



PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7002

DATE: MAY 1, 1970

SUBJECT: SPEED CONTROL CAM

MODELS: PE 2018, PE 2020, PE 2038, PE 2040

When transporting the PERPETUUM-EBNER turntable, either in the original packing materials, as outlined in the instruction of the PERPETUUM-EBNER Owner's Manual, or when installed on a wood base, the speed selector knob should be set to the 78 rpm position.

When placed in this position, the plastic speed selector cam, part number 15-1505 for the model PE 2020 and 16-1503 for the models PE 2018, PE 2038 and PE 2040, will be protected by a metal bracket assembly. Failure to observe this precaution will expose the speed selector cam to possible damage.

NOTE: Technical Bulletin number 7002 supersedes PERPETUUM-EBNER Technical Bulletin number 5 dated July 18, 1969.



PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7003

DATE: MAY 1, 1970

SUBJECT: IRREGULAR RECORDS

MODELS: PE 2018; PE 2020; PE 2038; PE 2040

In tests with various records, it has been found that some records have improperly formed, worn, or eccentric (off center) center holes or may be unevenly pressed, resulting in a record being thicker and heavier in some portion. These records may not lie horizontal when used on automatic turntables using an elevator type spindle.

If the record tilts down over the area traversed by the tonearm, the record may impede the cycling of the tonearm. The spindle will release the record, causing it to drop on top of the tonearm and possibly damage the stylus. This phenomena may occur in only one out of several thousand plays but, nevertheless, all PE turntables are adjusted at the factory with sufficient cycling friction force to carry the tonearm out from under the weight of the tilted record.

Cycle the turntable to the "cue up" position and measure the tonearm lateral friction force. It should be measured with a force gauge from zero (0) to fifty (50) grams and read between fifteen (15) and thirty-five (35) grams.

Increase the friction between the leaf spring "Y" and the tonearm locator segment "YY" by bending the two (2) arms of the feed lever assembly (150). Bend slightly both arms Y 1, Y 2, straight down the same amount so the plastic pin in the leaf spring remains parallel to the tonearm locator segment "YY".



PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7003

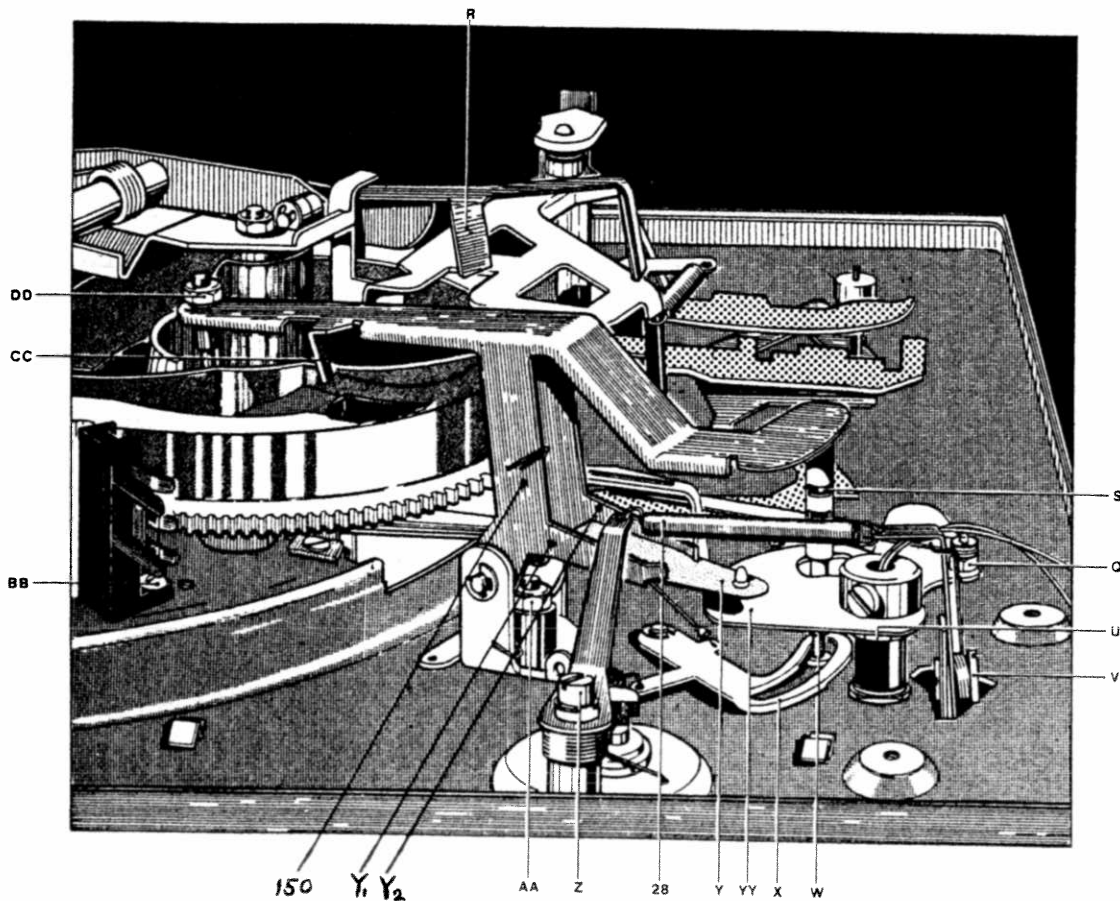
DATE: MAY 1, 1970

SUBJECT: IRREGULAR RECORDS

MODELS: PE 2018; PE 2020; PE 2038; PE 2040

ADJUSTMENT

TOOLS: Special tool or pliers





PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7003

DATE: MAY 1, 1970

SUBJECT: IRREGULAR RECORDS

MODELS: PE 2018; PE 2020; PE 2038; PE 2040

Do not attempt to increase the friction by making the adjustment at point "DD". This will alter the height of the tonearm as well as disturb adjustments of other functions. Measure the tonearm friction (fifteen (15) to thirty-five (35) grams) after each adjustment.

Place a record on the turntable and cycle the turntable automatically at 33 1/3 rpm. Observe the tonearm action; at the highest point, prior to setdown on the record, the tonearm should exhibit a slight "kick" to the outside and lower straight down onto the record. If the tonearm wavers before lowering or the change in setdown point exceeds 1 mm, the two arms of the feed lever assembly were adjusted unequally and the plastic pin is not parallel to the locator segment "YY". After each adjustment of the feed lever assembly arms, the tonearm friction, in the cue up position, should be measured and the tonearm action, at the height of its movement over the record and setdown point, should be observed.

NOTE: All measurements of the tonearm friction should be made only with the automatic spindle.

NOTE: Technical Bulletin number 7003 supersedes PERPETUUM-EBNER Technical Bulletin number 6 dated December 20, 1968.



PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7004

DATE: MAY 1, 1970

SUBJECT: ANTI-SKATING CHART

MODELS: PE 2018, PE 2020, PE 2038, PE 2040

For stylus sizes, elliptical and spherical, that are not listed on the anti-skating chart of the PE Owner's Manuals, the approximate setting may be obtained by extrapolation.

EXAMPLE: ELLIPTICAL STYLI ONLY

For an elliptical stylus of 0.2x0.9 mil, at a stylus force of 2 grams, the anti-skating setting would be 7.75, or one half ($\frac{1}{2}$) the difference between the anti-skating settings of 8.75 and 6.75 for the stylus sizes 0.2x0.7 mil and 0.4x0.7 mil listed. At 1 gram, the anti-skating setting would be 6.75 minus 5.75 equals 1.00 and one half ($\frac{1}{2}$) of 1.00 plus 5.75 equals 6.25.

