

JMW-9 Signature Tonearm

Setup and Instruction Manual



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BEFORE YOU BEGIN

**NOT FOLLOWING THIS MANUAL WILL VOID YOUR WARRANTY.
FAILURE TO SEND IN THE WARRANTY CARD WILL VOID YOUR WARRANTY.**

1. Be very careful when handling the tone arm. The internal arm wire is exposed at the headshell and at the rear of the arm. This wire is *very* delicate and contains Nordost Valhalla wiring. Physical damage to the wire is not covered by the warranty after the arm is removed from its box.
2. Please do not touch the unipivot bearing parts. Finger oils on the bearing cup in the upper bearing housing or on the lower pivot point in the arm base assembly can cause blemishing of the bearing and possible corrosion. Also, the point is sharp, be careful.
3. There are a number of setscrews on the JMW Memorial Tone Arm. The Allen wrenches that come with your arm will only fit the setscrews that you will need to adjust. All other screws are factory set and should not be adjusted, except by our trained technicians. Resetting any of the factory settings is not covered by the warranty.

UNPACKING YOUR JMW MEMORIAL TONE ARM

- This instruction manual was lying on a large foam pad. Remove the pad and put it nearby on your work surface.
- You will now see a number of things in plastic bags:
 - Allen wrenches
 - Hex nuts, and washers (for cartridge mounting)
 - Arm mounting and alignment tool
 - Shure stylus gauge
 - Damping fluid
- Take all these items out and set them aside. Be careful with the damping fluid. It should be kept sealed until it is used.

A. CARTRIDGE MOUNTING:

- Remove the arm tube from the box (taking special care not to strain or damage, the delicate 4-color wire and Lemo connector) and place it right side up on the foam pad.
- **FOR CARTRIDGES WITH THREADED MOUNTING HOLES** Use the screws supplied by the cartridge manufacturer to mount the cartridge. Any other screws may not fit the thread properly and may even damage the threads and cartridge. **USE ONE OF THE SUPPLIED WASHERS UNDER THE SCREW HEAD.**
- For all cartridges with pass through mounting holes use the hardware supplied with the arm. Remember to use the washers under the screw heads to prevent damage to the finish on the **JMW** arm. In this step, the connectors will be attached to the cartridge's terminals. Disregard the color of the insulators on the cartridge clips.

THE COLOR CODE OF THE WIRES IS AS FOLLOWS:

RED = right hot
GREEN = right ground

WHITE = left hot
BLUE = left ground

IF YOUR PHONO SECTION INVERTS PHASE, THE HOT BECOMES THE GROUND COLOR

- The arm tube should be on its side on the foam pad when doing this.
- Using tweezers or fine tipped pliers, grip the center of the red wire's connector (do not grip the wire) and push it onto the cartridge's right hot terminal pin. In the same way, connect each of the remaining connectors to its respective cartridge terminal. Do not push the connectors all the way on, as this could damage the cartridge. Always back up the cartridge with your finger when pushing on the clips.

