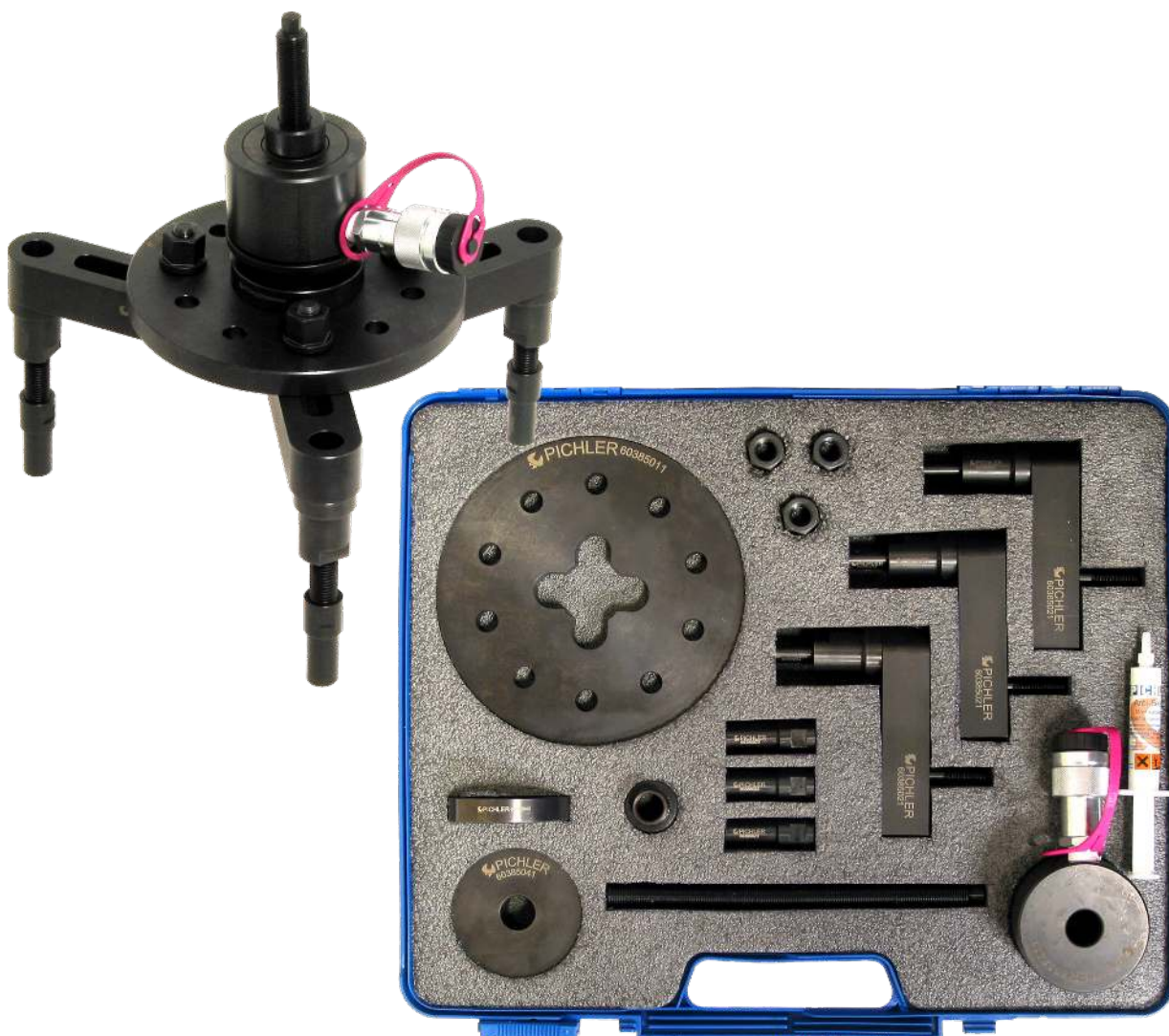




UNIVERSAL HYDRAULIC INJECTOR REMOVAL TOOL

MANUAL

60385395 / 60385400

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

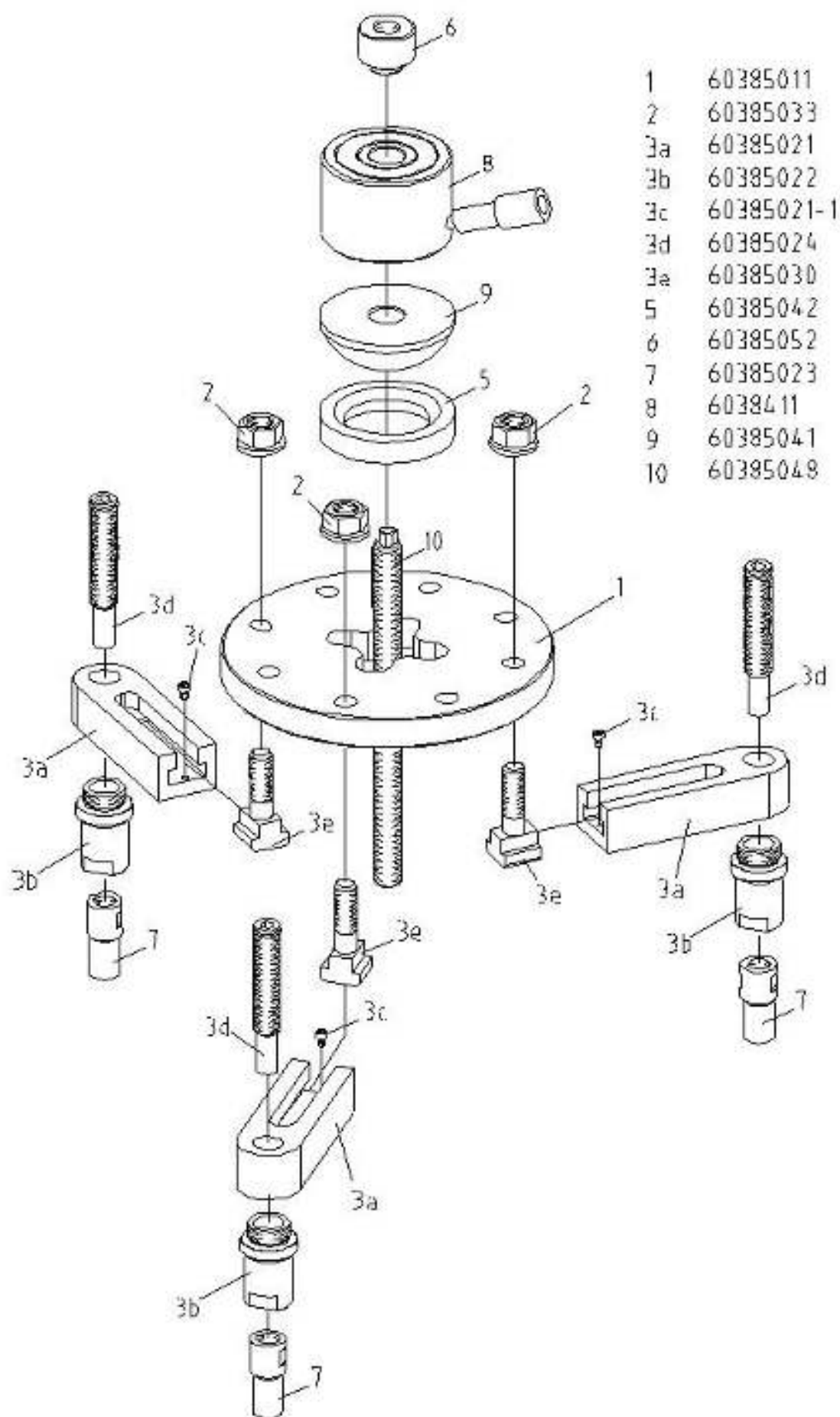


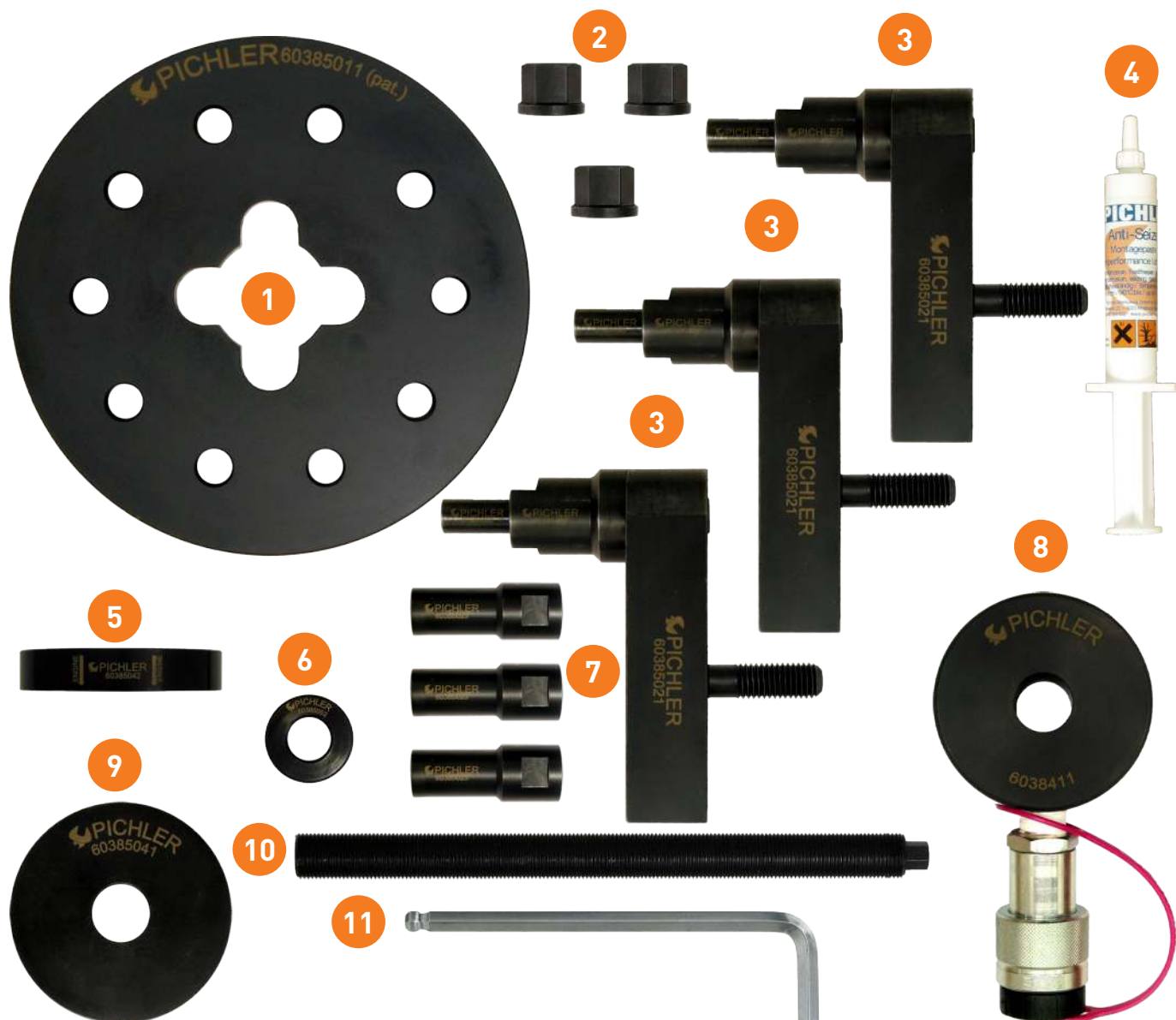
WRONG



SAFETY GOGGLES