EXAMPLE: SPHERICAL STYLI ONLY

For a spherical stylus of 0.8 mil, at a stylus force of 1.5 grams, the anti-skating setting would be 3.7, or the difference in stylus size divided by the difference in anti-skating setting added to the anti-skating setting of the next larger stylus size listed on the chart.

$$\frac{0.8-0.7}{4.0-3.5} + 3.50 = 3.7$$

NOTE: Technical Bulletin number 7004 supersedes PERPETUUM-EBNER Technical Bulletin number 7 dated June 9, 1969.



PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7005

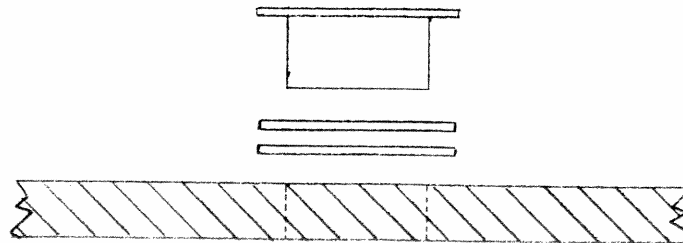
DATE: MAY 1, 1970

SUBJECT: CHASSIS TILT

MODELS: PE 2018, PE 2020, PE 2038, PE 2040

The PERPETUUM-EBNER factory maintains a tolerance of 3mm in the chassis mounting spring suspension. Evidence of extremes, of this tolerance, may be apparent in the form of a tilt in the chassis plate when the turntable is installed on the wood base (BV 18, BV 20 or LZ 2020).

To correct this problem, a kit consisting of plastic washers is available at no charge. The plastic washers are to be installed, as many as may be required to level the chassis, between the brass suspension cup and the wood base.





PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7007

SUBJECT: THUMPING ONCE PER REVOLUTION

DATE: SEPTEMBER 2, 1971

MODELS: PE-2035, PE-2038, PE-2040

A thumping sound once per revolution of the turntable platter may occur after the following sequence of three operations:

- a. Automatic start with either automatic or single play spindle.
- b. Automatic stop, let turntable platter come to halt unaided.
- c. Manual start (move command control lever to left to start), and listen to once per revolution thump directly from turntable in a quiet room or place stylus on quiet groove of record and listen through speakers at normal listening level.

The cause of the thumping is the partial engagement of the teeth of the main cam assembly and the gear on the turntable platter once per revolution.

The complete bearing bracket assembly (item 101) must be shifted to the left of the turntable chassis. The bearing bracket assembly is secured to the chassis via two screws (items 64 and 66). Sufficient play should exist in the chassis holes to accomplish the necessary repositioning. If there is not, the two screws should be removed and the holes enlarged slightly with a small round file.



