

HYDRAULIC TOOL

HTEPE.DET10



ENGLISH

OPERATION AND MAINTENANCE MANUAL

19 M 068 E

WARNINGS



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1	– Before using the tool, carefully read the instructions in this manual.
2	– When operating the tool, keep hands away from the danger zone.
3	– Always wear safety gloves when operating.

HTEPE.DET10 system consists of:

- Pump unit
- Hydraulic head type **RHTEPE-S16**
- Plunger type **OG10.5C** (qty 2)
- GO / NO GO gauge type **CAL135.145**
- Adaptor **M9M8**
- Plastic case **VAL-P14**

1. GENERAL CHARACTERISTICS

- **Application range:** suitable for installing rail web electrical connection system into rail web thickness 19-20 mm (e.j. BS113A, BS95RBH) and hole diameter 13,5 mm.
- **Installation force:**.....55 kN
- **Rated operating pressure:**.....700 bar (10000 psi)
- **Flexible hose:** length900mm
- **Dimensions (pump body):**
length.....285 mm
width130 mm
- **Dimensions (head):**
length.....133 mm
width67,5 mm
diameter.....48 mm
- **Weight:**.....3,8 kg
- **Recommended oil:**..... **ENI ARNICA ISO 32** or equivalent
- **Safety:** the tool is provided with a maximum pressure valve.

2. INSTRUCTIONS FOR USE

2.1) Setting

Connect the male coupler of the head to the female coupler on the tool hose; ensure that the couplers are securely fitted.



Before connecting or disconnecting the head and the hose, ensure that the ram of the head is fully retracted.

2.2) Installation procedure for rail web electrical connection

- Drill rail web to Ø 13,5 mm or, if already drilled, use a suitable reamer to clean the hole (Fig. 1).
 - Check the size of the hole with the CAL135.145 “GO/NO GO” gauge (Fig. 2):
 - The hole size is correct if **only the green part enters the hole**.
 - **If the red part enters, the hole is too large**, in this case it is necessary to drill a new hole.
 - Insert the AR...-1 copper bush into the rail web hole (Fig. 3).
 - Ensure that the ram in the head is fully retracted and then firmly screw and tighten the adaptor **M9M8** onto the tool head (Fig. 4).
 - Introduce the plunger into the copper bush from the flanged side and screw and tighten the plunger **OG10.5C** onto the adaptor **M9M8** (Fig. 4) using the recess in the gauge **CAL135.145**.
 - Operate the moveable handle of the tool (Fig. 5) to pull the plunger **completely** through the bush and extrude the bush onto the surface of the hole.
- At the end of the operation, press the pressure release lever (20) to retract the ram (01).
- The bush will also extrude itself around the opposite side of the rail web (Fig. 6).

2.3) Conductor assembly

- Crimp the lug onto the conductor.
- Assemble all components as shown in Fig. 7.
- Fit the self-locking nut (Fig. 8) and tighten to the torque setting indicated in the instruction sheet of the AR... bush kit.

