



CEMBRE

RAIL DRILL

LD-4P

CE

UK
CA



ENGLISH

OPERATION AND MAINTENANCE MANUAL
(Translation of the original instructions)

24M026E_0125_6261541









WARNINGS





- Before using the drill, carefully read the instructions contained in this manual. **SAVE THESE INSTRUCTIONS:** this manual contains important safety and operating instructions for the drill.
- **STOP THE ENGINE** when servicing the drill: before removing the broach cutters, spiral bits, positioning templates etc.
- During operation keep hands away from the danger zone.
- Always wear protective glasses and work gloves.
- Avoid wearing clothes which may present a risk to personal safety.
- Check the oil level in the engine before using the drill!

GENERAL SAFETY RULES


General safety rules:

	For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the drill. Failure to do so can result in serious bodily injury.
	Only qualified and trained operators should install, adjust or use the drill.
	Do not modify this drill. Modifications can reduce the effectiveness of safety measures and increase the risks to the operator.
	Do not discard the safety instructions; give them to the operator.
	Do not use the drill if it has been damaged.
	Tools shall be inspected periodically to verify that the ratings and markings required by this part of ISO 11148 are legibly marked on the tool. The employer/user shall contact the manufacturer to obtain replacement marking labels when necessary.









Projectile hazards:

	Be aware that the failure of the workpiece, or accessories, or even of the inserted tool itself can generate high-velocity projectiles.
	Always wear impact-resistant eye protection during the operation of the drill. The grade of protection required should be assessed for each use.
	Remove the chuck key before drilling starts.
	Ensure that the workpiece is securely fixed.




Entanglement hazards:

	Choking, scalping and/or lacerations can occur if loose clothing, personal jewellery, neckware, hair or gloves are not kept away from the tool and accessories.
--	---





Operating hazards:

	Use of the tool can expose the operator's hands to hazards, including cuts, abrasions and heat. Wear suitable gloves to protect hands.
	Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
	Hold the tool correctly; be ready to counteract normal or sudden movements and have both hands available.
	Maintain a balanced body position and secure footing.
	High-reaction torque can be developed in the case of stalling, which can be caused by excessive loads being applied to the drill bit, by the drill bit snagging on the material being drilled into or by the drill bit breaking through the material being drilled.
	Keep hands away from the rotating chuck and drill bit.
	Use only lubricants recommended by the manufacturer.
	Personal protective safety glasses shall be used; suitable gloves and protective clothing are recommended.






Repetitive motions hazards:

	When using a drill to perform work-related activities, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
	While using a drill, the operator should adopt a comfortable posture while maintaining a secure footing and avoiding awkward or off-balanced postures. The operator should change posture during extended tasks, which can help avoid discomfort and fatigue.
	If the operator experiences symptoms, such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warning signs should not be ignored. The operator should tell the employer and consult a qualified health professional.








Accessory hazards:

	Stop the engine before fitting or changing the inserted tool or accessory.
	Use only sizes and types of accessories and consumables that are recommended by the drill manufacturer; do not use other types or sizes of accessories and consumables.
 	Avoid direct contact with the inserted tool during and after use, as it can be hot or sharp.






Workplace hazards:


 	Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by the use of the tool and also of trip hazards caused by the air line or hydraulic hose.
	Proceed with care in unfamiliar surroundings. There can be hidden hazards, such as electricity or other utility lines.
	The drill is not intended for use in potentially explosive atmospheres and is not insulated against coming into contact with electric power.
	Ensure that there are no electrical cables, gas pipes, etc., that can cause a hazard if damaged by use of the tool.

Dust and fume hazards:









	Dust and fumes generated when using drills can cause ill health (for example, cancer, birth defects, asthma and/or dermatitis); risk assessment and implementation of appropriate controls for these hazards are essential.
	Risk assessment should include the dust created by the use of the tool and the potential for disturbing existing dust.
	Operate and maintain the drill as recommended in these instructions, to minimize dust and fume emissions.
	Where dust or fumes are created, the priority shall be to control them at the point of emission.
	All integral features or accessories for the collection, extraction or suppression of airborne dust and fumes should be correctly used and maintained in accordance with the manufacturer's instructions.
	Select, maintain and replace the consumable/inserted tool as recommended in the instructions handbook to prevent an unnecessary increase in dust or fumes.
	Use respiratory protection in accordance with employer's instructions and as required by occupational health and safety regulations.

Noise hazards:

	Exposure to high noise levels can cause permanent, disabling hearing loss and other problems, such as tinnitus (ringing, buzzing, whistling or humming in the ears). Therefore a risk assessment and implementation of appropriate controls for these hazards are essential.
	Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpieces from "ringing"
	Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations.
	Operate and maintain the drill as recommended in the instructions handbook, to prevent an unnecessary increase in the noise level.
	Select, maintain and replace the consumable/inserted tool as recommended in the instructions handbook, to prevent an unnecessary increase in noise.

	If the drill has a silencer, always ensure that it is in place and in good working order when the drill is operating.
--	---

Vibration hazards:

	Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
	Wear warm clothing when working in cold conditions and keep your hands warm and dry.
	If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the drill, tell your employer and consult a physician.
	Operate and maintain the drill as recommended in the instructions handbook, to prevent an unnecessary increase in vibration levels.
	Do not allow the inserted tool to chatter on the workpiece, as this is likely to cause a substantial increase in vibration.
	Select, maintain and replace the consumable/inserted tool as recommended in the instructions handbook to prevent an unnecessary increase in vibration levels.
	Support the weight of the tool in a stand, tensioner or balancer, if possible.
	Hold the tool with a light but safe grip, taking account of the required hand-reaction forces, because the risk from vibration is generally greater when the grip force is higher.

1. GENERAL CHARACTERISTICS

Drilling capacity	Ø mm	7 - 40
Max. thicknesses *	mm	50 *
Speed without load	rpm	230
Weight	kg	17,1
Weight with DBG-F2:	kg	20,3
Gear oil :		SHELL SPIRAX S4 TXM o MOBIL SUPERMULTIGRADE 10-30-SAE or equivalents
Combustion engine:	type	HONDA GX50NT-STSC-OH 4-stroke, overhead camshaft, single cylinder
Displacement:	cm ³	47,9
Power (SAE J1349):	kW (HP)	1,47 (2) / 7000 rpm
Fuel:		unleaded regular grade petrol (E10 Europe)
Fuel tank capacity:	litres	0,63
Clutch:		centrifugal with automatic intervention
Start:		by rope pull
Ignition:		transistorized magneto
Spark plug:		NGK CM5H o NGK CMR5H or equivalents
Recommended oil:		SAE 10W-30, API SJ or later
Oil sump capacity:	litres	0,13
Emissions:		EU - Compliant with Regulation (UE) 2016/1628, stage V USA - Compliant with Regulation EPA EXH/EVP year 2024
Acoustic noise ⁽¹⁾	dB	$L_{WA} = 103,6$ (A) uncertainty $K_{WA} = 1,0$ $L_{pA} = 94,3$ (A) uncertainty $K_{pA} = 1,1$ $L_{pCPeak} < 130$ (C)
Vibrations ⁽²⁾	m/s ²	$a_h = 4,4$ uncertainty $K = 0,7$

* with broach cutters on thicknesses up to 50 mm, with special spiral bits on thicknesses up to 45 mm

⁽¹⁾ L_{WA} = The acoustic power level emitted by the machine.

L_{pA} = The weighted continuous acoustic pressure level equivalent A at the work place.

L_{pCPeak} = The maximum value of the weighted acoustic displacement pressure C at the work place.

⁽²⁾ The vibration emission during actual use of the tool can differ from the declared total value depending on the ways in which the tool is used and of the need to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use. Estimation of exposure is performed taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time.

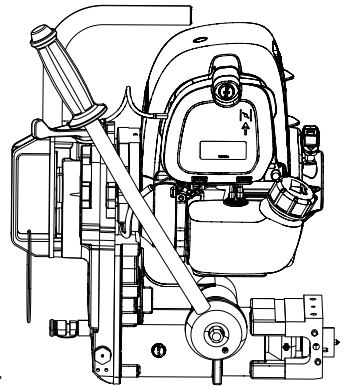
1.1) Compliant use

- The device is a drilling machine powered by a combustion engine intended for use in Railway applications to provide consistent and accurate holes in various rail types and railtrack equipments. Any other use, or use deemed to be outside of the specification of the device shall be regarded as improper use. In these instances the manufacturer/supplier shall not be liable for any damage resulting from improper use and the user agrees to bear all risk.
- The device is manufactured in accordance with current technological standards and recognized safety rules. However, danger to life and limb of the user or third parties/or damage to the device and other tangible assets can arise during use.
- The device may only be used for its intended purpose and if in perfect working order, and it must be used with appropriate consideration given to the safety and danger warning messages stated in the operating manual.
- Usage of the device for its intended purpose also incorporates compliance with the operating manual, including the manufacturer's maintenance recommendations and specifications.

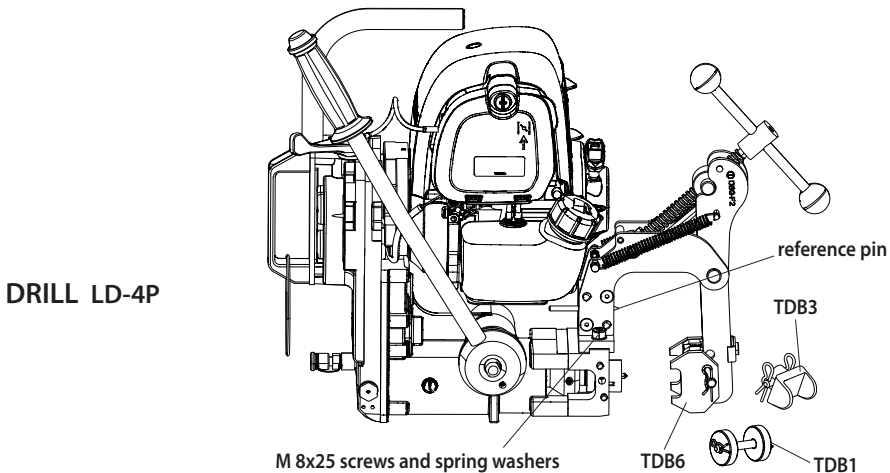
Part code **LD-4P** consist of the LD-4PN basic drill complete with the **DBG-F2** moving arm device for clamping to the rail web and track fittings.

The **DBG-F2** clamping device consists of:

- Clamping unit
- Type **TDB1** end piece
- Type **TDB3** end piece
- Type **TDB6** standard end piece
- Socket head cap screws **M8x25** (2 pcs)
- Spring washers (4 pcs)
- Reference pin



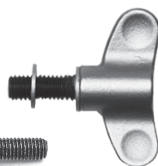
BASIC DRILL



DRILL LD-4P

2. ACCESSORIES SUPPLIED WITH THE DRILL

- 2.1) **Guide bits** for controlling the coolant system:
 for broach cutters suitable for drilling thickness up to 25 mm
 PP 1 (1 pc) diameter 7 mm.
 PP 2 (1 pc) diameter 8 mm.
 for broach cutters suitable for drilling thickness up to 50 mm
 PPL 1 (1 pc) diameter 7 mm.
 PPL 2 (1 pc) diameter 8 mm.
- 2.2) **Spacer, type DPE**, (1 pc) for controlling the coolant system, use with APE adapter for special spiral bits.
- 2.3) **Adapter, type ARE** (1 pc) for external coolant connection, use with SR5000 coolant unit.
- 2.4) **Grub screw, M8x10** (2 pc as a spare) for securing broach cutters or spiral bits with Weldon shank on spindle shaft."
- 2.5) **Transverse threaded pin** (1 pc as a spare) for securing broach cutters or spiral bits with push/turn shank on spindle shaft.
- 2.6) **Wing nuts** (2 pcs) complete with fixing washer for securing positioning inserts type KPAF to front plate.
- 2.7) **Screws M6x16** (4 pcs) for securing positioning templates to front plate
- 2.8) **Screws M6x25** (4 pcs) for securing special positioning templates type MPD... & MPR... to front plate.
- 2.9) **Range of tools:**
- 1 pc 5 mm **Allen key**
 - 1 pc 6 mm **Allen key**
 - 1 pc 4 mm **Allen key**, with handle
 - 1 pc **spark plug key**
 - 1 pc **brush** for remove the drilling swarf
- 2.10) **Measuring cup for preparing the mixture.**
- (Accessories from pos. 2.1 to pos. 2.11 are included in the "Kit of accessories" having the code 6002604).
- 2.11) **Type SR5000 cooling unit.**



3. ACCESSORIES TO BE ORDERED SEPARATELY



TDB 7

3.1) **DBG-LF2 device** with moving arm complete with **TDB 7** end piece for clamping the drill to girder rails and for additional special applications.

3.2) **"VAL-P24" plastic carrying case** for storing the drill complete with the **DBG-F2** device and accessories. Also available **VAL-P24-CS** plastic carrying case with folding handle and wheels.



VAL-P24-CS



3.3) **"VAL-LD-L" metal case** for storing the drill complete with the **DBG-LF2** device, and **VAL-MPA** tool case.

3.4) **MSC tool** for collecting metallic swarf following drilling operations.



