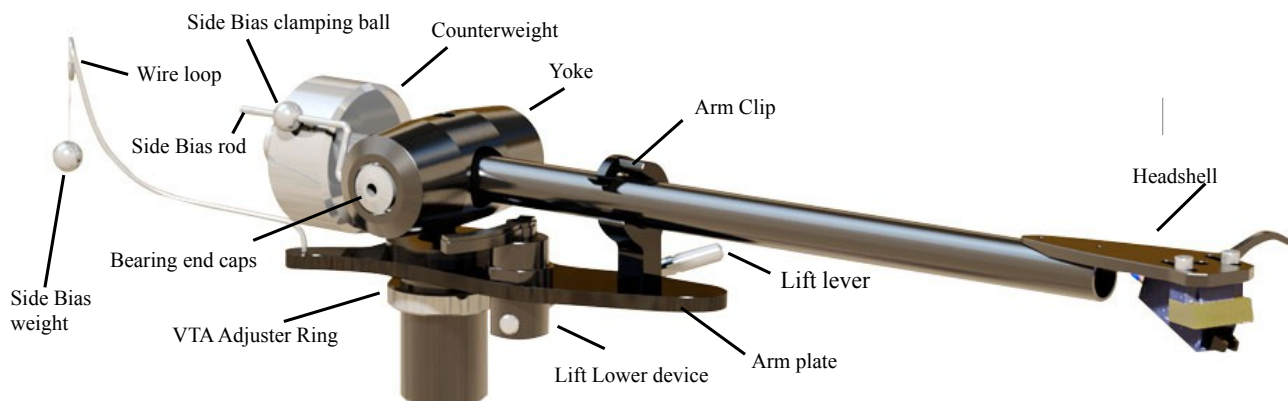


Owner Manual for ALLIANCE, ONYX, SILVER Mk3A & ZEPHYR ARMS



Instructions by Origin live ©



Notes:

You should not be unsettled if there seems to be “play” in the bearings - this is deliberate and you should not adjust or rotate the bearing end caps to try and “correct” this. The bearings are high quality and devoid of play, however the bearing housings are carefully dimensioned to allow a loose fit, thus “floating” the arm.

When lowering the arm onto a record, it is best not to jam down the arm lever completely but rather, just let it fall under its own weight.

The sound of new arms will improve significantly over the first 2 weeks as items bed down and arm wires burn in.

Give special attention to underlined text in these instructions.

LOOSE PARTS LIST

Counterweight
Side Bias Weight and clamp
Wire loop angle diagram
1.5mm A/F Allen key for wire loop
Large clamping nut
Cork Washer
Cable clip
Alignment gauge

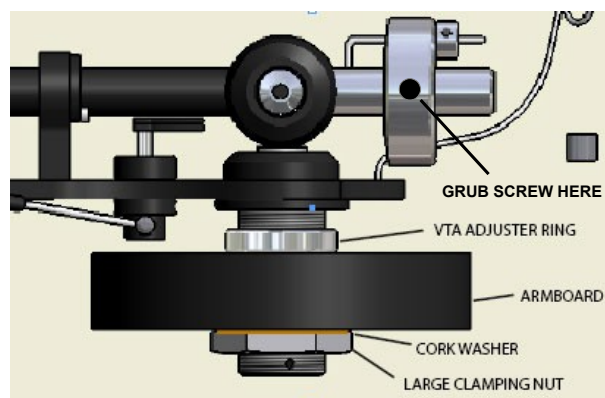
Mounting the arm

If possible, refer also to the mounting instructions from your turntable manufacturer.

HOLE DIMENSIONS

Most decks come with a predetermined hole position specifically set up for arms with “Rega” geometry but if this is not the case with your deck then use the following -

Mounting dimensions are the same for Origin Live and Rega arms in every respect. Dimensions are as follows - centre of platter to centre of arm hole is approx 222mm (295.6mm for 12 inch versions) plus or minus 2mm tolerance. The hole diameter for the arm is 23mm to 25 mm (24 - 25mm if a threaded VTA adjuster is to fit). If you need to modify your existing arm board to enable the arm to fit, please refer to our web site tonearm pages and see side menu for “fitting guidance”. **DIAGRAM OF ARM MOUNTED**



Insert the arm through the arm-board hole and fit the cork washer underneath followed by the large clamping nut. Turn the nut to finger tight as hard as you can (see above diagram).

