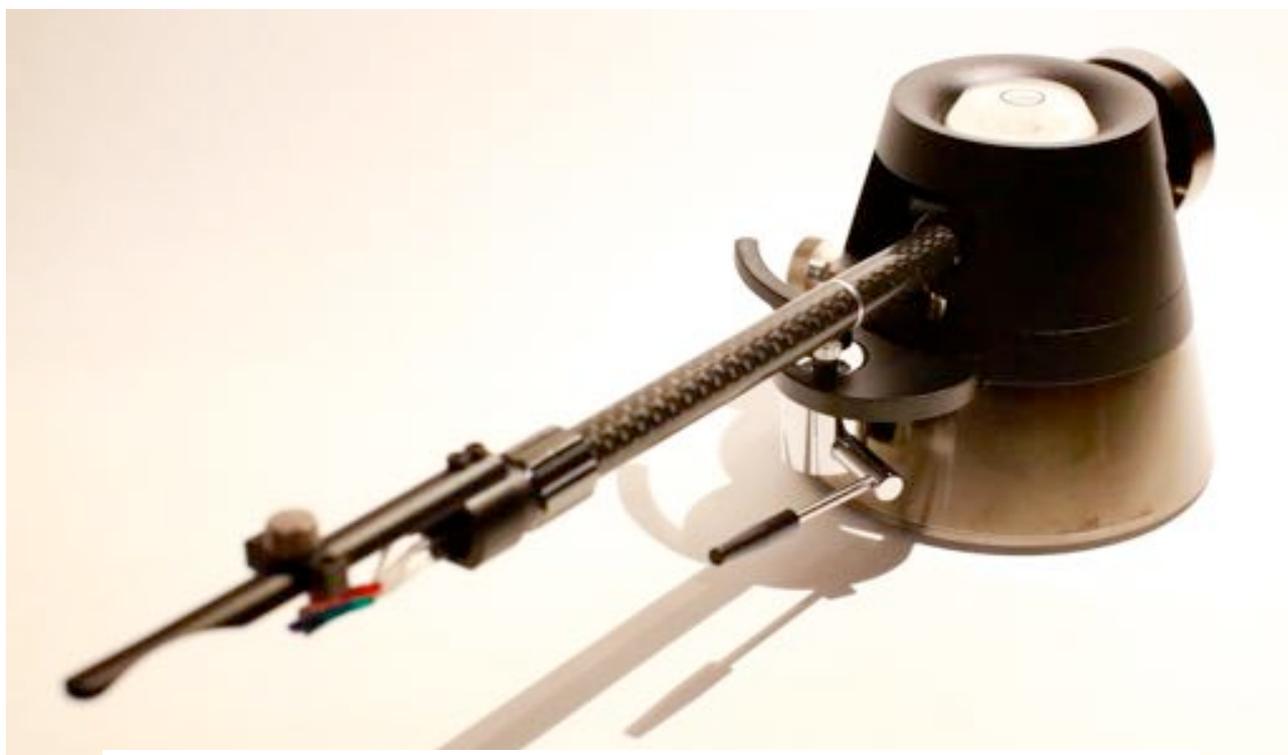


Oil Floated Tonearm

# Rigid Float series

User's Manual



ViV laboratory Ltd., Kamakura, JAPAN

## Sincere Appreciation From ViV Labs!

Thank you, and congratulations, for choosing the ViV Lab Rigid Float Tonearm. We at ViV Laboratory believe the Rigid Float Tonearm will surprise, enchant, and satisfy you with pure and vivid music from your vinyl collection. Due to its novel “Oil Floated Pivot” and “Pure Straight Structure”, the Rigid Float Tonearm eliminates spurious noise and distortion caused by undamped mechanical bearings, and the constantly changing torsional forces exerted on cartridges in traditional pivoted tonearms that use an offset angle and traditional anti-skating methods. Also, our exclusive “Nelson Hold” headshell eliminates cartridge and headshell resonance. The result is pure sound, free of unmusical mechanical artifacts.

