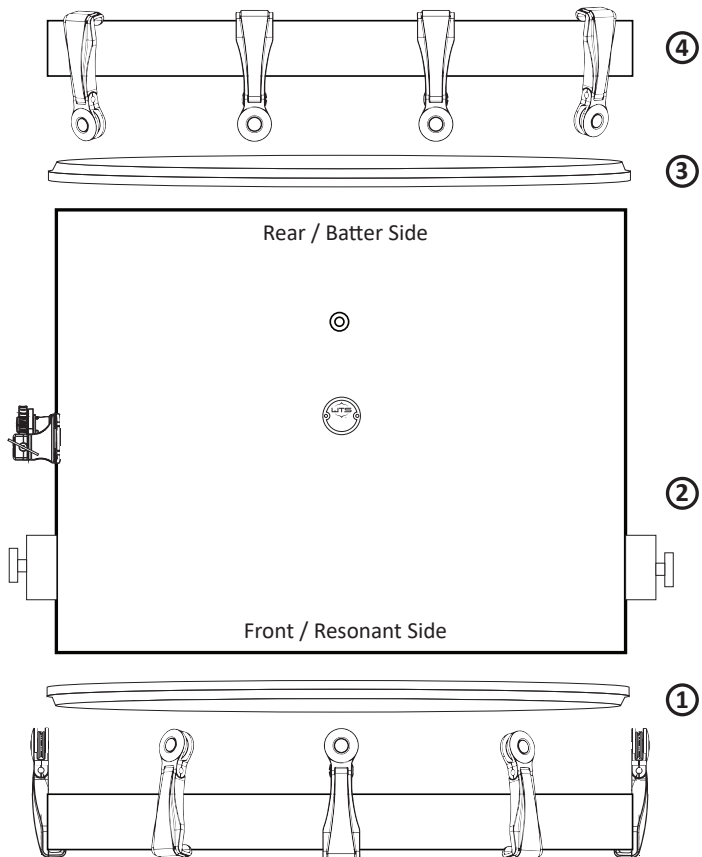
SIDE VIEW (A)



SIDE VIEW (B)

Bass Drum Alignment and Assembly

1. Place front hoop on ground and resonant head into front hoop.
2. Place shell onto resonant head.
3. Place batter head on shell.
4. Place batter side hoop over batter head.
5. Align hoops as pictured below, using the badge as a reference point.
6. Assemble cable (follow instructions for replacing heads/cable on page 7).
7. Check that your fully assembled drum looks like the drawing below.



REPLACING HEADS/CABLE (continued)

5. Once the hoops are properly aligned (see Alignments and Assembly guides on previous pages), lace cable through pulley fixtures starting with the closest top pulley to the tuning knob, then the next pulley on the opposing hoop, until you have threaded through all of the pulleys (**Fig. 2**).

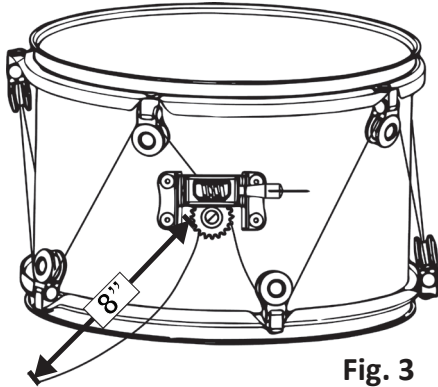
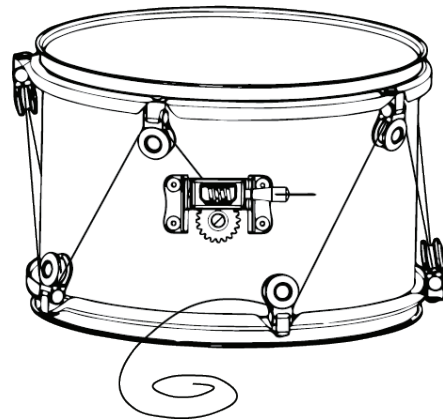


Fig. 3

Fig. 2



6. Drape the cable over the winding post to ensure that you have approximately 8" of cable remaining to wrap around the winding post (**Fig. 3**). If the cable is not long enough, replace it with a new cable.

NOTE: If you are using a new cut-to-size cable, measure the cable approximately 8" - 10" from the winding post and cut with WTS cable cutters (**Fig. 4**). The extra length is necessary to allow the cable to wrap around the winding post multiple times.

7. Thread cable through one of the two small holes in the winding post from the same side as the cast ball receptacle (**Fig. 4a**).

Loop the cable back through the second hole (**Fig. 4b**), leave a small tail sticking out the other side (approximately 1/2").

Pull the cable tight until the cable loop rests in the groove between the two small holes, with the tail end still sticking out (**Fig. 4c**).