3.5) Templates for positioning the drill on rails and stock rails to enable drilling to be carried out according to the provisions of railway board standards:

- MPAF-UIC54 on DRILLING AXIS of 54E1 rail
- MPAF-UIC60 on DRILLING AXIS of 60E1 rail

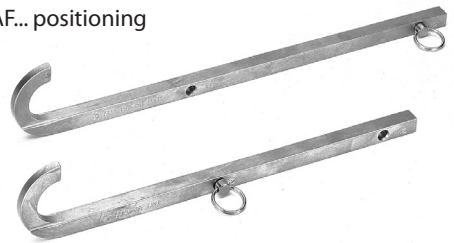
• *Note: Contact CEMBRE for selection of specific application accessories (e.g.: positioning templates for other rail profiles).*



3.6) MPAU universal positioning template suitable both for repairing existing holes on various fittings, and for drilling disused rails. (es. RA 36 ecc.).



3.7) SPA positioning plates for drilling rail heads with a centre-to-centre distance established in the Railway board standards, without the need for marking out; for use in conjunction with MPAF... positioning templates.



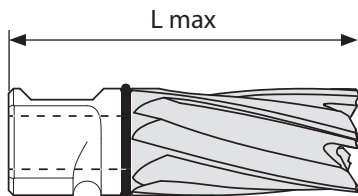
3.8) MRF clamp to be applied as a reference to the head of rails for use, in conjunction with SPA... positioning plates, for in-line drilling of rail heads, with established centre-to-centre distance.



3.9) VAL-MPA tool case suitable for storing the accessories indicated in 3.5 - 3.8, and the drilling tools.



3.10) Broach cutters



BROACH CUTTERS FOR RAILS IN STEEL QUALITY 700-900-1100 (UIC 860.0)

Ø mm	SHORT TYPE (L max = 64 mm)		LONG TYPE (L max = 88 mm)	
	Broach cutter	Guide bit to be used	Broach cutter	Guide bit to be used
13	CY130	type PP1	-	type PPL1
13,5	CY135		-	
14	-		CY140L	
16	CY160		CY160L	
17	CY170	type PP2	CY170L	type PPL2
17,5	CY175		-	
18	CY180		CY180L	
19	CY190		CY190L	
20	CY200		CY200L	
21	CY210		CY210L	
22	CY220		CY220L	
23	CY230		CY230L	
24	CY240		CY240L	
25	CY250		CY250L	
26	CY260		CY260L	
27	CY270		CY270L	
27,5	CY275R		-	
28	CY280		CY280L	
29	CY290		CY290L	
30	CY300		CY300L	
31	CY310	-		
32	CY320	CY320L		
33	CY330	CY330L		
36	CY360	-		
		Max. thicknesses 25 mm	Max. thicknesses 50 mm	

Contact CEMBRE for other types of broach cutters.

Broach cutters resharpening must be carried out in compliance with appropriate modes of operation which allow the best result.

3.11) Spiral bits

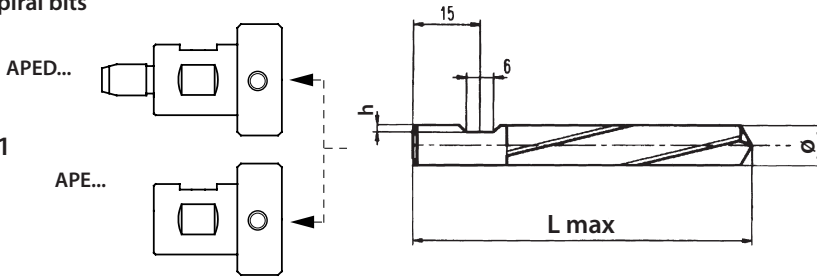
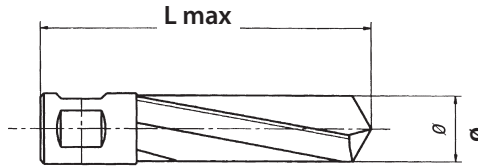


FIG. 1

APE...

FIG. 2



SPECIAL SPIRAL BITS FOR RAILS IN STEEL QUALITY 700 - 900 - 1100 (UIC 860.0)

Figure	Ø mm	Spiral Bit ref. (*)	L max mm	h mm	Adaptor ref.	Figure	Ø mm	Spiral Bit ref. (*)	L max mm	h mm	Adaptor ref.
1	7	PE 70	76	1,2	APED 70	2	14	PE 140	76	1,6	APED 135/165
	7,1	PE 71	72				16	PE 160			
	8	PE 80	76				1,4	17	PE 170AR		
	8,5	PE 85		APED 80	17,5			PE 175	88		
	9	PE 90		APE 90	18			PE 180	85		
	9,5	PE 95		APE 95	19			PE 190AR			
	10	PE 100		APE 100	21		PE 210AR	88			
	11	PE 110		APE 110	22		PE 220				
	12	PE 120		APE 120	24		PE 240AR				
	13	PE 130AR	1,6	APED 130	27,5		PE 275AR				
13,5	PE 135AR	APED 135/165									

(*) PE... AR: special high quality spiral bit.

- The special spiral bits in the **PE** range allow automatic cooling by means of the **SR5000** unit supplied with the drilling machine.
- All spiral bits in the **PE** range allow drilling of **thicknesses up to 45 mm**.

The drilling tools indicated in the table guarantee optimum results. For tools of other types, check the dimensional compatibility (particularly the size of the attachment and the length).

3.12) VASCO5000 BIODEGRADABLE LUBROCOOLANT

3 litre container to be used in a 5-10 % solution, for optimum operation of both broach cutters and spiral bits.

3.13) V11 ANTIFREEZE CONCENTRATE

3 litre added to the lubrocoolant mixture in the right concentration will maintain the lubrocoolant mixture fluid in negative temperature conditions.



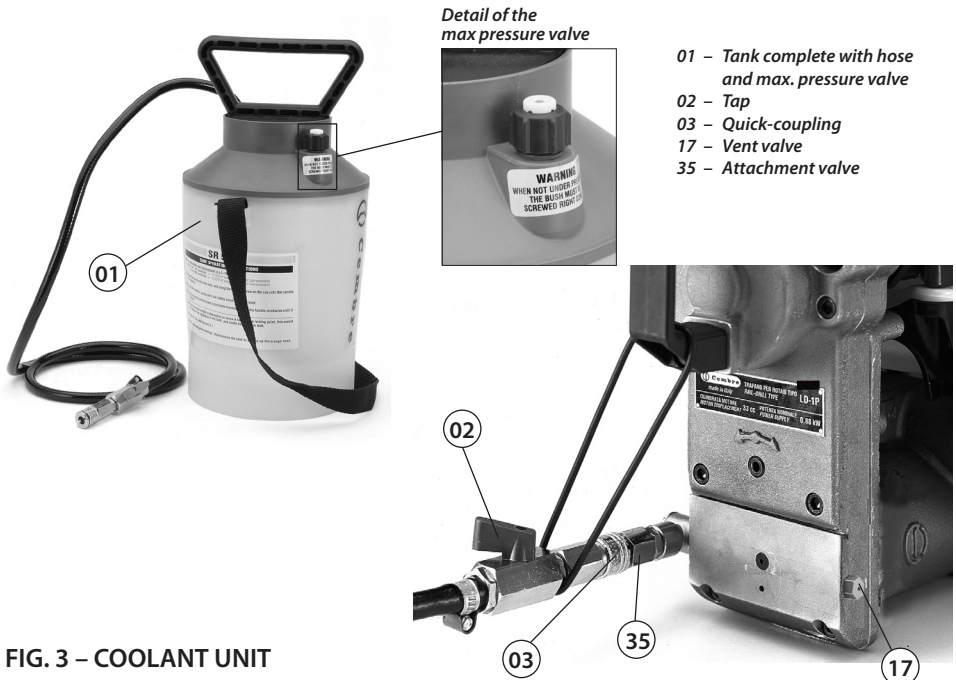
4. COOLANT UNIT TYPE SR5000

The type SR5000 coolant unit consists of a tank complete with tube and maximum pressure valve (01), fitted with a pump device for pressurisation, which must be connected to the attachment (35) on the drill by means of its quick-coupling (03).

The delivery and shut-off of the lubrocoolant are controlled automatically, when drilling with a broach cutter, by the guide bit; when drilling with a spiral bit, delivery and shut-off of the fluid must be effected manually by operating the tap (02). The use of the lubrocoolant supplied by CEMBRE, in the recommended concentrations, guarantees optimum use of the drilling tools. Consumption of the lubrocoolant depends both on the variable degree of opening of the tap (02) and the inner pressure of the tank: it is therefore advisable to open the tap a little when the tank is at maximum pressure, while it must be fully opened when the pressure in the tank is low. When using the coolant system, pay careful attention to the instructions on the tank label.

WARNING:

- When the tank is not under pressure, check that the bush on the maximum pressure valve is screwed right down.
- To fill tank with lubrocoolant, turn handle anticlockwise approximately 2 turns to release handle locking mechanism. Remove handle/piston assembly from tank.



- The drill is equipped with a coolant attachment valve (35) and a vent valve (17) which are located as shown (Fig. 3).

If under certain operating circumstances they need to be interchanged, proceed as follows:

- Using a 17 mm hexagonal spanner unscrew the vent valve from its seat.
- Using the 4 mm allen key provided with the drill, remove the appropriate coolant valve from its seat and fit into the vent valve seat.
- Fit the vent valve into the vacant coolant valve seat.

- **When temperatures fall below 0° C the lubrocoolant may freeze which could cause damage to the seals contained in the drill coolant system.**

It is therefore advisable, when storing the drilling machine, to empty the lubrocoolant system completely.

Proceed as follows (Fig. 4):

- Disconnect the quick coupling (03) from the coolant attachment (35) on the drilling machine.
- Tilt the machine so that the coolant attachment is at its lowest point - allowing for natural drainage.
- Operate the advancing lever (36) to advance and retract the drilling spindle.
- Gently shake the machine to expel all fluid.

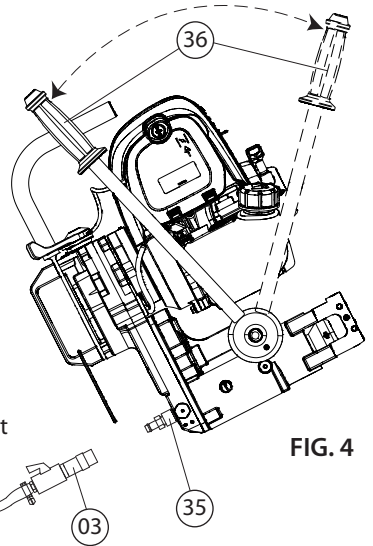


FIG. 4

4.1) ARE adaptor

For use with type **SR5000 coolant unit**. The **ARE adaptor** is inserted in the quick-coupling of the tank tube (Ref. to Fig. 5), it may be used to provide manual external cooling when cutters are used to enlarge existing holes, or when using spiral bits not designed for automatic cooling. If necessary the **ARE adaptor** can also be used to clean various parts of the drill, by means of the lubrocoolant pressure jet, e.g. parts such as the tool clamping seat in the spindle shaft, seats for the jig fixing screws, etc.

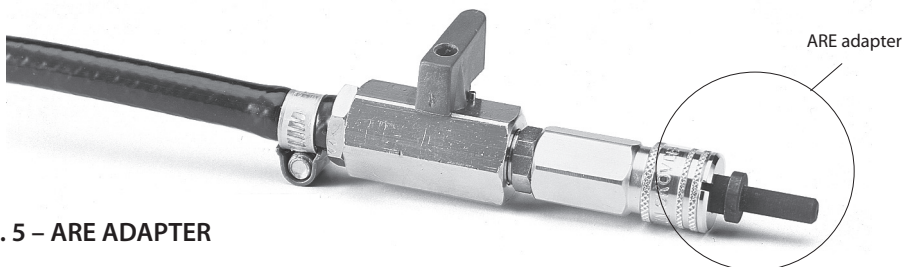
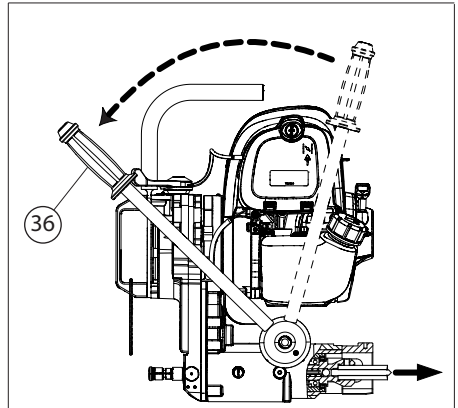


FIG. 5 – ARE ADAPTER

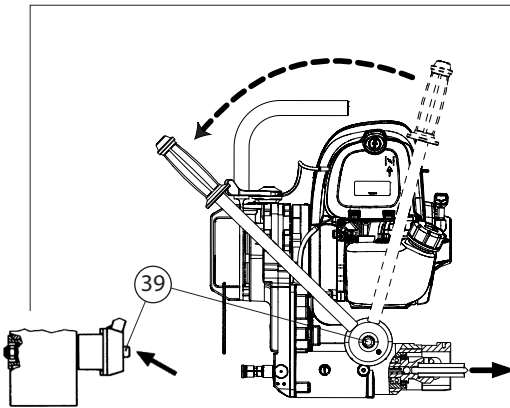
5. SPINDLE ADVANCE LEVER

The spindle is advanced by moving the lever (36) (See Fig. 6 a). The lever is fitted with a release pawl (39) which, when pressed, renders it independent of the hub and hence the spindle; the operator can therefore easily vary the angular position of the lever without movement of the spindle (Fig.6).

