

The home of the turntable

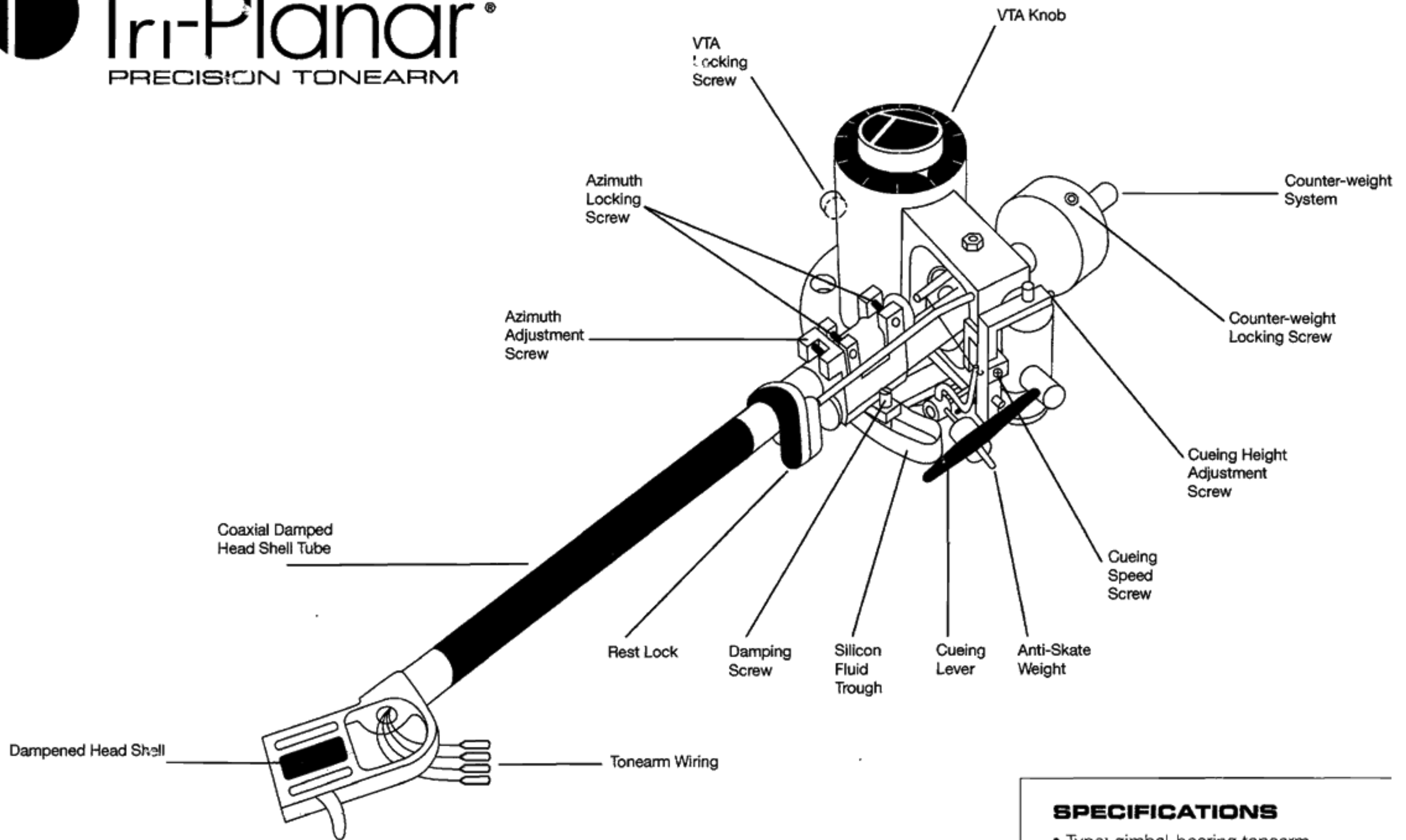
THE VINYL ENGINE®

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Tri-Planar®

PRECISION TONEARM



SPECIFICATIONS

- Type: gimbal-bearing tonearm
- Effective length: 250 mm
- Pivot-to-spindle distance: 233.5 mm
- Overhang: 16.5 mm
- Headshell offset angle: 22°
- Bearing offset angle: 22°
- Effective mass: 11g

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Tri-Planar Ultimate Mounting Instructions

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Pivot to spindle distance: 233.5 mm
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Parts list:

- Cartridge Alignment Tool
- Force Gauge
- Silicone Fluid for Damping Trough
- P20 (.05") Xcelite Allen Wrench
- P21 (1/16") Xcelite Allen Wrench
- Drilling Jig Template
- 3 #10-24 Machine Screws
- 3 #10-24 Machine Nuts
- 3 Washers
- 3 Self-Tapping Screws

Tools needed for mounting the Tonearm:

- Electric Drill
- Drill Bits: 7/32 inch and 1/8 inch
- Large Phillips Screwdriver (#2)
- Small Phillips Screwdriver (#1)
- Small Slotted Screwdriver (#1)
- Felt Tip Marker