For best sound, please read this manual carefully, and keep it for future reference.

Enjoy your records!

### CAUTION

- Do not disassemble or modify your Rigid Float tonearm.
- Place your Rigid Float tonearm on a stable surface.
- Do not insert your finger, or other foreign objects, into the tonearm pivot oil reservoir.
- Do not add unauthorized oil to the pivot oil reservoir.

## Unpacking and Preparation for Use

While unpacking the tonearm, be careful not to pull too hard on metal pieces. Carefully remove the individual pieces from the packaging.

After finding an uncluttered work area, and unpacking the tonearm, please set the Rigid Float Oil Supported Tonearm on paper, or cloth, in case oil is dripped while filling the tonearm pivot oil reservoir. You will fill the reservoir with the supplied oil. Two syringes, containing 3.5 mL each of specially selected black oil, are included.

## Oiling Procedure

- 1) Remove the tape from the syringe.
- 2) Remove the black cap. Please be careful not to spill the oil.
- 3) Carefully/gently inject all the oil from one syringe (3.5 mL), aiming for the center of the tonearm pivot.
- 4) Make sure the pivot and arm tube move smoothly.
- 5) Check the tracking force behavior with a VTF (stylus force) gauge. If the tracking force is unstable, inject an additional 1 mL of oil from another syringe.

