



# Service and Support

## *Vertical Shaft Replacement Guide*

### SR RETRACT THRUSTERS

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**SS**

# Failure to follow the considerations and precautions can cause serious injury, damage and will render all warranties given by Sleipner Motor as VOID.

MC\_0411

## Responsibility of the Installer

MC\_0038

The installer must read this document to ensure necessary familiarity with the product before installation.

Instructions in this document cannot be guaranteed to comply with all international and national regulations. It is the responsibility of the installer to follow all applicable international and national regulations when installing Sleipner products.

The recommendations given in this document are guidelines ONLY, and Sleipner strongly recommends that advice is obtained from a person familiar with the particular vessel and applicable regulations.

This document contains general installation instructions intended to support experienced installers. If you are not skilled in this type of work, please contact professional installers for assistance.

If required by local regulation, electrical work must be done by a licensed professional.

Appropriate health and safety procedures must be followed during installation.

Faulty installation of Sleipner products will render all warranties given by Sleipner Motor AS.

## Considerations and Precautions

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- The boat must be on land to achieve this service job. Ensure to clean inside of tunnel area.
- Turn off all electrical/hydraulic power and follow health and safety legislation before engaging work on the thruster.
- The installer must follow the instructions described in this document methodically and carefully. The installer alone has responsibility for the installation of the replacement parts as described in this document.
- Sleipner warranty the replacement parts supplied only.

## Required Tools

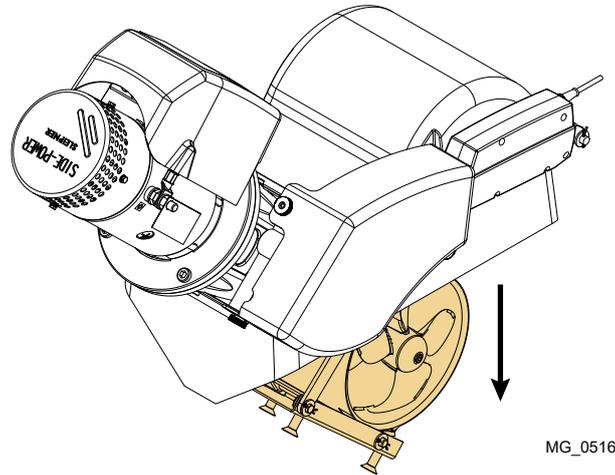
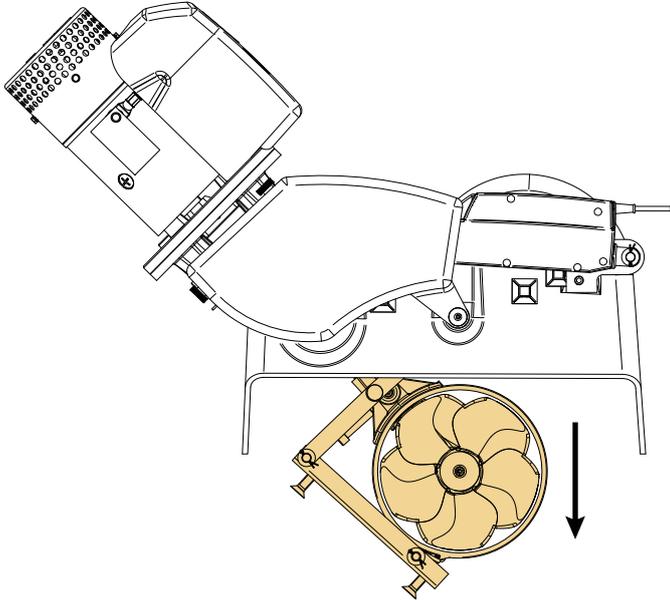
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Tool	Description
Toolbox	Complete toolbox with various tools
Oil/Lubrication	Gear oil and grease (Staburags NBU 12K or equivalent)
Screw drivers	
Allen keys	Kit with various sizes
Rags	
Oil container	
Spanner	
Torque wrench	
Hammer	
Tie wraps	
Glue	MS Polymer

### Warranty statement

1. The equipment manufactured by Sleipner Motor AS (The "Warrantor") is warranted to be free from defects in workmanship and materials under normal use and service.
2. This Warranty is in effect for of two years (Leisure Use) or one year (Commercial use) from the date of purchase by the user. Proof of purchase must be included, to establish that it is inside the warranty period.
3. This Warranty is transferable and covers the product for the specified time period.
4. In case any part of the equipment proves to be defective, other than those parts excluded in paragraph 5 below, the owner should do the following:
  - (a) Prepare a detailed written statement of the nature and circumstances of the defect, to the best of the Owner's knowledge, including the date of purchase, the place of purchase, the name and address of the installer, and the Purchaser's name, address and telephone number;
  - (b) The Owner should return the defective part or unit along with the statement referenced in the preceding paragraph to the warrantor, Sleipner Motor AS or an authorized Service Centre, postage/shipping prepaid and at the expense of the Purchaser;
  - (c) If upon the Warrantor's or Authorized Service Centre's examination, the defect is determined to result from defective material or workmanship, the equipment will be repaired or replaced at the Warrantor's option without charge, and returned to the Purchaser at the Warrantor's expense;
  - (d) no refund of the purchase price will be granted to the Purchaser, unless the Warrantor is unable to remedy the defect after having a reasonable number of opportunities to do so. Prior to refund of the purchase price, Purchaser must submit a statement in writing from a professional boating equipment supplier that the installation instructions of the Installation and Operation Manual have been complied with and that the defect remains;
  - (e) warranty service shall be performed only by the Warrantor, or an authorized Service Centre, and any attempt to remedy the defect by anyone else shall render this warranty void.
5. There shall be no warranty for defects or damages caused by faulty installation or hook-up, abuse or misuse of the equipment including exposure to excessive heat, salt or fresh water spray, or water immersion except for equipment specifically designed as waterproof.
6. No other express warranty is hereby given and there are no warranties which extend beyond those described in section 4 above. This Warranty is expressly in lieu of any other expressed or implied warranties, including any implied warranty of merchantability, fitness for the ordinary purposes for which such goods are used, or fitness for a particular purpose, and any other obligations on the part of the Warrantor or its employees and representatives.
7. There shall be no responsibility or liability whatsoever on the part of the Warrantor or its employees and representatives for injury to any person or persons, or damage to property, loss of income or profit, or any other consequential or resulting damage or cost which may be claimed to have been incurred through the use or sale of the equipment, including any possible failure or malfunction of the equipment, or part thereof.
8. The Warrantor assumes no liability for incidental or consequential damages of any kind including damages arising from collision with other vessels or objects.
9. This warranty gives you specific legal rights, and you may also have other rights which vary from country to country.

