- Installing the Platter
1. Confirm that the belt is properly set on the drive surface in the platter. Pull a part of the ribbon out of the hole (Fig. 1) and fit the platter to the shaft.
2. Find the pulley position by manually turning the platter with the ribbon and held between fingers.
3. Set the belt on the pulley by pulling the ribbon with fingers.
4. Turn the platter slightly and remove the ribbon from the belt.
5. Manually turn the platter several times and confirm whether the belt is properly on the pulley by watching through the finger hole.

- Assembling and Adjusting the Tonearm
- Mounting the cartridge
The model BL-10X does not come with a phono-cartridge and so mount the cartridge, as shown in the figure, to the headshell integrated with the pipe (accessory) using screws with a length corresponding to the cartridge.

- Connecting the cartridge
Connect the headshell's leads to the cartridge using tweezers. Perform these connections correctly; otherwise, there may be no sound or a humming sound will be generated. The color coding of the leads is as below. (Fig. 3)

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L (+) White</td>
<td>Red R (+)</td>
</tr>
<tr>
<td>L (-) Blue</td>
<td>Green R (-)</td>
</tr>
</tbody>
</table>

- Adjusting the overhang
(1) With straight pipe
Adjust by visual means the length on the center line of the arm pipe extending from the tip of the headshell to the stylus tip of the cartridge so that it is made 2 mm. A deviation of about 1 mm will not affect the tonearm movement or sound quality in any way. Make sure that the center line of the cartridge and the long holes of the headshell are made parallel.
(2) With S-shaped pipe (Option)
Attach the accessory overhang gauge and set the cartridge so that the stylus tip is positioned at the gauge's "X" mark.

Photo. 3

- Assembling the tonearm
Mount the arm pipe onto the arm itself and rotate the arm pipe anchoring screw to secure. Make sure that no unnecessary force is applied to the arm bearing section while you are doing this. Also ensure that no foreign matter is allowed to penetrate the connector parts. (Photo 4)

Slide the main weight onto the rear of the arm pipe by rotating it in the direction of the arrow. (Photo 5)

- Adjusting the horizontal balance
BL-10X incorporates a static-balance type tonearm, which offers a proper stylus pressure by properly maintaining the horizontal balance when the cartridge is mounted. In the case of a tonearm whose cartridge stylus cover can be detached, the cover should be detached when maintaining proper horizontal balance.

1. Depress the power switch to confirm that the lifter is lowered. After the confirmation switch the power off (see turntable operation).
2. Fit the lateral weight into the lateral shaft and temporarily fix it there.
3. Set the antiskating indicator to Zero.
4. Detach the tonearm from the arm rest.
5. Lift the arm rest slightly and turn it towards yourself.

Fig. 5

(6) Supporting the headshell and counter weight as shown in photo 7, turn the counter weight, moving it backward or forward, until the proper balance is achieved.

Photo. 7

The horizontal balance means that when the tonearm is released, the cartridge end and main weight end will be properly balanced, as shown in Fig. 6. In Fig. 7 the main weight is too heavy and so it should be rotated to the right in the direction of the arrow. In Fig. 8 the cartridge is too heavy and so the main weight should be rotated to the left in the direction of the arrow. Repeatedly perform this adjustment so that the tonearm is balanced horizontally as in Fig. 6.

Fig. 6

Fig. 7

Fig. 8
**Compatible cartridge weight**

**Straight pipe**

<table>
<thead>
<tr>
<th>Weight used</th>
<th>Compatible cartridge weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight standard weight (accessory to main unit)</td>
<td>4 ~ 9 g</td>
</tr>
<tr>
<td>Above weight + SW-10XA, optional sub-weight</td>
<td>10 ~ 14.5 g</td>
</tr>
</tbody>
</table>

**S-shaped pipe (Option)**

<table>
<thead>
<tr>
<th>Weight used</th>
<th>Compatible cartridge weight (including headshell)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-shaped standard weight (accessory to main unit)</td>
<td>12.5 ~ 20 g</td>
</tr>
<tr>
<td>S-shaped standard weight + SW-10XA, optional sub-weight</td>
<td>20 ~ 27 g</td>
</tr>
<tr>
<td>S-shaped standard weight + SW-10XB, optional sub-weight for old Ortofon SPU-series MC cartridges, pre-mounted with heavy Zn headshell.</td>
<td>27 ~ 32 g</td>
</tr>
</tbody>
</table>

- **Using the optional sub-weight**
  Depending upon your cartridge weight, it is required to provide the cartridge with a sub-weight. While normally the main weight (accessory) takes care of operation of the cartridge whose weight is up to 4 ~ 9g, the operation of the cartridge weighing over 10g will require a sub-weight (option). The sub-weight is equipped in such a way that the main weight is removed from the tonearm and then the sub-weight is screwed into the tonearm rear in the direction of the arrow. When it has completely been screwed, fit the main weight as shown in Photo 5. Adjust the horizontal balance by turning the main weight, taking the cartridge weight into consideration.