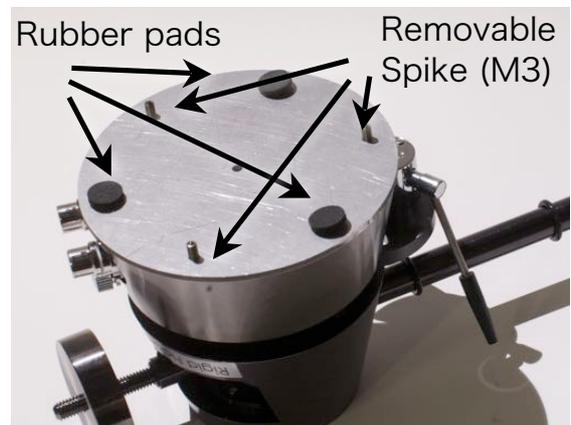
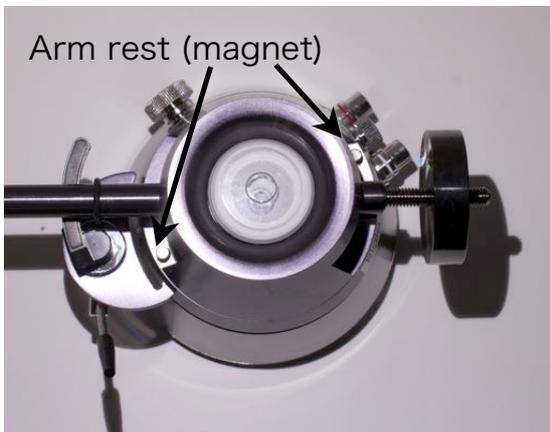
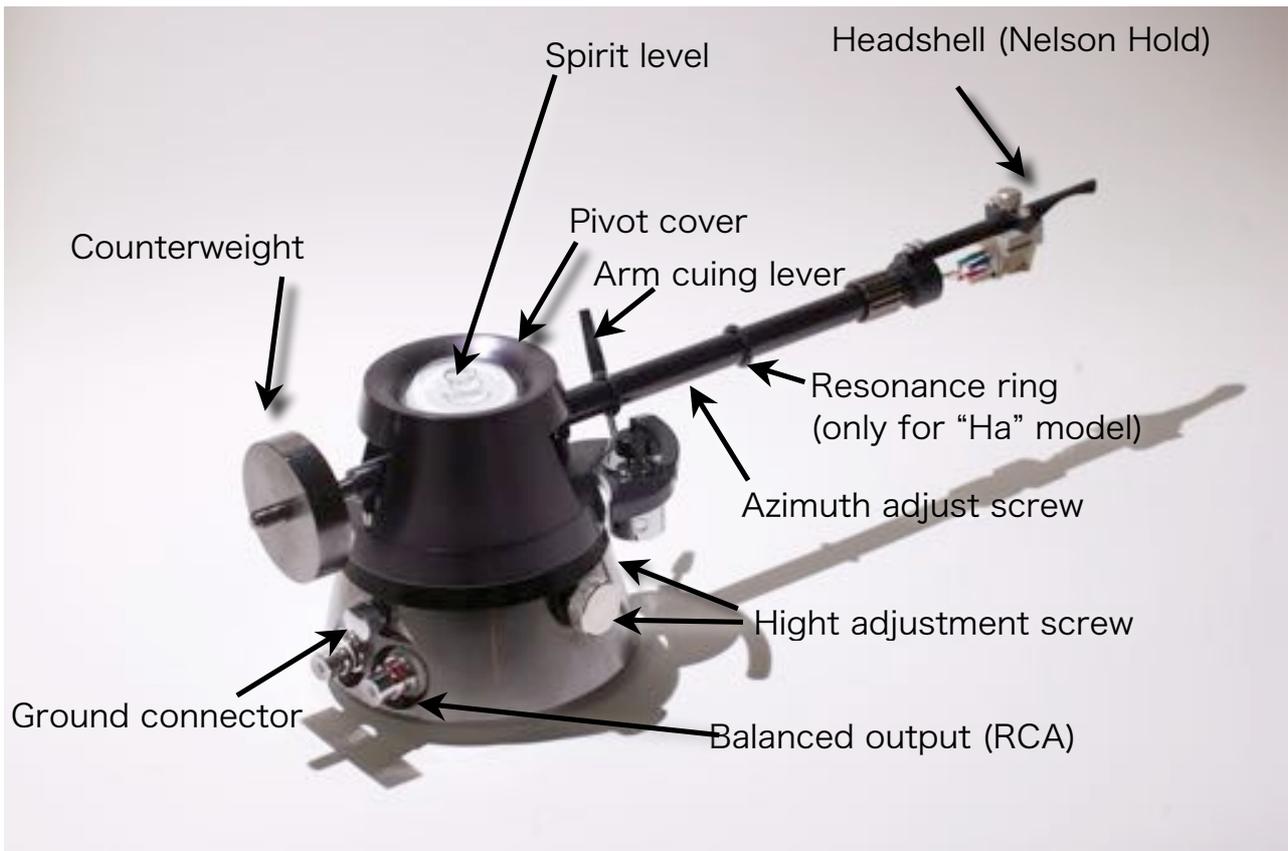


The oil will automatically settle into the correct position.

### CAUTION

- This oil is flammable. Keep away from open flames, or sources of intense heat.
- This oil is safe, but please keep it away from children and/or pets. If the oil is accidentally ingested, please see a doctor immediately.
- Do not use this oil for any other purpose. It is supplied specifically for this tonearm, and is not a general purpose household lubricant.
- Do not inject any other type of oil into the tonearm pivot oil reservoir.