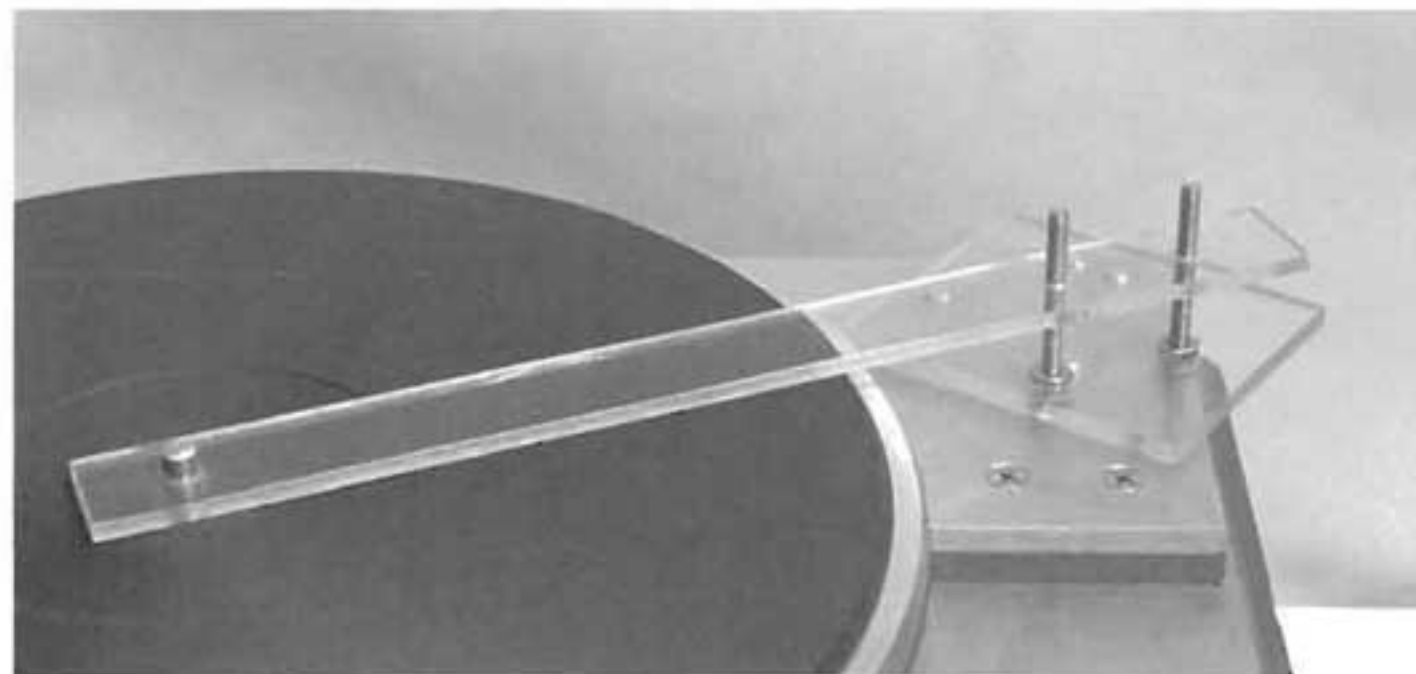
Mounting the Arm onto the Turntable

Confirm that your turntable's armboard is securely mounted on the turntable.

Place the drilling jig onto the spindle.

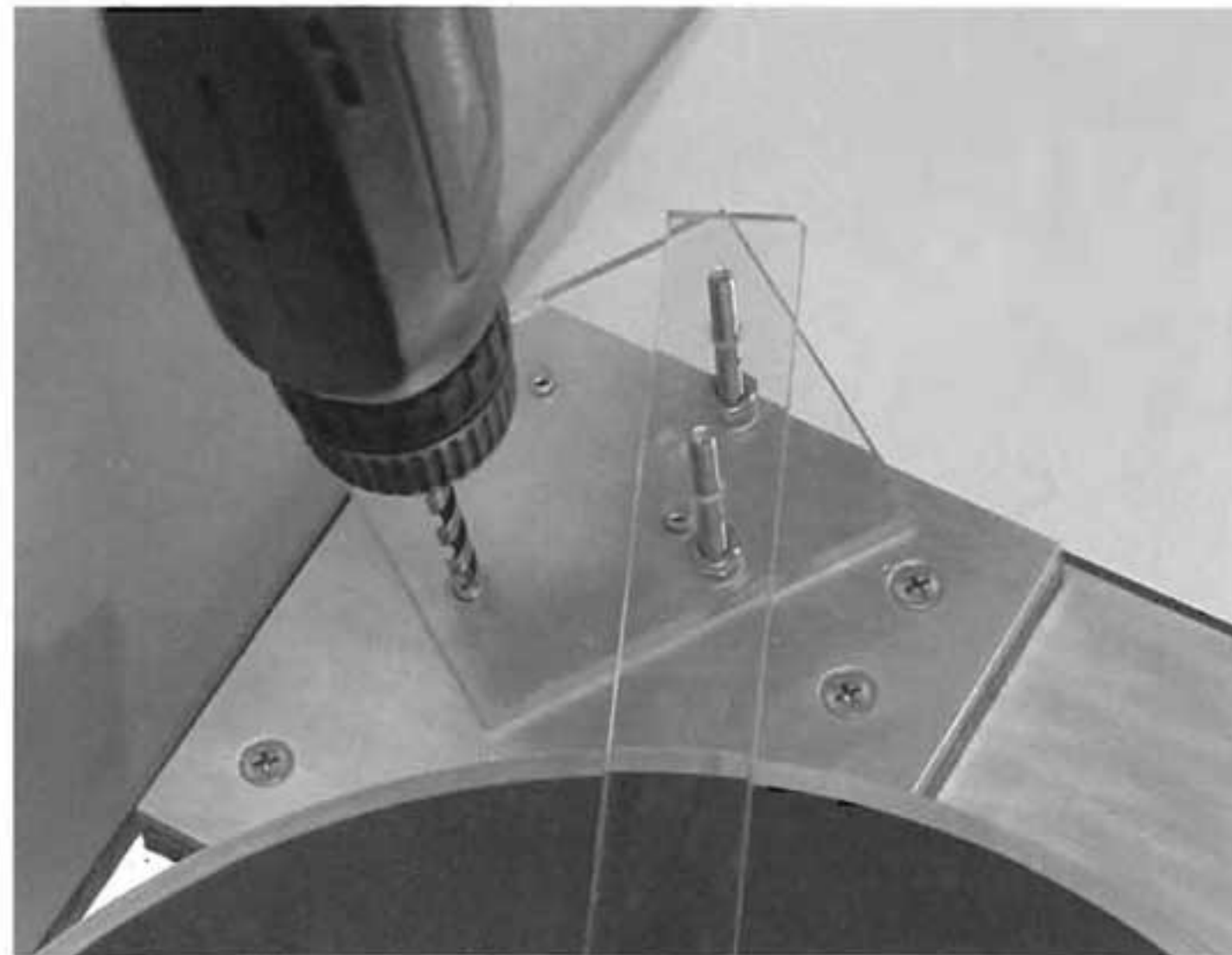
Push down on the square plate until it makes contact with the armboard.

