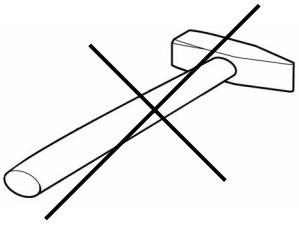
KL-0369-33 K

„Glow plug removal and glow plug retaining thread repair "

Carefully read the Product Information and make sure you have understood it correctly.

Care and cleaning.



KL-0369-33 K Glow Plug Tool Set M8x1

Suitable for Mercedes CDI diesel engines OM640 and OM642 with glow plug thread M8x1.

Field of Application

The glow plug tool set **KL-0369-33 K** enables the quick, accurate and professional drilling out of damaged or snapped off glow plugs, as well as recutting, cleaning and repairing glow plug retaining threads and the cleaning of glow plug bores.

The glow plug head is drilled out/rebored with the core-hole drill. Then, the original thread is recut and cleaned by means of the thread tap. Damaged glow plug retaining threads are rethreaded to M10x1 with the special thread tap.

The centring / guide sleeves used in conjunction with the base plate ensure accurate and correct centring and guidance as well as the exact drilling depth whilst drilling out and during the thread repair. The remaining glow plug body can be extracted with the puller.

Then, the glow plug hole, the sealed seat, and the glow plug channel (the small aperture leading to the combustion chamber) can be cleaned with the reamer.

Advantages

- Substantial time and cost savings
- The tool is easy to operate; professional working

⚠ Warnings, Instructions and Notes

- Any work on engines should only be performed by qualified personnel observing and complying with the directions, provisions, and safety regulations issued by the vehicle manufacturer.
- Only the vehicle manufacturer's data apply to all work done on the vehicle.
- All specific vehicle data stated herein are supplied under reserve and without commitment
- Protective goggles must always be worn.
- Before starting work, apply the specified lubricant to the cutting edges of the cutting and drilling tools.
  (for ***aluminium*** ⇒ apply ***alcohol spirit*** to the drilling tool)
  (for ***steel*** ⇒ apply ***oil*** to the drilling tool)

⚠ It is imperative to observe the following points:

- Before starting work, read this Product Information carefully and make sure you have understood it correctly.
- Never strike the tool with a hammer!
- Always keep the tool clean. To lubricate spindles and threads, use Molybdenum Disulphide Paste **KL-0014-0030** only**.**
- Only KLANN original spare parts are recommended.

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Mounting the base plate:

Fig. 1: Mount compressed-air adaptor

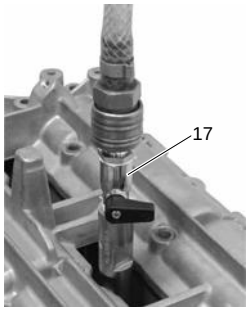
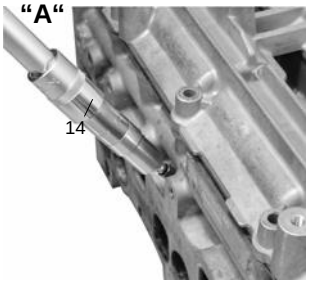


Fig. 2: Skim off electrode head using drum-type turning tool



Centre electrode skimmed off

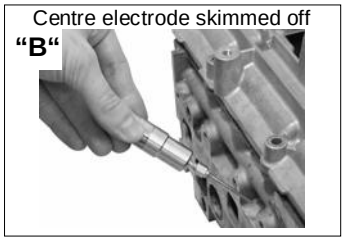


Fig. 3: Fixing holes and guide bores in the base plate.

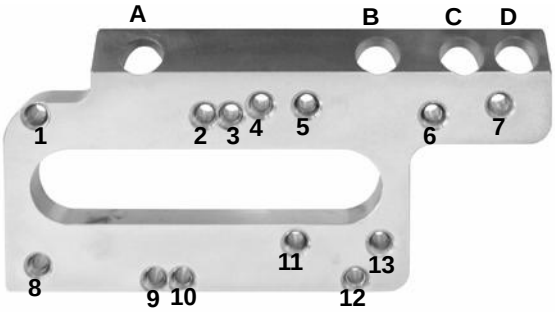


Fig. 4: Fix base plate to cylinder head.

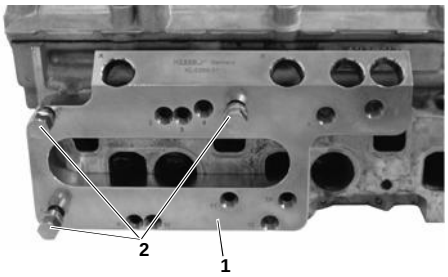
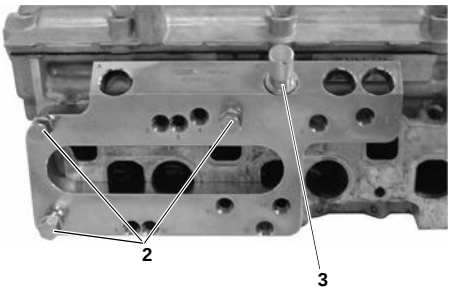


Fig. 5: Insert setting bolt, fasten base plate with screws.