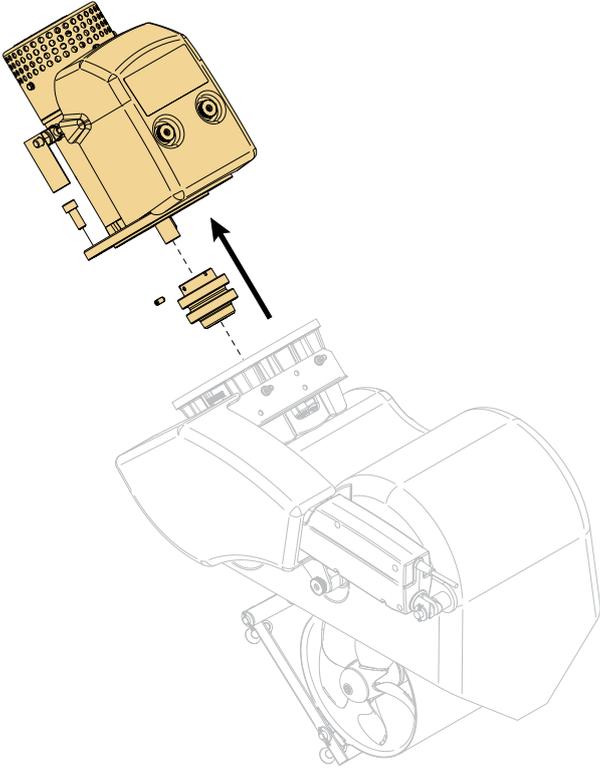
1. Turn the thruster on and open the retractable hatch door to allow access for the replacement process.
2. While the hatch is open hit the main switch to ensure the retract mechanism does not automatically close.
3. Turn off all power supply.



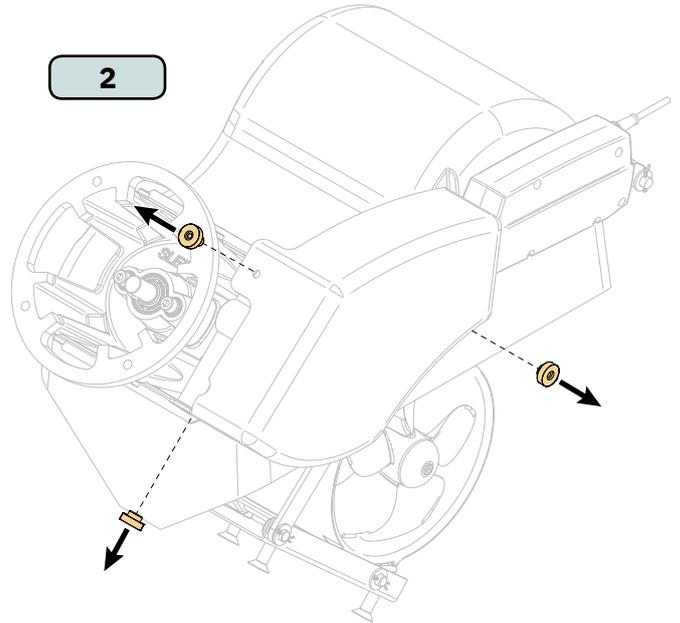
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1. Remove motor.
2. Remove actuator cover bolts.
3. Remove actuator cover.
4. Remove split pins and pin on actuator. Remove circlip ring and the shaft key from the drive shaft.

