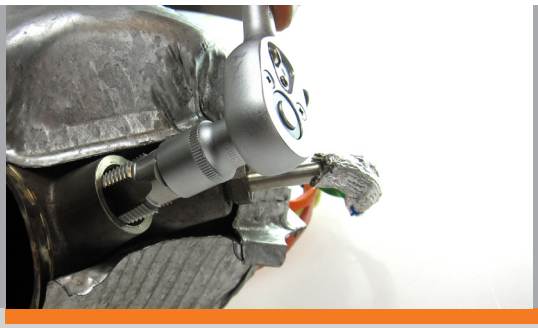
www.pichler.tools



NOX & PARTICULATE SENSOR SERVICE KIT, 29 PCS.

FOR DISASSEMBLY AND ASSEMBLY, THREAD RECUTTING / CLEANING, THREAD RENEWAL

MANUAL

60525200

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SAFETY NOTICE

To understand the functioning of the tools, is it necessary to read the manual first!

- Read these instructions before assembling, during installation and throughout use and in the proper sequence
- Always refer to the OEM manufacturer's instructions and service manuals for the latest data and to maintain the correct sequence
- These work instructions and the recommended tools are meant to serve as aides only and are by no means a guarantee for certain results.
- This tool kit is a special collection and it has been tested and used successfully on several occasions. It is of the utmost importance to maintain the correct procedure as per the instructions
- The use of the tools should only be carried out by qualified personnel!

ATTENTION
Special caution

CORRECT

LIGHT BULB
Hint or recommendation

WRONG

SAFETY GOGGLES
Wearing safety goggles necessary

CONTENT

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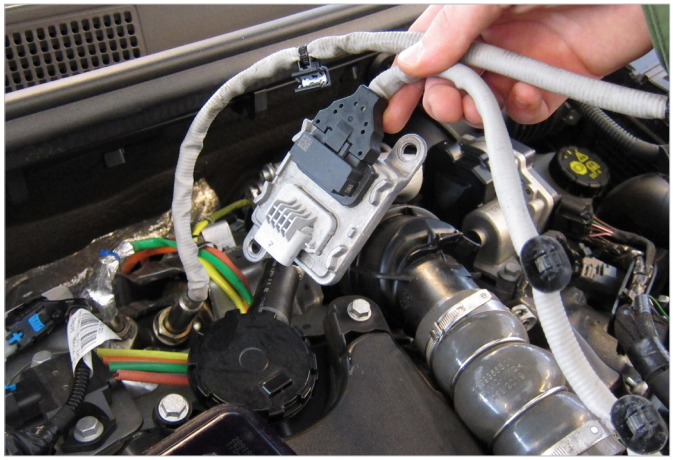
Nr.	PART.-NR.	Description	60525200
1	60525230	Special socket SW30, long, thin-walled hexagonal impact for sensor sockets	1
2	60525248	Socket wrench for hexagon socket 5 mm	1
3	60525224	Socket SW24 for particle sensor	1
4	60525222	Socket SW22 for NOx sensor	1
5	60525246	Tool holder for core drill with set screw DIN 913, M10x8	1
6	60525257	Drill guide mandrel for M22x1.5	1
7	60525256	Drill guide mandrel for M20x1.5	1
8	60525234	Special tap M22x1.5 / 47 mm long	1
9	60525232	Special tap M20x1.5 / 47 mm long	1
10	60525254	Drill guide sleeve expandable for M20x1.5 incl. steel ball and grub screw	1
11	60525255	Drill guide sleeve expandable for M22x1.5 incl. steel ball and grub screw	1
12	60525238	Special tap M26x1 / 52 mm long	1
13	60525236	Special tap M24x1 / 52 mm long	1
14	60525249	Guide ring Ø16.5 mm for tap M22x1.5 / M26x1 with set screw M5x4	2
15	60525247	Guide ring Ø15.2 mm for tap M20x1.5 / M24x1 with set screw M5x4	2
16	60525263	Setting mandrel for threaded bush M20x1.5	1
17	60525264	Forcing nut M20x1.5 for threaded bush setting mandrel	1
18	60525268	Setting mandrel for threaded bush M22x1.5	1
19	60525269	Forcing nut M22x1.5 for threaded bush setting mandrel	1
20	60525243	Core drill Ø23 mm	1
21	60525245	Core drill Ø25 mm	1
22	60525266	Threaded bushing IG M22x1.5 / AG M26x1	3
23	60525261	Threaded bushing IG M20x1.5 / AG M24x1	3