Use a felt tip marker to mark the three drill holes.





Before drilling, check placement. Remove the jig from the spindle, place the tone arm on the armboard and line up the mounting-screw holes with the hole marks. If your turntable has a cover, check to be sure it can be lowered over the tone arm.



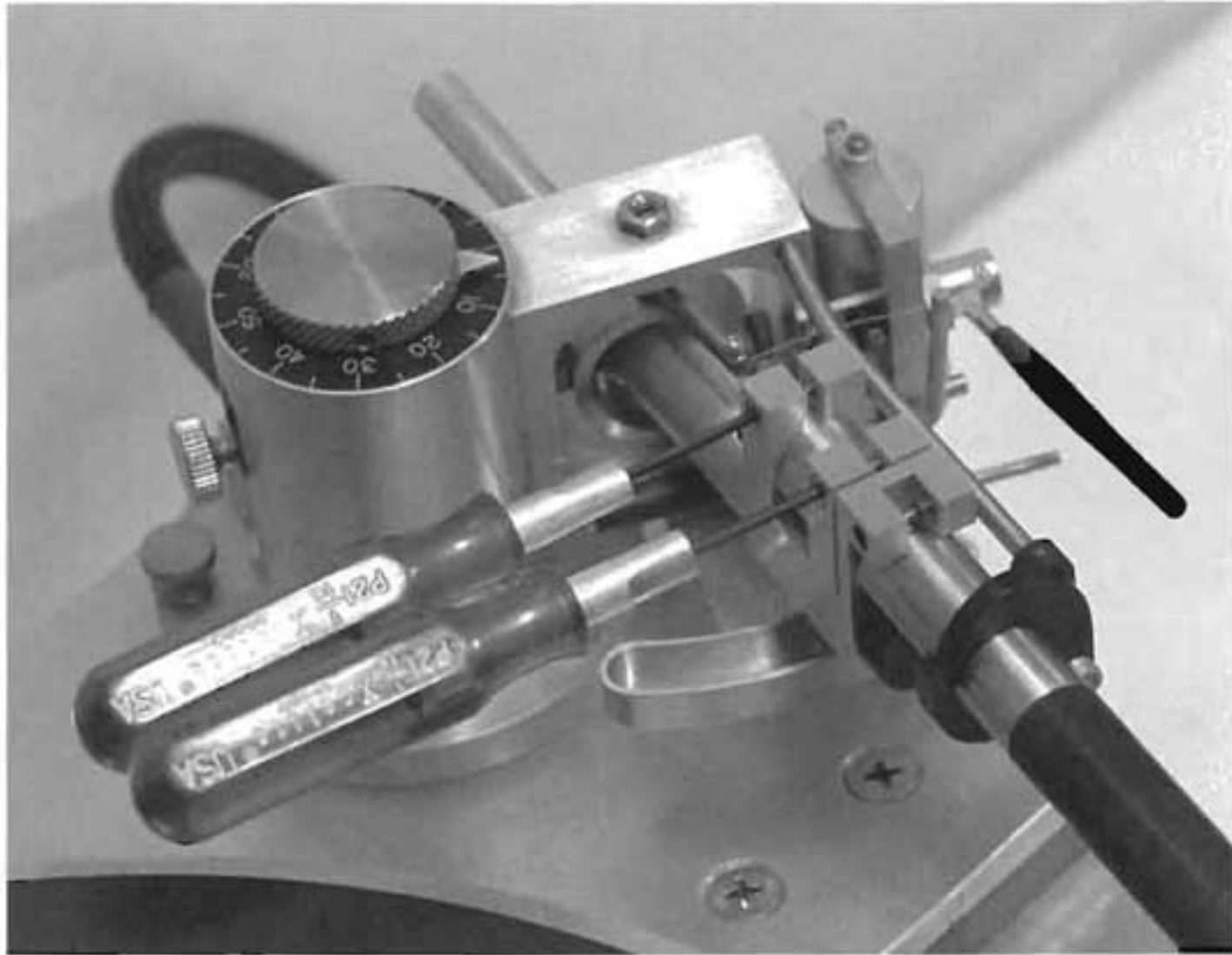
If satisfied with placement, replace the jig on the spindle, and drill holes.