Application

Mounting the base plate:

Example shows engine OM642, left cylinder bank, cylinder 5.

1. Loosen and/or remove all necessary components.

2. Set the crankshaft of the cylinder which is to be repaired to TDC (power stroke) (valves closed), remove injection nozzle. Install the compressed-air adaptor **pos. 17** and connect compressed air supply **(fig. 1).** Lock crankshaft!

3. Use drum-type turning tool **pos.14** to skim off the electrode head (clockwise rotation) **(fig. 2 A).** Remove the electrode head and the broken off hexagon. **(fig. 2 B)**

   Note: *If the centre electrode is broken off at the very top at the junction to the electrode head,* skim off again the residual centre electrode using the drum-type turning tool **pos. 14**.

4. On the basis of the table, determine the suitable guide bore and fixing holes in the base plate **pos. 1**. **(fig. 3)**

Cylinder head	Guide bore	bore	bore	bore	bore	bore	bore	bore	bore	bore	bore	bore	bore	bore	Notes
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	
OM640															
Cylinder 1	**D**		**X**							**X**			**X**		
Cylinder 2	**D**		**X**							**X**			**X**		
Cylinder 3	**A**			**X**			**X**				**X**				
Cylinder 4	**A**			**X**			**X**				**X**				
OM642 right															
Cylinder 1	**A**	**X**							**X**			**X**			
Cylinder 2	**B**	**X**							**X**			**X**			
Cylinder 3	**C**				**X**			**X**						**X**	Glow plug cyl. 2 must have been removed
OM642 left															
Cylinder 6	**A**	**X**				**X**			**X**						
Cylinder 5	**B**	**X**				**X**			**X**						
Cylinder 4	**C**				**X**			**X**						**X**	Glow plug cyl. 2 must have been removed

5. Position base plate **Pos. 1** on cylinder head and only slightly fix it with the special screws **pos. 2. (fig. 4)**
   Note: Do not yet tighten the special screws **pos. 2**!

6. Insert setting bolt **pos. 3** into the appropriate guide bore of the base plate and tigthen the special screws **pos. 2** to approx. 20 Nm. **(fig. 5)**

7. Remove setting bolt **pos. 3**.

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Drilling out broken off glow plug and recutting original thread M8x1.

Fig. 6: Insert guide sleeve for milling cutter

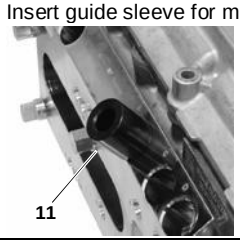
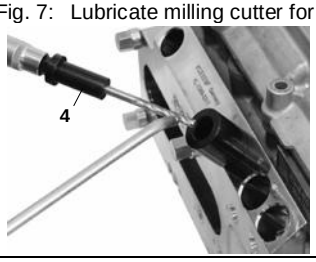
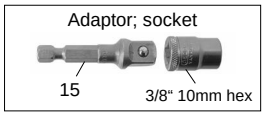


Fig. 7: Lubricate milling cutter for centre electrode with oil





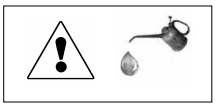


Fig. 8: Mill off centre electrode (1st step)

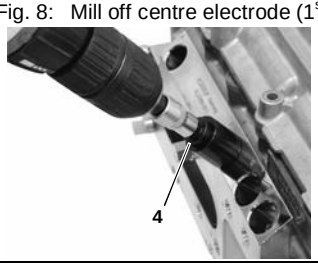


Fig. 9: Insert guide sleeve for drill

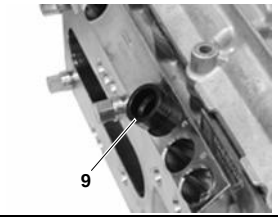
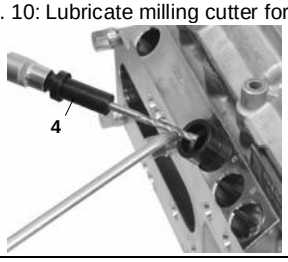
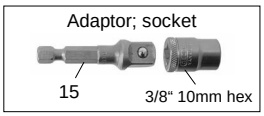


