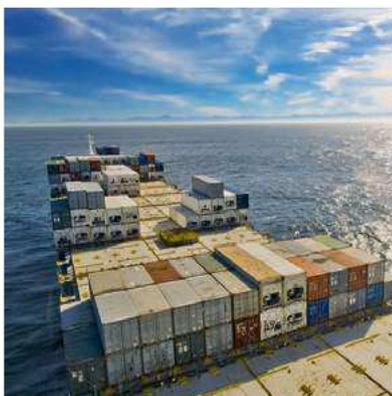


SKF Quickgrip Bolt

Patent pending, hydraulic connection of rotating flanges



Speedy and reliable mounting and dismantling.

Cost efficiency is a make-or-break factor in operational economy and this is especially true of the marine industry. The problem with conventional fitted bolts is that they must be “mauled” into place with a sledge hammer. This happens after a time-consuming procedure which involves honing of the holes and individual grinding of the bolts.

By using the unique patent pending SKF Quickgrip Bolt system you can dramatically cut the amount of time required and reduce costs. The SKF Quickgrip Bolts offer a significantly better method of connecting rotating flanges. Compared with traditional bolt systems, the SKF Quickgrip Bolts are easier to install and remove. It takes much less time and the flange halves hold together far more securely. Furthermore, the bolts can be reused during the whole lifetime of the vessel. This also makes the SKF Quickgrip Bolt a truly efficient solution.

The SKF Quickgrip concept is a further development of the SKF Supergrip Bolts. It is designed for high-torque rotating flange connections – for all types of propulsion systems. Furthermore, the mounting of rudders and other critical applications can be performed quickly, safely and reliably using SKF Quickgrip Bolts. The system has been approved for use by all leading international and national classification societies and regulatory bodies.

When using SKF Quickgrip Bolts the mounting time will be reduced by hours or even days compared to conventional bolts, and time savings of up to 50% can also be achieved compared to SKF Supergrip Bolts. Thanks to the expandable sleeve of the SKF Quickgrip Bolts there is no risk of damaging the flange bolt holes.



Benefits of SKF Quickgrip Bolts:

- Remarkable time-savings during first installation and maintenance – thanks to safe, predictable and reliable dismantling and re-mounting.
- The expandable sleeve is designed with a flange which will position it correctly immediately with no need for a mounting collar.
- The mounting process is a one-step operation, no need to change any tools in-between.
- The risk of damaging the coupling when removing the bolts is eliminated. Furthermore, all bolts are fully re-usable.
- The bolts are available for flange hole sizes from 40 mm up to above 140 mm, and they are tailor-made for each application.

One-time investment. Permanent risk mitigation.

Ship owners, fleet managers as well as fleet engineers and superintendents all over the world are facing the same challenge: The more time ships are kept in docks, "producing" high costs by simply being there, the greater the delay before they can generate revenue again. In contrast to conventional bolts, there is no need to replace parts at each service job when applying the hydraulic SKF Quickgrip system. Furthermore, the risk of any lengthy repairs to potentially damaged flange holes is eliminated. This means you will gain complete cost control over the whole lifecycle of the ship. SKF Quickgrip Bolts are therefore a one-time purchase which soon pays off.

The sooner you apply the SKF Quickgrip Bolt technology, the more rapidly you will be able to profitability continue with your marine business.



Expansion and preloading in one single operation.

The bolt is threaded at both ends and has a tapered shank. An expansion sleeve with a corresponding tapered bore fits over the shank. Two nuts complete the unit.

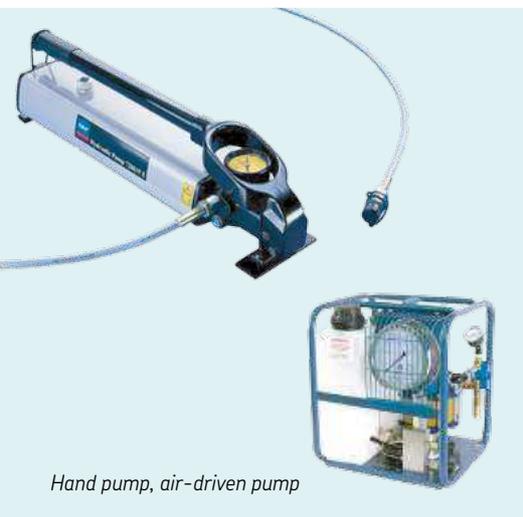
The outside of the sleeve, which is equipped with a flange, is cylindrical and dimensioned for an initial clearance fit in the bolt hole corresponding to 0.05 to 0.15% of the bolt hole diameter. A special benefit of the SKF Quickgrip Bolt system is the simplified machining of the holes instead of conventional grinding of the bolts. This means there is no further need for re-reaming and re-honing. The bolts are inserted and removed with an initial clearance fit, without any risk of seizure.

The bolt is mounted into the hole by hand in one single operation. The sleeve is expanded to a radial interference fit and then preloaded instantly, by drawing the tapered shank into the tapered bore of the sleeve. There is no need to hold the sleeve in the right position because the sleeve will not move when the bolt is pulled. The bolt will then be quickly tensioned against the sleeve and one nut while the other nut can be hand-tightened. A preload is exerted on the bolt by releasing the pressure on the tensioner. Preloading will cause a slight reduction in the bolt diameter.