Either use a $7/32$ inch drill bit for the #10-24 screws; or pre-drill holes with a $1/8$ inch bit for self-tapping screws.

Use enclosed mounting screws to secure the tone arm to the armboard.

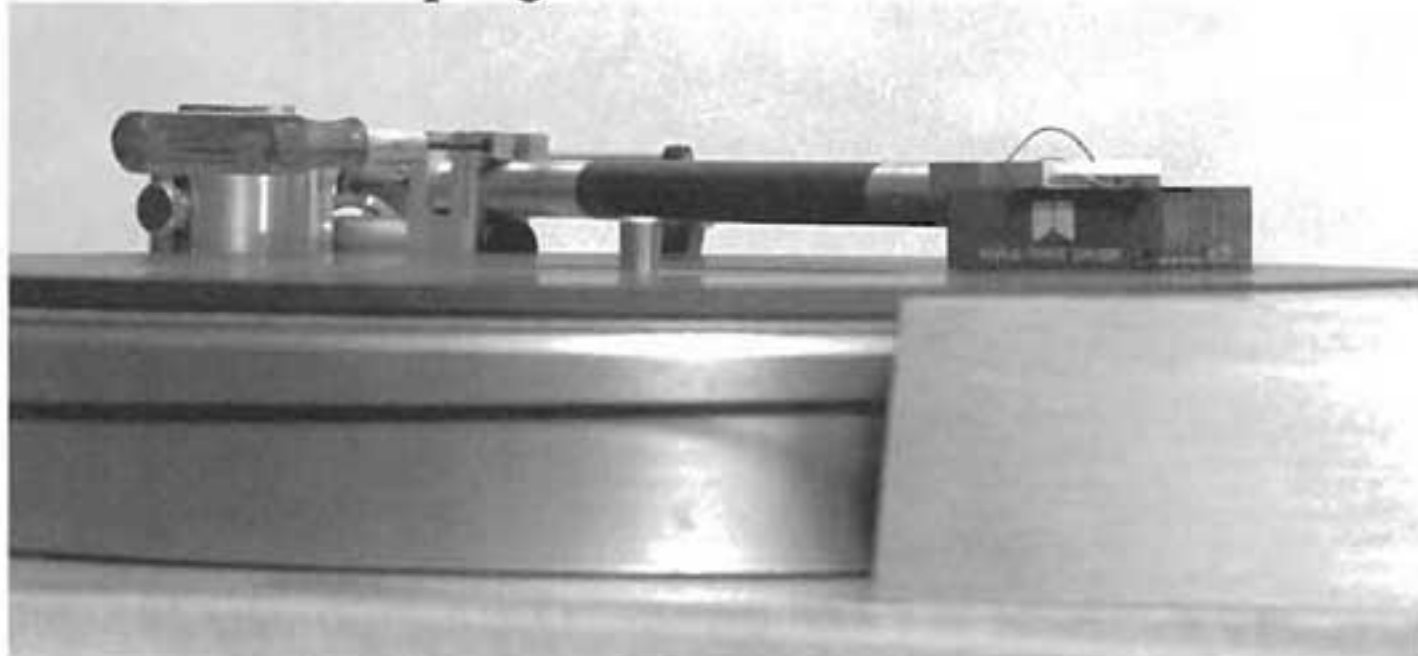
Adjusting the Azimuth

Loosen, and then lightly re-tighten the 2 yoke clamping screws using the enclosed P21 (1/16") Allen wrench.



Unlock the tone arm from the tone arm rest, and move it onto the platter.

Stand the stylus force gauge on edge horizontally, and rest the headshell on the top edge.



Use the P21 Allen wrench on the azimuth adjustment screw (below), turning it until the head shell becomes parallel to the platter, using the stylus force gauge as your straight edge. (Clockwise lowers the right edge, counter-clockwise lowers the left edge.)



Return the tone arm to the tone arm rest.

Firmly tighten the 2 yoke clamping screws. Do not overtighten.

Final azimuth adjustment is best achieved using either: a test record, cartridge analyzer, oscilloscope, or an AC millivolt meter.

Adjusting the Vertical Tracking Force (VTF)

