

Spinning and twisting rings
Sintered rings

PROSINO
A Subsidiary of the Rieter Group

Sintered Rings

Installation, start-up and maintenance guide

Practical recommendations
for sintered rings

Installation

Storage

1. Store rings in their original sealed packaging until installation to protect them from contamination and oxidation
2. Store rings horizontally whenever possible to avoid oil accumulation in one area
3. Re-impregnate rings that have been stored for more than three months

Handling

1. Avoid touching rings with bare hands
2. If handling with bare hands is unavoidable, ensure hands are clean and apply a light film of oil to the ring surface before installation

Installation

1. Avoid excessive tightening forces during installation
2. Verify that the fixing screws of the ring holder are secure
3. If screws need to be re-tightened, take care not to over-tighten them, as this may cause the ring to crack, distort or break
4. Check the centering between the ring and spindle
5. Verify the correct positioning of the balloon control ring and snail wire pigtail
6. Ensure that washers do not interfere with traveler movement
7. Ensure that washer are flush with ring shoulders

Note

Accurate centering of the ring and spindle is essential for stable traveling running, consistent yarn tension and maximum ring service life.

Start Up Instructions

Ring condition check

1. Before installation, inspect each ring for proper lubrication condition. Rings may appear wet, lightly lubricated or nearly dry depending on storage and environmental conditions.
2. If the rings appear excessively wet, wipe them with a clean, soft cloth before installation.
3. If the rings appear dry, re-impregnate them using one of the procedures described in this guide or immerse them in oil for 48 hours before installation.

Machine start-up

1. Ensure proper traveler lubrication at least 24 hours before starting production. Verify that all wicks are functioning correctly.
2. Install the traveler normally selected for the target operating speed. Whenever possible, start the machine at a reduced speed to verify proper traveler running, ring installation and holder clearance.

Traveler inspection

1. After two doffings, inspect several travelers. Wear marks should be visible on the vertical surface as well as on the upper and lower contact areas.
2. If travelers appear excessively lubricated, wipe the ring surface with a clean dry cloth. If travelers appear dry, wipe the ring surface with an oiled cloth.
3. Once travelers have been verified, operate the machine at the normal production speed and replace travelers according to process requirements.

Special procedure for fiberglass applications

Some fiberglass yarn producers have reported improved ring surface conditioning by operating a nylon traveler together with a metal traveler during machine start-up. In this configuration, the yarn must not pass through the metal traveler. The metal traveler should be replaced after the first doffing and subsequently once per week for at least one month.

When using an additional ISO 25 metal traveler together with a nylon traveler during start-up, the additional friction introduced by the metal traveler is equivalent to approximately ISO 12.5 in nylon traveler resistance. For example:

Nylon traveler ISO 400 + metal traveler ISO 25 $\approx$ theoretical nylon traveler ISO 412.5

Nylon traveler ISO 355 + metal traveler ISO 25 $\approx$ theoretical nylon traveler ISO 367.5

For this reason, the standard nylon traveler weight can generally be maintained when using an additional ISO 25 metal traveler.

Recommended Lubricants

Proper lubrication is essential for maintaining consistent oil flow, stable traveler running and maximum ring service life. Prosino rings are usually impregnated with TEXTOL RLS ISO 15 oil from ZELLER + GMELIN.

Recommended oil

TEXTOL RLS ISO 15 OIL

ZELLER + GMELIN
Schlosstrasse, 20
73054 Eisingen/Fils
Germany
Phone: +49 7161 802-0
Fax: +49 7161 802-546

Alternative oil

SYNTHESO XOL 12 OIL

KLÜBER LUBRIFICATION
Geisenhausenstrasse, 7
81379 München
Germany
Phone: +49 89 7876-0
Fax: +49 89 7876333

Care and Maintenance

Routine maintenance

- Keep rings clean and lubricated, using a clean cloth lightly moistened with oil, possibly at every doff or once per week
- Clean ring holders and ring rails regularly to remove dust and accumulated yarn fiber debris

Inspection checklist

- Verify that travelers do not contact any part of the holders or fixing screws
- Inspect oil-feeding wicks regularly and replace damage wicks immediately
- Confirm that rings remain securely mounted in a horizontal position
- Check that rings fit correctly in their holders or ring rails

Note

Never apply grease to Prosino Nylon 4 and Nylon 5 sintered rings. Grease may block the porous structure and impair the function of the ring.

