

precision designed & engineered high fidelity record playing equipment and accessories

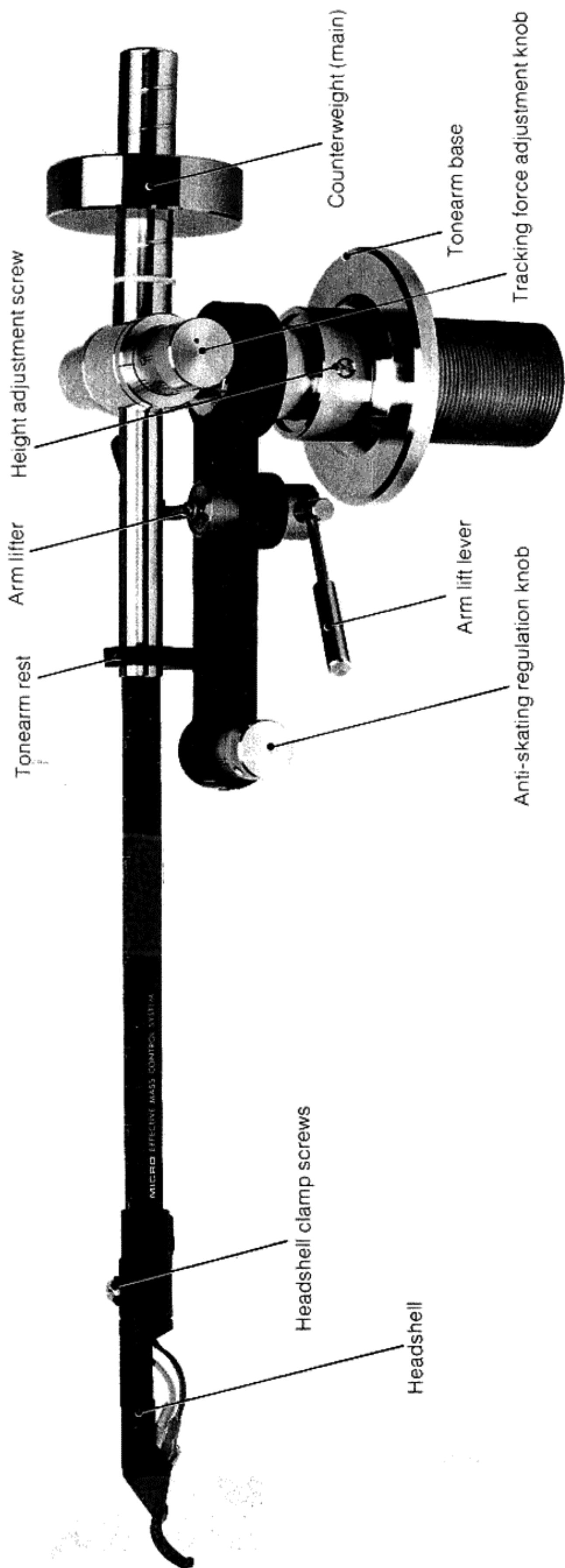
**DYNAMIC BLANCE TONEARM**

**MA-707**

《OPERATING MANUAL》

**MICRO SEIKI**

# Parts nomenclature



## List of parts supplied

- ① Counterweight (main)
- ② Sub-weight (main)
- ③ Additional-weight
- ④ Headshell
- ⑤ Overhang gauge
- ⑥ Screwdriver
- ⑦ Installation screws
- ⑧ Six-sided wrench
- ⑨ Output lead

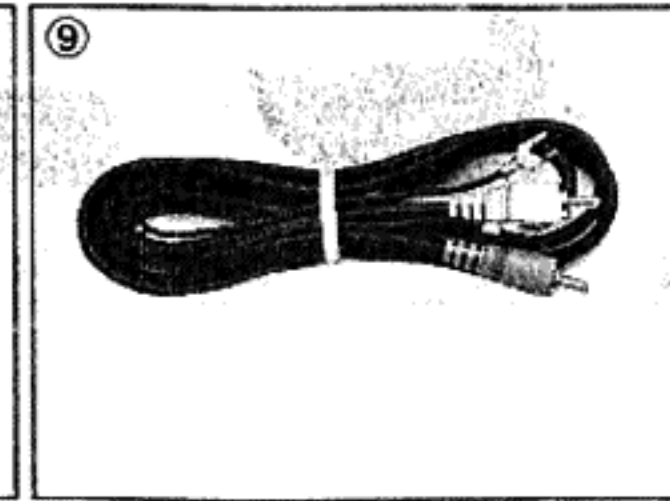
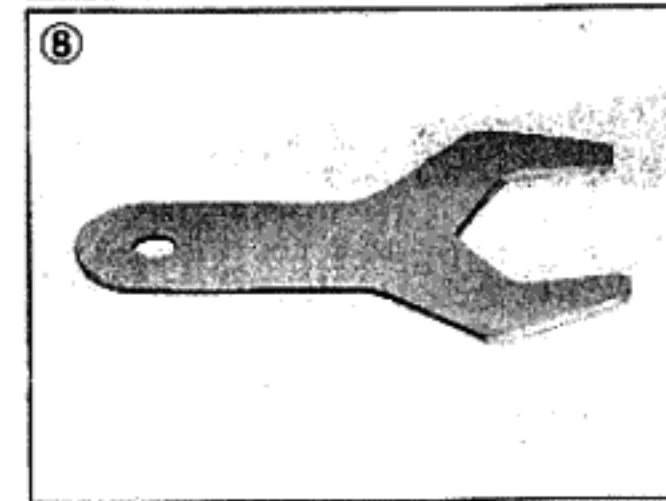
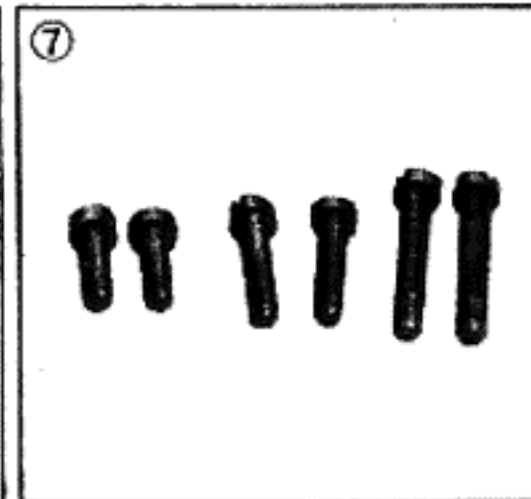
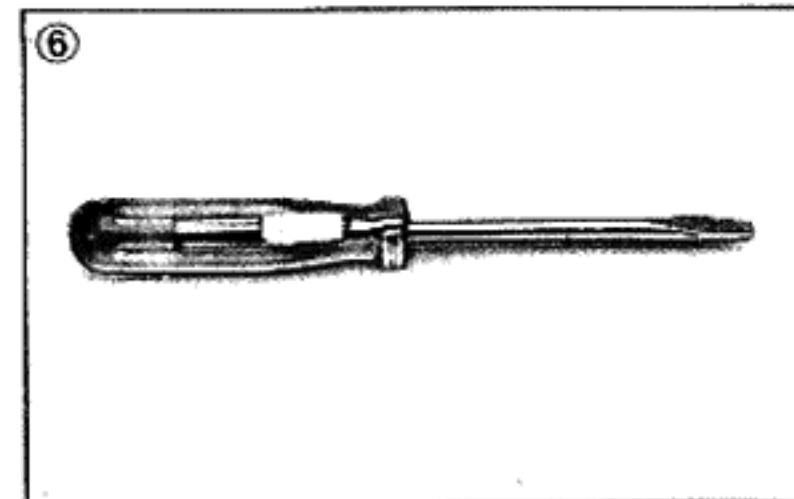
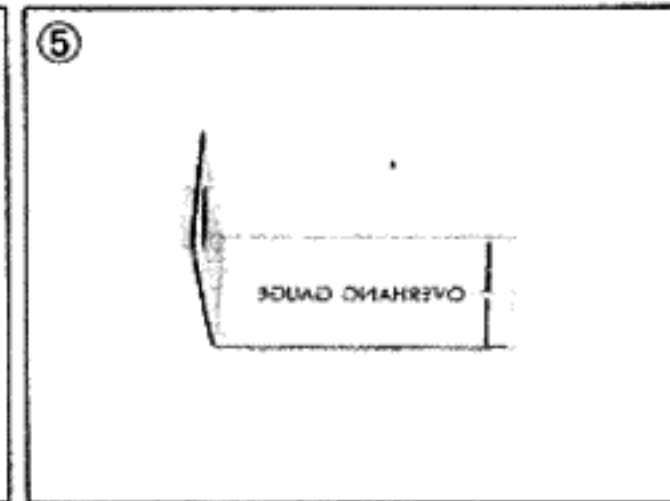
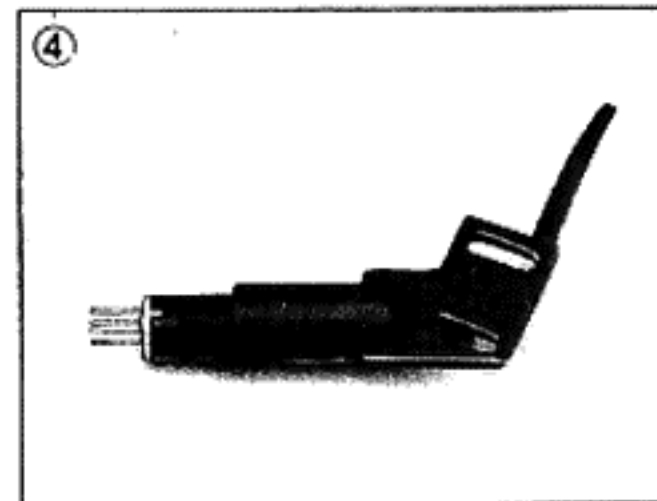
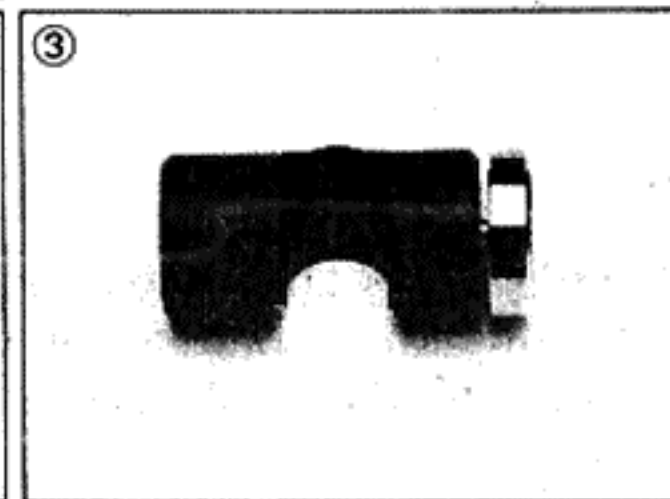
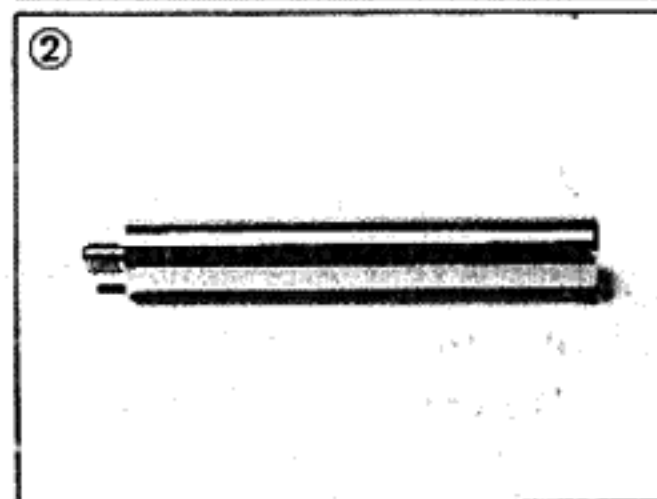
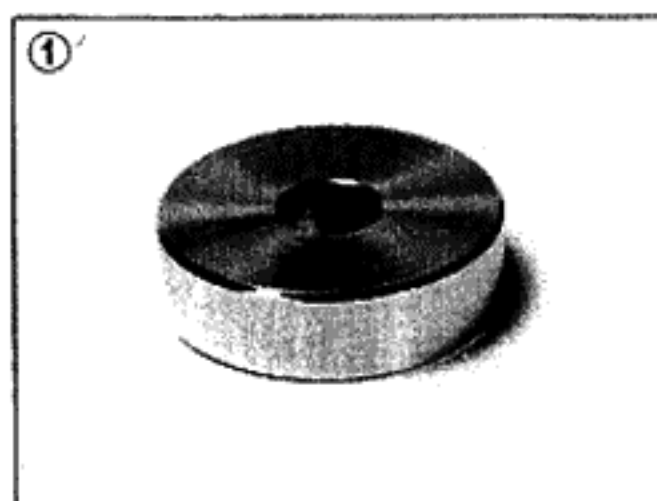


