



## Car Repair Solutions

Your partner for successful joining – worldwide.

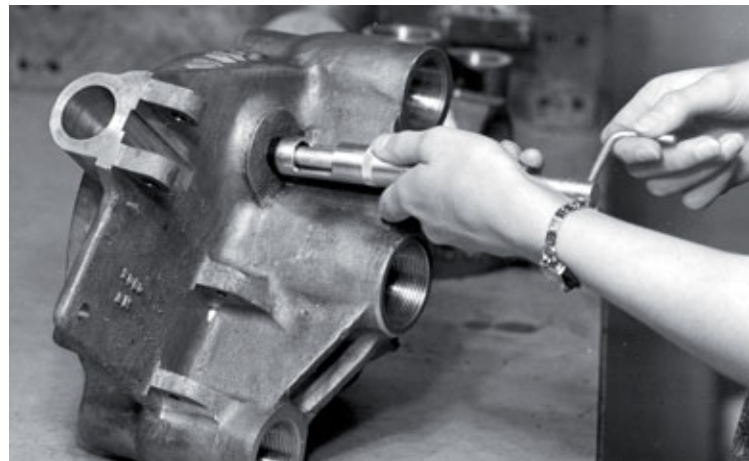
# BÖLLHOFF

In 1954, Germany celebrated the first World Cup triumph...

...and we the **HELICOIL®**

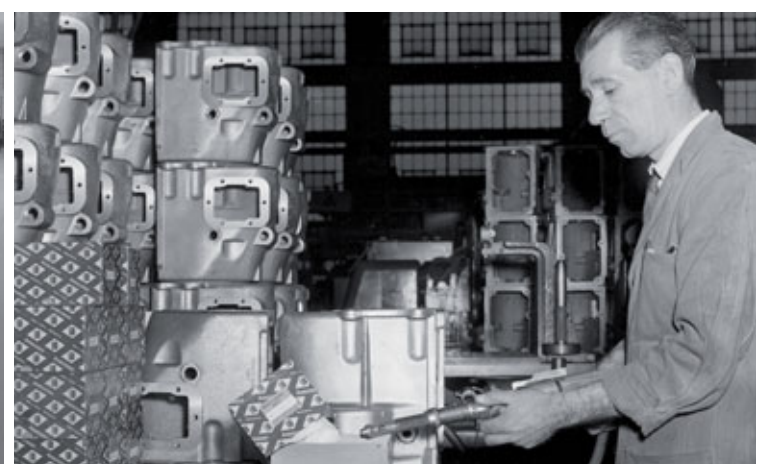
The German Team made football history by winning the World Cup in Bern. That year was not only important to the sports world, but also to us. We started the HELICOIL® production in Germany and therefore created product history. Today the 60 years of our HELICOIL® thread inserts are celebrated.

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!

