



ABOP Podcast Episode 35
TIMPANI
MAINTENANCE TALK
with
Raynor Carroll & Damion Frigillana

Program Notes

Introduction

Whether the instruments are from your personal collection, borrowed, or from your school, keep them in optimal condition. The sound that you create on them is a reflection of you; good or bad. Instruments sound better when they are well maintained. Regular maintenance saves time and money and helps diminish on-the-job surprises.

General Maintenance

- Regularly check on the condition of the instruments and equipment.
- Take care of any issues ASAP (noises, bad heads, etc.). You never know when you will need that instrument—have it ready to go.
- Be prepared for issues to arise and have a plan (i.e., back-up heads and parts available).
- All gear should be stored in a safe, clean space with protective covers, cases, or trunks.
- Many issues arise when instruments are not transported with adequate protection (damaged, dents, squeaks, buzzes, etc.); make sure the instruments are in dedicated trunks or cases.
- If the equipment you are using belongs to a school, friend, etc., let them know of the problem and offer some solutions.

Timpani and Accessories

- Tuning Devices
 - Pitch-pipe
 - Electronic tuner
 - Tuning fork
- Mallets
 - Manufacturers
 - Style: Ball head, cartwheel, etc.
 - Handles: wood, bamboo, graphite, aluminum, etc.
 - Heads and cores: wood, felt, flannel, leather, etc.
 - Care: plastic covers
 - Mallet Bags
 - Mallet rack/table/music stand

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- Mutes
 - Manufacturers
 - Material, weight, etc.
- Stools
 - Features: comfort, height adjustable, swivel, back rest, portability
- Drum Keys
 - Adams, Yamaha, Ludwig, American Drum, Majestic, etc.
- Drum Manufacturers
 - Ludwig, Slingerland, Leedy, Premier, Yamaha, Adams, American Drum, Hardtke, Ringer, Hinger, Goodman, Bergerault, Majestic, Lefima, Kolberg, etc.
- Kettle Sizes
 - Standard: 32", 29", 26", 23", 20"
 - Older models: 30", 28", 25"
 - Custom: 35", 21", 18", etc.
 - Extended collar exclusive to the new standard (since 1978)
- Bowls
 - Copper
 - Hand-hammered
 - Smooth
 - Fiberglass
 - Non-suspended, suspended
 - Shape
 - Out-of-round
 - Dents
- Heads
 - Plastic vs. calf
 - Plastic: Evans, Remo
 - When and how to change (see attached pages)
 - Selecting heads: clear, opaque, standard, insert rings
 - Fine tuning (clearing): Constant process

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- Pedal Mechanisms
 - No pedal
 - Baroque series
 - Chain/cable
 - Crank
 - Post
 - Balanced action
 - Adjust spring tension with knob on base and range with tension keys to balance
 - Pedal pressure adjustment
 - Dresden: ankle motion; clutch system; fine tuner
 - Berlin: leg motion; clutch system; fine tuner
- Tuning Gauges
 - Clean & lubricate
- Counter-hoop
 - Metal ensures consistent tension around the head
 - Use of moleskin
- Tension rods
 - Clean & lubricate
- Struts
 - Suspend bowl
 - Protection for tension rods
- Spider (Head Tension Transfer Rods)
 - Clean & lubricate
- Casters
 - Drums without
 - Locking
 - Clean & lubricate

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- Protection and Transport
 - Prep: head tension, pedal locks
 - Head protector
 - Cover
 - Trunk
- Buzzes, rattles, noises
 - Head friction when passing over bearing edge when pedaling (lack of lubrication)
 - Metal with metal
 - Tuning gauges
 - Spider
 - Casters
 - Fine tuners

Recommended Supplies with Amazon Links

Superior Lubricant: <https://a.co/d/3eD0nYq>
TRI-FLOW Teflon Lube: <https://a.co/d/eogXY9t>
White Lithium Grease: <https://a.co/d/fBj3avO>
High Performance Dry Lubricant: <https://a.co/d/d8pEj4s>
Turtle Wax Chrome Polish: <https://a.co/d/cMJYd6c>
Carnauba Wax: <https://a.co/d/0PBRR4w>

Recommended Tools

Leather baseball
Pair of old timpani mallets
Wood shims
Timpani keys
Wrenches (large, medium, and small, Allen)
Screwdrivers: Phillips and flathead
Pliers: Needle nose and regular
Channel locks
“L” square
Knee pads
Moving blanket
Toolbox

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Drum Schematics and Information

Ludwig Parts Catalog

<https://www.ludwig-drums.com/application/files/8814/6531/8352/AV1454.pdf>

Ludwig Owner's Manual

<https://www.ludwig-drums.com/application/files/3214/6712/2669/AV3LU700.pdf>

Yamaha Owner's Manual

[https://data.yamaha.com/files/download/other_assets/5/313515/
Timpani_TP62xx_English.pdf](https://data.yamaha.com/files/download/other_assets/5/313515/Timpani_TP62xx_English.pdf)

