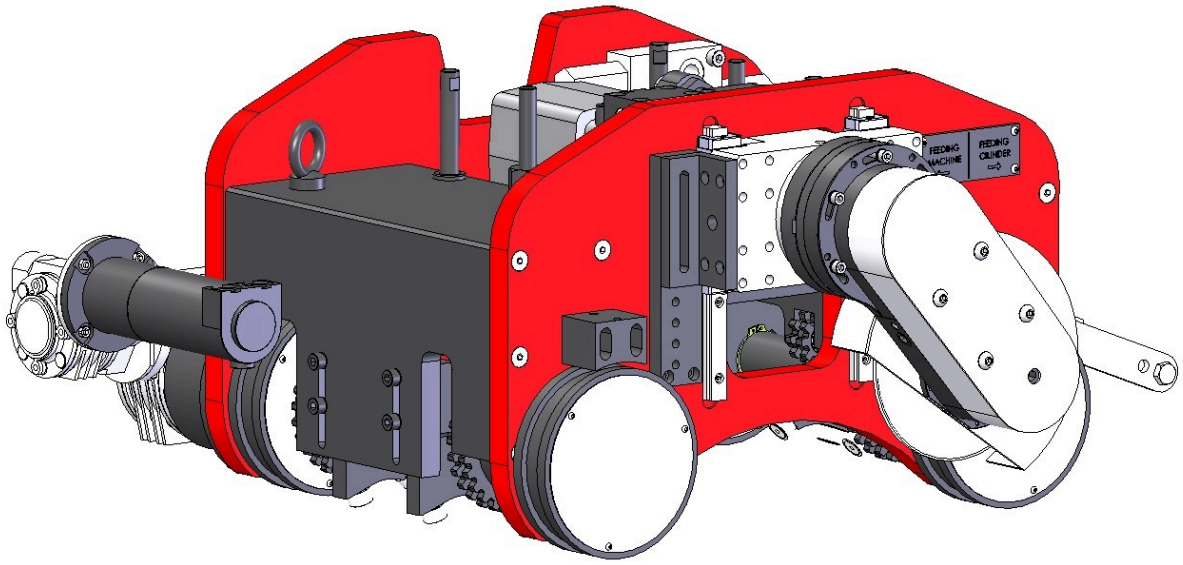
G.B.C.®

INSTRUCTION MANUAL



CE

TAF HYDRAULIC

Versione 00 .2015

G.B.C. Industrial Tools S.p.A.
Via Artigiani,17 – 25030 Torbiato di Adro (Bs) – Italia – Tel. + 39 030 7451154 – Fax. + 39 030 73 56 629

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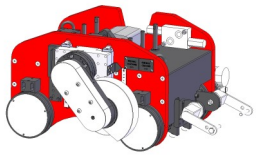
Original Instructions rev.00-2015 in compliance with the Machinery Directive 1.7.4 2006/42/CE



G.B.C. Industrial Tools S.p.A.

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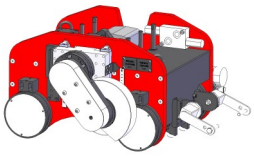

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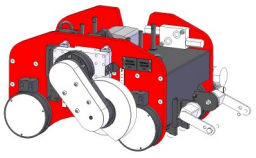


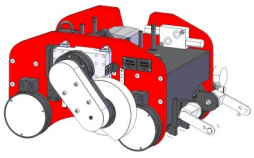
FOREWORD

This **Manual** is supplied together with the machine it makes reference to. The customer may apply for further copies to **G.B.C. Industrial Tools S.p.A.** Our company owns the copyright of this document and any partial or complete copy or distribution to natural persons or to corporate bodies is strictly forbid-den unless our prior approval to do so is obtained. **G.B.C. Industrial Tools S.p.A.**
informs its customers that any operation carried out on the machines which is not prescribed in this manual entails the automatic invalidation of the warranty. **G.B.C. Industrial Tools S.p.A.**
recommends to contact the Maintenance Service in Cazzago San Martino – Italy prior to proceed with any modification on the machine.

You are invited to scrupulously adhere to the information written on the identification tag.

For any further information you are invited to contact us at these numbers:

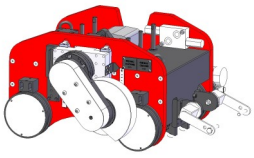
Tel. +39 - 030 - 7451154
Fax +39 - 030 - 7356629



WARRANTY GENERAL CLAUSES

G.B.C. guarantees the reliability of the machine and its conformity to the specifications herewith reported. The warranty covers the machine in its whole for a time period of one year from the shipment date (ref. Delivery Note) for any flaw not imputable to the user.
The parts subject to wear are excluded from the warranty at sole discretion of **G.B.C.**.

In case of any operational malfunction arising during the warranty period, **G.B.C** And its Maintenance Service, hereinafter called **MSS,** will remedy this inconvenient free of charge , both for handwork and for eventual replaced parts, except when the malfunction is directly or indirectly imputable to misuse or alteration. In any case the machine must not be disassembled or altered before the shipment. The warranty is valid only when the warranty document is duly signed by **G.B.C.** and by a **G.B.C.** official distributor connected with the **MSS** maintenance service.
The shipment of the defective material must be performed within 8 (eight) days from the notification of the defect and/or the claim and/or the request of technical assistance. On the contrary the warranty will be void. **G.B.C.** and **MSS** obligations will cover the defect resolution, the general maintenance and the inspection of the parts subject of the claim only. The component replacement is at **G.B.C.** discretion only. The shipmen to costs from and to the **MSS** as well as the direct and indirect costs rising from repair of the product are at user's charge. Any warranty repair or extraordinary repair must be executed by **G.B.C.** and **MSS**, otherwise the warranty will be void.
Any ordinary maintenance performed by the customer/user or by any service centre non recognized or approved by **G.B.C.** will not be refunded and will make the warranty void. The warranty is not valid for cases not listed in this certificate or for damage caused by a misuse of materials, power supply, negligence, unauthorized modifications, atmospheric events, acts of vandalism, incautious handling and/or transport, use of non original **G.B.C.** parts and damage for causes not specified by **G.B.C.** and for which **G.B.C**. declines any responsibility. **G.B.C.** reserves the right to modify and to improve its products without any obligation to modify equipment and components already supplied. Nobody is authorized to modify the conditions herewith contained or to issue any on behalf of **G.B.C**. The claim terms for defects and/or damages in the material or of the ordered quantities, are those pre-scribed by the Civil Code; the goods acceptance entails the buyer to automatically accept the above mentioned warranty clauses.



USE OF THE TAF

THE TAF SHOULD BE OPERATED ONLY BY TRAINED PERSONNEL

IN VIEW OF A SPECIFIC EDUCATION ON THE USE OF THE MACHINE WE DO NOT ADVISE AGAINST ANY SPECIFIC MISUSE OF THE TAF.

The TAF represents a definitive evolution in the field of large diameter pipe cutting and bevelling granting the advantages listed below:

- Processing time reduction.
- No chemical alteration of the material at the cut/bevelling point thanks to the cold cut/ bevelling technique.
- Uniform processing thanks to the guiding belt.
- Improvement of the working conditions and of the safety.
- Use of a single machine for working the majority of pipe diameters.

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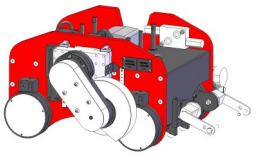


SAFETY PRESCRIPTIONS

G.B.C. Industrial Tools S.p.A. designs and assembles its machines in strict compliance with the safety regulations provided by the applicable EC directives and by the Italian laws regulat-ing this matter.
G.B.C. Industrial Tools S.p.A. declines any responsibility for misuse of its machines and their use when in contrast with the regulation listed hereinafter and with the use and maintenance in-structions hereto.

- Carefully read ALL the following regulations and the instructions herewith attached before starting any operation.
- Carefully ensure that the operator and the foreman using the machine are fully aware of all the regulations and all the instructions and that they are qualified to operate the unit.
- Strictly attain to the indications given by the international symbols applies on the ma-chine and/or on its case.
- Do not perform any maintenance operation when the machine is plugged to the power sup-ply.
- Before every use, ensure the power supply connections to be conform to the specs given by our manual.

The authorized operator in any case will not have to disregard the basic safety rules such as:
:

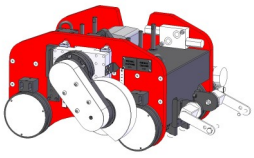
- Using gloves and goggles (safety gear supplied by the company responsible for the site or for the building)

- To properly illuminate the working area

- Ensure you are operating in an area which grants free movements (at least 1,5 metres around the operator)

- Do not replace the control system and do not replace parts with non original spare parts, and do not project violent water squirts on the machine
– Maintain a safety distance from all the moving parts.

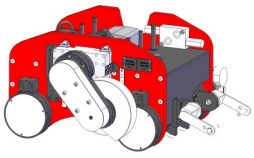
G.B.C. Industrial Tools S.p.A. remarks that for any non specified circumstances it is neces-sary to obtain the authorization of the manufacturer.



SAFETY PRESCRIPTIONS (SPECIFIC FOR THE TAF)

- PROTECTIVE EYEWEAR AND GLOVES MUST BE WORN AT ANY TIME DURING ANY OPERATION PERFORMED WITH THE TAF.
- EAR PROTECTION MUST BE USED DURING ANY CUTTING BEVELLING SESSION.

TAF



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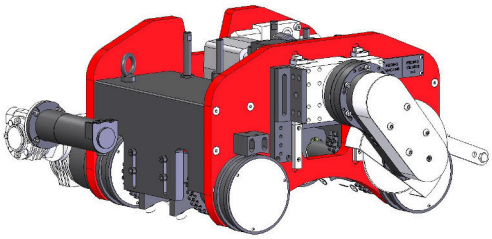
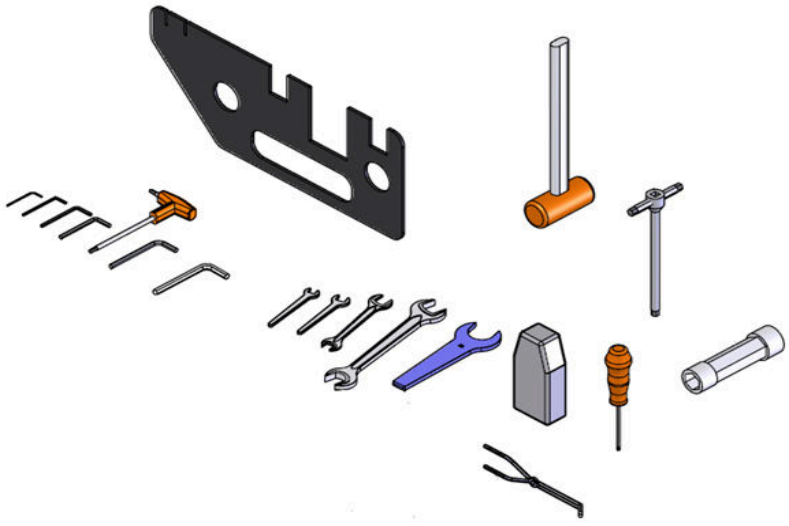
The unit is supplied with :

- Rubber hammer
- 2mm Allen key
- 3mm Allen key
- 4mm Allen key
- 5mm Allen key
- 5mm Allen key with high torque handle
- 6mm Allen key
- 8mm Allen key
- T-shaped 10mm Allen key
- 10mm Single open end wrench
- 13mm Single open end wrench
- 14/17mm Double open end wrench
- 24/27mm Double open end wrench
- 38mm Single open end wrench
- 27/29mm bi-hex tubular socket wrench
- T15 Torx screwdriver
- Long nose pliers
- Digital speedometer
- Template for machine positioning
- Instruction manual and drawings

TAF



SERVICE TOOLS



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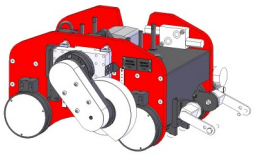


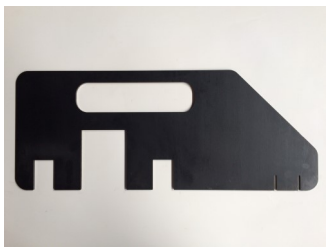
SERVICE TOOLS

CUTTING BLADE

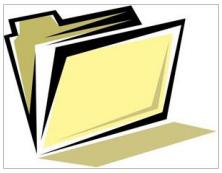
FACE MILL FOR BEVELLING

DIGITAL SPEEDOMETER

TEMPLATE FOR POSITIONING



INSTRUCTION MANUAL



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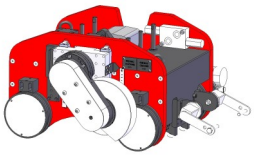


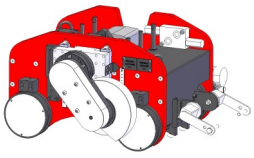
TECHNICAL SPECIFICATIONS

TECHNICAL SPECS AND PERFORMANCE	UNIT OF MEASURE	VALUE	NOTES
Main motor power	**KW**	8	-
Feeding motor power	**KW**	2	-
Total power	**KW**	10	-
Cutting Blade Speed	**RPM (min/max)**	450÷490	Ø 160
Bevelling Face Mill	**RPM**	510	Ø 80
TAF Feeding speed during the cutting process	**mm/min (min/max)**	50÷180	See the attached charts
TAF Feeding speed durin the bevelling process	**mm/min**	180	Con fresa Ø 80
Bevelling depth	**mm**	/	See chart
Bevel angles	°	0.5°÷45°	-
Noise constant perception @ 5mt from the TAF **Noise peak @ 5mt from the TAF**	**(dB A)** **(dB B)**	70÷75 80÷85	See the notes below
TAF Weight	**Kg**	150	Without bevelling and cutting kits
Bevelling kit weight	**Kg**	27	Without face mill
Cutting kit weight	**Kg**	9	Without blade

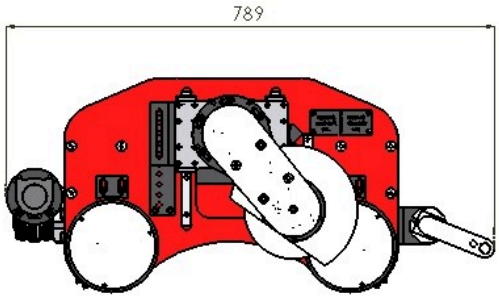
NOTES:

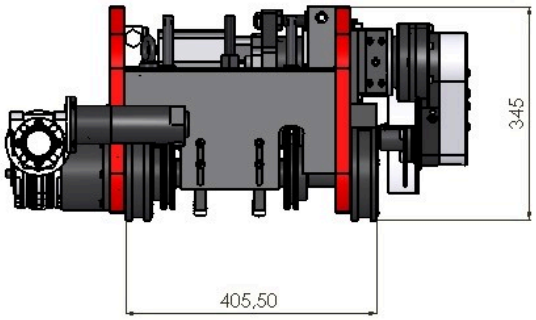
G.B.C. Industrial Tools S.p.A. declares that every machine is tested on steels commonly used in mechanical and metal work fabrication with 30mm wall thickness. The figures listed in the above chart are detected by a phonometer certified by an acoustic calibrator model DELTA HOM HD 9102 certificato LAT (former SIT) N. SIT 03229/09 and we confirm the figures recorder are in compliance with the regulation EN 60745.

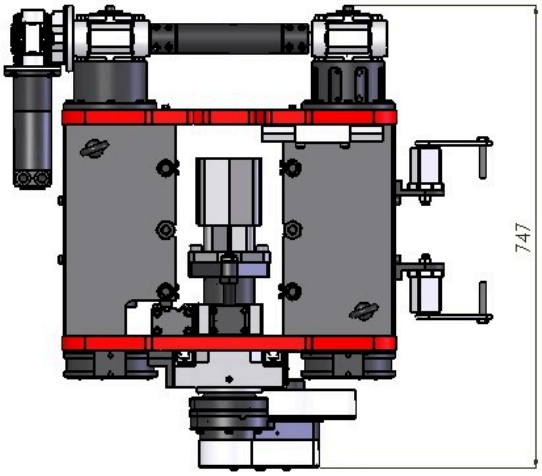
Therefore following the evaluation of the environmental risks on the workplace, regulated by the law decree 81/08 and following modifications, in compliance with the directive 2003/10/CE, and of the art.190 of such law decree, the personnel authorized to operate the TAF must be trained and educated in regards to the above directive and must be equipped with the personal protective equipment (PPE) and acoustic detection system on request of the operator himself or if deemed necessary by the medical staff.