Photo 2

# Tonearm installation

## ● Mounting tonearm

1) Place the template on the motor board as shown in photo 3, and settle the position where the tonearm is to be mounted.

Caution: When selecting the tonearm installation take care that the position chosen does not interfere with the drive motor, but instead will allow smooth operation.

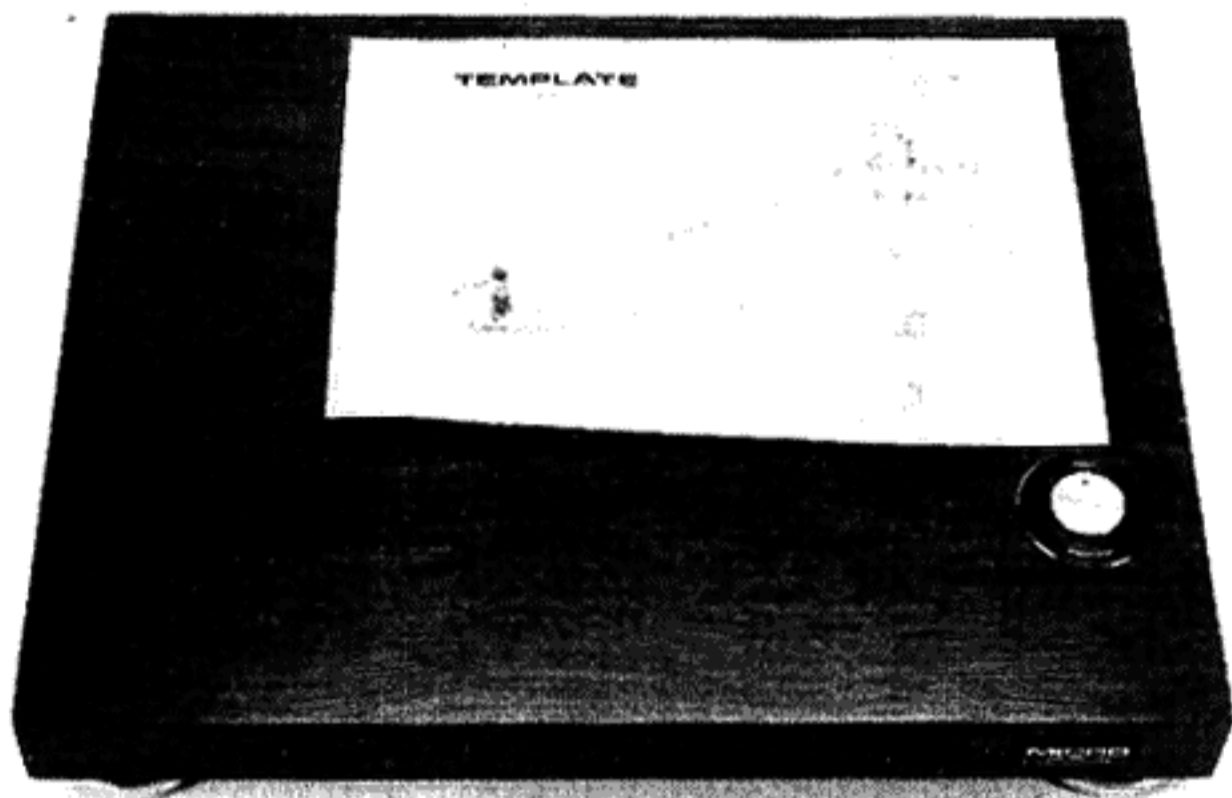


Photo 3

2) After settling the tonearm position, drill a 28mm diameter hole for the tonearm base.

3) Insert the tonearm base into the mounting hole, and secure it temporarily by the nut. If using the motor board that is more than 30mm thick, make the hole cut larger only from backside until the armbase shaft comes out.

4) Pass the output cable through the armbase hole, and plug the output cable into the tonearm shaft connector. photo 4.

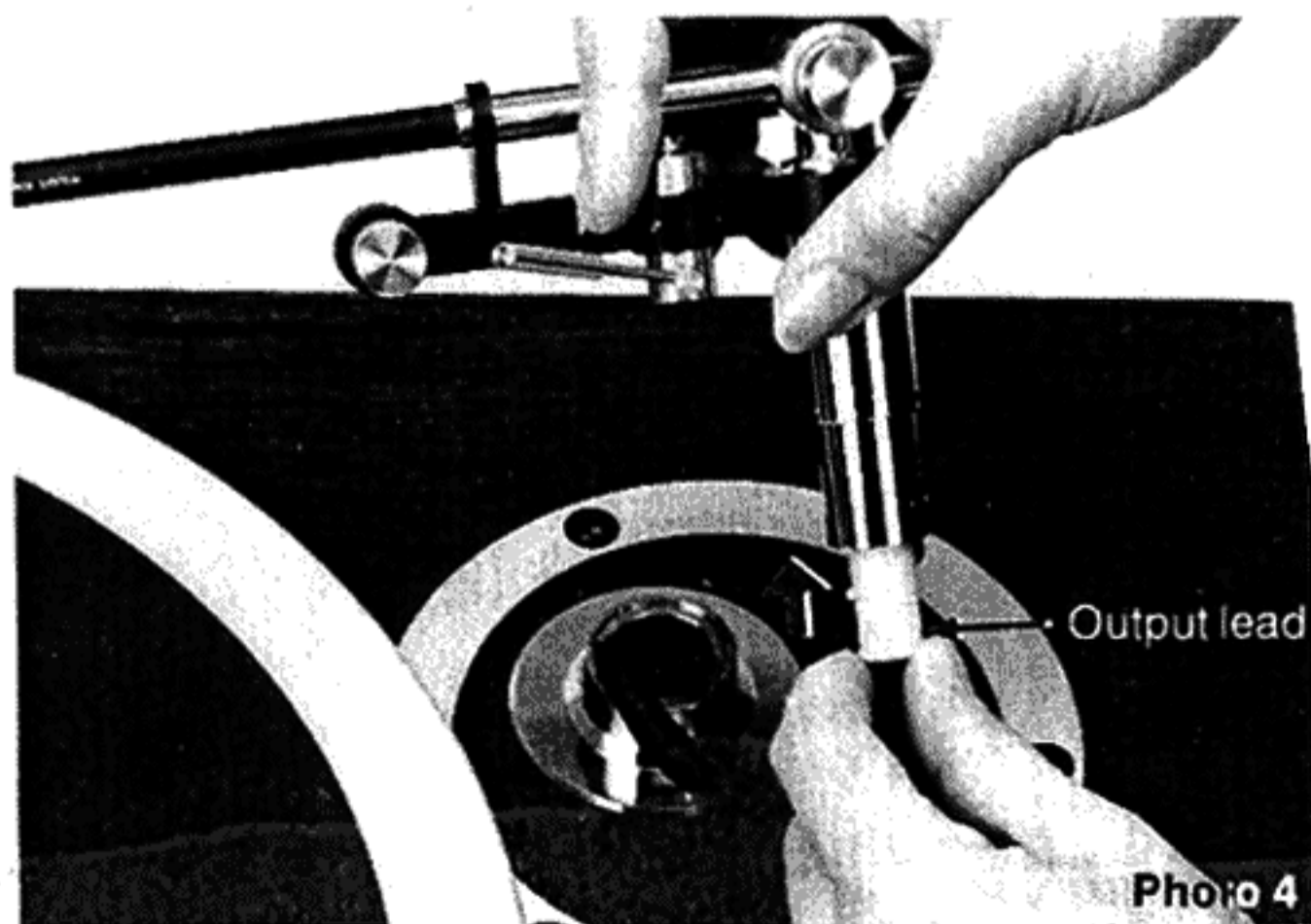


Photo 4

6) Set the tonearm at an angle of  $60^\circ$  as shown in fig. 2, and secure it.

