

# WALLY/JMW ANTI-SKATING DEVICE

## OWNER'S MANUAL

### INTRODUCTION

While VPI makes some of the finest tonearms on the market today, their application of anti-skating to their popular JMW tonearms can be improved considerably. The instructions for the JMW arms suggest that twisting and untwisting of the tonearm wires leading from the pivot housing can be used to apply the proper amount of anti-skating force. However, this method does not give the proper control over anti-skating forces and is not easily repeatable. Changes in ambient room temperature, the position of arm along its arc of travel and usage over time cause this method to be very unstable.

The Wally/JMW Anti-Skating Device is designed based upon industry approved thread/pulley/weight principles. It should be used with the absolute minimum of anti-skating forces generated by the tonearm wires.

Before starting assembly and calibration, please familiarize yourself with all of the parts of the Wally/JMW Anti-Skating Device as seen in photo 1.

### INSTRUCTIONS FOR ASSEMBLY

1. Unplug the tonearm wire connector from the junction box and remove the arm from the pivot/tonearm base entirely. Secure in safe place without damaging the stylus/cantilever assembly.
2. Raise the VTA to highest possible setting.
3. Place the anti-skating base onto the tonearm main bracket as seen in photo 2. Use the larger hex key to tighten the set-screw found in the underside of the anti-skating base. Do not overtighten.
4. Using the smaller hex key, loosen the set-screw in the horizontal pin that is part of the anti-skating base. Once loosened aim the groove in the plastic roller directly at the tonearm pivot. Secure this setting loosely with the set-screw in the horizontal pin. Obtain a thin straightedge (e.g., paper edge is fine). Hold one end of the straight edge in the groove of the plastic roller and the other end on top of the pivot point. Viewing from a side-on perspective, check to see if the paper is parallel to the main arm base/bracket. [See photo 3] The idea is to have the groove of the roller at the same height as the pivot point. If the roller is low, loosen the set-screw in the horizontal pin and raise it up until it is at the same height as the pivot point. This procedure is to avoid any influence of the anti-skating device upon the azimuth setting of the arm.

5. Using a pencil or felt tip pen, carefully place a mark on the vertical pin at junction of the vertical pin and the horizontal pin of the anti-skate base. This mark is to allow repeatable alignment at this height. [See photo 3]
6. Refer to the anti-skating weight configuration chart in this manual. Find the proper anti-skating weight configuration corresponding to the Vertical Tracking Force you use. [See photo 4] Assemble the weight configuration using the recommended parts and the small hex key. [See photo 5] *NOTE: This is a starting point only – accurate anti-skating weights are determined also by stylus type and cartridge compliance/trackability. Use the WallySkater and a good test record for best results. Feel free to call Wally Malewicz at 763-478-6685 with any questions.*
7. Remove the counterweight from the tonearm. Place the looped end of the anti-skating weight assembly over the counterweight stud and seat it directly against the pivot housing. [See photos 6 & 7]
8. Replace the JMW counterweight onto the counterweight stud and place it slightly closer to the pivot housing than it was in its original position. Next, slide the Wally/JMW Mini-Counterweight about ½ inch onto the counterweight stud. Temporarily secure it in position by tightening the set-screw. The final position of the counterweights will be determined later when you make your Vertical Tracking Force adjustment.
9. Replace the tonearm onto the pivot/tonearm base. Do not connect the tonearm wire at this time. Lay the kevlar thread of the anti-skating weight over the plastic roller and seat it into the groove.
10. Loosen the set-screw in the horizontal pin of the anti-skating base. Twist the plastic roller/vertical pin so that the groove in the roller is aiming directly at where the thread is coming from (the peripheral edge of the pivot housing.) Once it is aimed correctly, look at the pencil mark at the junction of the vertical and horizontal pins made in step 5 to confirm that the height of the roller has not been changed. Once the plastic roller's height and angle have been set properly, tighten the set-screw in the horizontal pin to lock the setting. [See photo 8]
11. With the tonearm wire bundle in hand, hold the connector plug directly over the junction box and dress the wires such that they “relax” as much as possible. You do not want any extra twisting or untwisting in the wires. Do this by holding the wires with one hand and gently sliding your fingers underneath the wires from the pivot housing toward the connector plug. Be sure to have the connector plug hanging over the connector jack on the junction box when doing this. [See photo 9]
12. Once the tonearm wire bundle has been relaxed, hold the connector plug directly over the connector jack on the junction box, but do not insert it quite yet. Note whether the plug will need to be twisted in order to mate properly with the jack. **Choose the rotation direction that results in the least amount of twisting of the connector plug as possible.** If the required rotation is at, or close to, a full 180 degrees, twist in the direction that will cause an