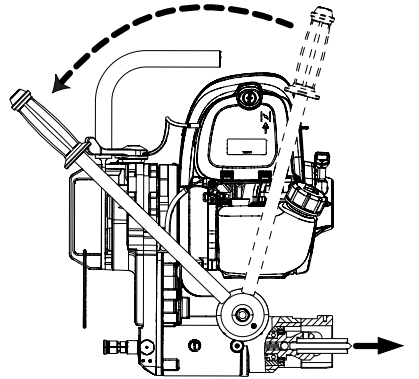


6a - Moving the lever (36) towards the operator produces a corresponding advance of the spindle.

FIG. 6



6b - With the release pawl (39) pressed, the lever is released from its hub and can repeat the previous travel without the spindle moving.



6c - With the hub released, moving the lever towards the operator produces a corresponding advance of this spindle.

5.1) Adjustment of the advance lever

The movement of the lever **must never be loose**, for adjustment proceed to tighten it by loading the cup springs by means of the associated self-locking nut, after removing the protective cap (see Fig. 7).

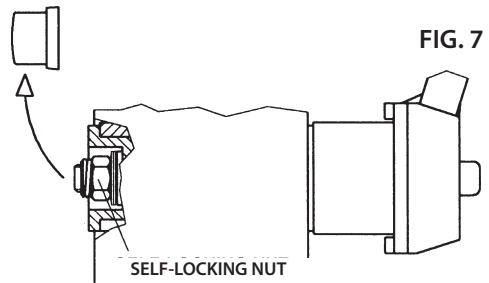


FIG. 7

6. PREPARING THE DRILL



-STOP THE ENGINE when servicing the drill: before removing the broach cutters, spiral bits, positioning templates etc.

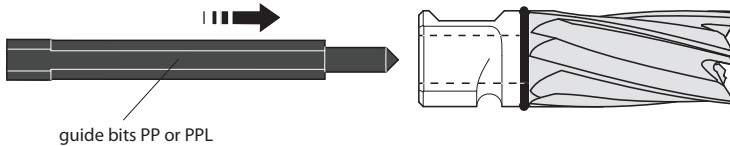


Be careful of the broach cutter's sharp edges. Always wear work gloves to avoid injury.

The drill spindle is factory-set to operate with CEMBRE CY range broach cutters fitted with Quick push/turn coupling; use of broach cutters and twist drill bits fitted with Weldon shank only requires disassembly of the transverse pin in the spindle (Ref. to §6.2).

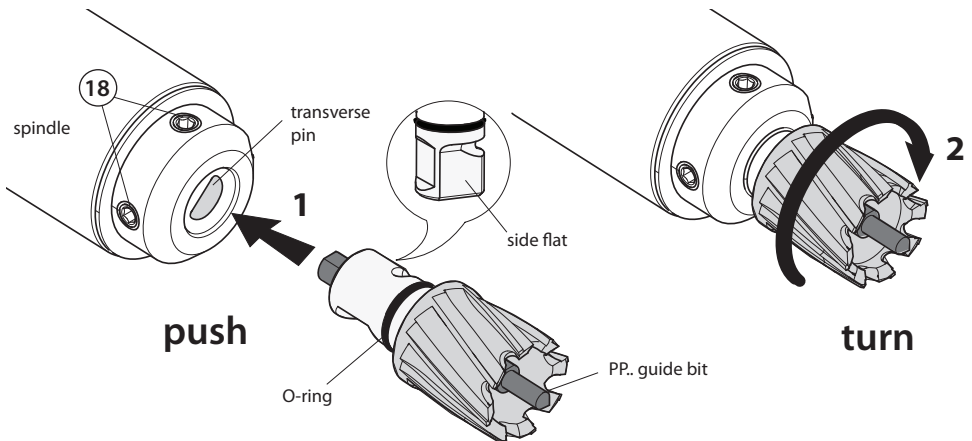
6.1) Assembling broach cutters with Quick push/turn shank

- ▶ Using the drive lever, turn the spindle so as to facilitate operation.
- ▶ Insert the correct guide bit into the broach cutter (Ref. to § 3.10), from the shank end.



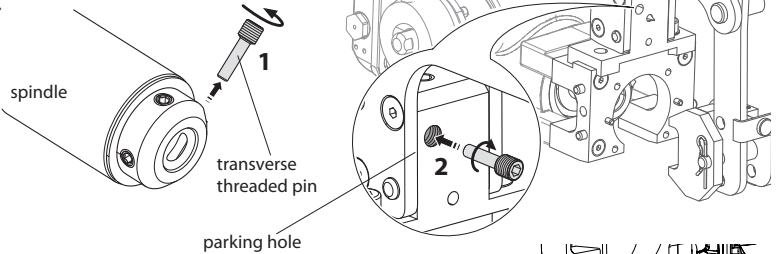
- ▶ Insert the broach cutter into the spindle by positioning it so that the side flat lines up with the transverse pin within the spindle, then rotate in a clockwise direction (2); the broach cutter will be locked without the need to tighten the two grub screws (18).
- ▶ Check that the guide bit slides freely by applying slight pressure on it.
- ▶ To disassemble the broach cutter, turn in an anticlockwise direction and remove it from the spindle.

Before fitting, always check that the broach cutter is provided with the O-ring to ensure it secures correctly. It is also possible to assemble broach cutters with Weldon shanks (Ref. to § 6.2).



6.2) Assembling broach cutters with Weldon shank

- ▶ Using the spindle lever, advance the spindle to make the transverse threaded pin accessible; if it is not in a easily-accessible position, rotate the spindle shaft manually and sufficiently by inserting the 4mm T-handle Allen key in the appropriate intermediate gear housing (33) in the crank case of the drill in the crank case of the drill (Ref. to § 5) to make the pin visible.
- ▶ With the 4mm T-handle Allen key, remove the transverse threaded pin from the spindle (1) and screw it into the "parking hole" in the clamping device.

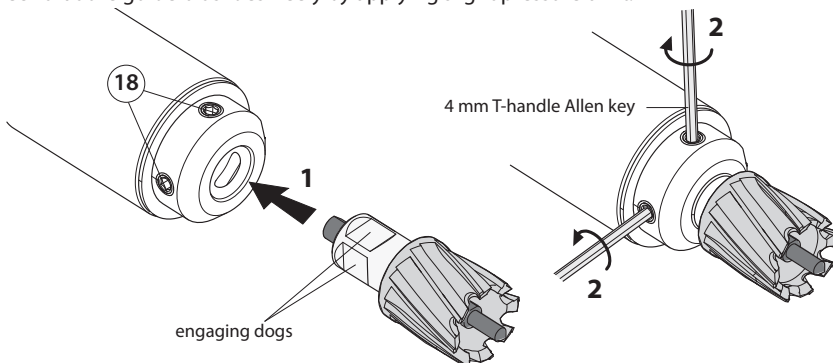


To protect the transverse threaded pin, tightly screw it into the "parking hole" (2) on the clamping device; A spare pin is available in the ACCESSORIES KIT.

- ▶ Using the advance lever, position the spindle shaft so that both grub screws (18) become accessible.
- ▶ Insert the correct guide bit into the broach cutter (Ref. to § 3.10), from the shank end.
- ▶ Unscrew grub screws (18) and insert the broach cutter into the spindle (1) in such a way that the two engaging dogs on the shank of the broach cutter correspond to the grub screws.

⚠ Grub screws (18) have stops that prevent their complete unscrewing, do not force them past this stop.

- ▶ Lock the broach cutter by fully tightening the screws using the 4 mm T-handle Allen key (2).
- ▶ Check that the guide bit slides freely by applying slight pressure on it.



6.3) Assembling special spiral bits

- ▶ Using the spindle lever, position the spindle shaft so that both grub screws (18) become accessible.
- ▶ Insert the spiral bit in the corresponding APED adapter (1) and lock it with the grub screw (19) using the 4 mm T-handle Allen key (2) (Ref. to Fig. a).
- ▶ Unscrew grub screws (18) and insert the bit-adapter unit in the spindle (1) so that the two engaging dogs on the bit spigot line up with the grub screws (18) (Ref. to Fig. b).



Grub screws (18) have stops that prevent their complete unscrewing, do not force them past this stop.

- Lock the adapter by fully tightening the screws using the 4 mm T-handle Allen key (2) (Ref. to Fig. b).

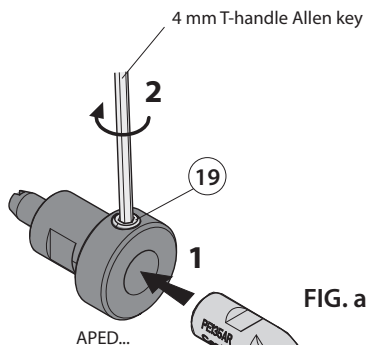


FIG. a

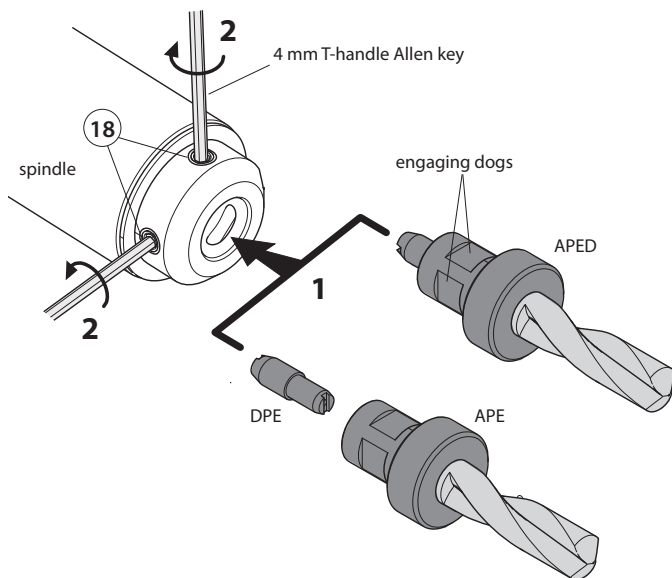
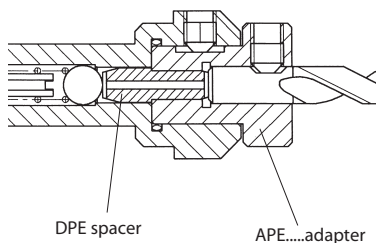


FIG. b

Using APE adapters, it is necessary to insert the DPE Spacer into the APE to activate the coolant system.



6.4) Assembling terminations on DBG-F2 clamping device

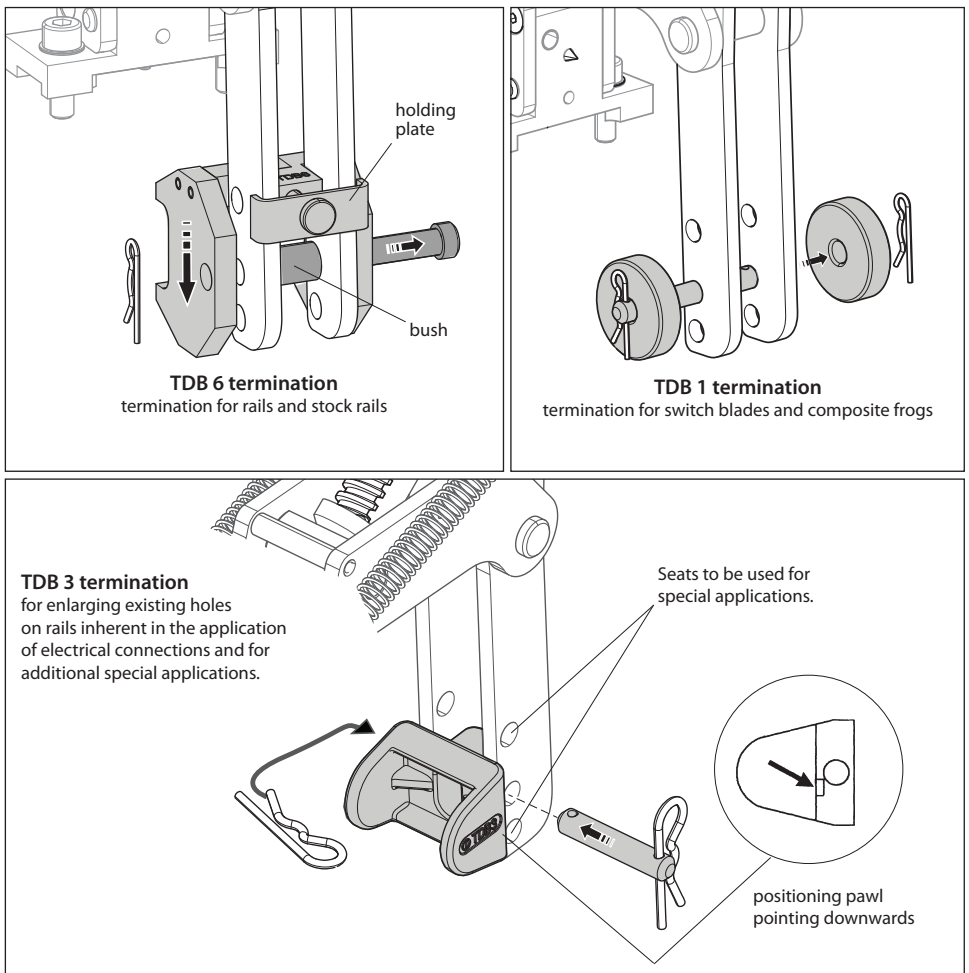
TDB 1, TDB 6 and TDB 3 terminations of the DBG-F2 device, with moving arm, have been designed for adaptation to the different operating conditions on rails and track fittings; their assembly/disassembly is shown in the Figures.

