

Alexandria Mark IV Owner's Manual



ORACLE

Table of contents

Foreword	3
What if	3
The leveling feet	3
The suspension system	3
The bearing assembly	3
The drive belt	3
The record clamp	3
The phono lead	3
The hardware	3
The cartridge alignment	3
How to	4
Pack and unpack your Alexandria	4
Assemble your Alexandria	4
Install the tone arm and phono cartridge	4
Precisely align the phono cartridge	4
Assess the suspension calibration	5
Calibrate the suspension	5
Dress the phono lead	6
Lubricate the bearing assembly	6
Install the drive belt	6
Remove the platter with the drive belt installed	6
Connect the power supply	6
Adjust the 33 and 45 speed	6
Install the dust cover	7
Operate the record clamp	7
Level your Alexandria	7
What to do	7
If the turntable does not start and the speed indicating light does not go on	7
If the turntable does not start and the speed indicating light goes on	7
If the platter is not parallel with the plinth	7
If an even up or down motion cannot be obtained when gently pressing on the record clamp	7
If the speed becomes erratic	7
For maintenance	7

This is your Alexandria owner's manual. The following pages will describe as succinctly as possible the assembly of your new Alexandria. Although some operations are self explanatory, we strongly suggest you read this booklet to better understand the vital roles so precisely accomplished by the different key components.

A first grade turntable like your new Alexandria or any other turntable for that matter although built with the very finest materials is always somewhat vulnerable. Unlike speakers or amplifiers, turntables require mechanical expertise to reach the high standards of accuracy of which they are capable. It is important to set up your Alexandria with the utmost care so it can effectively convert record groove modulations into outstanding musical performance and enjoyment!

Foreword

Total accuracy of your source system can only be achieved through minute details of turntable suspension calibration, tone arm installation and cartridge alignment.

This booklet is divided in three sections, the what if ..., the how to... and finally the what to do...

The what if ... is an informative section about mechanical/sound interaction which will give a comprehensive understanding of the different components and their effect on sound.

The how to ... is the heart of the turntable set up which exposes thoroughly the procedures to achieve the very best results.

The what to do... will give you a quick check list usefull for trouble shooting and maintenance.

What if...

In this section, we will often refer to vibration. The stylus vibrates when following the complex record groove and transfers this energy into an electrical signal which will become the sound you hear. This vibration however is also a source of potential problems when ignored or misunderstood. In a turntable design everything is about vibration in particular focusing in keeping vibration away from the record and stylus interface. There is a reason for everything in your Alexandria and this section is about understanding the mechanical interactions and their effect on sound.

... the leveling feet

They control the horizontal plane of the turntable and they are terminated in a convex shape. The leveling of the turntable is vital to its performance. **An improperly leveled turntable will have an effect on the platter spindle and bearing by increasing its drag.** This increased drag will be similar to something slowing down the spindle. A loss of momentum will occur and cause the sound to smear loosing punch and focus. **The increased drag will also mean more noise accessing through the platter's spindle to the stylus playing the record groove.** The effect can be sufficient to overlap with and eliminate the subtle information contained in the record groove. **The convex shape offers a very small surface contact.** This will have the effect of reducing the access of external vibration to the turntable.

... the suspension system

If improperly calibrated many problems will emerge from this system. **The effect of the suspension system on the sound is so great we could compare it to the sonic differences of a dead sounding recording studio to a live and spacious sounding concert hall.**

The reason behind this is simple. All we have to understand is that very subtle signals like the sustained ringing of a bell, the echo of the concert hall, the light and delicate sound of chimes or any other breeze like signals are of a very low amplitude which could be equaled or impaired by other signals like unfiltered energy accessing through an improperly set up suspension system. This would have the unfortunate effect of being picked up by the stylus playing the record groove resulting in an increased noise floor resulting in cancellation of low amplitude signals. **The suspension set up will also have a tremendous effect on the stability of the turntable system while playing the record.**

... the bearing assembly

A few problems can effect the performance of the bearing and spindle system. The first is one of handling when inserting the spindle in the bearing. **If not inserted vertically nicks could occur on the upper bushing due to the close tolerances.** The nicks will create a breaking effect which is sonically similar but potentially worse than that described in the leveling feet section. Another is lack of lubrication which will accelerate the progression of wear on the spindle and the bushings. These two problems have a direct impact on noise increase. **Some lubricating oils are not appropriate to be used in the bearing well, the viscosity will change with time and sticky deposits will coat the surface of the brushings causing inconsistent friction.** Sonically this translates into irregular wow and possibly flutter.