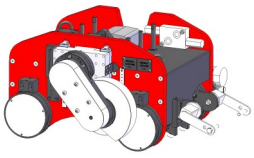


OVERALL DIMENSIONS





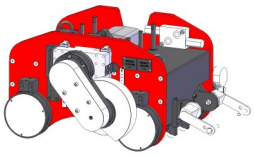




FEEDING SPEED CHART (CUTTING)

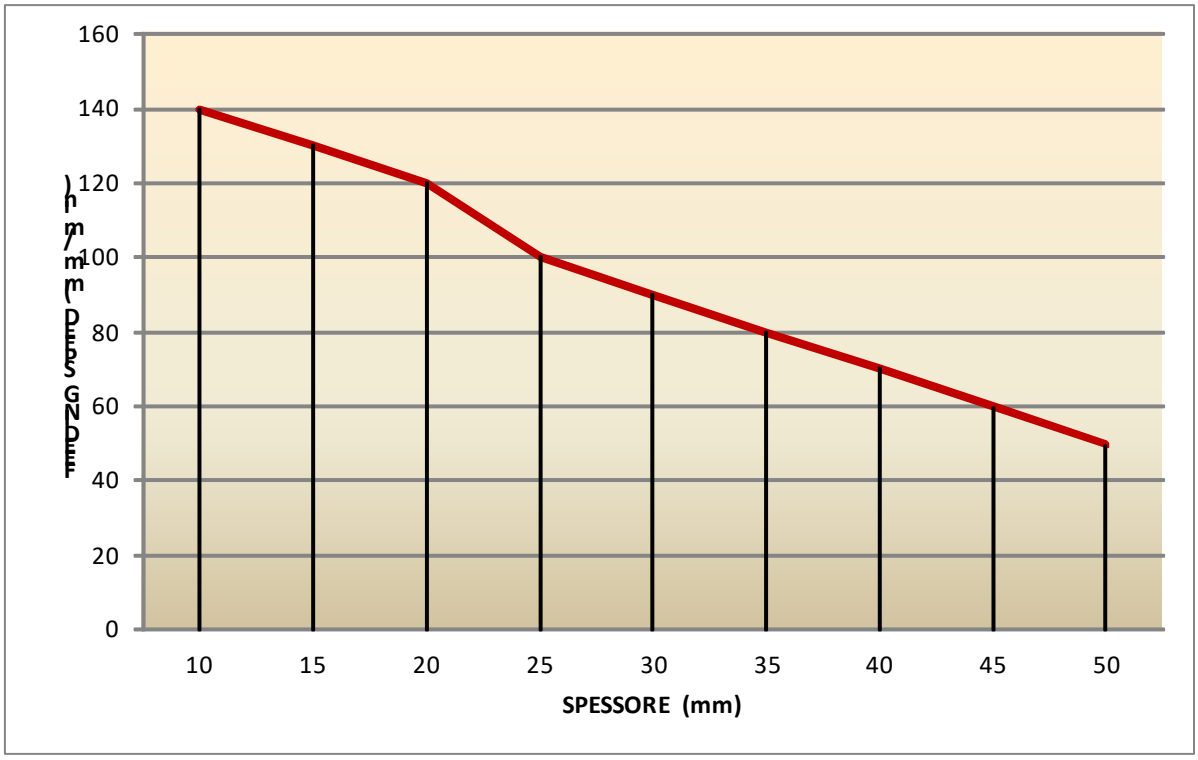
CARBON STEEL

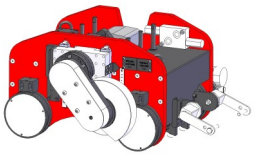
Feeding Speed (mm/min)	Revolutions per minute (RPM)	Pipe Wall Thick-ness (mm)	Blade Diameter (mm)	Inserts
180	490	10	160	QD-NH-0400-025E-MM 1040
170	490	15	160	QD-NH-0400-025E-MM 1040
160	490	20	160	QD-NH-0400-025E-MM 1040
140	490	25	160	QD-NH-0400-025E-MM 1040
130	490	30	160	QD-NH-0400-025E-MM 1040
120	465	35	200	QD-NH-0400-025E-MM 1040
90	465	40	200	QD-NH-0400-025E-MM 1040
80	465	45	200	QD-NH-0400-025E-MM 1040
70	465	50	200	QD-NH-0400-025E-MM 1040



STAINLESS STEEL

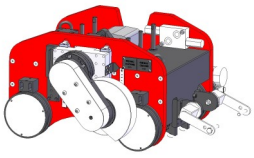
Feeding Speed (mm/min)	Revolutions per minute (RPM)	Pipe Wall Thick-ness (mm)	Blade Diameter (mm)	Inserts
140	480	10	160	QD-NH-0400-025E-MM 1040
130	480	15	160	QD-NH-0400-025E-MM 1040
120	480	20	160	QD-NH-0400-025E-MM 1040
100	480	25	160	QD-NH-0400-025E-MM 1040
90	480	30	160	QD-NH-0400-025E-MM 1040
80	465	35	200	QD-NH-0400-025E-MM 1040
70	465	40	200	QD-NH-0400-025E-MM 1040
60	465	45	200	QD-NH-0400-025E-MM 1040
50	465	50	200	QD-NH-0400-025E-MM 1040





CAST IRON

Feeding Speed (mm/min)	Revolutions per minute (RPM)	Pipe Wall Thick-ness (mm)	Blade Diameter (mm)	Inserts
150	460	10	160	QD-NH-0400-0002-CM 4325
140	460	15	160	QD-NH-0400-0002-CM 4325
130	460	20	160	QD-NH-0400-0002-CM 4325
110	460	25	160	QD-NH-0400-0002-CM 4325
100	460	30	160	QD-NH-0400-0002-CM 4325
90	430	35	200	QD-NH-0400-0002-CM 4325
70	430	40	200	QD-NH-0400-0002-CM 4325
60	430	45	200	QD-NH-0400-0002-CM 4325
50	430	50	200	QD-NH-0400-0002-CM 4325



FEEDING SPEED CHART (BEVELLING)

CARBON STEEL

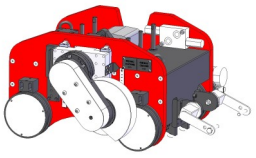
Feeding Speed (mm/min)	Revolutions per minute	Face Mill ø (mm)	Inserts
600	510	80	R245-12 T3 E-PL 4230 + R245-12 T3 E-W 3220

STAINLESS STEEL

Feeding Speed (mm/min)	Revolutions per minute	Face Mill ø (mm)	Inserts
600	510	80	R245-12 T3 M-PH4240 + R245-12 T3 E-W 3220

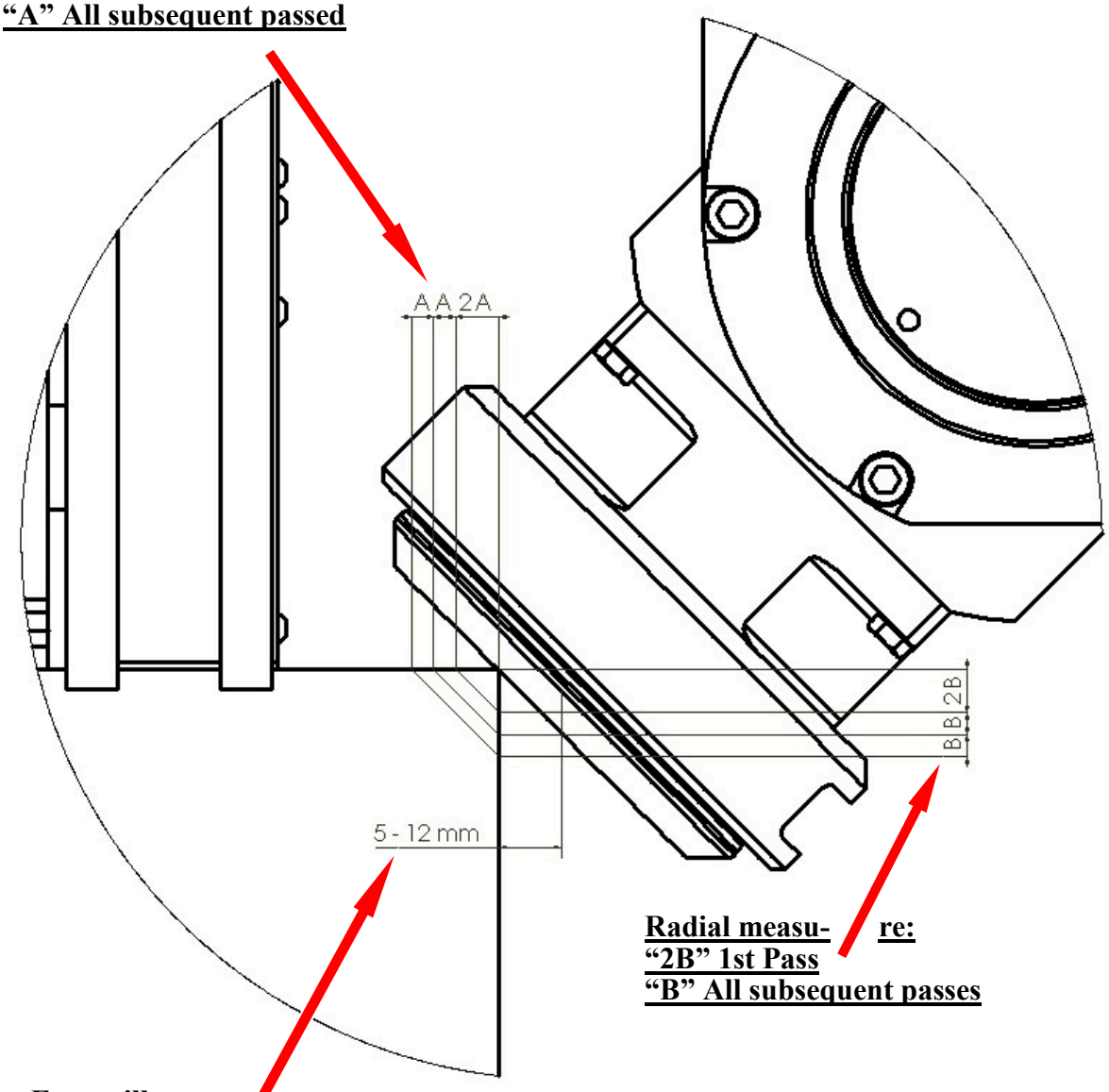
CAST IRON

Feeding Speed (mm/min)	Revolutions per minute	Face Mill ø (mm)	Inserts
600	510	80	R245-12 T3 M-PH4240 + R245-12 T3 E-W 3220



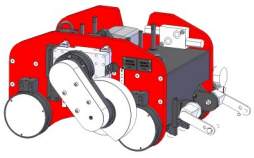
BEVELLING CHARTS APPLICATION EXAMPLE

Axial measure:
"2A" 1st Pass
"A" All subsequent passed



Radial measu- re:
"2B" 1st Pass
"B" All subsequent passes

Face mill ap- prox position



BEVELLING CHART (Pass depth from 0.5° to 15°)

Angle (°)	Cutting depth (mm)	Axial measure **"A"** (mm)	Radial measure **"B"** (mm)
0,5	3	3,0	48,0
1	3	3,0	48,0
1,5	3	3,0	48,0
2	3	3,0	48,0
2,5	3	3,0	48,0
3	3	3,0	48,0
3,5	3	3,0	48,0
4	3	3,0	43,0
4,5	3	3,0	38,2
5	3	3,0	34,4
5,5	3	3,0	31,3
6	3	3,0	28,7
6,5	3	3,0	26,5
7	3	3,0	24,6
7,5	3	3,0	23,0
8	3	3,0	21,6
8,5	3	3,0	20,3
9	3	3,0	19,2
9,5	3	3,0	18,2
10	3	3,0	17,3
10,5	3	3,1	16,5
11	3	3,1	15,7
11,5	3	3,1	15,0
12	3	3,1	14,4
12,5	3	3,1	13,9
13	3	3,1	13,3
13,5	3	3,1	12,9
14	3	3,1	12,4
14,5	3	3,1	12,0
15	3	3,1	11,6

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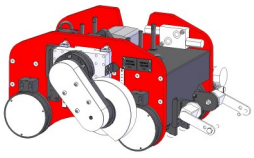
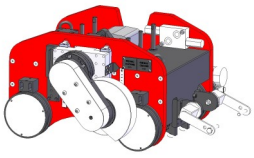


BEVEL CHART (Pass depth from 15.5° to 30°)

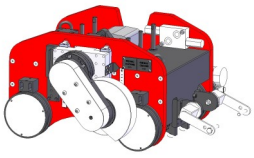
Angle (°)	Cutting depth (mm)	Axial measure **"A"** (mm)	Radial measure **"B"** (mm)
15,5	3	3,1	11,2
16	3	3,1	10,9
16,5	3	3,1	10,6
17	3	3,1	10,3
17,5	3	3,1	10,0
18	3	3,2	9,7
18,5	3	3,2	9,5
19	3	3,2	9,2
19,5	3	3,2	9,0
20	3	3,2	8,8
20,5	3	3,2	8,6
21	3	3,2	8,4
21,5	3	3,2	8,2
22	3	3,2	8,0
22,5	3	3,2	7,8
23	3	3,3	7,7
23,5	3	3,3	7,5
24	3	3,3	7,4
24,5	3	3,3	7,2
25	3	3,3	7,1
25,5	3	3,3	7,0
26	3	3,3	6,8
26,5	3	3,4	6,7
27	3	3,4	6,6
27,5	3	3,4	6,5
28	3	3,4	6,4
28,5	3	3,4	6,3
29	3	3,4	6,2
29,5	3	3,4	6,1
30	3	3,5	6,0

G.B.C. Industrial Tools S.p.A.
Via Artigiani,17 – 25030 Torbiato di Adro (Bs) – Italia – Tel. + 39 030 7451154 – Fax. + 39 030 73 56 629



BEVELLING CHART (Pass depth from 30.5° to 45°)

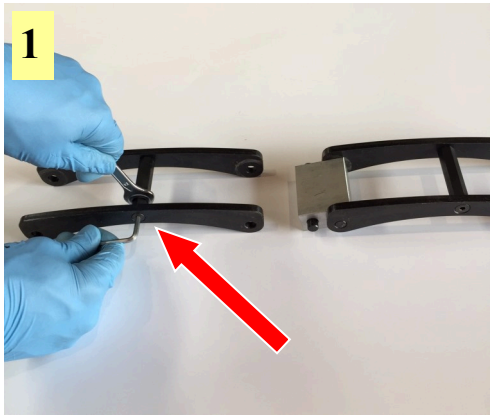
Angle (°)	Cutting depth (mm)	Axial quote **"A"** (mm)	Radial quote **"B"** (mm)
30,5	3	3,5	5,9
31	3	3,5	5,8
31,5	3	3,5	5,7
32	3	3,5	5,7
32,5	3	3,6	5,6
33	3	3,6	5,5
33,5	3	3,6	5,4
34	3	3,6	5,4
34,5	3	3,6	5,3
35	3	3,7	5,2
35,5	3	3,7	5,2
36	3	3,7	5,1
36,5	3	3,7	5,0
37	3	3,8	5,0
37,5	3	3,8	4,9
38	3	3,8	4,9
38,5	3	3,8	4,8
39	3	3,9	4,8
39,5	3	3,9	4,7
40	3	3,9	4,7
40,5	3	3,9	4,6
41	3	4,0	4,6
41,5	3	4,0	4,5
42	3	4,0	4,5
42,5	3	4,1	4,4
43	3	4,1	4,4
43,5	3	4,1	4,4
44	3	4,2	4,3
44,5	3	4,2	4,3
45	3	4,2	4,2

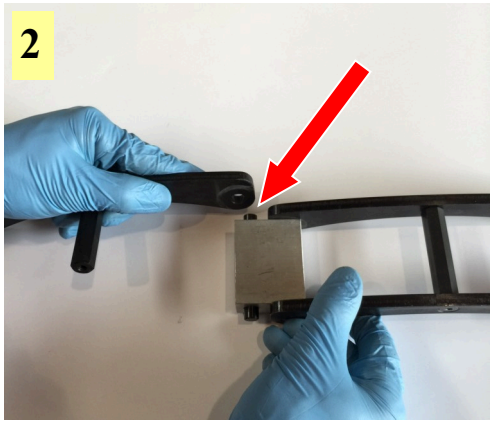


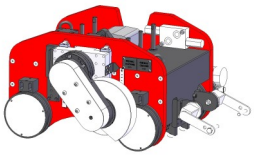
TAF SETUP (Guiding belt)

N.B. The guiding belt is supplied preassembled sectors as shown below and the specific length required can be obtained by following the chart contained in this manual.

1) Loose and remove the central screw that joins the two bars of the sector as shown in the picture below.
2) Connect the bar of the spacer to the pin of connecting block .