Fig. 10: Lubricate milling cutter for centre electrode with oil





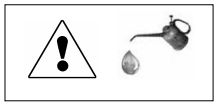


Fig. 11: Mill off centre electrode *(2nd step)*

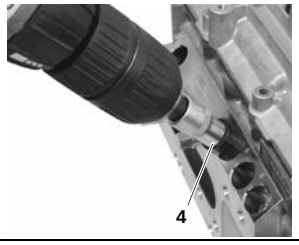
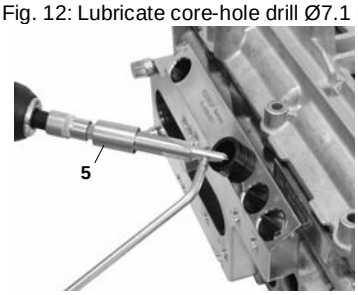
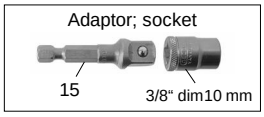
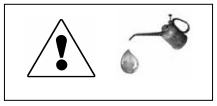


Fig. 12: Lubricate core-hole drill Ø7.1 mm with oil







Drilling out the broken off glow plug and recutting the original thread M8x1.

1. Entirely insert guide sleeve **pos. 11** into guide bore of the base plate **pos. 1**. **(fig. 6)**

2. Insert adaptor **pos. 15** with the 3/8“ hex socket (10mm hex) into an appropriate power drill.

3. Lubricate milling cutter **pos. 4** with oil **(fig. 7)** and insert it into guide sleeve **pos. 11** .

4. Mill off centre electrode (1st step)
   Using a power drill, start the milling-off process exerting only light pressure on the milling cutter **pos. 4.** Carry this out at intervals and dispose of the swarf each time.
   The correct milling depth has been reached when the stop collar of the milling cutter rests on the guide sleeve. **(fig. 8)**

   ⚠ **Attention:**

   - Observe the correct rotational speed (approx. 500 rpm).
   - Lubricate the cutting edges of the milling cutter with oil.

5. Remove guide sleeve **pos. 11**.

6. Entirely insert guide sleeve **pos. 9** into the guide bore of the base plate. **(fig. 9)**

7. Lubricate milling cutter **pos. 4** with oil **(fig. 7)** and insert it into guide sleeve **pos. 9** .

8. Mill off centre electrode (2st step)
   Using a power drill, start the milling-off process exerting only light pressure on the milling cutter **pos. 4.** Carry this out at intervals and dispose of the swarf each time.
   The correct milling depth has been reached when the stop collar of the milling cutter rests on the guide sleeve. **(fig. 11)**

   ⚠ **Attention:**

   - Observe the correct rotational speed (approx. 500 rpm).
   - Lubricate the cutting edges of the milling cutter with oil.

9. Insert adaptor **pos. 15** with the 3/8“ hex socket (10mm hex) into an appropriate power drill.

10. Lubricate core-hole drill Ø7.1 mm **pos. 5** with ***oil*** **(fig. 12)** and insert it into guide sleeve **pos. 9**.

Fig. 13: Tap glow plug thread to core-hole diametre

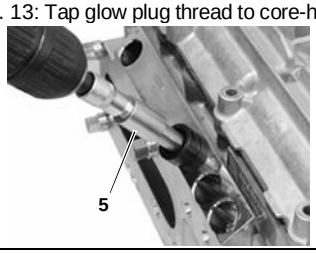
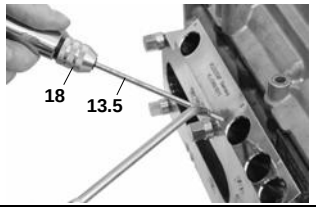


Fig. 14: Lubricate thread tap with oil



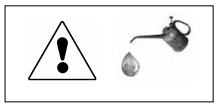


Fig. 15: Tap thread into glow plug tube

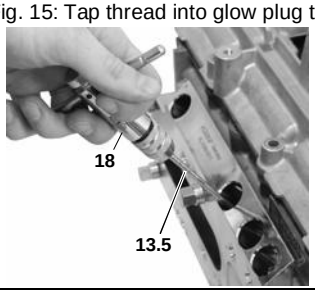


Fig. 16: Insert support sleeve and puller tool

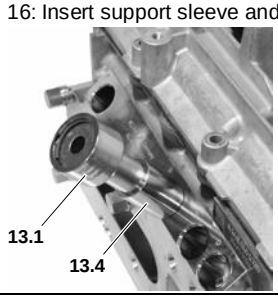


Fig. 17: Screw in puller bolt

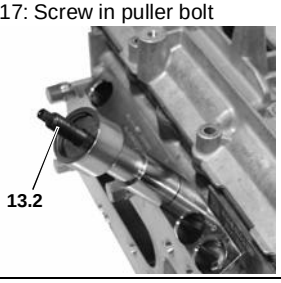


Fig. 18: Screw shoulder nut onto puller bolt

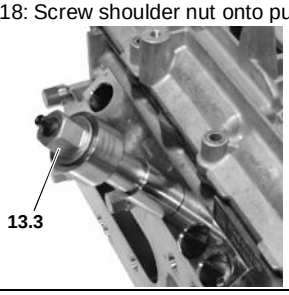
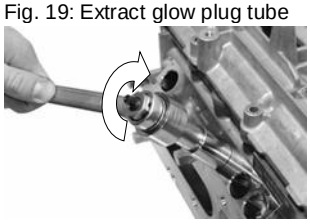


Fig. 19: Extract glow plug tube



11. Using a power drill, start the drilling-off process exerting only light pressure on the core-hole drill **pos. 5 (fig. 13).** Carry this out at intervals and dispose of the swarf each time.
    The correct drilling depth has been reached when the stop collar of the core-hole drill rests on the guide sleeve.