... the drive belt

An oily drive belt will keep the drive system from responding sharply to varying loads. On a record the load is the continously changing modulations in the groove. In order to maintain the platter's momentum a positive drive is absolutely required. **A similar problem also develops with time when the belt**

looses its properties thus loosing its ability to effectively transmit the motor to platter energy. The impact on sound can be serious: lack of punch, loss of focus.

... the record clamp

With the purpose of maximizing the record's stability and mechanical energy transfer through the mat, **the record clamp will cause damage to your records if overtightened.** The outer edge of the record could be lifted off the surface of the mat causing sonic problems due to the non-horizontal plane. **Simultaneously the energy transfer to the mat would be reduced causing the sound to become harsh.**

... the phono lead

When improperly or not secured to the plinth the phono lead will exert a tension on the suspension keeping it from effectively filtering unwanted energy. This energy will go past the suspension system and effect the stylus playing the record groove causing confusion in the sound you hear. This will also smear the sound. **Another problem is one of feed back where the phono lead offers a direct link to the subchassis.**

... the hardware

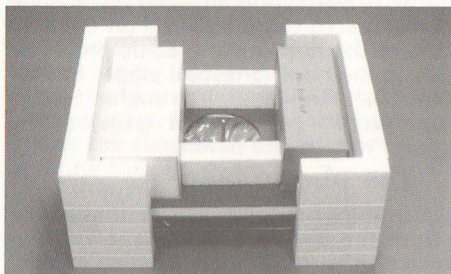
The mounting hardware for the tone arm or the cartridge also bears an important responsibility with regard to the sound quality. A muddy sound can often be related to this.

... the cartridge alignment

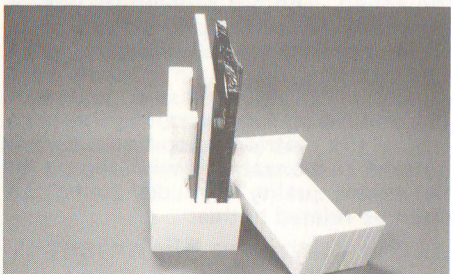
This final element in the what if ... section is often taken with a grain of salt. Being in the ball park is far from being sufficient: for this calibration has to be dead in the middle of home plate. **Mounting the cartridge away from the accurate position bears a tremendously detrimental impact of the sound quality ... beware!**

How to... ... pack and unpack your Alexandria

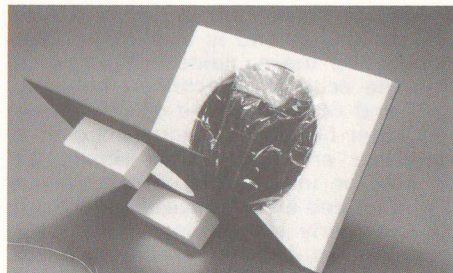
- Remove the styrofoam corners.
- Remove the inner box by lifting it straight up.
- Open both ends then, the cover part of the box.
- Remove the dust cover.



- Remove the accessories and tone arm boxes.
- Lift the packaging to stand up on one end.



- Remove the styrofoam cap piece.
- Remove the platter's packing section.



- Remove the base assembly and set it on your work table.
- Remove the protective film.

Important note 1. The accessories box contains the following:

- the power supply
- the record clamp
- the hinges (when applicable)
- the drive belt
- the suspension calibration gauge
- the oil vial
- the tool kit
- the blue cloth.

When repacking the accessories make sure to individually wrap each component to prevent them from getting damaged. Make sure to use enough tape to seal the box to prevent any parts from flying loose in the packaging during shipping.