## Functions

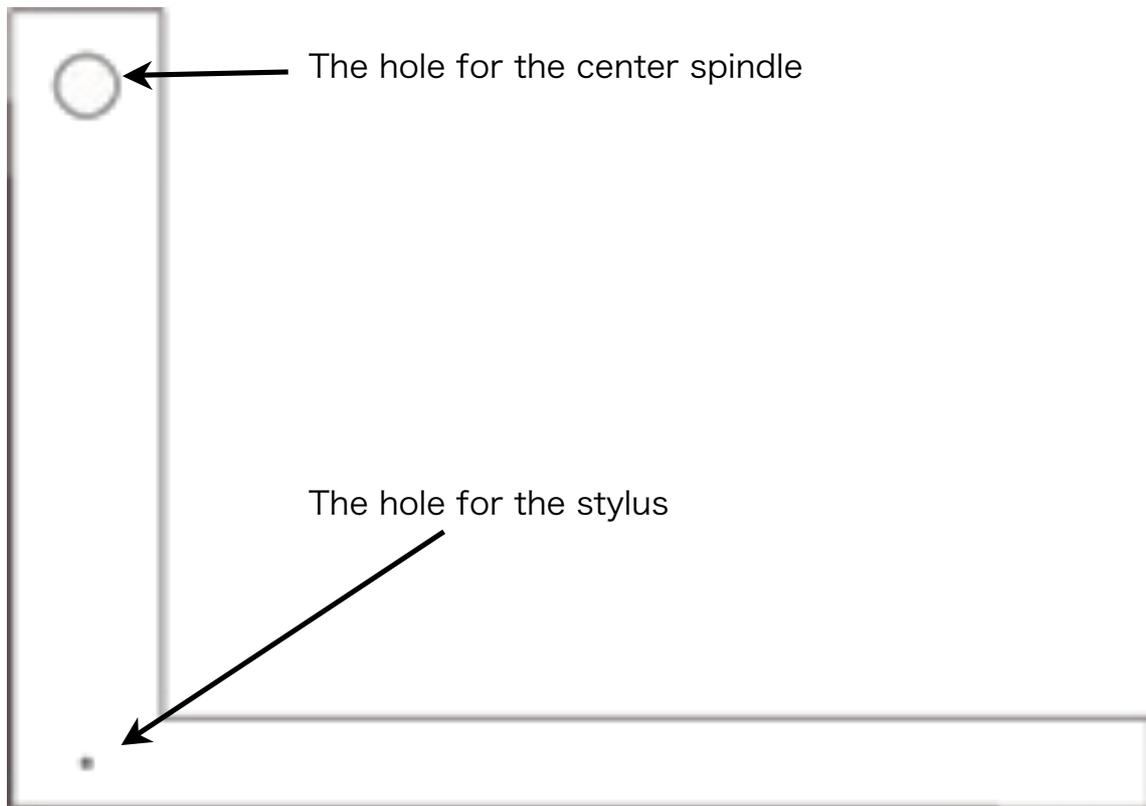


## PLACEMENT

The Rigid Float Tonearm is designed to make installation and use as simple as possible. All that is required is a sturdy surface on your turntable plinth, or an extra tonearm base (or “pod”), made of wood, metal, or anything else that is sufficiently solid.

