Teres 200 Series
Turntable Manual

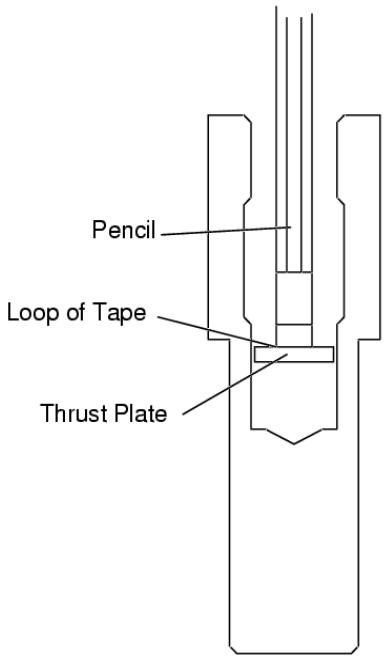
14-Feb-2007

I. Bearing Assembly

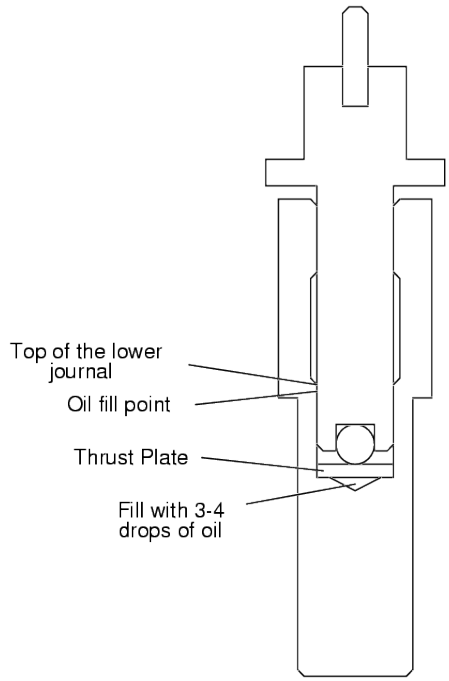
The Teres bearing was designed to have a lot of viscous damping. This damping helps swamp the effects of stylus drag, resulting in better speed stability. For this reason heavy oil (30 weight) is provided. With heavy oil the bearing will turn smoothly but there will be a lot of resistance. This is by design.

Please read this information carefully before assembling your bearing. The Teres bearing has been machined with very close tolerances. The radial clearance in the bearing is only 4 to 5 ten-thousandths. This tight tolerance results in superb stability reducing rocking to microscopic levels. However, with these tolerances it is imperative that the bearing is clean and that proper procedure is used for assembly. The objective is to have the bearing completely full of clean oil, including the recess in the top of the bearing housing. If air becomes trapped in the bearing it will not seat properly. The bearing must be assembled dry to avoid trapping air. Note: Your bearing assembly may come partially assembled. If any components are already installed they do not need to be removed and the step may be skipped. The procedure:

1. Using the included 6-32 screw attach the bearing ground wire (bare wire extending from the sensor cable) to the bottom of the brass bearing housing. Pointing the crimp connector toward the center of the bearing will make it easier to install the bearing into the base.
2. Attach the brass bearing housing to the base using the supplied 1-1/8" nut. Hold the bearing housing tightly in one hand and tighten the bearing nut with a large wrench or pliers. The bearing nut should be snug but not excessively tight.
3. Clean the bearing housing and spindle thoroughly. Wiping down the bearing surfaces with rubbing alcohol on lint free cloth works well.
4. Fill the recess in the bottom of the spindle with oil and press in the ball bearing. This displaces air in the recess and will hold the ball bearing in place. Be sure to completely wipe away any excess oil.
5. If not already installed place the brass thrust plate in the bottom of the bearing housing with the white Delrin button facing upward. The thrust plate needs to be held flat as it is lowered into the bearing. A simple method is to attach a small loop of tape to the end of a pencil. Then stick the thrust plate to the pencil and lower it in place. Be sure that the Delrin button is facing up!



6. Carefully pour 3.8ml of oil into the bearing housing without getting any oil on the sides of the bearing. The oil level should be just slightly below the top edge of the lower journal as shown in the illustration.



7. Insert the spindle into the bearing. The spindle will stop about 3/4" before it is fully seated. And if no air is trapped it will not feel spongy or pop up when released. If air is trapped you must start over.
8. Place the platter on the spindle. The platter will generally slide onto the spindle with only a small amount of downward force. However, in some cases the clearances are a little tighter and it will take more force to seat the platter. Once the platter is in place wait for the spindle displace the extra oil and fully seat. This will take 1 to 2 hours so be patient. When fully seated the gap between the platter and the base will be about 0.140” (slightly more than 1/8th inch). WARNING, do not spin the platter until the bearing has fully seated!
9. With the correct amount of oil the recess at the top of the bearing will be at least partially full of oil. If there is excess oil remove the platter and wipe up the excess. See section III for instructions for platter removal.
10. Once the bearing has fully seated visually check for clearance (about 1mm) between the strobe disk and the sensor.
11. Thread the chrome record centering pin into the top of the spindle. Tighten the centering pin with pliers will keep it from backing out while using the clamp.

II. Turntable Setup

1. Insert the armboard mounting bolt into the bottom of the base and thread into the armboard. Using the included allen wrench tighten the armboard bolt just enough to hold armboard steady but loose enough that it can be adjusted by hand.
2. Install the tonearm and cartridge and adjust the overhang by rotating the armboard.
3. After the overhang adjustment is complete tighten the armboard bolt. Tighten only enough to hold the armboard firmly in place. Do not over tighten!
4. Install motor and battery option as described in the Motor manual.
5. Place the black Delrin washer packaged with the record clamp over the record centering pin. The Delrin washer must be placed directly on the platter and under the record.

III. Operation

The Teres controller utilizes an embedded microcontroller that makes operation simple and elegant. To start the motor press the controller button or give the platter a push. The red LED comes on when the motor is coming up to speed. After 10-15 seconds the green LED should also come on indicating that the speed is within 1%. The green LED will flash several times before coming on steady. After the green light has been on for about 4 seconds then the red LED will turn off indicating that the speed is locked in.
To turn off the motor press the

controller button again or slow down the platter by hand.

Holding the pushbutton down for more than one second will switch between 33.3 and 45 rpm.

IV. Platter Removal

To avoid damage to the bearing surfaces the platter must be removed without pulling the bearing shaft out of the bearing assembly. The removal process requires two small blocks of wood (or some other suitable material) roughly ¾” thick. Both blocks must be the same thickness. A piece of wood 8 to 14” long is also required. Use the following procedure:

1. Carefully raise the platter up just high enough to slide blocks of wood under the platter. Place the blocks on opposite sides of the platter to provide even support.
2. Lay a piece of wood on top of the centering pin and press down firmly until the spindle has been pushed down and out of the platter
3. Lift the platter off of the bearing. Be sure that the bearing spindle is fully disengaged from the platter before lifting.

V. Drive Belts

Teres turntables come with a drive belt fabricated from ½” mylar tape. We prefer the sound of mylar tape but there is not a clear consensus about the best drive belt material. Other materials such as silk thread, fly fishing line and rubber belts have been used with good results.

VI. Additional Information

Detailed product information and updates are available from the Teres web page.

Http://www.teresaudio.com