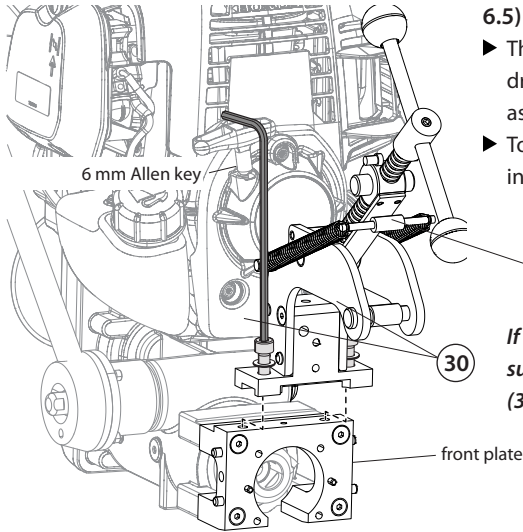
Normally they are mounted in the central holes of the clamping device. The two adjacent holes allow to adapt them to a variety of clamping conditions.

When disassembling the TDB 6 termination first remove the pivot and central bush, ensuring that it is slid away downwards without acting on the holding plate.

Over-advancing the spindle after drilling must be avoided when using the TDB 1 and TDB3 terminations.

When assembling the TDB3 termination ensure that the positioning pawl is pointing downward in relation to the bolt.





6.5) Assembly of the DBG-F2 clamping device

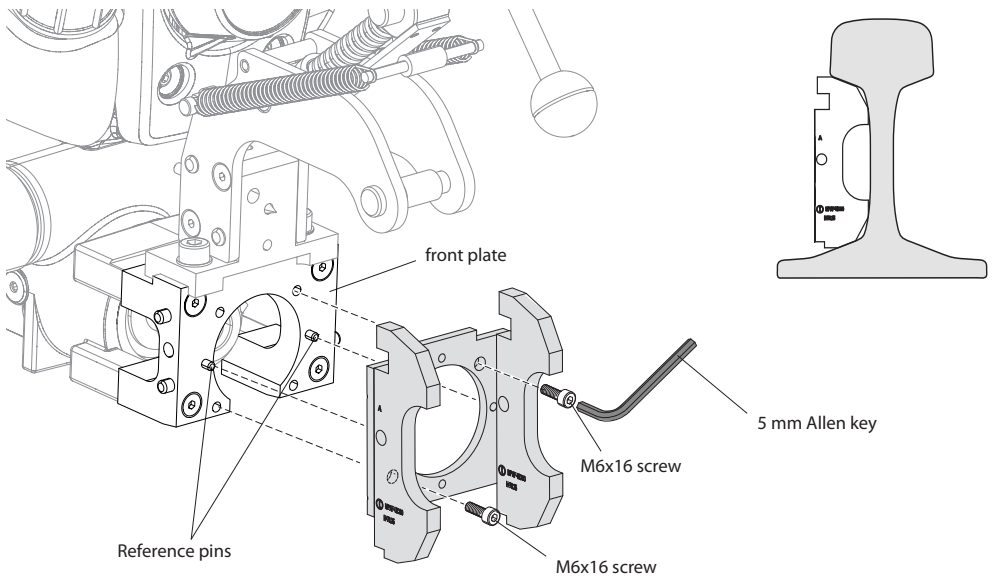
- ▶ The clamping device is fitted to the front plate of the drill, and secured with the two screws M8x25 (30). The assembly is illustrated in the Figure.
- ▶ To disassemble it, using the 6 mm Allen key supplied in the ACCESSORIES KIT of the drill.

If the clamping device must be removed, make sure that, on reassembly, the two locking screws (30) and washers are firmly fastened.

6.6) Assembling positioning templates

Only CEMBRE positioning templates and jigs are to be used with the rail drill.

- ▶ Choose the correct positioning template for the rail profile to be drilled.
- ▶ Place the positioning template on to the front plate of the drill, aligning the two reference pins with the holes in the template.
- ▶ **MPAF.. MPSR and MPAU** positioning templates are secured to the front plate by means of two screws M6x16 by using the 5 mm Allen key supplied in the ACCESSORIES KIT of the drill. For special positioning templates (e.g MPD... & MPR...) use the two screws M6x25.



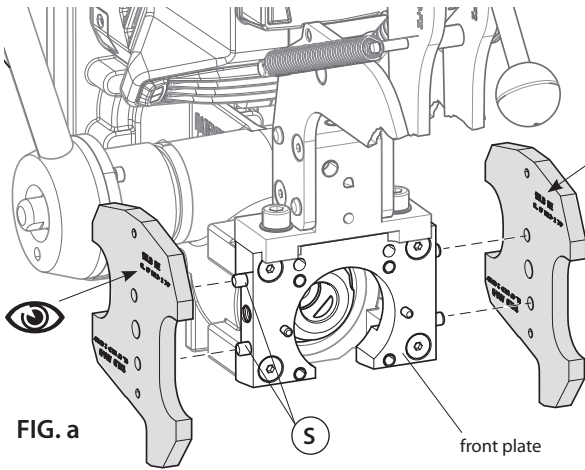
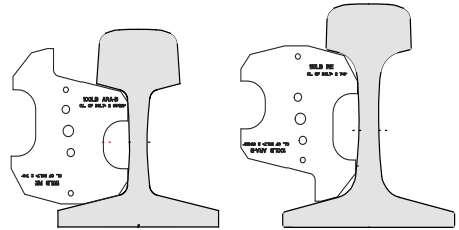
6.7) Fitting "double sided" templates

Compared to the templates for positioning rail drills, the KPAF "double sided templates" are equipped with a double profile that enables positioning of the drill on two different types of rail by simply inverting them.

They are fixed on the sides of the front plate.



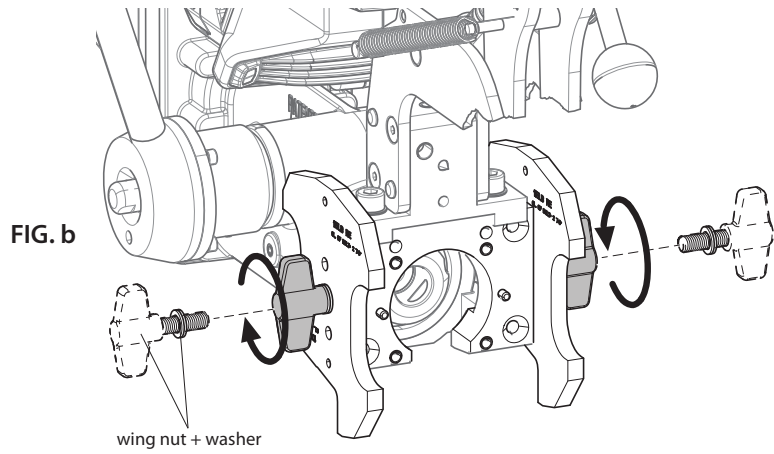
The inserts permit the drill to be positioned on two types of rail with a specific drilling axis. During fitting, ensure that the inserts are facing the correct side, corresponding to the rail being drilled.



- ▶ Rotate both inserts to the same side, suited to the profile of the rail being drilled.
- ▶ Mount inserts onto the sides of the drill's front plate by ensuring that the pins (S) match the corresponding holes in the inserts (Ref. to Fig. a).

The markings on the two inserts should face the same direction

- ▶ Secure the two inserts by hand (Ref. to Fig. b) using the wing nuts and washers supplied in the ACCESSORIES KIT of the drill.



6.8) Clamping to the rail web (Ref. to Fig. 8)

The drill has a rapid rail engagement/release mechanism and specially shaped positioning templates for each rail type which facilitate precise and certain location of the part to be drilled.

To fully exploit the special features of the engagement device, we recommend calibrating it to the rail type to be drilled as follows:

- Withdraw the spindle shaft (07) completely by means of the lever (36).
- Insert the threaded bush (39) of screw (11) into its seat (A) in the mobile arm (17); use the hand-wheel (12) to completely open the mobile arm.
- Place the drill on the rail at the point to be drilled and **clamp it by tightening the hand-wheel (12) fully down**: the positioning template will automatically position the cutter or drill bit in line with the designated axis; if precise positioning is necessary to the longitudinal rail axis, use the reference pin (01).
- For rapid drill release, simply back-off the handwheel (12) by approximately two complete turns, and while supporting the drill by its grip (09), pull the handwheel towards you. The threaded bush (39) will disengage the seat (A) in the mobile arm (17) which will open automatically, freeing the drill. In this way, the operator can rapidly remove the machine from the track in case of danger or move on to drill another hole.

Thus, the next track engagement operation will be considerably simplified:

after positioning the drill at the point to be drilled, simply push the handwheel forwards so that the threaded bush engages the seat (A) of the mobile arm.

Now, a few turns on the hand-wheel (12) will be sufficient to engage the drill correctly on the rail.

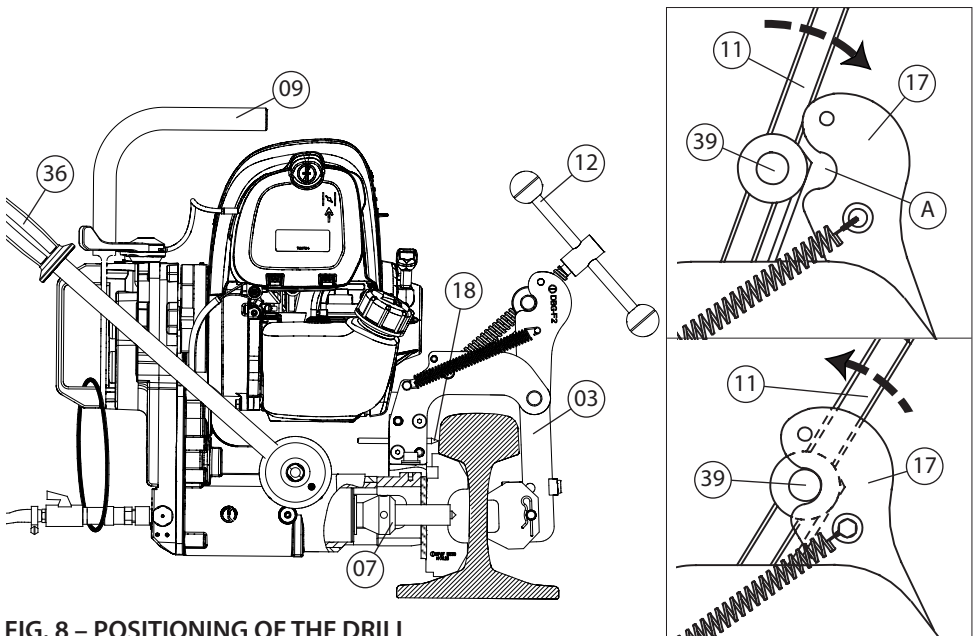






FIG. 8 – POSITIONING OF THE DRILL

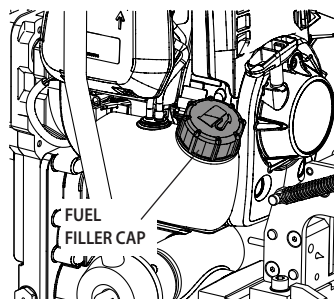
7. FUEL PREPARATION

<h3>WARNING</h3>	
	<ul style="list-style-type: none">- Petrol is extremely flammable and explosive.- DO NOT SMOKE.- Refuel in a well ventilated area away from flame or sparks.- Stop engine and allow it to cool before refueling.
	<p>When handling petrol:</p> <ul style="list-style-type: none">- Risk of intoxication, avoid inhalation of petrol vapours.- Risk of irritation, avoid prolonged and repeated contact with skin.
	<ul style="list-style-type: none">- To avoid a serious burn, do not touch a hot engine or exhaust.- The engine becomes hot during operation.
	<ul style="list-style-type: none">- To avoid an electric shock, do not touch spark plug, plug cap or spark plug lead during engine running.

The drilling machine features a 4-stroke petrol engine **run on unleaded regular grade petrol only** (E10 Europe). Pump octane rating 86 or higher.

For refuel proceed as follow:

- Check the fuel level by looking through the translucent fuel tank.
- Stop the engine and open the fuel cap, if the engine has been running, allow it to cool.
- Refill fuel to the upper level.
- Do not overfill with fuel.
- When filling the fuel tank, always use the fuel filter.
- Wipe off any spilled fuel before starting the engine.




8. STARTING THE ENGINE

Before starting the engine, ensure that:



- the engine oil level is correct.
- the spindle shaft is fully retracted.
- the accelerator control lever is positioned at the low speed position "0".

8.1) Set the engine "ON/OFF" switch to the "ON" position (Fig. a).