Re-Impregnation

Sintered metal rings must be re-impregnated regularly to ensure a correct and continuous oil flow. Re-impregnated frequency depends on operating conditions and machine parameters.

Method A: Vacuum impregnation

Vacuum impregnation provides a fast and effective method for restoring oil content within the ring structure. However, this method offers limited cleaning capability.

Method B: Warm oil impregnation

1. Immerse the rings in clean oil heated to 90°C – 110°C and allow the oil bath to cool naturally.
2. During cooling, oil penetrates the porous structure of the ring as air escapes from the material.
3. Repeat the process using fresh oil to remove residual contaminants accumulated during operation.
4. After impregnation, the rings are ready for re-wicking.

Note

Use suitable personal protective equipment when handling hot oil. Follow all local safety procedures for heated liquids.

Wicking (“S. I. Lubrication”)

Follow the procedure below to replace wicks and wick covers

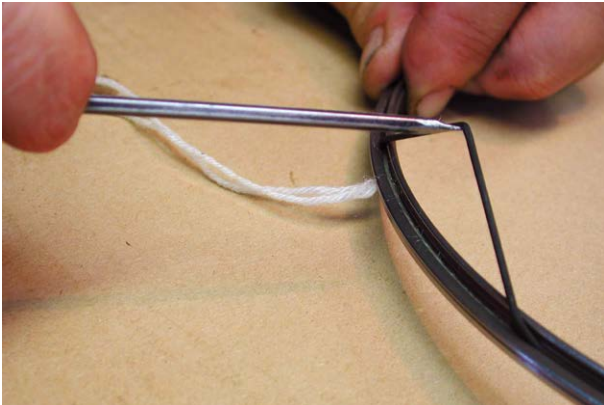
1. Remove the wick cover with a sharp needle.



4. Loosen the wick using a needle.



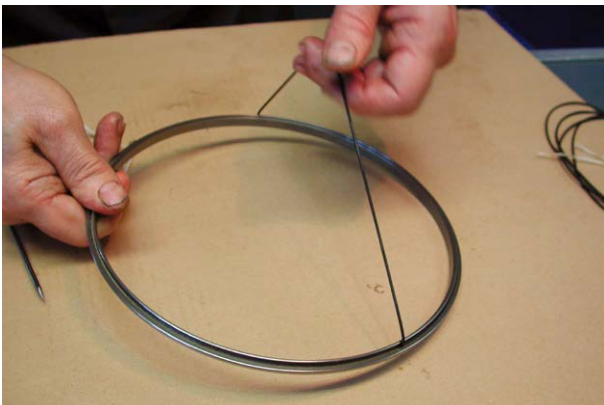
2. Pull gently the wick cover.



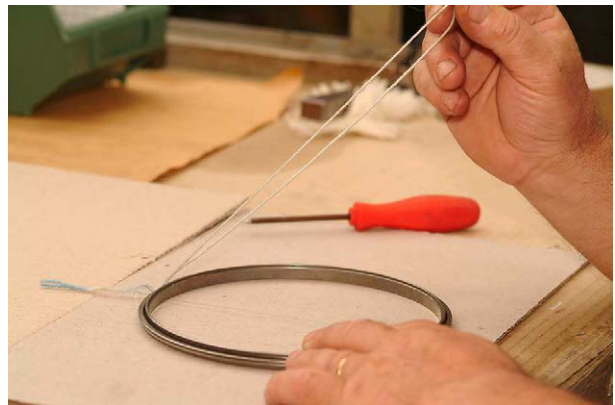
5. Continue removing the wick.



3. Remove the wick cover completely.



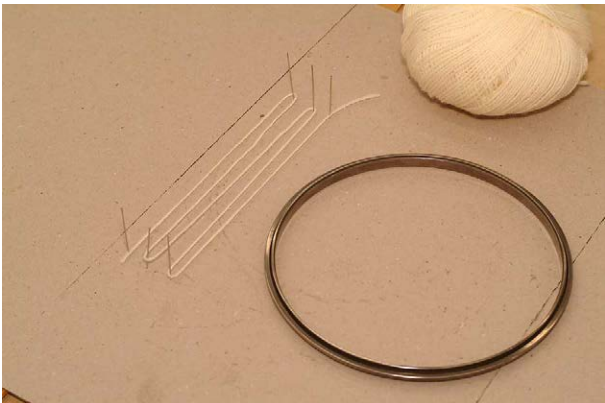
6. Remove the wick with by hands.