    ⚠ **Attention:**

    - Observe the correct rotational speed (approx. 500 rpm).
    - Lubricate cutting edges of core-hole drill with ***oil***.

12. Remove guide sleeve **pos. 9** from the guide bore. Then, clean all swarf and impurities from the glow plug bore.

13. Lubricate thread tap **pos. 13.5** with ***oil*** and insert it into tool holder **pos. 18**. **(fig. 14)**

14. Using thread tap **pos. 13.5,** cut the thread about 5mm deep into the glow plug tube which is still in the cylinder head. **(fig. 15)**

    ⚠ **Attention:**

    - Operate thread tap by hand only!

15. Entirely insert support sleeve **pos. 13.1** and puller tool (base tool) **pos. 13.1** into the guide bore of the base plate. **(fig. 16)**

16. Screw puller bolt **pos. 13.2** through the puller tool into the glow plug tube (max. 10 Nm). **(fig. 17)**

17. Screw shoulder nut **pos. 13.3** onto puller bolt. **(fig. 18)**

18. Slightly open the valve on the compressed-air adaptor **pos. 17**.
    Extract the glow plug tube with the glow plug by turning the shoulder nut by means of a wrench (dim. 19 mm) **(fig. 19)**

    ⚠ **Attention:**

    - Protective goggles must always be worn!
    - Prevent the puller bolt **pos. 13.2** from turning.

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Fig. 20: Insert guide sleeve for drill

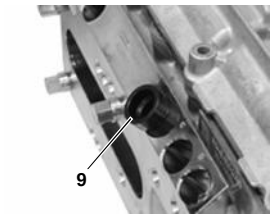
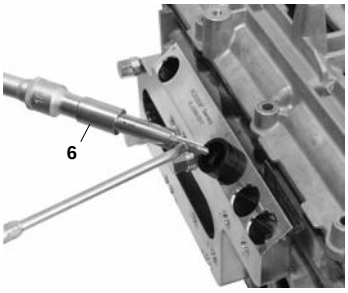


Fig. 21: Lubricate thread tap M8x1 with alcohol spirit



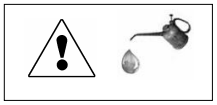


Fig. 22: Recut thread M8x1

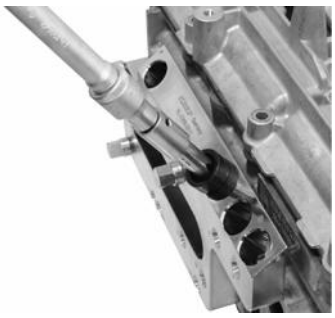


Fig. 23: Insert guide sleeve for cleaning tool

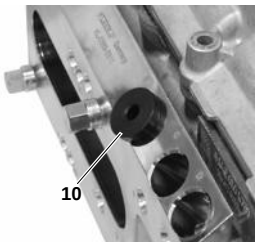
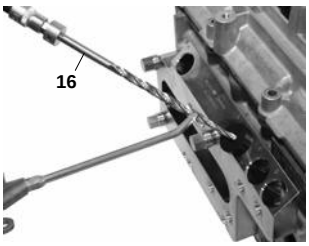
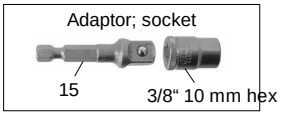


Fig. 24: Lubricate cleaning tool with alcohol spirit





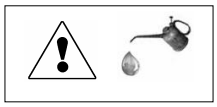
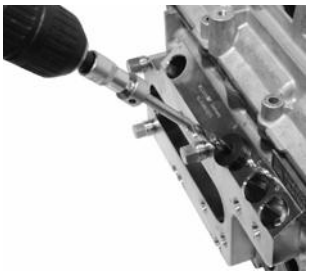


Fig. 25: Clean glow plug bore



19. Entirely insert guide sleeve **pos. 9** into guide bore of the base plate **pos. 1**. **(fig. 20)**

20. Lubricate thread tap M8x1 **pos. 6** with ***alcohol spirit***. **(fig. 21)**

21. Recut thread for glow plug M8x1. For this, screw in the thread tap **pos. 6** by means of a T-handle **(fig. 22).**
The correct thread depth has been reached when the stop collar of the thread tap rests on the guide sleeve.
During the thread-cutting process, the compressed-air supply has to be increased via the adaptor **pos. 17** in order to prevent swarf from entering the combustion chamber. Protective goggles must be worn during this procedure.