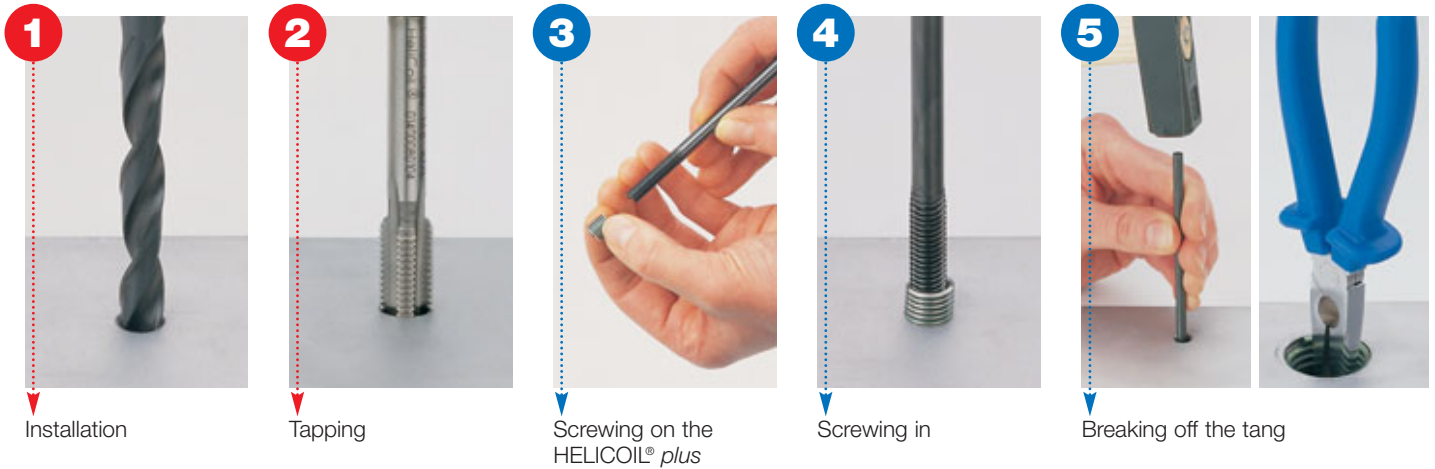
**HELICOIL® plus – the strong one!**



# Installation

HELICOIL® *plus* thread inserts can be easily and economically installed since only a few basic rules have to be observed.

## Preparation



## Your expert for ...

### ... repairing lambda probe threads

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

Includes:

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

Thread size	Pitch	Order number Repair kit	Number of HELICOIL® inserts	Refill pack €	Order number Refill pack	Number of HELICOIL® inserts	Refill pack €
d x P x L	P						
M 18 x 1.5 x 9	1.5	4185 918 4003	5	on request	4189 918 4001	5	on request

### 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



Your expert for ...

...repairing oil drain threads

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

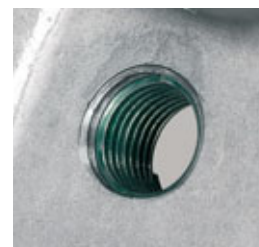
Thread size d x P	Pitch P	Order number Repair kit	HELICOIL® inserts 10 pcs each	No. of threads W	Repair kit €
M 12 x 1.5	1.5	4185 112 4200	M 12 x 1.5 x 9	4.4	on request
			M 12 x 1.5 x 12	6.2	
			M 12 x 1.5 x 18	9.8	
M 14 x 1.5	1.5	4185 114 4200	M 14 x 1.5 x 10.5	5.4	on request
			M 14 x 1.5 x 14	7.4	
			M 14 x 1.5 x 21	11.6	
M 16 x 1.5	1.5	4185 116 4200	M 16 x 1.5 x 12	6.3	on request
			M 16 x 1.5 x 16	8.7	
			M 16 x 1.5 x 24	13.4	



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



Your expert for ...

## ...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

Thread size	Pitch	Order number Repair kit	Number of HELICOIL® inserts	Repair kit €	Order number Refill pack	Number of HELICOIL® inserts	Refill pack €
d (x P) x L M 9 (x 1.25) x 10	P 1.25	4185 909 0005	10	on request	4189 909 0007	10	on request

\*TUV 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



Your expert for ...

...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



Thread size d x P	Pitch P	Order number Repair kit	HELICOIL® inserts 20 pcs each	Repair kit €	Thread size Refill pack d x P x L	Order number Refill pack	Number of HELICOIL® inserts	Refill pack €
M 6x9/M 6x12	1.0	4185 906 0002	M 6x9 M 6x12	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 d x P	Pitch P	Order number Repair kit	HELICOIL® inserts 20 pcs each	Repair kit €	Thread size Refill pack d x P x L	Order number Refill pack	Number of HELICOIL® inserts	Refill pack €
M 6x9/M 6x18	1.0	4185 906 0004	M 6x9 M 6x18	on request	M 6 x 9 M 6 x 18	4189 006 0009 4189 006 0018	20 20	on request on request

For diesel engines of the following car manufacturers: Daimler, Audi, VW, Skoda, SEAT



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



## Your expert for ...

### ...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:

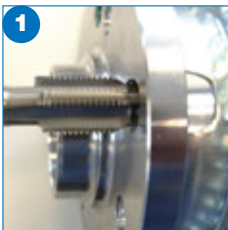
- 10 thread inserts
- Special combination tap
- Tang break-off pliers
- Caulking tool

#### At a glance

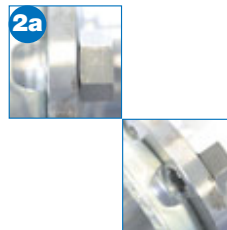
- Repair adding quality and value
- High-strength and wear-free
- Fast and easy installation