B. THE COUNTERWEIGHT:

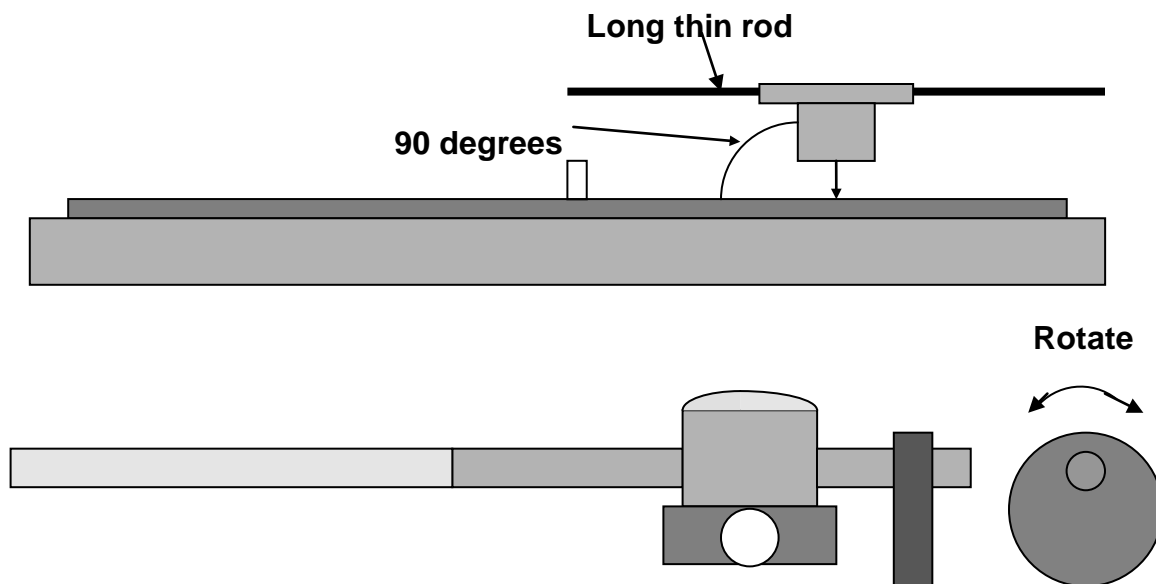
- The JMW tone arm comes with one large dropped counterweight installed on the rear shaft of the tonearm. For most cartridges you will only need this large weight. The counterweight is held in position by a setscrew.
- Pick up the arm tube, taking care not to strain or damage the wire and Lemo connector.
- For now, position the large counterweight as close to the bearing housing as it will go (toward the front of the arm) but not touching the balance ring. The object here is to balance the arm while keeping the counterweight as close to the bearing housing as possible. This results in the least inertia for a given cartridge weight.

C. BALANCING ARM: TRACKING FORCE AND AZIMUTH

- Place the arm tube assembly on the lower bearing, taking care not to strain or damage the 4-color wire and Lemo connector. Place the arm in its rest.
- At the rear of the arm base assembly is the connector block. Plug the Lemo connector into its receptacle on top of the block. Notice that the connector can plug in only one way. Align the red dots on the arms plug with the red dot on the receptacle. Push gently, do not force the plug.
- Depending on the twist given to the wire when the plug was inserted into the box, the arm will have a tendency to swing inward or outward when it is in neutral horizontal balance. Later on, you will adjust the wire's twist to provide slight anti-skating compensation.
- Make sure the turntable is level. Refer to your turntable instructions and use a bubble level to check level. In most cases, the best place to put the level is on the platter.

With a unipivot arm it is particularly important to level the turntable. This insures that the damping fluid will not even come close to overflowing its well.

- Move the counterweight until the arm has a very slight downward tracking force, just enough to keep it from moving sideways on the platter or enough to keep it in the groove of the record
- Next, the lateral balance or azimuth must be set. Because the phono cartridge is offset, there is an unbalancing force that tilts the arm to one side. For the cartridge to properly track the record groove, the stylus must be ninety degrees to the record surface. Move the counterweight so a slight tracking force is applied and the stylus just sits on the record surface.
- Rotate the counterweight as needed to bring the arm into correct lateral balance to set azimuth. When the azimuth has been set, you can lightly tighten the setscrew located on the top of the counterweight. To make this task easier make sure the arm tube is parallel to the record surface. Lay a long thin rod (like a fireplace match or a mixing straw) behind the cartridge mounting screws and use it as a guide for setting azimuth.



- Unlike other unipivot arms, the JMW's lateral balance weight does not hang off to the side of the arm. Instead, its position around the bottom of the upper bearing housing places the weight below the pivot point. This increases mass below the pivot and increases arm stability.

D. TRACKING FORCE:

- Tracking force is adjusted by moving the counterweight forward and back just a bit at a time. At least initially, you will be setting the tracking force twice. The first time will be before the cartridge's overhang is set. After this is done, you will need to double check the tracking force and adjust it as needed.
- The JMW 9 Signature does not have a built-in tracking force gauge, but a Shure Stylus Force Gauge is supplied with your unit. Following the gauge instructions set the tracking force to the cartridge manufacturer recommendation plus 1/10 of a gram more. We always recommend going to the high side when it comes to tracking force. High frequency vibrations can cause a light tracking cartridge to cause more damage to the grooves than running a cartridge at a heavy setting. Make sure the damping fluid is not installed when setting this force.

