



## User Manual EMT Tonearm

**EMT 909-HI:** High-end 9-inch tonearm with fixed headshell for 1/2" hi-fi cartridge connection

**EMT 912-HI:** High-end 12-inch tonearm with fixed headshell for 1/2" hi-fi cartridge connection



Thank you for choosing the EMT tonearm.

Please take time to install and adjust your product properly. remember to work carefully and to follow the instruction manual step by step.

You will find actual information about our products on [www.emt-tontechnik.ch](http://www.emt-tontechnik.ch).



## Warranty

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EMT Tontechnik certifies that this device has been inspected and tested before leaving the factory.

This product is covered by EMT's two-year warranty, valid from the day of purchase (dealer's invoice). It covers all factory materials and processing errors.

However, this warranty does not cover any failure caused by putting the device to improper use or malfunction caused by neglecting the instructions elsewhere in the user manual.

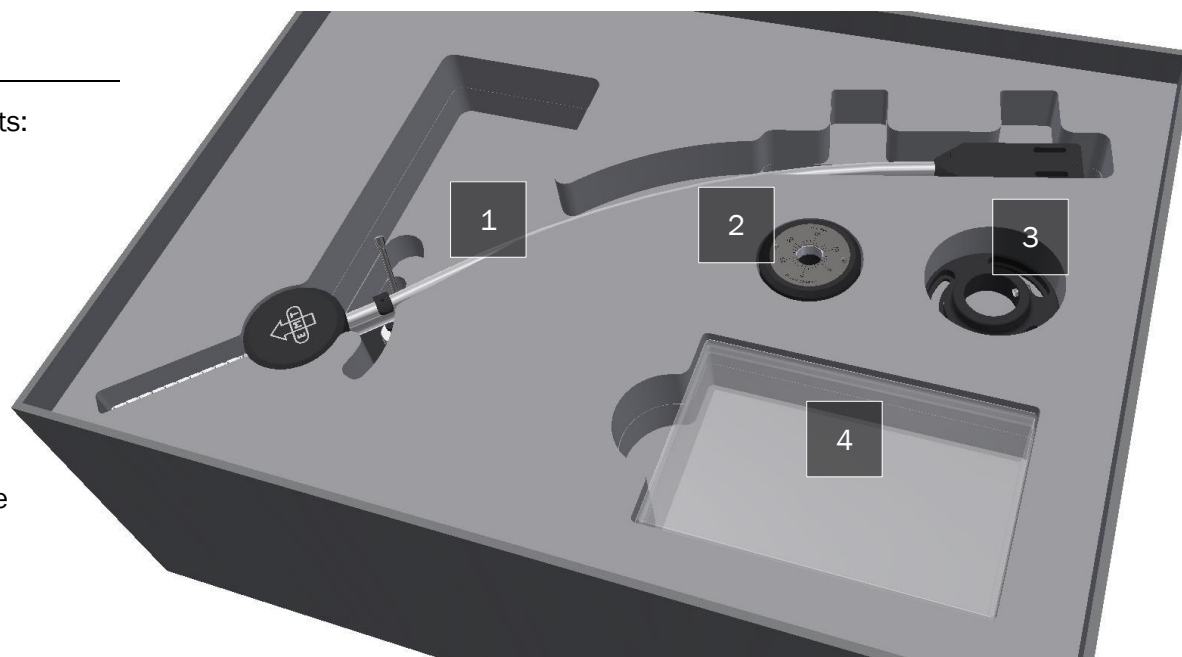
Unauthorized disassembly or modifications whatsoever of the product will also avoid the warranty. In any case of warranty claims please contact your dealer.

## Package contents

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Remove the top-layer of the packaging-inlays. The package contents:

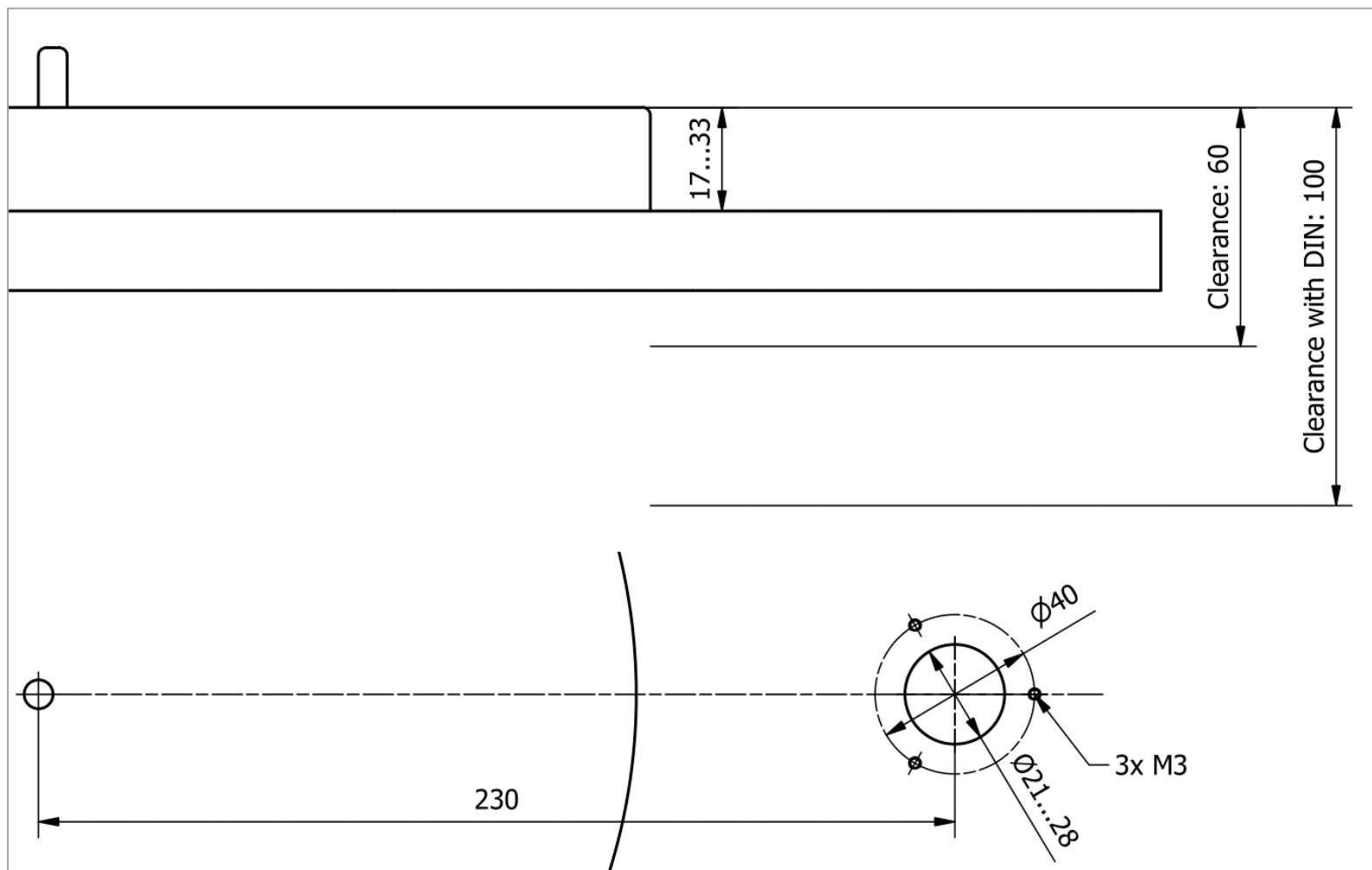
1. Tonearm
2. Counterweight
3. Base-ring incl. retaining-screw
4. Accessories-box, containing
  - *Finger-Lift*: 1x Handle and set of cartridge screws
  - *Tools*: 3x Hex-key wrenches (1,3 / 1,5 / 2,0mm)
  - *Screws Base*: screws for fixing the tonearm on the turntable
  - *Spares*: spare parts





## Tonearm-base EMT 909-HI (9-inch version)

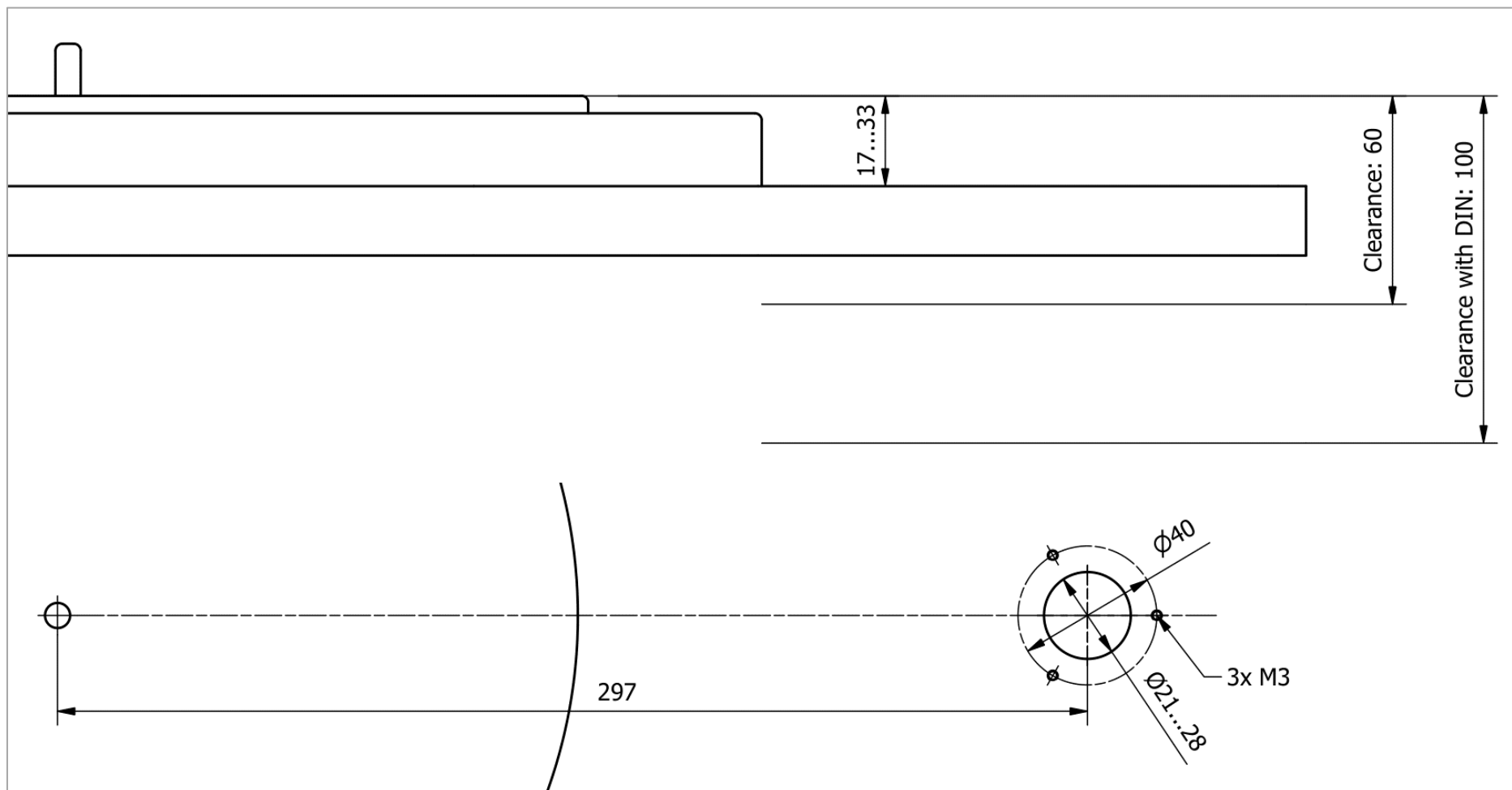
Prepare the tonearm-base of your turntable according to the drawing below. If anything is unclear or if you have questions, please contact your dealer.