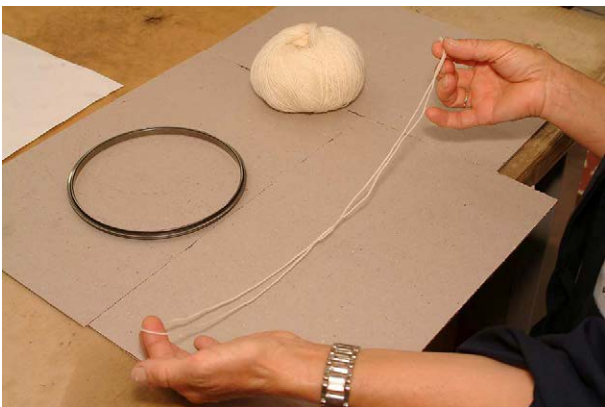
7. Prepare a wire guide from thin steel wire.



8. Cut a replacement wick to approximately five times the ring diameter.



9. Fold the wick in half.



10. Prepare the wire guide.



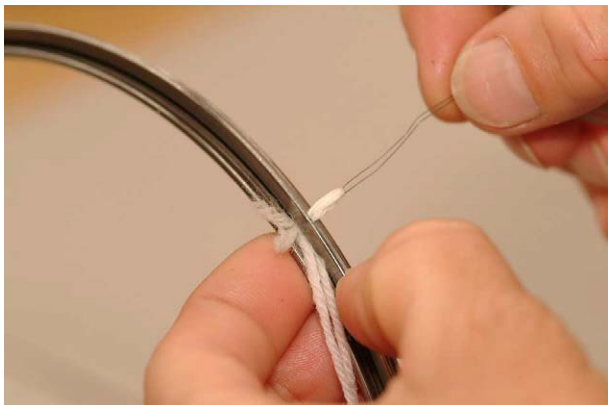
11. Insert the wire guide into the lubrication hole.



12. Place the wick into the wire guide.



13. Pull the wire guide through the hole to insert the wick.



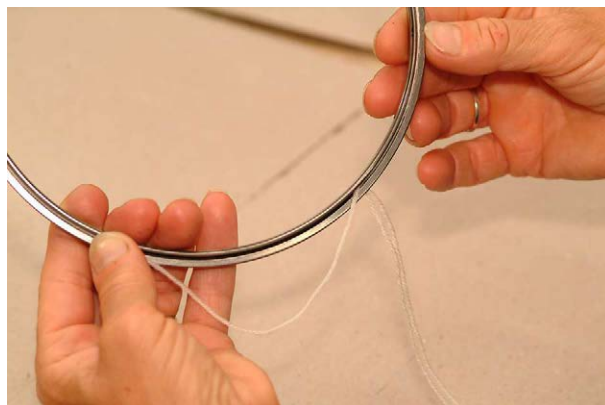
16. Wrap the wick around the ring.



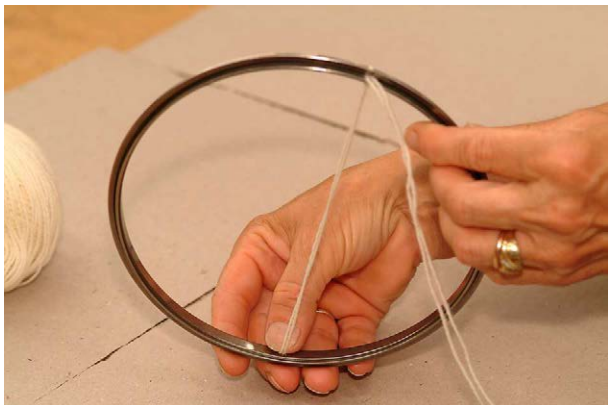
14. Pull the wick through by hand.



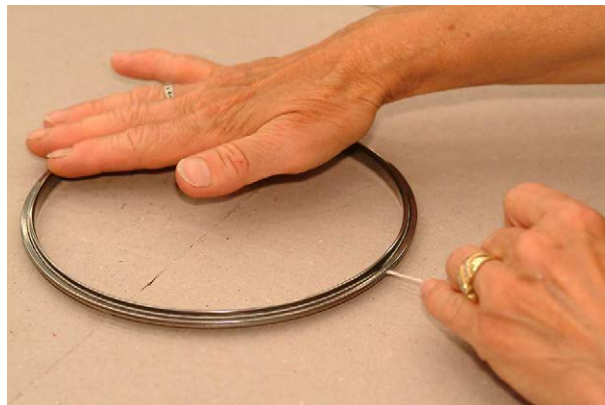
17. Continue wrapping the wick around the ring.