8.2) Set the choke lever to the CLOSED  position; when engine is warm or in the case of high ambient temperatures, this lever may require setting to the OPEN position (Fig. b).

8.3) Keeping the accelerator control lever at the low speed position, press the priming bulb repeatedly until fuel can be seen in the clear-plastic fuel-return tube (Fig. c).

8.4) Pull the starter grip lightly until resistance is felt, then pull briskly (Fig. d). Return the starter grip gently.

Do not pull the rope out all the way.

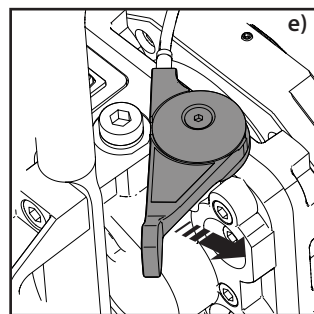
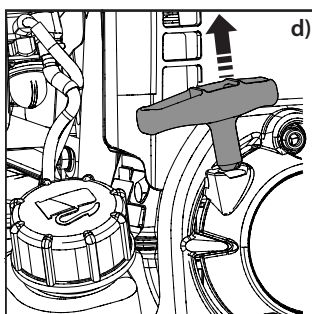
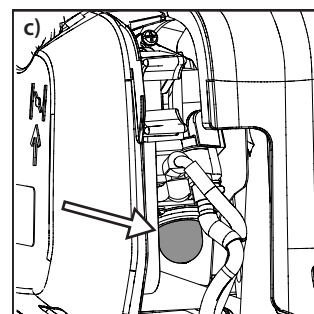
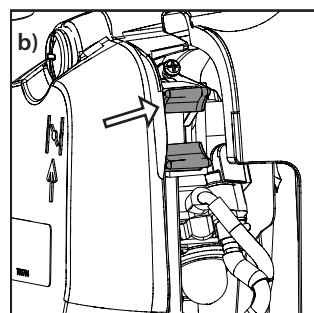
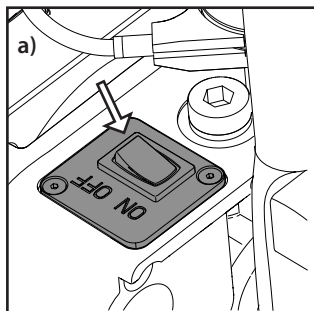
Do not allow the starter grip to snap back against the engine, return it gently to prevent damage to the starter.

8.5) If the choke lever was moved to the CLOSED  position to start the engine, gradually move it to the OPEN position as the engine warms up (Fig. e).

8.6) Keep the engine "warming up" for at least 3 minutes before starting any actual drilling.

8.7) To stop the engine, set the accelerator lever at the low speed position and allow the engine to run at low speed for 2 or 3 minutes before stopping. Set the "ON/OFF" switch to the "OFF" position.

NOTE: the engine will perform at its optimum after a "running-in" period of approximately 200 drilling operations.



9. DRILLING



Check engine oil level before operation (see § 13.2.1).

Switch on the cooling system before starting the drill (see § 4).

9.1) Drill fitted with “short” type broach cutter (for drilling thicknesses of up to 25 mm).

The drilling sequence may be started with the drill fitted with the broach cutter, clamping end piece, positioning template, the drill being clamped to the rail, as follows:

9.1.1) Connect the female quick-coupling of the **SR5000 coolant unit to the male coupling (35)** on the drill.

9.1.2) Open the tap (02) fitted on the coolant unit hose.

9.1.3) Using the lever (36) bring the guide bit almost in contact with the rail (Fig. 9a); keeping the release pawl (39) pressed, release the lever from its cup and return it to the initial position (Fig. 9b), which will enable the travel of the lever (36) to be used in the most advantageous way.

Fig. 9a

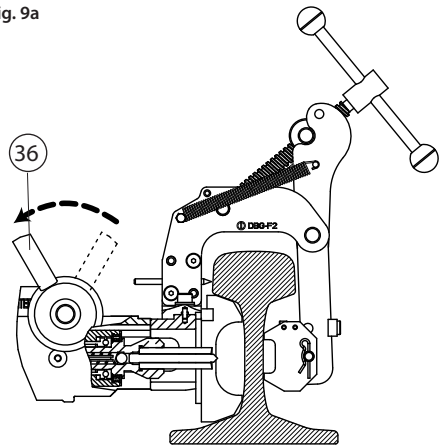


FIG. 9 – DRILLING

Fig. 9b

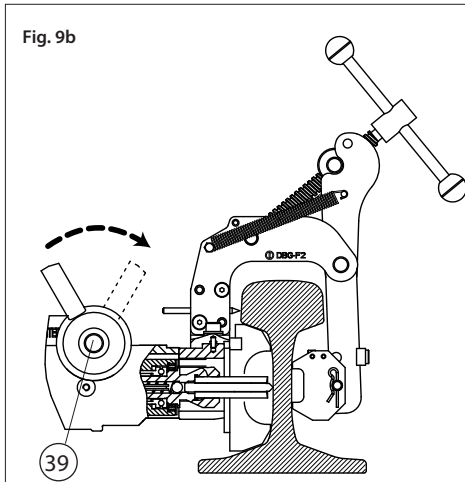
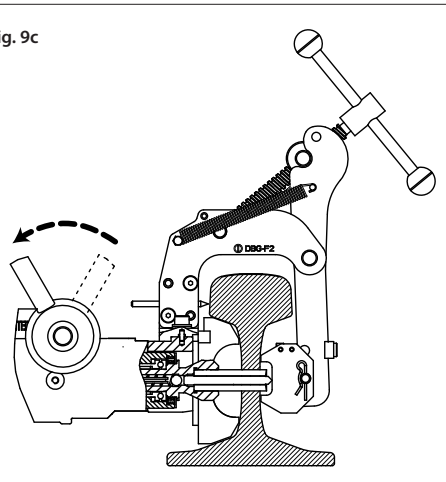


Fig. 9c



- 9.1.4) Start the engine, following instructions § 8.
- 9.1.5) Proceed to drill by initially applying light pressure on the lever (36), increasing the pressure progressively, avoiding jolts, and finally relieving the pressure in the exit phase. When drilling close to raised markings on the rail the initial pressure must be extremely light until the markings disappear, otherwise the cutter may be damaged.
- 9.1.6) The guide bit will enable the lubrocoolant to be discharged throughout the drilling process.
- 9.1.7) When drilling has been completed, fully retract the spindle, **stop the motor by pressing the switch to "OFF" position**, and make sure that drilling swarf is removed before recommencing drilling.
- 9.1.8) After drilling it is advisable to remove with the brush all swarf from the broach cutter or spiral bit and spindle area.
- 9.2) Drill fitted with "long" type broach cutter (for drilling thicknesses of up to 50 mm). Follow the sequence described in § 9.1, taking care to position the drill on the rail by keeping the spindle fully withdrawn.

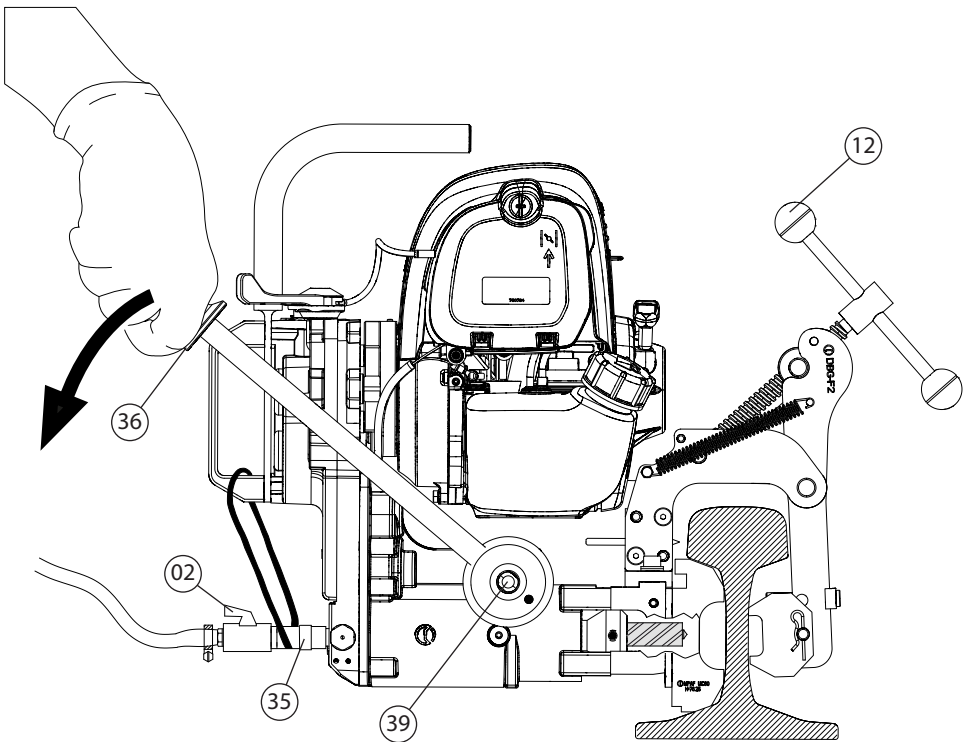
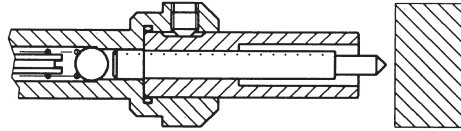
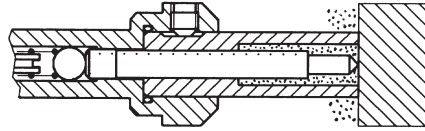


FIG. 10- DRILLING

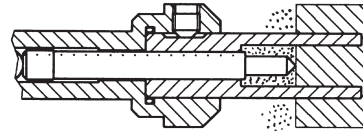
Approach



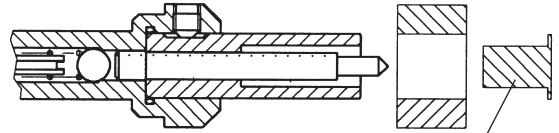
*Start drilling
with discharge of
lubrocoolant*



Drilling



*Finish drilling
with removal of swarf and
switching off of
lubrocoolant*



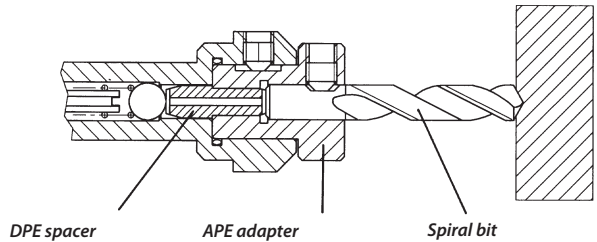
The slug is ejected upon completion of the drilling operation

FIG. 11 – COOLANT DRILLING WITH BROACH CUTTER

9.3) Drill fitted with special spiral bit

Follow the sequence described in § 9.1, taking care to position the drill on the rail by keeping the **spindle fully withdrawn**. Bear in mind that the coolant circuit, instead of being automatically opened and closed by the guide bit, is kept open at all times by the **DPE spacer** fitted on the spigot of the spiral bit; it must therefore be activated, by opening the tap (O2), before starting to drill, then switched off after drilling by closing the tap.

*FIG. 12a
PE 70 - PE 165 spiral bits
(drilling diameters from 7 to 16,5 mm)*



*FIG. 12b
PE 170 - PE 275 spiral bits
(drilling diameters from 17 to 27,5 mm)*

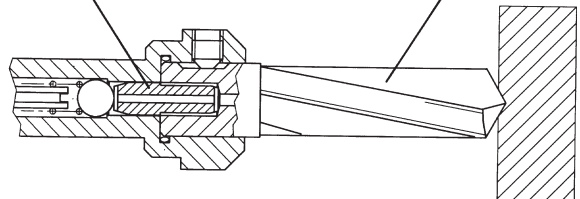


FIG. 12 – COOLING DRILLING WITH SPIRAL BIT

10. SPA... POSITIONING PLATE

10.1) Instruction for drilling close to rail heads

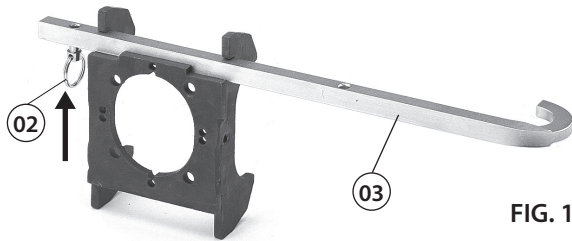


FIG. 13

- 10.1.1) Fit the **MPAF...** positioning template corresponding to the rail to be drilled.
- 10.1.2) Insert the **SPA...** positioning plate (03) relating to the rail to be drilled in the appropriate housing (see Fig. 13).
- 10.1.3) Insert the locking pin (02) in one of the two holes of the positioning plate.
- 10.1.4) With the spindle fully withdrawn, position the drill close to the rail head without clamping it.
- 10.1.5) Slide the drill so that:
 - the curved end of the **SPA...** positioning plate is flush against the rail head.
 - the **MPAF...** positioning template is flush against the locking bolt (02).
- 10.1.6) Clamp the drill in this position by tightening the handwheel fully, and commence drilling (see § 9.1).
- 10.1.7) To drill the second hole in the rail, repeat operations 10.1.5 - 6 with the locking pin (02) inserted in the second hole of the **SPA...** positioning plate.