1. DISASSEMBLY OF LAMBDA, NOX OR PARTICLE SENSOR

1.1 Disconnect and free the cable (electrical connection) from the sensor to be removed.



1.2 Now determine the size of the wrench size of the sensor screw connection **(SW22 / SW24)**.

1.3 Place the cable in a loop over a flat spot of the sensor hexagon and grease lightly. Then place the socket wrench **SW22 60525222** or **socket wrench SW24 60525224**, over the sensor cable on the hexagon of the sensor. Make sure that the socket wrench insert is completely seated over the hexagon of the sensor.

TIP
Use lubricant!

1.4 Place the actuating nut **SW30** **60525230** or a combination wrench SW30 (depending on the space available) over the socket and release the sensor by hand.

2. THREAD CLEANING ON EXHAUST PART

2.1 Determine the respective thread size by measuring the external thread on the removed sensor **(M20x1,5 or M22x1,5)**.

2.2 With the size determined, select the appropriate special tap **M20x1,5 60525232** or **special tap M22x1,5 60525234** with the respective matching pre-mounted guide ring and recut and clean the thread.

ATTENTION
Use cutting oil!

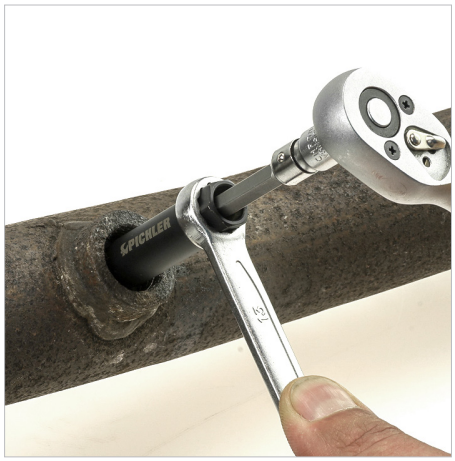
2.3 Then clean the recut thread with a magnet or compressed air.

3. THREAD RENEWAL ON EXHAUST PART

3.1 Provide sufficient space for working here (unhook exhaust if necessary)!

3.2 Determine the correct thread size as described in **work step 2.1**. Select the appropriate drill guide sleeve **M20x1,5 60525254** or rill guide sleeve **M22x1,5 60525255** and loosen the inner screw connection with the socket wrench for hexagon socket **60525248**. At this point, make sure that the drill guide sleeve does not spread. Now place the drill guide sleeve concentrically and flush in the sensor screw connection hole. Then tighten and expand the inner screw connection using the **60525248** hexagon socket wrench.

ATTENTION
The respective drill guide sleeve must be positioned concentrically and flush with the stop collar on the sealing seat of the stop edge in the locating bore!



3.3 Insert the carbide-tipped core drill **Ø 23** **60525243** for thread size **M20x1,5** or carbide-tipped core drill **Ø 25** **60525245** for thread size **M22x1,5** into the tool holder **60525246** in such a way that the flat on the drill shank meets the cross hole with clamping screw in the tool holder.



Then manually pre-clamp the core drill using the socket wrench for hexagon socket 5 mm **60525248** (so that it is positioned correctly).


Screw the drill guide mandrel **M20x1,5** **60525256** or drill guide mandrel **M22x1,5** **60525257** centrally through the core drill into the tool holder and tighten with a socket wrench **SW8**.



Now tighten the clamping screw of the cross hole mentioned in the first step in the tool holder at the flat spot on the drill shank.