## Tonearm-base EMT 912-HI (12-inch version)

Prepare the tonearm-base of your turntable according to the drawing below. If anything is unclear or if you have questions, please contact your dealer.

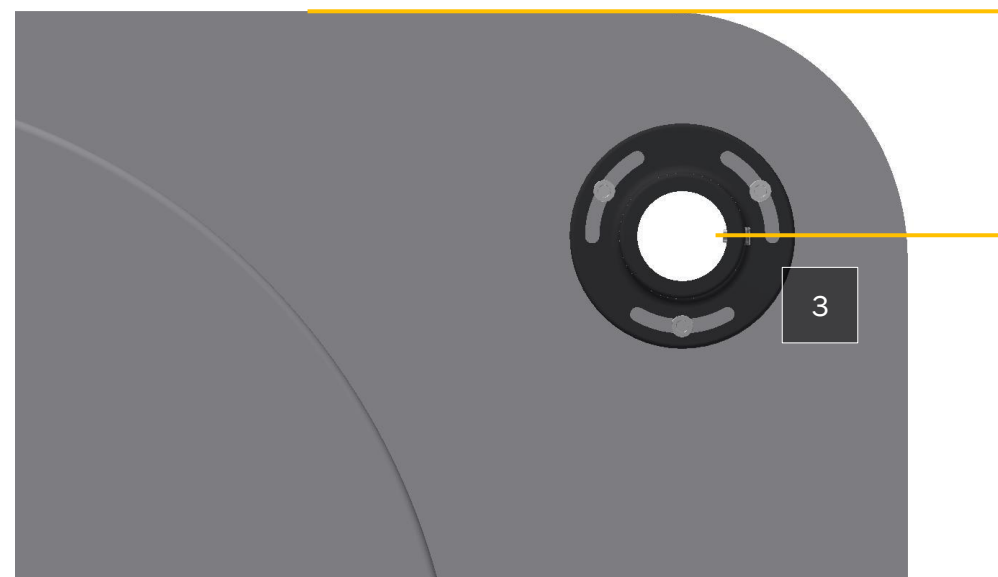
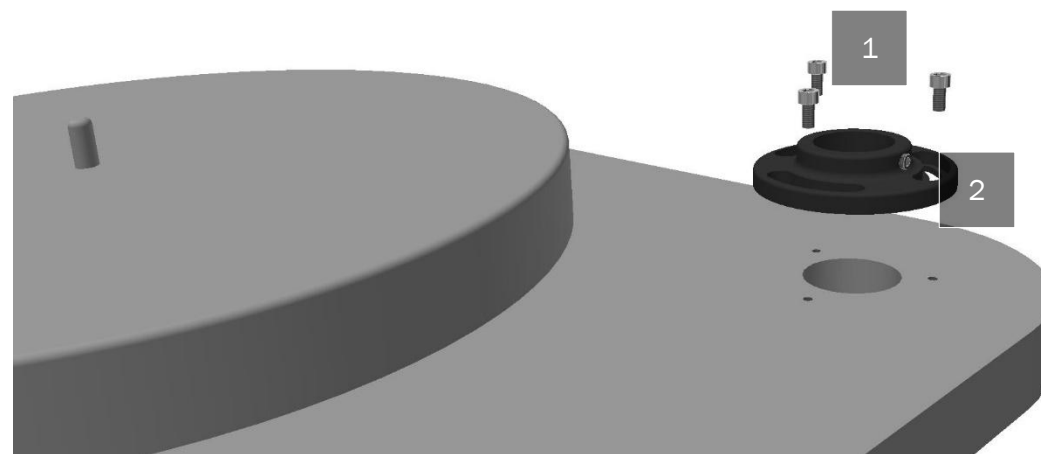