### HOW TO FIND THE OPTIMAL POSITION

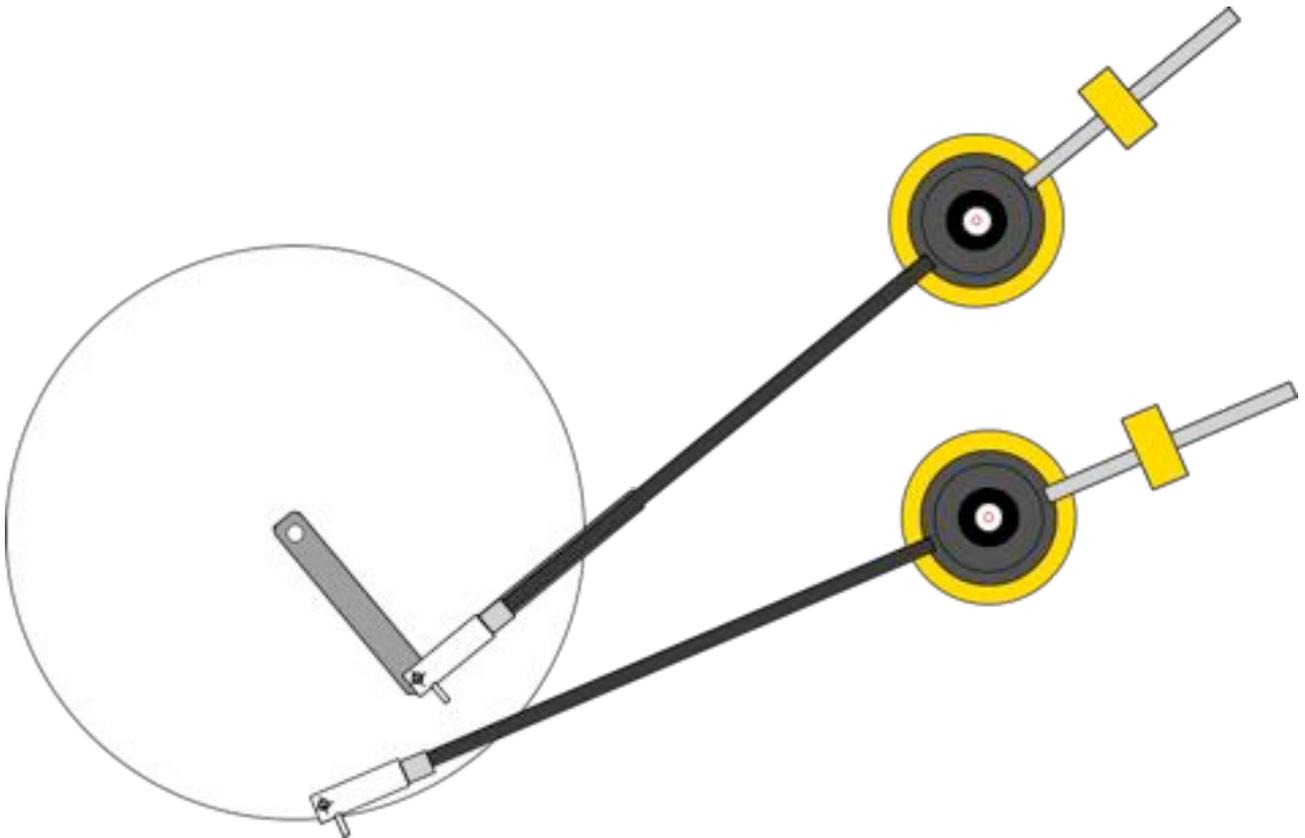
In order to find the best position for the Rigid Float tonearm, use the supplied alignment protractor film as shown below:



1. Lower the stylus in the small hole at the 90° angle of the protractor.
2. Adjust the position of the Rigid Float Tonearm pivot where the arm pipe is exactly parallel (directly over) the long section of the alignment protractor (the long part of the protractor that starts at the 90° angle where the small hole is located).

### Note

Because the Rigid Float Tonearm does not have an offset angle, you do not have to worry about the distance between the stylus and the head shell's connector. By the same token, you can use SPU-A, SPU-G or EMT cartridges without using adapters. Instead, adjust the pivot position each time you change cartridges.



## Height Adjustment

While viewing the Rigid Float Tonearm from the side, adjust the height of the pivot so that the arm tube is horizontal when the stylus is on the disk. The Stylus Rake Angle or Vertical Tracking Angle of the cartridge will be used to find the ideal position of the pivot. You should refer to your cartridge manual to find the ideal VTA, set the tracking force to the ideal force for the cartridge, and make fine adjustments of the pivot height.

There are 3 ways to adjust the height of the pivot:

1. Change the height of the external base/pod you are using. If your Rigid Float tonearm is sitting on an external tonearm base/pod, you can adjust its height, while leaving the Rigid Float Tonearm adjustment alone.
2. Adjusting the spikes on the bottom of the Rigid Float Tonearm: The spikes can be adjusted by finger. Also, you can use any other M3 screw as spikes. We recommend the use of high quality screws, like stainless steel and titanium, as they have minimal resonance due to their metallurgy.
3. Changing the height of the pivot case:
  - Loosen the pivot case set-screw, located on the side of the pivot base and under the arm lifter.
  - Move the pivot case up. The pivot case can be adjusted by as much as 20mm.
  - Tighten the both of the set-screws after height adjustment.

