

## Work Instructions for injector extraction kit for PSA engines DW10ATED4 and DW12TED4, 30 pieces

**60383305**

(Legally protected)



Pos.		Description	60383305
1	6038311	Open Core Hydraulic Cylinder (custom made) 20 ton	1
2	60383041	Extraction Claw	1
3	60383042	Socket Screw M10x45	2
4	60383091	Spindle M20x1,5x68,50	1
5	6038417	Special 10mm Socket Wrench With Core Hole	1
6	60383191	Spacer U-shape	1
7	60383011	Bridge Support	1
8	8160100	Assembling Paste Anti-Seize 10 g.	1
9	60383021	Bridge Support Legs Size.1	2
10	60383022	Extension For Bridge Support Legs Size.1	2
11	60383141	Spindle M10	2
12	6038316	Shouldered Nut M10	2
13	6038437	Loosening Lever	1
14	60383031	Bridge Support Leg Size 2	1
15	60383032	Extension For Bridge Support Leg Size 2	1
16	60383181	Knurled Adapter	1
17	60383055	Plate For Auxiliary Fixing	1
18	6038306	Adapter M17x1: M20x1,5	1
19	6038307	Axial Cylinder Roller Bearing	2
20	6038317	Bearing Adapter	2
21	6038406	Stud Remover 7 mm	1
22	60383083	Support Block 45°	1
23	60383082	Support Block 90°	1

## Preparation:

Some parts (depending on the vehicle) have to be removed like e.g. housing for the pollen filter and window wiper mechanism.

Clean the area round the injector from smut and other deposits.

Working on the Peugeot 807, Citroen C8, Fiat Ulysse or Lancia Phedra it is recommended, that if the injector can't be removed mechanically, to loosen the frontal engine mount and to lower the engine in order to gain greater access.

The mechanical disassembly the injector should only be used if when the fastening bolt is being unscrewed, the injector starts to come out of the cylinder head jerkily; then start at step 1!

If this isn't the case, or if the Torx bolts sheer off during disassembly, the injector has to be disassembled and the injector be removed by means of the Open Core Cylinder; skip step 6 and 9 to 13!

## Removal of the injector without disassembly

1. Remove the plastic camshaft cover.



2. Remove the diesel line, connector and seal.



3. Remove the electro magnetic valve. Beware not to lose the little spring!



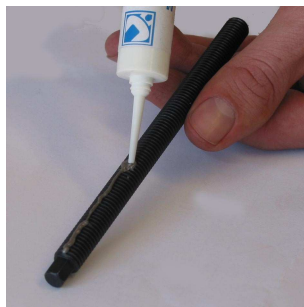
4. Unscrew the studs for about half a turn and slide the Extraction Claw out of the direction of the inlet manifold under the injector.



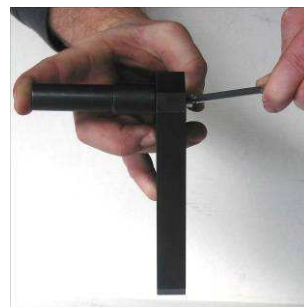
5. Pull up the Extraction Claw as far as it goes up and tighten it by means of the allen screw.



6. Slide the two Support Blocks . 60383082 (90°) and . 60383083 (45°) sideways under the Extraction Claw on the camshaft housing. Pay attention that the 90° Support block is mounted on the head side of the allen screw!



7. Grease both M10 Spindles . 60383141 with the montagepaste and screw them into the Extraction Claw till they are flush with the underside of the Claw.



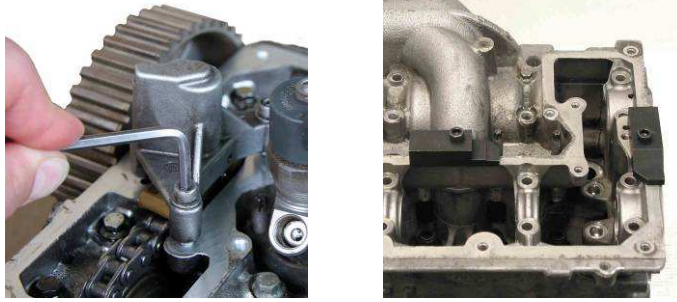
8. Mount the Support Legs . 60383021 (2x) and Leg . 60383031 (1x) in the Bridge Support as it is shown on the next picture and secure them tightly!



Position of the Legs for cilinder 1-3



Position of the Legs for cilinder 4



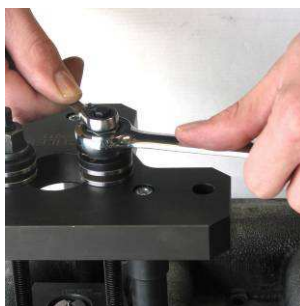
**Attention important!** If the injector for cylinder 4 has to be removed; remove the valve cover and the timing chain tensioner and install the Support Blocks . 60383083 and .60383082 with the socket screws.



9. Place the Bridge Support with the Legs screwed in onto the Support Blocks and socket screw respectively. The konical Leg stands on the cylinder head screw.



10. Grease the Bearing . 6038307 and place them together with the Adapters . 6038317 over the Spindles on the Support Bridge and screw the Shouldered Nuts . 6038316 on the Spindles.



11. **Attention important!** Do not allow the Spindles to turn and then using a torque wrench (set to a max. 36 NM) tighten each spindle alternately and extract the injector.