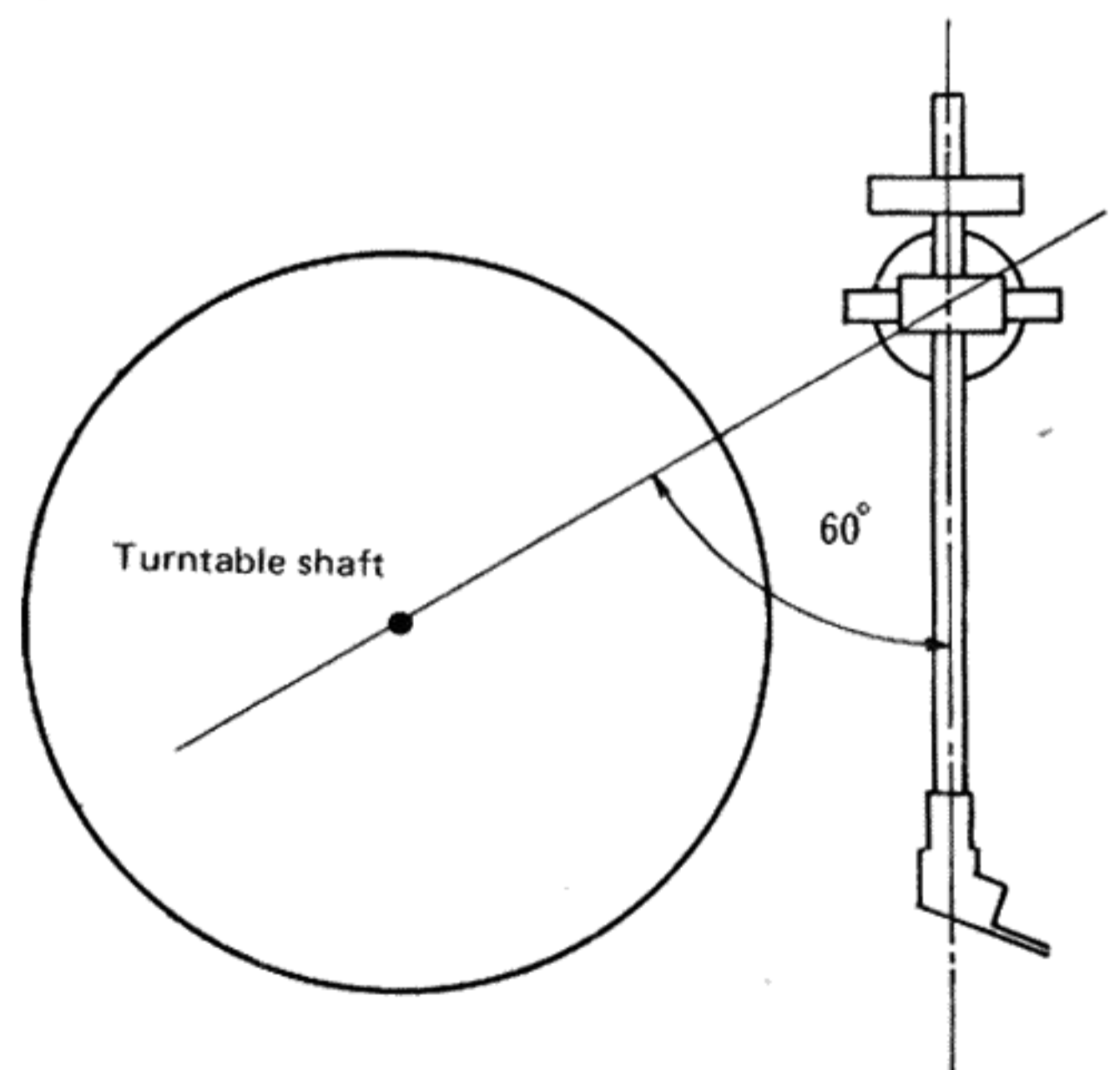


Fig. 2

# Tonearm assembly

## ● Cartridge installation and adjustment

### 1) Installation

Install the cartridge into the headshell provided using screws of a suitable length (see fig. 3).

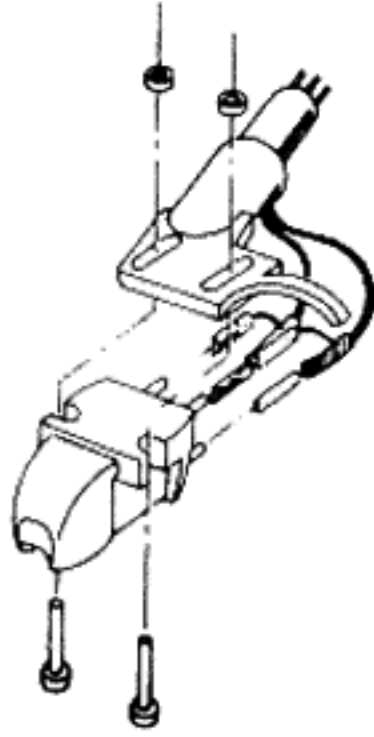


Fig. 3

### 2) Cartridge connection

Connect the headshell leads to the cartridge using tweezers as shown above. Take care to make these connections correctly as error will lead to hum or output signal failure. The colors of the leads are as follows:

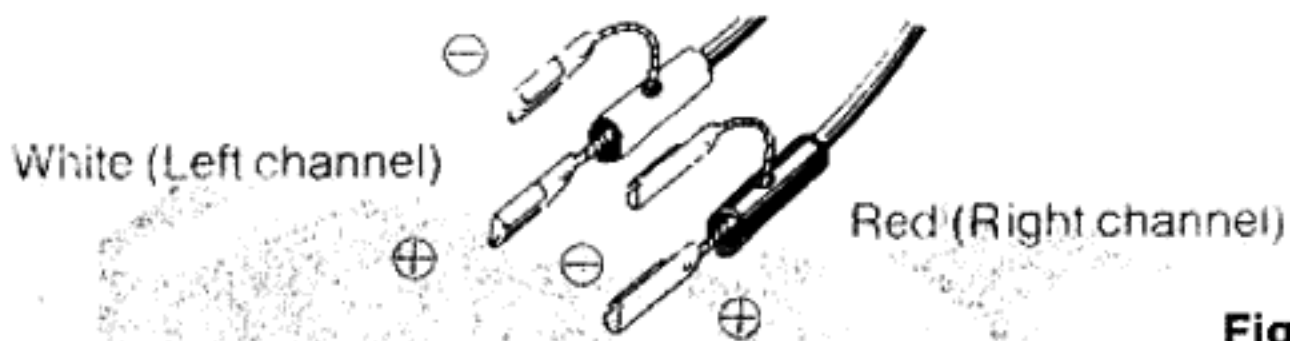


Fig. 4

### 3) Overhang adjustment

The MA-707 is designed to operate with minimal tracking error when the overhang is 15 mm. In order to adjust the cartridge correctly, place the enclosed overhang gauge over the headshell as shown in photo 5. Loosen the cartridge securing screws and align the stylus to the line middle on the gauge by moving the cartridge either forward or backward. (photo 5) When a different cartridge is installed in the headshell, be sure to readjust, using the method described above.

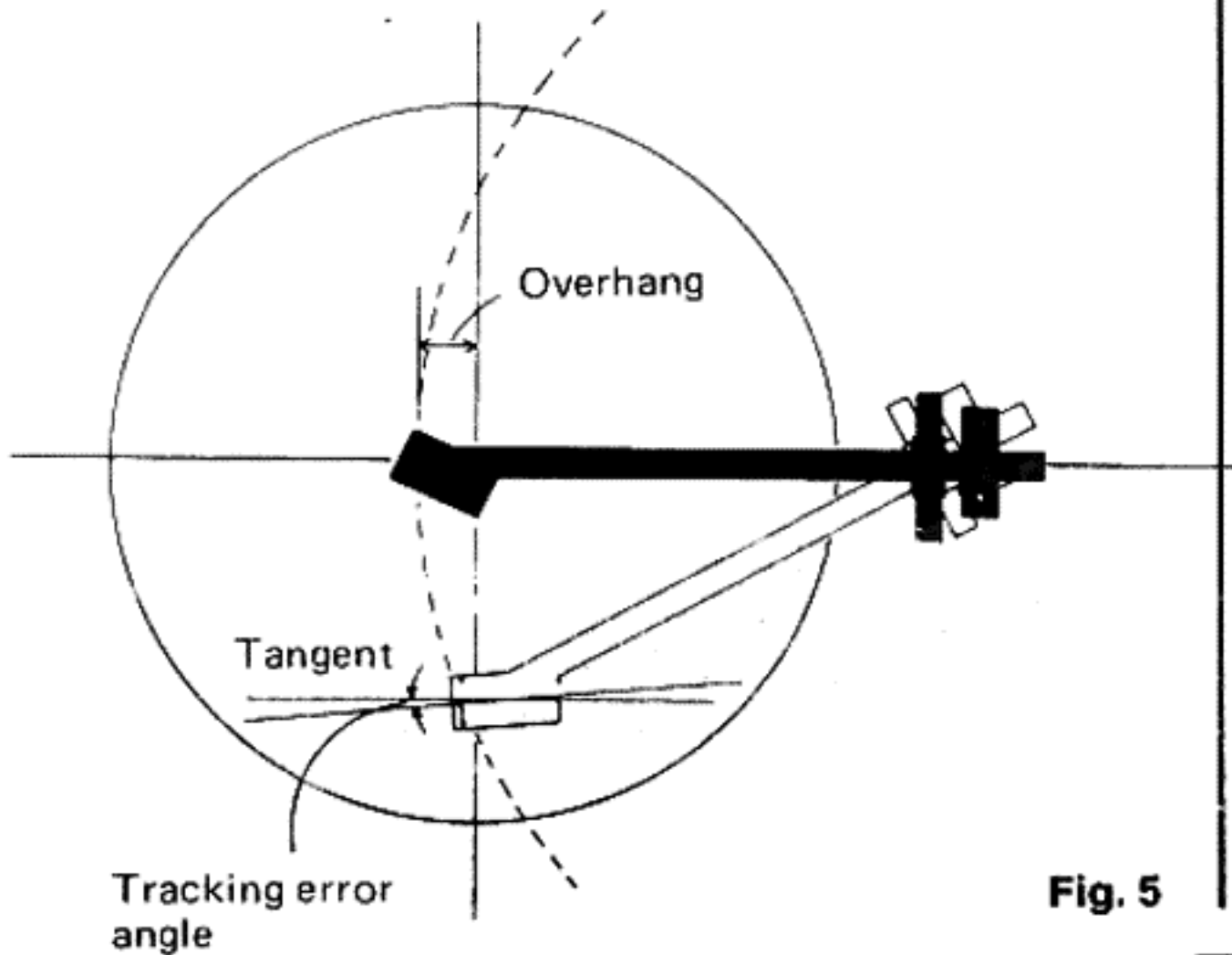


Fig. 5

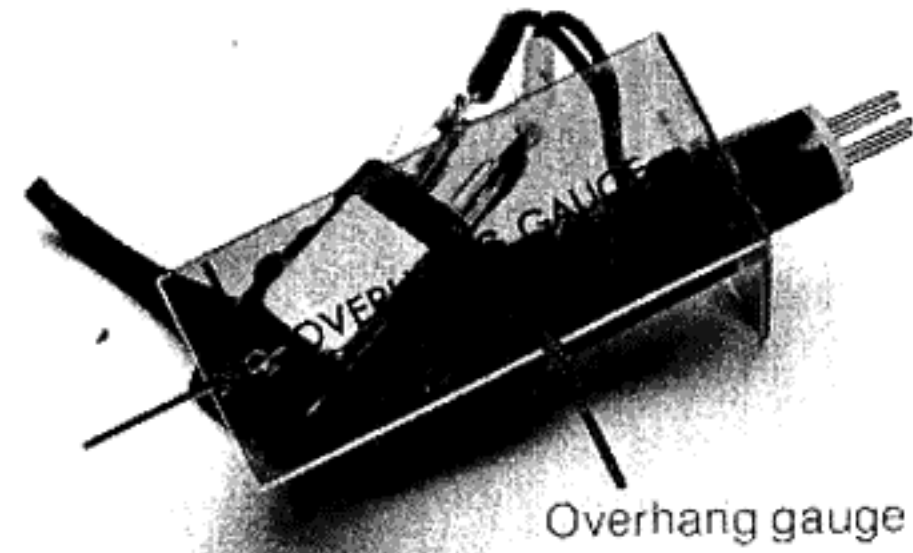


Photo 5

## ● Tonearm assembly

Secure the tonearm in the arm rest. Then mount the counterweight onto the end of the tonearm shaft, turning it in the direction shown in photo 6.