Wearing safety goggles
necessary

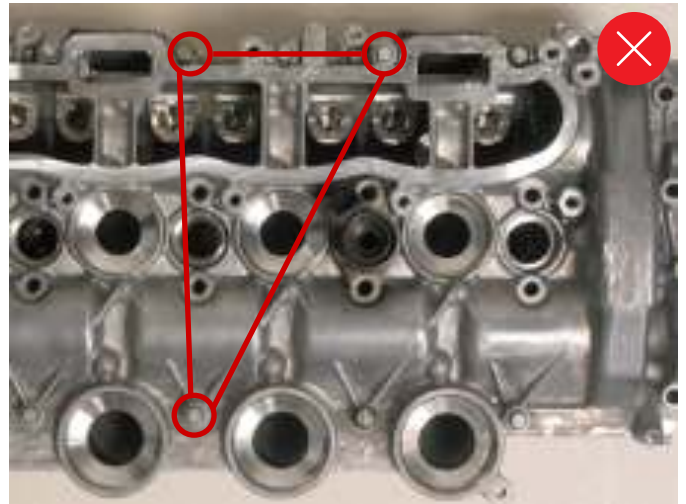
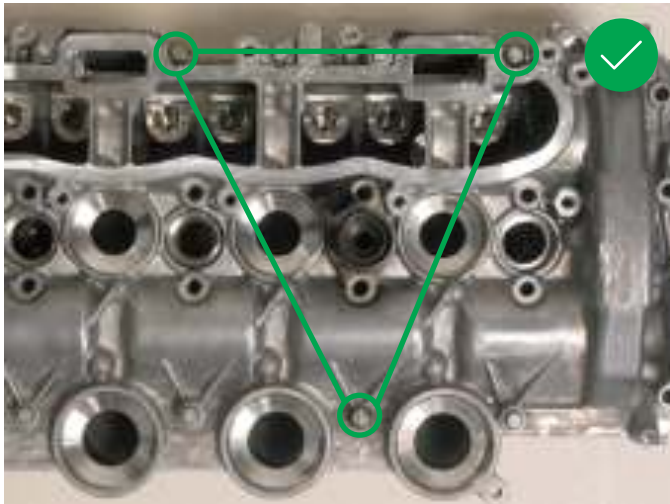
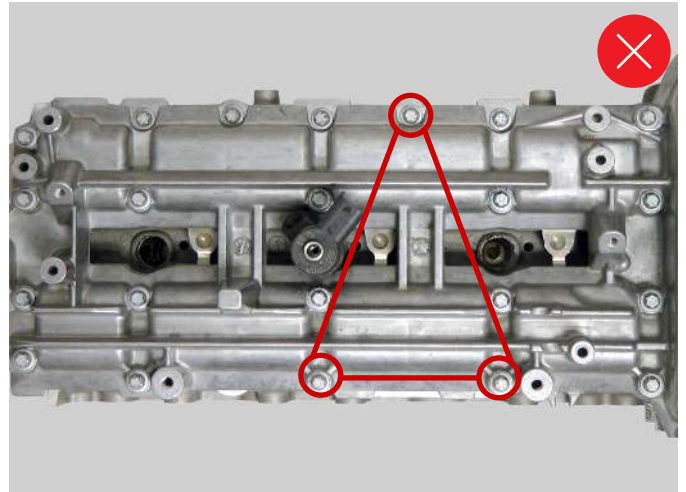
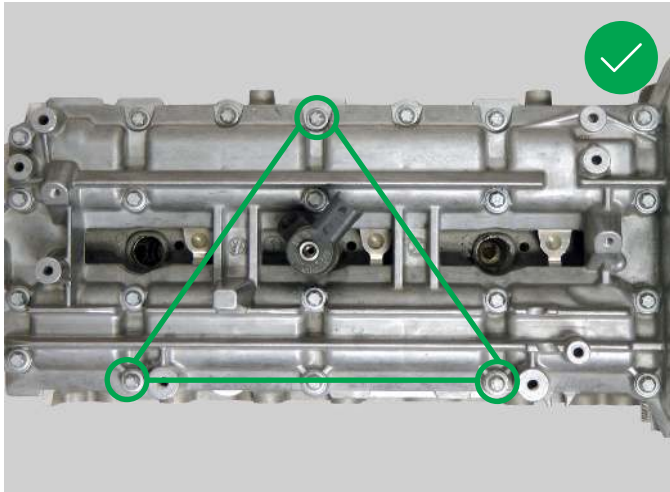




Nr.	PART.-NR.	Description	60385395	60385400
1	60385011	Base Plate	1	1
2	60385033	Collar Nut M14	3	3
3	60385025	Support Leg (adjustable)	3	3
4	81601000	Lubricant	1	1
5	60385042	Swivel Cup Collar	1	1
6	60385052	Knurled Adapter M18x1,5	1	1
7	60385023	Leg Extension	3	3
8	6038411	Hydraulic Cylinder 12t	1	-
9	60385041	Swivel Cup	1	1
10	60385048	Puller Spindle M18x1,5x242	1	1
11	151.2108	Hex Key 8	1	1

1. SELECTING POINTS OF SUPPORT

Only solid, well supported and fixed points (preferably screw heads) on the cylinder head are to be used. When connecting the support points in a straight line the injector must be located inside the resulting triangle.