E. ANTI-SKATING:

Setting the Anti-Skating – Two Solutions

Anti-skating is one of the least understood forces acting on a tonearm. Skating force is created by friction between the stylus and the record, causing a force vector in a direction towards the center of the record when the headshell of the tonearm has an offset angle. Putting a stylus down on a flat, groove less record will cause the arm to move toward the center of the record. Arm manufacturers have tried to compensate for this force, but that is impossible because the force is constantly changing as the music and velocity change.

VPI has conducted careful listening tests and determined that every tonearm we tried sounded better with its mechanical anti-skating disabled and the tracking force very slightly increased.

VPI has a unique solution to anti-skating: the coiled wire of the JMW Memorial Tonearm acts as a spring and pushes the arm back without affecting the sound quality. On the Signature version of the JMW-9 you now have the option of installing a mechanical anti-skate for those that want it.

- Adjust the counterweight so there is no down force on the cartridge.
- Swing the tonearm toward the spindle and release it. The arm should swing out toward the outer edge of the turntable. Usually this is all you need for anti-skate.

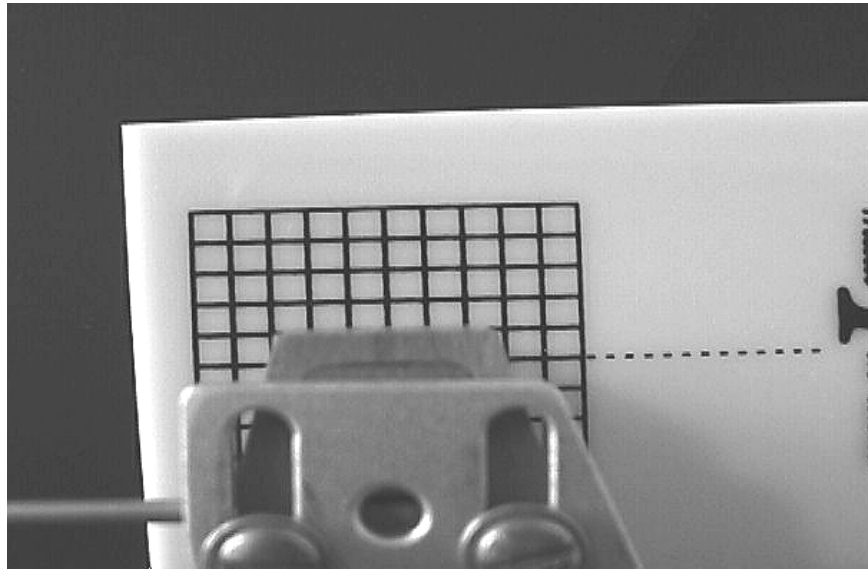


If you try adjusting the anti-skate with a groove less record, you will ruin the twist in the tonearm wire and void your warranty. Do this with the mechanical anti-skate if you want that much anti-skate.

- If additional anti-skate force is needed you can go to the mechanical anti-skate supplied but not installed. Follow the directions on the separate sheet for setting the anti-skate.

F. OVERHANG ADJUSTMENT:

- This adjustment will yield the lowest overall distortion when playing a typical 12" record. Do not go crazy over this adjustment. You do not know if the stylus is aligned properly on the cantilever. You are also facing a constantly moving target when playing a record. The arm is moving in 3-dimensions and will only approximate the accuracy you have built into your alignment.
- Place the Alignment Jig into position by sliding the narrow end with the circular cutout between the arms lateral balance weight and the platform that supports the armrest. Make sure that the jig's cutout fits against and around the bearing well.
- While holding the one end against the bearing well, swing the other end (with the hole) over the turntable's spindle so that the spindle holds the jig in place.
- While the arm is in its rest, loosen the screws that hold the cartridge just enough that the cartridge can be moved back and forth.
- Carefully swing the arm over the grid at the far end of the jig and place the stylus as close to the dot in the center of the grid as possible. Using a lighted magnifier will make this job very easy.