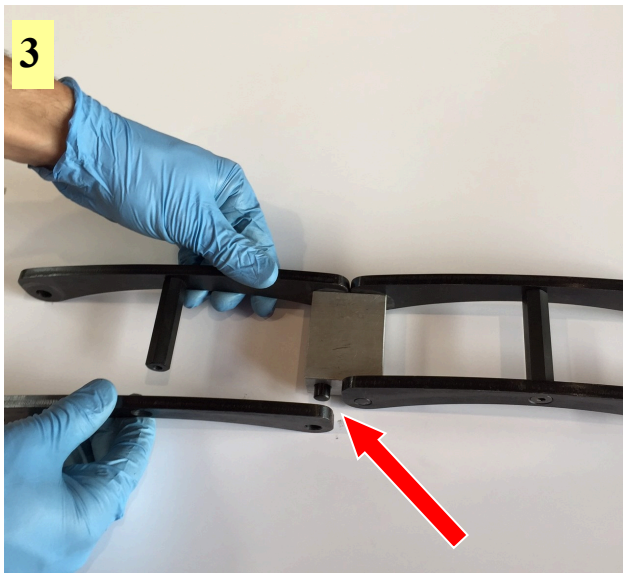


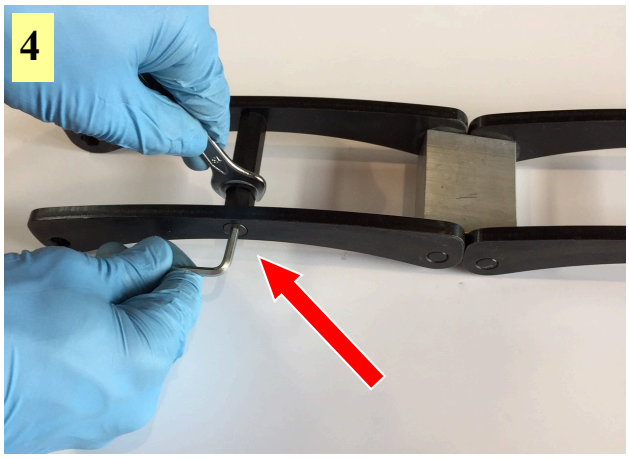


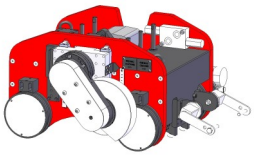


3) Connect the other bar to the other side of the block following the same procedure like shown i the picture below.
4) Screw back the bars together to recreate the sector. Make sure the screw is securely fastened.

N.B. Repeat the same operation until you have reached the desired lentgh of the belt.

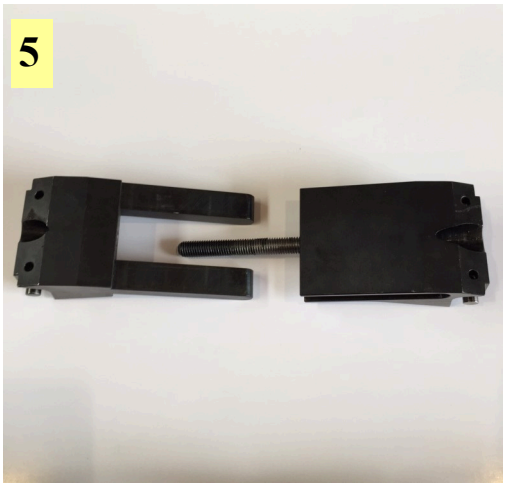


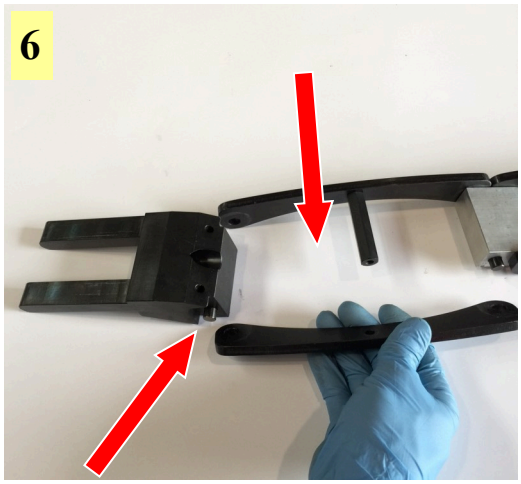


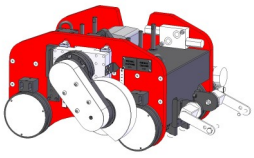


5) Retrieve traction joint from the guiding belt kit supplied with the machine.
6) Connect one of the two halves of the joint onto one end of the guiding belt by following the same procedure described earlier for assembling the belt.
7) Connect the other half of the joint onto the other end of the belt.

N.B. Repeat this operation until you have reached the desired length of the guiding belt.

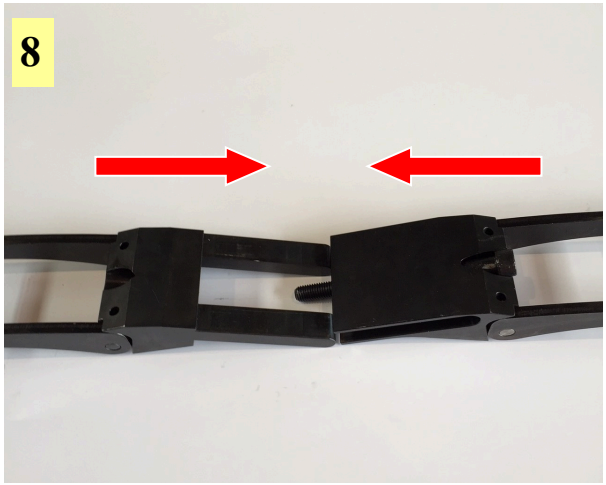


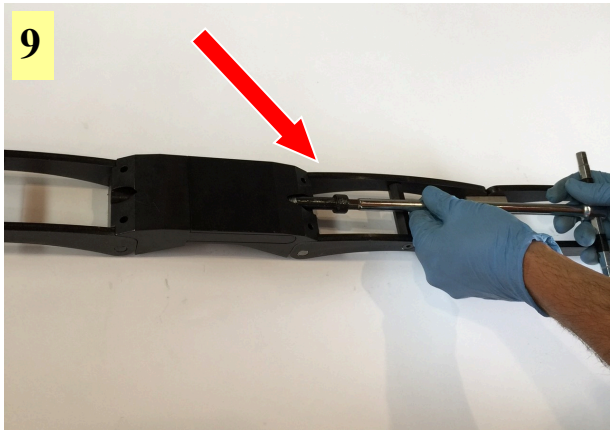


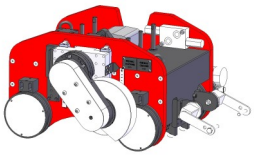


8) Retrieve the traction joint from the guiding belt kit.
9) The guiding belt coupling is achieved by wedging the two ends and by fastening the central screw with the appropriate Allen key until the parts are securely fastened as shown in the picture below.

N.B. Depending by the guidng belt length may be required several traction joints which will have to be assembled according to the instructions given in the chart on page 25.

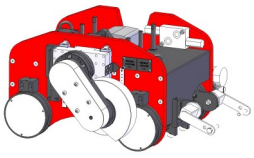






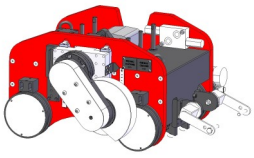
GUIDING BELT SECTORS ENCO-DING

Center-to-center distance (mm)	Guiding Belt Sectors Enco-ding
200	**A**
175	**B**
145	**C**
110	**D**
75	**E**
65	**F**



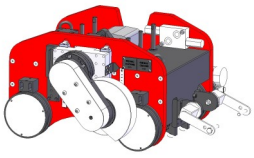
16" TO 42"GUIDING BELT COMPOSITION

Pipe diameter	Chain composition	Number of Sectors
16"	4A+2D+1 TRACTION JOINT	5
18"	6A+1 TRACTION JOINT	5
20"	6A+D+1 TRACTION JOINT	6
22"	7A+F+1 TRACTION JOINT	7
24"	8A+1 TRACTION JOINT	7
26"	8A+C+1 TRACTION JOINT	8
28"	9A+E+1 TRACTION JOINT	9
30"	9A+E+2 TRACTION JOINTS	8
32"	10A+2 TRACTION JOINTS	8
34"	10A+B+2 TRACTION JOINTS	9
36"	11A+D+2 TRACTION JOINTS	10
38"	12A+F+2 TRACTION JOINTS	11
40"	13A+2 TRACTION JOINTS	11
42"	13A+C+2 TRACTION JOINTS	12



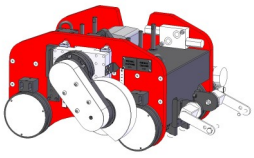
44" A 84"GUIDING BELT COMPOSITION

Pipe diameter	Chain composition	Number of Sectors
44"	14A+E+2 TRACTION JOINTS	13
46"	15A+2 TRACTION JOINTS	14
48"	15A+B+2 TRACTION JOINTS	15
50"	16A+D+2 TRACTION JOINTS	16
52"	17A+F+2 TRACTION JOINTS	16
54"	18A+2 TRACTION JOINTS	17
56"	18A+C+2 TRACTION JOINTS	18
58"	19A+F+2 TRACTION JOINTS	18
60"	20A+2 TRACTION JOINTS	19
62"	20A+B+2 TRACTION JOINTS	19
64"	21A+D+2 TRACTION JOINTS	20
66"	22A+F+2 TRACTION JOINTS	21
68"	23A+2 TRACTION JOINTS	21
70"	23A+C+2 TRACTION JOINTS	22
72"	24A+F+2 TRACTION JOINTS	23
74"	25A+2 TRACTION JOINTS	23
76"	25A+C+2 TRACTION JOINTS	24
78"	26A+E+2 TRACTION JOINTS	25
80"	27A+2 TRACTION JOINTS	25
82"	28A+2 TRACTION JOINTS	26
84"	28A+D+2 TRACTION JOINTS	27



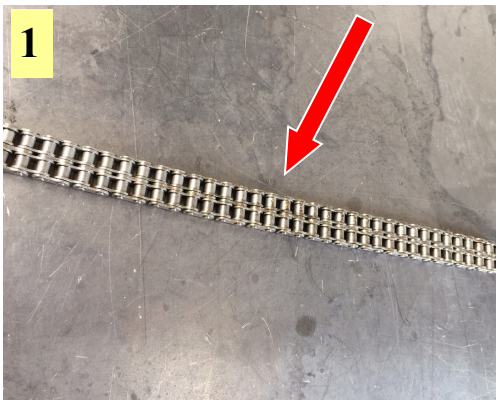
86” A 120” GUIDING BELT COMPO-

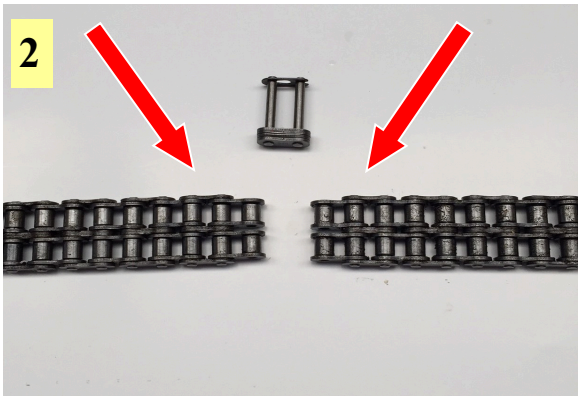
Pipe diameter	Chain composition	Number of Sectors
86"	29A+F+2 TRACTION JOINTS	28
88"	30A+2 TRACTION JOINTS	28
90"	30A+C+2 TRACTION JOINTS	29
92"	31A+E+2 TRACTION JOINTS	30
94"	32A+2 TRACTION JOINTS	30
96"	32A+B+2 TRACTION JOINTS	31
98"	33A+D+2 TRACTION JOINTS	32
100"	33A+D+3 TRACTION JOINTS	31
102"	34A+F+3 TRACTION JOINTS	32
104"	35A+3 TRACTION JOINTS	32
106"	35A+D+3 TRACTION JOINTS	33
108"	36A+F+3 TRACTION JOINTS	34
110"	37A+3 TRACTION JOINTS	34
112"	37A+B+3 TRACTION JOINTS	35
114"	38A+D+3 TRACTION JOINTS	36
116"	39A+F+3 TRACTION JOINTS	36
118"	40A+3 TRACTION JOINTS	37
120"	41A+3 TRACTION JOINTS	38

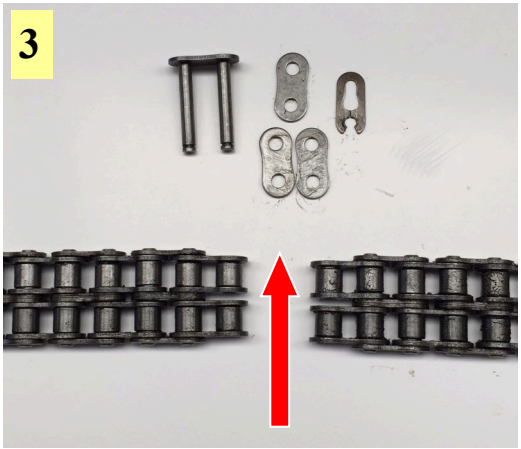


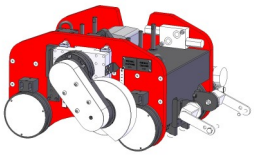
TAF SETUP (Feeding chain composition)

1) Retrive the feednig chain from the kit and put it together as explained below.
2) The desired length is obtained by adding links.
3) Take apart the link as shown in the picture below.

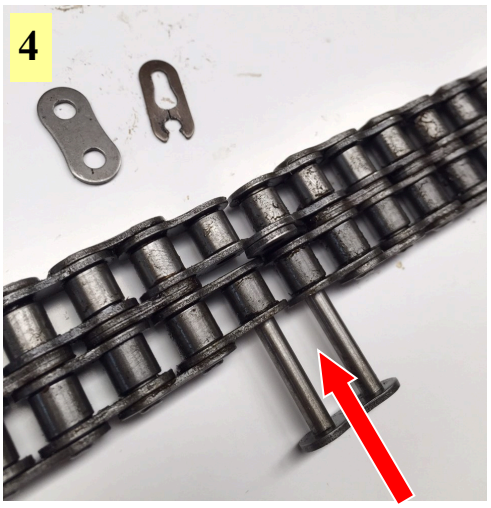


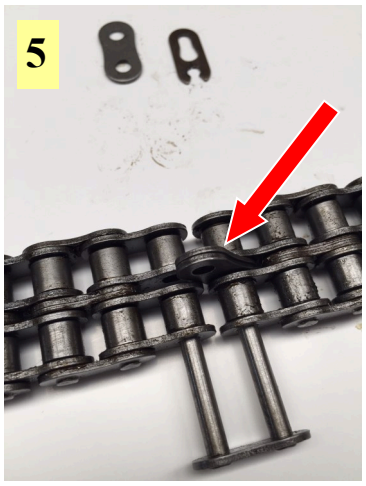


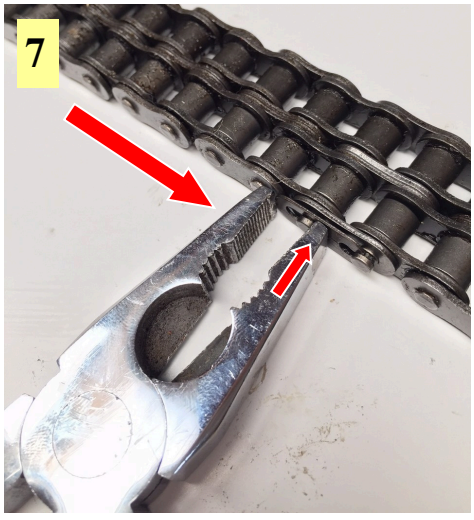


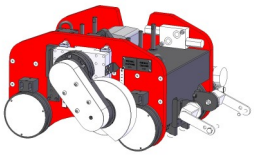


4) Pull close the two ends and slide the master link in the rollers.
5) <u>N.B. Insert two of the three spacers in the central part of the chain as shown in the picture.</u>
6) Insert the last spacer on the opposite side of the chain.
7) Apply the master link safety lock in its seat with pliers as shown in the picture 7.
<u>N.B. You will have to assemble two equal feeding chains.</u>



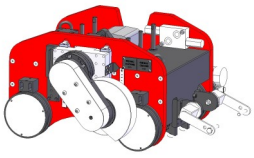






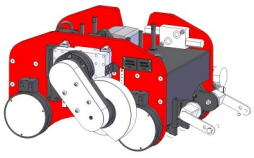
GUIDING BELT SECTORS ENCODING

Pieces	Sectors
124	**A**
12	**B**
24	**C**
36	**D**
5 (Connecting Links)	**E**



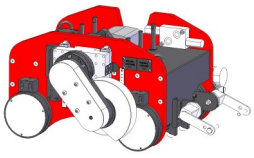
16" A 42" FEEDING CHAIN COMPOSITION

Pipe Diameter	Chain composition
16"	A+E
18"	A+B+E
20"	A+C+E
22"	A+D+E
24"	A+B+D+E
26"	A+C+D+E
28"	A+2D+E
30"	A+B+2D+E
32"	A+C+2D+E
34"	A+3D+E
36"	A+B+3D+E
38"	A+C+3D+E
40"	A+4D+E
42"	A+B+4D+E