For clarity the drill is not shown in the figures

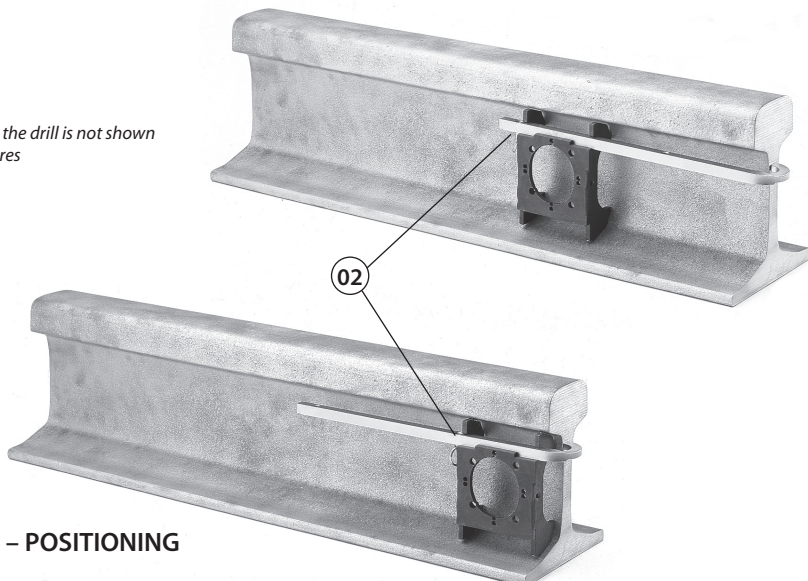


FIG. 14 – POSITIONING

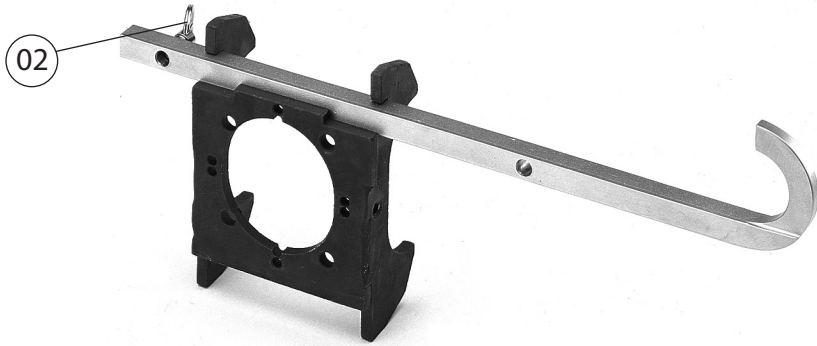
10.2) Drilling in line with rail heads

- 10.2.1) Fit the MPAF... positioning template corresponding to the rail to be drilled .
- 10.2.2) Fit the MRF clamp on the head of the rail, keeping it in contact with the rail head at the reference point of the drilling centres. Lock it in position with the lever. The lever is provided with a return pushbutton for moving in any direction after locking (See Fig. 15).
- 10.2.3) Insert the SPA... positioning plate so that the curved part is facing upwards.
- 10.2.4) Insert the locking pin (02) in one of the two holes of the connection plate.
- 10.2.5) With the spindle fully withdrawn, position the drill close to the MRF clamp, without locking the spindle.
- 10.2.6) Slide the drill so that:
 - the curved end of the SPA... plate is flush against the MRF clamp on the side identifying the reference point for distances.
 - the MPAF... positioning template is flush against the locking bolt (02).
- 10.2.7) Clamp the drill in this position by tightening the handwheel fully, and commence drilling (see § 9.1).
- 10.2.8) To drill the second hole in the rail, repeat operations 10.2.6 - 7 with the locking pin (02) inserted in the second hole of the SPA... plate.

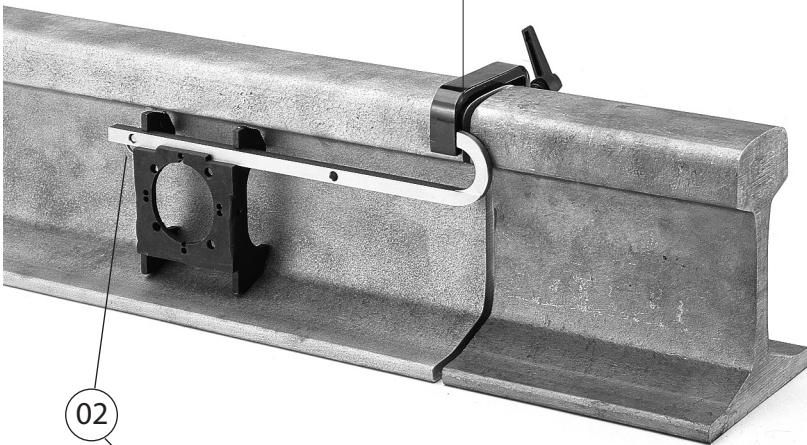


FIG.15 – ASSEMBLY OF THE MRF CLAMP

For clarity the drill is not shown in the figures



Reference point for distances



Reference point for distances

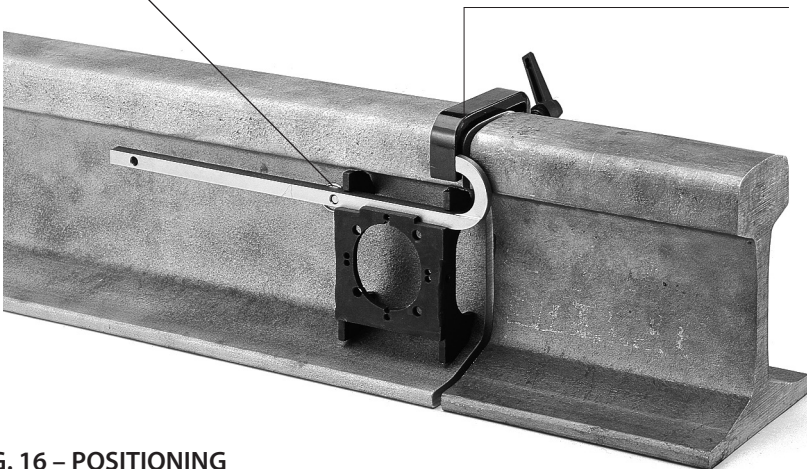


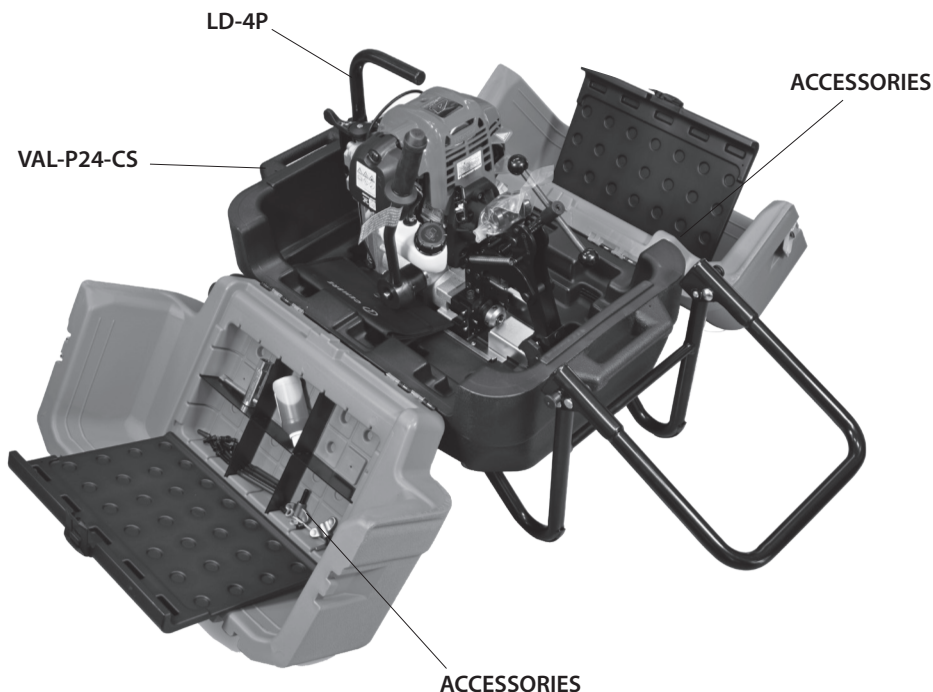
FIG. 16 – POSITIONING

11. STORING THE DRILL

When work has been completed, put away the drill by proceeding as follows:

- 11.1) Depressurise the tank of the **SR5000** cooling unit (see § 4), close the tap (02) on the tube from the tank, and disconnect the quick-coupling (03).
- 11.2) Carefully clean the drill, particularly in the spindle area, removing machining waste (swarf, etc.) and any deposits of lubricating coolant.
- 11.3) Fully withdraw the spindle.
- 11.4) Place the drill and the **SR5000** cooling unit in a sealed place free from dust, moisture and the risk of accidental impact.

For better protection CEMBRE recommends the use of the **VAL-P24** plastic case or **VAL-P24-CS** (variant with folding handle and wheels, see Fig. 24a) designed for this purpose. The DBG-F2 moving arm device allows the drill to be housed and locked in the case. Suitable housings are also provided in the plastic case for containing the most commonly used accessories.



12. WARNINGS

- 12.1) Regularly check for correct tightening (torque) of the fixing screws of the drilling tools and positioning templates.
- 12.2) Avoid pressure jolts on the advancing lever during drilling.
- 12.3) Always make sure that the drilling swarf is properly removed before starting to drill a new hole.
- 12.4) Incomplete clamping of the drill on the rail to be drilled may lead to the breakage or accelerated wear of the drilling tool and damage to the spindle shaft bearings.
- 12.5) If it is necessary to operate the drill without the cutter inserted, remove the locking grub screws from the spindle shaft.
- 12.6) Avoid leaving the **SR5000** tank under pressure and exposed to sunlight for long periods of time.
- 12.7) Should the **DBG-F2** clamping device be removed, make sure that by reassembling it, the two locking screws are firmly fastened.

13. MAINTENANCE



Before you service or remove parts, stop the engine and allow it to cool. Always remove the spark plug cap from spark plug when servicing the engine to prevent accidental starting.

After the first 10 operating hours, proceed with sump oil change, as follows: (Ref. to Figs. 17 and 17a)

- Remove the cap with the magnetic insert (28).
- Remove the oil filler cap (07).
- Make sure that all the oil comes out by tilting slightly the drilling machine in order to make the operation easier.
- Clean the cap (28) (see § 13.1.2).
- Reassemble the cap.
- Fill the oil sump to the level indicator (see § 13.1.1) using the oil supplied with the drilling machine; it will be necessary to use about 100 ml oil.
- Replace the oil filler cap (07).

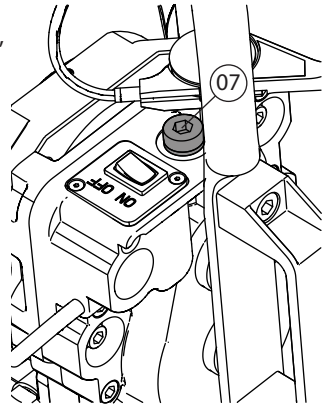


FIG. 17



Ensure that disposal of used oil is in accordance with current legislation.

13.1) ORDINARY MAINTENANCE OF THE DRILL

Every 20 hours of operation

13.1.1) Topping up oil (Ref. to Figs. 17 and 17a)

With the drill switched off and placed on a flat surface, check the oil level in the crankcase by looking through the transparent inspection cover (19).

The level must be approximately half way up the cover; if the level is low, top up the oil by unscrewing the cap (07) at the top of the crankcase and adding the quantity of oil required.

Only use the oil grade recommended in § 1.

Never use regenerated or used oil.

The oil must be clean.

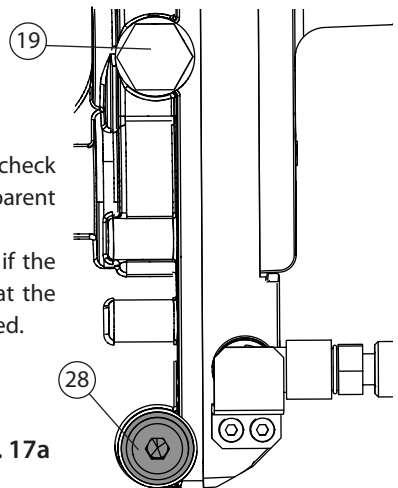


FIG. 17a

13.1.2) Removal of metal residues from the crankcase (Rif. a Fig. 18)

When the drill is positioned unscrew the cap with magnetic insert (28) on which any metal residues present in the oil will have collected. Carefully clean the magnetic insert with a clean cloth and screw it back into the appropriate housing.

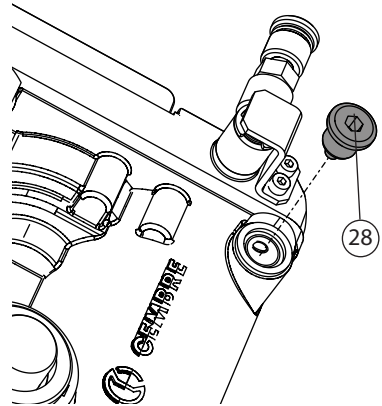


FIG. 18

Every 50 hours of operating

13.1.3) Checking of screws.

- Check and re-tighten all screws where necessary.