FIG. 2

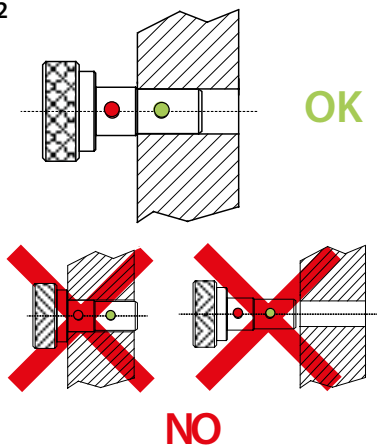


FIG. 1

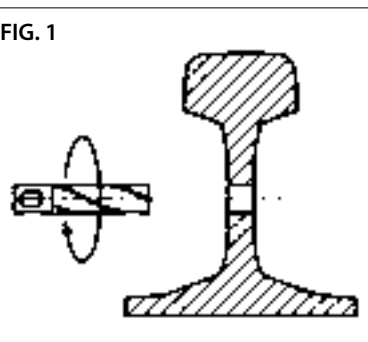


FIG. 3

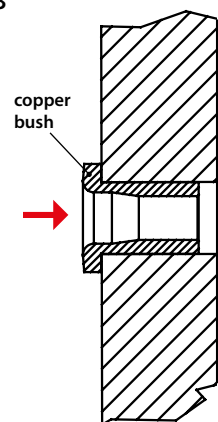


FIG. 4

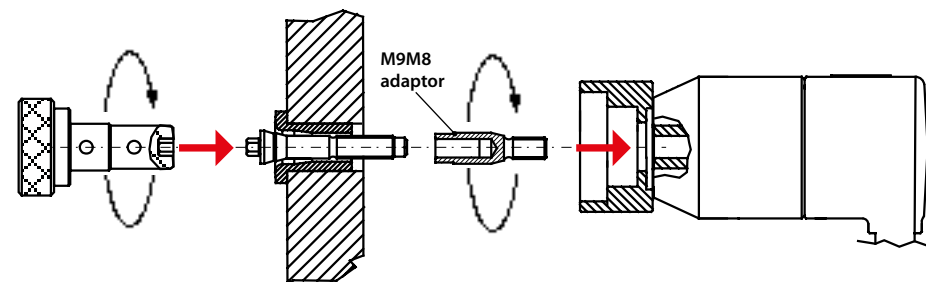


FIG. 5

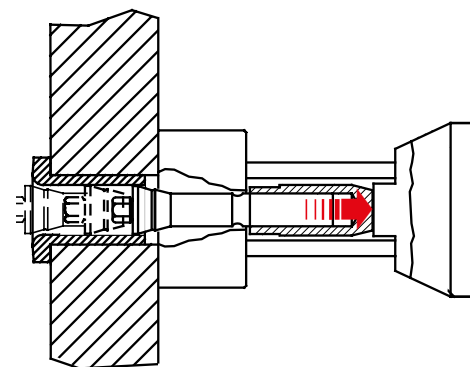


FIG. 6

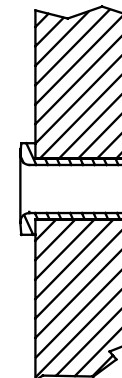


FIG. 7

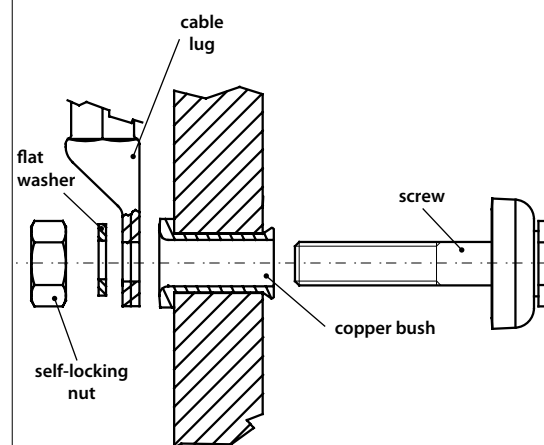
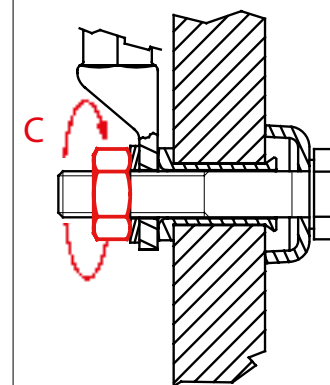


FIG. 8



3. WARNING

The tool is robust and requires very little daily maintenance.
Compliance with the following points should help to maintain the optimum performance of the tool:

3.1) Thorough cleaning

Dust, sand and dirt are a danger for any hydraulic device.
Every day, after use, the tool must be wiped with a clean cloth taking care to remove any residual particles, especially around the moveable parts and the flexible hose.

3.2) Flexible hose

Operate the tool with the hose uncoiled. **Do not bend, twist, kink, knot or squash the hose.** Before operation, check the hose for any sign of damage.
When storing the tool, coil the hose in large loops.



High pressure flexible hoses are subject to a natural ageing process which can result in a reduction in performance potentially affecting safety of the operator. As a result their life span is limited. In order to ensure safe use of their units, Cembre recommends replacing the hose within 10 years from the date printed on the fittings.



Before using the pump always check the integrity of the flexible hose and the quick couplers making sure there are no abrasions, cuts, deformations or swellings.

