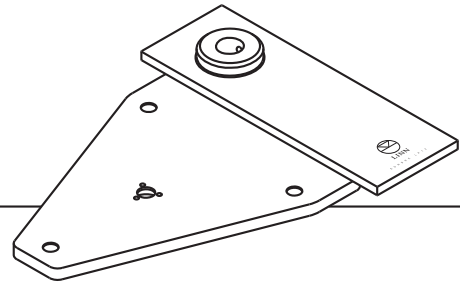




LINN

LP12 KEEL

MACHINED-FROM-SOLID SUB-CHASSIS



INSTALLATION PROCEDURE

Copyright and Acknowledgements

Copyright © 2007 Linn Products Limited. First edition October 2006.

Linn Products Limited, Glasgow Road, Waterfoot, Eaglesham, Glasgow, G76 0EQ, Scotland, United Kingdom.

All right reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publisher.

Trade marks used in this publication: **Linn** and the **Linn logo** are registered trade marks of Linn Products Limited. **KEEL**, **LP12**, **CIRKUS**, **LINGO** and **VALHALLA** are trade marks of Linn Products Limited.

The content of this manual is furnished for information use only, is subject to change without notice, and should not be construed as a commitment by Linn Products Limited.

Linn Products Limited assumes no responsibility or liability for any errors or inaccuracies that may appear in this manual.

Linn Products Limited disclaims any proprietary interest in trade marks and trade names other than its own.



Contents of Upgrade Kit

Qty	Description
1	KEEL (integrated sub-chassis and armboard)
1	4 mm hex driver
1	TX10 security torx driver
1	MECH 537/1 – security torx screw
2	MECH 166 – star washers
1	MECH 528 – ball-ended locking screw (factory fitted to KEEL)
1	CONN 1233 – earth wire assembly
1	This installation manual

The Linn CIRKUS Kit

The CIRKUS upgrade for the LP12 focuses on bearing performance and the connection of the bearing housing to the sub-chassis. We recommend that all LP12s have the CIRKUS kit fitted before the KEEL is fitted.

Tools / Equipment Required

- LP12 jig
- LP12 bearing cap
- Small flatblade screwdriver
- No2 Posidriv screwdriver
- 3 mm hex key
- 8 mm hollow socket tool

Procedure

Disconnect the LP12 from the mains electricity supply and all other equipment.

Remove the lid.



Remove the outer platter and drive belt.

CAUTION:

Take care not to directly touch the outer and inner platters (use a cloth or gloves when handling these).

Remove the inner platter. Lay the inner platter upside-down to avoid staining from the oil on the spindle.

Fit the bearing cap to the bearing housing.

Place the LP12 on the jig and secure it using the side-clamps.



Remove all the screws holding the base board in place. Support the base as you do this.

Remove the base board.



Loosen the grub screw at the base of the arm collar. Disconnect the arm cable from the underside of the tonearm.



Fit the appropriate guard to the stylus.

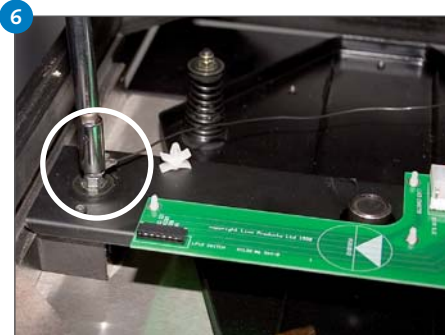
Support the tonearm and, using the 4 mm hex driver (supplied), loosen the arm bolt and carefully lift the tonearm out of the arm collar.

Set the tonearm aside, preferably in its original packaging.



Loosen the clamps on the jig. Turn the LP12 upside down and secure it to the jig.

Disconnect all cables going to the power supply board (example shows the LINGO board but a different type of board may be fitted, e.g. VALHALLA). Note the order of the wiring to the motor connector.



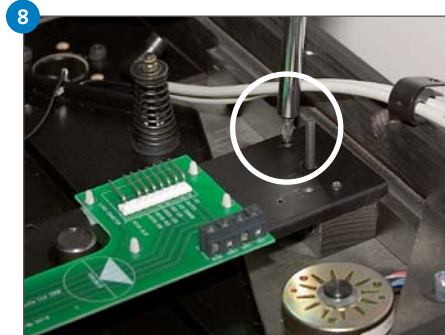
Use an 8 mm socket tool to remove the nuts from the wiring strap.

The front end has the earthing cable clamped between two nuts. The rear end has the P-clip (holding the arm lead) clamped between two nuts.

Remove all four nuts, washers, cables, etc., and set aside.



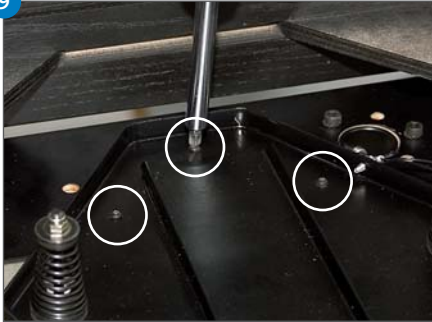
Remove the two screws holding the cable clamp.



Remove the four wood screws holding the strap to the plinth (two at each end).

Remove the wiring strap, complete with its power supply board.