13.1.4) Lubrication

- Lubricate the spindle support housing by means of the appropriate lubricator, the screw of the DBG-F2 clamping device.

13.1.5) Cleaning of coolant filter (Ref. to Fig. 19)

The coolant system of the drilling machine is provided with anti-impurity filter; should a decrease of the flow of the lubrocoolant be noticed, it may be necessary to clean it in the following way:

- Using a 14 mm key, unscrew the coupling (02).
- Extract the filter and clean it carefully.
- Reassemble the filter into the coupling (02), fully tighten the coupling.

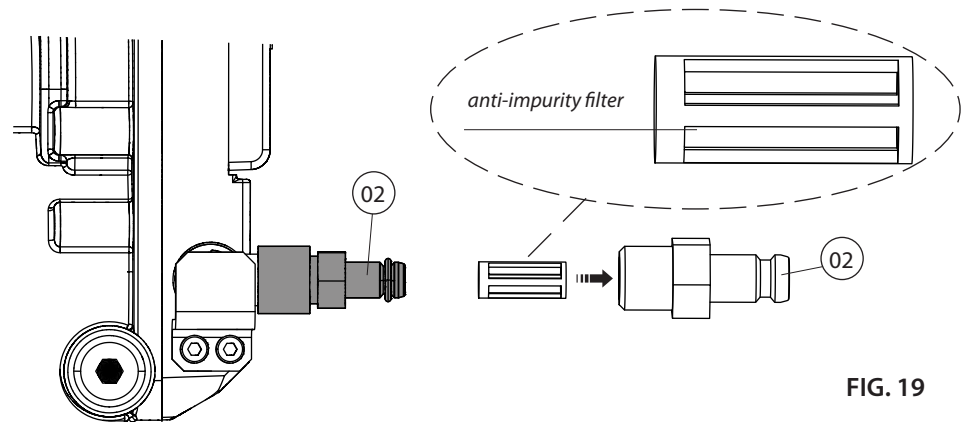


FIG. 19

13.2) ORDINARY MAINTENANCE OF THE COMBUSTION ENGINE



Periodic inspections are essential for the proper functioning of the engine; refer to "HONDA" manual provided with the machine for the safe use of the engine and for further requested maintenance operations.

13.2.1) Check engine oil (each use)

Before checking or refilling engine oil, be sure the machine is located on a stable, level surface and stopped.

- Remove the oil filler cap/dipstick and wipe it clean.
- Insert the oil filler cap/dipstick without screwing it into the oil filler neck, then remove it to check the oil level shown on the dipstick.
If the oil level is near or below the lower limit mark on the dipstick, fill to the bottom edge of the oil fill hole with the recommended oil (see § 1).
- Change oil if it is contaminated.
- Wipe off any spilled oil before starting the engine.
- Reinstall the oil filler cap/dipstick and tighten securely.

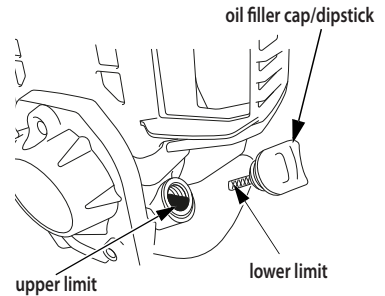


FIG. 20a

**Initial oil change: first month or after 10 hours of operation.
Thereafter: every 6 months or 50 hours of operation.**

13.2.2) Engine oil change

- Drain the used oil when the engine is warm. Warm oil drains quickly and completely.
- Check that the fuel filler cap is tightened securely.
- Place a suitable container below the engine to catch the used oil.
- Remove the oil filler cap/dipstick and drain the oil into the container by tipping the machine toward the oil filler neck.
Some oil will remain in the engine after draining, when refilling with fresh oil, start with less than 80 ml (2.7 US oz).
- With the engine in a level position, fill to the bottom edge of the oil fill hole with the recommended oil (see § 1).
- MAX OIL CAPACITY: 130 ml.

Always use the best grade and clean oil.

Contaminated oil, poor quality oil and shortage of oil cause damage to engine or shorten the engine life.



Ensure that disposal of used oil is in accordance with current legislation.

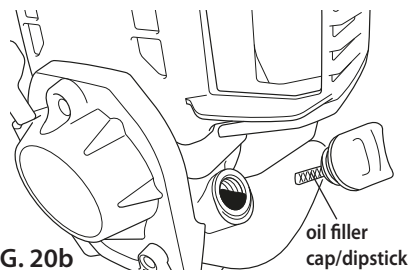


FIG. 20b

Every 3 months or 25 hours of operation

13.2.3) Air filter cleaning

- Loosen the screw (1) and remove the air cleaner cover (2).
- Inspect the air filter element (3).
- Clean or replace dirty air filter element. Always replace damaged air filter element.
- Clean the air filter element if it is to be reused.
Tap the paper air filter element several times on a hard surface to remove dirt, or blow compressed air [not exceeding 200 kPa (2.0 kgf/cm², 29 psi)] through the filter element from the air cleaner body side. Never try to brush off dirt; brushing will force dirt into the fibers.
- Wipe dirt from the inside of the air cleaner body and cover using a moist rag. Be careful to prevent dirt from entering the air duct that leads to the carburetor.
- Reinstall the paper air filter.
- Install the cover (2), and tighten the screw securely (1).

Operating in dusty condition may require more frequent maintenance than above.

Do not operate the engine with air filter removed.

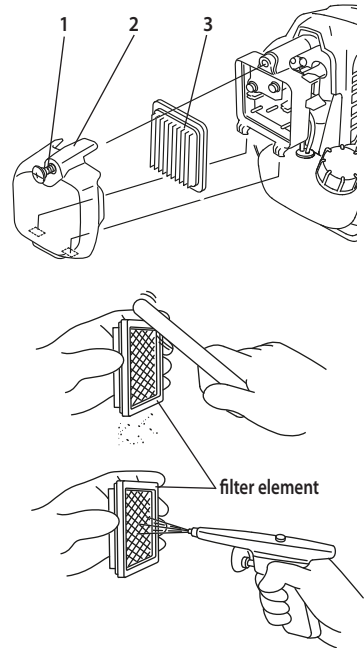


FIG. 21

Every 100 hours of operation

13.2.4) Fuel filter cleaning

- Check that the engine oil filler cap / dipstick is tightened securely.
- Remove the fuel filler cap, and drain the fuel into an approved petrol container by tipping the engine toward the fuel filler neck.
- Pull the fuel filter out through the fuel filler neck by hooking the black fuel tube with a piece of wire, such as a partly straightened paper clip.
- Inspect the fuel filter. If the fuel filter is dirty, wash it gently with non-flammable or high flash point solvent. If the fuel filter is excessively dirty, replace it.
- Remove water and dirt from the fuel tank by rinsing the inside of the fuel tank with non-flammable or high flash point solvent.
- Insert the fuel filter into the fuel tank and tighten the fuel filler cap securely.

Attention: Improper use of solvents can cause fires or explosions.

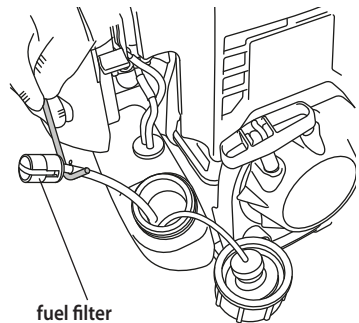


FIG. 22

Every year or 100 hours of operation

13.2.5) Spark plug cleaning

- Using a 4 mm allen key remove the fixing screw on the top of the red cover.
- Disconnect the spark plug wire lead and remove the spark plug with the key supplied.
Inspect the spark plug. Replace it if damaged or badly fouled, if the sealing washer is in poor condition, or if the electrode is worn. Measure the spark plug electrode gap, correct the gap if necessary by carefully bending the side electrode.
The gap should be: 0.60-0.70 mm (0.024-0.028 in).
- Install the spark plug carefully, by hand, to avoid crossthreading.
- When installing a new spark plug, tighten 1/2 turn with the key to compress the washer.
When reinstalling the original spark plug, tighten 1/8-1/4 turn with the key to compress the washer.
A loose spark plug can overheat and damage the engine. Overtightening the spark plug can damage the threads in the cylinder head.
- Attach the spark plug cap to the spark plug.
Install the top cover, and tighten the fixing screw.
- In case of plug replacement, use type **NGK CM5H**, **CMR5H** or equivalents.

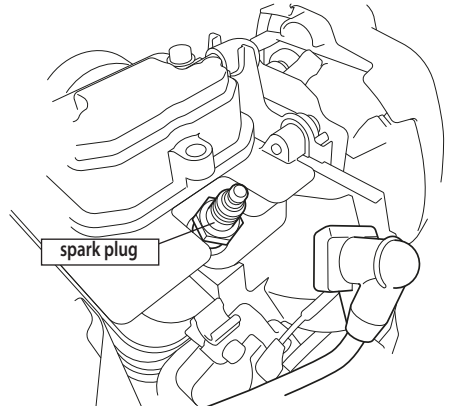
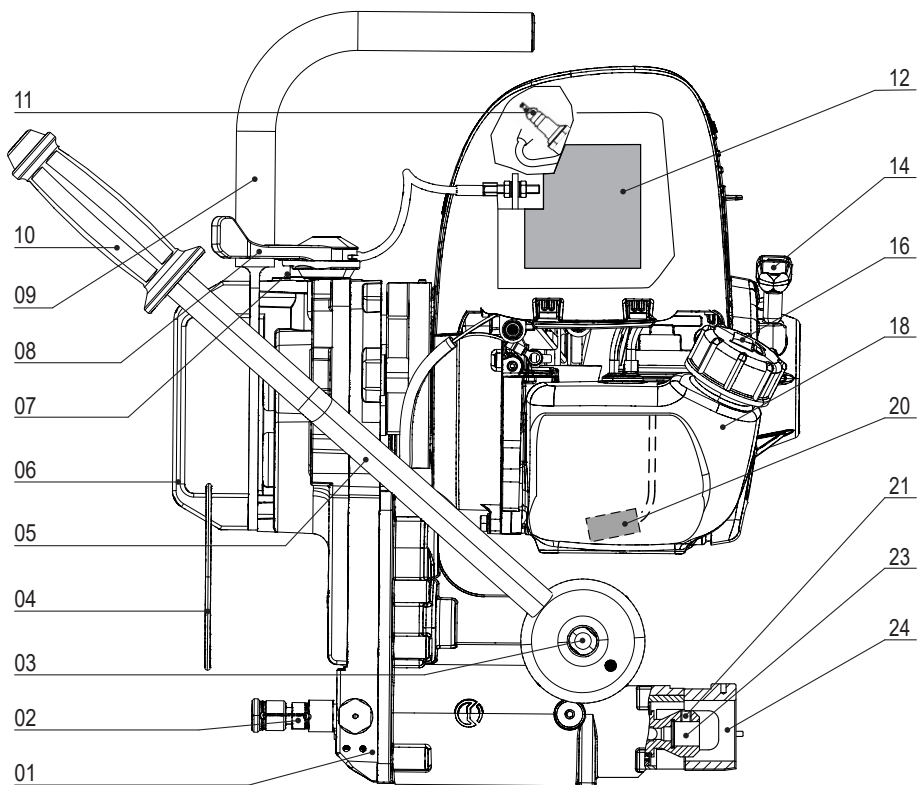


FIG. 23

13.3) SPECIAL MAINTENANCE OF THE DRILL

13.3.1) Storing the drilling machine for long periods

- Completely empty the fuel tank.
- Start the engine and let it run until it stops, so that all fuel is exhausted from the machine.
- Remove the spark plug.
- Pour 3-5 cm³ of oil into the cylinder.
- Repeatedly pull gently on the starting rope so that dispersion of oil in the cylinder is achieved and reinstall the spark plug.
- Using a clean cloth soaked with motor oil, clean all metal parts of the machine.
- Store the drilling machine in its appropriate case or in a dry environment protecting it against accidental damage and dust.

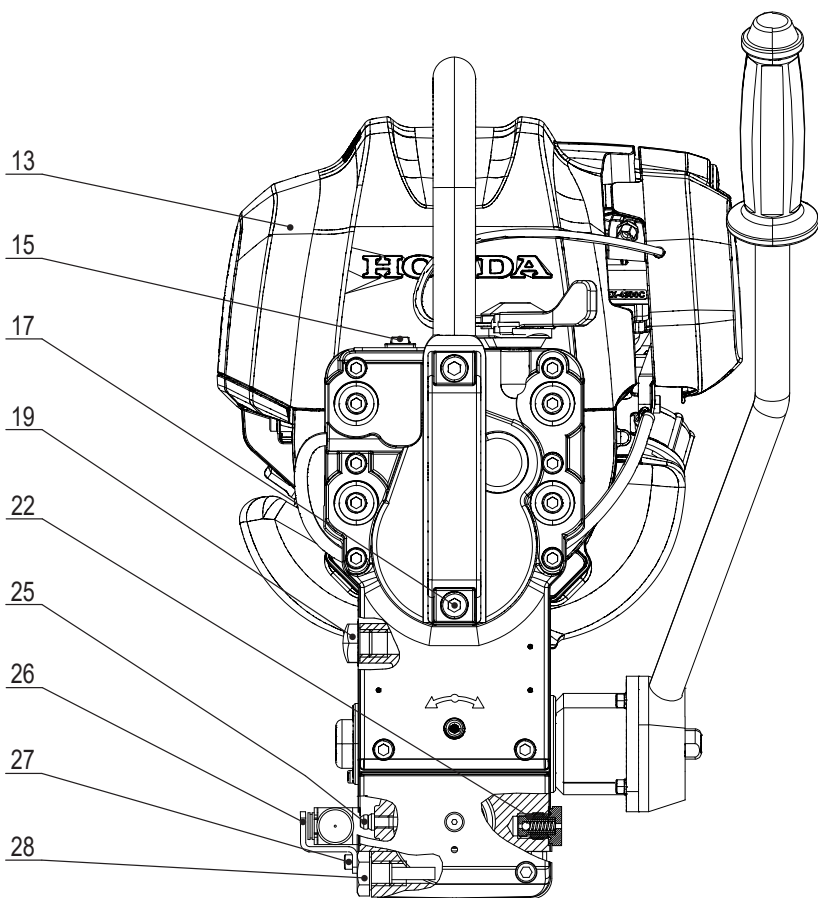


Guarantee conditions cease upon usage of non original spare parts.