SHOWN IN WHITE FOR CLARITY

BE VERY CAREFUL NOT TO DAMAGE THE CARTRIDGE'S STYLUS:

- Move the cartridge so that the stylus rests on the dot. Now, viewing the cartridge from above, line it up so that its sides are symmetrically positioned between the lines of the grid. If the cartridge has parallel sides, these should be made parallel to the grid lines. Also make sure that the cartridge is centered between the sets of lines.
- Double check the adjustments made above. The cartridge needs to be both centered and "square" between the grid lines and have the stylus resting on the dot.
- The alignment gauge does not have a hole or dimple to hold the stylus. While the printed dot makes it harder to keep the stylus in place, this method was chosen to avoid the possibility of damaging the stylus cantilever or the diamond tip as the cartridge is positioned.
- Place the arm back in its rest.
- Without letting the cartridge move, tighten the screws holding the cartridge to the arm head. Make it tight, but don't over do it and strip the threads or distort the cartridge body.
- Double check the tracking force, azimuth, and adjust as needed. Increase the tracking force by 1/10 of a gram above the cartridge manufacturer's highest recommended force.

G. ARM HEIGHT:

- To adjust the arm height, loosen the setscrews on the base of the arm assembly and turn the adjustment wheel above the base. Put a record on the platter and a 5X7 lined index card (bent in half on the middle line) on the record near the spindle. Use the lines on the card as a starting point to adjust arm height. Make the arm tube parallel to the lines on the card. When the arm is at the desired height, tighten the screws. You can raise or lower the arm later for fine adjustments.

YOU CAN NOW ADD DAMPING FLUID. USE ONLY ENOUGH TO STABILIZE THE ARM, TOO MUCH WILL KILL THE SOUND AND MAKE THE CARTRIDGE SOUND SLOW. TRY LISTENING WITH AND WITHOUT DAMPING AND DECIDE WHICH YOU LIKE BETTER IN YOUR SYSTEM AND WITH YOUR CARTRIDGE.

I. CONNECTING TO THE PREAMPLIFIER/AMPLIFIER

- ONLY USE INTERCONNECTS THAT ARE SHIELDED AND PROPERLY GROUNDED. NON-SHIELDED INTERCONNECTS CAN HUM AND PICK UP RF.
- The ground connection is available to eliminate hum if necessary. If hum is present, first connect a ground lead from the connector block to the preamplifier or amplifier to which the output cable is connected. If this does not eliminate the hum, run a ground wire from the turntable chassis to the connector block as well. The block's connector will accept bare wires, spade lugs, or ring tongue connectors.

VPI Industries, Inc. Limited Warranty

VPI Industries, Inc. (VPI) warrants this unit against defects in materials and/or workmanship for three (3) years from the date of purchase by the original retail purchaser. VPI's sole obligation under this warranty is limited to the repair or replacement, at VPI's option, of any part(s) found to be defective. VPI's obligation to repair or replace defective parts is the purchaser's sole and exclusive remedy, and VPI shall not be liable for any direct or indirect injury and/or property damage arising out of the use of the product or defect in or failure of the product.

This warranty does not extend to any unit whose serial number has been defaced or altered. Any product that VPI determines causes a defect or malfunction due to incorrect installation, modification, misuse, or servicing by the purchaser, or service technician not authorized by VPI to perform such service will not be warranted. This warranty does not cover trivial or cosmetic defects that do not impair the unit's normal function.

VPI reserves the right to make changes in this product without assuming any obligation to install such change in any product previously manufactured. This warranty to repair or replace defective parts is in lieu of all other express or implied warranties of merchantability or fitness for a particular purpose. There are not warranties that extend beyond the description herein.

Some states do not allow exclusion of implied warranties or limitation of incidental or consequential damages, so the above exclusion or limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.