Leave final height adjustment till later because without the cartridge fitted, this cannot be carried out yet.

For decks that differ from the illustration, you may need to contact the turntable manufacturer for instructions or parts to enable you to fit your OL arm

- Ask how to fit an “old style Rega geometry, threaded base mounting” and they should understand what is required as all Origin Live arms are drop in replacements for all Rega arms. Connecting the arm

FIT CABLE CLIP

For best performance the arm cable should be supported by a cable clip fitted to the underside of the plinth - leave a slight droop on it so that it isn't “tight”. Clipping the cable helps prevent vibration feeding into the arm.

CONNECT ARM TO PHONO STAGE / AMPLIFIER

Usually this is straightforward, however **if you have plastic bullet plugs** you should heat them gently with a hair dryer (or similar) till they relax sufficiently to fit easily onto your amplifier phono sockets. If this is omitted, the plugs can be such a tight fit that you damage the amplifier. Once fitted, you do not need to ever reheat the plugs as they will maintain the correct tightness.

The earth lead should be connected to the earth of your phono stage, preamplifier or amplifier. This earth lead is best separated slightly from the arm signal leads so do not wind it around them for best performance. Avoid pulling the external wires at the base of the arm as they are not indestructible and can become detached if excessive force is used to manipulate them.

If you have XLR plugs, see our web site for fitting instructions- see top navigation bar, click support / owner manuals / tonearms.

Cartridge set up

If you are not familiar with fitting cartridges and encounter any problems then it may help to read the section at the end of this manual.

Carry out the following cartridge set up procedure without deviating from the sequence, as each step affects the next.

MOUNTING

Loosely mount the cartridge in the headshell keeping the stylus guard on if possible. The headshell bolts should initially be fitted, such that the cartridge is just free enough to move its position in the headshell.

Be especially careful when the stylus guard is off, as cartridges have a strong magnetic field. Sometimes metal tools get dragged out of control and cause damage to the stylus cantilever. The best precaution is to keep tools well away from the cantilever, and use a non-ferrous screwdriver.

SET TRACKING FORCE

Find the recommended tracking force for your cartridge from the manufacturers instructions.

For Origin Live arms you will need a stylus force gauge (stylus balance). At this stage setting the force to the nearest 0.3 grams of recommendation is fine as you will need to re-set it again later.

The tracking force is adjusted by sliding the counterweight along the rear stub. **The Alliance and Onyx arms** use a high friction rubber O ring to hold its position and adjustment is best accomplished using a slow twisting motion as you pull or push on the counterweight.

The Silver and Zephyr arms use a grub screw in the side of the counterweight to clamp it in position. For best sound quality the counterweight should be rotated such that the grub screw is tightened from the side as shown on the diagram on page 1.

The trick here is to lightly nip the grub screw when it gets close to giving your desired tracking force setting. You can then gently twist it slightly while pushing it in the desired direction till it gives the correct reading. Once this is achieved clamp up firmly and recheck the reading.

USE OF STYLUS FORCE GAUGE

Most stylus force gauges work on the same principle as a set of scales or balances. For example with the Ortofon Stylus Force Gauge, first place the stylus on the inscribed or graduated portion of the scales. Try the stylus at different points till you find the point where the beam “balances” freely in a roughly level position. You can now read the force being exerted (1 gram = 10 mN if the scale is in mN). From this number you can assess whether you need to increase the tracking force or vice-versa. Move the tonearm counterweight accordingly and re-measure the tracking force. Repeat this procedure until the correct tracking force is obtained. A digital force gauge works slightly differently so follow the manufacturer's instructions.