## Installing the Base-ring

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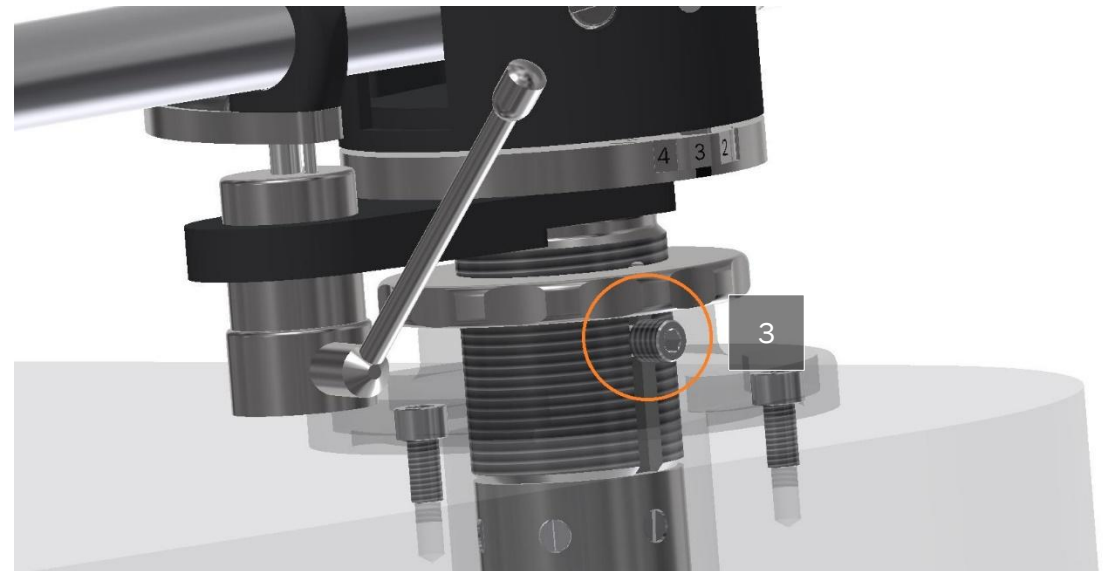
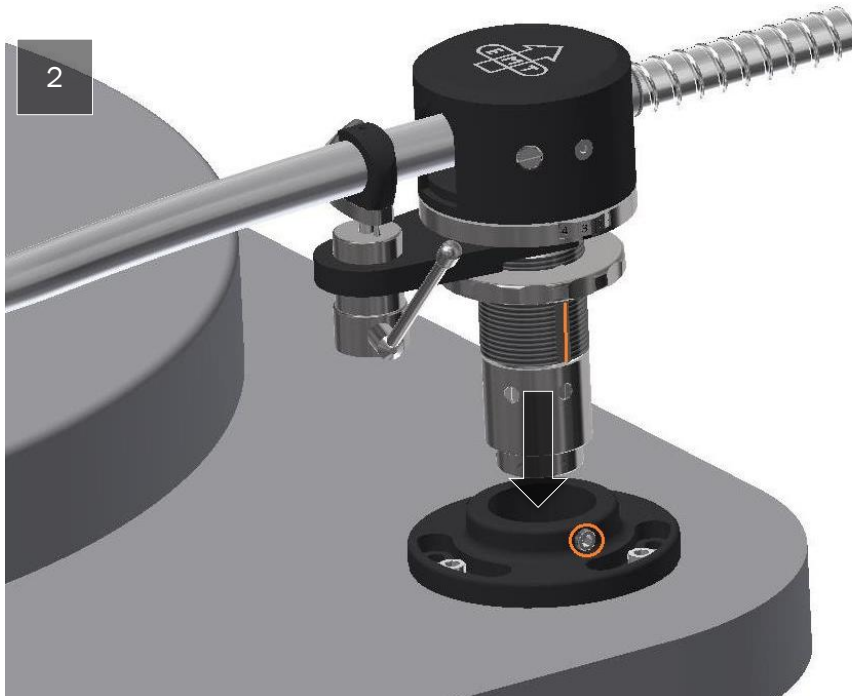
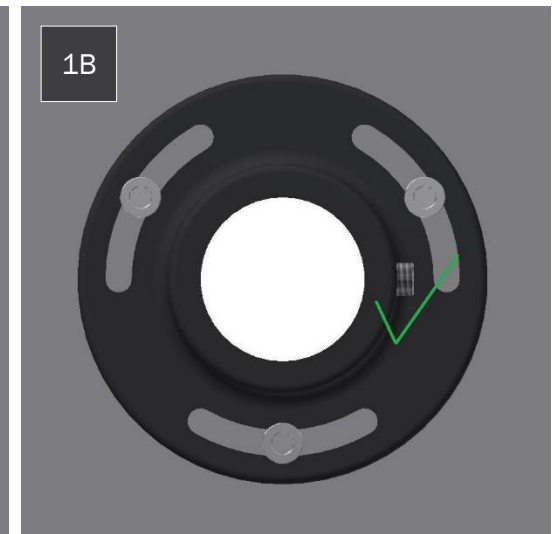
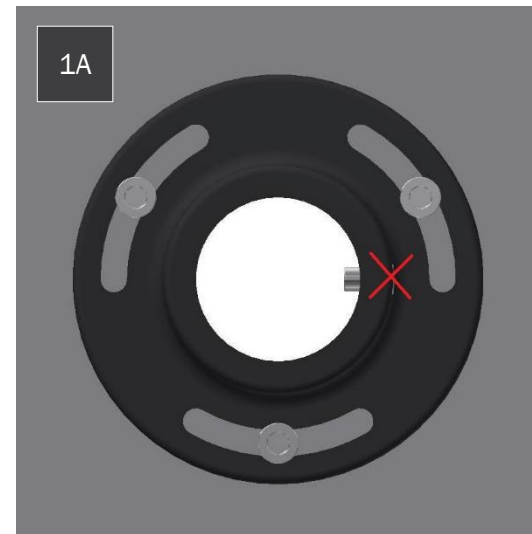
1. From the accessories, choose the Screws Base as follows:
  - 3x M3x6 if the threads in the turntable are shorter than 10mm
  - 3x M3x10 if the thread in the turntable are longer than 10mm
2. Place the Base-ring on the tonearm-base
3. Align the Base-ring in relation to the turntable chassis. Refer to the orange lines in the drawing.
4. Tighten the three screws to fix the Base-ring.