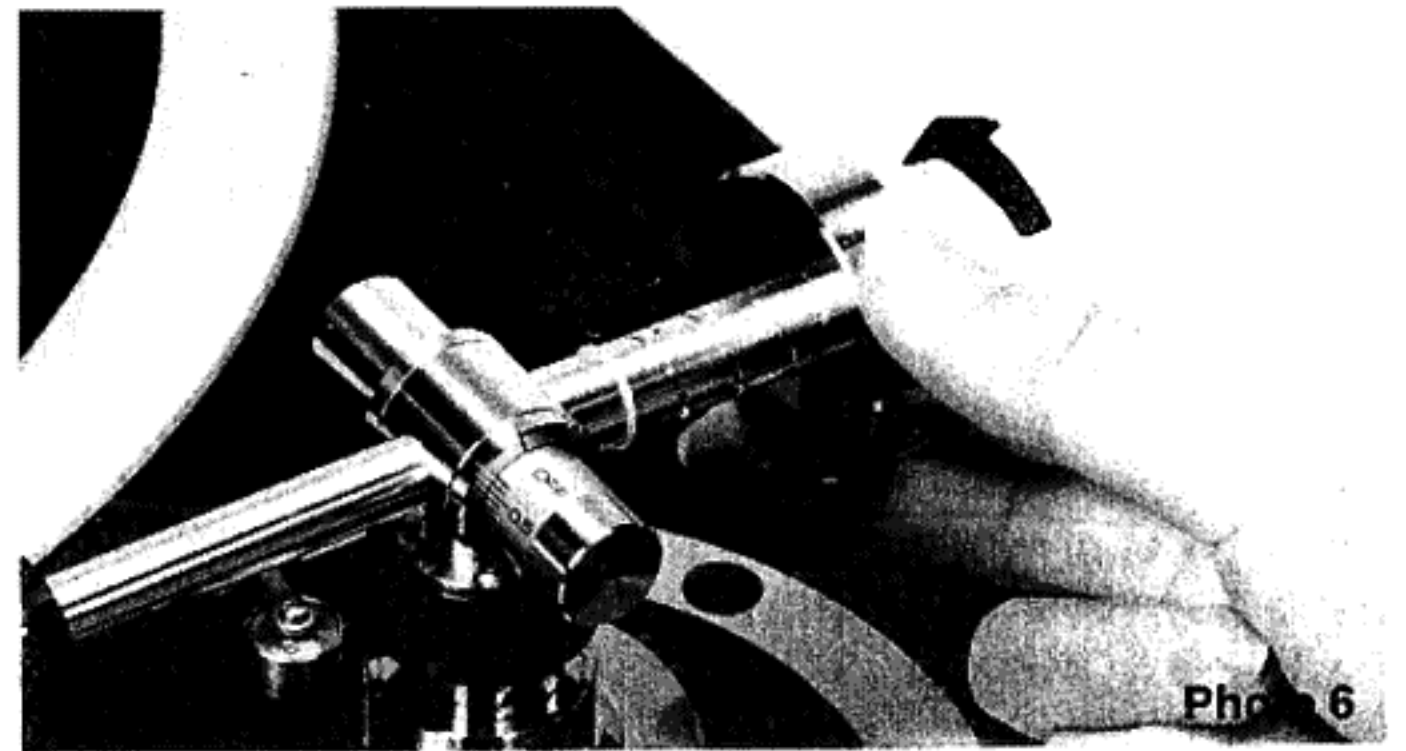


Photo 6

Install the shell with cartridge into the tonearm and secure it by the nut. (fig. 6 & photo 7)

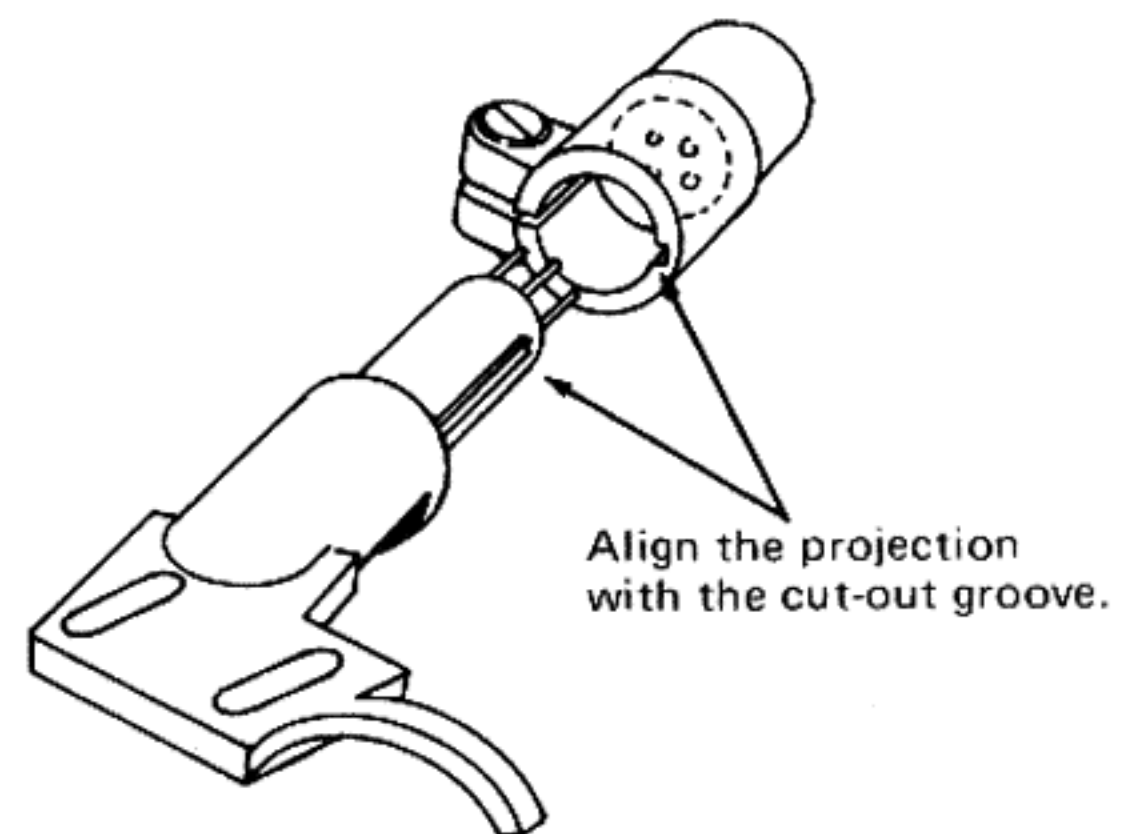


Fig. 6

# Tonearm adjustment

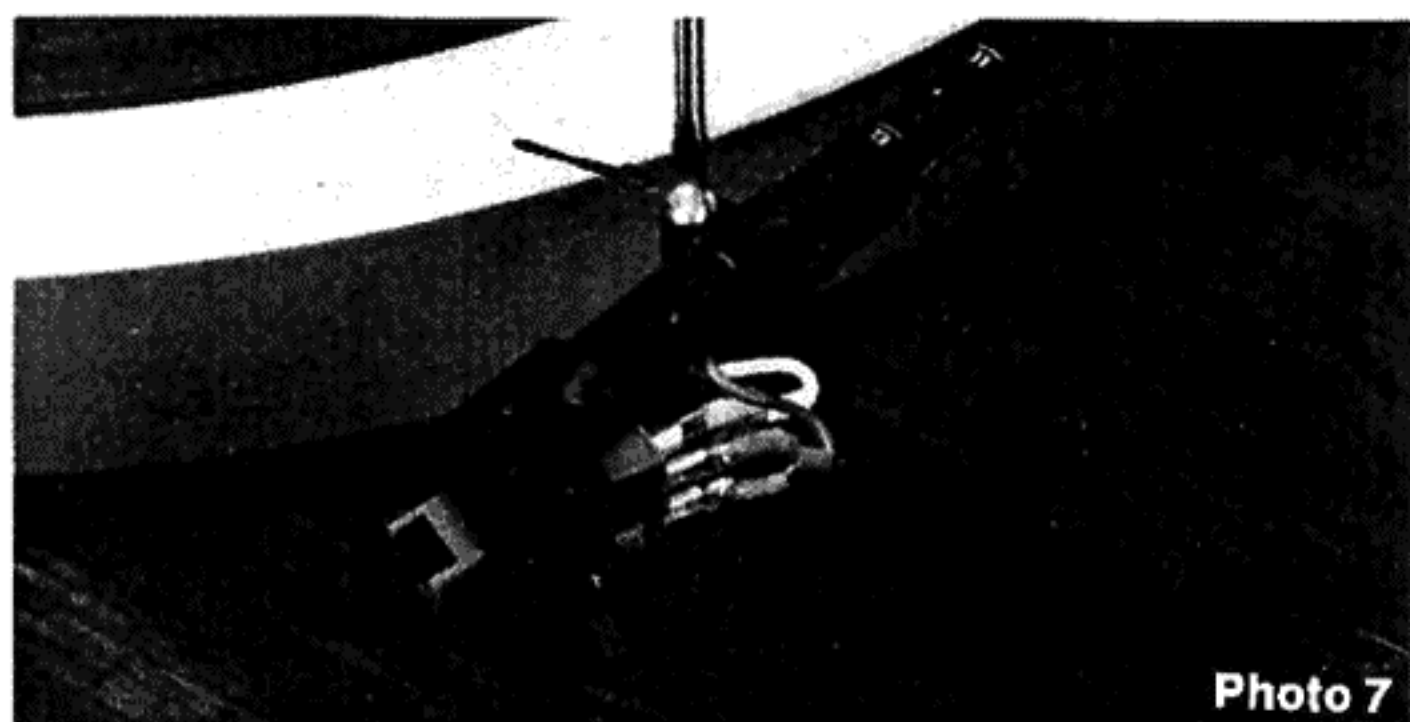


Photo 7

## ● Effective mass adjustments

In order to utilize characteristics of the cartridge enough, first of all, it is necessary to ascertain whether the total mass of the cartridge-tonearm assembly (the mass of the movable components of the tonearm such as its pipe) is compatible with the compliance of the cartridge being used. For example, if a high compliance cartridge is used in conjunction with a heavy tonearm, the resonance frequency ( $f_0$ ) will become extremely low, and brings bad tracing ability and also rumble. Generally the optimum resonance frequency is considered to be around 10Hz.

The MA-707 is designed so that the resonance frequency will be around 10Hz when used with medium to high compliance cartridges (practically all moving magnet type cartridges fall into this range). However, when using a cartridge with a relatively low compliance, it is possible to adjust the effective mass of the tonearm by using the additional weights provided and thereby make it possible to give full play to the characteristics of the cartridge being used.

Instances where use of weights provided is indicated

| Cartridge    | Recommended weight setting |
|--------------|----------------------------|
| Ortofon MC20 | 9                          |
| Grace F8F    | 10                         |
| Satin F117E  | 10                         |
| Victor X1-II | 10                         |

The compliance of a cartridge is indicated in the specifications of a cartridge. For example, a cartridge might have a compliance rating of  $25 \times 10^{-6} \text{cm /dyne}$ . The higher the first figure of this formula, which in this instance is 25, the higher the compliance. However, it is also true that the method of compliance rating indication is not standardized among manufacturers, there being the general indication (static indication) and a dynamic compliance indication, so for further details, it is recommended that enquiries be directed to the manufacturer of the cartridge that is to be used.