SET TANGENCY ALIGNMENT (LATERAL TRACKING ANGLE)

First set the cartridge overhang, which is 17mm for all standard 9.5 inch Origin Live and Rega arms (13.2mm for 12 inch versions).

The overhang is measured by positioning the arm tube such that its centre line is directly over the centre of the spindle. Now measure the distance between the stylus tip and the centre of the spindle. This is the overhang.

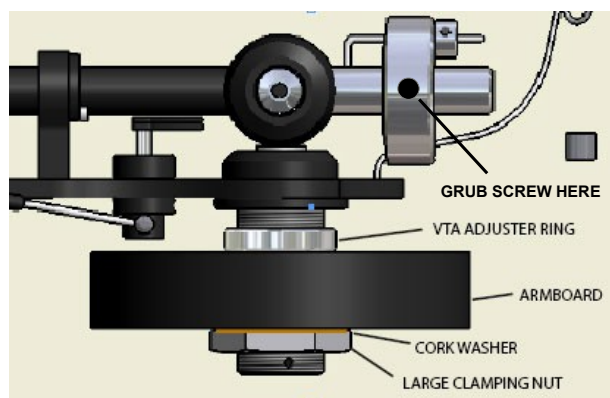
Follow the instructions on the Origin Live alignment gauge. After the cartridge body or cantilever is nicely

aligned with the gauge markings, recheck that the overhang is still correct. If not, repeat the above procedure till all is as it should be.

When all adjustments are correct, carefully tighten the cartridge mounting bolts till they are really tight. Stainless steel allen bolts are best but aluminium or brass are OK. Avoid steel bolts as they are magnetic and degrade your cartridge magnets.

When tightening it helps to keep a firm grip on the cartridge and headshell together so nothing shifts. Slightly tighten each screw in turn, then repeat until tight. Tightening down one screw all the way before tightening the other is almost certain to twist the cartridge out of alignment. However careful you've been, always check the alignment and overhang again after tightening.

Ensure the headshell wires are bent so that they are clear of the record surface. **VTA ADJUSTMENT**



You now need to adjust the height of the arm base to its correct position using the threaded VTA adjuster ring (as shown above).

Rotating the VTA ring clockwise raises the arm (anti-clockwise to lower it). Once the desired height is achieved, tighten the large nut to finger tight thus clamping everything in position.

You do not need to clamp the arm very tightly - finger tight followed by a light nip with a pair of pliers should be sufficient as hard tightening is slightly detrimental to performance - if in doubt, just listen to different tensions and use the one that gives best results.

The correct arm height is achieved by placing the stylus on a flat record. Now adjust the rear height of the arm till the arm tube is dead parallel with the surface of the record – It helps to use the parallel lines on the alignment gauge it to check this by holding the card vertically behind the arm tube as you look at it from the side.

TUNING IN VTA BY EAR

It is always best to experiment with varying the VTA height and listening to the results till you have found

the optimum position. This is necessary because of variations in stylus angle tolerances.

If the sound is a little hard and bright, with thin bass, edgy highs, and harsh midrange then the arm probably needs to be lowered at the arm pillar.

Raise the arm when the sound is dull, the highs rolled off, and lacking definition. This also sounds a lot like the effects of changes in tracking force (too light is edgy, too heavy is heavy and dull). Start with the arm a little low and very gradually raise it, first to where it is parallel to the record, and then so the back of the cartridge is tilting up. Keep track of your settings so you can return to the one you like best where everything snaps into focus. The range of adjustments can be quite broad, as much as 1/2" (at the arm pivot). Play with the full range so you know what it sounds like and don't be diffident.

ANTI-SKATE FORCE (SIDE BIAS)

Side Bias applies an opposing force to balance the natural **inward** drag of a pivoting arm while playing. If left uncontrolled, the stylus would push up against the inner groove wall, causing slight distortion both from mis-tracking and a cantilever skewed in relation to the cartridge generator.

To set side bias carry out the following.