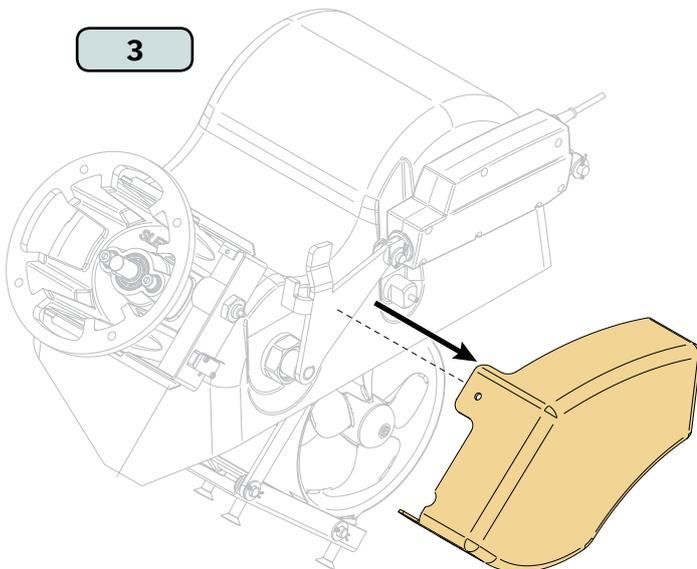
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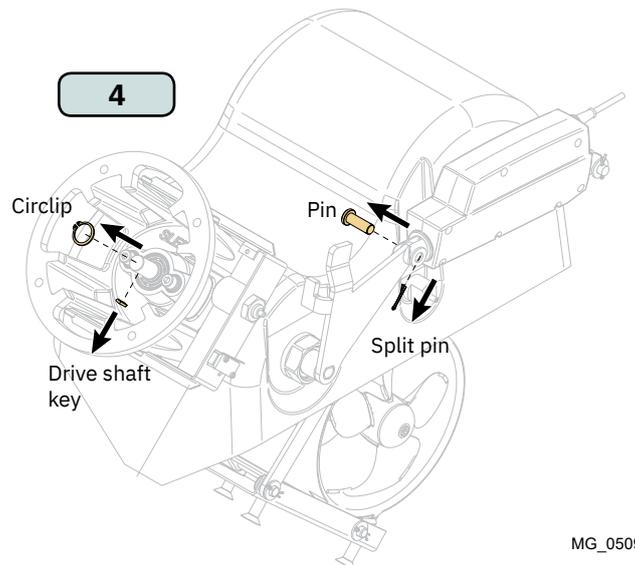
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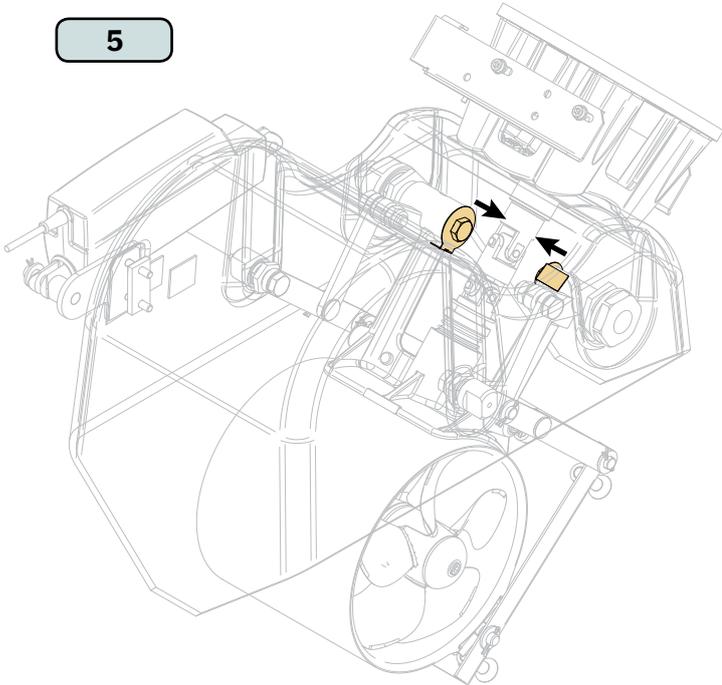


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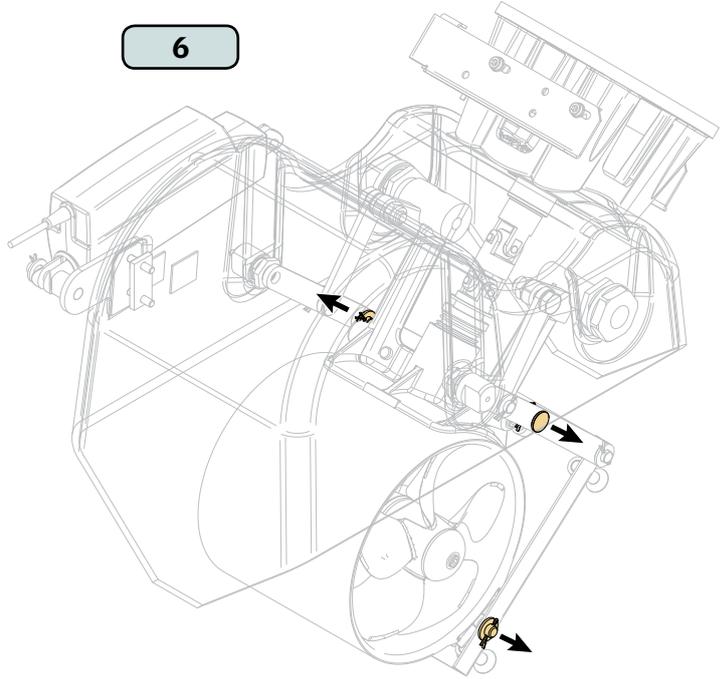


5. Bend up washer clip and unscrew bolts on both sides.
6. Remove split pins, washers and pins from these locations to allow the hatch to detach from the retract system. retract arm bolts on both sides.
7. Remove the hatch assembly.
8. Remove the retract arm side shaft.