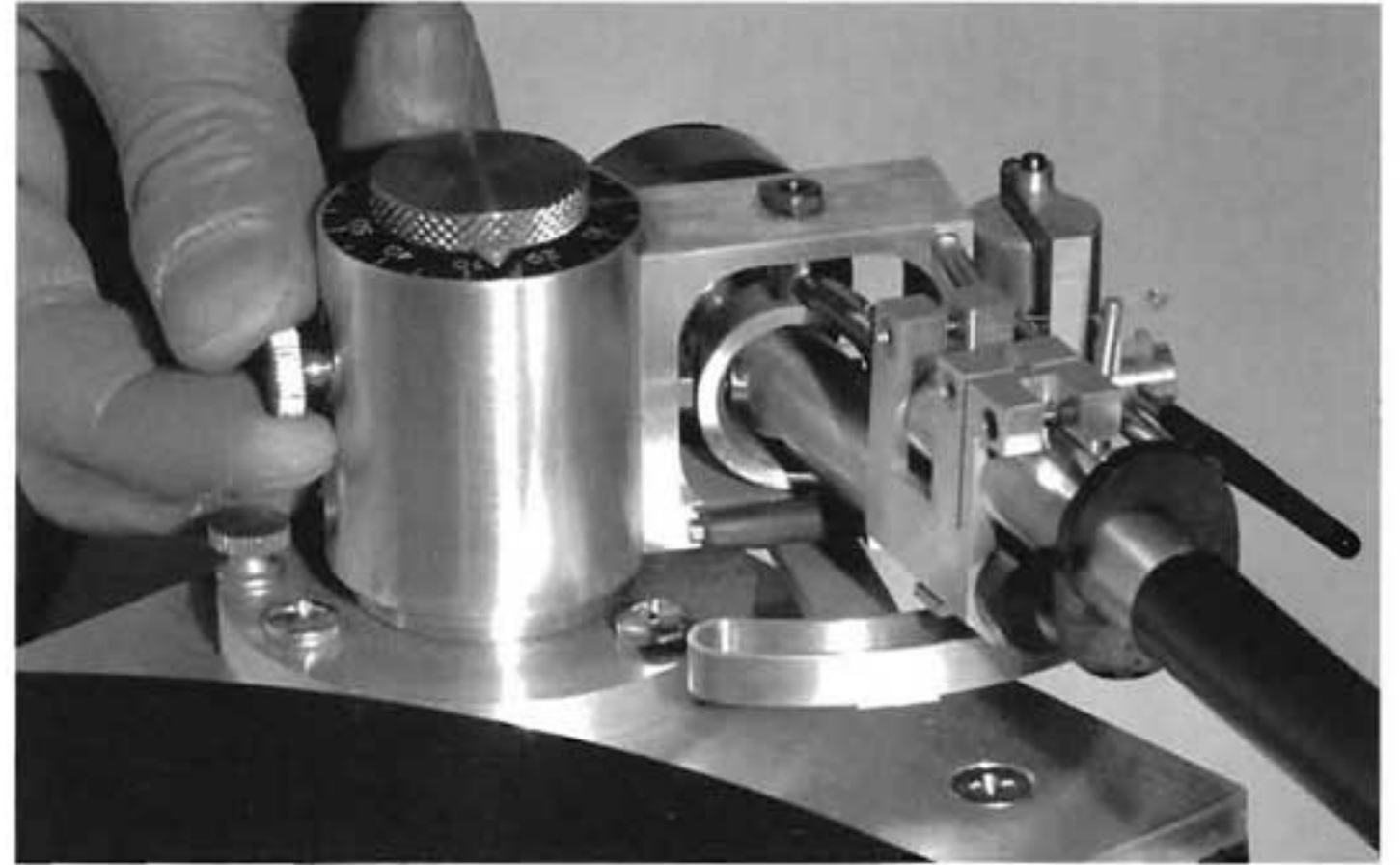
First, attach the cartridge to the headshell. Tighten the mounting screws only enough to hold the cartridge firmly to the headshell. Final alignment and tightening will come later. Read the cartridge manufacturer's instructions before proceeding with this step.



Second, slide the beveled counter-weight all the way onto the counter-weight shaft, orienting it with the beveled edge forward; avoid counter-clockwise rotation.

Third, add additional flat weights to the counterweight as needed, to obtain a tracking force within the cartridge manufacturer's prescribed range. Use the enclosed stylus force gauge for the final adjustment.

Adjusting the Vertical Tracking Angle (VTA)



Loosen then lightly re-tighten the VTA locking screw on the side of the VTA tower.

Place a record on the platter, or use the cartridge alignment gauge

Lift the tone arm, and place the stylus on the record's surface.

Turn the VTA knob on top of the VTA tower until the headshell is parallel to the record's surface (clockwise to lower the VTA, counter-clockwise to raise). Refer to your cartridge manufacturer's instructions for the VTA specification.

Return the tone arm to the tone arm rest.

Tighten the VTA locking screw.

Cartridge Alignment

Use the enclosed P20 (0.50") Allen wrench to loosen the anti-skate screw, and remove the anti-skate weight.



Place the cartridge alignment gauge on the platter. Point sight line at tonearm pivot point.