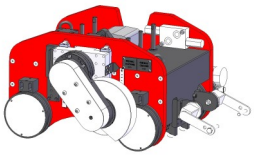
44" A 84" FEEDING CHAIN COMPOSITION

Pipe Diameter	Chain Composition
44"	A+C+4D+E
46"	A+5D+E
48"	A+B+5D+E
50"	A+C+5D+E
52"	A+6D+E
54"	A+B+6D+E
56"	A+C+6D+E
58"	A+7D+E
60"	A+B+7D+E
62"	A+C+7D+E
64"	A+8D+E
66"	A+B+8D+E
68"	A+C+8D+E
70"	A+9D+E
72"	A+B+9D+E
74"	A+C+9D+E
76"	A+10D+E
78"	A+B+10D+E
80"	A+C+10D+E
82"	A+11D+E
84"	A+B+11D+E



86" A 120" FEEDING CHAIN COMPOSITION

Pipe Dimension	Chain Composition
86"	A+C+11D+E
88"	A+12D+E
90"	A+B+12D+E
92"	A+C+12D+E
94"	A+13D+E
96"	A+B+13D+E
98"	A+C+13D+E
100"	A+14D+E
102"	A+B+14D+E
104"	A+C+14D+E
106"	A+15D+E
108"	A+B+15D+E
110"	A+C+15D+E
112"	A+16D+E
114"	A+B+16D+E
116"	A+C+16D+E
118"	A+17D+E
120"	A+B+17D+E

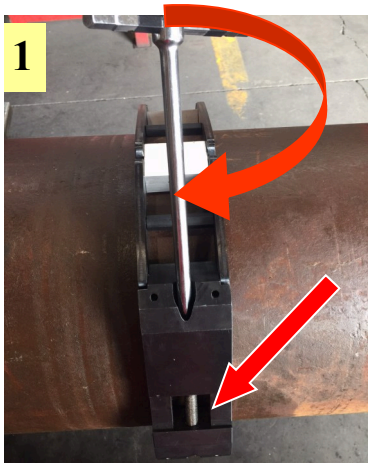


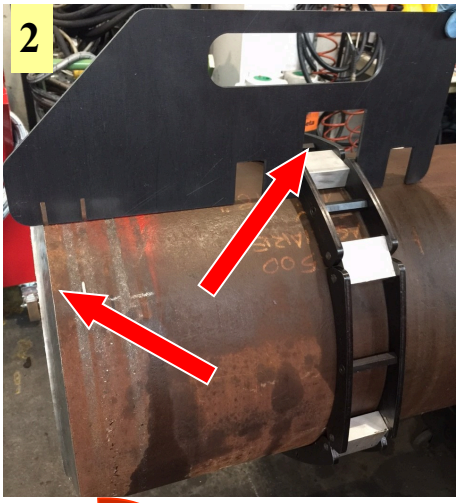
GUIDING BELT POSITIONING (Guiding Belt Mounting Procedure)

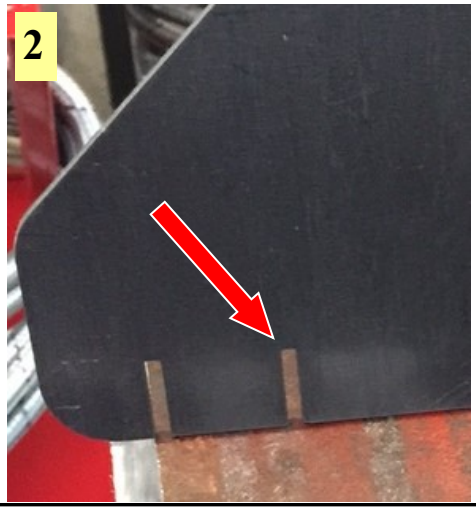
1) Place the belt you have previously assembled on the pipe, wedge the two ends of the belt and insert the central screw and screw it as long as required to keep the belt closed but do not screw it all the way down.

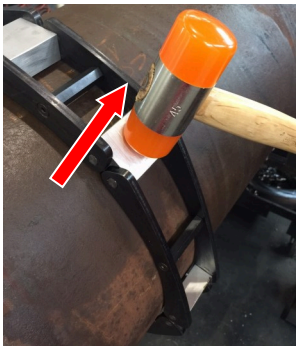
2) Use the positioning template to correct the belt position taking as reference one of the two notches **N.B. The suggested cutting point is the second notch (the one closer to the belt as shown in the photo.**

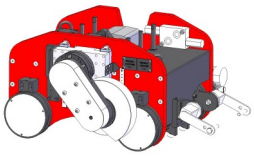
3) Once the setting is done you can tighten the central screw all the way down tapping on the belt with a rubber hammer supplied with the machine to grant a uniform leaning all around the pipe outside diameter.





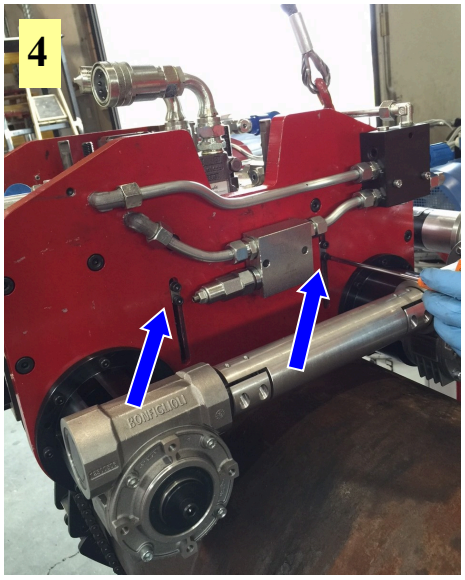


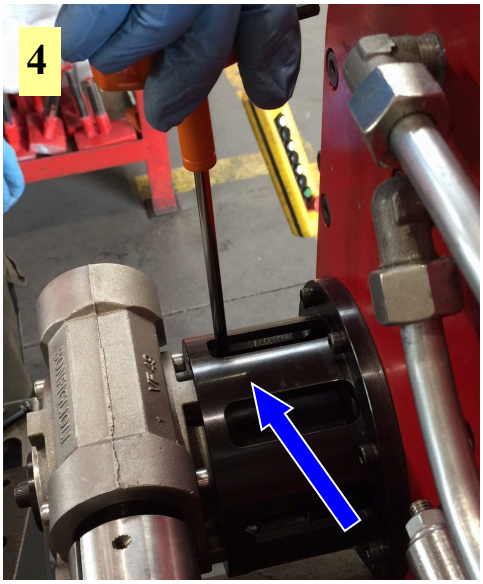


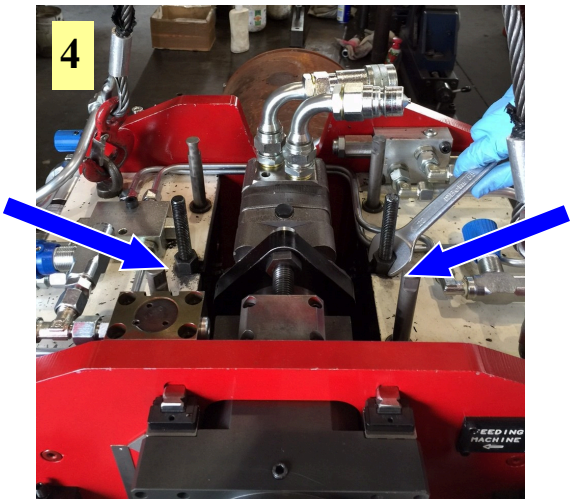


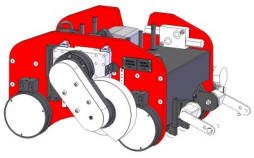
TAF POSITIONING

4) **N.B. Ensure that the four screws of the tensioners and the two screws of the joint highlighted in the picture are loose and in the high position as shown in the pictures below.**



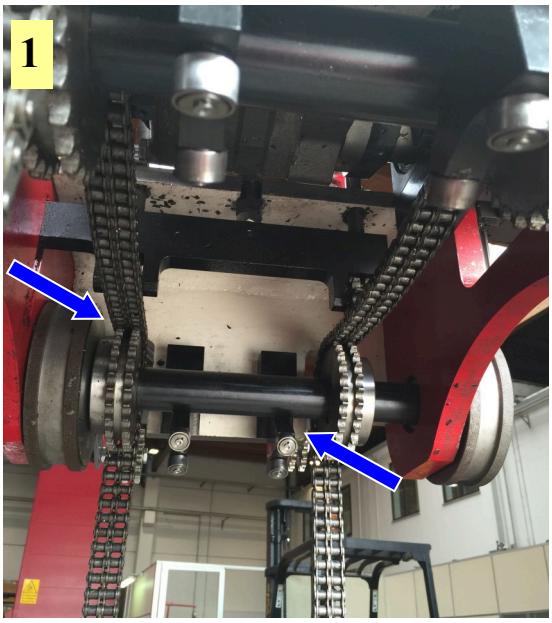


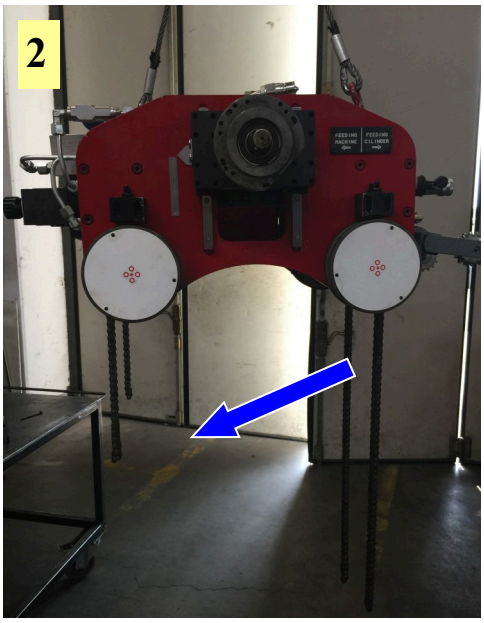


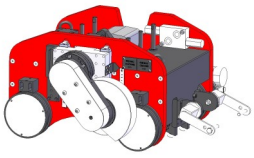


TAF POSITIONING (Feedng Chain Assebmly Procedure)

1) Hoist the machine and keep it at a comfortable height to reach its bottom easily, then insert the two feeding chains previously assembled making sure you are correctly engaging the toothed wheels as shown in the picture #1.
2) The correct positioning of the chains is obtained by having two ends longer than the others as shown in the pictuere #2 in order to facilitate the coupling procedure once the machine is placed on the pipe.

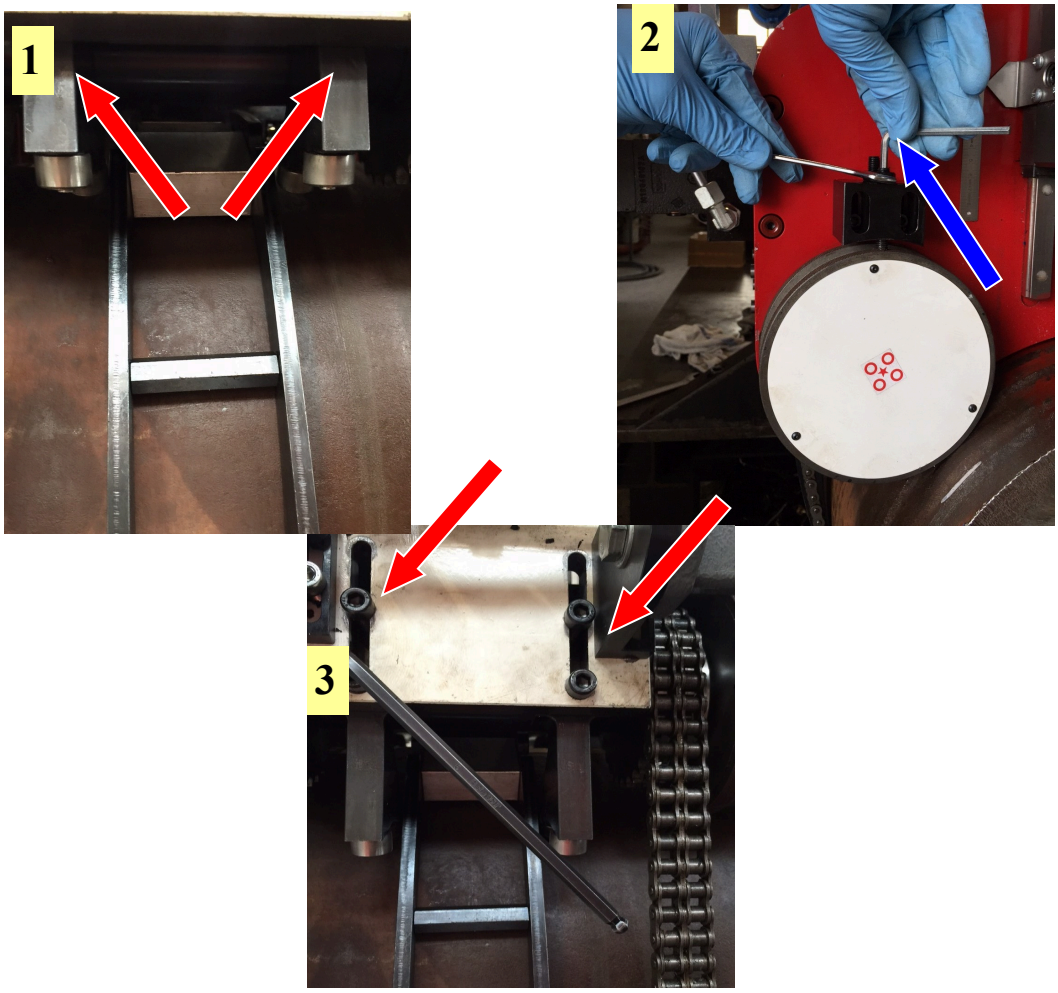


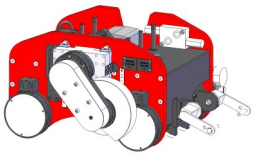




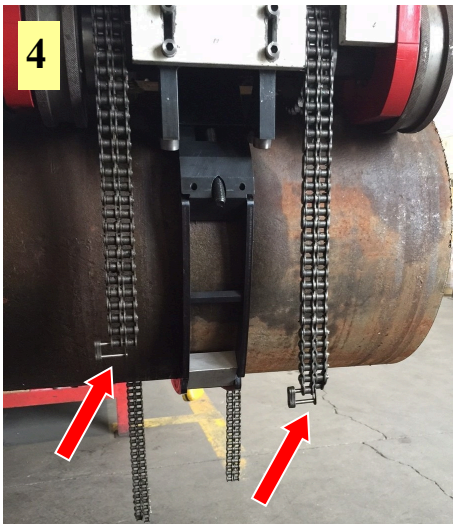
TAF POSITIOING (Positioning on the pipe)

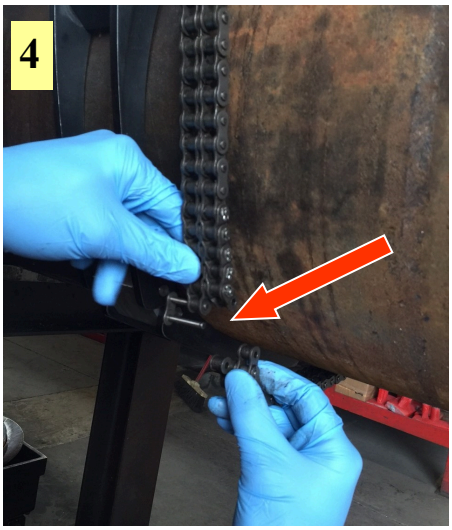
1) Position the machine on the pipe so that the guiding rollers match and engage the guiding belt you have previously placed and securely fastened on the pipe OD.
2) Once the TAF is in the correct position you will want to block it using the brakes located above the two fornt wheels to prevent the machine to move during the set-up.
3) Lower the guiding rollers on both sides of the TAF by using the Allen key part of the service tools supplied with the machine. Your aim is to have these rollers to match the guiding belt height and therefore to engage it on the sides so that the machine will be forced to follow the forced straight path of the guiding belt itself.

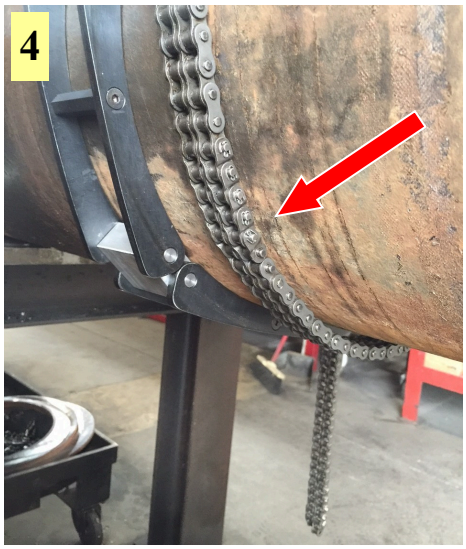


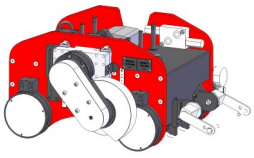


4) Join the ends of the two feeding chains with the connecting links as shown in the pictures below.