## Installing the Tonearm

1. Use the 2mm Hex key wrench to move the retaining-screw into the correct position. The screw must not protrude into the hole. Refer to picture 1B for correct position.
2. Insert the Tonearm into the Base-ring. The groove in the shaft should be aligned with the retaining-screw. Refer to the orange markings in picture 2.
3. Carefully tighten the retaining screw. Make sure the bolt of the screw fits into the groove as shown in picture 3.



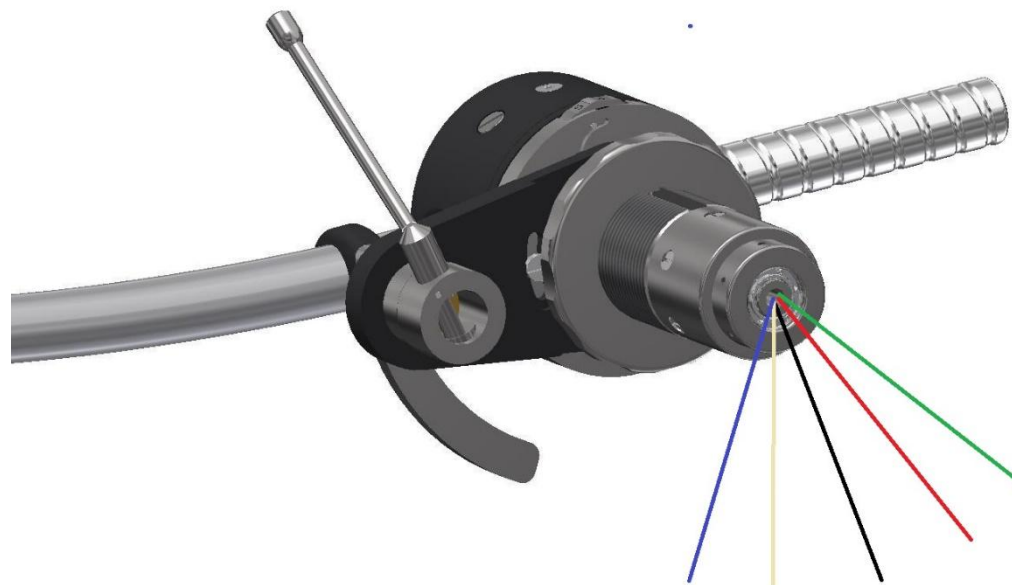


### Tonearm Wiring (Standard)

In the standard configuration, your tonearm is delivered with wire outlet thru the shaft. The five wires shall be soldered to an existing connection terminal integrated in your turntable. Please ask your dealer for support.

Colour assignment:

- Red = Right Hot
- Green = Right Cold
- White = Left Hot
- Blue = Left Cold
- Black = GND



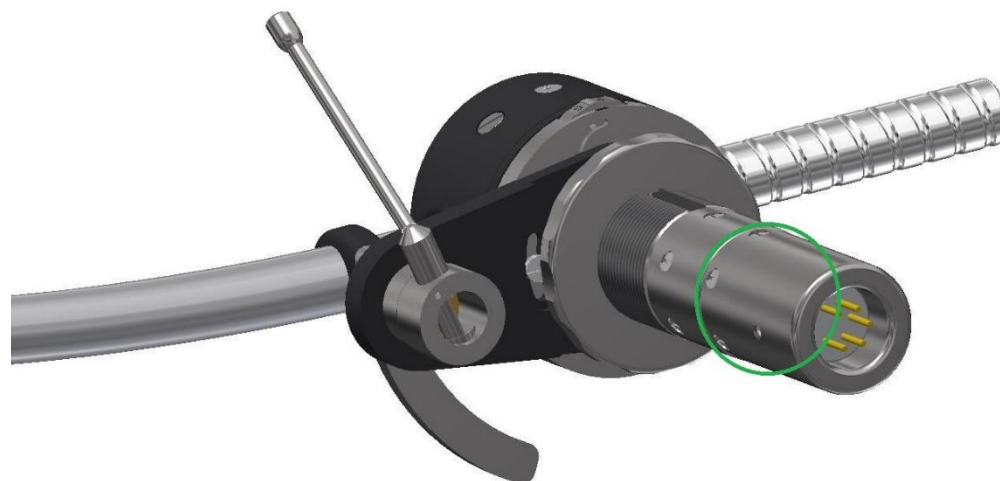
### DIN Output Connector (Option DIN)

As an option, your tonearm is delivered with a 5-pin DIN-connector. If required, the axial orientation of the connector can be changed according to the procedure below:

1. Remove the six countersunk head screws holding the DIN adapter.
2. Carefully turn the DIN-adapter into the required position. Make sure not to pull the internal wiring.
3. Insert the six countersunk head screws again and tighten them carefully.