Carefully twist the wire loop to the correct angle relative to the arm base. This is easy using the enclosed paper template which shows a plan view of the arm – the angle only needs to be approximate – the wire loop is held in place by a set screw in the arm plate – this can be re tightened if necessary using the allen key supplied.

Carefully unpack the side bias weight and clamping ball connected by a joining thread. Fit the sliding ball clamp onto the side bias rod which protrudes from the rear of the yoke. You may need to undo the clamping screw to fit the ball. Also ensure the thread is pulled slightly as you slide the ball over the rod.

Thread the thin nylon filament line through the small gap of the wire "eye" to allow the ball weight to hang freely as shown in photo on first page. The side bias force is adjusted by moving the clamping ball along the rod which is then clamped in position using the 1.5mm Allen key to lightly tighten the set screw in the side of the ball.

The side bias cylinder clamp is initially best positioned about 5mm away from the yoke – this is approx the correct position for most cartridges. If you wish to increase the side bias force then unclamp the ball and move it further outwards. To decrease the side force go in the opposite direction.

Checking side bias

Ideally you need a test record with a track for checking side bias, not all do, so check before you buy. The Ultimate Analogue Test LP is one that we recommend as it has an Anti-skating test; 315Hz amplitude sweep to +12dbu (Lateral). Also the Hi Fi News test record also has an anti-skate/bias setting track.

In the absence of a side bias test track, the following method is better than nothing. Find a record with approx 10mm of blank vinyl between the end of the lead out groove and the record label. Lower the stylus needle on the blank uncut vinyl and observe whether the needle skates inwards towards the centre of the record or outwards. Increase anti-skate until the arm starts to slowly drift inward towards the label. Also, watch the stylus when you set it into a groove. Does it move to the right or left relative to the cartridge body? This indicates too much or too little anti-skating.

FINE TUNING (optional)

You now have three adjustments approximated, tracking force, VTA, and azimuth. It's a matter of reiteration to optimise the sound. The change in sound with each of these individual adjustments can be similar. It's therefore necessary, in optimising all three, to experimentally move from one type of adjustment to the next, then to the next, in order to balance the optimisation for all three. It's helpful to listen to female vocals as you proceed. Firstly try deviating from the cartridge's recommended tracking force by small increments - about 0.2 of a gram deviation above and below the manufacturer's basic recommendations. Don't worry about record damage from heavy tracking as most record damage is actually caused by mistracking in the middle-to-high frequencies with too little tracking force rather than with too heavy. If you're getting mistracking at the low (lightest) end of the range and yet the low range is generally sounding the best (and on moderate signals, not heavy passages), then chances are you have either a dirty stylus, a bad record, an accumulation of crud in your cartridge, or a cartridge that's getting old. Changes in tracking force can change how you want VTA adjusted.

WARRANTY

We guarantee arms supplied by ourselves to be free from fault for 2 years and will undertake remedial work, providing the arm has not been modified by any party other than ourselves and has not received maltreatment of any kind.

Additional Notes

Please note that the occasional rewired arm can make a slight "**rustling noise**" through the speakers when it is lifted across the record. This should not be a cause for concern as it is only caused by microphony of the internal litz cable - under normal playing conditions this is inaudible.

You can speed up the process of "burning in" the tonearm wires by ordering one of our burn in cables.

Now that all the hard work is over you can settle back and hear the results - we wish you many hours of enjoyable music and rediscovering your record collection.

Solving Problems

Almost all possible issues that can arise with tonearms are answered on our web site "solving problems section". Before contacting us please visit this area from the top navigation bar and see - Support / Solving problems / Tonearms

If Arm lift is at wrong height – Please see the web site video on how to correct this. From top navigation bar go to Support / owner manuals / tonearms

If the arm "sticks" in playing a record, then check that the curved arm rest is not fouling on the yoke. To see this, hold the arm finger lift and check that the arm can be traversed by hand above the surface of the whole record. This will identify the position of the "stick". The remedy is simply to rotate the curved arm rest till it no longer fouls – this can usually be carried out without loosening the arm rest grub screw.