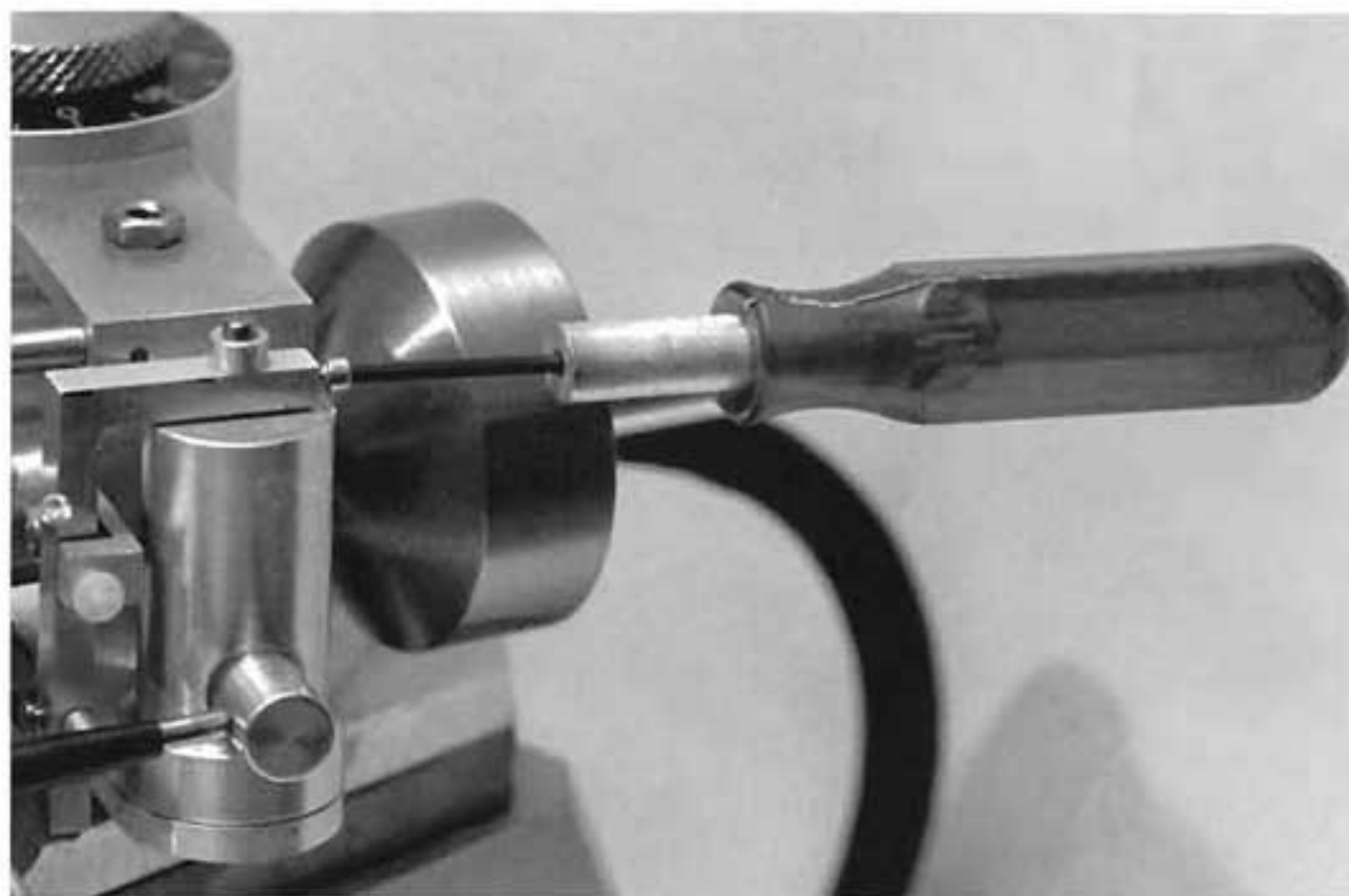
Lift the tonearm, and place the stylus in center point of outer grid and align cartridge.

Reference line should point directly at the top bearing pivot to obtain correct overhang length.

Rotate tool as necessary to place stylus in center point of inner grid and double check cartridge alignment.

After final alignment, re-check the tracking force, then return the tone arm to the tone arm rest and replace the anti-skate weight.

Adjusting the Cueing-Device Height



Raise the tone arm from the tone arm rest using the cueing-device lever.

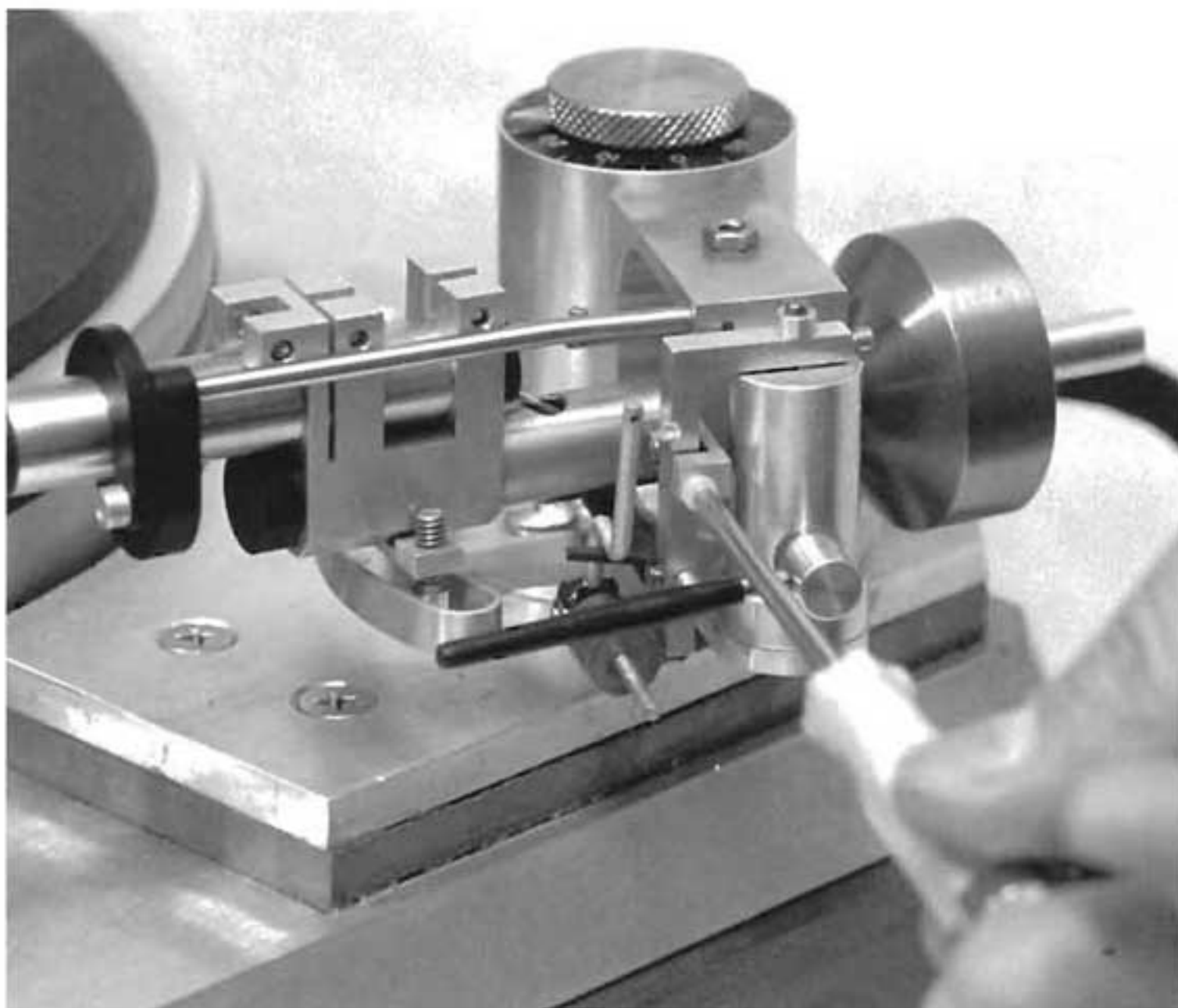
Use the P21 (1/16") Allen wrench to loosen the lift bracket screw located at the back, near the top, of the cueing device cylinder.