Important note 2: Since the middle section (holding the platter) is very important for stabilizing the accessories and the tone arm boxes, we recommend you include it in the packaging whenever shipping the complete or some parts of the turntable. The way the platter is installed should be remembered... one layer of masonite with the foam pieces glued in and then, the other layer of masonite with the two foam blocks glued on top. The platter's spindle must point up in the packaging. Always remember that a movement of the platter in the packaging can damage its finish. It is advisable to place it in the protective plastic bag it came in.

Important note 3: **Do not forget to drain the bearing well before shipping the turntable.**

Note 4: Your ORACLE's packaging has been designed to protect it from the abusive handling normally encountered during shipping. Such packing material is expensive and we recommend you save it for future shipping. **It is mandatory to use the original packaging for any return to the manufacture.**

... assemble your Alexandria

- Install the platter without the drive belt being careful to insert the spindle vertically in the bearing assembly.

Note 1: Do not remove the transit screws.

Note 2: Do not pour the oil in the bearing well at this time.

... install the tone arm and phono cartridge

Note 1: We begin the assembly section with this topic because it is simpler to work on the turntable without accessories. Furthermore, with the transit screws in place the mounting platform is rigid making all adjustments safer.

- Install the tone arm following the manufacturer recommendations.

Note 2: **The cutting of the arm board can sometimes be troublesome on top of being a potential hazard.** The use of an adequate tooling is important to both accuracy and safety. Oracle can supply a pre-drilled arm board for mostly any tone arms available.

- Properly secure the arm mounting hardware.
- Use steel or aluminium screws to mount the cartridge for maximum rigidity.
- Tighten the screws so the cartridge can be moved in the headshell.

... precisely align the phono cartridge

- Block the platter to prevent it from turning.

Note 1: **Do not use tape!**

- Place the calibrator disc on the platter over the mat.
- Aim the alignment line with the pivot center of the tone arm.
- Adjust the stylus pressure to approximately 1 gram.
- Move the tone arm over and cue it down on the alignment grid.
- Check for the horizontality of the arm tube with the surface of the platter and adjust the height accordingly.
- Bring the tone arm over the center of the grid again and lower it. The stylus tip must fit in the pin hole in the center of the grid. If not, position the cartridge so it does.
- Precisely align the body of the cartridge with the lines on the grid.
- Secure the cartridge screws and repeat the previous operation.
- Check the azimuth by lowering the stylus over the black portion on the calibrator disc. The mirror reflection will help determine if the cartridge is off its vertical axis.

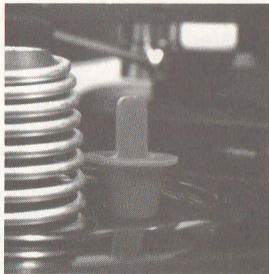
Note 2: The azimuth is the axial verticality of the stylus relative to the record groove when viewing it from the front. The proper setting is 90°

- Check the stylus pressure and adjust to specifications.
- Install the stylus guard to complete the assembly of your Alexandria. Do not install the phono lead at this time.
- Carefully remove the platter.
- Remove the three transit screws.
- Install the platter without the drive belt.

... assess the suspension calibration

Note 1: The correct approach to assess or calibrate the suspension system is the following:

- A) Always start with the suspension module located near the tone arm then move to the rear left module and finally to the front left module.
 - B) Never remove more than one suspension cover at the time. When the assessment or calibration is completed install the suspension cover on that module before moving to the next.
- Remove the cover on the right suspension module.
 - Locate the suspension calibration gauge in the accessories box.
 - Position the gauge on the subchassis. If the lip is above or below the level of the plinth, a suspension calibration will be required.



- Proceed to step one of the next topic if the lip of the gauge falls below the surface of the plinth.
- Proceed to step five of the next topic if the lip of the gauge is above the surface of the plinth.