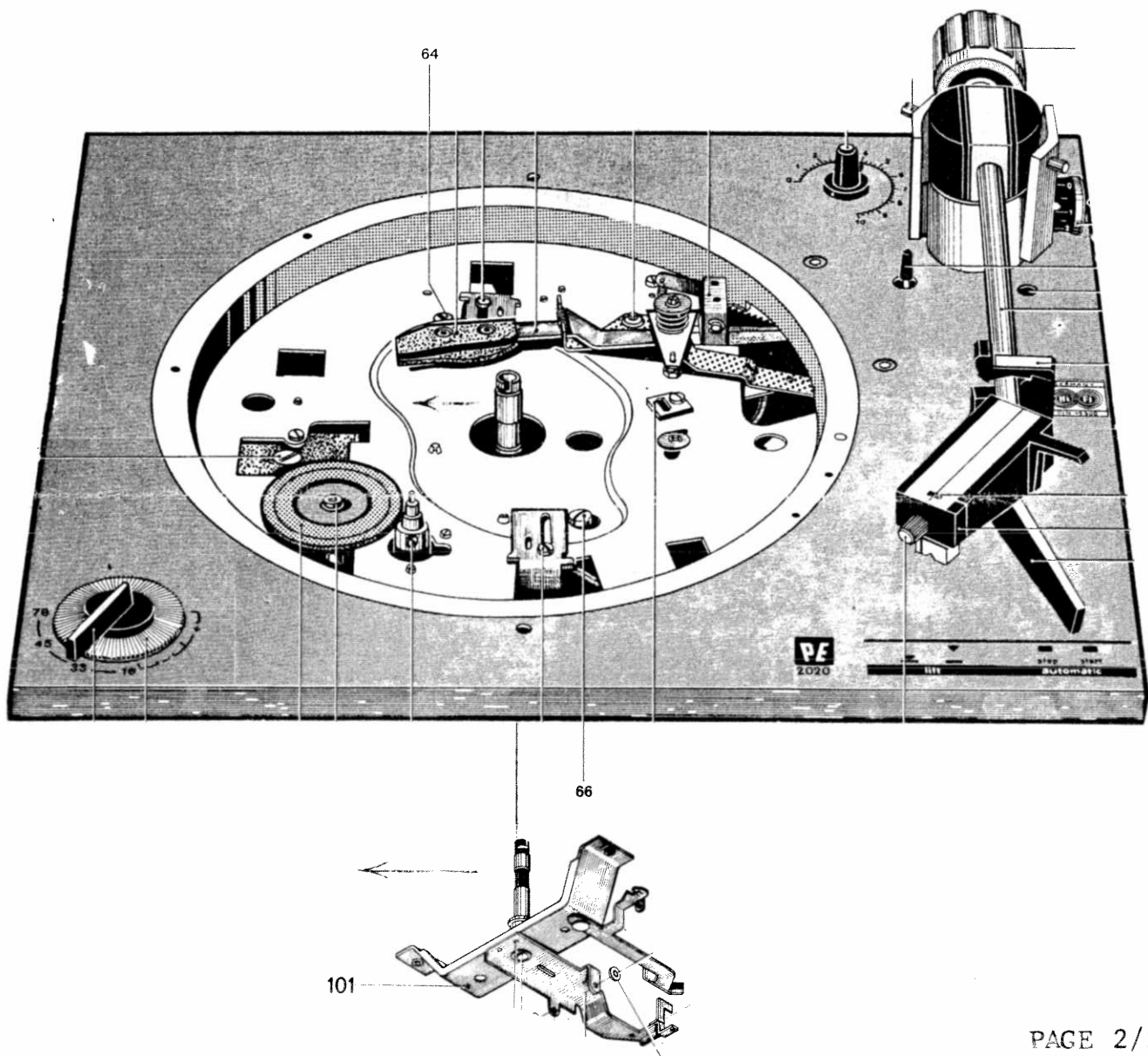
PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7007

SUBJECT: THUMPING ONCE PER REVOLUTION

DATE: SEPTEMBER 2, 1971

MODELS: PE-2035, PE-2038, PE-2040





PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7007

SUBJECT: THUMPING ONCE PER REVOLUTION

DATE: SEPTEMBER 2, 1971

MODELS: PE-2035, PE-2038, PE-2040

A thumping sound once per revolution of the turntable platter may occur after the following sequence of three operations:

- a. Automatic start with either automatic or single play spindle.
- b. Automatic stop, let turntable platter come to halt unaided.
- c. Manual start (move command control lever to left to start), and listen to once per revolution thump directly from turntable in a quiet room or place stylus on quiet groove of record and listen through speakers at normal listening level.

The cause of the thumping is the partial engagement of the teeth of the main cam assembly and the gear on the turntable platter once per revolution.

The complete bearing bracket assembly (item 101) must be shifted to the left of the turntable chassis. The bearing bracket assembly is secured to the chassis via two screws (items 64 and 66). Sufficient play should exist in the chassis holes to accomplish the necessary repositioning. If there is not, the two screws should be removed and the holes enlarged slightly with a small round file.



PERPETUUM-EBNER

TECHNICAL BULLETIN 7007a (Supplement to 7007)

SUBJECT: THUMPING ONCE PER REVOLUTION

DATE: October 28, 1971

MODELS: PE-2035, PE-2038, PE-2040

Refer to Perpetuum-Ebner Technical Bulletin number 7007 of 9/2/71, sections a, b and c, to identify the once per revolution thumping as the main cam gear partially engages the turntable platter gear.