#### Warning:

To prevent damage to the sensitive bearing unit, do not release any other screw except the six ones indicated in the drawing (green circle).





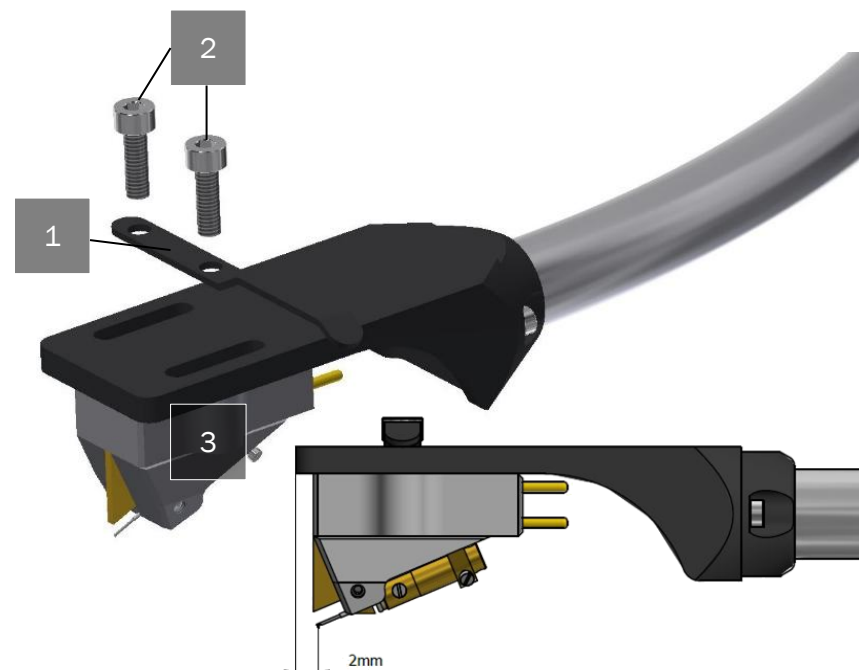
## Installing the cartridge

### Installation

- From the accessories, take the finger-lift (1) and the cartridge-screws (2).
- Place your cartridge (3) and the finger-lift (1) as shown in the picture.
- Tighten the cartridge-screws gently; the cartridge shall remain movable.

### Alignment

- Align the cartridge according to the tonearm specification (Page 13).
- The nominal distance from tonearm leading edge to stylus is 2mm.
- If required, use a protractor to ensure correct geometrical alignment.
- Fully tighten the two cartridge-screws

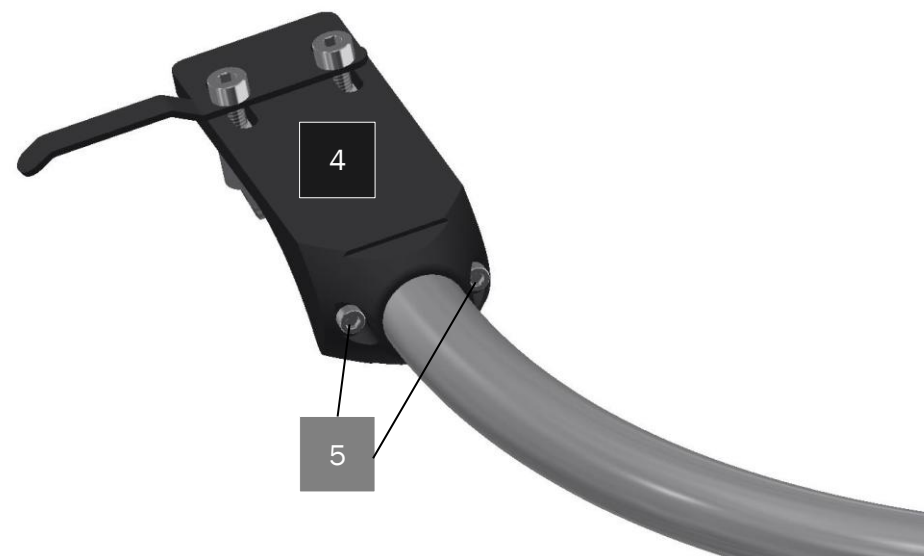


## Azimuth Setting

At delivery, the headshell (4) is set parallel to the bearing axes. Depending on the tolerances of your cartridge, an azimuth-correction might be required.

We recommend not to do any azimuth setting, except precise crosstalk-measurement can validate the correct alignment. Please contact your dealer for further information.

1. Choose the hex key wrench 1,5mm from the accessories box.
2. Release the two hex screws (5) keeping the headshell (4) in place.
3. Adjust the azimuth ( $\pm 8^\circ$ )
4. Carefully tighten the two hex screws again.







## Lifting device

Your tonearm features an integrated lifting device. It can be removed if the turntable's lifting device shall be used.

The lifting device is preset for standard purposes in the factory. The following parameters can be modified or readjusted by the user.

### Resting Position

- Release the slotted screw (1), which is accesable from underneath.
- Set the resting position by turning the complete lifting device  $\pm 15^\circ$ .
- Tighten the slotted screw (1) gain.

### Removing Device

- Remove the slotted screw (1).
- Remove the complete lifting device.

