Car Repair Solutions

Your partner for successful joining – worldwide.
In 1954, Germany celebrated the first World Cup triumph...

...and we the HELICOIL®

The German Team made football history by winning the World Cup in Bern. That year was not only important to the sports world, but also to us. We started the HELICOIL® production in Germany and therefore created product history. Today the 60 years of our HELICOIL® thread inserts are celebrated.

The starting signal for this remarkable product development was the production of aluminium aircraft engines. To manufacture vibration-resistant screw joints for spark plugs, coil thread inserts were designed in the U.S. and patented in 1938. Development took its course and
in 1950, rhombic coil thread inserts for general screw joints were introduced to the market. The foundation were laid. Böllhoff understood how special the product was, licensed HELICOIL® for Northern Europe and started production in 1954. The HELICOIL® has been tried and tested for more than 60 years and has become a renowned structural component. Related to this thread technology, almost every task can be solved. Particularly on cars, many threads are subjected to high load every day. We offer customised repair solutions — adding quality and value!

HELICOIL® plus – the strong one!
HELICOIL® plus thread inserts can be easily and economically installed since only a few basic rules have to be observed.

### Installation

The lambda probe is the main probe in the control loop of the lambda regulation for catalytic exhaust gas purification (regulated catalytic converter). Lambda probes are installed in the exhaust gas stream, subjecting to extreme load for example through gas and temperature changes. Defective lambda probes may result in catalytic converter damage. Therefore, today the change of lambda probes is one of the routine jobs at car repair shops.

**HELICOIL® plus**

Repair kit for lambda probe threads  
M 18 x 1.5, Inconel X750, silvered  
for high thermal loads

- 5 thread inserts
- HSS manual tap with pilot
- Installation mandrel
- Hexagon wrench A/F 2.5
- Tool adapter for 3/8" ratchet spanner

<table>
<thead>
<tr>
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<th>Number of HELICOIL® inserts</th>
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**At a glance**  
- Thanks to individual tools, uncomplicated repair at points with a difficult access  
- Repair instead of replacement  
- High-strength and wear-free  
- Time- and cost-saving
Engine oil is every engine’s elixir of life. It protects, cools, seals and lubricates the engine and enhances its life. Regular oil changes thus help to protect the value of motor vehicles. Oil changes are simple – though any damage of the oil drain thread could be quite expensive. Instead of changing the oil sump or using an oversize screw plug, HELICOIL® plus can be used to repair the thread alternatively.

### HELICOIL® plus

**Repair kit for oil drain threads**

**M 12 x 1.5 – M 16 x 1.5 stainless steel A2**

Includes:

- 10 thread inserts of three lengths each
- Combined drilling and tapping tool
- Manual tap (for obstructions)
- Installation mandrel, tang break-off pliers, slide gauge

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After tapping the HELICOIL® plus holding thread, the number of threads required for the HELICOIL® plus to be inserted has to be determined by the slide gauge. The HELICOIL® plus with the respective number of threads (W) is chosen according to the installation description. If necessary, the HELICOIL® plus is cut off using diagonal cutting nippers. After thread repair and breaking off the tang, an intact, high-strength thread is given. There are no edges. For the sealing plugs with collar, the bearing face for the sealing ring is sufficiently large. No special sealing plugs are required.

**At a glance**

- Individual slide gauge to measure the threads of the new thread insert
- Resistant to repeated screwings
- High-strength and wear-free
...repairing internal threads on wheel bearing housings

Growing demands on economic efficiency, driving safety and ride comfort require maximum precision for the manufacture of vehicle components. This also applies to wheel bearing housings. Besides dynamic stress, wheel bearing housings are also subject to the effects of high temperatures, splash water and road salt. As a logical result, they wear occurs. The internal thread tapped inside the wheel bearing housing used to fasten the brake guide pins is often destroyed during installation or removal.