## ● Using weights provided

The securing knob of the weight provided is loosened and it is fitted onto the pipe of the tonearm as shown in the illustration. After it has been set to the recommended value, ascertain that the weight is fitted horizontally, after which it may be secured in position by means of the securing knob. When using the weights provided, be sure to also use the sub-weight into the tonearm end.

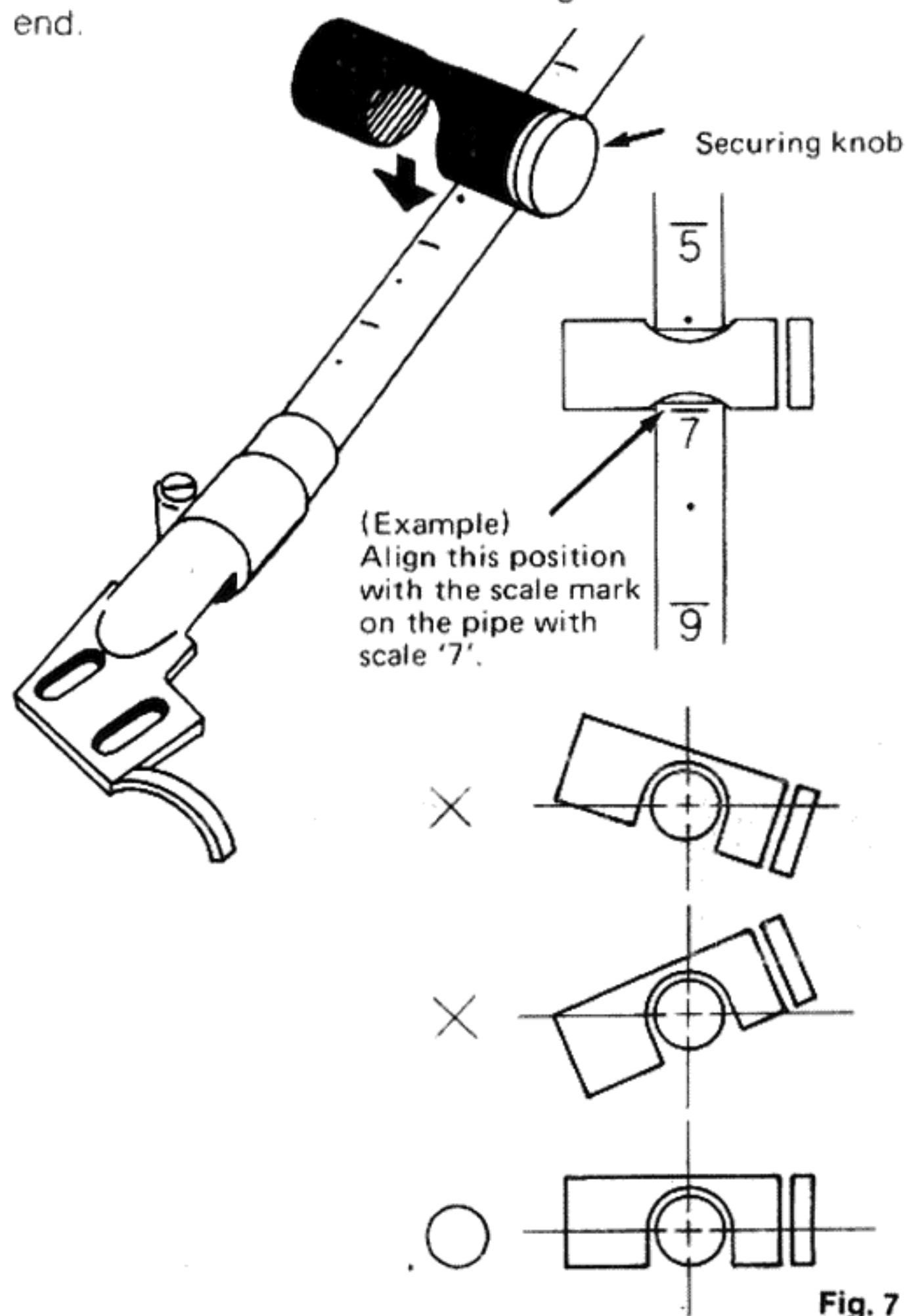


Fig. 7

## ● Sub-weight

When using the weights, the sub-weight must also be used. The sub-weight is fitted into the tonearm end as shown in Figure 8, turning it in the direction of the arrow as far as it will go.

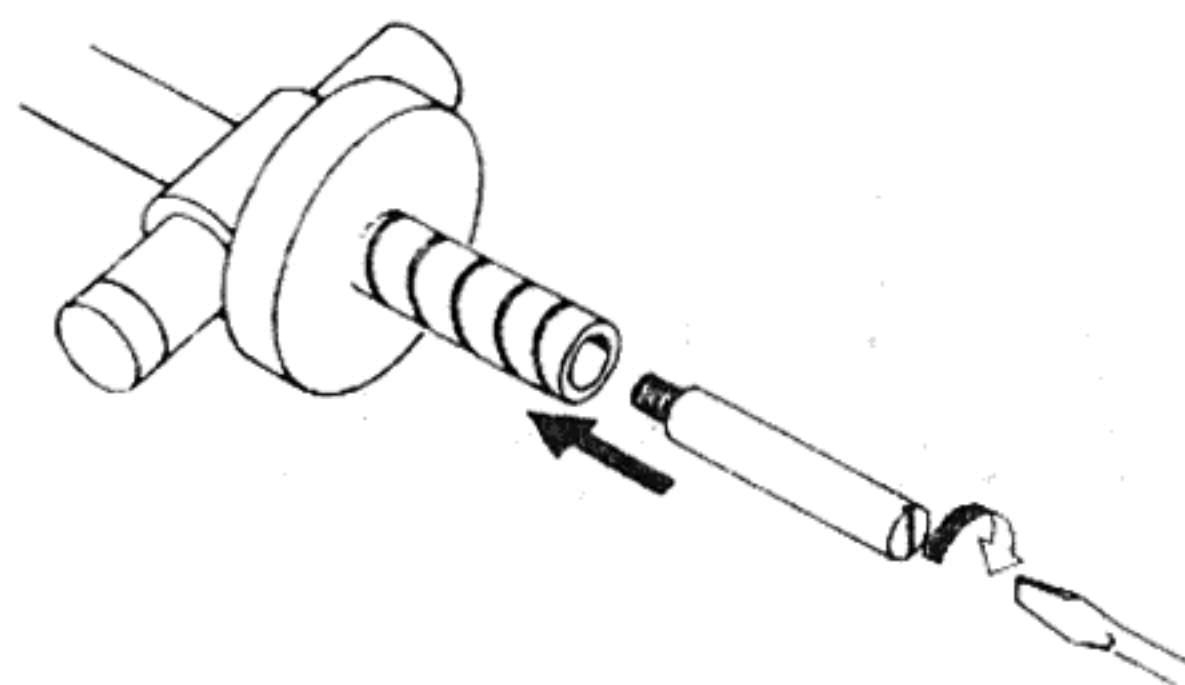
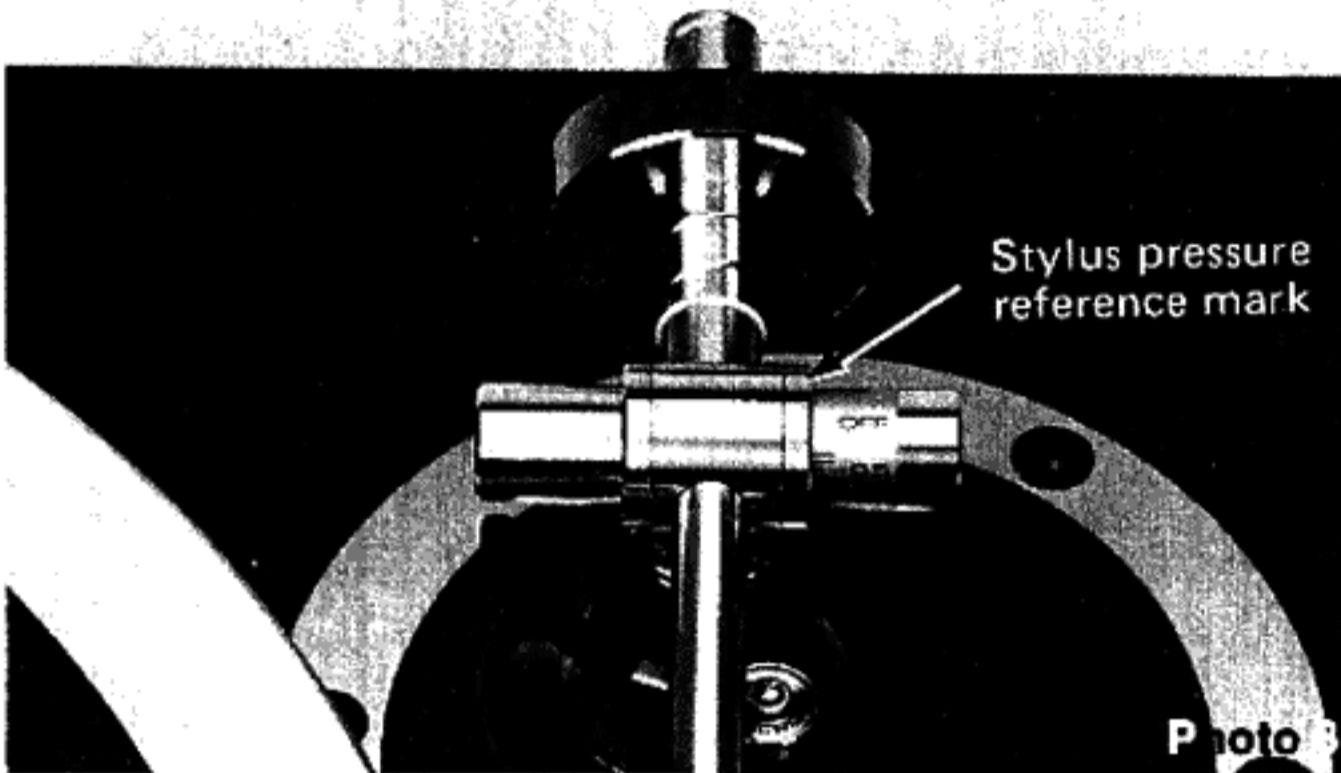