15. Adjust the wick tail length to approximately one ring diameter.



18. Gently pull the wick through the hole as shown.



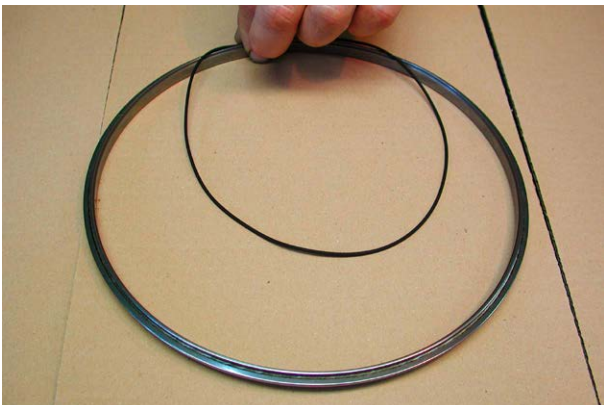
19. Use a stick to complete the wicking process.



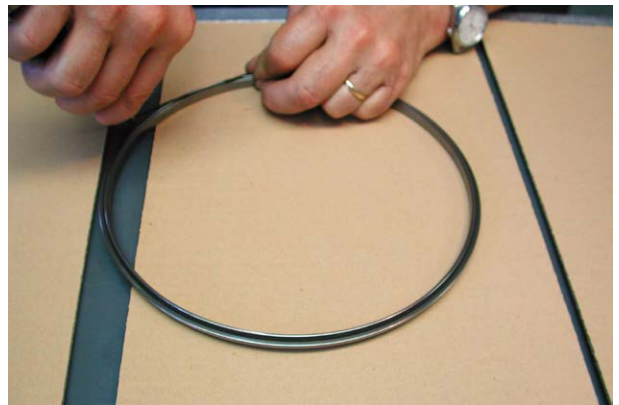
22. Detail view of the rubber seal installation.



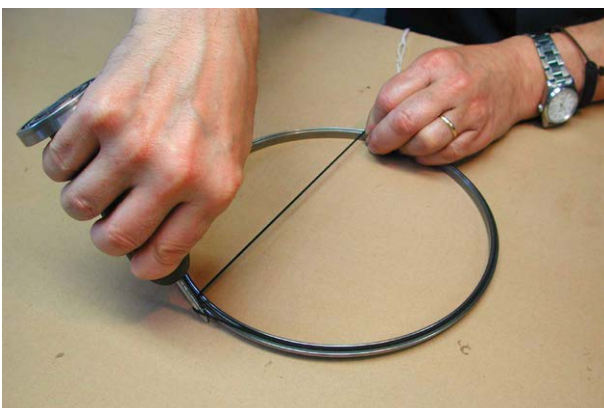
20. Begin installation of the wick cover by inserting the rubber seal into the groove.



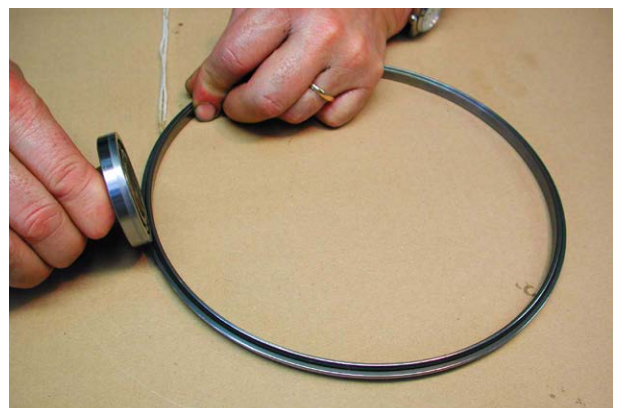
23. Continue inserting the wick cover in the groove, until the full circumference is covered.



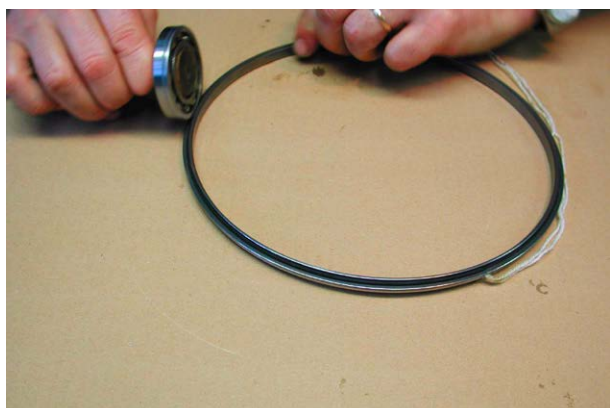
21. Carefully fit the rubber seal around the ring.