Thread size d (x P) x L	Pitch P	Order number Repair kit	HELICOIL® inserts 10 pcs each	Repair kit €	Thread size Refill pack d x P x L	Order number Refill pack	Number of HELICOIL® inserts	Refill pack €
M 14 (x 1.5) x 9	1.5	4185 914 4003	10	on request	4189 914 4004	10	10	on request

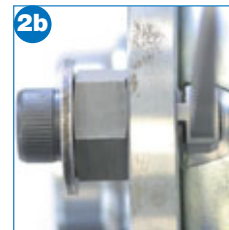
### Installation description for repairing wheel bolt threads



**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.



**Caulking (2a – 2e)**  
The thread bush is screwed into the holding thread.



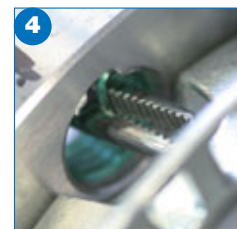
From the rear of the wheel hub, the nose of the punch is screwed into the recess in the thread bush until it engages. Then the cheese head screw with washer is screwed into the thread bush.  
**Caulking is absolutely necessary!**



Caulked HELICOIL® holding thread after removal of caulking tool. The tapped HELICOIL® holding thread is caulked on one side on the rear of the wheel hub (ABS ring).



**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.



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

**Note:** Thread repair must be documented in the service manual of the vehicle indicating the wheel and the side of the vehicle.



Your expert for ...

... 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



Thread size d x P	Pitch P	Order number Repair kit	HELICOIL® inserts 10 pcs each	Repair kit €	Thread size Refill pack d x P x L	Order number Refill pack	Number of HELICOIL® inserts	Refill pack €
M 10 x 1	1.0	4185 110 3100	M 10 x 1 x 10	on request	M 10 x 1 x 10	4189 010 3010	10	on request
			M 10 x 1 x 15		M 10 x 1 x 15	4189 010 3015	10	on request
			M 10 x 1 x 17.5		M 10 x 1 x 17.5	4189 010 3175	10	on request
M 12 x 1.25	1.25	4185 112 9100	M 12 x 1.25 x 12	on request	M 12 x 1.25 x 12	4189 012 9012	10	on request
			M 12 x 1.25 x 16		M 12 x 1.25 x 16	4189 012 9016	10	on request
			M 12 x 1.25 x 24		M 12 x 1.25 x 24	4189 012 9024	10	on request
M 14 x 1.25	1.25	4185 114 9100	M 14 x 1.25 x 8.4	on request	M 14 x 1.25 x 8.4	4189 014 9008	10	on request
			M 14 x 1.25 x 12.4		M 14 x 1.25 x 12.4	4189 014 9012	10	on request
			M 14 x 1.25 x 16.4		M 14 x 1.25 x 16.4	4189 014 9016	10	on request



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.



Your expert for ...

## ...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

Size d [mm]	Item code	Nut (basic body)				HELICOIL® screwlock			Number	Price €
		A/F [mm]	Height [mm]	Collar-Ø [mm]	Property class	Size [mm]	Material	Surface		
M 8	0139 908 0056	11	14.9	17	10	M 8x9.6	Inconel	silvered	50 Pieces	on request
M 8	0139 908 0061	–	22	17	10	M 8x8	A2	silvered	50 Pieces	on request

### 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

Sizes/designs d [mm]	Item code	Total number of parts	Total number of RIVKLE® plus blind rivet nuts	Price in €
M 3 – M 6 / Thin head, steel	2351 190 0501/00	209	200	on request
M 4 – M 6 / Flat head, steel	2351 190 0502/00	159	150	on request



**NEW!**

### 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

Sizes/designs d [mm]	Item code	Total number of parts	Total number of RIVKLE® plus blind rivet nuts	Price in €
M 6 – M 10 / Flat head, steel	2353 020 1001/00	107	100	on request
M 6 – M 10 / Thin head, steel	2353 020 1002/00	107	100	on request

#### 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.

Böllhoff Group  
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or contact us under [fasteningtechnology@boellhoff.com](mailto:fasteningtechnology@boellhoff.com)