3.4 Clamp the tool holder **60525246** with clamped core drill and mounted drill guide mandrel in a drilling machine. Then insert the drilling jig into the drill guide sleeve via the drill guide mandrel and start the boring process of the damaged holding thread.

The boring process is completed as soon as the maximum boring depth is reached. This is done when the collar of the drill guide mandrel is in contact with the drill guide sleeve.
Accidentally drilling too deep is therefore not possible.

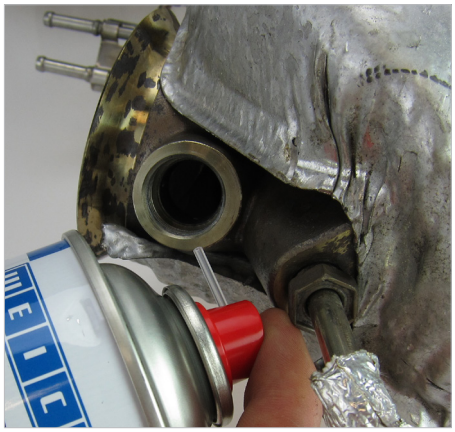
ATTENTION
Moderate speed! Lubricate guide mandrel and core drill well!

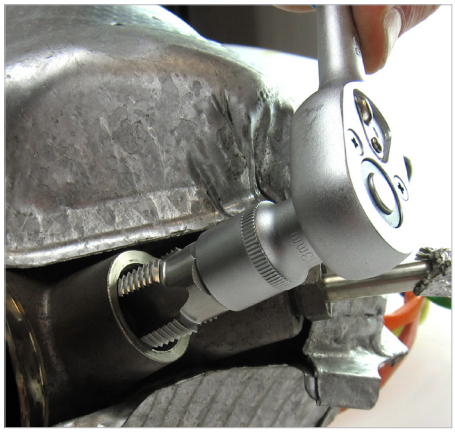
Then clean the bore from chips and dirt using a magnet or compressed air.

3.5 Remove the drill guide sleeve again by loosening the inner screw connection using socket wrench for hexagon socket **60525248**. Then check and ensure that the original sensor mounting thread has been completely drilled out (rework if necessary).


3.6 Now cut a thread with the special tap **M24x1,0 60525236** for thread size **M20x1,5** or special tap **M26x1,0 60525238** for thread size **M22x1,5** with the respective matching premounted guide ring in the sensor holder at maximum depth.

ATTENTION
Ensure correct axis alignment of the tap!





Remove the tool and clean the thread with a magnet or compressed air.

3.7 Screw the threaded bushing **IG M20x1,5 / AG M24x1,0 60525261** onto the setting mandrel for threaded bushing **M20x1,5 60525263** or the threaded bushing **IG M22x1,5 / AG M26x1,0 60525266** onto the setting mandrel for threaded bushing **60525268**. Make sure that the position is correct (the turned-off (smooth) part of the threaded bushing must point away from the setting mandrel)!



3.8 Screw the threaded bushing into the newly cut thread using the setting mandrel and tighten it firmly.
The threaded bushing is detached from the setting mandrel by moving the setting mandrel counterclockwise and simultaneously turning the respective forcing nut clockwise.

ATTENTION
When removing the setting tools, apply more tightening movement of the loose hexagonal push-off nut than loosening movement on the setting mandrel!




If the respective threaded bushing stands out from the original thread position after it has been installed, make sure that the new sensor is in contact with the sealing seat when installing it. If necessary, the thread projection of the respective threaded bushing must be slightly ground off in these cases.

RECOMMENDED ACCESSORIES

RATCHET POWER BAR ½“

74110160

LED INSPECTION LIGHT

92102140

CUTTING OIL 25ML IN DROPPER BOTTLE

90417911

BIO-CUT CUTTING OIL 400 ML

99900175

SENSOR REMOVAL SET

60525000

OPEN CABLE WRENCH SET 3 PCS.

93510300

THREADED BUSHING SET IG M20X1,5 / AG M24X1 3 PCS.

60525262

THREADED BUSHING SET IG M22X1,5 / AG M26X1 3 PCS.

60525267

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NOTES

NOTES

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