**HELICOIL® plus**

*Repair kit for threads on wheel bearing housings*  
*M 9 x 10 stainless steel A2*

Includes:
- 10 thread inserts
- Combined drilling and tapping tool
- Installation mandrel
- Tang break-off mandrel

<table>
<thead>
<tr>
<th>Thread size</th>
<th>Pitch</th>
<th>Order number</th>
<th>Number of HELICOIL® inserts</th>
<th>Repair kit</th>
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*TÜV approved on a wheel bearing housing typ 1J0 255 N and 1J0 256 N: test to gauge of the HELICOIL® thread inserts, installation test, torque meter test (wheel bearing housing are also used in the following models: VW Golf IV LIM / Variant, 1997 - 2001; Audi A3, 1996 - 2003; Skoda Octavia, 1996 - 2003; VW Bora, 1997 - 2005; VW Bora Variant 4-Motion, 1999 - 2001; VW Golf IV Variant 4-Motion, 1998 - 2006; Seat Leon, 1999 - 2006; Seat Toledo, 1999 - 2004). All information of the car models is given without guarantee.

**At a glance**

- Centred thread true to gauge with the HELICOIL® drilling and tapping tool
- Wheel bearing and strut do not have to be removed
- High-strength and wear-free
...repairing injector screw threads

The injector is located in the combustion chamber of the engine and atomizes the fuel. It is an extremely sensitive interface between fuel injection system and engine. The injectors, manufactured according to high-precision standards, ensure clean and low-emission combustion. Impurities cause a decrease in power (possibly even an engine stop) and lead to poorer emissions. Therefore, injectors also have to be cleaned or changed.

We offer the special HELICOIL® plus repair kit to repair holding threads for torn off and torn out injector screws.

At a glance
- Repair instead of replacement
- High-strength and wear-free
- Fast and easy installation

HELICOIL® plus
Repair kit for injector screw threads
M 6 x 9, M 6 x 12 stainless steel A2
M 6 x 9, M 6 x 18 stainless steel A2

Includes:
- 20 thread inserts each
- Tap drill 6.3 mm
- Tap M 6, 5H*, 45°, spiral-fluted
- Special installation mandrel M 6

<table>
<thead>
<tr>
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<th>HELICOIL® inserts</th>
<th>Repair kit</th>
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<th>Order number</th>
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M 6 x 12 | on request | M 6 x 9
M 6 x 12 | 4189 006 0009
4189 006 0012 | 20
20 | on request
on request |

The assortment can be used for the following Mercedes Benz engine series:
OM 611/612/613 = inline four-, five- and six-cylinder diesel engine / OM 646/647/648 = inline four-, five- and six-cylinder diesel engine / OM 628 = V8 diesel engine / OM 668 = inline four-cylinder diesel engine / OM 640 = inline four-cylinder diesel engine / OM 642 = V6 diesel engine

Thread size Pitch Order number HELICOIL® inserts Repair kit Thread size Order number Number of HELICOIL® inserts Refill pack
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M 6 x 18 | on request | M 6 x 9
M 6 x 18 | 4189 006 0009
4189 006 0018 | 20
20 | on request
on request |

Caution: To avoid damage to ducts below, for tap hole drilling and tapping, please observe the original thread length.

For diesel engines of the following car manufacturers: Daimler, Audi, VW, Skoda, SEAT
...repairing wheel hub threads

When changing tyres, wheel bolts are often incorrectly screwed in or overtightened, so that the nut thread is damaged. To re-tap the thread would lead to a hazardous result based on material loss at the hub and weakened flanks. The required tightening torque could not be realised in such case. The HELICOIL® plus repair kit is the solution for nut threads on wheel bolts. After producing a holding thread, a high-strength HELICOIL® coil thread insert is installed.

HELICOIL® plus
Repair kit for wheel bolt threads
M 14 x 1.5 x 9

Includes:
- 10 thread inserts
- Special combination tap
- Tang break-off pliers
- Caulking tool

### At a glance
- Repair adding quality and value
- High-strength and wear-free
- Fast and easy installation

<table>
<thead>
<tr>
<th>Thread size</th>
<th>Pitch</th>
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### Installation description for repairing wheel bolt threads

1. **Tapping**
   - Tapping the HELICOIL® holding thread by using the special HELICOIL® combination tap M 14 x 1.5. The destroyed ISO thread is used for guiding.