... calibrate the suspension

The springs supplied with your Alexandria are the following:

- Grey — front left module
- White — rear left module
- Yellow — right module

This spring combination will accommodate most tone arms. In the unlikely event that you require a different spring than the one supplied, Oracle can supply a red spring which is between the yellow and the green in strength and a blue spring which is stiffer than the green. The color coding can be seen from the inside part of the spring at the wider end.

Step one Removing a suspension module from the plinth.

Note: The upper and lower covers are threaded together through the stem.

- Unscrew the upper cover.
- With one hand lift the plinth, hold the lower cover with the other.
- Pull the module out from under the plinth and use the upper cover to gently seat the plinth on.

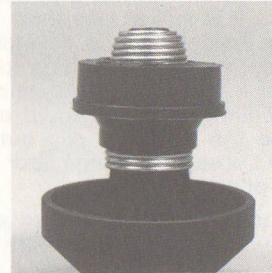
Step two Pre-loading the spring.

Note 1: The spring holder has a deep thread to offer a positive hold of the spring.

Note 2: The reference to clockwise or counter-clockwise must always take into account viewing the spring from above.

Note 3: By hand the spring can only be rotated counter-clockwise in its holder but, using needle nose pliers, it can be held near the tip at the wider end. It is then possible to move it backwards. If this can not be done, rotate the spring counter-clockwise until it comes out and reinstall it from under the holder to the recommended adjustment. Carefully install the spring so it is threaded straight in the holder.

- Adjust the spring so three coils are showing below the holder.



Note 4: Before installing the spring back into the module, pull on the spring at the wider end to stretch it as this will cause it to seat well in the thread.

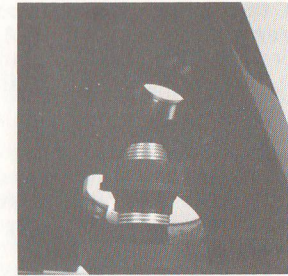
Step three Preparing the spring module.

Note: The upper spring damper is mounted on a nylon sleeve holding the felt damper captive in between.

- Install the upper spring damper over the stem.
- Install the sorbothane damper over the spring holder and seat it well around the lip.
- Install the spring assembly over the upper spring damper.

Step four Mounting the spring module on to the plinth.

- Lift the plinth and remove the upper cover.
- Insert the module from under the plinth making sure to properly fit the sorbothane damper in the recess of the subchassis.
- Guide the lower cover to seat in the counterbore of the plinth.

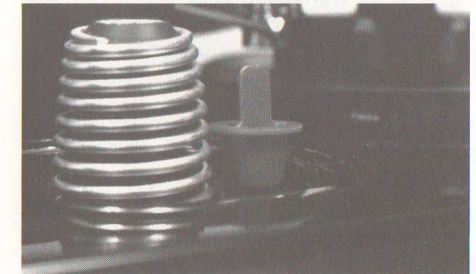


Step five Loading the suspension.

Note 1: Before moving into this step, an old record and the record clamp must be in place on the platter.

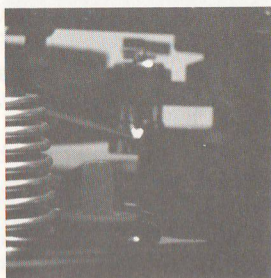
Note 2: Do not install the drive belt nor the phono lead to prevent any bias in the interpretation of the calibration.

- Install the suspension calibration gauge on the subchassis, near the spring.



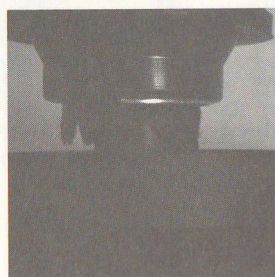
Note 3: With the spring adjusted as per step 2, the lip of the gauge should be well above the surface of the plinth. If the lip is below, it is an indication that the spring used is not suited for this tone arm application, it is too weak. Identify the color code and use the next stiffer spring. With a new spring start the procedure from step one.

- Rotate the spring counter-clockwise by increments of $\frac{1}{4}$ of a turn. Apply a pressure on the record clamp to stretch the spring prior to taking a new reading.
- Repeat this operation until the lip of the gauge is nearly flush with the surface of the plinth. At this time, reduce the increments to $\frac{1}{8}$ of a turn or less until the lip is perfectly flush with the surface of the plinth.