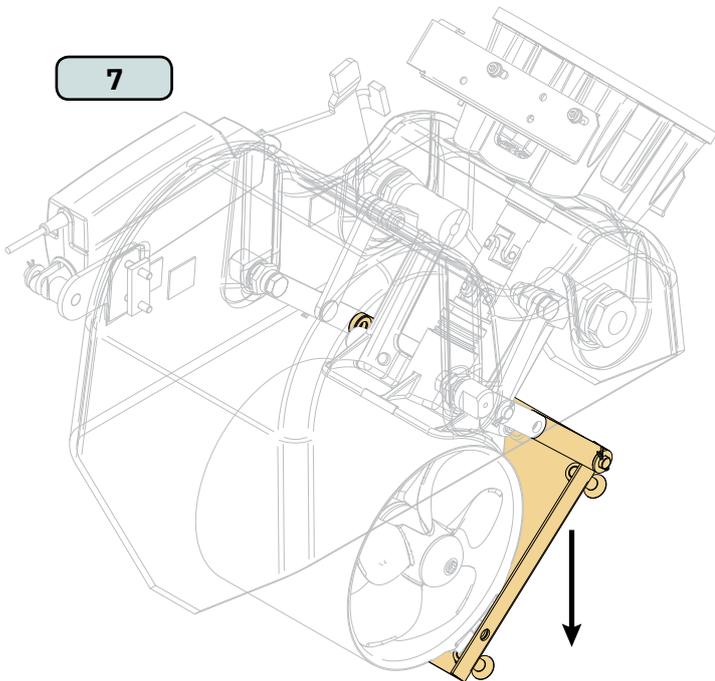
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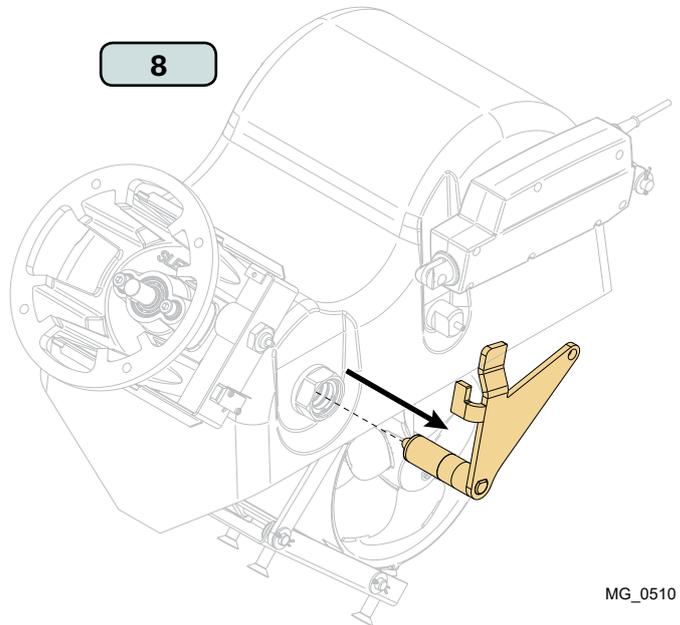