2. **Caulking (2a – 2e)**
   - From the rear of the wheel hub, the nose of the punch is screwed into the recess in the thread bush until it engages.
   - Then the cheese head screw with washer is screwed into the thread bush. Caulking is absolutely necessary!

3. **Spinning on and installing the HELICOIL® plus**
   - The HELICOIL® plus thread insert is completely screwed on to the installation mandrel and then screwed into the HELICOIL® holding thread, until caulked. A slight resistance indicates when the tang has been caulked. The installation tool is screwed out.

4. **Tang break-off**
   - The tang must now be carefully broken off using the pliers (in installation direction). A tang removal is important.

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Note: Thread repair must be documented in the service manual of the vehicle indicating the wheel and the side of the vehicle.
...repairing spark plug and glow plug threads

Due to the complicated production procedure, apart from the engine itself, the cylinder head is one of the most complex and most expensive components of motor vehicles. You can rely on our special HELICOIL® plus repair kits for spark and glow plugs.

**HELICOIL® plus**

Repair kit for spark plug and glow plug threads

M 10 x 1 – M 14 x 1.25 stainless steel A2

Includes:
- 10 thread inserts each
- Combined drilling and tapping tool
- Installation mandrel

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Close-up of screw joint (without wheel hub).

The cheese head screws are tightened with 50 Nm, until the punch lies flat against the thread bush. The thread bush is locked with an open-end wrench, 22 mm. After caulking, the screw joint is loosened and the thread bush screwed out.

Checking the thread
If possible, the ISO thread must be checked for trueness to gauge. The GO thread plug gauge must manually screw in to the complete thread length without application of major force. The No-GO thread plug gauge shall not manually screw into the thread any further than two rotations.
...fastening exhaust manifolds and turbochargers

Certainly, you know the following situation: When under load, screw joints tend to loosen. Load can be e.g. vibration, alternating load or general kinetic energy to be absorbed. In many applications, particularly in the automotive industry, it is absolutely necessary to take precautions against unintentional loosening. As a specialist in fastening and assembly technology, we offer you HELICOIL® locknuts for those applications. An efficient combination of two fasteners. Without fail.

**HELICOIL®**
Locknuts for exhaust manifolds
Collar nuts with integrated washer
M 8, silvered

Includes:
- 50 locknuts each

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<thead>
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**At a glance**
- Built-in captive washer
- No shear stress or torn out stud
- Clamping effect directly in the thread
  - elastically resilient
Your expert for... internal threads on thin-walled components

RIVKLE® blind rivet nuts are required for thread installation on thin-walled materials. Typical applications are threads to be installed on the vehicle sheet for fitting the number plate as well as thread repair on motorcycle frames. The RIVKLE® blind rivet nut installation not only leads to thread repair, but also to an increased thread strength.

### RIVKLE® plus assortment box with RIVKLE® BRK 01 hand-held setting pliers

Includes:
- 50 blind rivet nuts each
- 1 RIVKLE® BRK 01 hand-held setting pliers
- 4 threaded mandrels and nosepieces for M 3, M 4, M 5 and M 6
- Operating instructions

<table>
<thead>
<tr>
<th>Sizes / designs</th>
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### RIVKLE® plus assortment box with RIVKLE® M2007 hand-held setting tool

Includes:
- 50 blind rivet nuts M 6 each
- 25 blind rivet nuts M 8 each
- 25 blind rivet nuts M 10 each
- 1 RIVKLE® M2007 hand-held setting tool
- 3 threaded mandrels and nosepieces for M 6, M 8 and M 10
- Operating instructions

<table>
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<th>Sizes / designs</th>
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**At a glance**

- Stable thread on thin-walled components
- Installation with one-sided accessibility
- Repeated screwings
Böllhoff International with companies in:

- Argentina
- Austria
- Brazil
- Canada
- China
- Czech Republic
- France
- Germany
- Hungary
- India
- Italy
- Japan
- Korea
- Mexico
- Poland
- Romania
- Russia
- Slovakia
- Spain
- Switzerland
- Turkey
- United Kingdom
- USA

Apart from these 23 countries, Böllhoff supports its international customers in other important industrial markets in close partnership with agents and dealers.

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