⚠ **Attention:**
- Operate thread tap by hand only.
- Protective goggles must always be worn.
- Lubricate cutting edges of thread tap with ***alcohol spirit***.

22. Remove guide sleeve **pos. 9**.

23. Entirely insert guide sleeve **pos. 10** into the guide bore of the base plate. **(fig. 23)**

24. Insert adaptor **pos. 15** with the 3/8“ hex socket (10mm hex) into an appropriate power drill.

25. Lubricate cleaning tool **pos. 6** with ***alcohol spirit*** **(fig. 24)** and insert it into guide sleeve **pos. 10** .

26. Using a power drill, start the cleaning process with the cleaning tool **pos. 16 (fig. 25).** During the cleaning process, do not exert any pressure on the cleaning tool so that no aluminium material but only combustion residues are being removed.
The correct depth has been reached when the stop collar of the cleaning tool rests on the guide sleeve.
During the cleaning process, the compressed-air supply has to be increased via the adaptor **pos. 17** in order to prevent combustion residues from entering the combustion chamber. Protective goggles must be worn during this procedure.

⚠ **Attention:**
- Observe the correct rotational speed (approx. 500 rpm).
- Protective goggles must always be worn.
- Lubricate cleaning tool with ***alcohol spirit***.

27. Remove guide sleeve **pos. 10** from guide bore. Then, clean all swarf and impurities from the glow plug bore.

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Replacing a glow plug retaining thread and inserting a new glow plug with threaded sleeve.

Fig. 26: Insert guide sleeve for drill

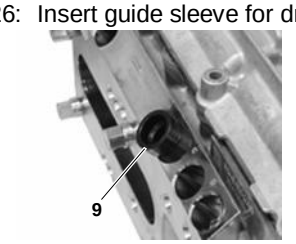
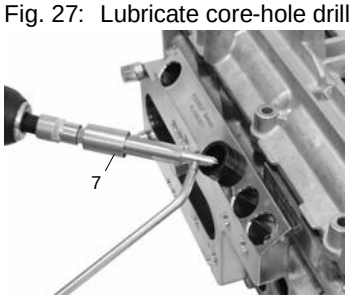


Fig. 27: Lubricate core-hole drill Ø9.1 with alcohol spirit



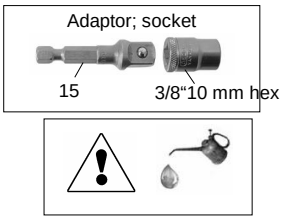


Fig. 28: Drill out glow plug thread M8x1 to core-hole diameter for M10x1.

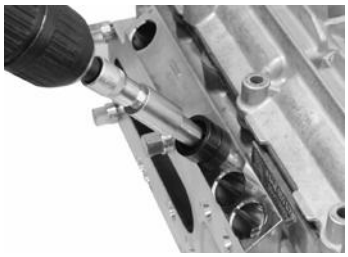


Fig. 29: Lubricate thread tap M10x1 with alcohol spirit

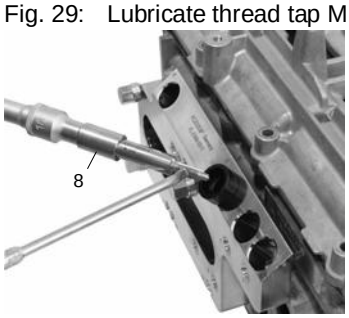
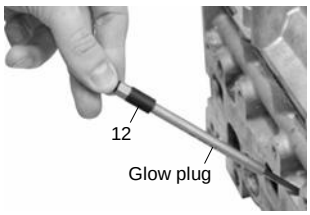


Fig. 30: Tap thread M10x1.

Fig. 31: Screw threaded sleeve onto new glow plug



Replacing a glow plug retaining thread and inserting a new glow plug with threaded sleeve.

1. Entirely insert guide sleeve **pos. 9** into the guide bore of the base plate **pos. 1**. **(fig. 26)**

2. Insert adaptor **pos. 15** with the 3/8“ hex socket (10mm hex) into an appropriate power drill.

3. Lubricate core-hole drill Ø9.1mm **pos. 7** with ***alcohol spirit*** **(fig. 27)** and insert it into guide sleeve **pos. 9** .

4. Using a power drill, start the drilling-out process exerting only light pressure on the core-hole drill **pos. 7 (fig. 28).** Carry this out at intervals and dispose of the swarf each time.
   The correct drilling depth has been reached when the stop collar of the core-hole drill rests on the guide sleeve.
   During the drilling-out process, the compressed-air supply has to be increased via the adaptor **pos. 17** in order to prevent swarf from entering the combustion chamber. Protective goggles must be worn during this procedure.

   ⚠ **Attention:**
   - Observe the correct rotational speed (approx. 500 rpm).
   - Protective goggles must always be worn.
   - Lubricate cutting edges of core-hole drill with ***alcohol spirit*** (do **not** use oil!).