## Azimuth Adjustment

1. Slightly loosen the azimuth adjustment screw. It will allow azimuth adjustment of  $\pm 5^\circ$ .
2. Be careful not to loosen the screw too much.
3. Adjust the azimuth angle so the stylus sits vertically in the groove, forming a  $90^\circ$  angle to the surface of the record, or being perpendicular to the record.
4. Tighten set-screw after azimuth adjustment.

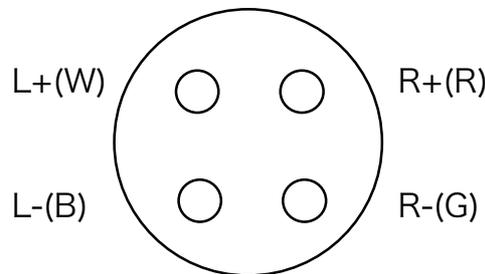
## Connections

### Cartridge connections:

Phono cartridge connections are polarized, just like speakers, with a positive and negative terminal. The polarized connections are as shown below. The colors associated with cartridge connections are standardized:

- L+(White) White indicates the Left Positive connection.
- L-(Blue) Blue indicates the Left Negative connection.
- R+(Red) Red indicates Right Positive connection.
- R-(Green) Green indicates Right Negative connection.

On most cartridges and headshells, the white and red connections are on top, and the blue and green connections are on bottom. Please see the picture for the correct orientation of the Nelson Hold



Headshell.

### Output:

You can use any RCA cable for output from Rigid Float. For better sound, shorter cables are desirable. Additionally, some cables have low capacitance, some have high capacitance, some have low inductance, and some have high inductance. High grade phono cables are usually shielded to prevent noise problems from EMI and RFI interference. Because of the RCA connections chosen for the Rigid Float Tonearm, you can use the broadest array of RCA cables, giving you the ability to choose cables that compliment the sound of high output cartridges (low capacitance) and low output (good shielding and low resistance).

When selecting a cable, be careful: stiff cables can move the Rigid Float Tonearm. A practical help is the use of zip-ties and zip-tie adhesive mounting tabs. These will fix the position of the tonearm cable and prevent the loss of position if you accidentally bump or pull the cable.

Each output (i.e. R+, R-, L+, L-) is insulated from the ground connection (GND). This allows the Rigid Float Tonearm to be used with true-balanced input phono stages.

### **Ground:**

The ground (GND) connection you select will change the sound of the system. Try to connect GND in different places if hum is a problem. As a practical help, you can connect a high sensitivity AC voltmeter between the ground connection, and test various ground options by measuring the voltage difference with the meter. The lowest AC voltage difference will sometimes give the lowest hum. Many times, experimentation is necessary to find the best grounding scheme.

## **Tracking Force**

1. Rotate the counterweight for the appropriate tracking force using a tracking force gauge.
2. You can fix the counterweight by a small black aluminum nut.

## **Important Note**

If the tracking force is unstable, there is not enough oil. If this happens, add an additional 1 mL of the supplied oil to the pivot. Only use the supplied oil. Never use “general purpose” lubricants.

## **Installation Is Completed!**

Confirm that the traceable area covers the music area of the disk. If it appears there is excess or insufficient underhang, use the supplied alignment protractor to verify that the pivot has not be accidentally moved.