- **Adjusting the lateral balance**
  In the case of knife-edge type tonearm with which BL-10X is provided, unless weight balance is maintained between the right and the left of the knife-edge, no favorable performance and tone quality will be assured. It means that the lateral balance is necessary. Lifting the rear end of the turntable a little causes the tonearm to shift in either way unless lateral balance is attained (Photo 8). Adjust the arm so that it may stand still by sliding the lateral weight in the direction the tonearm shifts. In the case of using a S-shaped pipe (option), large lateral weight should be applied. When the lateral balance is attained, restore the arm rest to the original position and set the tonearm on the arm rest.

- **Adjusting the antiskating**
  Antiskating device serves to apply the uniform pressure (stylus pressure) on both sides of the record groove by cancelling the force arising from the record turn and pulling the tonearm to the inner side during play. The scale has been designed to match the tracking force, i.e., if you are tracking at 1.5 grams, put the antiskating indicator on 1.5. (Photo 11)

- **Adjusting the tracking force**
  After balancing the tonearm, return it to the arm rest and raise the arm lifter. Turn only the tracking force adjustment ring and set the reference line to zero. In this case, caution is recommended to keep the main weight in standby, because unstable main weight will break the horizontal balance.

Next, turn the rear part of the main weight in the direction of the arrow so that the tracking force reference line is aligned with the used cartridge stylus pressure, such as 1.5 scale indication for 1.5 grams recommended cartridge.

Adjustment of tonearm horizontal balance, stylus pressure, lateral balance and antiskating should be conducted always in replacing the cartridge. Poor adjustment is responsible for abnormal wear on the stylus point, torsion in tone quality, difference in volume level between the right and left, deteriorated stroke, etc.
- Tonearm height adjustment

BL-10X is so designed as to allow the height adjustment of the tonearm to move upwards automatically by the aid of a spring when the lifter shaft locking knob is loosened. Consequently, adjust the tonearm height and lifter height by the following procedures:

1. Loosen the lifter shaft locking knob.
2. Loosen the height adjustment screw by the use of hexagon wrench (accessory) and lower the tonearm. When loosening the height adjustment screw, hold the tonearm securely with fingers so that it may not drop (Photo 12).
3. Tighten the lifter shaft locking knob in this position.
4. Place a record on the platter and move the tonearm to a place over the record groove.
5. Adjust so that the tonearm is parallel to the record.

(Photos 12, 13)

6. After the tonearm height adjustment, bring the lifter to an elevated position (see turntable operation).
7. Put the tonearm on to the record, holding it with fingers in such a way that the stylus point is 5 – 10 mm above the record surface.
8. Loosen the lifter shaft locking knob. Height adjustment will rise upwards until it strikes the guide plate and stops. Here, securely tighten the locking knob. Operation procedures described in Item (1) and (3) will not be required in shifting the tonearm height from low to high.

- Installing the Dust Cover

Insert the dust cover into the brackets provided on the rear of the turntable in the direction of the arrow.

(Photos 14, 15)

- Insulator height adjustment

The insulator is adjusted in plant to provide horizontality. In the case of applying a heavy accessory, e.g., stabilizer, etc., it is necessary to adjust the height of the insulator for attaining horizontality. Turn it with a screwdriver (accessory) as shown in Photo 14 and adjust the insulator height.
**Specifications**

**BL-10X**

- **Turntable**
  - Drive system: Belt drive with FG-servo controlled DC motor
  - Speed: 33-1/3, 45 rpm
  - Speed variable range: ±3%
  - Wow/flutter: 0.025% (watts)
  - S/N ratio: Better than 75 dB (DIN B)
  - Platter weight: 2.65 kgs (5.83 Lbs.) Incl. rubber mat, inertia moments 400 kg-cm²
  - Platter material: Cast aluminum
  - Power requirements: U.S.A. & CANADA 120V, 60 Hz.; Other areas 220–240V, 50/60 Hz
  - Power consumption: 5W at 120V and 220V
  - Dimensions: 450(W) x 352(D) x 160(H) mm
  - Weight: 12.5 Kgs
  - Base construction: Consists with 7 Kgs X style frame, made of new material and wooden top cover, finished with Virginia hickory (vynil)

- **Tonearm**
  - Type: Static balance tonearm with interchangeable pipe system
  - Knife edge style vertical bearing system, made of stainless steel
  - Effective length: 222 mm
  - Over hang: 15 mm
  - Maximum tracking error: Less than 1.5
  - Usable cartridge weight: 4–9 grams (straight pipe without sub-weight)
  - Vertical and horizontal sensitivity: 25 mg
  - Range of tracking force adjustment: 0–2 g direct reading
  - Antiskating: Corresponds to stylus pressure

**Fig. 14**

**Fig. 15**

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