Adams Owner's Manual

[https://pearldrums.com/sites/default/files/image_folder/SUPPORT/MANUAL/CONCERT/
Manual_Timpani_Professional_II_English_1.1.pdf](https://pearldrums.com/sites/default/files/image_folder/SUPPORT/MANUAL/CONCERT/Manual_Timpani_Professional_II_English_1.1.pdf)

Evans Heads

<https://www.steveweissmusic.com/cdn/shop/files/evans-timpani-size-chart.pdf>

Remo Heads

<https://share.google/BD1UlmqezrDnNvODY>

Where to go for assistance:

- School: teacher, professor, colleagues
- Professional: Principal
- Local drum shop, music store
- Online

Closing:

- Invest in your future by investing in your instruments—make smart purchases in quality equipment.
- Nourish your investment by properly maintaining your instruments.
- Ask for help.
- It's okay to make mistakes; learn from them.

Damion Frigillana: dfrigfrig@gmail.com

Changing A Timpani Head

Supply List:

- ☐ New head
- ☐ Rags
- ☐ Steel wool
- ☐ Tension rod keys
- ☐ Teflon spray
- ☐ Blow dryer (optional)
- ☐ Grease lubricant
- ☐ Shims
- ☐ Mute
- ☐ Mallets
- ☐ Ruler or T-square
- ☐ Felt marker
- ☐ Electronic tuner (optional)
- ☐ Drum dial (optional)



Method:

- 1) Check the new head for imperfections. Do not use the head if large dimples and inconsistencies appear.
- 2) With the old head still in place, mark the counter-hoop and a corresponding spot on the bowl.
- 3) Adjust the fine tuner so that it is midrange or slightly lower.
- 4) Pedal the pitch of the head down to its lowest point and place shims under spider mechanism of Dresden or Berlin style drums; under the toe area of the pedal of Ludwig, Yamaha or other similar balanced action model drums.
- 5) Remove tension rods, counter-hoop and the old head.
- 6) Check the lip of the bowl for rough spots. If necessary, lightly rub with steel wool.
- 7) Clean the inside of the bowl and the lip of the bowl with a clean rag.
- 8) Apply an even amount of teflon spray to the lip of the bowl.
- 9) Clean the counter-hoop with a rag.
- 10) Clean the remainder of the drum including spider, struts, wheels, etc.
- 11) Apply lubricant as directed by the manufacturer.
- 12) Optional: Warm up the new head (around the inside, outer portion where the head meets the lip of the bowl) with a blow dryer and then place the head on the bowl.
- 13) Place the counter-hoop over the head and line up the markings placed earlier in step 2 on the counter-hoop and bowl. Also, make sure the head is centered within the counter-hoop.

Changing A Timpani Head

- 14) Position head and counter-hoop so that an equal amount of collar is maintained around the bowl.
- 15) If necessary, clean and grease tension rods.
- 16) Replace tension rods and lightly apply tension in the order of 1, 5, 2, 6, 3, 7, 4, 8. If the drum has six tension rods apply tension in the order of 1, 4, 2, 5, 3, 6.
- 17) Check position of counter-hoop with T-square or ruler to ensure that the counter-hoop is centered over the bowl. Make necessary adjustments.
- 18) Apply slight tension to the head by hand turning the tension rods in the same order as in step 15. Maintain an even feel of tension.
- 19) Check with T-square or ruler to make sure the counter-hoop is centered over bowl.
- 20) Use tension rod keys to bring head up to low playing range.
- 21) Remove shims from step 4.
- 22) Pedal the drum up to the highest pitch. This will allow the head to stretch. Then pedal it down to a low pitch and then up to the midrange. Check the pitch and overall quality of sound.
- 23) Place a mute in the middle of the head and check the pitch of each tension rod with an electronic tuner (optional). Raise the areas that are low.
- 24) Repeatedly check each tension area and make the necessary adjustments until the head is “clear” (no conflicting sound waves). Optional: Use a drum dial to check consistency of tension. Make necessary adjustments.
- 25) Check the playing range. Make sure that the head will obtain a pitch higher than necessary. For example: 32” - B, 29” - Eb, 26” - G, 23” - B, 20” - Eb. If not, make adjustments.
- 26) After the final adjustments have been made, leave the drum on the highest note it will obtain so that the head will stretch and seat properly.
- 27) Write the current date on the head with a felt marker for future reference.
- 28) Always try to change a head **before** the sound deteriorates. Older heads tend to be less resonant, lack a strong fundamental, and as a result, are more difficult to clear.

A new head will continually stretch—lower in pitch. To assist this break-in process, play on the head, readjust the playing range desired by raising the pitch (see below), and clear the head when necessary. Note: After the initial break-in process, drumheads will continue to stretch. Typically, the beating spot will stretch more than other areas of the head. Check the pitch around the head and make the necessary adjustments.

Approximate Playing Range:

32” C-Bb, 29” F-D, 26” Bb-F#, 23” D-Bb, 20” G-D