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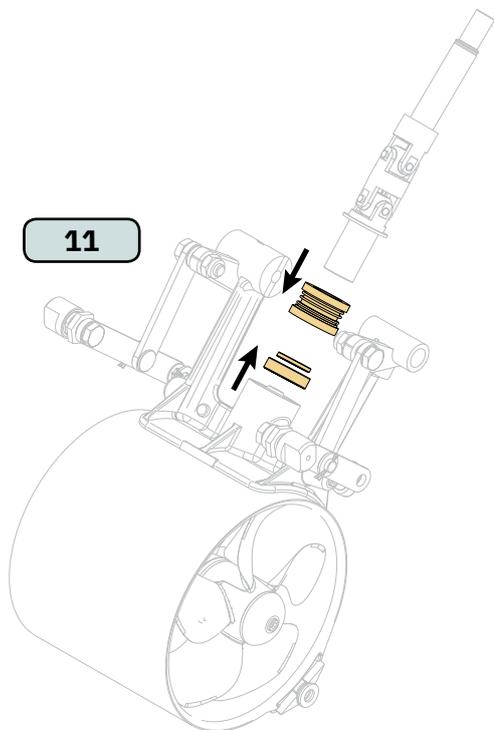
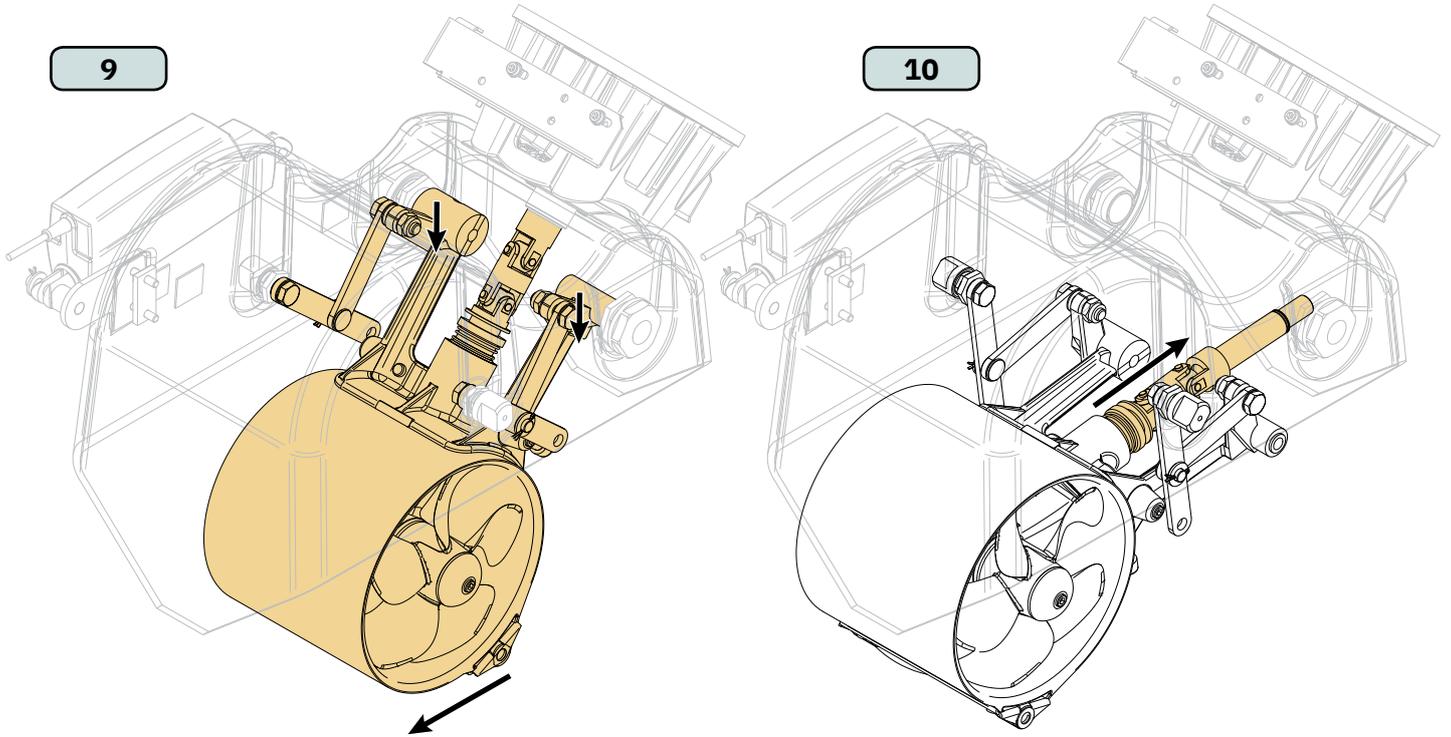
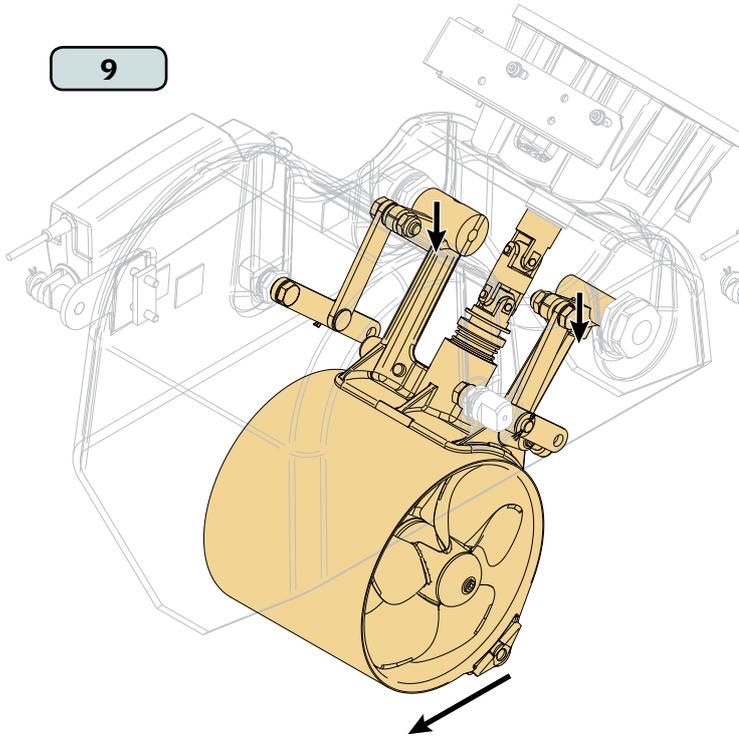