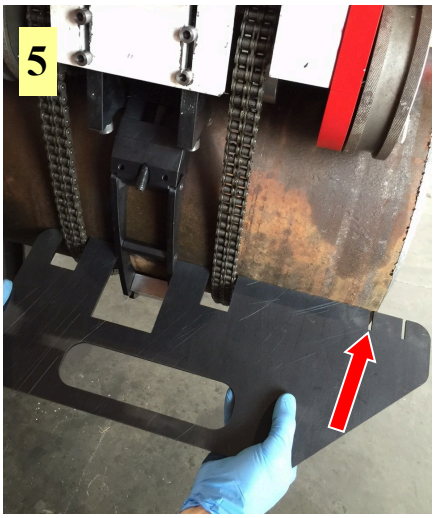


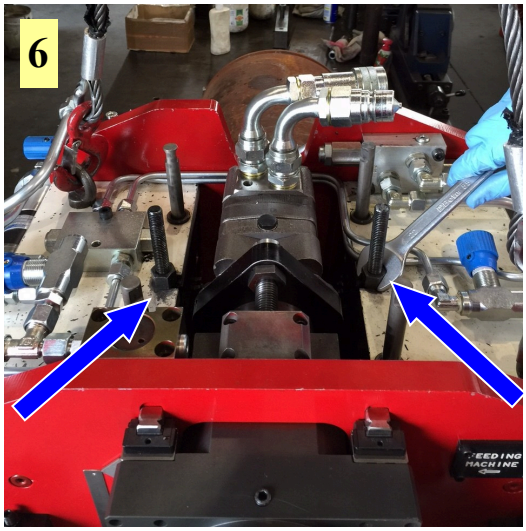


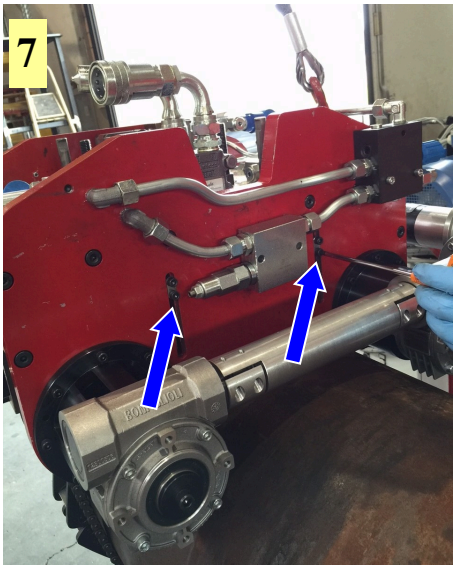
5) Use the template to check the machine correct position in relation to the feeding chains and the guiding belt.

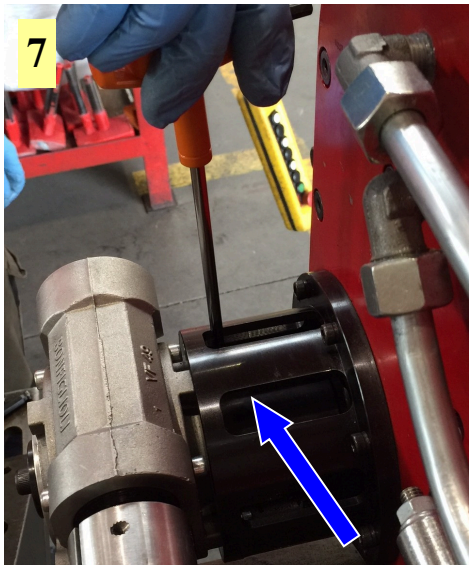
6) Tighten the feeding chains by acting on the nuts of the tie rods located on the upper part of the TAF, being careful to tight them so that both will end up having the very same tension as shown in the picture #6.

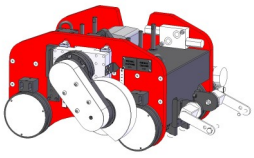
7) **N.B. Once the feeding chains are tighten enough, remember to tighten the four screws of the tensioners and the two screws of the joint previously loosened.**



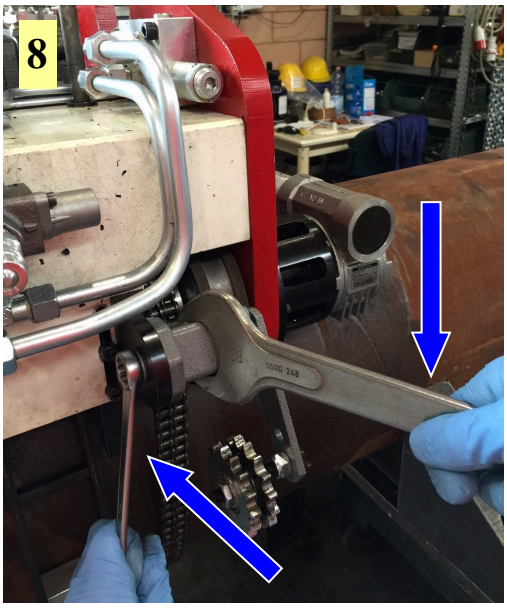


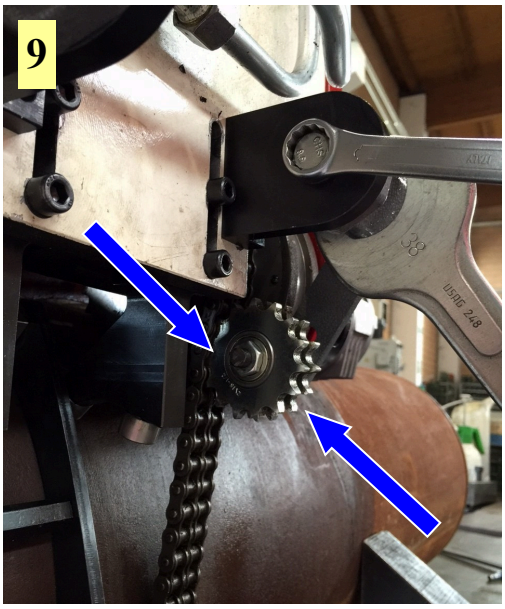


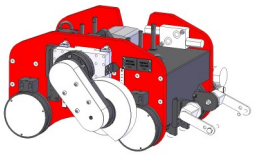




8) The final stage of the positioning consists in lowering the two toothed wheels of the springed tensioners onto the feeding chains up to the last notch by using the tools and wrenches provided with the machine as shown in the pictures #8 and #9 below.
This will grant a constant traction.



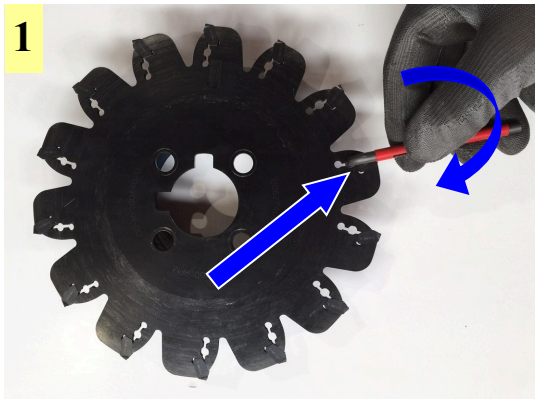


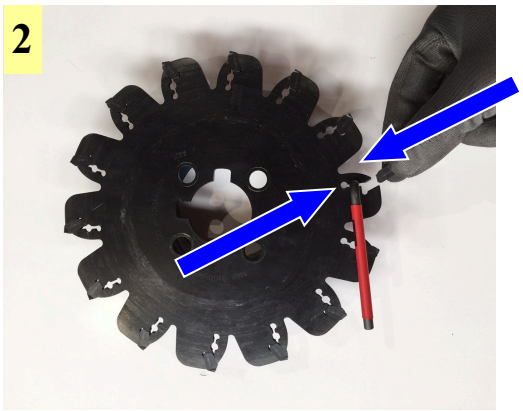


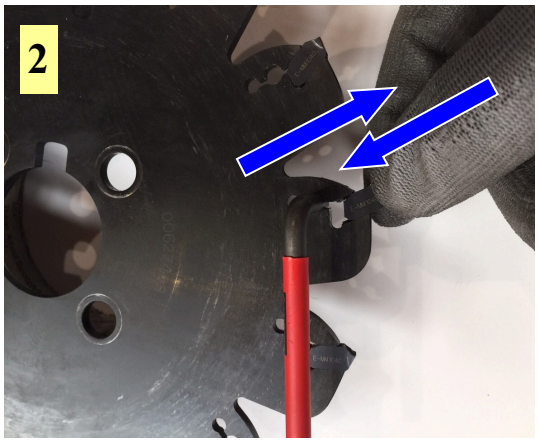
CUTTING BLADE INSTALLATION

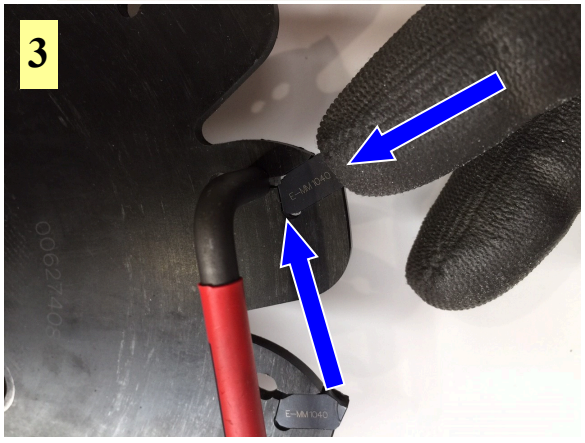
Once the machine has been correctly placed on the pipe, before installing the cutting kit on the TAF you will want to install the cutting blade on the kit.
Normally the inserts of the cutting blade are not installed.
Follow the procedure described below to accomplish this task:

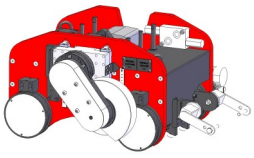
1) Place the cutting blade on a flat surface and insert the special key supplied along with the item in the hole located right beside the insert seat and rotate it as shown in the picture below. This cutting blade has elastic seat so no screw is required.
2) Place the insert in its seat making sure it is perfectly abutted to all the sides of the seat.
3) Now hold the insert in position and release the tension by turning the special key in the opposite direction. Now the insert is safely held in place.





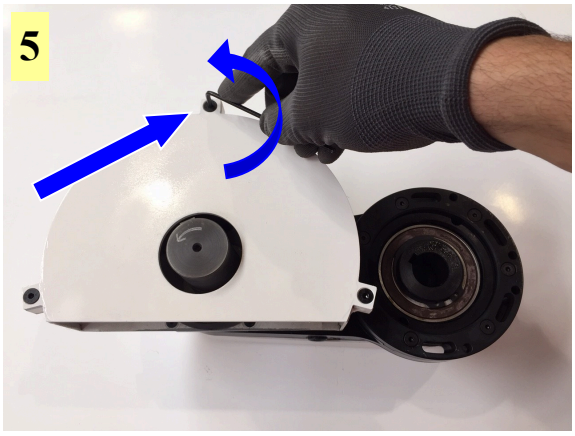


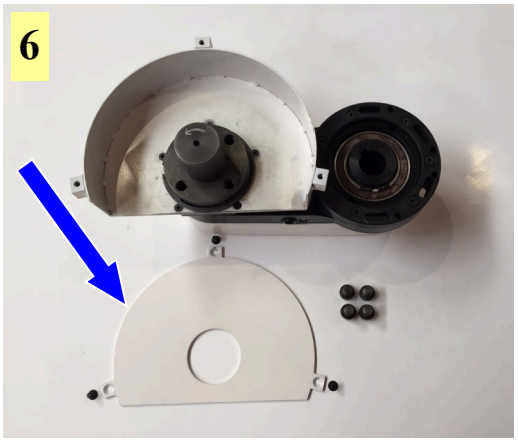


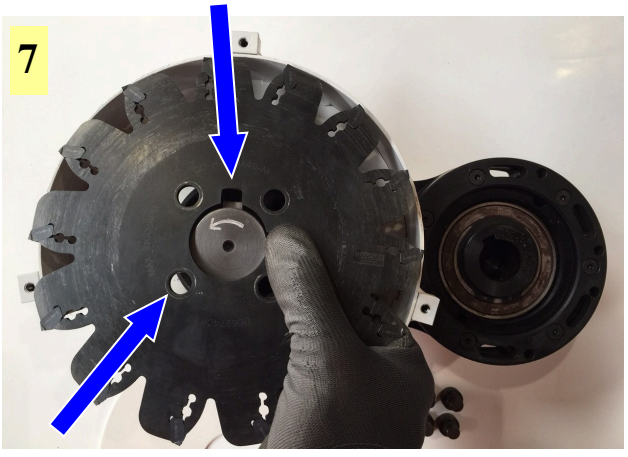


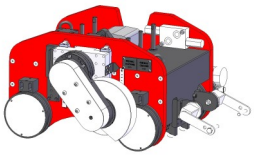
4) Ensure that all the inserts are correctly installed on the cutting blade.
5) Remove the three screws that hold the protection in place with the Allen key supplied with the machine.
6) Remove the protection.
7) Install the cutting blade on the spindle.

N.B. Make sure to install the cutting blade on the correct side in relation to the direction of rotation indicated by the arrow enfraved on the spindle and match the key notch and the fixing holes like shown in the picture #7 below

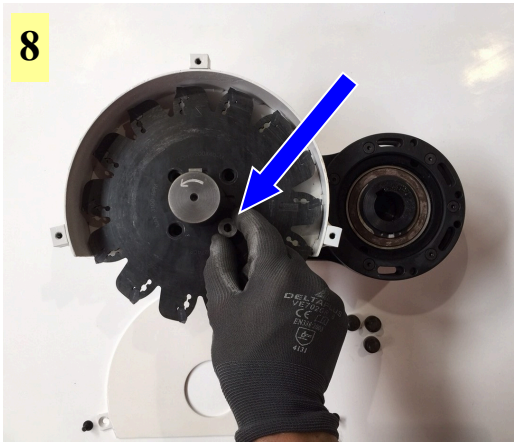


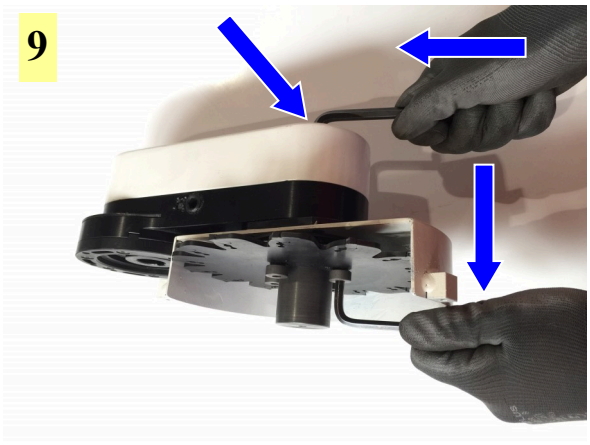


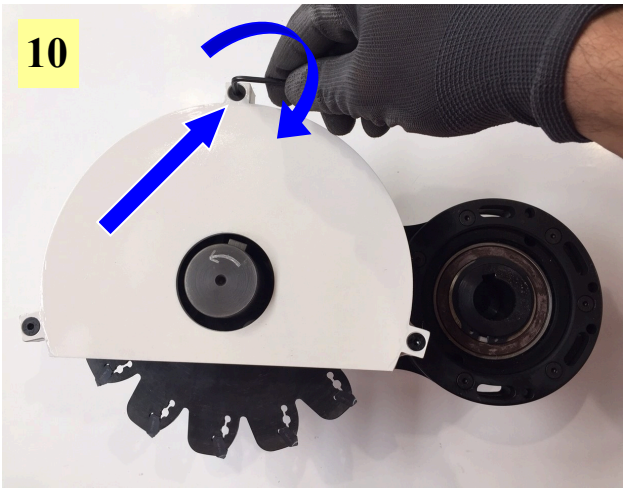


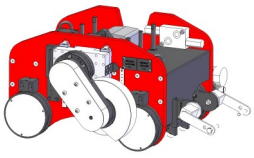


8) Insert the four special screws in the holes.
9) To fasten the screws you will need to hold in place the spindle by the appropriate Allen key and then fasten each locking screw on the front side of the cutting blade.
10) Now put the protection back in its position and tighten the fixing screws.