2. SIZING THE SUPPORT SURFACE

Depending on the form of the points of support on the cylinder head (e.g.: screw heads or well supported solid flat surfaces) the proper support surface of the extractor is to be chosen. There are two versions to choose from:

2.1. VERSION 1: SUPPORT LEG WITHOUT EXTENSION TO THE SPINDLE (LITTLE SUPPORT SURFACES)



ATTENTION

the Supporting Spindle **60385024** must not protrude from the horizontal arm **60385021**!



2.2. VERSION 2: SUPPORT LEG WITH EXTENSION TO THE SPINDLE (LARGE SUPPORT SURFACES)



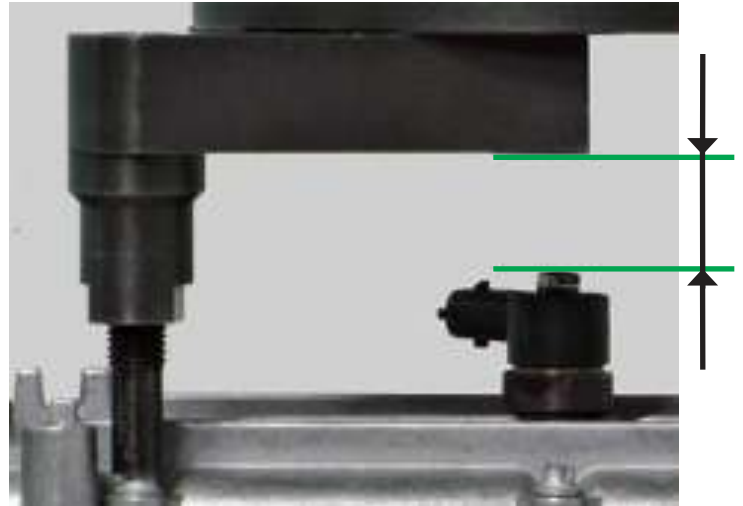
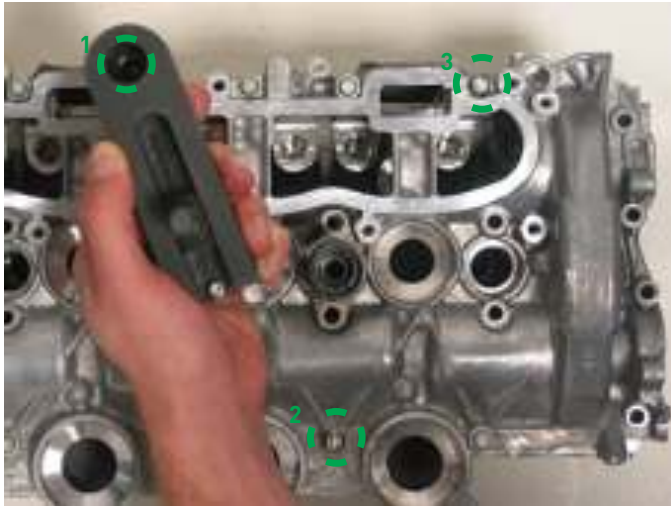
ATTENTION

The Extension for the Support Leg **60385023** must be screwed till the stop on the Spindle **60385024** and properly tightened (Hex key 8, combination spanner 17).

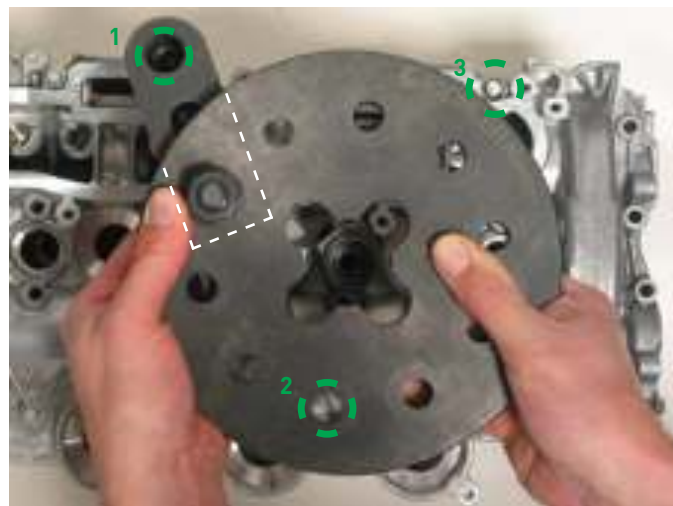


3. PLACING AND POSITIONING OF THE BASE PLATE

When placing the Support Leg **60385025** on the first point of support, check that there is sufficient room to extract. If necessary, screw out the Spindles **60385023** herausdrehen)