The lock pawl (201) plastic tip secures the main cam after completion of each cycle. However, after the "stop" operation the cam cycle may be incomplete. A slight pressure on the lock pawl, where the spring connects, will produce a "click" indicating the cam has not fully completed the cycle. Remove the lock pawl spring (202) and cut off approximately 1/3 of the coils (approximately 7 coils). Bend the last coil flat to form a hook and replace on the lock pawl and fixed post. Follow operational sequences a, b and c as described in PE Technical Bulletin No. 7007 and check for thumping once per revolution.



PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7008

SUBJECT: REPLACEMENT OF CUEING DAMPING FLUID

OCT. 28, 1971

MODELS: PE-2018, PE-2020, PE-2035, PE-2038, PE-2040

Loss of damping fluid in the cueing mechanism will result in a rapid or erratic descent of the tonearm and stylus assembly to the record after record change or cueing operations.

NOTE: Only Perpetuum-Ebner special purpose silicone grease or Dow Corning 200 fluid of 100,000 centistoke viscosity should be used.

To replace the silicone grease damping fluid:
Models: PE-2018, PE-2020

1. Remove the feed lever (item 150) Refer to figure 1
2. Disconnect and remove the trip link (item 186)

NOTE: Do not lose the guide roller (item 51) which will fall out when the trip link is removed.

3. Remove the tonearm locator segment (item 184)
4. Remove the cueing sleeve subassembly (item 163)
5. Remove the lock nut (item 162)
6. Remove Hex Nut (item 24)
7. Release the tonearm wiring harness by bending the tiedown tabs. It is not necessary to unsolder the tonearm wires from the muting switch.
8. The tonearm and console assembly may be removed from the chassis and laid aside exposing the lift rod (item 57).
9. Disconnect the draw spring (item 58) and remove the lift rod and cylinder fitted to the chassis with a pipe cleaner moisten with alcohol or lighter fluid.
10. Apply a small quantity of silicon grease evenly to the notched shaft of the lift rod. Replace the lift rod and draw spring.
11. Fit a counterweight and weighted cartridge slide to the tonearm. Zero balance the tonearm and apply approximately 2 grams stylus force by holding the tonearm and console assembly in place on the chassis by hand.

NOTE: Do not replace parts on underside of the chassis until the speed of descent has been checked.



PERPETUUM-EBNER

TECHNICAL BULLETIN 7007a (Supplement to 7007)

SUBJECT: THUMPING ONCE PER REVOLUTION

DATE: October 28, 1971

MODELS: PE-2035, PE-2038, PE-2040

Refer to Perpetuum-Ebner Technical Bulletin number 7007 of 9/2/71, sections a, b and c, to identify the once per revolution thumping as the main cam gear partially engages the turntable platter gear.

The lock pawl (201) plastic tip secures the main cam after completion of each cycle. However, after the "stop" operation the cam cycle may be incomplete. A slight pressure on the lock pawl, where the spring connects, will produce a "click" indicating the cam has not fully completed the cycle. Remove the lock pawl spring (202) and cut off approximately 1/3 of the coils (approximately 7 coils). Bend the last coil flat to form a hook and replace on the lock pawl and fixed post. Follow operational sequences a, b and c as described in PE Technical Bulletin No. 7007 and check for thumping once per revolution.