3.3) Storage

When not in use, the tool and accessories should be stored and transported in the plastic case, to prevent damage.
Plastic case: type "VAL-P14", size 496x370x137 mm, weight 2,7 kg.
The case will also store the "CAL135.145" gauge, the adaptor M9M8 and the two plungers OG10.5 C.

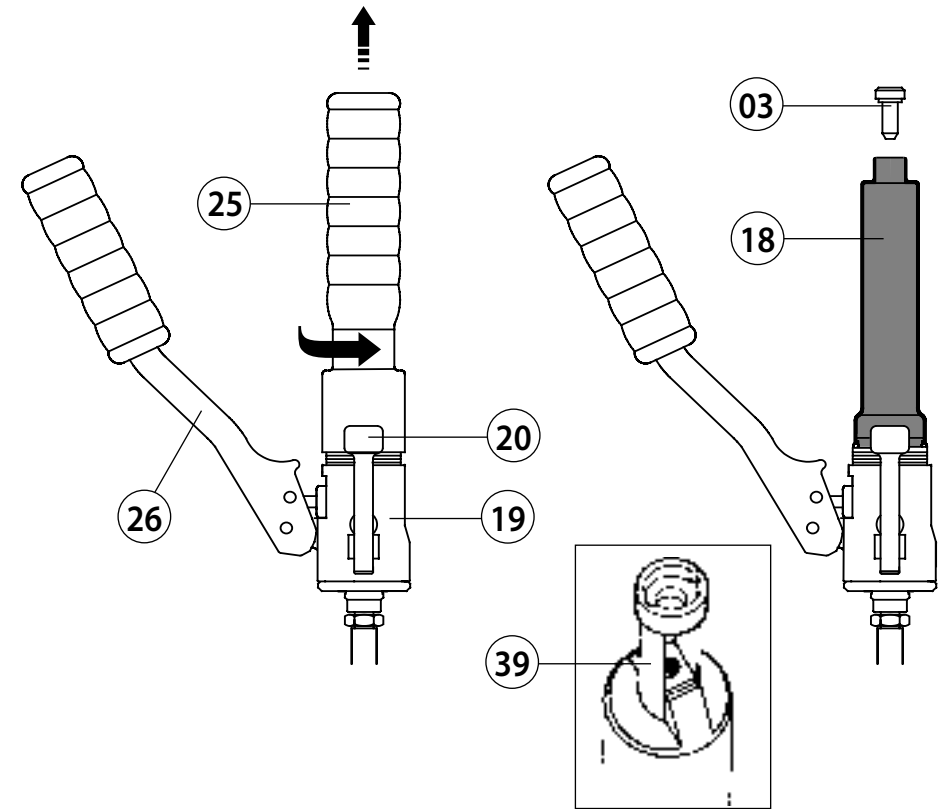
4. MAINTENANCE

Air in the hydraulic circuit may affect the performance of the tool; e.g. no ram die advancement, slow advancement of the ram; ram pulsating.
In this case proceed as follows:

4.1) To purge air bubbles from hydraulic circuit

- a – Hold tool upright in a vice with handles open (see Figure).
- b – Unscrew the main handle (25) from the body (19) to expose the rubber oil reservoir (18).
- c – Remove reservoir cap (03).
- d – Operate moveable handle (26) several times, in order to advance the ram (01).
- e – Press the pressure release lever (20) to retract the ram, discharge oil pressure from the circuit and return all oil to the reservoir.
- f – Repeat points (d - e) five times, to ensure all air bubbles in the hydraulic circuit are purged into the reservoir.
- g – If the oil level is low, top up as directed in paragraph 4.2.
- h – Remove all air from reservoir and fit cap (03).
- i – Assemble main handle (25) to tool body.

If the tool continues to malfunction, return the tool for service/repair as detailed in § 7.



4.2) Oil top up

Every six months check the oil level in the reservoir. If necessary, top up the oil level to the upper lip of the reservoir and remove all air from the reservoir, see 4.1, points a, b, c, and e, finally, complete with operations h and i.

Always use clean recommended oil, see § 1.

Do not use old or recycled oil.

Do not use hydraulic brake fluid.



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

4.3) Replacement of the automatic coupler

To replace the automatic coupler of the hose or head, proceed as follows:

- Remove the old coupler.
- Carefully clean the thread to remove old sealant.
- Apply Teflon tape to the thread
- Fit the new automatic coupler and tighten to **20 Nm (15 lbf ft)**.

