

# **Basic Balanced Action Timpani Repair**

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## **How the Timpani Work**

Timpani must have some way to hold the head at different tensions so you can play specific pitches. Some drums have a ratchet on the pedal (Ringer Timpani), some drums have a hydraulic cylinder, some have a post with a ball bearing clutch that locks onto it (some Premiere timpani), but MOST timpani are Balanced Action.

William F. Ludwig invented the balanced action timpani in the early twentieth century. This mechanism can be described very simply: the pedal is placed mechanically in between a spring and the timpani head - when the tension of the spring is matched to the tension of the head, the pedal is balanced and the pitch of the drum will stay where you set it.

## **Most Common Problems**

- Pedal won't stay down (toe won't go down for a high pitch)
- Pedal toe "floats down" (heel won't stay down for a low pitch)

## **Solutions (head tension must be matched up to spring tension)**

- 1- Set the correct top pitch on the drum
- 2- Check pedal action
- 3- If toe won't stay down (won't hold high pitch) tighten the spring
- 4- If heel won't stay down (won't hold low pitch) loosen the spring

## **Additional issues**

If the heads are totally stretched out, these actions will only make a small improvement (the mechanisms must be in their normal range of motion and continuing to tighten a stretched out head pulls the mechanical parts to one extreme of their range).

## **Quick and dirty head clearing**

- 1- Stand on the pedal with the heel down and take all the tension off the head (continue to stand in this position).

**2-** One by one, adjust each lug until each is at a "zero point" (just starts to pull the counterhoop down).

**3-** Gently let the pedal go up (keep your foot on it) and check the sound - repeat as necessary.

**4-** Fine tune with almost no tension on the head.

**5-** Set to correct top pitch (count exact turns of tuning key)

**6-** Adjust the one most out of tune spot by using a quarter turn of the timpani key

Correct Top Pitches: 32" drum - A: 29" drum - C: 26" drum - F: 23" drum: A