24. Gently press the rubber seal into the groove using a suitable tool.



25. Continue pressing the rubber seal into the groove until installation is complete.



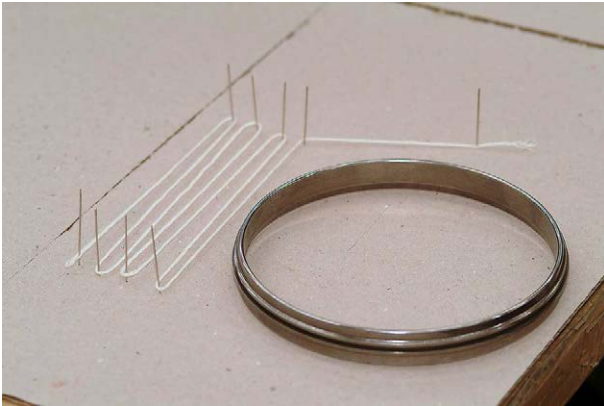
26. Verify that the rubber seal is fully pressed into the groove.



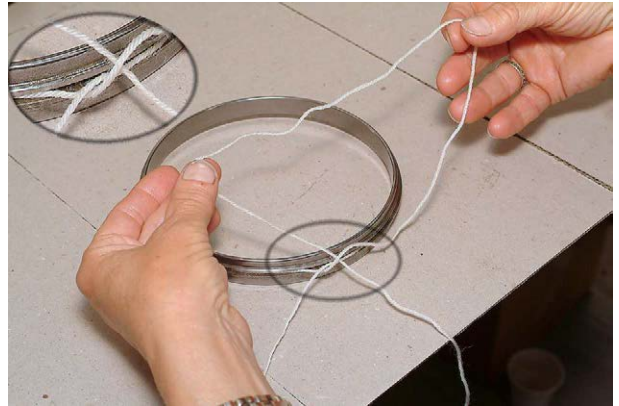
Wicking (“S. E. Lubrication”)

Follow the procedure below to replace the wicks

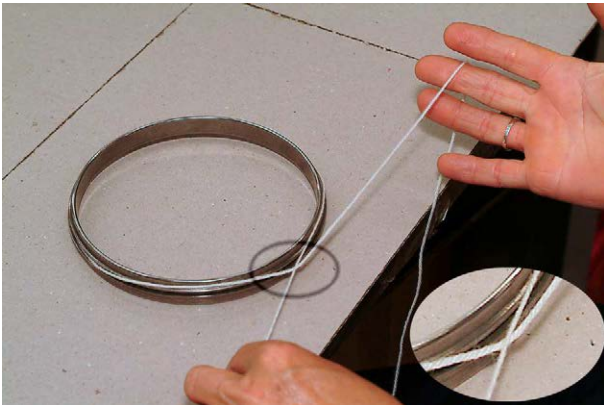
1. Prepare the wick (eight times the ring diameter length).



4. Form a knot as shown.



2. Wrap the wick around the ring.



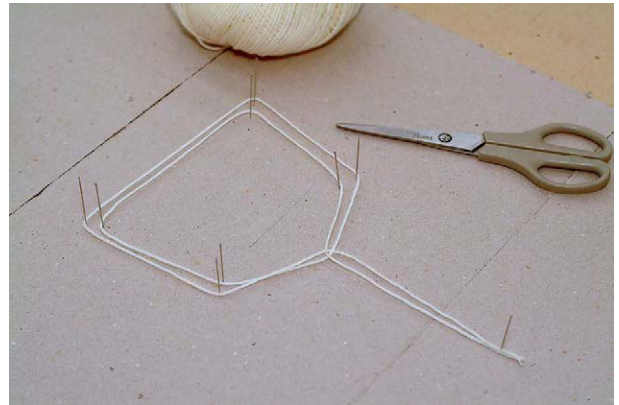
5. Insert the wick in the ring groove.



3. Wrap the wick another time around the ring.



6. The wick should be wrapped as shown.



7. Verify correct wick installation by gently pulling the wick.



8. The wicking is complete.



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