

# INSTALLATION AND REMOVAL TOOLS



## Mechanical tools



### Adjustable hook spanner of series HNA

- Every hook spanner fits several sizes of lock nut
- Economical: 4 hook spanners for 24 sizes of lock nut
- The corresponding size ranges are engraved on the tool to enable the correct spanner to be selected quickly
- Versatile: suitable for KM, KML, N, AN, KMK, KMFE and KMT lock nuts
- Hole in the handle for hanging on tool walls
- Minimises the risk of damaging the shaft and lock nut



### Installation tool set for antifriction bearings TMFT 36

Incorrect installation and, in particular, improperly applied installation forces are responsible for around 16% of all premature bearing failures. The risk of damaging bearings during installation can be reduced by employing the installation tool set for antifriction bearings TMFT 36, which is designed to ensure that bearings are installed quickly, safely and properly. The right combination of impact ring and impact sleeve guarantees that the installation forces are never transferred via the balls of the bearing. The installation tool set for antifriction bearings consists of 36 impact rings, three impact sleeves and a recoilless hammer; it is supplied in a sturdy carry case. The tool set is also suitable for installing bushings, sealing rings, pulleys, etc.



### Adjustable extractor TMMR F

For universal use as an inner and outer extractor.

The SKF extractors TMMR F can grip the part to be removed from the outside as well as from the inside. All eight extractors in the TMMR F series are also available as complete set TMMR 8 on a stand.

- Clamping range from 23 to 350 mm



### Mechanical EasyPull bearing extractor, series TMMA

The non-separable, non-detachable construction and spring mechanism of the EasyPull bearing extractors help to make them the most user-friendly and reliable extractors available on the market. Ergonomically designed, spring-loaded extractor limbs enable the user to attach the extractor to the component in one step. Mechanical EasyPull bearing extractors are available in sizes TMMA 60, TMMA 80 and TMMA 120, which vary in terms of their size and permissible extraction force.



### Extractor set for thrust ball bearings TMMD 100

The extractor set TMMD 100 enables the user to extract thrust ball bearings from the shaft and pull them out of the housing in one movement. Sealed bearings can also be taken out, once the corresponding seal has been removed. The hooks on the extractor limbs are attached to the raceway of the outer ring. The extractor set consists of six extractor limb sets and two threaded spindles. It is suitable for removing approximately 70 different thrust ball bearings with bore diameters of 10 to 100 mm.



### Inner extractor tool sets of series TMIP for antifriction bearings

The inner extractor tool sets TMIP for antifriction bearings from SKF have been specially developed for removing bearings from housings with a fit on the outer ring. SKF has developed these extractor sets to provide an optimum extraction force with the help of spring-operated extractors and a special slide hammer, without any additional tools being necessary.

# MAINTENANCE PRODUCTS

## Induction heaters – Analysers – Measuring devices



### Induction heater TMBH 1

The lightweight, portable induction heater TMBH 1 can be used to heat bearings with a maximum bore diameter of 100 mm or a maximum weight of 5 kg. The device is equipped with an automatic temperature control and timer. The induction heater works on the principle of high-frequency induction and ensures optimum heating will take place. Not only bearings can be heated, but other parts too. The device is supplied with heater tongs, a temperature sensor, a connection cable (without plug), heat-resistant gloves and a carry case.



### Induction heater TIH 100 m

The medium-sized SKF induction heater TIH 100 m is an extremely efficient induction heater that saves time and energy.

The position of the coil above the housing reduces the heating time and energy consumption, and, in the case of the TIH 100 m, enables bearings of up to 120 kg to be heated.

- Large jaw designed as a swivel arm
- Automatic demagnetisation
- Three year warranty



### TMGT 1 grease analysis kit

The SKF grease analysis kit TKG1 1 helps the user to analyse grease professionally. The kit can carry out three different test procedures: a consistency test (patent pending), an oil separation test and a contamination test. The three tests provide information about the condition of the grease, thus enabling decisions to be made quickly on-site. The scope of supply for the SKFTKG1 1 includes guidelines on how to interpret the test results correctly.



### TKTL 20 infrared thermometer

Infrared thermometers are portable, lightweight instruments for reliably measuring temperatures when removing components. The robust thermometers are fitted with a laser sight.

- Infrared temperature measurement range from -60 to +625 °C
- Contact temperature measurement range from -64 to +1400 °C
- Temperature sensor TMDT 2-30 (max. 900 °C) is included in the scope of supply
- The user can choose between different measurements: maximum temperature, minimum temperature, average temperature, temperature difference, dual infrared/contact display, scanning



### TKSA 20 shaft alignment system

The fast, simple and cost-effective system for laser-supported shaft alignment. TKSA 20 is a user-friendly alignment system for shafts that any engineer can use without prior instruction. Compared to conventional alignment methods using a dial gauge, shaft alignment becomes considerably easier, as the required settings can be made without any additional calculations. The TKSA 20 is available at an attractive price and quickly pays for itself in the field.