9



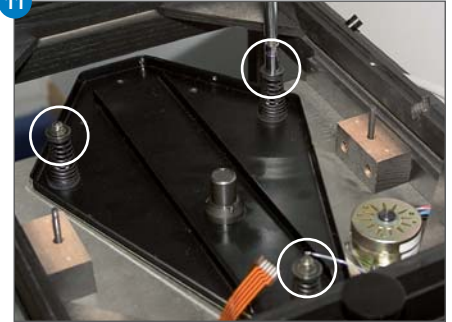
Remove the three screws holding the armboard to the sub-chassis.

10



Disconnect the two earthing cables from the sub-chassis.

11



Using an 8 mm socket tool, remove the nut from each of the three suspension springs.

Remove the springs, together with the grommets and washers, and set them aside.

Negotiate the sub-chassis out of the plinth. Ensure the plinth and top plate do not get damaged.

12



Lie the sub-chassis down on a flat surface and using a 3 mm hex key remove the three bolts holding the bearing housing on to the sub-chassis.

Remove the bearing cap in order to allow the bearing housing to pass through the hole. Keep the bearing housing upright as you do this and replace the cap as soon as it has been removed from the sub-chassis to prevent oil spillage.

13



Take the KEEL and fit the bearing housing. As in the previous step, remove the bearing cap to allow the bearing housing to pass through the hole. Replace the cap as soon as you have done this to prevent oil spillage.

Refit the three bolts to the KEEL and bearing housing.

14



Very carefully turn the KEEL upside down and fit a large grommet to each of the suspension holes.

Ensure all grommets are fully inserted so that they protrude from the top side, as shown.

15



Insert the KEEL (upside down, since the LP12 is upside down) into the LP12. Carefully insert the armboard section at an angle, as shown. Be very careful not to scratch or dent the armboard, plinth or top plate.

16



Carefully lower the sub-chassis section, ensuring that the LP12 suspension bolts pass through the grommets on the KEEL.

Look underneath and ensure the armboard section is correctly located in the plinth. Ensure the large grommets fitted to the KEEL have not been dislodged.

Fit a spring, small grommet and washer to each suspension bolt. The flat side of the small grommet should face upwards, with the ridge fitting into the top of the spring.

Fit a nut to each suspension bolt and tighten until the bolt just protrudes from the nut.

17



Reinsert the wiring strap. Ensure it is correctly oriented – the switch connector should be at the front of the LP12 and the power and motor connectors at the back.

Refit the four wood screws (two at each end of the wiring strap).

18



Refit a large washer and nut to each of the wiring strap bolts and tighten.

19



Take the new earth wire assembly and fit the large eyelet of the cable to the bolt at the front end of the strap, and fit a second nut.

Align the earthing cable so that it is kept well clear of all springs, and tighten the nut so that the cable remains in this alignment. If it looks as if it may stray towards any springs, loosen the second nut and realign the cable, holding it there as you retighten the nut.

20



The location of the earthing point on the KEEL is shown.

21



Using the TX10 security torx driver, the security torx screw and the star washers (all supplied – see picture), fit the other end of the two earth cables to the earthing point of the KEEL.



IMPORTANT – One star washer should be positioned between the two earthing cables. The other should be positioned between the screw head and the upper earthing cable.

22



Reconnect all cables to the circuit board. If the flexible foil type of switch connector is fitted, ensure the silver side is facing upwards as shown.

23



Clamp the power supply cable to the wiring strap. Ensure that there is no tension in the cable between the clamp and the connector but also ensure there is not too much slack. The cable shown is correctly adjusted.

24



Loosen the clamps on the jig and very carefully turn the LP12 upright again and secure it to the jig.

Fit a large flat washer onto the rear wiring strap bolt then fit a new P-clip* and arm-cable, fixed to the plinth as shown. Fit the nut but do not tighten fully. Ensure the cable does not touch the plinth.

* Available as an upgrade.

25



Refit the tonearm and tighten the arm collar bolt assembly.

DO NOT OVERTIGHTEN as it is possible to damage the bearings in the arm.

It is not necessary to adjust the tonearm to its correct height etc. at this stage.

Suspension Adjustment, Tonearm Adjustment Etc.

The KEEL is the same weight and has the same weight distribution as the original sub-chassis, so suspension adjustment, tonearm adjustment etc. do not differ from the long established procedure as detailed in the LP12 Service Manual.

The LP12 Service Manual is available on the LINFO trade website (<http://info.linn.co.uk>).

NOTE:

Drive belt replacement is recommended if it has not been replaced for five years or more.

Linn Products Limited

Glasgow Road, Waterfoot, Eaglesham,
Glasgow G76 0EQ, Scotland, UK
Phone: +44 (0) 141 307 7777
Fax: +44 (0) 141 644 4262
Helpline: 0500 899 909
Email: helpline@linn.co.uk
www.linn.co.uk

Linn Incorporated

8787 Perimeter Park Boulevard, Jacksonville,
FL 32216, USA
Phone: +1 (904) 645 5242
Fax: +1 (904) 645 7275
Helpline: 888-671-LINN
Email: helpline@linninc.com
www.linninc.com

Linn Deutschland GmbH

Hühnerposten 1d, D-20097 Hamburg, Germany
Phone: +49-(0) 40-890 660-0
Fax: +49-(0) 40-890 660-29
Email: info@linngmbh.de
www.linn.co.uk