Fig. 8

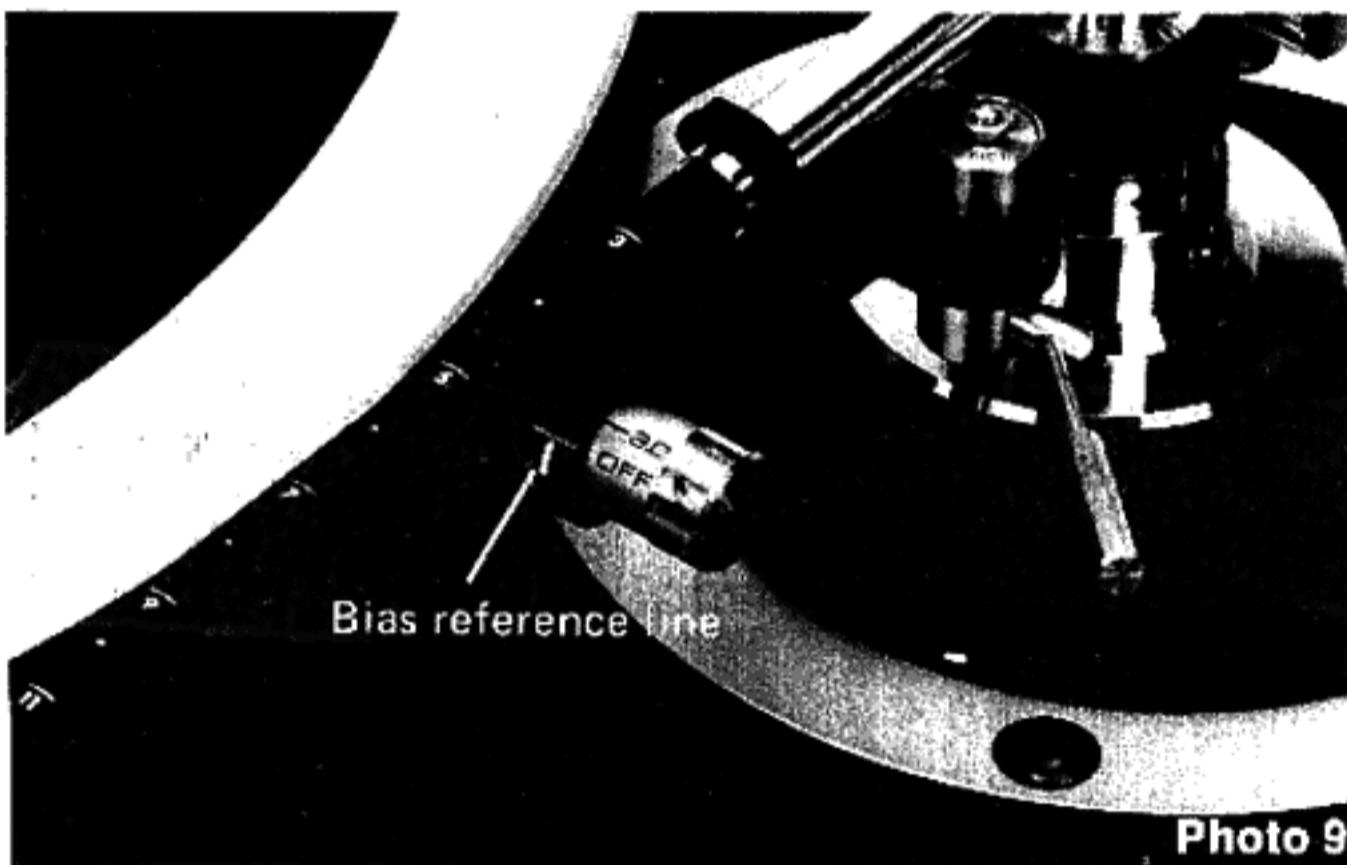
# Tonearm adjustment

## ● Adjusting horizontal balance

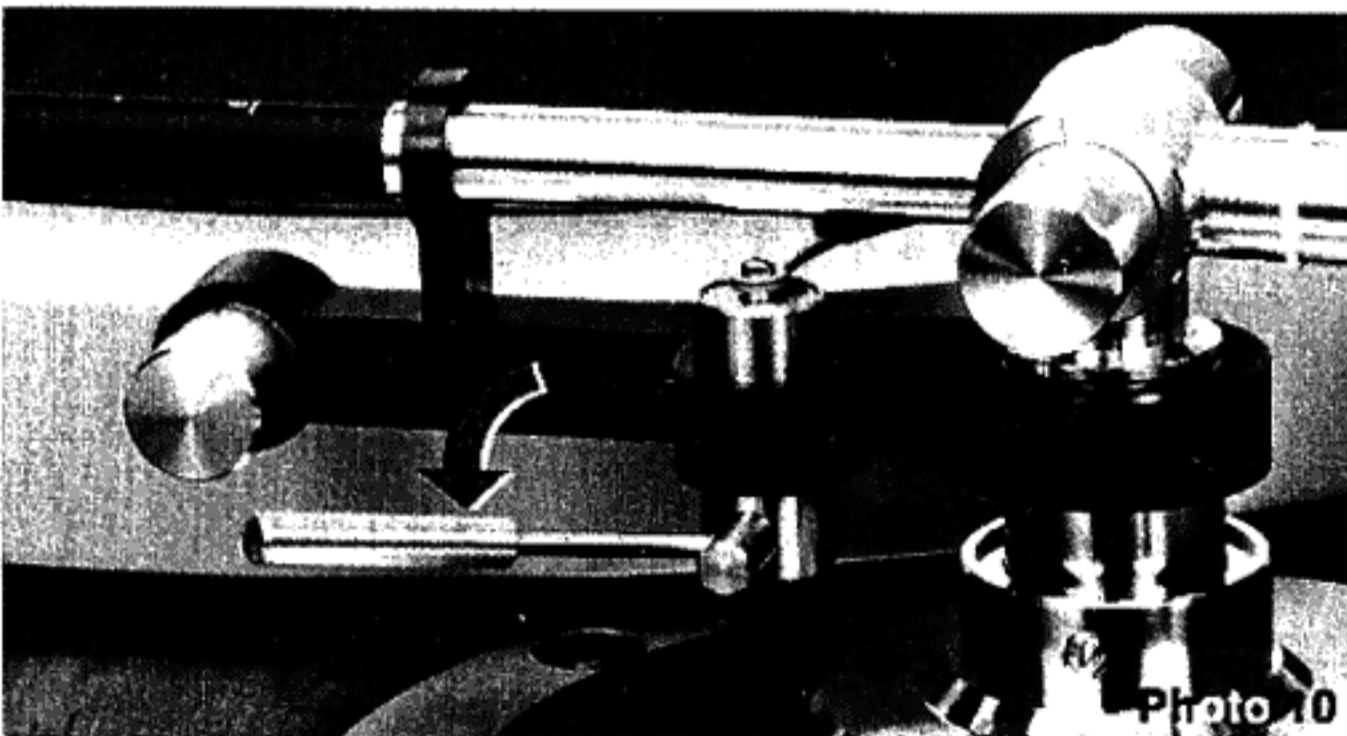
1) Align OFF on the stylus pressure knob to the stylus pressure reference mark, as shown in photo 8.



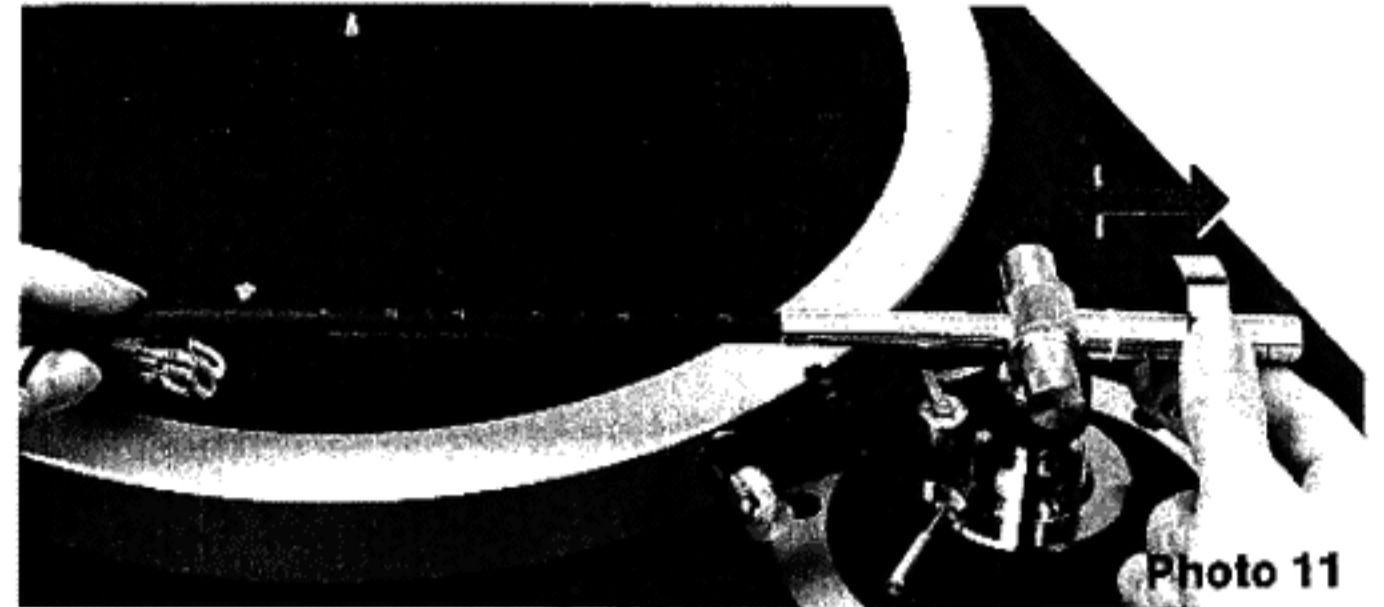
2) Align OFF on the anti-skating control knob to the bias reference line. (photo 9)



3) Lower the arm lift lever as pictured in photo 10, then release the tonearm from the arm rest.

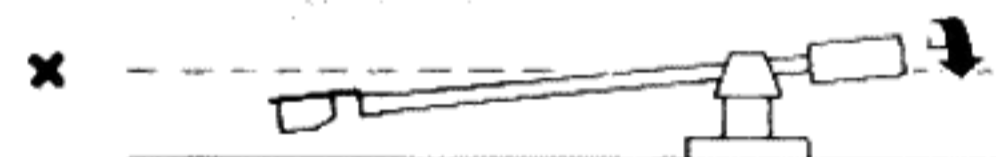
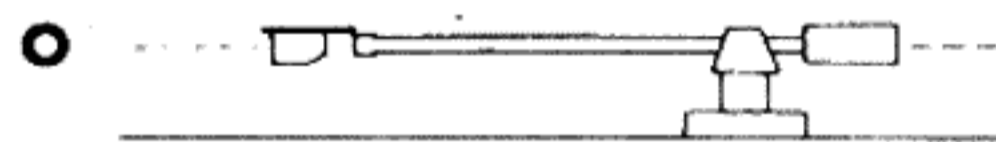


4) Supporting the headshell and counterweight as illustrated in photo 11, turn the counterweight, moving it backward or forward, until the proper balance is achieved.