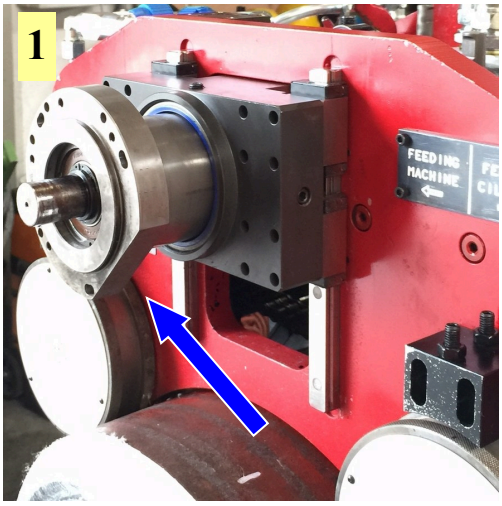


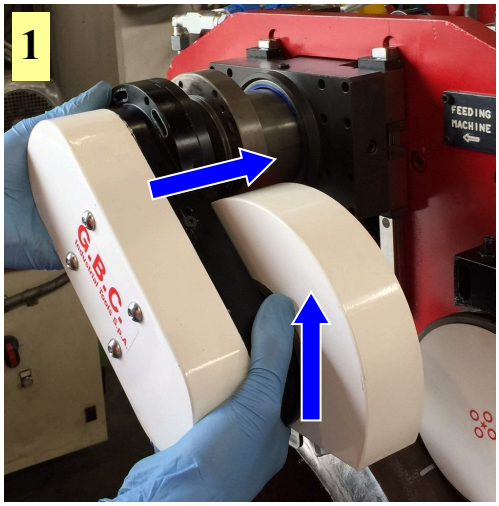


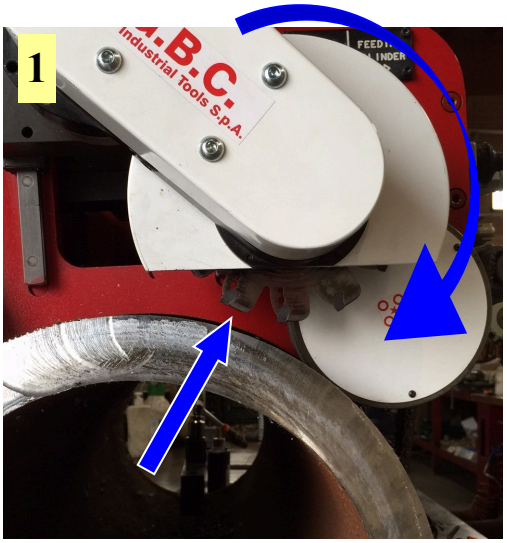


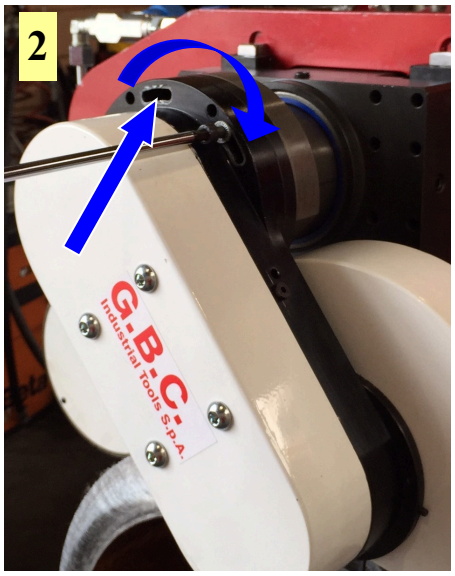
CUTTING HEAD INSTALLATION

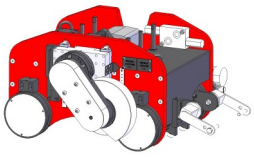
1) Install the cutting head on the machine spindle like shown in the picture matching the fixing holes and notches with those located on the flange as shown in the picture #1 **N.B. Rotate the protection in the desired position in tangency with the pipe diameter.**
2) Lock the cutting head in position using the fixing screws.





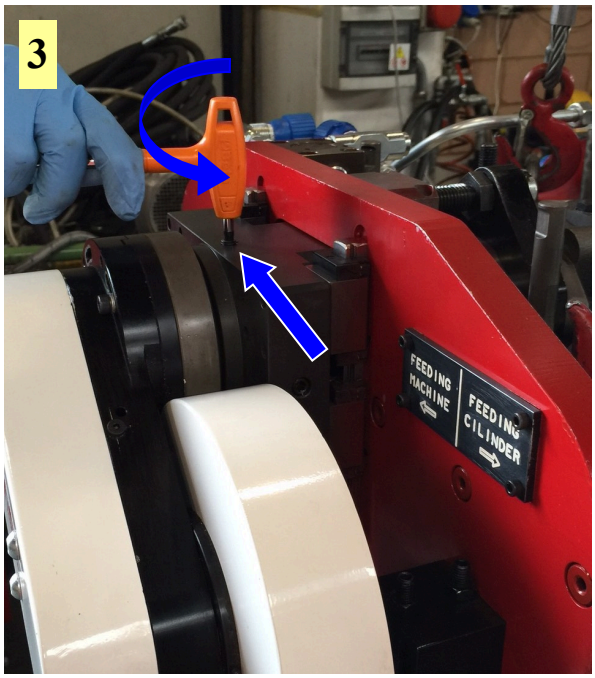


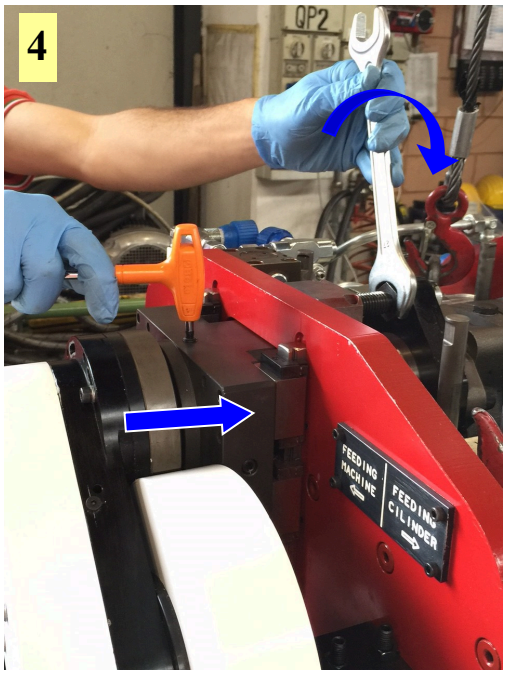


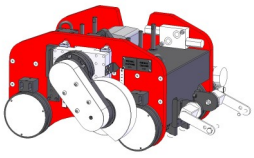


3) Loosen the set screws located on the squared flange, one located on the upper part and two located on the sides.
4) Turn the tie rod until the head reaches the point of cut selected with the help of the positioning template supplied with the TAF paying particular attention not to damage the O ring placed on the cylinder and that the cutting blade protection does not hit the squared flange.

N.B. Once achieved the required position tighten the three set screws previously loosen.

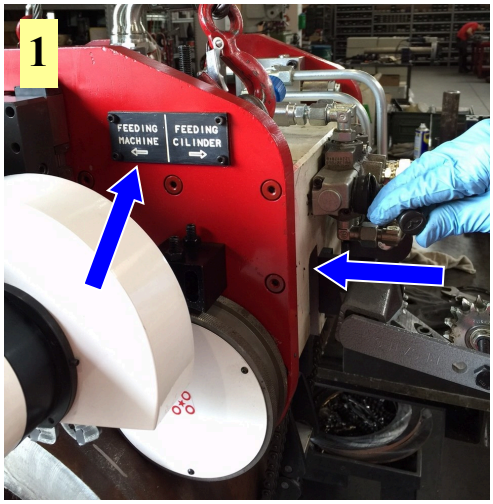


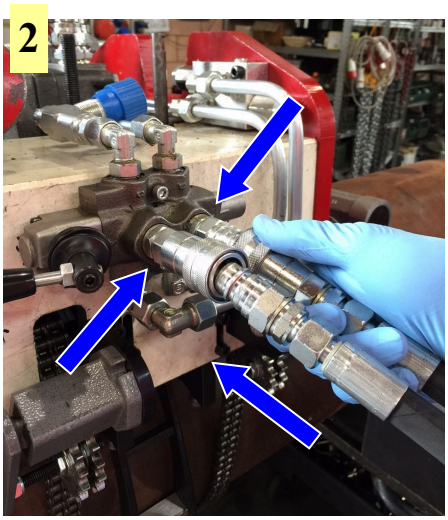


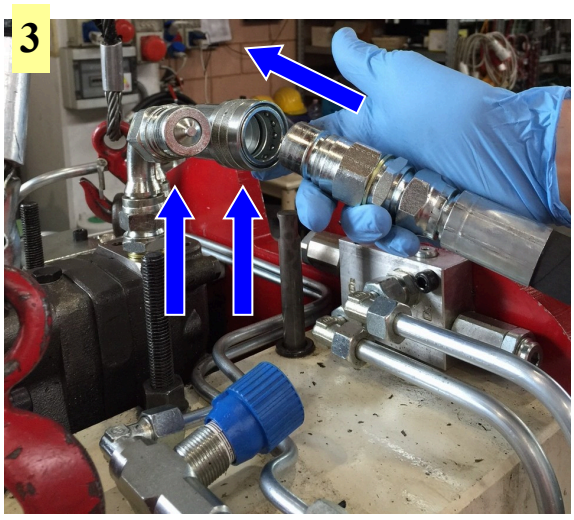


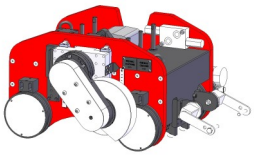
CUTTING PROCEDURE

1) **N.B.** Before connecting the hydraulic hoses to the machine you will want to make sure that the oil diverter lever is positioned on **"FEEDING MACHINE "**
2) Connect the feeding motor hoses to the connectors located on the diverting block as shown in the picture.
3) Now connect the two hoses of the head rotation motor to the connectors located on the main motor. N.B. The feeding motor hoses and the head rotation hoses have different type of connectors therefore every hose has to be used for its specific function.

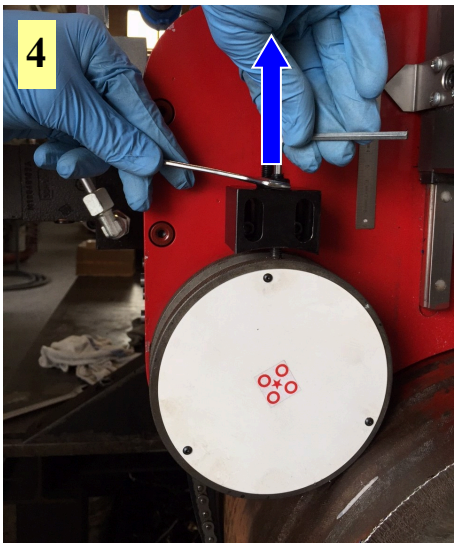


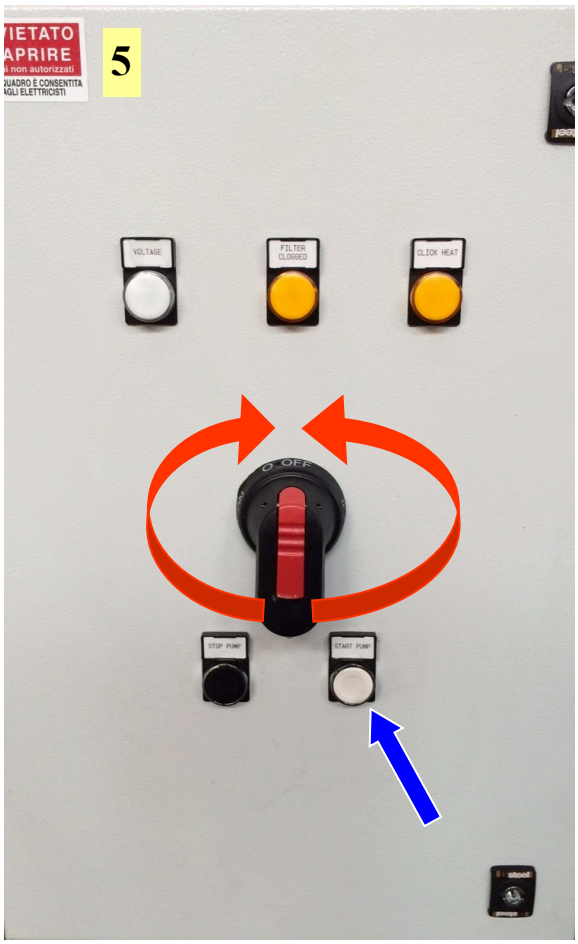


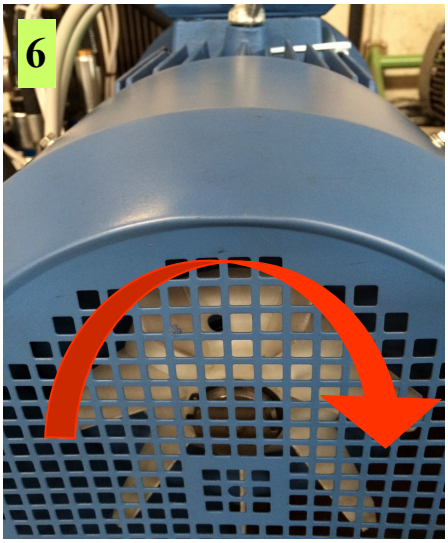


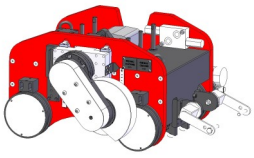


4) Release the machine brakes you have previously engaged to enable the machine to move.
5) Rotate the pump selector lefo or right in order to **determine the pump rotation direction** and press the white button highlighted by the arrow as shown in the picture #5.
6) Check the power pack motor direction of rotation to be correct.
N.B. The correct direction of rotation is the same of the arrow in the picture #6.





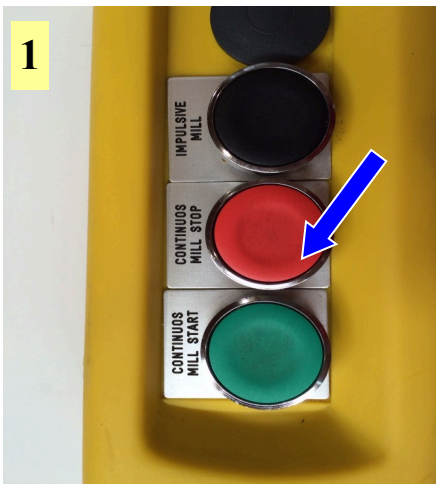


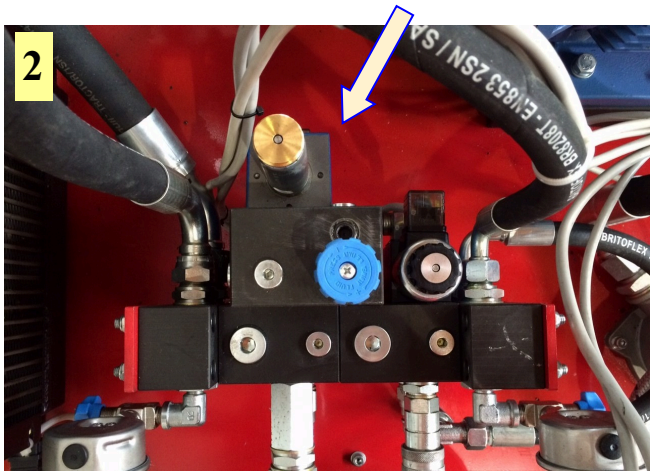


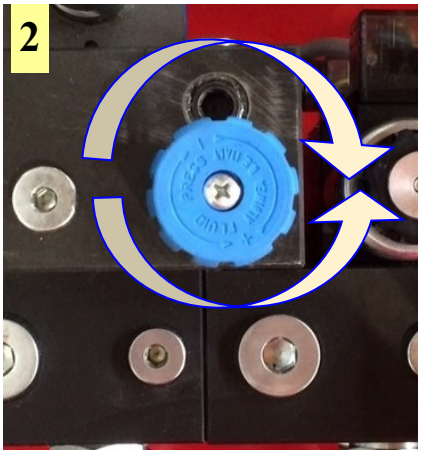
CUTTING PROCEDURE (Cutting blade speed regulation)

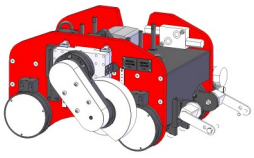
1) Press the green button “CONTINUOUS MILL START” to activate the cutting blade rotation.
2) Adjust the cutting blade rotation by acting on the regulator knob located on the hydraulic power pack. N.B. The function is inverted to that indicated by the arrows engraved on the knob.
3) Check the cutting blade speed with the speedometer supplied with the TAF.

N.B. Always remember to apply the light-refracting sticker on the cutting blade before initiating the rotation.