### Vertical and axial position

- Choose the hex key wrench 1,5mm from the accessories box.
- Release the hexagon screw (2).
- Move the lift-cylinder in the correct vertical and axial position.
- Carefully tighten the hexagon screw (2) again.

### Tighten lift-support

- Choose the hex key wrench 1,3mm from the accessories box.
- Insert the hex key wrench thru the hole of the holding-clip.
- Carefully tighten the countersunk screw (3).
- Remove the hex key wrench again.





## Setting the tracking force (VTF)

Your tonearm features a unique mechanism for coupling the counterweight to the rear end of the tonearm. A spring-loaded pin connects with the spiral-groove and allows quick linear positioning as well as precise and backlash-free adjustment.

An engraved scale allows setting the vertical tracking force, even if you don't have a tonearm scale at hand.

### Installing the counterweight

- Hold the counterweight (1) and move it to the rear end of the tonearm (2)
- Move the counterweight horizontally for approximate setting
- Turn the counterweight clockwise to increase the VTF
- Turn the counterweight anticlockwise to decrease the VTF

### Reset the scale

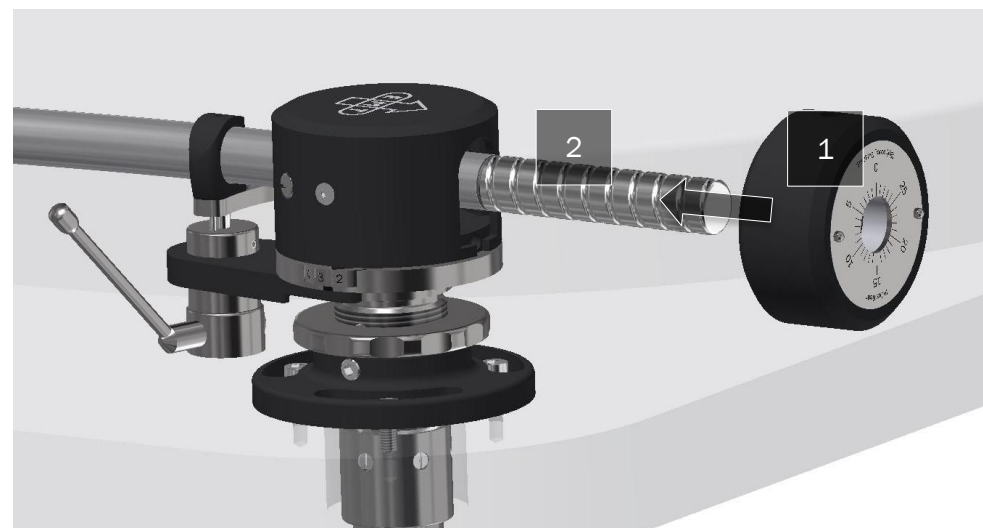
- Turn the counterweight until the tonearm is in fully balanced position
- Hold the main-unit (3) of the counterweight in place
- Turn the scale (4) until the 0-Position is aligned with the marking (5)

### Setting the VTF

Turn the counterweight until the wanted value for the VTF is aligned with the marking (5). The scale shows the value in dg: 10dg = 1g.

### Note

The accuracy of the integrated scale is limited to  $\pm 0,1g$ . For more precise adjustment, please use a separate tonearm scale.





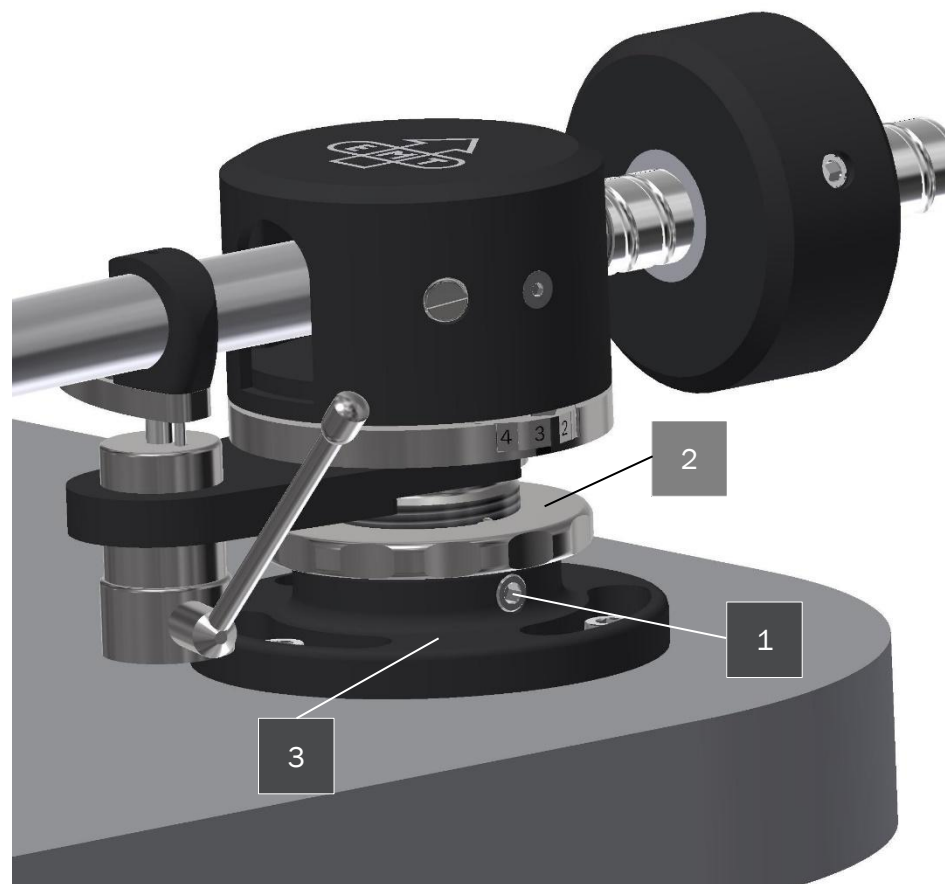
## Setting the Vertical Position

For precise adjustment of the vertical tracking angle, your tonearm features a mechanism to set the vertical position.