If the wire loop fouls your lid then it should be gently and permanently bent downwards till clear. You may need to increase the curvature of the bend if you find that the ball weight stops at the wire loop when the arm is at the end of a record. The wire loop is checked at factory but they sometimes get deformed in transit.

Hi-Fi cartridges explained

Optional reading for less experienced users

GENERAL NOTES

As Origin Live supply most makes of hi-fi cartridge we get asked questions from time to time about various issues regarding set up and care. To help newcomers to this area we have published the following notes. These guidelines are of a general nature - we publish them only to be of help and although widely accepted they are not formally authoritative - we cannot accept liability if you

choose to use them and neither do we encourage the time consuming occupation of answering queries surrounding the procedures outlined - these are best referred to the manufacturer of your specific hi-fi cartridge.

For those new or inexperienced to fitting hi-fi cartridges we would state that this is NOT difficult and much of the detail and perfectionism outlined below is for those who like to experiment. We ourselves do not normally check azimuth, or vary tracking forces from the manufacturers recommendations - neither would we worry if the arm was up to 2mm away from the recommended distance from the spindle - although all these details are audible they are generally of a relatively low order, however tracking force and VTA in particular are worth fine tuning should you feel anything is lacking. If things seem complicated we would encourage you not to be put off as it all becomes clear once you get started.

Before fine tuning the set up as described below you should allow the cartridge to "run in" properly - at least 40 hours for some cartridges.

IMPORTANCE OF SET UP

Hi-Fi cartridges travel like a bobsleigh through the groove of a record, even though the groove is only a few thousandths of an inch wide. You hear groove displacements of the order of a few millionths of an inch. (That's like splitting a hair into one thousand pieces.) Every motion or vibration allowed at this level can be heard enormously amplified through your speakers. For this reason it is good to set up the turntable and arm correctly so that the audio cartridge can do it's job properly. For instance a turntable out of level can produce side forces on the pickup cartridge tip that will wear it more on one side than the other. It also has a slightly degrading effect on the wear of your records.

LEVELNESS

When a turntable goes out of level, the platter bearing performance and the arm's dynamics, specifically anti-skate, are negatively affected. So be sure your turntable platter and tonearm mounting board are level - use a spirit level. If the platter is out of level, first adjust the surface that the deck stands on. The suspension (in the case of a suspended sub-chassis design) may also need levelling if it has subsided over time. If the arm board is not level (which means the arm pivot is not vertical), either return it to your dealer for repair or re-level it yourself by shimming between the mounting board and it's support.

HI-FI CARTRIDGES ALIGNMENT

Alignment for hi-fi cartridges needs to be optimised

in three different planes. However, it cannot be perfect in all three planes, so it must be optimised for an overall best balance or compromise. The final authority should always be your ears and preferably over an extended period of listening. Bear in mind that each record is cut slightly differently. Here again, optimise for an overall balance of good sound over a wide range of records. The three alignment planes are as follows. (Please note that it is the stylus, not the cartridge that is being aligned.)

Lateral tracking angle

Viewed from above, the cartridge arcing movement across the record must maintain the stylus in the same relation to the groove as that of the cutting stylus's straight-line tracking; this is Lateral Tracking Angle or Tangency. Apart from linear tracking arms this is always a matter of the best compromise.

Azimuth

Viewed from head on, the stylus must be perpendicular in the groove so as not to favour one groove wall, and therefore one channel, over the other wall/channel; this is Azimuth.

Vertical tracking angle (VTA)

Viewed from the side, the stylus must sit correctly in the groove, at the same angle as the original cutter; this is Vertical Tracking/Stylus Rake Angle. (VTA, however, varies from record to record due to their varying thicknesses. Therefore, this alignment must be set by ear, even more than is the case with the other adjustments).

HI-FI CARTRIDGE ALIGNING TOOLS

Tools required are an alignment gauge, a ruler, a tracking force gauge, a FLAT record, a screwdriver or Allen keys of the right size (usually 2mm), a good light may also be helpful. Small needle-nose pliers and a magnifying glass all help. It also helps to have the hi-fi news test record. Treat the arm with care as some parts are fragile. To this end ensure that tightening of any bolts is carried out gently and without causing undue strain.