When ordering spare parts always give the following information:

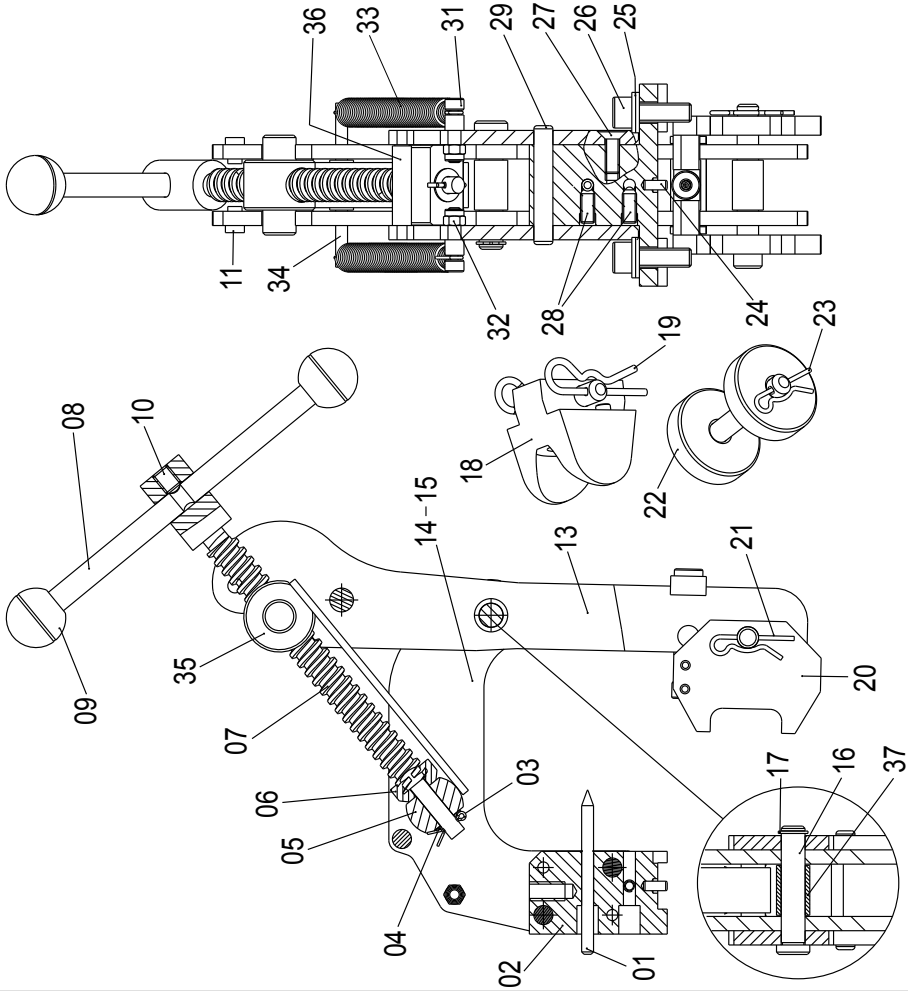
- spare part code
- spare part description
- drilling machine model
- drilling machine serial number

FIG. 24 – DRILL ASSEMBLY



6001209	28	Magnetic cap	1
6900060	27	M 4x8 screw	2
6001731	26	Cooling connection guard	1
6001198	25	Lubricator	1
6005033	24	Front plate	1
6004688	23	Drilling spindle	1
6001397	22	Complete air valve	1
6340160	21	Grub screw	2
-	20	Fuel filter	1
6001195	19	Level gauge	1
-	18	Fuel tank	1
6900346	17	M 8x20 screw	2
-	16	Fuel tank cap	1
6001211	15	ON/OFF Switch	1
Code N°	Item	Description	Q.ty

-	14	Starting handgrip	1
-	13	Engine	1
-	12	Air filter element	1
6003698	11	Spark plug	1
6380330	10	Handle	1
6003612	09	Complete handgrip	1
6001166	08	Accelerator lever	1
6003034	07	Oil cap	1
6490050	06	Carriage handle	1
6001940	05	Spindle advancing lever	1
6360480	04	O-Ring	1
6001176	03	Lever release pawl	1
6001428	02	Complete cooling connection	1
6001950	01	Body	1
Code N°	Item	Description	Q.ty



Code N°	Item	Description	Q.ty
6001155	37	Spacer	1
6002871	36	Stop pin	1
6001762	35	Complete bush	1
6001768	34	Spring support spacer	1
6001769	33	Spring	2
6180201	32	M 5 self-locking nut	2
6001776	31	Pin	2
6760378	29	ø 8x50 cylindrical pin	2
6340612	28	M 5 ball dowel	2
6900314	27	M 6x18 screw	4
6900348	26	M 8x25 screw	2
6650144	25	ø 8 elastic washer	4
6760222	24	ø 4x10 cylindrical pin	1
6140082	23	ø 1,8x35 split pin	2
6001138	22	TD81 end piece	1
6140082	21	ø 1,8x35 split pin	1
6001775	20	TD86 end piece	1
6140080	19	Split pin	2
6001137	18	TD83 end piece	1
6040421	17	ø 10 circlip	1
6001156	16	Pin	1
6001907	15	Left support shoulder	1
6001906	14	Right support shoulder	1
6001757	13	Blocking side plate	2
6001772	11	Pin	2
6340160	10	M 8x10 grub screw	1
6380310	09	Handgrip	2
6001150	08	Hand-wheel	1
6001151	07	Blocking screw	1
6001659	06	Spacer	1
6001152	05	Bush	1
6520422	04	Cup spring	1
6140085	03	ø 2,5x15 split pin	1
6001145	02	Blocking support	1
6001281	01	Reference rod	1

FIG. 25 - DBG-F2 RAIL WEB CLAMPING DEVICE

APPENDIX “A”

Factors which influence the number of holes that can be made according to the tool used:

- **Hardness of the material to be drilled.**
- **Thickness to be drilled.**
- **Stability of the drill clamping** and correct assembly of the drilling tool.
- **Suitable lubrocooling (lubrication/cooling)** to keep the temperature of the tool low so as not to compromise the efficiency of the cutting edges, whilst at the same time facilitating the removal of the swarf.
- **Contact time of the cutting edges of the tool with the material to be drilled;** bear in mind that the faster the hole is made, the greater the efficiency.
- **Observance of these basic rules:**
 - 1) **Commence drilling by exerting light pressure on the advancing lever, progressively increasing and then relaxing it when the tool is in the exit phase.**
 - 2) Avoid pressure surges and advance according to the diameter of the drilling diameter, to avoid scratching the material or damaging the cutting edges of the tool.
 - 3) Remember that a tool with efficient cutting edges requires a lower application pressure than one that has already made a certain number of holes.
 - 4) **When holes are made close to raised lettering on the rails, commence drilling with very light pressure** until the lettering disappears, to avoid possible breakage of the tool.
 - 5) Bear in mind that when operating on very hard rails, as in the case of quality 1100 steel, it is advisable to increase the lubrocoolant flow rate.

14. RETURN TO CEMBRE FOR OVERHAUL

For all maintenance or repair requests, please fill out the form available at www.cembre.com on the product page or at the following link: <https://my.cembre.com/login> (subject to prior registration). For any other needs, please contact your local distributor or Sales Engineer who will advise you and provide the necessary instructions for returning the product to our warehouse.

DISCLAIMER: PRODUCTS INTENDED FOR PROFESSIONAL USE

Cembre products are intended for professional users (B2B): the applicability of consumer protection regulations, including those related to warranty, is expressly excluded. Please refer to the manufacturer's website www.cembre.com for any information regarding product terms and conditions of sales and warranty.

The sale of Cembre products through channels accessible to consumers is expressly prohibited, and vendors who contravene this prohibition will assume all civil and criminal liability towards third parties and the competent authorities.



**DECLARATION OF CONFORMITY -
DECLARATION DE CONFORMITE - KONFORMITÄTSERKLÄRUNG -
DECLARACIÓN DE CONFORMIDAD - DICHIARAZIONE DI CONFORMITÀ**

We Nous Wir Nos Noi: **CEMBRE S.p.A. Via Serenissima, 9 – 25135 Brescia (Italy)**

Declare under our sole responsibility that the product - *Déclarons sous notre seule responsabilité que le produit*
- Erklären in alleiniger Verantwortung dass das Produkt - *Declaramos bajo nuestra responsabilidad que el producto*
- Dichiariamo sotto nostra unica responsabilità che il prodotto:

LD-4P

To which this declaration relates is in conformity with the following standard(s) or other normative document(s) -
Auquel cette déclaration se réfère est conforme à la (aux) norme(s) ou autre(s) document(s) normatif(s) -
Auf dass sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder dem/den normativen Dokument(en)
über einstimmt - *Al que se refiere esta declaración, cumple la(s) norma(s) u otro(s) documento(s) normativo(s) -*
Al quale si riferisce questa dichiarazione è conforme alla(e) norma(e) o altro(i) documento(i) normativo(i):

EN ISO 12100 EN ISO 11148-3 EN 13977

Following the provisions of EU directive(s) - *Conformément aux dispositions de(s) directive(s) EU -*
Gemäß den Bestimmungen der EU Richtlinien - *De acuerdo con las disposiciones de la(s) directiva(s) EU*
Conformemente alle disposizioni della(e) direttiva(e) EU:

2006/42/EC 2014/30/EU

Person authorised to compile the technical file - *Personne autorisée à constituer le dossier technique -*
Person die bevollmächtigt ist, die technischen Unterlagen zusammenzustellen -
Persona facultada para elaborar el expediente técnico - Persona autorizzata a costituire il file tecnico:

Gianluca Cama via Serenissima, 9 – 25135 Brescia (Italy)

Brescia **13-11-2023**



Felice Albertazzi
CHIEF SALES & MARKETING OFFICER
Cembre S.p.A.



DECLARATION OF CONFORMITY

We: **CEMBRE S.p.A. Via Serenissima, 9 – 25135 Brescia (Italy)**
Declare under our sole responsibility that the product:

LD-4P

To which this declaration relates is in conformity with the following standard(s) or other normative document(s):

EN ISO 12100 EN ISO 11148-3 EN 13977

Following the provisions of the UK Legislation(s):

S.I. 2008/1597 S.I. 2016/1091

Brescia **13-11-2023**



Felice Albertazzi
CHIEF SALES & MARKETING OFFICER
Cembre S.p.A.



www.cembre.com



CEMBRE S.p.A.
via Serenissima, 9
25135 Brescia
Italy
Ph +39 030 36921
ufficio.vendite@cembre.com
sales@cembre.com

CEMBRE Ltd.
Dunton Park,
Kingsbury Road,
Curdworth, Sutton Coldfield
West Midlands, B76 9EB
United Kingdom
Ph +44 01675 470440
sales@cembre.co.uk

CEMBRE S.a.r.l.
129 rue Servient
69003 Lyon
France
Tél. +33 1 60 49 11 90
info@cembre.fr

CEMBRE España S.L.U.
Calle Verano 6 y 8
Pl Las Monjas
28850 Torrejón de Ardoz
Madrid - Spain
Ph +34 91 4852580
comercial@cembre.com

CEMBRE GmbH
Geschäftsbereich
Energie- und Bahntechnik
Heidemannstr. 166
80939 München
Germany
Ph +49 89-3580676
info@cembre.de

CEMBRE GmbH
Geschäftsbereich
Industrie und Handel
Boschstraße 7
71384 Weinstadt
Germany
Ph +49 7151-20536-60
info-w@cembre.de

CEMBRE B.V.
Luchthavenweg 53
5657EA Eindhoven
The Netherlands
info@cembre.nl

CEMBRE Inc.
Raritan Center Business Park
300 Columbus Circle-S.F,
Edison, NJ 08837 USA
Ph +1 (732) 225-7415
sales.us@cembre.com
Midwest Office
1051 Perimeter Dr. #470
Schaumburg, IL 60173

**CEMBRE Electrical
Connections Shanghai Ltd**
Room 2201,
Jin Hang Mansion, NO.83
Wan Hang Du Road,
Jing An District,
Shanghai
info@cembre.cn
sales@cembre.cn

This manual is the property of CEMBRE: any reproduction is forbidden without written permission.