### **Attention important!**

**If at this point the injector sits to tightly and doesn't move out of the cylinder head, then break off the attempt, remove all tools and disassemble the injector and continue with step 14 (hydraulic extraction)**



12. If the injector has come out of the cylinder head and the Support Bridge . 60383011 it is possible (depending on the space) to mount the Extensions . 60383022 (2x) and . 60383032 (1x) under the Legs and continue the procedure till the injector is fully extracted.



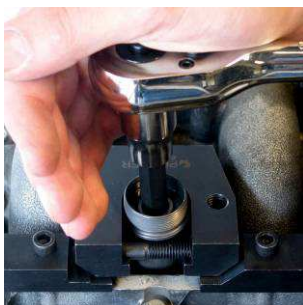
13. If it is not possible to remove the injector easily, than remove the tools and screw the Loosening Lever .6038437 in the diesel connector screw thread and remove the injector by turning it to and fro.

## Complete disassembly of the injector and hydraulic disassembly

**Preparation; remove the plastic camshaft cover and continue as described on page 2.**



14. Push the "three leaf" down with a screwdriver, remove the locking ring. And remove all detached parts.



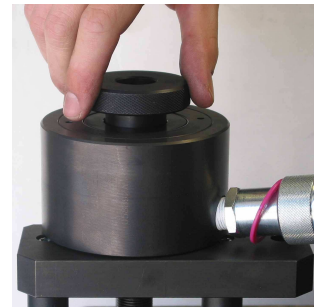
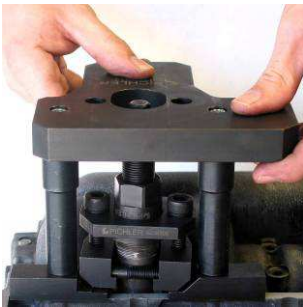
15. Unscrew with the Special Hex Socket ( 6038417) the nut and remove all detached parts. Tip; use a magnet.



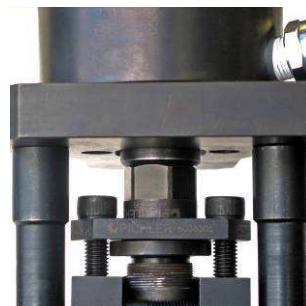
16. Screw Adapter 6038306 into the disassembled injector and tighten it.



17. Place the Auxiliary Fixing Plate 6038305 over the Adapter and secure it to Extraction Claw 60383041. Grease Spindle M20x1,5 6038309 and screw it in Adapter 6038306 and tighten it slightly.



18. Place the Support Bridge .60383011 with the Legs screwed in (without the Extensions). First put the Adapter .60383181 in the Open Core Cylinder, then place the combination on the Support Bridge and screw the Adapter manually on the Spindle.



19. Connect the Cylinder to a hand pump (service pressure max. 700 bar for example from kit 8025550) and start to pump. The injector will start to move out off the shaft. After 8 mm the end of the stroke of the Cylinder is reached, relieve the pressure and tighten the Knurled Adapter and resume the pumping. Repeat this operation till the Adapter 60383181 touches Adapter 6038306



20. When both Adapters touch, unscrew Adapter . 60383181 and add the U-shaped Spacer 60383191 and continue the operation the way it was described in step 19, till the Allen screws touch the Support Bridge .60383011.



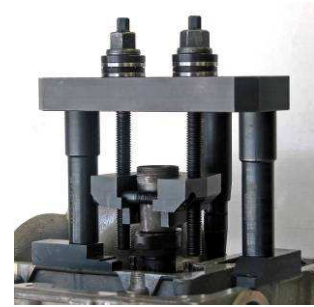
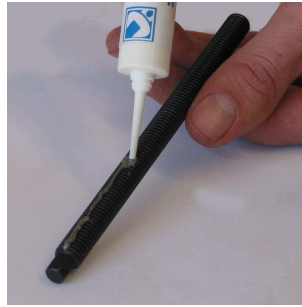
21. Then (depending on the space) mount the Extensions . 60383022 (2x) and . 60383013 (1x) under the Legs and continue the procedure till the injector is fully extracted.

Exceptions are Peugeot 807, Citroen C8, Fiat Ulysse and Lancia Phedra!

On these cars there is too little room on cylinders 3 and 4 to mount the Extensions. On these cars the Spindle has to be removed in the following way and the procedure has to be continued mechanically. The alternative is to remove the engine.



22. Unscrew the Adapter . 60383181 ¼ turn. Place a bit 12 mm. ¼" in the Adapter . 60383181. Attach a 50 mm Extension and a ratchet. Screw the Spindle up till it is flush with the Adapter . 60383181 ( see the picture) Now it is possible to remove the Cylinder, Adapter and Spindle.



23. Grease M10 Spindles . 60383141 and screw them in the Claw, so far that there is just enough Spindle protruding to place the Bearings with Adapters and the Shouldered Nuts can be screwed on fully. Continue like has described in step 8 till 12.
24. Remove the tools from the engine bay. Remove the injector from the shaft. Clean the shaft before mounting the new injector with Cleaning Kit . 9039040 and if necessary remove the sealing ring using the Seal Extractor 6039070.



25. If during the repair the Torx stud has broken off., in that case the stud can be replaced by hammering on special tool 6038406 and unscrewing it with a proper tool.