Installation
Time Saving at Assembly Step

1. Clean the worn shaft and remove the burrs.
2. Measure the shaft diameter and choose a suitable sleeve size. (Picture 1)
3. Put sleeve onto the top of the shaft. (Picture 2)
4. Put the assembly tool over the sleeve. If the tool supplied with the sleeve is too short, a length of pipe or tubing can substitute.
5. Pound gently the assembly tool until the worn area is covered by the sleeve. (Picture 3)
6. The sleeve flange could be kept unless the clearance of application is required. If it needs to be removed, one pre-cut on the sleeve flange by cutter should be done prior to step 4. And the pre-cut should end at the tearing groove. The pre-cut process should be done carefully to avoid harming the seal contact surface. (Picture 4)
7. Check again if there is any burr on the sleeve that might harm the seal.
8. Lubricate the sleeve.

Disclaimer
1. NAK products are prohibited to use, install or apply in or on any aerospace related instrument and equipment.
2. NAK has no liability under any express or implied warranty if the Products:
   ● are modified or tampered;
   ● are reused, abused or misapplied;
   ● are used in a critical environment or specific equipment without NAK’s prior written acknowledgement;
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   ● are damaged owing to natural deterioration, decomposition or transformation of chemical structure.
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NAK WEAR-PRO
Shaft Repair Sleeve

is a highly engineered steel sleeve made of high-quality stainless steel with precise finish and hardness. It is an easy way for the repair and protection of worn shafts. With it there is no need for the time-consuming and expensive traditional shaft repairing processes such as disassembling and machining the shaft. Simply push WEAR-PRO Sleeve in position with the installation tool readily supplied and the work is done. After installing WEAR-PRO Sleeve the same size of seal can continue to be used.

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ISO9001 / 14001 TS16949 OHSAS18001 Company

Navigator of Sealing Technology
**Product Description**

Easy and economical way to repair and protect worn shafts

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**Technical Information**

**Material and Specification**

Material: Sleeve - SAE 30304; 
Assembly tool - JIS G3302 SGCC

- Wall Thickness: 0.28 mm ±0.05
- Surface roughness:
  - $Ra$ 0.20—0.80 $\mu$m
  - $Rz$ 1—5 $\mu$m
  - $R_{max}$ under 6.3 $\mu$m max
- Surface hardness: Over HV 220 min

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**WEAR-PRO Shaft Repair Kit**

**Features**

- Simple and quick installation
- Cost saving; no need to re-machine the worn shaft, or replace with a new shaft
- Very thin-walled design allows the same size of seal to be used; no need to change seal size
- Precise surface finish achieved by advanced plunge grinding technology
- High-grade surface hardness to ensure abrasion resistance
- NAK offers a wide range of sizes
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8. Check again if there is any burr on the sleeve that might harm the seal.
9. Lubricate the sleeve.
10. Proceed with seal installation.

Product Information
Wear Protection for the Worn Shaft

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