Correct setting is achieved when the tonearm is in absolute horizontal position while the stylus is tracking a record-groove. To compensate for tolerances of your cartridge, minor deviation from the horizontal position could be required. Please ask your dealer for further information.

1. Use the 2mm Hex key wrench to release the retaining-screw (1) for half a turn.
2. Adjust the vertical position
  - Turn the VTA-Ring (2) clockwise to increase the height
  - Turn the VTA-Ring (2) anticlockwise to decrease height
3. Tighten the retaining-screw (1) again.

Gently tighten the VTA-Ring (2) towards the *Base-Ring* (3).





## Anti-Skating Device

Your tonearm features a contactless magnetic skating compensation device. The compensation force can be adjusted continuously from minimum (1) to maximum (5).

### Anti Skating Setting

Turn the dial to set the desired compensation force. As a general rule, the value on the dial should refer to the vertical tracking force (VTF).

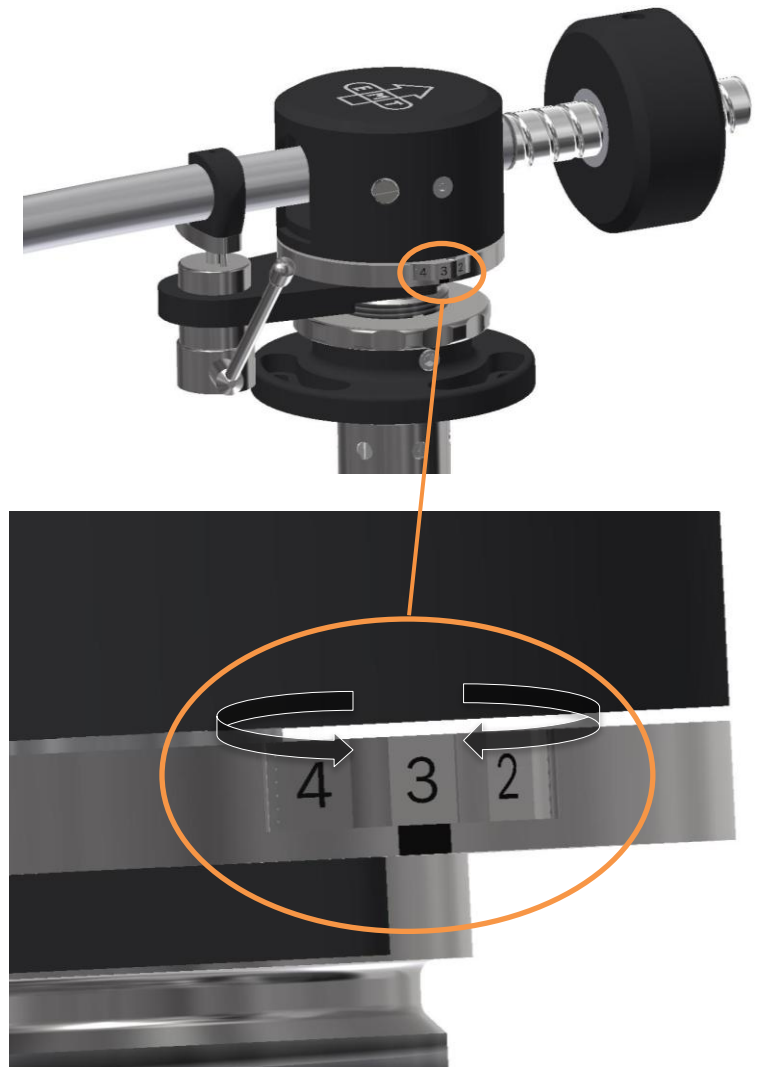
### Note

The skating-force is not a constant value. It depends on:

- a) the vertical tracking force
- b) the stylus shape
- c) the groove modulation



A blank disk can help to set the compensation force. However, in certain cases, the procedure may be unsuitable, especially with modern stylus shape such as Super-Fine-Line or Multi-Radius.

In such cases, we recommend to keep the setting between 2 and 3. For further information, please contact your dealer.





## Specification

		
	<b>EMT 909-HI</b>	<b>EMT 912-HI</b>
<b>Mounting distance:</b>	230mm	297mm
<b>Effective length:</b>	246.75mm	310.15mm
<b>Effective mass:</b>	10.2g	11.4g
<b>Offset angle:</b>	22.25°	17.55°
<b>Overhang:</b>	16.75mm	13.15mm
<b>Cartridge weight:</b>	10...25g	8...25g
<b>Outer null point:</b>	120.9mm	
<b>Inner null point:</b>	66.04mm	
<b>Output:</b>	Standard: wire outlet 20cm Option DIN: 5-pin DIN outlet	

Version: V1.4  
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