UN-twisting of the tonearm wire bundle. Proper dressing of the tonearm wire is important because twisted wires will cause uncontrollable anti-skating forces of their own. Insert the plug into the jack once the proper orientation has been determined. [See photo 10]

13. Remove the anti-skating weight from the roller and place it directly on top, and in the center of, the pivot housing. Set the azimuth adjustment collar to the neutral position. Balance the tonearm to its zero Vertical Tracking Force position. Use the main counterweight for roughing-in the balance point and the Mini-Counterweight to fine-tune the setting. Once balanced, the tonearm should be able to “float” over the platter without moving inward or outward. If the tonearm does not hold its position, the tonearm wire bundle needs adjusting.
14. Try changing the curvature of the tonearm wire bundle loop [See photo 11]. Either tightening the loop or straightening (stretching) the wires will help. Generally, if the tonearm floats outward, a tightening of the loop (decreasing the radius) will cure this. Straighten the wire if the tonearm floats inward. See photo 12 for a view of straightened wire bundle.
15. Lifting the arm by the fingerlift, move the tonearm vigorously left and right from the outer portion of the platter to the inner portion (for safety it is wise to put the tonearm lift in the “up” position to keep the stylus from contacting the platter). While you are moving it inward and outward, note the behavior of the plastic roller relative to the “O” rings to its left and right. The plastic roller should not move from the position mid-way between the “O” rings and not touch the “O” rings at all. If the roller moves from the center position, it indicates that the groove is not perfectly in line with the thread. Loosen the set-screw in the horizontal pin and rotate as necessary to achieve perfect linearity while keeping the height adjustment at the proper level. [See photo 13] Again, swing the tonearm inward and outward to confirm the roller remains in the middle of, and does not touch, the “O” rings.
16. Using a WallyScale or other Vertical Tracking Force gauge set the tracking force to the recommended/desired amount. Make an approximation of the tracking force with the main counterweight and lock it down by tightening the set-screw. Use the Mini-Counterweight to fine-tune the Vertical Tracking Force setting. Tighten the set-screw at the final position.
17. Reset the VTA to your original setting.
18. For final setting of anti-skating, refer to the WallySkater owner’s manual.

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## RECOMMENDED ANTI-SKATING WEIGHT CONFIGURATION FOR JMW 10/10.5/12/12.5 TONEARMS

Select the anti-skating weight configuration that corresponds to the Vertical Tracking Force you are using for your cartridge.

VTF Weight Complement	1.6 gm	1.7 gm	1.8 gm	1.9 gm	2.0 gm	2.1 gm	2.2 gm	2.3 gm	2.4 gm	2.5 gm	2.6 gm	2.7 gm	2.8 gm	2.9 gm	3.0 gm
<b>Main Weight</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>1/8" screw</b>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											
<b>3/16" screw</b>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
<b>1/4" screw</b>									<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
<b>5/16" screw</b>												<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<b>4mm weight</b>											<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<b>2mm weight</b>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<b>Large washer</b>					1	2		1	1	1					
<b>Small washer</b>			1	2	1	1			1	2		1	2		