### SKF thermal imaging camera TKTI 20

With the user-friendly SKF thermal imaging camera, maintenance engineers can identify problematic hotspots quickly. The large, backlit LCD can show the picture in a variety of ways: as a conventional image, a thermal image or a superimposed standard and thermal image. The camera takes both digital and thermal images. These can then be optically aligned such that processes can be interpreted and evaluated easily. Powerful PC and reporting software is included in the standard scope of supply, with which the user can create comprehensive image analyses and professional reports.

# MAINTENANCE PRODUCTS



## Lubricating devices

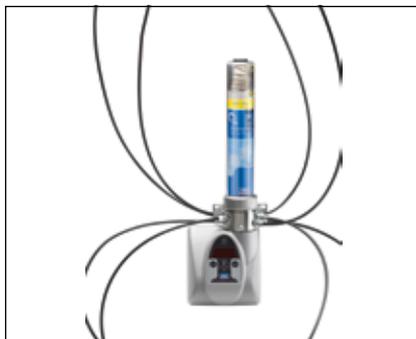


### SKF system 24

Automatic lubricant dispensers for individual lubrication points LAGD 60 and LAGD 125

The units are supplied ready for use and are filled with a high-quality SKF lubricant from our comprehensive range. Activation without tools and adjustable dispensing periods mean that the provision of lubricant can be regulated easily and precisely.

- Available in two sizes: 125 ml (LAGD 125) and 60 ml (LAGD 60)
- Dispensing period can be freely adjusted from 1 to 12 months



### MultiPoint automatic lubricant dispenser for multiple lubrication points, LAGD 400

The SYSTEM MultiPoint automatic lubricant dispenser from SKF is the simplest and most cost-effective central lubricant dispenser for multiple lubrication points available on the market. It has an extremely compact design and is controlled electronically.

- Central lubrication system for self-installation
- Supplies up to 8 lubrication points
- Accurate setting of relubrication deadlines with the DialSet computing programme
- Lubrication lines of up to 5 m possible
- All SKF 420 ml standard grease cartridges can be used



### MultiPoint - Automatic lubricant dispenser of the LAGD 1000 series

Central lubrication of up to 20 different lubrication points

The automatic lubricant dispenser SYSTEM MultiPoint LAGD 1000 is a reliable central lubrication system that offers solutions for lubricating bearings and machine components. The LAGD 1000 works by means of a high-pressure pump and a progressive plunger metering device to lubricate between six and 20 lubrication points. It is supplied as a complete kit that is ready to use, including all necessary accessories.



### TMJL 100

The SKF hand pump is primarily suited to SKF hydraulic nuts for installing bearings and components where a maximum pressure of 100 MPa is required.

- Oil tank capacity of 800 cm<sup>3</sup>
- With manometer
- Sturdy tool case



### THAP series

The compressed-air-operated THAP oil pumps are available in four different ratings, for pressures up to 30, 150, 300 or 400 MPa. They can be used to create and/or release large-surface interference fits, to install large antifriction bearings or to actuate large hydraulic nuts. The THAP oil pumps are driven by a compressed-air piston motor. The scope of supply also includes an oil suction hose and an oil recycle hose with a quick coupling.



### LAGF series

Users who value the importance of keeping the lubrication process as pure as possible use a different manual-lever grease gun for each grease and pay attention to cleanliness when refilling the guns. SKF lubricant filling pumps make this type of lubrication easier.

- Quick filling: large stroke volume at low pressure
- Simple installation: all necessary parts are included in the delivery
- Reliable: tested and approved for all SKF greases
- Suitable as a supplement to SKF bearing lubricator VKN 550