5. Lubricate thread tap M10x1 **pos. 8** with ***alcohol spirit***. **(fig. 29)**

6. Recut retaining thread for threaded sleeve M10x1. For this, screw in the thread tap **pos. 8** by means of a T-handle **(fig. 30).**
   The correct thread depth has been reached when the stop collar of the thread tap rests on the guide sleeve.
   During the thread-cutting process, the compressed-air supply has to be increased via the adaptor **pos. 17** in order to prevent swarf from entering the combustion chamber. Protective goggles must be worn during this procedure.

   ⚠ **Attention:**
   - Operate thread tap by hand only.
   - Protective goggles must always be worn.
   - Lubricate cutting edges of thread tap with ***alcohol spirit***.

7. Clean thread bore once again. Remove compressed-air adaptor **pos. 17**, guide sleeve **pos. 9,** and base plate **pos. 1** from cylinder head. Remove crankshaft locking tool.

8. Screw threaded sleeve **pos. 12** onto the new glow plug. **(fig. 31)**
   Then, screw both together into cylinder head, always strictly observing the prescribed tightening torque.

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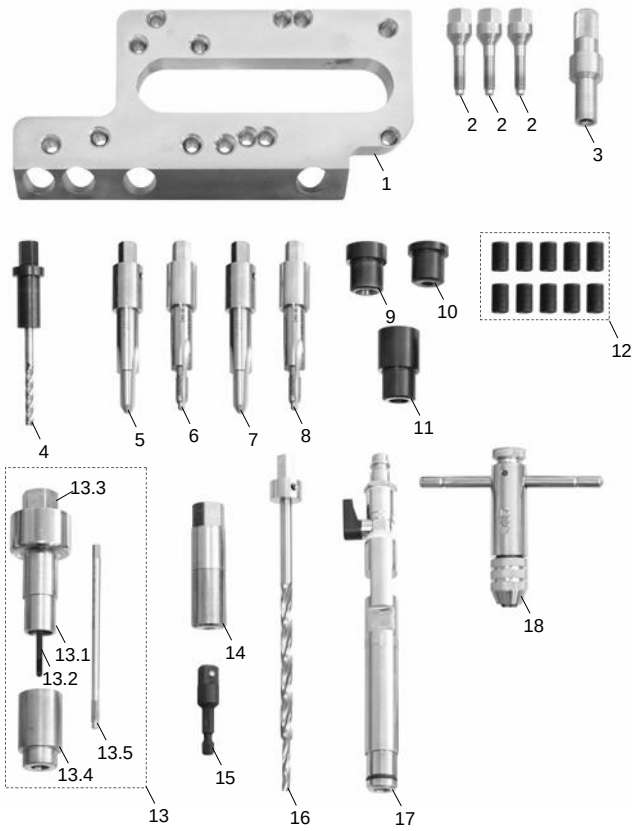
Scope of delivery: KL-0369-33 K



Scope of delivery

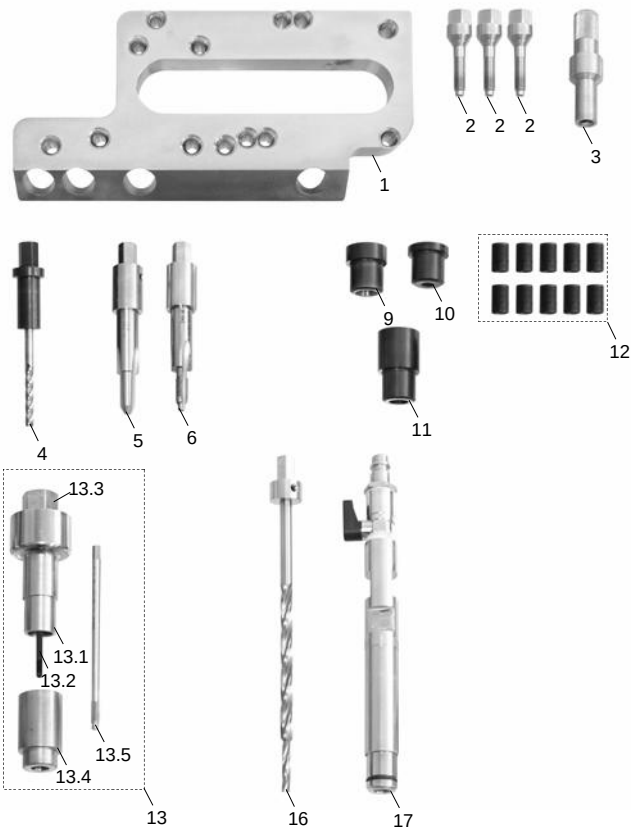
Pos.	Part No.	Description	Qty.
	KL-0369-33 K	**Glow Plug Tool Set**	**1**
	Consists of:		
1	KL-0369-3311	Base plate	1
2	KL-0369-3312	Special screw M7	3
3	KL-0369-3313	Setting bolt	1
4	KL-1383-203	Milling cutter for glow plug electrode	1
5	KL-1383-2231	Core-hole drill Ø7.1mm for M8x1	1
6	KL-1383-2232	Thread tap M8x1	1
7	KL-0283-7021	Core-hole drill Ø9.1mm for M10x1	1
8	KL-0283-7022	Thread tap M10x1	1
9	KL-0369-3331	Guide sleeve for drill	1
10	KL-0369-3361	Guide sleeve for cleaning tool	1
11	KL-0369-3321	Guide sleeve for milling cutter	1
12	KL-1383-2234	Set of threaded sleeves M8x1, 16 mm long(10 units)	1
13	**KL-0369-334**	**Puller for glow plug body**	**1**
14	KL-0369-300 A	Drum-type turning tool	1
15	KL-4007-2510	Adaptor for power drill 3/8" square socket	1
16	KL-0369-3362	Cleaning tool Ø7mm, Ø4.8mm	1
17	KL-0369-56 A	Compressed-air adaptor for injection nozzle bore CDI	1
18	KL-0369-306	Tool holder with square socket 2.4 – 5.5 mm	1
	KL-0369-3390	Plastic storage case	1