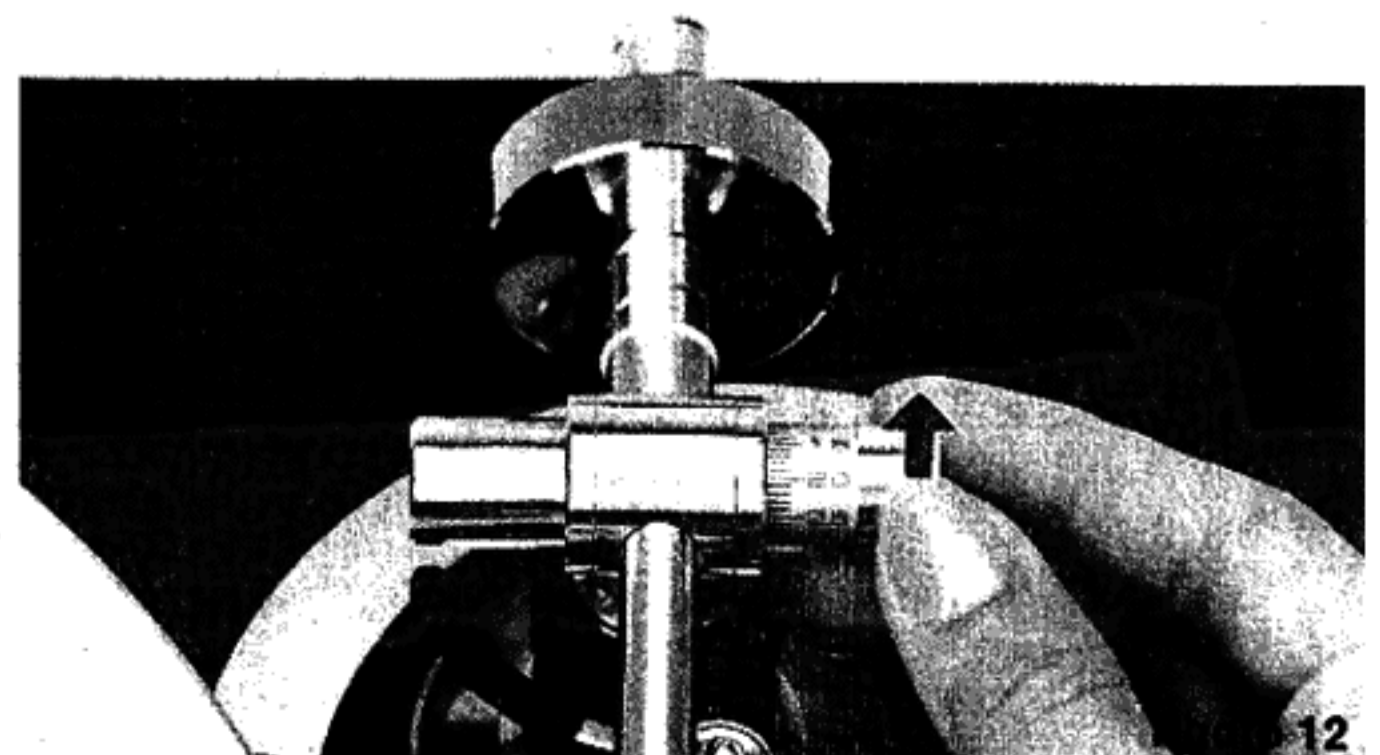
5) Tonearm balance is achieved when (1) the cartridge weight and counterweight cancel each other out; and (2) on release, the tonearm adopts the position shown in fig. 9.

The example in fig. 10 illustrates too much weight at the counterweight end of the tonearm shaft. Turning the counterweight in the direction indicated will achieve correct balancing. On the other hand, the example in fig. 11 shows too little weight at the counterweight end of the tonearm shaft. Turning in clockwise direction as indicated will rectify this imbalance.



## ● Application of tracking force

Turn the tracking force adjustment knob and set a value which is suitable for the installed cartridge to the tracking force level line. If, for example, the cartridge to be used operates at a tracking force of 1.5 grams, turn the adjustment knob until the 1.5 mark on the scale is opposite the level line (see photo 12).

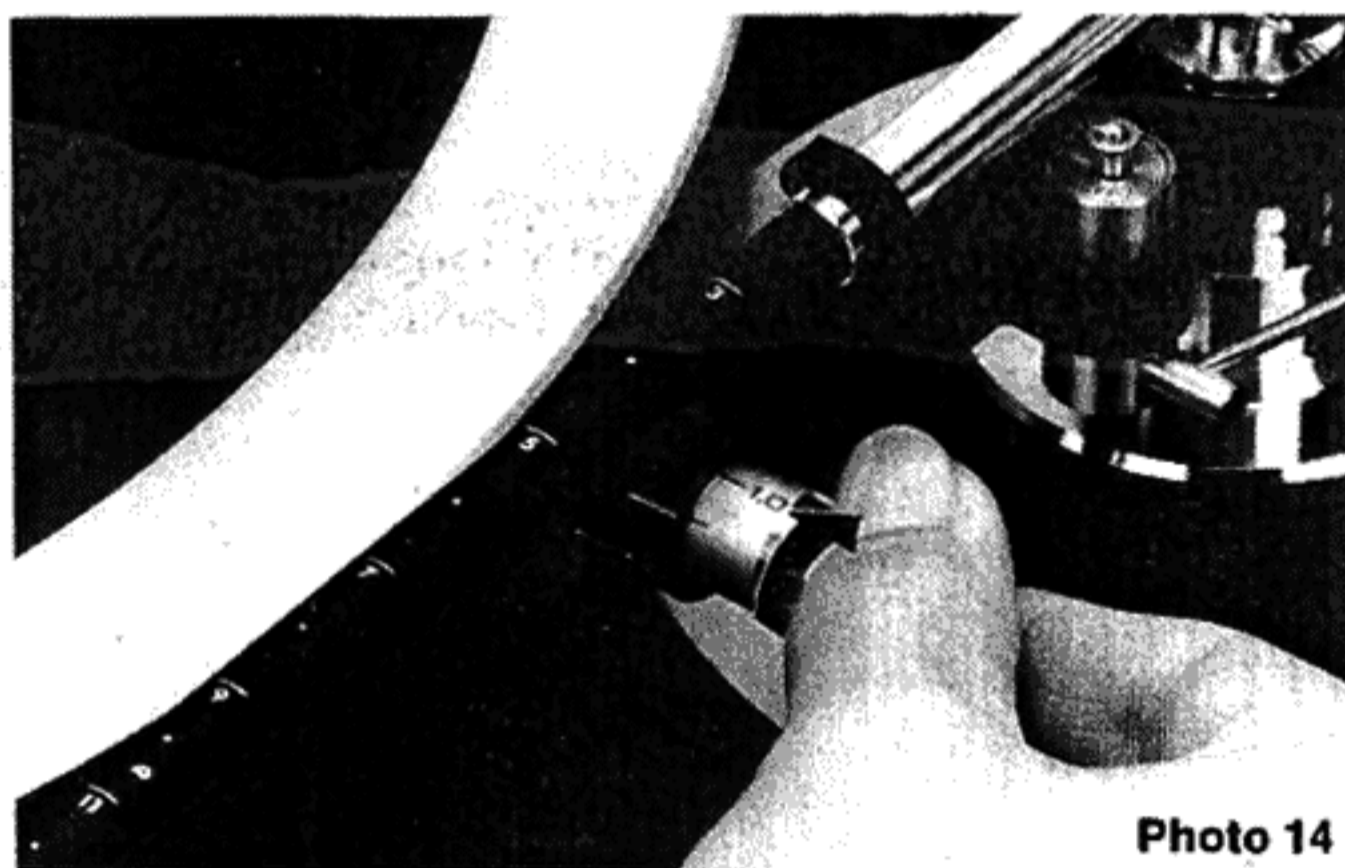


# Tonearm adjustment

## ● Anti-skating adjustment

This mechanism cancels the force that tends to pull the stylus toward the center of the record during playing. It functions to always provide even pressure between left and right record groove walls.

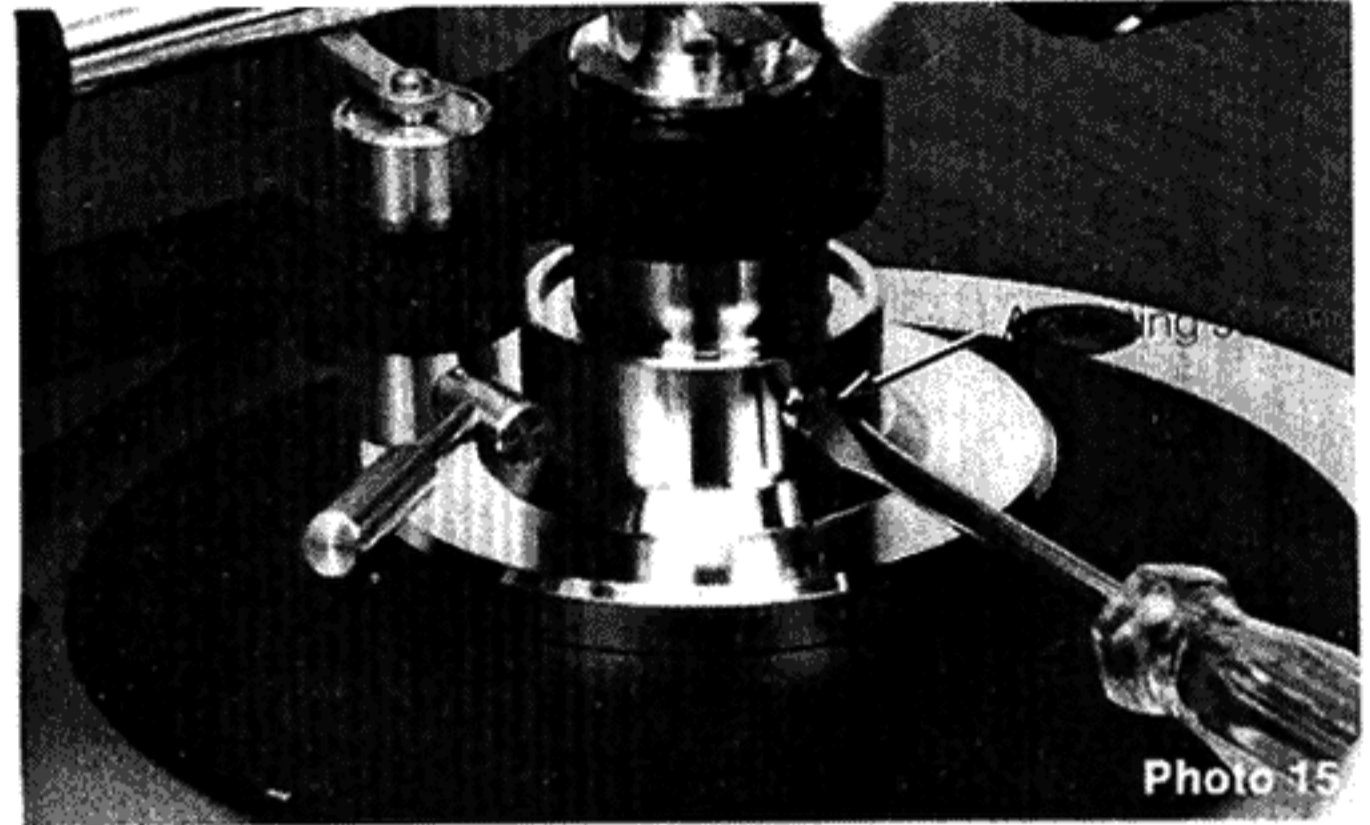
Since the anti-skating device of the MA-707 responds to the tracking force, set the bias knob (photo 13) to the same value as the tracking force of the employed cartridge.



## ● Adjusting tonearm height

The height of the tonearm must be adjusted so that it is parallel to the surface of the record. This height will determine depending upon the cartridge being used.