# GREASES

## SKF grease selection table

Grease	Description	Application examples	Temperature range <sup>1)</sup>		Temp.	Speed
			LTL	HTPL		
<b>LGMT 2</b>	General applications (industry and automotive)	Wheel bearings, conveying systems and fans Small electric motors	-30 °C (-20 °F)	120 °C (250 °F)	M	M
<b>LGMT 3</b>	General applications (industry and automotive)	Bearings with d>100 mm Vertical shaft or rotating bearing outer ring Wheel bearings for cars, lorries and semi-trailers	-30 °C (-20 °F)	120 °C (250 °F)	M	M
<b>LGEP 2</b>	Extreme pressures	Wire and paper sections of paper mills Worker roll bearings in steel production	-20 °C (-5 °F)	110 °C (230 °F)	M	L to M
<b>LGWA 2</b>	Wide temperature range <sup>4)</sup> , extreme pressures	Wheel bearings in cars, trailers and lorries Washing machines Electric motors	-30 °C (-20 °F)	140 °C (285 °F)	M to H	L to M
<b>LGFP 2</b>	Compatible with foodstuffs	Food processing systems Wrapping machines Filling systems	-20 °C (-5 °F)	110 °C (230 °F)	M	M
<b>LGGB 2</b>	Biodegradable, low toxicity <sup>3)</sup>	Agricultural and forestry equipment Construction and earth-moving machinery Water treatment and irrigation	-40 °C (-40 °F)	90 °C (195 °F)	L to M	L to M
<b>LGBB 2</b>	Grease for blades and pivot bearings in wind turbines	Slewing rings (blades and pivot bearings) in wind turbines	-40 °C (-40 °F)	120 °C (250 °F)	L to M	VL
<b>LGLT 2</b>	Low temperatures, extremely high speeds	Textile and machine tool spindles Small electric motors and robots	-50 °C (-60 °F)	110 °C (230 °F)	L to M	M to EH
<b>LGWM 1</b>	Extreme pressures, low temperatures	Main shafts in wind turbines Central lubrication systems Axial spherical roller thrust bearings	-30 °C (-20 °F)	110 °C (230 °F)	L to M	L to M
<b>LGWM 2</b>	High loads, wide temperature range	Main shafts in wind turbines Heavy-duty off-road vehicles and ship construction Applications exposed to snow	-40 °C (-40 °F)	110 °C (230 °F)	L to M	L to M
<b>LGEM 2</b>	High viscosity and solid lubricants	Jaw crushers Construction machinery Vibrating machines	-20 °C (-5 °F)	120 °C (250 °F)	M	VL
<b>LGEV 2</b>	Extremely high viscosity with solid lubricants	Journal bearings Support rollers and pressure rollers in rotary kilns and dryers Slewing ring bearings	-10 °C (15 °F)	120 °C (250 °F)	M	VL
<b>LGHB 2</b>	EP, high viscosity, high temperatures <sup>5)</sup>	Steel-steel spherical plain bearings, dryer section of paper mills Worker roll bearings and continuous casting machines in steel production	-20 °C (-5 °F)	150 °C (300 °F)	M to H	VL to M
<b>LGHP 2</b>	High-performance grease made of polycarbamide	Electric motors, fans, also for high speeds Deep groove ball bearings for high speeds at medium and high temperatures	-40 °C (-40 °F)	150 °C (300 °F)	M to H	M to H
<b>LGET 2</b>	Extreme temperatures	Baking technology (kilns) Wafer baking kilns Textile dryers	-40 °C (-40 °F)	260 °C (500 °F)	VH	L to M

1) LTL = lower temperature limit value  
HTPL = recommended limit value for maximum permissible operating temperature  
2) mm<sup>2</sup>/s at 40 °C (105 °F) = cSt

3) LGGB 2 can be used temporarily at up to 120 °C (250 °F)  
4) LGWA 2 can be used temporarily at up to 220 °C (430 °F)  
5) LGHB 2 can be used temporarily at up to 200 °C (390 °F)



Load	Thickening agent/ Base stock	NLGI	Kinematic viscosity of the base stock <sup>2)</sup>	Vertical shaft	Fast outer ring rotation	Swivelling move- ments	Strong vibrations	Impact loads or frequent start-up	Corrosion protection	
L to M	Lithium soap/ mineral oil	2	110	●			+		+	Greases for general applications
L to M	Lithium soap/ mineral oil	3	120	+	●		+		●	
H	Lithium soap/ mineral oil	2	200	●		●	+	+	+	
L to H	Lithium-calcium soap/ mineral oil	2	185	●	●	●	●	+	+	
L to M	Aluminium complex/ medical white oil	2	130	●					+	Special requirements
M to H	Lithium-calcium soap/ synthetic diester oil	2	110	●		+	+	+	●	
M to H	Lithium-complex soap/ synthetic PAO oil	2	68			+	+	+	+	
L	Lithium soap/ synthetic PAO oil	2	18	●				●	●	Low temperatures
H	Lithium soap/ mineral oil	1	200			+		+	+	
L to H	Calcium-sulphonate- complex soap/ synthetic PAO oil/ mineral oil	2	80	●	●	+	+	+	+	High loads
H to VH	Lithium soap/ mineral oil	2	500	●		+	+	+	+	
H to VH	Lithium-calcium soap/ mineral oil	2	1020	●		+	+	+	+	
L to VH	Calcium-sulphonate- complex soap/ mineral oil	2	400	●	+	+	+	+	+	High temperatures
L to M	Di-polycarbamide/ mineral oil	2 to 3	96	+			●	●	+	
H to VH	PTFE/synthetic, fluorinated polyether oil	2	400	●	+	+	●	●	●	

● = suitable      + = recommended

# REIFF CAN DO MORE

With a product range of more than 140,000 standard products, it is impossible to know every product. Antifriction bearings, V-belts, hydraulic hoses or sealing rings – the products are as diverse as the intended applications and application areas themselves.

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If required, we are also pleased to  
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