Tonearm wiring uses a standard colour code for channel and polarity identification: White = L Hot, Blue = L Ground, Red = R Hot, and Green = R Ground. If the cartridge pins aren't color-coded the same way, they will have letter identifications next to them. Make sure that the arm's wires, wire clips, and solder joints are in very good condition. At minimum, clean the contact between cartridge pins and wire clips by removing and replacing each clip. Holding the clips with needle-nose pliers can make this easier, but be careful that you don't strain the wires where they join the clip. Check the clips for a proper fit on the cartridge pins, and adjust them if necessary.

“Proper” means snug but not tight. To check clip size, hold the cartridge tail-up close to the head wires, grasp a clip firmly right behind its tubular part with the tweezers, line it up with the cartridge pin, and press. If it does not slide on with moderate force, the clip needs opening-up. If it slides on easily but flops around when attached, it needs tightening. Re-sizing is the operation most likely to detach a clip. The trick is to avoid bending the wire at its attachment point or putting too much tension on it. To avoid either, always hold the clip with its wire slightly slack-looped behind it while adjusting. For opening a clip, hold it firmly with the tweezers or needle-noses, right behind its tubular section, and press the tip of the jeweller’s screwdriver into the open end of its longitudinal slot until you see this widen very slightly. (Here’s where you’ll probably need the headband magnifier or reading glasses.) You’re dealing with thousandths of an inch here, so a barely visible spreading may be all that’s needed. Try it for fit, and repeat until it does. For tightening a clip, press a toothpick inside it as far as it will go, then use the needle-nose pliers to gently squeeze together the sides of the clip near its free end, while watching the slot for any change. (Attempting to squeeze a clip without the toothpick inside it will flatten its sides.) Try it for size, and re-squeeze if necessary until the fit is correct. When it is, close up the middle section of the tube to match the end

Proper care and maintenance of cartridges & records

CARE OF CARTRIDGES

Replace your cartridge when due - hi-fi cartridges have a lifespan for their cantilever suspensions and stylus needles. This will vary from manufacturer and type of cartridge as well as other factors like the cleanliness of your record and the care you take of the cartridge. It is wise to enquire on the expected life of your cartridge to the manufacturer so that when the time comes it is replaced accordingly - most importantly this will preserve your records as well as enable you to enjoy the best performance.

If there is a build-up of dust and dirt where the needle enters the cartridge body you should use a small soft brush to brush the debris out. Always brush from the direction of the cantilever to the stylus or you may do damage.

Care of stylus - One well known method of cleaning stylus is the Linn green stuff which is a very fine abrasive paper - this may just be OK on some cartridges which do not have fine stylus tips and fragile cantilever mechanisms. However there is a danger of causing fractures or chips on your diamond stylus on certain fineline tips. This method can also strain the cantilever mechanism.

There are a number of fluids on the market that increase stylus life and help to clean gunge from the needle - a word of caution though - some of these can loosen the stylus glue on the cantilever over time - some fluids can also attack the cantilever or coil material itself or harden the suspension - consult your cartridge manufacturer over this. One key factor is to use the liquid very sparingly on a cotton bud such that it is just damp (not running with fluid) - this minimises the fluid which can run up inside the cartridge.

RECORD CARE AND CLEANING

The stylus itself does a pretty good job of cleaning the grooves and should itself therefore be kept clean. The proprietary brushes etc. for cleaning records will often do little more than brush dirt deeper into the record grooves and are best avoided if possible. Also keep records in high quality non-scratch record sleeves - preferably good ones.

A record cleaning machine is really the only answer for cleaning records properly as they suck out the debris and dust in the record grooves using a powerful vacuum. Tests using a microscope prove that this does the job with 100% success. The performance improvement is also very noticeable when it comes to even new records being played. We supply and highly recommend the Moth record cleaning machine as this is very effective from personal experience and comes with many glowing endorsements – see our web site for details and reviews.