Feed the Slot Bolt **60385030** through a random hole of the Base Plate **60385011** and screw the Collar Nut **60385033** on the Bolt and tighten it hand tight. Position the centre of the Base Plate centrally above the injector.

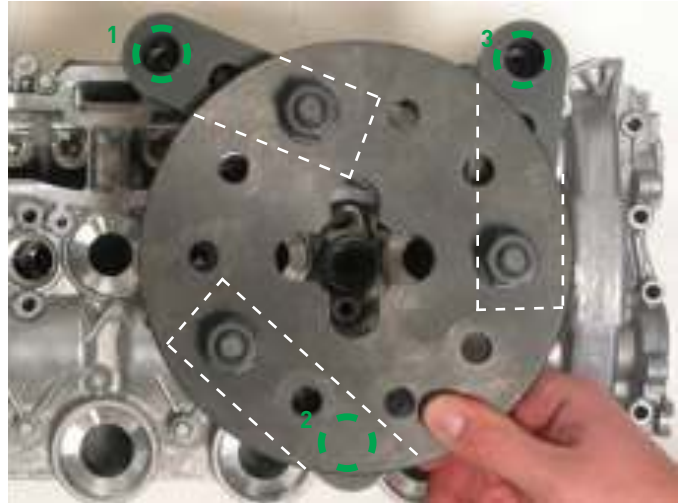
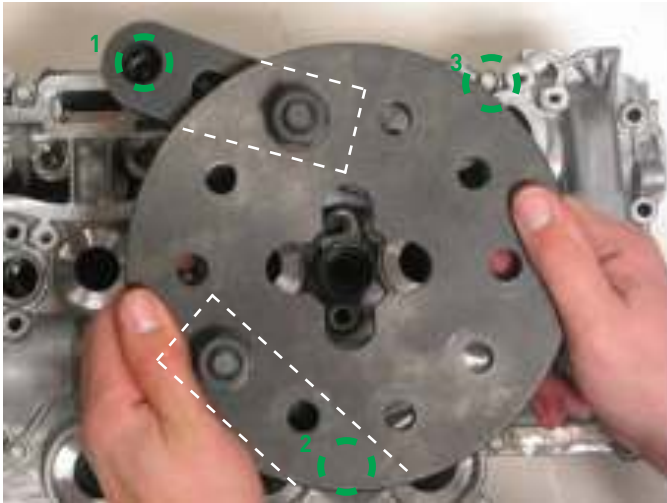


Position the second and third Support Leg **60385025** on the support points 2 and 3. The positions of all three Slot Bolts **60385030** in the Base Plate **60385011** must be chosen such that;



- The Base Plate **60385011** is supported by the Support Legs **60385025** aufliegt and
- The Base Plate is centred above the injector

Tighten the Collar Nuts **60385033** with a suitable tool.