Slide the lift bracket up and down until stylus is approximately 1/2" above the record's surface.

Return the tone arm to the tone arm rest.

Tighten the lift bracket screw.

Adjusting the Cueing-Speed



Use the cueing-device lever to raise the tone arm, and move the tone arm to a position above the record's surface.

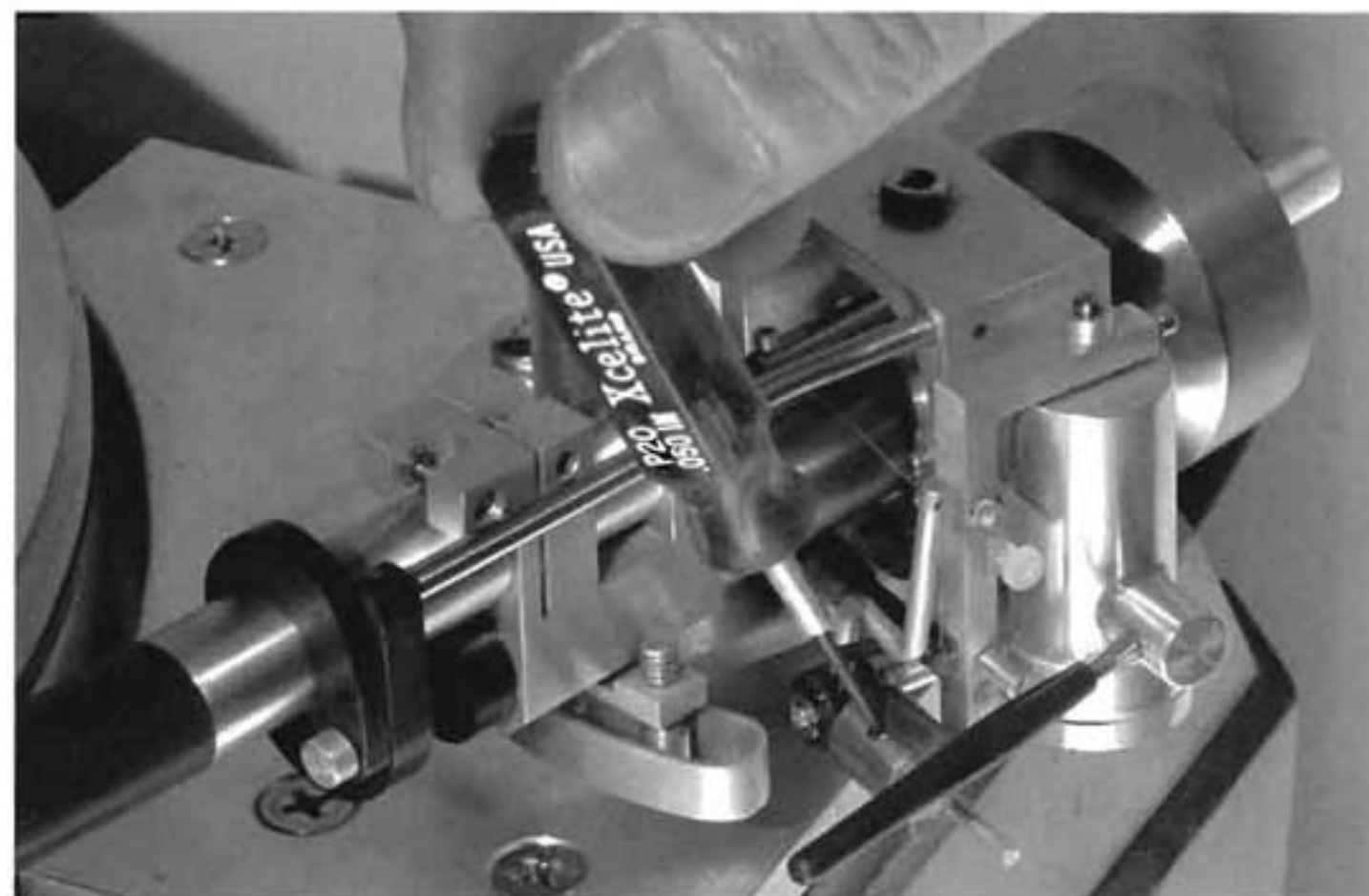
Lower the cueing-device lever to assess the tone arm's dropping speed.