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9. Swing down and back the retract assembly for easy access to the drive shaft
10. Remove old drive shaft, take care not to damage seals.
11. Remove spring seal from the old drive shaft, take care not to damage seals. Carefully remove the ceramic seal from the retract gear leg.

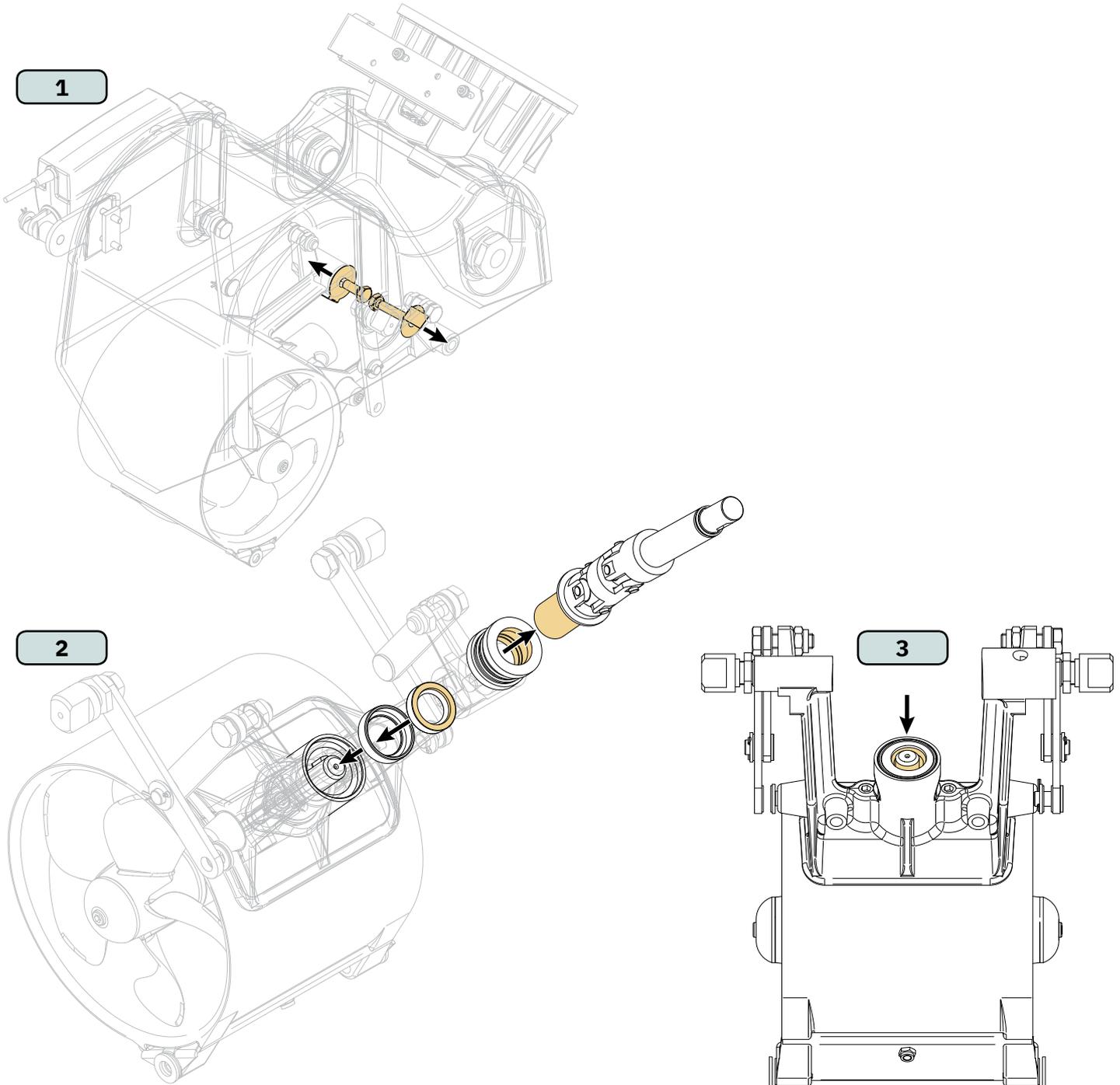


**Reassemble the SR thruster with the new drive shaft.**

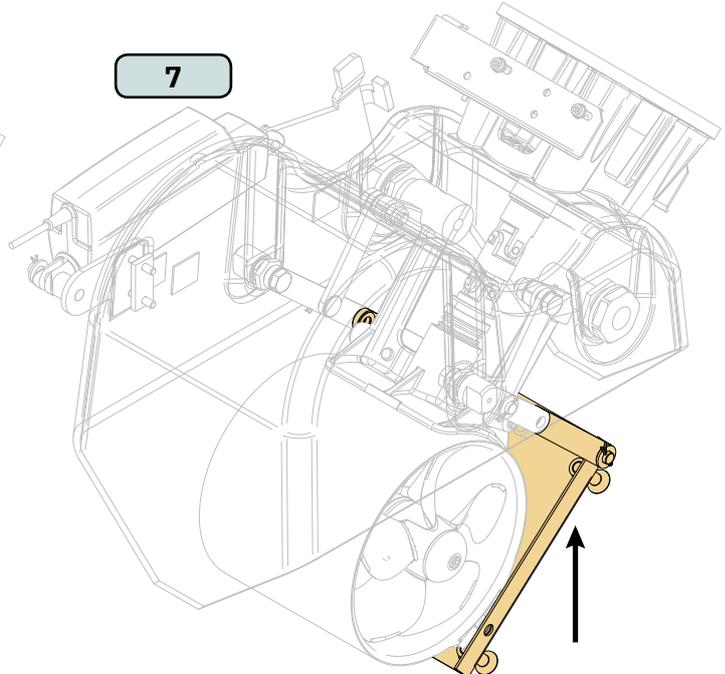
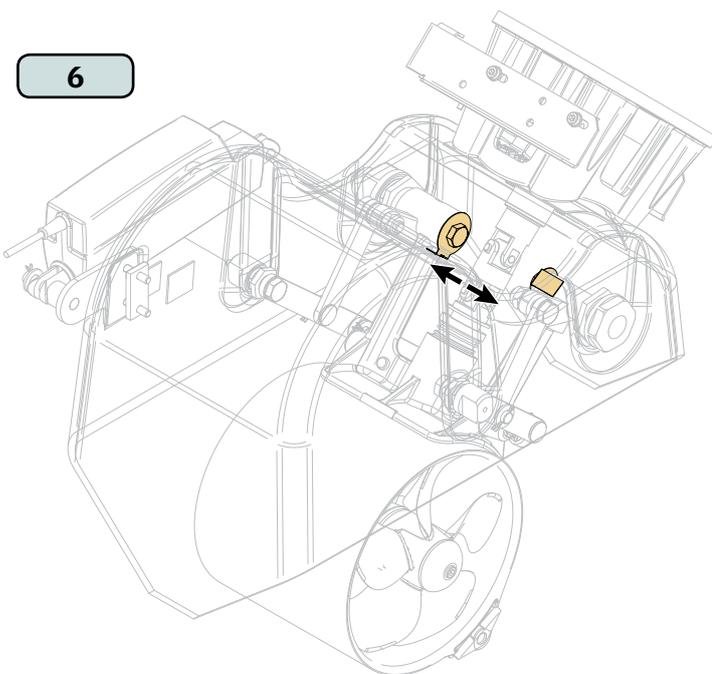