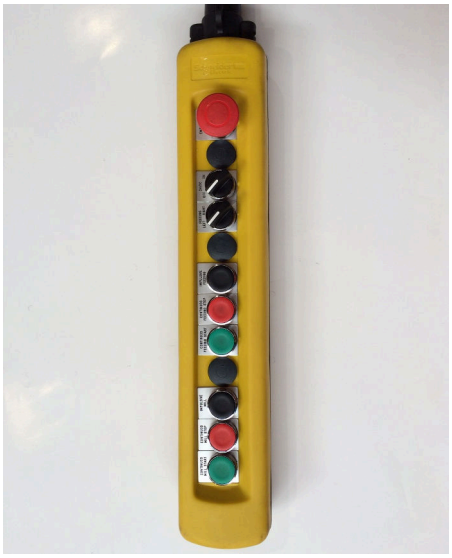


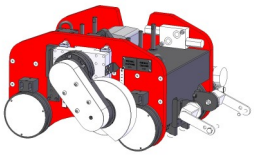




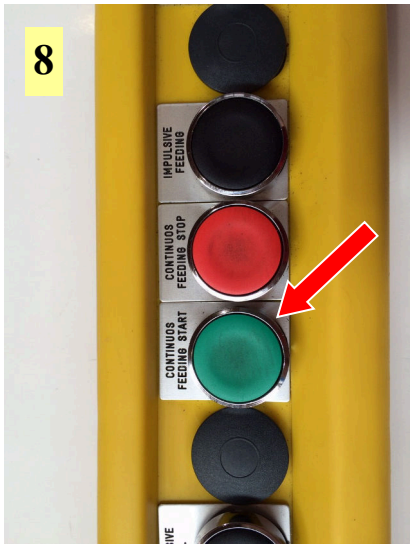
CUTTING PROCEDURE (Feeding regulation)

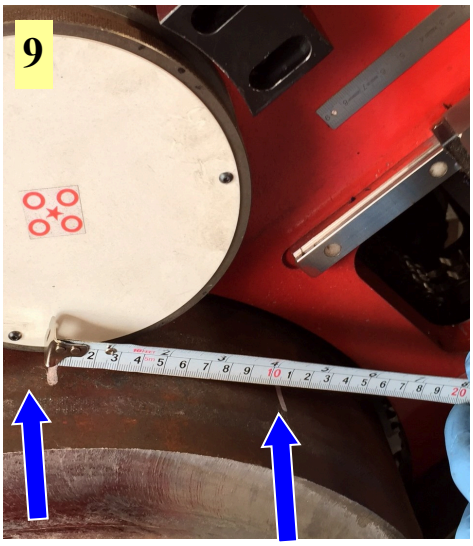
7) Rotate the selector “FEEDING” to left.

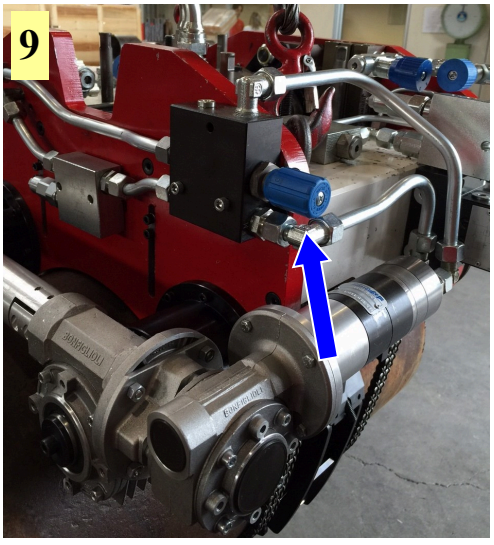


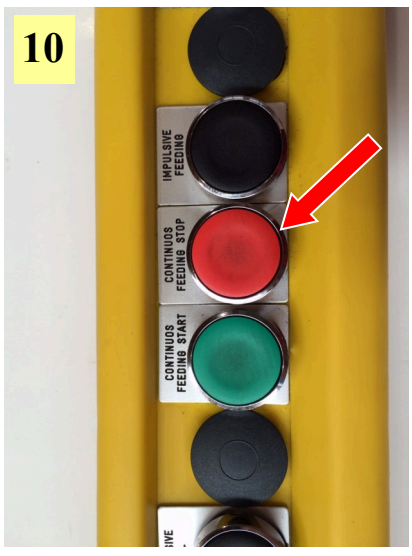


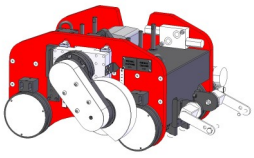
8) Press the green button “CONTINUOUS FEEDING START”
9) Set the feeding speed obtained by the charts previously shown i this manual and verify such data directly on a section of the pipe circumference.
N.B. Increase or decrease the speed by acting on the regulator as shown in the picture.
10) Stop the machine by pressing the red button “CONTINUOUS FEEDING STOP”







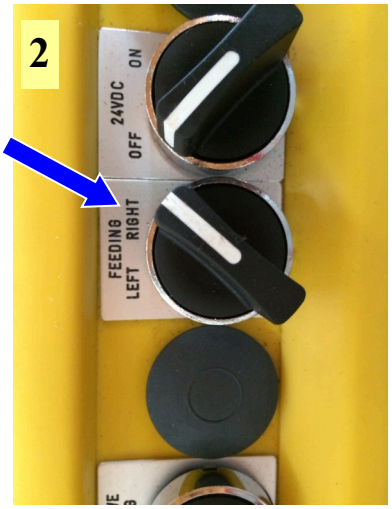


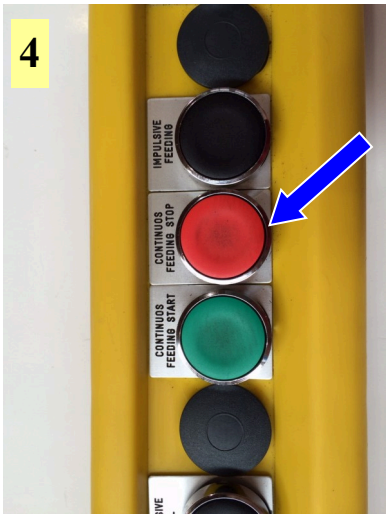


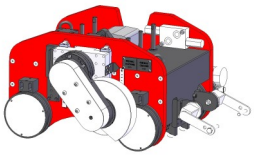
CUTTING PROCEDURE (Reverse feeding)

In case it should be necessary to reverse the feeding direction you shall attain to the following procedures:

1) Move oil diverter lever on the position “FEEDING MACHINE”.
2) Rotate the selector on “FEEDING RIGHT”
3) Press the green button “CONTINUOUS FEEDING START”
4) Stop the machine at the desired point by pressing the red button “CONTINUOUS FEEDING STOP”

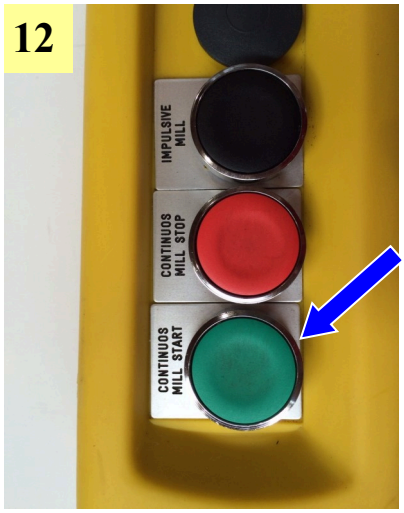


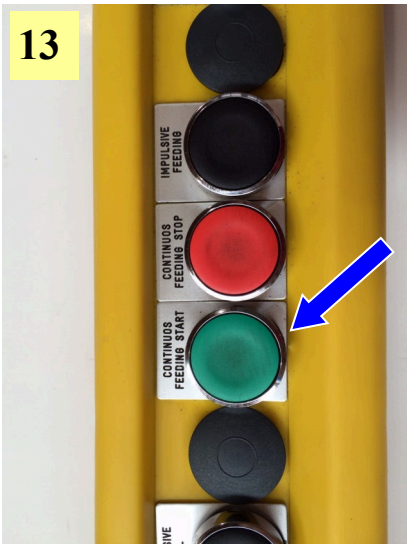


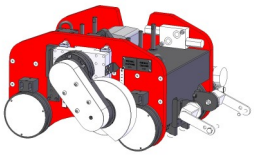


CUTTING PROCEDURE (Initial phase)

11) Move the oil diverter lever on “FEEDING CILINDER”
12) Press the green button “CONTINUOUS MILL START” to start the cutting blade.
13) Press the green button “CONTINUOUS FEEDING START” to lower the cutting blade towards the pipe to begin the penetration.
14) Once the cutting blade has passed through the whole pipe wall ensure not to protrude for more than 3mm from the pipe ID.

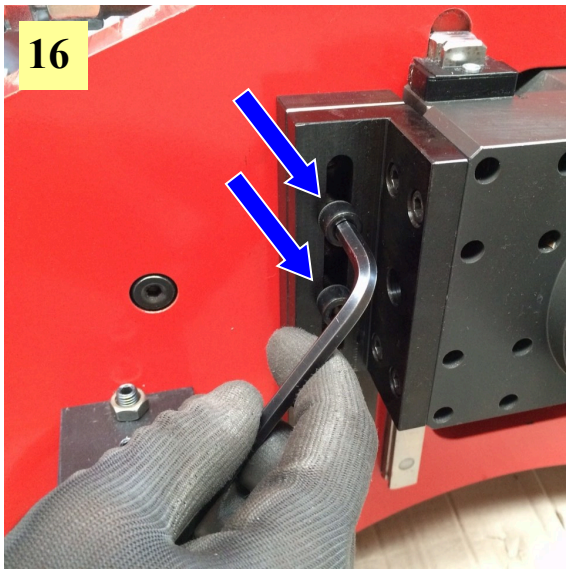


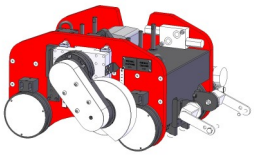




Cutting procedure (Initial phase)

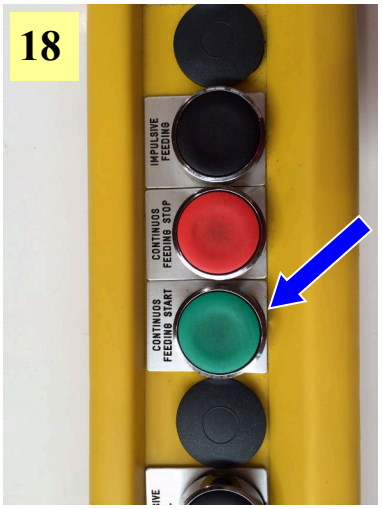
15) Press the red button "CONTINUOUS FEEDING STOP" to stop the cutting blade.
16) Tighten the two set screws located on the side of the slide.

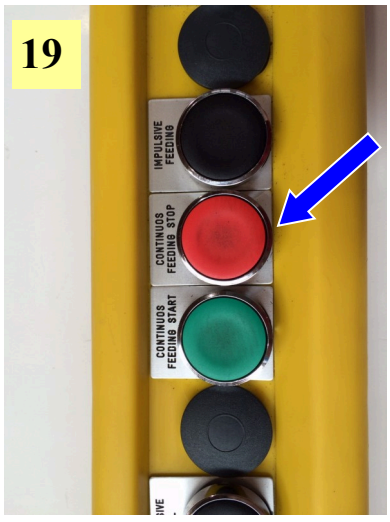


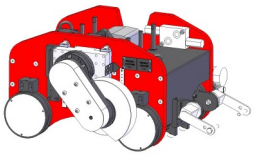


CUTTING PROCEDURE (Initial phase)

17) Move back the oil diverter lever on “FEEDING MACHINE”.
18) Start the machine by pressing the green button “CONTINUOUS FEEDING START”
19) When the cut is finished press the red button “CONTINUOUS FEEDING STOP”

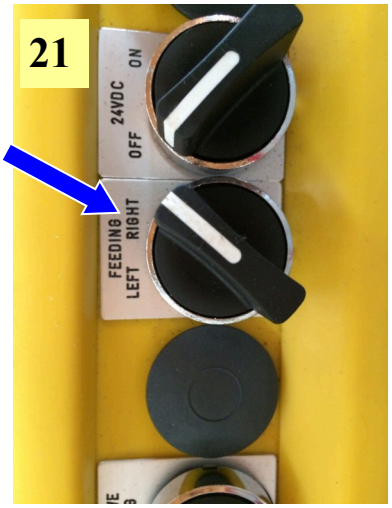


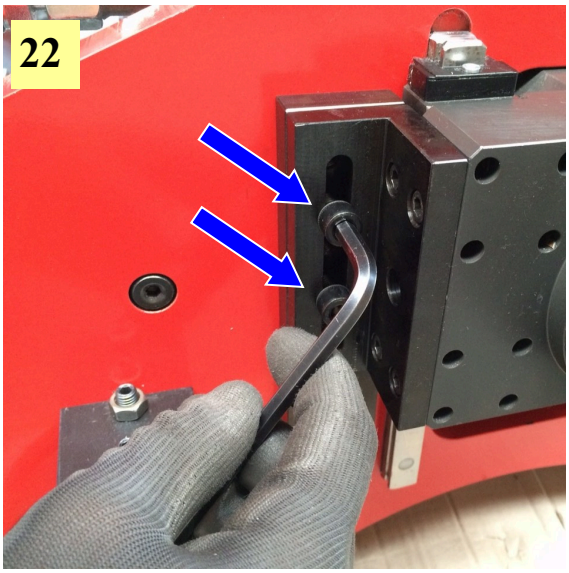


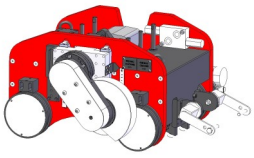


CUTTING PROCEDURE (Final phase)

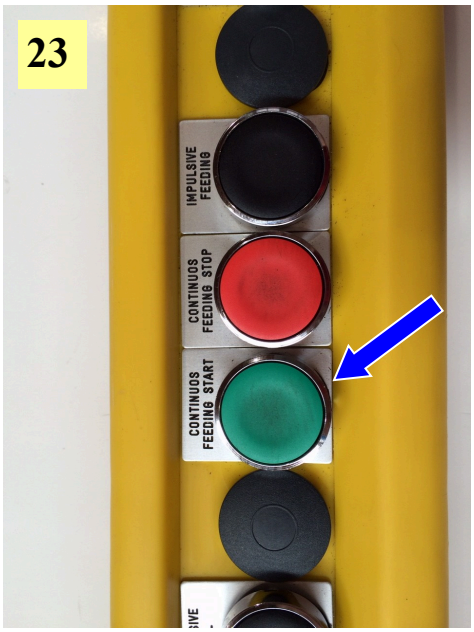
20) Move the oil diverter lever on the position “FEEDING CILINDER”.
21) Rotate the selector on “FEEDING RIGHT”.
22) Loosen the set screws of the mechanical stop.

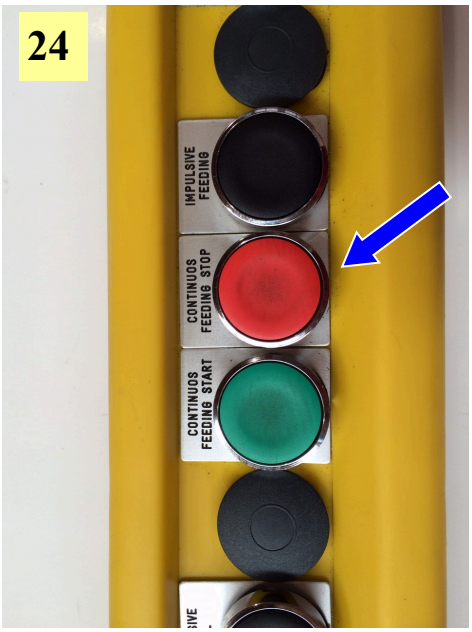


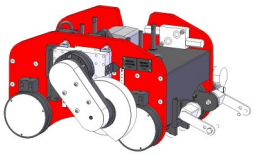




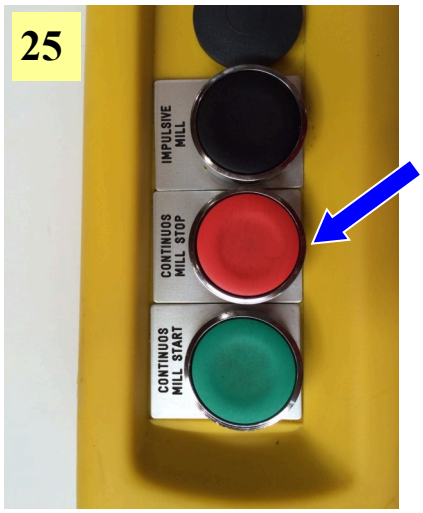
23) Press the green button “CONTINUOUS FEEDING START” to raise the cutting blade.
24) Stop the cutting blade by pressing the red button “CONTINUOUS FEEDING STOP”

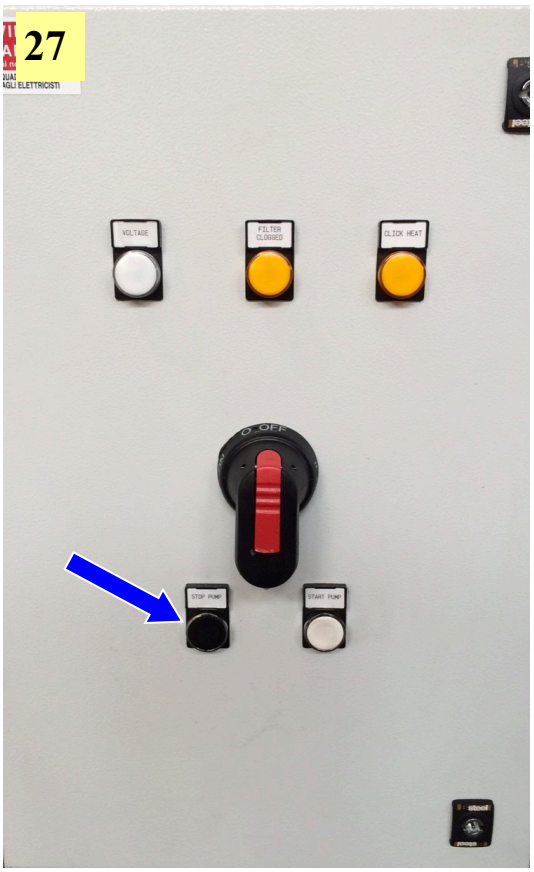


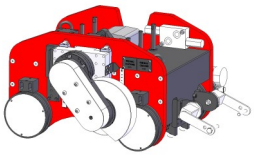




25) Stop the cutting blade rotation by pressing the red button “CONTINUOUS MILL STOP”
26) Position the selector on “FEEDING LEFT”
27) Turn off the hydraulic power pack by pressing the black button on the control panel.