Pos.	Part No.	Description	Qty.
13	**KL-0369-334**	**Puller for glow plug body**	**1**
	Consists of:		
13.1	KL-0283-7050	Puller tool (base tool)	1
13.2	KL-1383-2242	Puller bolt	1
13.3	KL-0369-3052	Shoulder nut	1
13.4	KL-0369-3341	Guide sleeve for puller tool	1
13.5	KL-1383-2241	Thread tap No. 12	1

KL-0369-330 K Glow Plug Tool Set

consists of the parts marked with ✶.

Upgrade Kit KL-0369-33-1 for KL-0369-30 K resp. for KL-0369-32 K



KL-0369-33-1 K Upgrade Kit

for KL-0369-30 K to KL-0369-33 K or for KL-0369-32 K to KL-0369-33 K

By using the upgrade kit **KL-0369-33-1 K,** the glow plug tool set **KL-0369-30 K** resp. **KL-0369-32 K** also is suitable for Mercedes CDI engines OM640 and OM642 with glow plug thread M8x1.

Specification:

Pos.	Part No.	Description	Qty.
	KL-0369-33-1 K	**Upgrade Kit**	**1**
	Consists of:		
1	KL-0369-3311	Base plate	1
2	KL-0369-3312	Special screw M7	3
3	KL-0369-3313	Setting bolt	1
4	KL-1383-203	Milling cutter for glow plug electrode	1
5	KL-1383-2231	Core-hole drill Ø7.1mm for M8x1	1
6	KL-1383-2232	Thread tap M8x1	1
9	KL-0369-3331	Guide sleeve for drill	1
10	KL-0369-3361	Guide sleeve for cleaning tool	1
11	KL-0369-3321	Guide sleeve for milling cutter	1
12	KL-1383-2234	Set of threaded sleeves M8x1, 16 mm long(10 units)	1
13	**KL-0369-334**	**Puller for glow plug body**	**1**
16	KL-0369-3362	Cleaning tool Ø7mm, Ø4.8mm	1
17	KL-0369-56 A	Compressed-air adaptor for injection nozzle bore CDI	1
	KL-0369-3390	Plastic storage case	1

Pos.	Part No.	Description	Qty.
13	**KL-0369-334**	**Puller for glow plug body**	**1**
	Consists of:		
13.1	KL-0283-7050	Puller tool (base tool)	1
13.2	KL-1383-2242	Puller bolt	1
13.3	KL-0369-3052	Shoulder nut	1
13.4	KL-0369-3341	Guide sleeve for puller tool	1
13.5	KL-1383-2241	Thread tap No. 12	1

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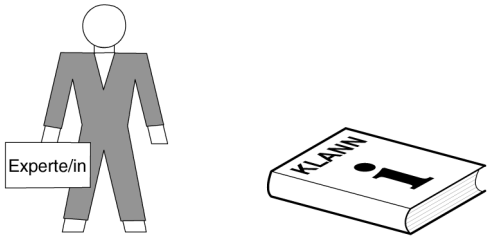
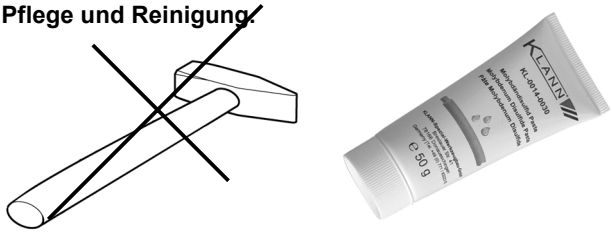
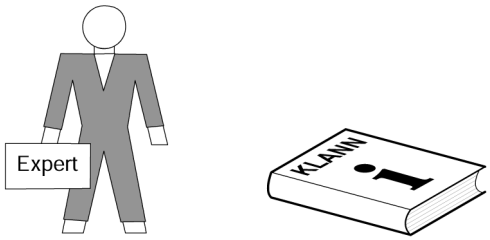
Produkt-Information komplett durchlesen und verstehen.