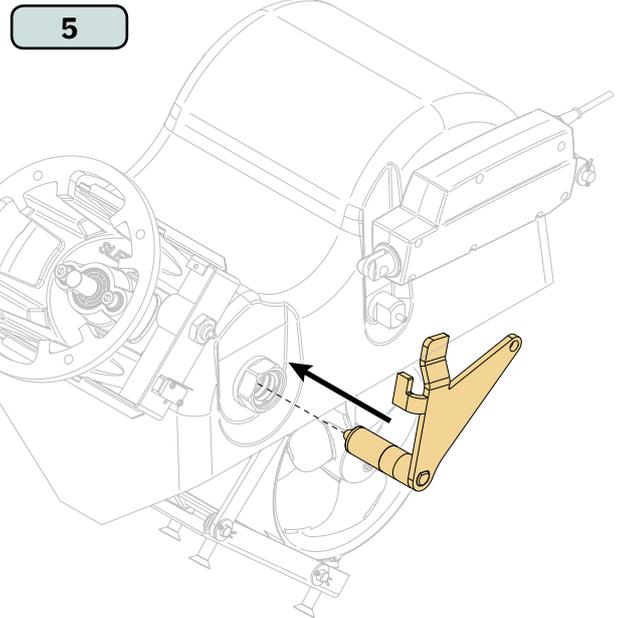
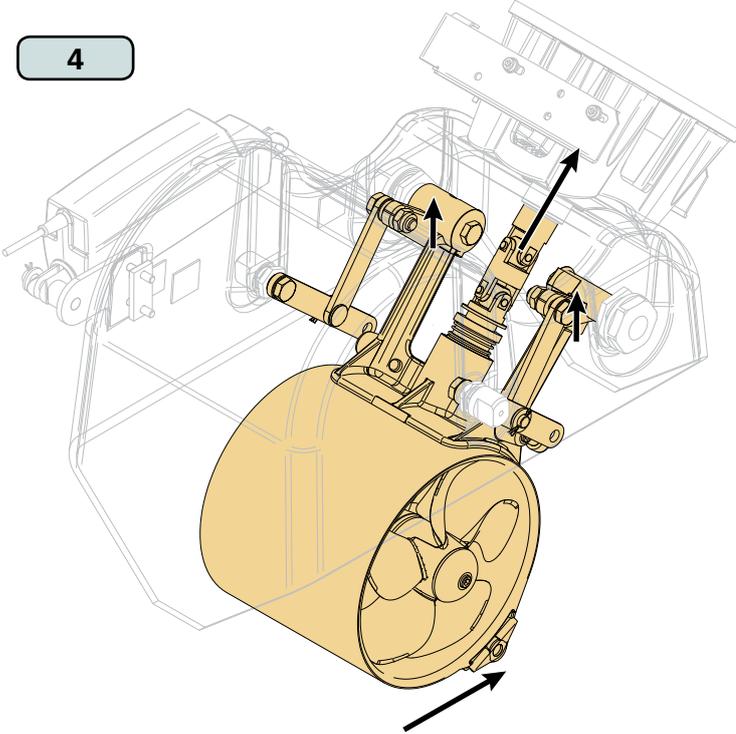
1. Insert the two attachment bolts on the retrain gear leg arm loosely for installation at a later point.
2. Prepare the spring seal. Apply gear oil SAE EP90 80-90 to the internal ring and the contact surface on the shaft.  
**(NB: Apply a small amount and use your finger to rub the oil around the connection area.)**  
Align and push the two units together. **(NB: With oil applied it should slide on easily.)**