Note 4: In the event that the lip of the gauge goes below the surface, start the procedure from step one again.

Note 5: Once the proper adjustment is achieved, it is important as a final check to verify the relative position of the bottom of the spring with its holder. This can be done by simply lifting the plinth just enough so you can see the spring. If anywhere from almost flush to the spring holder to up to 3 coils out, the spring is in a safe range and the risk of collapsing is nonexistent.



If the spring can not be seen showing below the holder a careful inspection should be performed on this spring to make sure it is still at less than $\frac{1}{2}$ turn inside the holder. This is an indication that the spring is approaching its limit. The use of a softer spring should be considered. Failing to do so could eventually cause the spring to slip out of its holder and possibly damage your record and your phono cartridge!

- Install the top cover making sure to seat it well in the counterbore of the plinth.

... dress the phono lead

- Attach the phono lead to the base of your tone arm.
- Secure the lead to the strain relief clip below the plinth.

Note 1: The lead must create a loop from the base of the tone arm to the strain relief clip. This is done to prevent any interference of the lead with the suspension system.

Note 2: In some applications, the phono lead might be too stiff, it is then recommended to split the molded wire from the plug to the strain relief.

Note 3: If the loop is too long, the lead could come in contact with the table below the turntable. If it is too short, it will keep the suspension system from moving freely. In both cases, this will be detrimental to the sound.

... lubricate the bearing assembly

Note: The special lubricating oil supplied with your Alexandria is designed to protect and preserve the mating parts for many years. Unless contaminated this lubrication will last for many years.

- Remove the platter.
- Pour the content of the vial (2 cc) in the bearing well.

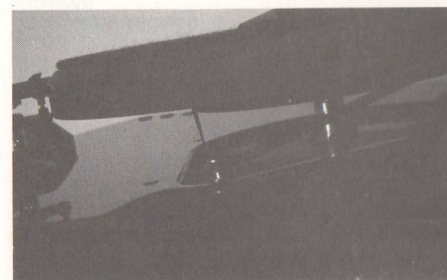
... install the drive belt

Note 1: To reduce contamination problems, wash your hands prior to handling the drive belt.

- Locate the drive belt in the accessories box.

With the platter up side down, place the belt around the hub.

- Bring the platter over the bearing and lower it straight down holding the belt stretched beyond the machined groove in the platter.
- Guide the drive belt around the motor pulley when the spindle first stop over the oil in the bearing.



Note 2: Do not attempt to rotate the platter at this time since it is not yet fully seated against thrust pad. The spindle will first rest over the oil creating and hydraulic lock and the weight of the platter will gradually allow it to seat against the thrust pad. This whole process should be completed within a few minutes.

Note 3: In the event that the drive belt becomes contaminated, clean it with denatured alcohol. Clean the motor pulley and the drive hub at the same time.

... remove the platter with the drive belt installed

Note: The following is not an operation related to the assembly of your Alexandria but a procedure to prevent over stretching the drive belt.

- Place one hand at the rear over the motor, one hand at the front, lift the platter about 25 cm (one inch) and with one finger pull the belt off the motor pulley, then lift the platter straight up.

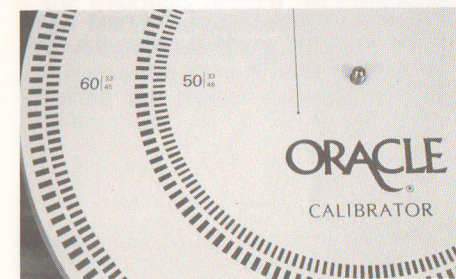
... connect the power supply

- Plug the supply output to the turntable input receptacle at the rear of the turntable.
 - Plug the input cord to an AC outlet.
- Note: Keep the power supply away from the signal carrying leads.

... adjust the 33 and 45 speed

Note 1: The individual speed potentiometers are located under the plinth at the rear of the unit.

