



Analogue Manufacturer Germany

## **Tone arm 12JT**

# **Operating and installation manual**

## Tone arm 12JT

Dear music-lover,  
thank you for your vote of confidence by choosing the AMG tone arm for playing your records.

### Technical description

The tone arm 12JT is based on the unique bearing system of the AMG products.

Starting out from a standard tone arm with horizontal and vertical axles and the bearing play caused by the principle of design, we have totally eliminated the play in the horizontal axis by replacing it with two 0.5 mm thick spring steel wires. This also enables a direct acoustic coupling which exactly draws from your record what is truly on it. This principle is also used in the rotor heads of helicopters replacing the standard bearings and their play. The vertical axle is made of hardened tool steel and precision ground to a backlash-free fit with two roller bearings. The axles are maintenance free and never need to be adjusted. The antiskating system is also integrated in the bearing case. All materials we use are stainless steel, tool steel, spring steel and anodized aluminum in aircraft quality. The arm tube locking lever is plastic molded, the coupling attenuation sleeve in the counter weight is Teflon and the insert in the arm tube rest at the lift is of silicone.

### Preparation for installation

Take the tone arm out of the wooden box and place it on a soft rag on a level surface. Please check that the arm tube is locked by the locking lever. Insert the audio cartridge into the head shell to a preliminary position and slide the color coded female connectors on to the related pins at the cartridge. Now start with the final adjustment:

Effective length	304.8 mm
Distance from pivot to turntable center	291.4 mm
Overhang	13.4 mm
Offset Angle	17.89 °
Effective Mass	13.9 g
Zero point (inner)	66.04 mm
Zero points (outer)	120.9 mm
Bore size for mounting bushing	25 or 30 mm
Screw-hole circle	30 or 48 mm

Please be advised to tighten all screws at this precision engineered product at low torque and by a sensitive touch.

## Drilling the mounting bore

Please mark out as precise as possible the distance from pivot to turntable center of 291.4 mm.

Drill a bore in your plinth or arm board at exactly this distance. You may use the mounting bushing as a gauge to drill the bores for the three fastening screws. Depending on the adapter you use, the screws are metric M3 or M4. For a wooden plinth use appropriate screws for wood. Insert the mounting bushing so as the locking screw for the tone arm shaft is easily accessible from the right.

If you do not have a drill press or better a milling machine, please see a machine shop.

The 12JT tone arm is available in three different variations concerning its connection.

- 1.) with a SME connector in the tone arm shaft where you may directly connect your audio cable
- 2.) with a SME connector in the tone arm shaft and a female SME connector you may make your own cable with
- 3.) with flying leads, which you have to solder to cinch or XLR connectors.

We also supply a cinch box made of solid aluminum and a pcb with two high quality cinch connectors and a 2 mm ground connector. If your turntable does not have connectors fit in.

## Adjustment procedures

Slide the tone arm with the shaft into the mounting bushing. If you got the version with the female connector in the bushing (in combination with the Viella turntable) be sure both connectors are matching before you push the arm shaft to the detent.

Slide the counterweight onto the arm tube and balance it, so the tube is horizontal and free swiveling. Be sure, to adjust the height so your cartridge clears the platter. The active range of the antiskating system is about 250 mm. Turn the arm shaft, that the cartridge needle is about 80 mm away from the platter.

Now lock the arm with locking screw on the back side of the arm.

Put the counterweight with the concave roundness to the front on the arm tube.

To continue, it is recommended to set the antiskating to minimum. In the flange of the arm shaft are left and right two knurl screws. Turn the knurl screws left and you can see that the mark on the front of the pillar goes down. This is what moves the antiskating magnets away from the ring magnet in the bearing case. Now your antiskating force is set to minimum.

Next adjust the vertical tracking force (VTF) with the digital scale (please use 2 x AAA batteries; for reasons of safety they are not included). It is essential, that the arm tube is in a horizontal position while resting on the scale. When VTF is set, gently fasten the locking screw in the counter weight. If you use the gauge for adjusting the cartridge, which is included, the VTF has to be measured with the cylindrical pin because it has an own weight of 1,6 g.

After adjusting the cartridge the VTA has to be double-checked without the cylindrical pin.

The tone arm lift is preset at the factory. If you like to raise your stylus higher or lower, the lift slides in the bracket by loosening the locking knurl screw in the bracket.

Cross check your pivot to turntable center distance. If the tone arm is mounted to a Viella turntable, please check if the dial on the right side of the arm board is set to zero. This adjusts your distance correctly.

Now put a record on the platter and set the VTA until the spirit level in the arm hub shows horizontal.

Assuming your turntable is set to horizontal.

Loosen the locking screw on the back side of the arm and if you have the two connectors with a Viella turntable, loosen the connector locking screw in the arm board as well. Adjust the VTA with the height adjustment knurl screw in the lift bracket. Tighten the locking screw(s) again.

Now set the correct overhang by using gauge and the cylindrical pin. Put the pin in the hole of the headshell and let slide the pin in gauge. Now you can open the knurl screw on the top of the headshell. Slide the screw back or forward, if the needle is in the cross, the overhang is correct. Now you can lock the screw. If you don't like this knurl screw on top of the headshell, we have attached a lens head screw that you can replace with.

The antiskating system is very effective. To start with, leave the left hand magnet in the lowest position and bring your right hand magnet up by two thirds. Then continue with a measuring record or Wally Tools Wallyskater or something equivalent.

The tone arm also has an azimuth adjustment. It is set to zero at the factory. If you do not have appropriate measuring equipment, like a Fozgometer, it is not recommended to use it.

If you like to make azimuth adjustments, loosen the locking knurl screw at the left side of the tube hub. Then adjust the azimuth by little increments with the knurl screw on top of the hub.

Press the hub gently down by your finger while tightening the locking screw again.

Now enjoy your music. We like to wish you lots of joy with this precision product.

Your Julian Lorenzi with the team of AMG