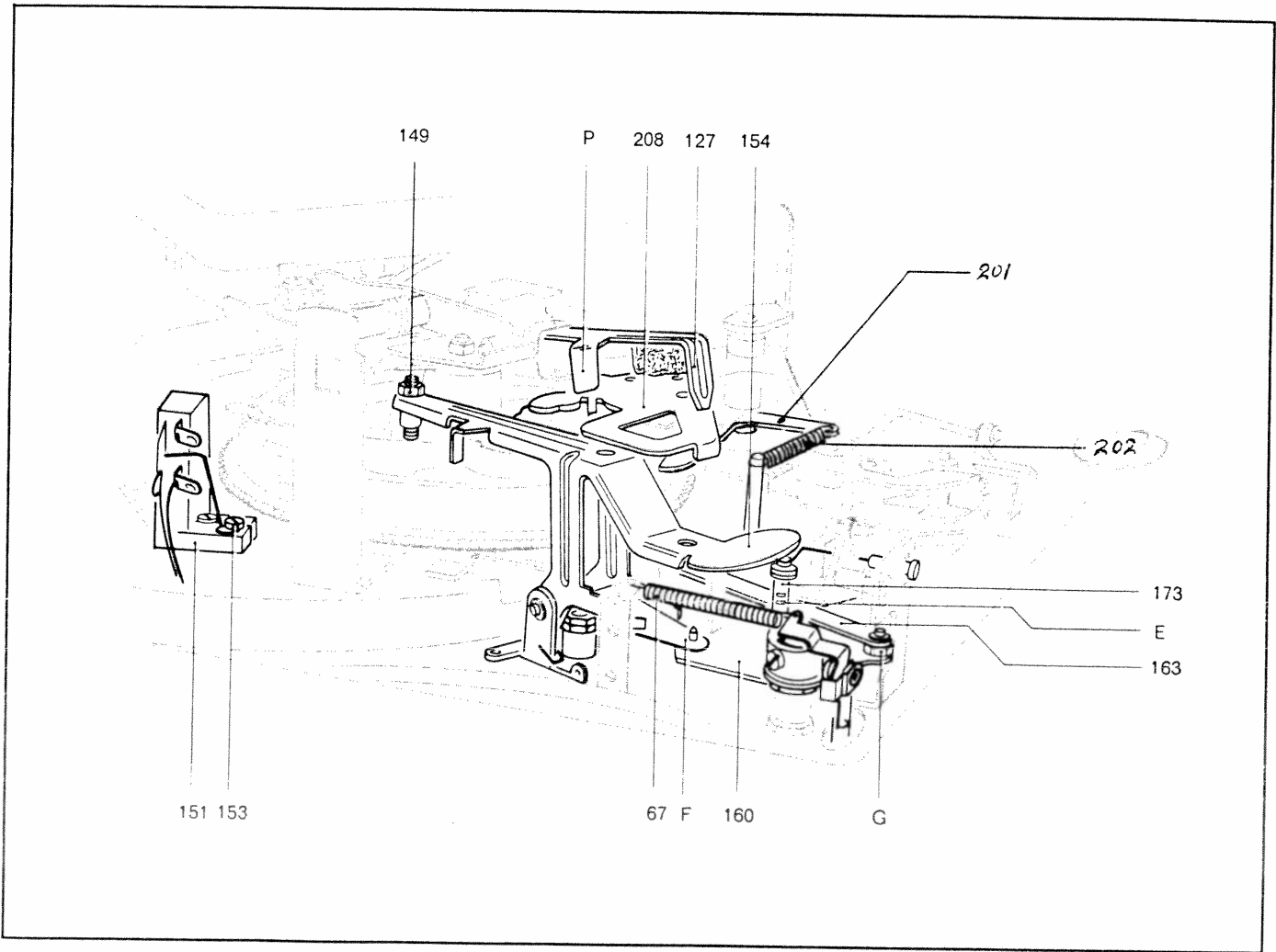
PERPETUUM-EBNER

TECHNICAL BULLETIN 7007a (Supplement to 7007)

SUBJECT: THUMPING ONCE PER REVOLUTION

DATE: October 28, 1971

MODELS: PE-2035, PE-2038, PE-2040





PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7008

SUBJECT: REPLACEMENT OF CUEING DAMPING FLUID

DATE: OCT. 28, 1971

MODELS: PE-2018, PE-2020, PE-2035, PE-2038, PE-2040

12. While holding the tonearm in place by hand push up from the underside of the chassis on the lift rod and observe the speed and smoothness of the descent of the stylus. If the descent is erratic (slow then fast) the silicone grease is unevenly distributed over the lift rod. If the descent is too fast it is insufficiently coated, if too slow there is too much. The recommended speed of descent is approximately 5 to 6 seconds.
13. Reassemble the turntable reversing the disassembly procedures.