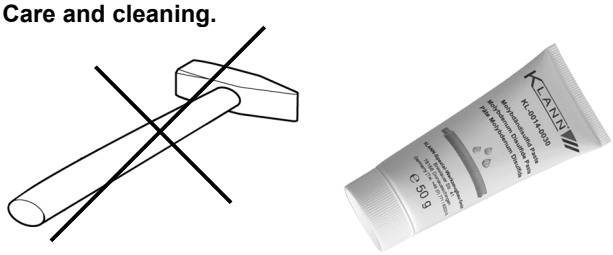
Pflege und Reinigung.



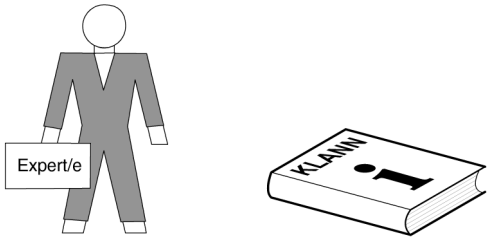
Carefully read the Product Information and make sure you have understood it correctly.



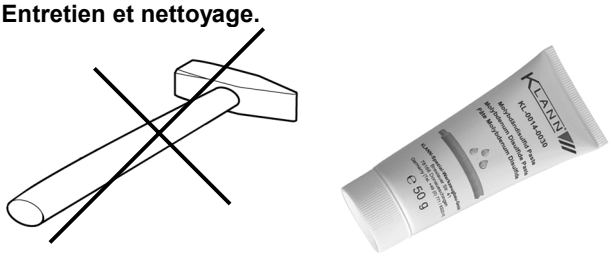
Care and cleaning.



Lisez entièrement l'information produit et assurez-vous de l'avoir bien comprise.



Entretien et nettoyage.



Vorschriften und Hinweise

- Arbeiten an Fahrzeugen nur durch Fachpersonal unter Beachtung der Hinweise, Vorschriften und Sicherheitsvorschriften des Fahrzeugherstellers durchführen!
- Für alle Arbeiten am Fahrzeug gelten nur die vom Fahrzeug-hersteller vorgegebenen Daten.
- Alle angegebenen fahrzeugspezifischen Daten erfolgen unter Vorbehalt.
- Vor Inbetriebnahme durch Sichtprüfung überzeugen, dass das Werkzeug keine Beschädigung aufweist.

Folgende Punkte sind unbedingt zu beachten:

- Vor Arbeitsbeginn Produkt-Information komplett durchlesen und verstehen.
- Niemals mit einem Hammer auf das Werkzeug schlagen.
- Werkzeug stets sauber halten. Als Schmiermittel für Spindeln und Gewinde ausschließlich Molybdändisulfid Paste **KL-0014-0030** verwenden.
- Generell dürfen nur KLANN Original-Ersatzteile verwendet werden.

Warnings and Notes

- Any work on vehicles should only be performed by qualified personnel observing and complying with the directions, provisions, and safety regulations issued by the vehicle manufacturer **.**
- Only the vehicle manufacturer's data apply to all work done on the vehicle.
- All specific vehicle data stated herein are supplied without commitment.
- Before putting the tool into operation, visually check that it is not damaged.

It is imperative to observe the following points:

- Before starting work, read the Product Information carefully and make sure you have understood it correctly.
- Never strike the tool with a hammer!
- Always keep the tool clean. To lubricate spindles and threads use only Molybdenum Disulphide Paste **KL-0014-0030.**
- Only KLANN original spare parts are recommended.

Prescriptions et remarques

- Toutes interventions sur les véhicules doivent impérativement être effectuées par du personnel qualifié, tout en respectant les recommandations, prescriptions et consignes de sécurité du constructeur du véhicule
- Pour tous les travaux réalisés sur le véhicule, seules les données indiquées par le constructeur du véhicule sont valables.
- Toutes les caractéristiques mentionnées spécifiques aux véhicules sont données sous réserve.
- Avant la mise en service, contrôler visuellement que l'outil ne présente pas d'endommagement.

Les points suivants sont impérativement à respecter:

- Avant de démarrer les travaux, lisez entièrement l'information produit et assurez-vous de l'avoir bien comprise.
- Ne frappez jamais l'outil avec un marteau !
- Maintenez l'outil toujours dans un état de propreté. Graissez les tiges et les filetages exclusivement avec de la pâte de bisulfure de molybdène **KL-0014-0030.**
- Généralement, vous ne devez utiliser que des pièces de rechange originales KLANN.

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