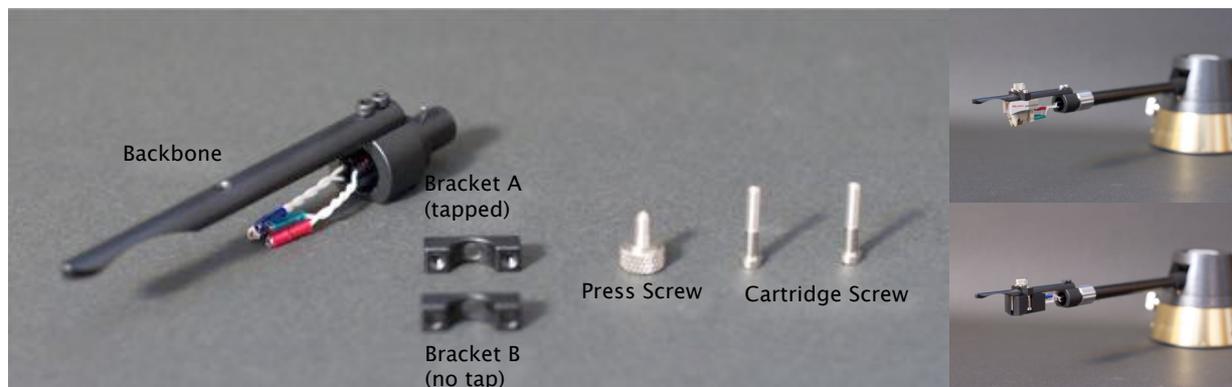
**Please enjoy your record collection!**

< Specification >

Model	Rigid Float CB7	Rigid Float CB9	Rigid Float CB13 (Carbon arm wand)
	Rigid Float Ha7	Rigid Float Ha9	Rigid Float Ha13 (Aluminum arm wand)
Pivot to stylus	about 7”~8”	about 9”~10”	about 13”~14”
Inner wire	Silk jacketed 4N silver		
Input	Universal type (needs head shell)		
Output	RCA (balanced)		
Overhang	-3 ~ -15 mm (under-hang)		
Offset	0°		
Cartridge weight	up to 50g (including head shell)		
Hight adjust	20mm		
Weight	about 2kg		

# ViV laboratory's original Headshell

## THE NELSON HOLD



### Product Concept

ViV Laboratory believes that headshells have additional duties, other than merely holding the cartridge in place. A proper headshell supports the magnetic circuit, and suppresses cartridge resonance.

In the search to find an adequate headshell for the Rigid Float Tonearm, it became necessary for ViV Laboratory to design a new headshell to meet all the criteria. The new design is The Nelson Hold Headshell.

The Backbone of The Nelson Hold supports your cartridge, while the Bracket attaches the cartridge to the Backbone. Additionally, you can use the Press Screw to put pressure in the center of the cartridge. This pressure leads to significant sound improvement because it is where the magnetic circuit of the cartridge is located.

### How to Use

1. Loosen the Press Screw until its tip is retracted from the surface of the Backbone.
2. Attach the cartridge to the Bracket with the Cartridge Screws. Two styles of Brackets are provided: tapped/threaded; and untapped. This allows the use of cartridges where the cartridge body is untapped, with those that are tapped, along with cartridges that have "blind holes" only accessible from the top of the cartridge.
3. Tighten the both screws evenly. Be careful not to apply too much force, and also tighten the screws gradually, twisting one screw part of the way, then the other screw part of the way, alternating sides until equal pressure has been applied to both sides of the cartridge with gradually increasing force.
4. Once the cartridge is fixed to the Backbone with the Brackets and Screws, you can tune the sound by experimenting with the Press Screw. Be careful not to add too much torque to cartridges with stone or ceramic bodies. While it is unlikely that you can break a cartridge in this manner, it is still good to proceed with caution with certain fragile designs.

### CAUTION

1. BE CAREFUL NOT TO BREAK YOUR CARTRIDGE .
2. A scar may remain on the cartridge surface.

**Specifications**      Weight: 12.5g      Length: 97mm      Lead wire: 4N Silver

< Product Warranty >

- This product will be repaired for free charge if the malfunction or damage is not caused by the customer's misuse or abuse (ViV laboratory will judge).
- The warranty term is 2 years from the date of purchase.
- If you find a malfunction, please immediately contact the dealer who sold you the product. They will contact ViV laboratory for you and arrange for inspection and/or repair.

Date of purchase

Shop/Retailer

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