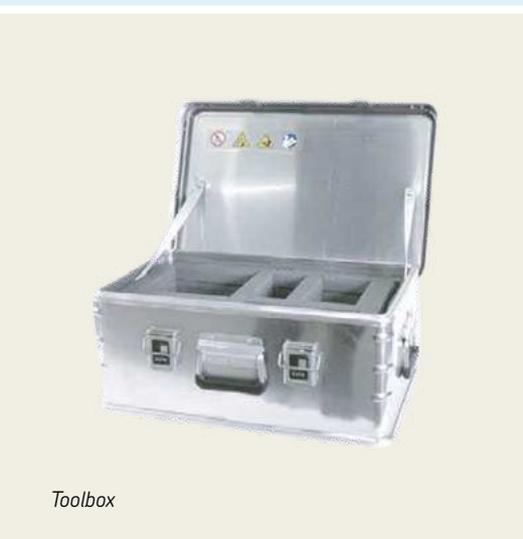
However, this contraction has already been offset by the expansion of the sleeve. Sleeve expansion and tensioning of the bolt are carefully controlled by using the tensioner included in the tool set. The pump is fixed to the tensioner by using a flexible hose and a quick connector. For removal, the bolt is released from the sleeve by injecting oil between the mating tapered surfaces. The oil is fed through a connection in the centre of the bolt. The working pressure of the tensioner is 150 MPa (21 300 psi). A pressure gauge on the pump permits accurate control of the expansion and tensioning forces.

Components:

The portable hand tool set for SKF Quickgrip Bolts consists of a hydraulic tensioner, a distance collar and a tommy bar. It also includes a hand pump or air driven pump, equipped with a flexible hose and quick connectors. All tools are designed for manual operation.



Hand pump, air-driven pump

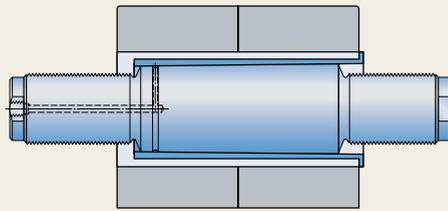


Toolbox



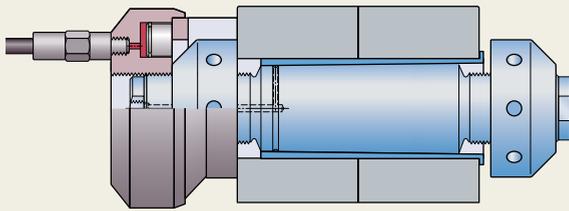
Fitting the SKF Quickgrip Bolt

1



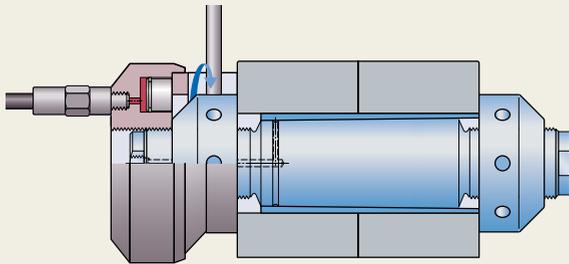
Since the bolt is initially smaller than the hole, it is easily inserted by hand.

2a



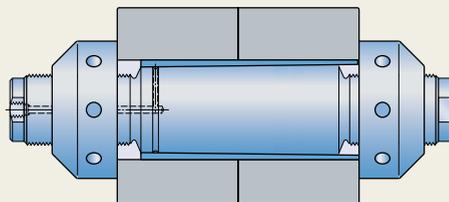
The tapered shank is drawn into the sleeve by the tensiometer, creating a controlled radial interference fit.

2b



After tighten the nut on the right side, the bolt is tensioned to a high axial preload. Procedure 2a → 2b without the need to remove the tensiometer.

3



After disconnecting the pump and tensiometer, the bolt is ready to transmit high torque.

SKF Coupling Systems was established in the early 1940s when SKF's Chief Engineer, Erland Bratt, invented the SKF oil injection method. As the result of continuous development, SKF is currently a world leader in selected market niches.

Our business concept is to develop, produce and supply products based on the SKF oil injection method. These products significantly reduce downtime and lower maintenance costs of the capital-intensive equipment in which they are used.



Contact

For any requests, feedback, suggestions or complaints, please send an email to: skf.coupling.systems@skf.com
To find your local contact, take a look at skf-marine.com
or scan the QR code below.



SKF Sverige AB SKF Coupling Systems

SE-813 82 Hofors, Sweden
Phone: +46 290 284 00
Fax: +46 290 282 70
skf.coupling.systems@skf.com
www.couplings.skf.com

skf.com | couplings.skf.com | skf-marine.com

© SKF is a registered trademark of the SKF Group.

© SKF Group 2017
The contents of this publication are the copyright of the publisher and may not be reproduced (even extracts) unless prior written permission is granted. Every care has been taken to ensure the accuracy of the information contained in this publication but no liability can be accepted for any loss or damage whether direct, indirect or consequential arising out of the use of the information contained herein.

PUB 43/P2 17414 EN · May 2017

Certain image(s) used under license from Shutterstock.com.