NOTE: Lock nut (item 162) adjusts the tonearm height in the automatic spindle in place, cycle the turntable by hand to the point where the tonearm is moving from the arm rest to the turntable platter. Adjust the lock nut (item 162) until the distance from the top of the chassis to the top of the tonearm head assembly measures between 70mm to 72mm for the PE 2020 and PE 2040 or 65mm to 67mm for the PE 2018 and PE 2035 and PE-2038.

NOTE: When the tonearm is locked in place on the arm rest the eccentric screw adjustment for the tonearm set-down point located on top of the tonearm locator segment (item 184) should be visible through the hole in the top of the chassis. Loosen the screws (item 185) and adjust as necessary.

MODELS: PE-2038 and PE-2040

1. Follow steps 1 and 2 above for model PE-2018
2. Remove "c" clip (item 74e) refer to figure 2 and slide the pivot shaft (item 74c) out releasing the spring and cam (item 74d and 74b).
3. Move the cueing lever (item 187q) to position the lift cam (item 187j) so the cueing sleeve subassembly, spring and step washer (item 187a,b,c,d,e) may be lifted off.
4. Follow steps 5 through 13 for model PE-2018. Refer to Figure 1.



PERPETUUM-EBNER

TECHNICAL BULLETIN NUMBER 7008

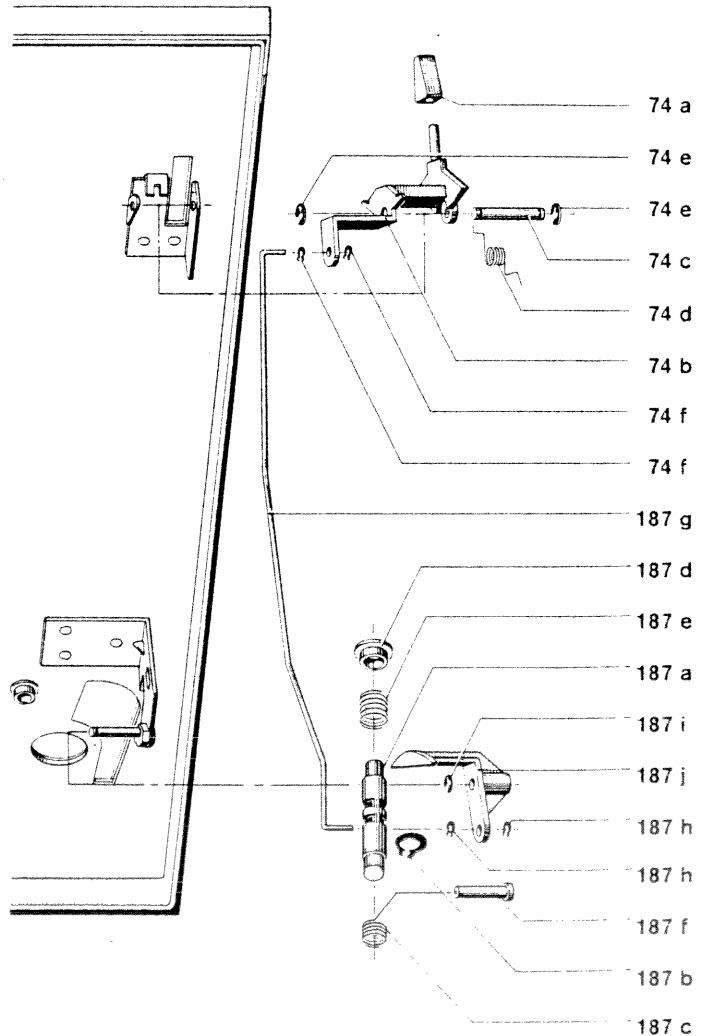
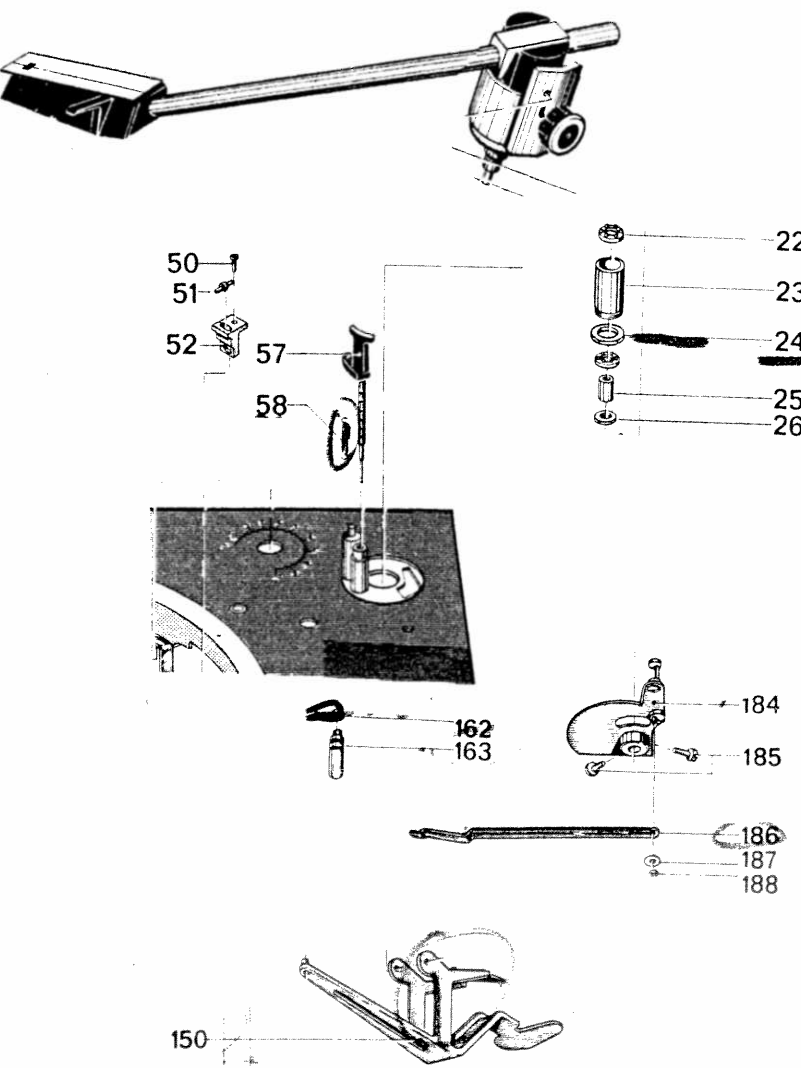
SUBJECT: REPLACEMENT OF CUEING DAMPING FLUID

DATE: OCT. 28, 1971

MODELS: PE-2018, PE-2020, PE-2035, PE-2038, PE-2040

FIGURE 1

FIGURE 2





PERPETUUM-EBNER

TECHNICAL BULLETIN NO. 7008

SUBJECT: REPLACEMENT OF CUEING DAMPING FLUID

DATE: OCT. 28, 1971

MODELS: PE-2018, PE-2020, PE-2035, PE-2038, PE-2040

MODEL: PE-2035

1. Follow steps 1 thru 3 for model PE-2038
2. Undcrew the adjusting nut (item 166) refer to figure 3 from the top of the lift rod (item 169) assemble from the top of the chassis beneath the tonearm.
3. Remove the lift rod (item 169) and spring (item 168) from the underside of the chassis.
4. Replace the silicone grease and check the cueing action as described in steps 9 thru 13 for model PE-2018.

NOTE: Cueing height adjustment on the PE 2035 is accomplished by adjusting the nut (item 166).

FIGURE 3