Fig. 4a

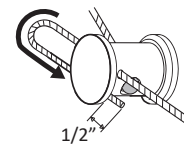


Fig. 4b

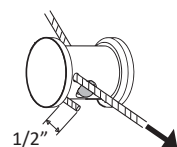


Fig. 4c

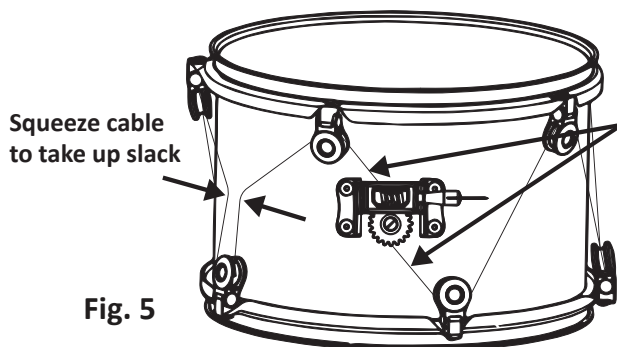


Fig. 5

Keep cable tight as you wind it

8. Take up slack in the cable with a free hand and begin winding the post by turning the handle of the tuning knob clockwise (**Fig. 5**). Keep the cable taut while winding.

9. Guide the cable as you wind it to ensure a tight, even wind (**Fig. 6**). Be sure that cable winds over itself in the groove of the winding post, and wraps at least 3 full times around the winding post.

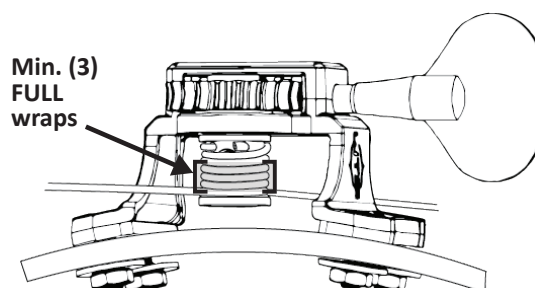
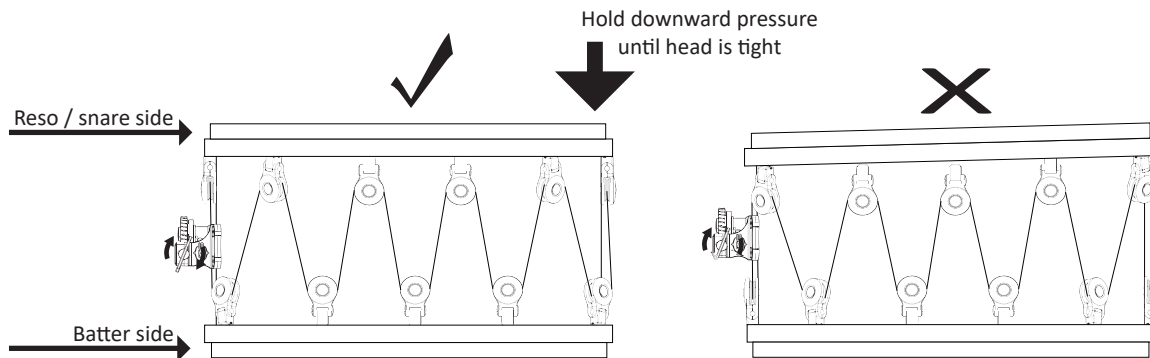


Fig. 6

Note for Snare Drums/High Tension Drums

When tightening snare heads down for the first time: Before the cable is tight, flip the drum upside-down and place firm pressure on the resonant-side hoop opposite the tuning knob while tightening the cable to ensure hoops stay parallel (not lopsided).



Helpful Tips & Tricks

Tips & Tricks video tutorials: www.wtsdrums.com/how-to-change-drum-heads

or, scan QR code:



1. Re-using cut-to-size cable: WTS cable is available in both exact length and cut-to-size cable. For cut-to-size cable, the end of the cable will often fray after it is cut.

- In order to avoid fraying, apply a small drop of super glue to the end of the cable after it is freshly cut.
- Allow the glue to dry before stringing up your drum. This will help prevent cable from fraying which will make future head changes easier, and potentially lengthen the life of the cable.

2. Setting and re-setting your heads: WTS is a free floating system; after a while the hoops and heads may shift out of center, which can sometimes cause unwanted overtones.

- When you notice this, simply loosen tension on the drum, re-center the heads and hoops, and re-tighten the drum.
- To keep everything aligned while you tighten the drum back up, you can also apply a small amount of pressure on the hoop opposite the tuning knob (see above Note for Snare Drums/High Tension Drums) .
- Additionally, to get more life out of your drum heads (resonant snare side heads in particular), rotate the heads 180 degrees every so often.

3. Speeding up head changes with an electric drill: Often used for guitars, a “Drill Bit Peg Winder” tool easily attaches to your power drill or screwdriver to speed up the WTS cable winding process.

- We highly recommend you use a drill bit peg winder with a rubber coating, operate at slow speeds only, and be careful not to damage the tuning knob in the process.

Find this tool available for purchase at your local music store and online.