Place a record on the turntable, move the tonearm to a place over the record groove, and lower the tonearm lifter. Loosen the height adjusting screw of the tonearm and adjust the height of the tonearm so that the tonearm is parallel to the surface of the record when viewed from the right side of the turntable. (photo 15, fig. 12)



Adjust so that the tonearm is Parallel with the surface of the record

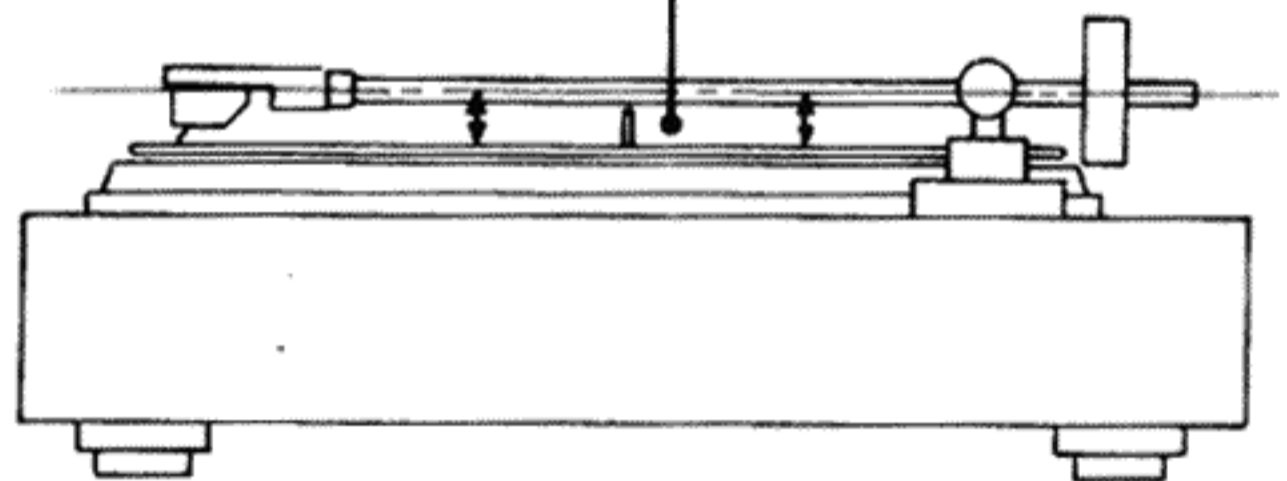
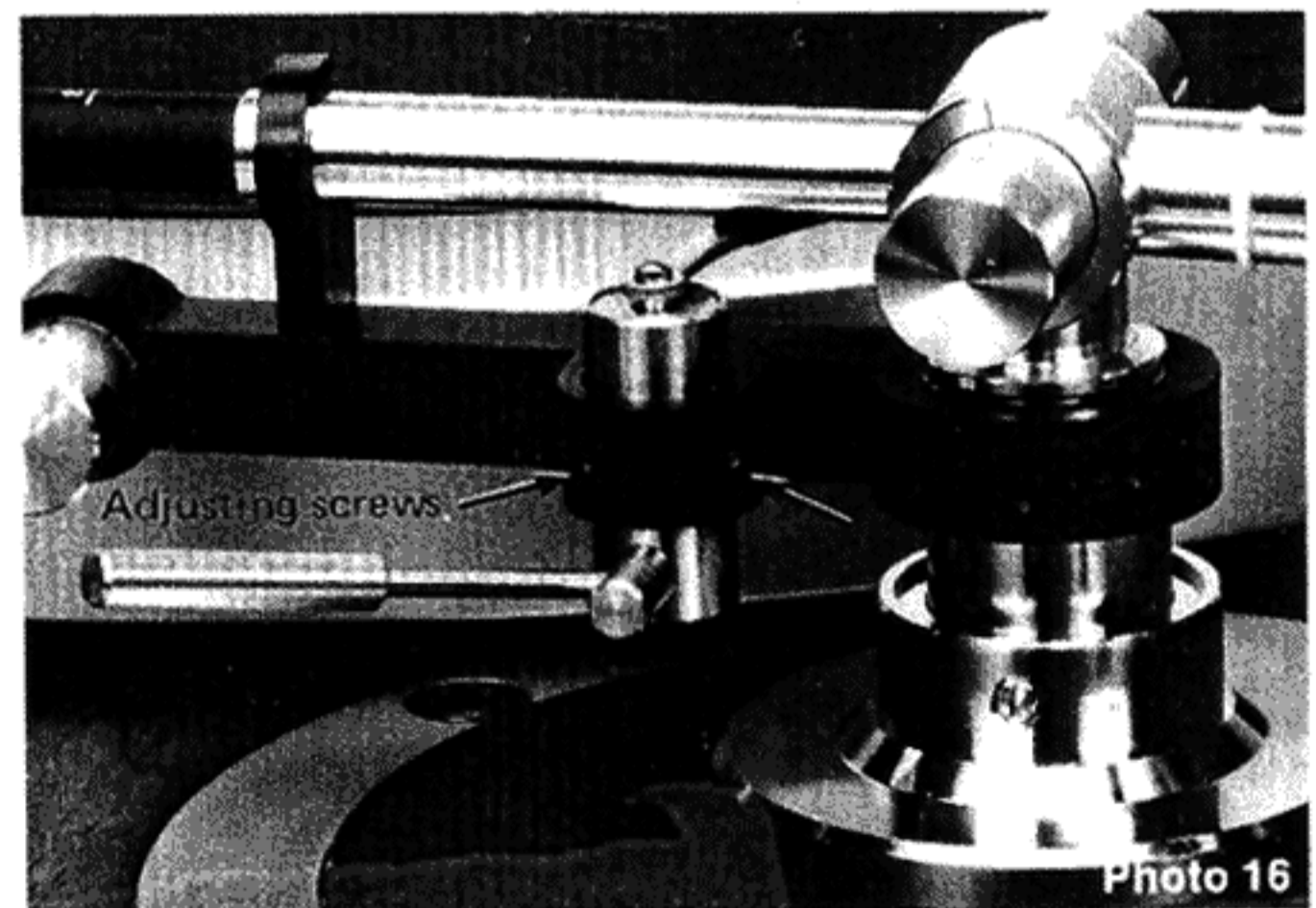
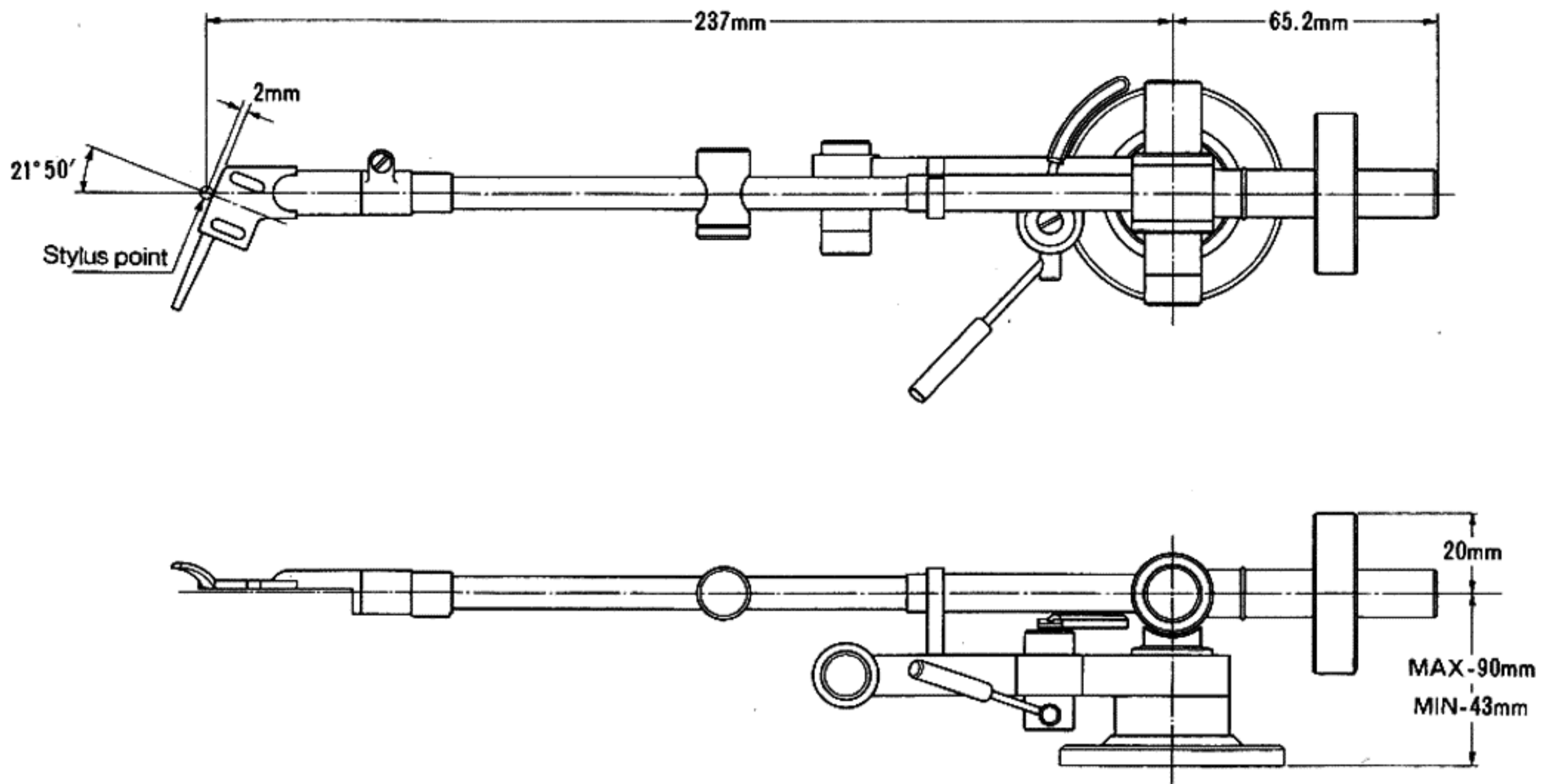


Fig. 12

## ● Adjustment of the arm lifter operation range

Raise the arm lift lever and move the tonearm to a point above the record surface. Determine whether the distance between the stylus and the record surface is adequate. If necessary, regulate the adjusting screw as illustrated in photo 16.





MA-707  
 Dynamic balance tonearm  
 Overall length 315mm (12-3/8 inch)  
 Effective length 237mm (9-3/8 inch)  
 Overhang 15mm (5/8 inch)

■ MA-707 Specifications

Type ..... Dynamic balance tonearm  
 Overall length ..... 315mm (12-3/8 inch)  
 Effective length ..... 237mm (9-3/8 inch)  
 Overhang ..... 15mm (5/8 inch)  
 Offset angle ..... 21°50'  
 Tracking error angle ..... Less than 1.5°  
 Height range ..... 43~83mm (1-3/4~3-1/4 inch)

Recommended cartridge

weights ..... 4~12g (0.14~4.2oz)  
 Lateral motion sensitivity . 10mg  
 Vertical motion sensitivity 15mg  
 Anti-skating device ..... Spring tension type  
 Establishing of anti-skating force ..... Relative to stylus pressure  
 Tonearm lifter ..... Delayed action type  
 Output cable ..... 5-connector plug-in low capacity design (55PF/m) shielded cable  
 Headshell weight ..... 4g (0.14 oz)  
 Connector ..... Semi-integrated type, with hard gold plating