Prepare the ceramic seal. Apply gear oil SAE EP90 80-90 to the contact surface area with the spring seal. Place the ceramic seal in the rubber seal. Insert the combined ceramic and rubber seal into the gear leg.

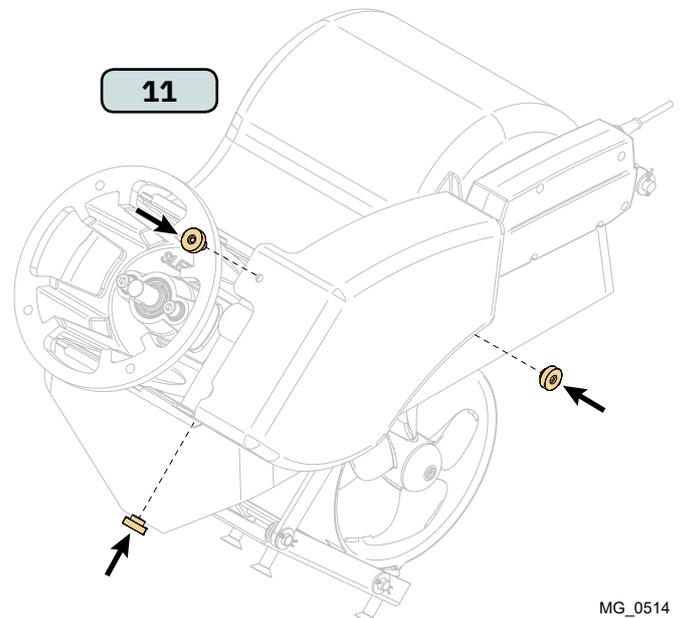
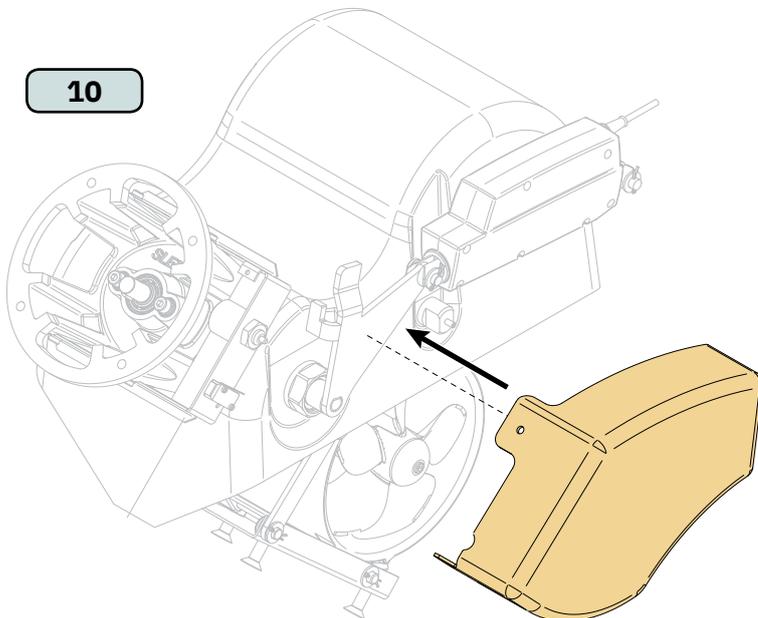
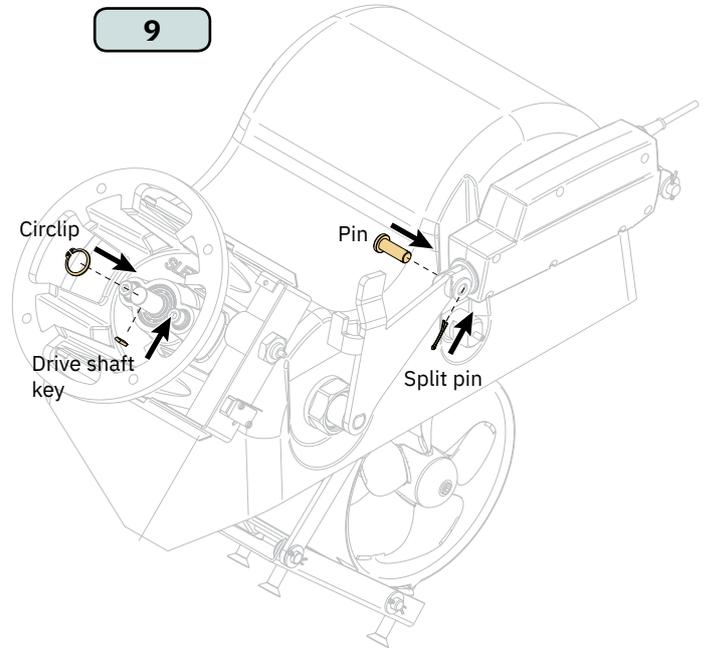
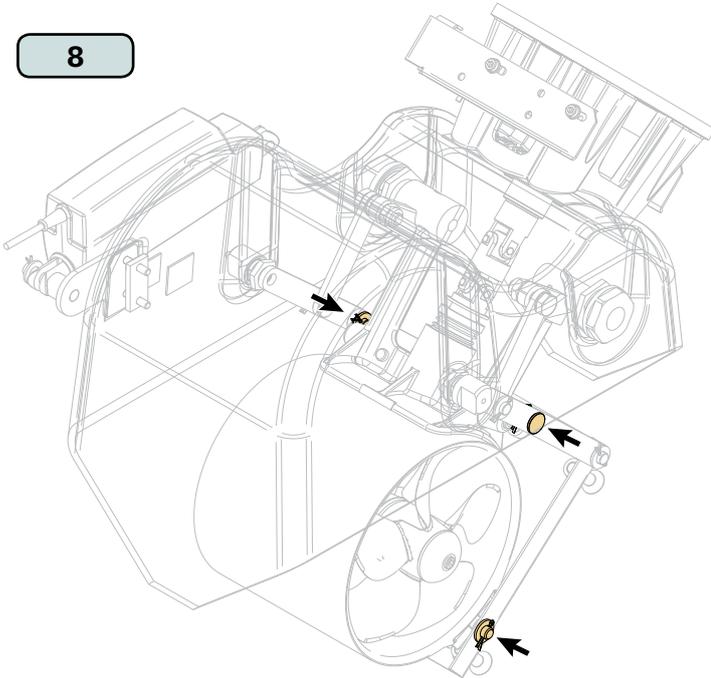
3. Fill the gear leg with gear oil SAE EP90 80-90. **(NB: Fill with oil to just below the white ceramic seal.)**



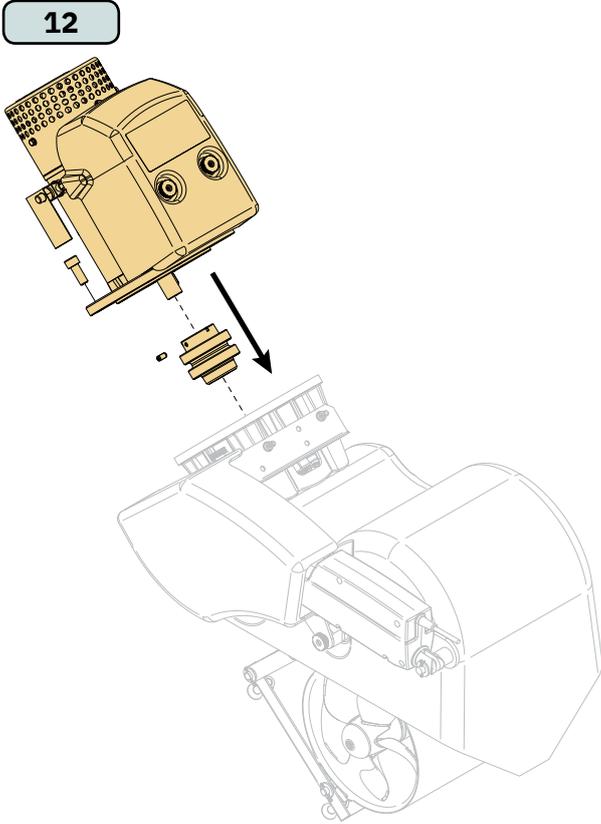
4. Feed the new drive shaft up through the motor bracket. Align the retract bracket in its original position ready for attachment.
5. Insert the retract arm side shaft.
6. Bend washer clips and screw bolts on both sides.
7. Insert hatch assembly ready for attachment.



8. Insert split pins, washers and pins in these locations to attach the hatch to the retract system.
9. Insert split pins and pin on actuator. Insert circlip ring and the shaft key from the drive shaft.
10. Insert actuator cover.
11. Remove actuator cover bolts.



12. Insert motor.



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