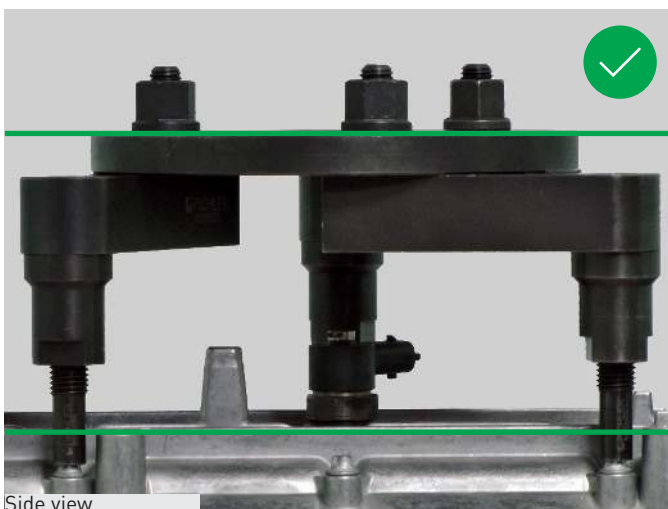
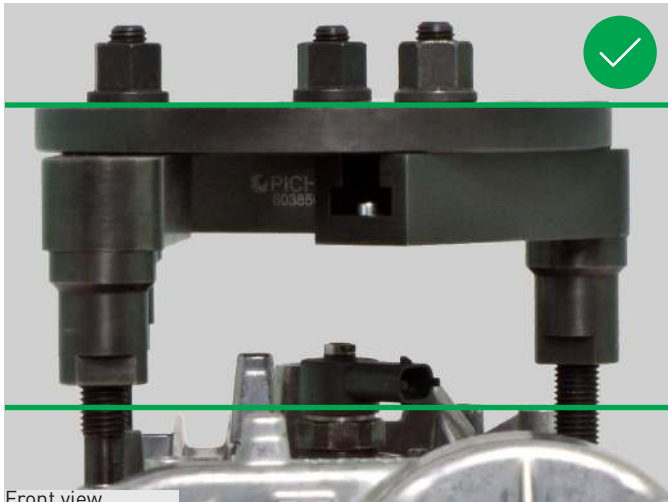


(approx. 80Nm - 100Nm)



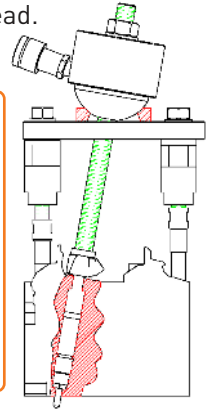
4. ALIGNING THE BASE PLATE IN HEIGHT

By screwing in and/or out of the Spindles **60385023** align the Base Plate parallel to the cylinder head.



ATTENTION

The Base Plate does not necessarily need be parallel to the injector, but always has to be in line with the support points



5. DISASSEMBLING THE INJECTOR

Remove the base structure and dismantle the injector as far as necessary to be able to mount a suitable adapter.



TIP

Use the designated injector removal and adapter set **60384660** (see page 10) from Pichler Tools.

6. SCREWING IN THE TENSILE ADAPTER AND - SPINDLE

Screw in and tighten the appropriate Tensile Adapter on or in the injector. Screw the Puller Spindle **60385048** into the Pull Adapter and tighten it with a ratchet and socket 10.



7. PLACING THE BASE STRUCTURE AND REMOVING THE INJECTOR

Place the base structure over the Puller Spindle **60385048** onto the cylinder head. Place Swivel Cup Collar **60385042** and Swivel Cup **60385041** over the Puller Spindle, onto the Base Plate 60385011.



Take care that the arrow on the Swivel Cup Collar points in the direction of the Base Plate and cylinder head!!



Place the Hydraulic Cylinder **6038411** over the Puller Spindle **60385048** on the Swivel Cup **60385041**. Screw the Knurled Adapter **60385052** on the Spindle, connect the Hydraulic Cylinder to a hydraulic hand pump (max. operating pressure 700bar) and start pumping.



ATTENTION

- DO NOT use a cylinder above 12 tons lift capacity
- After about 8 mm. the maximum stroke of the piston is reached. Release the pressure, tighten the Knurled Adapter by hand and start pumping again.

Repeat the process until the injector is released.



ASSEMBLY AND OPERATIONAL TOOLS (NOT INCLUDED IN THE SET)

REVERSIBLE RATCHET 1/4"

7210000



SOCKET 1/4"

7221000



HYDRAULIC SET 3 PIECES

80255500



RECOMMENDED ACCESSORIES

INJECTOR ADAPTER SET 15 PCS.

60384660



UNIVERSAL INJECTOR SHAFT CLEANING
KIT BASE MODUL

9038000



UNIVERSAL INJECTOR SHAFT CLEANING
KIT MODULE 1, BRUSHES

9038010



UNIVERSAL INJECTOR SHAFT CLEANING
KIT MODULE 1, BRUSHES PLUS

9038011



UNIVERSAL INJECTOR SHAFT CLEANING
KIT MODULE 2 - MILLING

9038020



UNIVERSAL INJECTOR SHAFT CLEANING
KIT MODULE 3 - EQUIPMENT

9038030



NOTES

NOTES

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