To slow the dropping speed, lift the cueing-device lever again, then lightly tighten the nylon screw on the side of the lift bracket (white or black in color).

Again lower the cueing-device lever and assess the speed.

Repeat until desired speed is found, then return the tone arm to the tone arm rest.

Adjusting the Anti-Skate Control

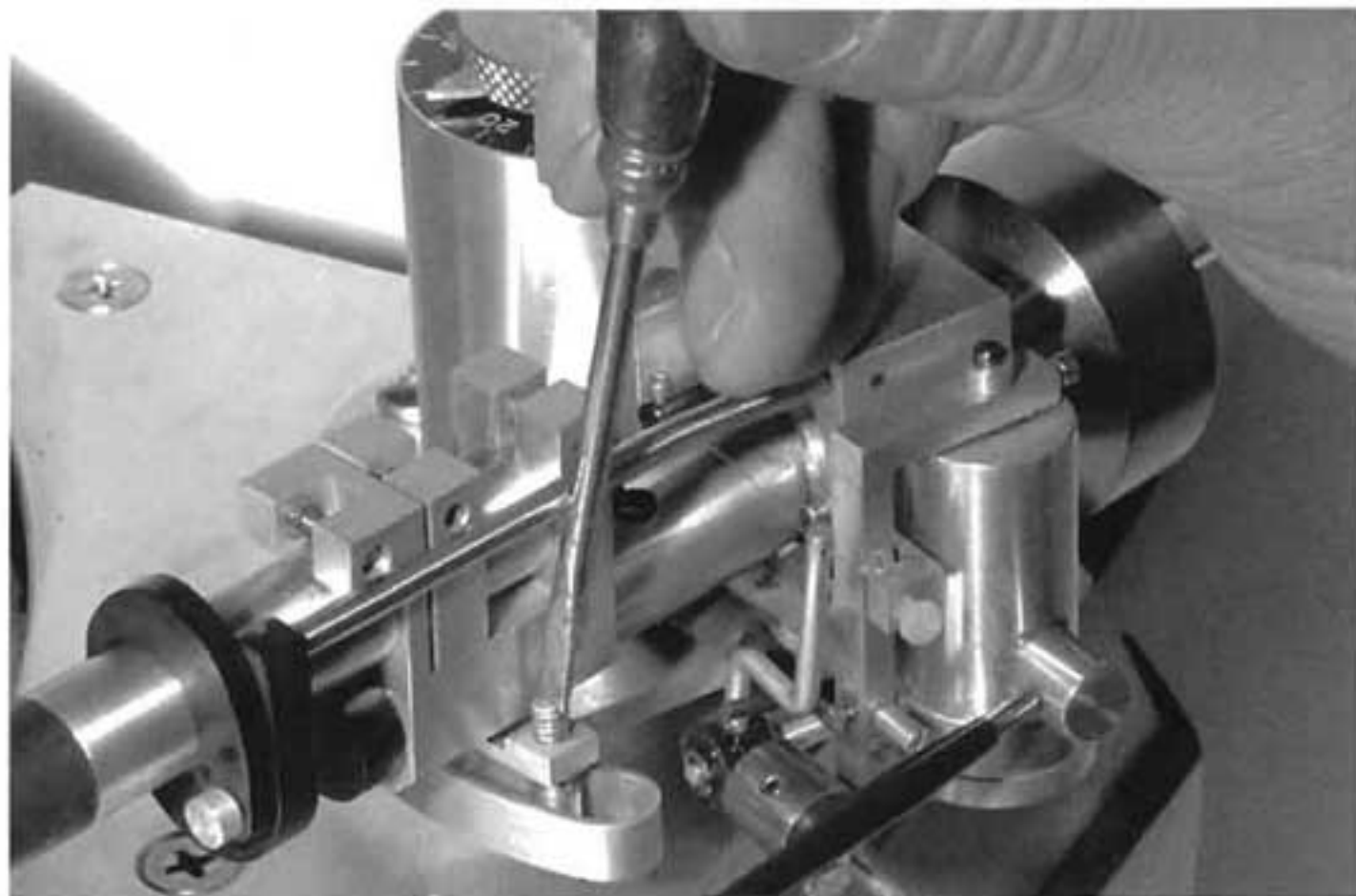


Use the P20 (0.50") Allen wrench to loosen the anti-skate weight screw.

Adjust the anti-skate weight by sliding it along the anti-skate weight shaft, referencing cartridge manufacturer recommendations.

Tighten the anti-skate weight screw.

Adjusting the Damping Screw



Turn the screw on top of the damping trough to adjust damping (clockwise to lower the screw, counter-clockwise to raise).

To assess adjustment, place the stylus on the record's surface. The bottom of the damping screw should be approximately 1/8" from the bottom of the damping trough.

If further adjustment is required, return the tone arm to the tone arm rest before adjusting the screw further.

Inject silicone into the damping trough, and gently move the tone arm back and forth to spread the silicone evenly.

Note: Older models may have slightly different screws.

When the arm is not in use it should always be returned to the armrest with the cueing device lever lower for safety.

Every adjustment that an end-user will need to perform has been described in this manual. Do not attempt to dismantle the tone arm beyond what is described in this manual. It is a calibrated assembly, and *disassembling the tone arm will void the warranty.*

Contact dealer, distributor, or manufacturer for technical support.