Note 2: The inner circles of strobe marks on the calibrator disc are to be used with a supply of 50 Hz. The circle near the center is for 33 RPM, the other one is for 45 RPM. The outer circles are to be used with a supply of 60 Hz. The outermost circle is for 45 RPM, the one next to it is for 33 RPM. The right speed is obtained when the strobe marks on the calibrator disc come to a standstill position.



Note 3: The use of incandescent or fluorescent lighting is required to read the calibrator disc.

Note 4: The 33 speed must always be adjusted first.

- Place the calibrator disc on the platter.
- Select the 33 speed and check for accuracy, adjust as required.
- Select the 45 speed and check for accuracy, adjust as required.

... install the dust cover

Depending on the type of hinges supplied:

- A) - Attach the hinges to the dust cover using a phillips screw driver.
 - Slide the hinge flap in the anchor plates at the rear of your Alexandria.
- B) - Mount the hinges to the plinth of your Alexandria.
 - Slide the dust cover in the hinges.

... operate the record clamp

- Tighten the clamp so the record is pushed flat against the mat.

Note 1: The tapered washer supplied in the tool kit can be used to improve flattening effect of the clamping system.

Note 2: This will be achieved before feeling the clamp is tight.

Note 3: An overtightened record clamp will force the edge of the record to lift off the mat.

Note 4: Damages will occur to your albums when overtightening the record clamp.

... level your Alexandria

Your turntable is now ready to be moved to its final location. It is most probable that the level will differ with the location where the turntable was set up.

- Level the plinth by turning the leveling feet terminating the lower cover. The use of a carpenter level will be required.

What to do...

... if the turntable does not start and the speed indicating L.E.D. does not go on

- Check:
- AC connection to the wall outlet
 - power supply output plug to the input receptacle of the turntable.
 - power supply output, if no output, replace the fuse inside.

... if the turntable does not start and the speed indicating L.E.D. goes on

- Check:
- drive belt
 - motor connection plug for a broken wire
 - drive module for a broken wire
 - defective drive module

... if the platter is not parallel with the plinth

- Check:
- suspension calibration using the suspension gauge

Note: If a relatively important change occurred in one particular suspension module, it could be the sign of an improperly seated spring or sorbothane ring. Check the installation carefully prior to calibrating again.

- Read:
- section How to... assess the suspension calibration
 - section How to... calibrate the suspension

... if an even up or down motion cannot be obtained when gently pressing on the record clamp

- Check:
- leveling of the base
 - for phono lead interference with the movement of the suspension. If uncertain, unplug the lead.
 - previous topic: ... do if the platter is not parallel with the plinth

... if the speed becomes erratic

- Check:
- drive belt to make sure it rides in the center of the motor pulley.
 - motor pulley height (there should be a clearance of about 1/16" between the top of the pulley and the inside top of the platter).
 - lubrication in main bearing
 - drive belt for oil contamination
 - drive belt for excessive wear
 - for damage or defective main bearing
 - for main bearing contamination
 - motor connection plug for a broken wire
 - defective drive module

... for maintenance

- Always use the blue cloth supplied dampened with warm water to clean the glossy finish of your Alexandria, the dust cover or the mat. Do not use it to pick up oil spills.
- Unless contaminated, there will be no need to dismantle the main bearing. If required it is simple to disassemble it from the subchassis. Keep the bearing ass'y vertical since it contains oil. If the oil is contaminated it must be thrown away. Unscrew the bottom cap. Clean the thrust pad and the bushings with denatured alcohol using a cotton swab. Allow a few minutes for the parts to dry. Check the "O" ring to make sure it is not damaged. Do not forget to add the content of one oil vial (2cc) before installing the platter.
- As a precaution to preserve the furniture your Alexandria sits on, it is advisable to use a folded paper towel under the main bearing for a few weeks in the case of a bearing spillage or leakage.
- The drive belt should be replaced yearly for an optimal performance.

We are confident your new Alexandria will give you many years of satisfaction. You are now ready for the real and only purpose of all this... to sit down and relax, to just listen and enjoy beautiful music.