5. PARTS LIST (PUMP UNIT) (Ref. to Fig. 10)

Code N°	Item	DESCRIPTION	Qty	Code N°	Item	DESCRIPTION	Qty
6620104	01	PUMPING RAM	1	6440085	20	PRESSURE RELEASE LEVER	1
6900641	02	PRESSURE RELEASE SCREW	1	6060060	21	CAP	1
6800040	03	RESERVOIR CAP	1	6520401	22	SPRING	1
6890036	04	FLEXIBLE HOSE	1	6040160	23	BACK-UP RING	1
6650095	05	JUNCTION	1	6900601	24	COMPLETE SUCTION SCREW	1
6520280	06	SPRING	1	6480055	25	MAIN HANDLE ASSY	1
6600100	07	BALL POSITIONING DOWEL	1	6480910	26	MOVEABLE HANDLE	1
6641020	08	M6 WASHER	1	6895046	27	COMPLETE VALVE	1
6520160	09	SUCTION SPRING	1	6700060	29	CIRCLIP	4
6520200	10	SPRING	1	6060122	30	Q14-F COUPLER	1
6340590	11	PIN	1	6360240	31	O-RING	1
6560262	12	MOVEABLE HANDLE PIN	2	6360250	32	O-RING	1
6380200	13	HANDLE GRIP	1	6360268	33	O-RING	1
6520520	11	SPRING	1	6360022	34	O-RING	1
6600020	15	SPRING LOADED PIN	1	6232001	35	TG0350 LABEL	1
6800020	16	PRESSURE TESTING CAP	1	6040422	36	Ø 20 CIRCLIP	1
6090060	17	HANDLE LATCH	1	6760100	37	Ø 3x16 SPLIT PIN	1
6720050	18	RESERVOIR	1	6740100	38	5/32" BALL	1
6160070	19	BODY	1	6760120	39	7/32" BALL	2

The guarantee is void if parts used are not Cembre original spares.

When ordering spare parts always specify the following:

- code number of item
- name of item
- type of tool
- tool serial number

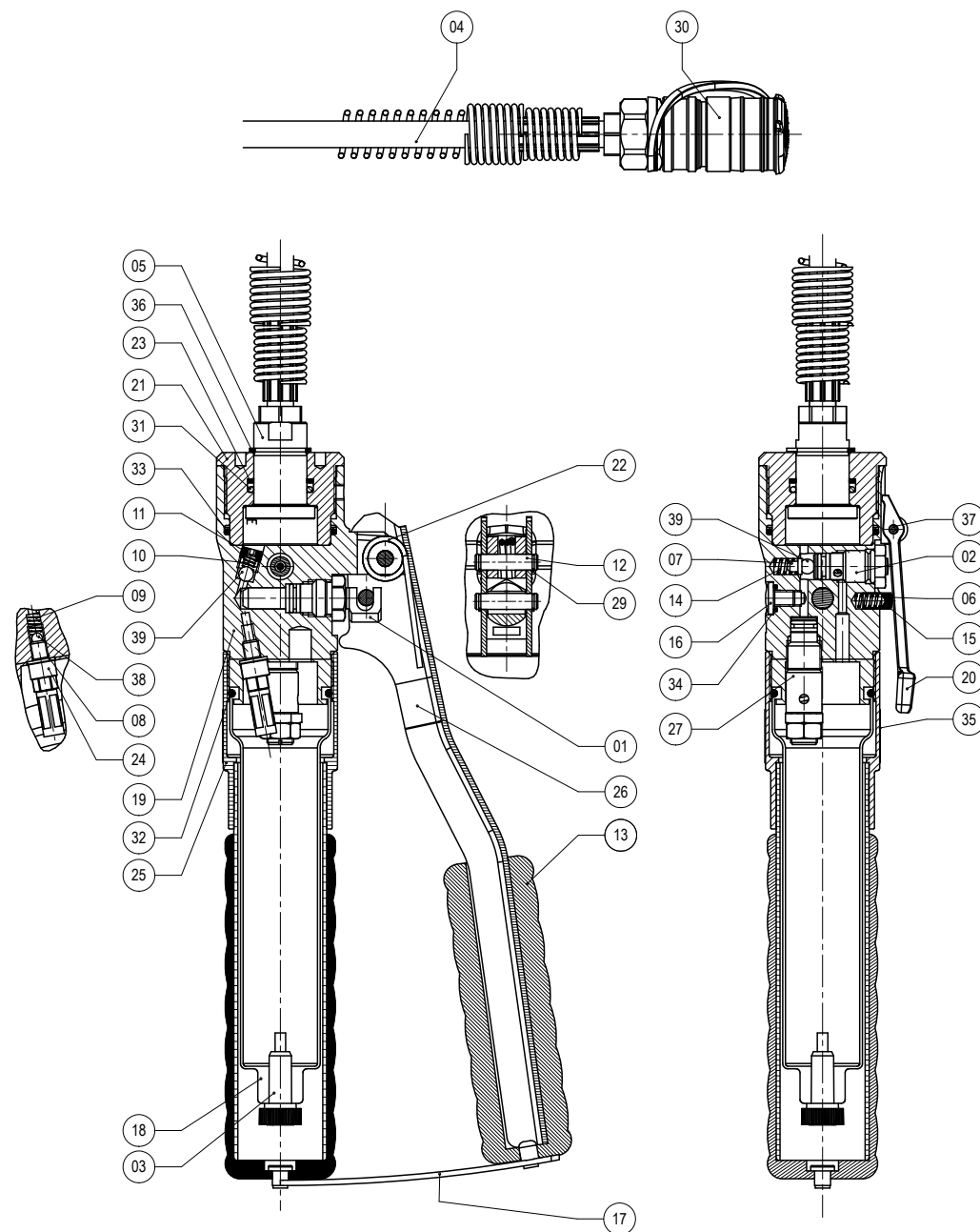


FIG. 10
LONGITUDINAL SECTION

6. PARTS LIST (TOOL HEAD) (Ref. to Fig. 11)

Code N°	Item	DESCRIPTION	Qty
6060120	01	Q14-MS COUPLER	1
6040240	★ 02	BACK-UP RING	1
6840070	03	CUP	1
6360320	★ 04	O-RING	1
6340060	05	M 6x6 GRUB SCREW	1
6232337	06	(TG.0537) METAL LABEL	1
6650118	07	ø 2,5x3,5 RIVET	2
6620225	08	RAM	1
6900670	09	SCREW	2
6360268	★ 10	O-RING	1
6120171	11	CYLINDER	1
6232001	12	(TG.0350) WARNING LABEL	1
6520430	13	RAM RETURN SPRING	1
6641038	14	RHTEPE-S16 WASHER	1
6800156	15	PROTECTION CAP	1

The items (★) are those **Cembre** recommend replacing if the head is disassembled.

*The guarantee is void if parts used are not **Cembre** original spares.*

When ordering spare parts always specify the following:

- code number of item
- name of item
- type of tool
- tool serial number

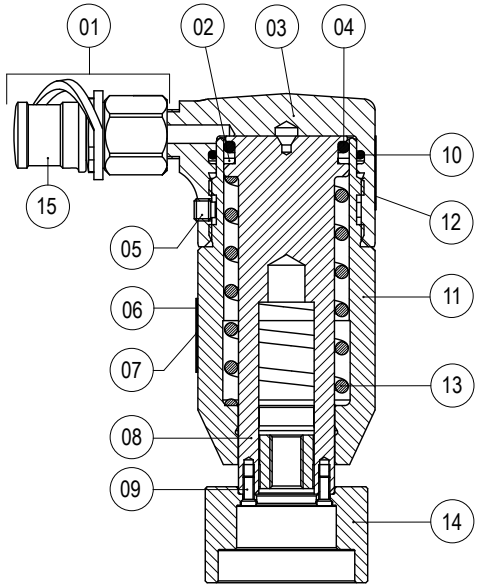


FIG. 11
LONGITUDINAL SECTION

7. RETURN TO **Cembre** FOR OVERHAUL

In the case of a breakdown contact our Area Agent who will advise you on the problem and give you the necessary instructions on how to dispatch the tool to our nearest service Centre; if possible, attach a copy of the Test Certificate supplied by **Cembre** together with the tool or fill in and attach the form available in the “ASSISTANCE” section of the **Cembre** website.

NOTES

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