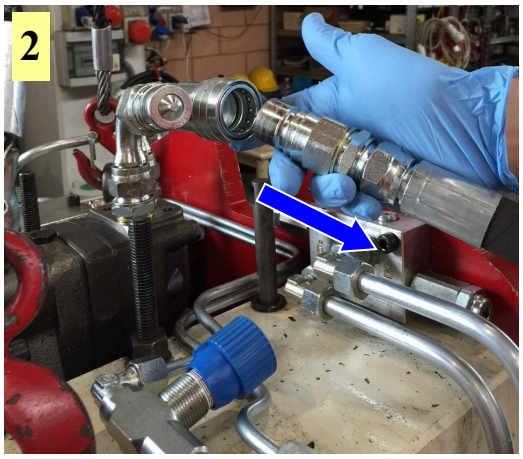


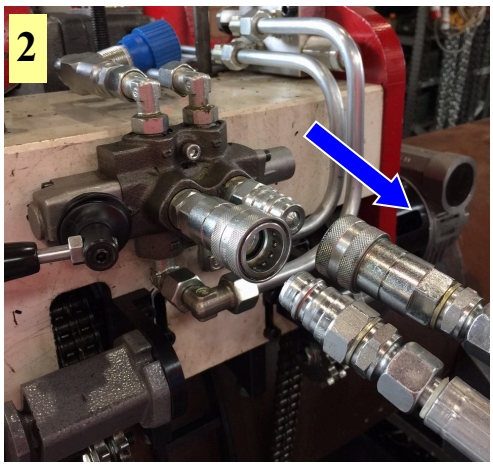
DISCONNECTION OF THE HOSES

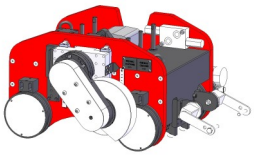
WARNING: IN THE EVENTUALITY THAT THE HOSES HAVE TANGLED UP YOU WILL HAVE TO DISCONNECT THEM FROM THE MACHINE. THE CORRECT PROCEDURE TO FOLLOW IS DESCRIBED BELOW:

1) Position the oil diverter lever on "FEEDING MACHINE" to avoid the air to enter the circuit of the hydraulic cylinder of the vertical slide.
2) Disconnect and streighten the four hoses and connect them again in the same arrangemente. N.B. Run the cutting blade motor for a few seconds before to start again with the normal operations in order to be sure you get rid of an eventual air bubble formed in the circuit during the hoses disconnection operations.

N.B. To restart the working procedure attain to the instructions supplied in the previous paragraphs.



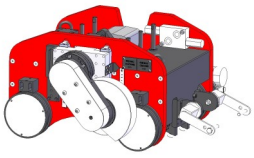




BEVELLING FACE MILL INSTALLATION

1) Take the face mill and the 9 inserts that will have to be mounted on it. Note that you will find N.6 squared inserts and N.3 pointed inserts.
N.B. Strictly attain to the assembling sequence shown in the picture below.
2) Install every insert by securing it to the face mill by the fixing srews making sure they are securely tightened.

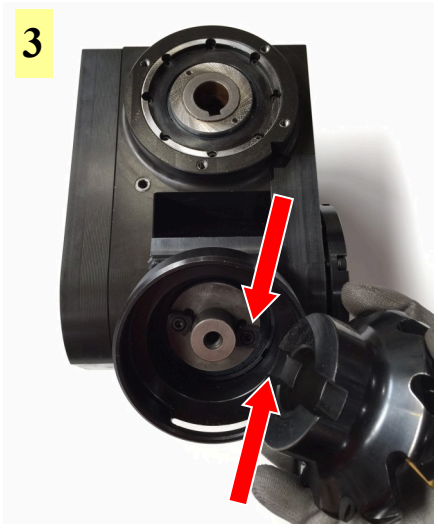
G.B.C. Industrial Tools S.p.A.
Via Artigiani,17 – 25030 Torbiato di Adro (Bs) – Italia – Tel. + 39 030 7451154 – Fax. + 39 030 73 56 629

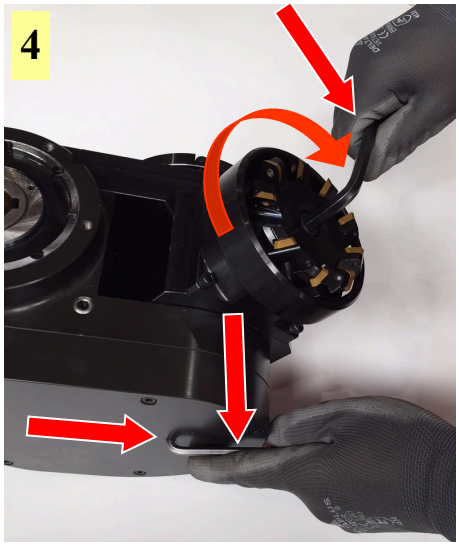


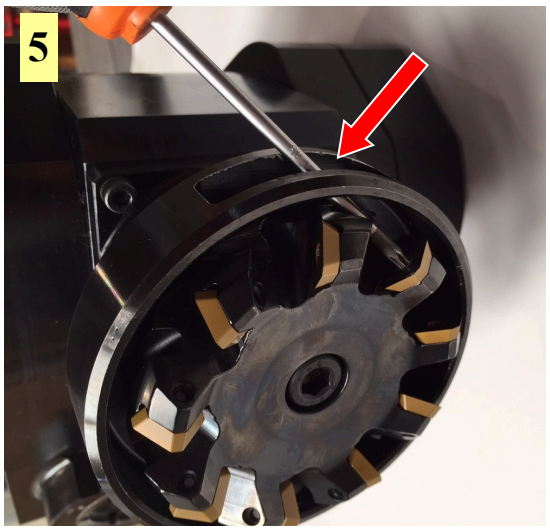
3) Once the inserts have been correctly installed you will want to install the face mill on the spindle making sure to match the notches of the tool with the keys mounted on the spindle as shown in the picture.

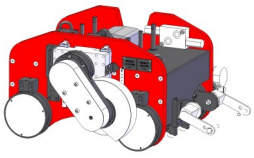
4) Unscrew and remove the safety screw indicated by the arrow, then insert the Allen key in the hole, then by using a second Allen key tighten the central screw to fix the face mill in position as shown in the picture.

5) N.B. In the eventuality that some insert needs to be raplaced you can access its fi-xing screw from the openinig conceived for this very purpose without having to remove the face mill.



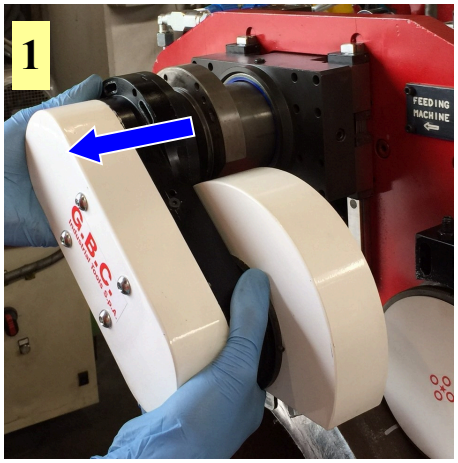


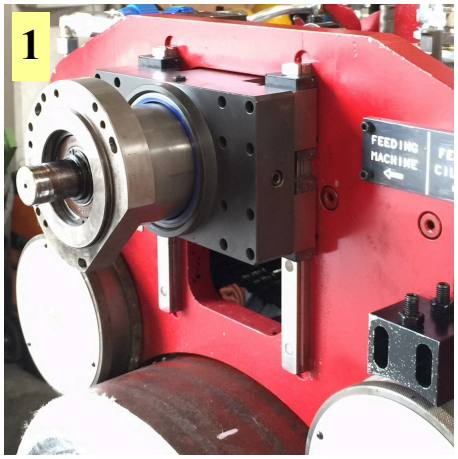


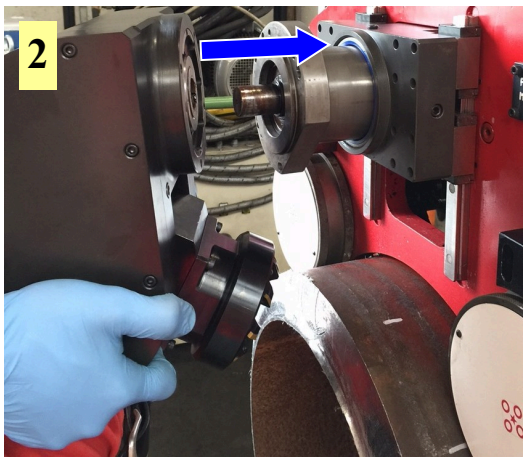


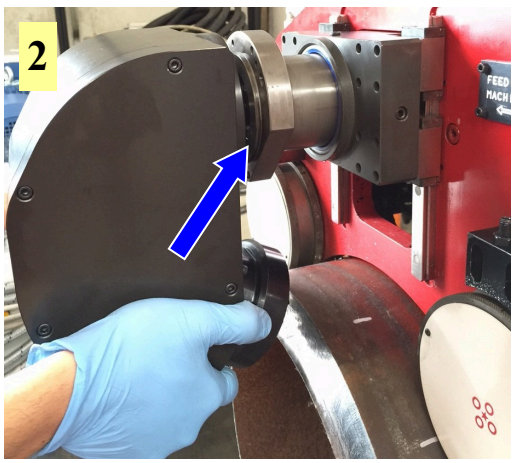
BEVELLING HEAD INSTALLATION

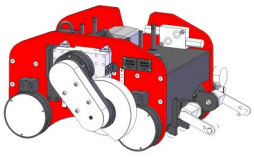
1) Remove the cutting head by following the mounting procedure on reverse.
2) Insert the bevelling head following the very same assembling procedures for the cutting head matching the fixing holes.





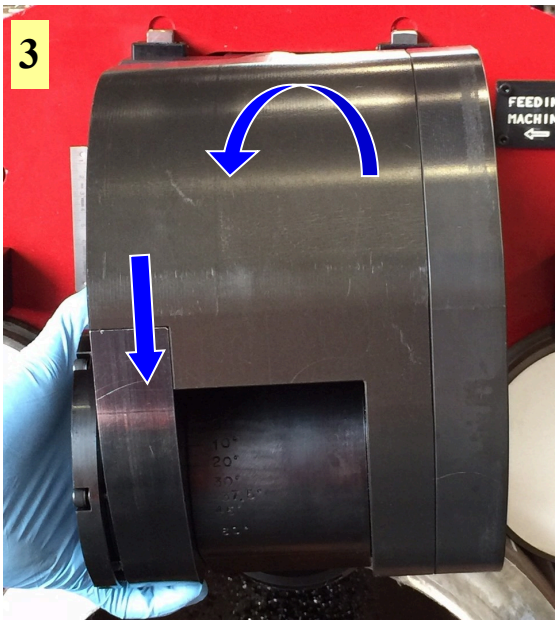


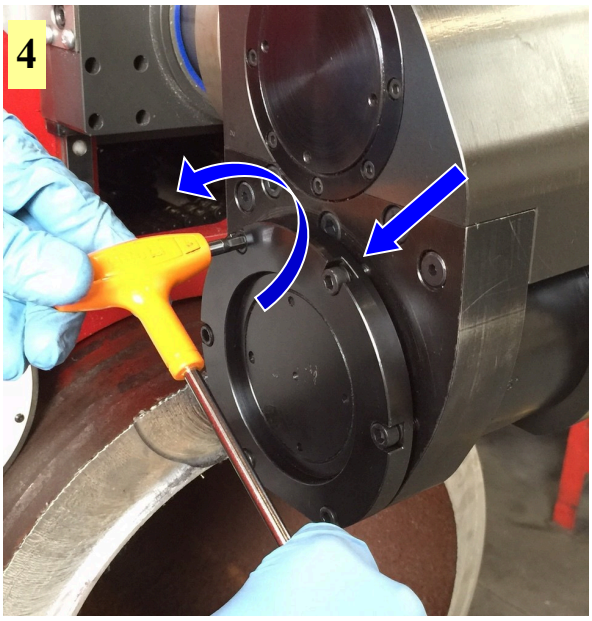


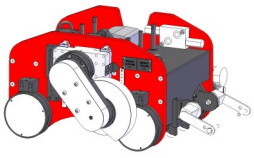


3) **N.B. If the bevelling head is correctly installed it should be slightly tilted as shown in the picture.**

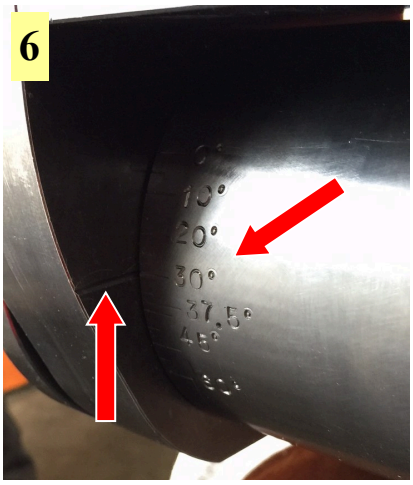
4) The bevelling angle has to be set by strictly attaining to the charts reported in the previous pages.
By using the appropirate tool you will want to loose the 6 flange locking screws.

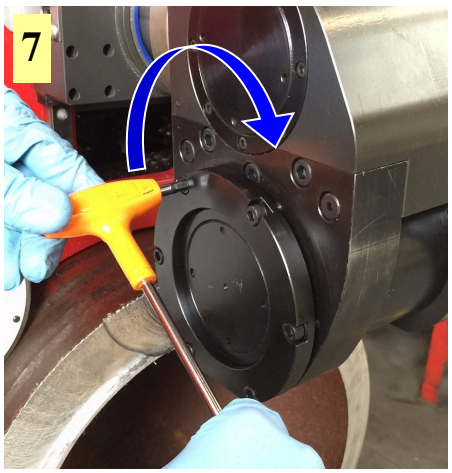


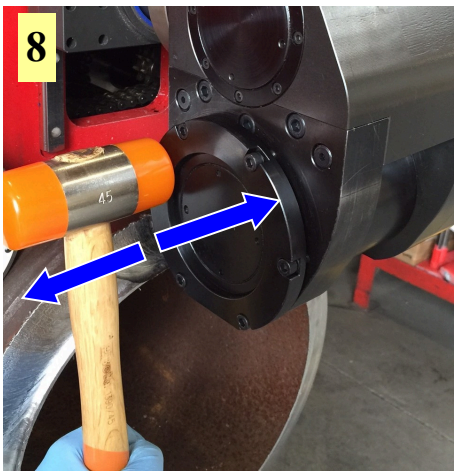


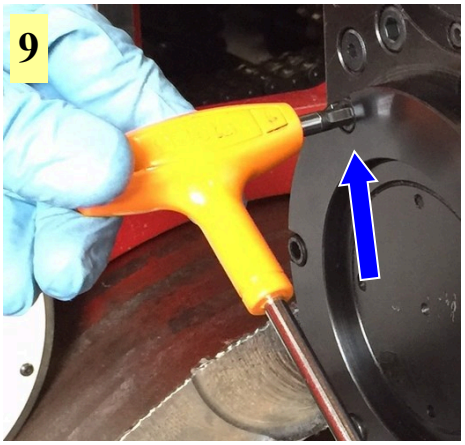


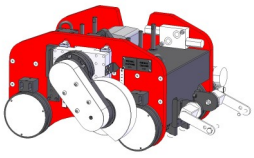
6) Set the desired angle by rotating the head upwards or downwards taking as reference the gauge formed by the notch and the various angles engraved on the part.
7) Now lock the flange by fastening the screws previously loosen.
8) Now tap on the flange with a rubber head hammer in order to compress the internal shrink disk.
9) Repeat the screws fastening operation to obtain the complete locking of the flange.





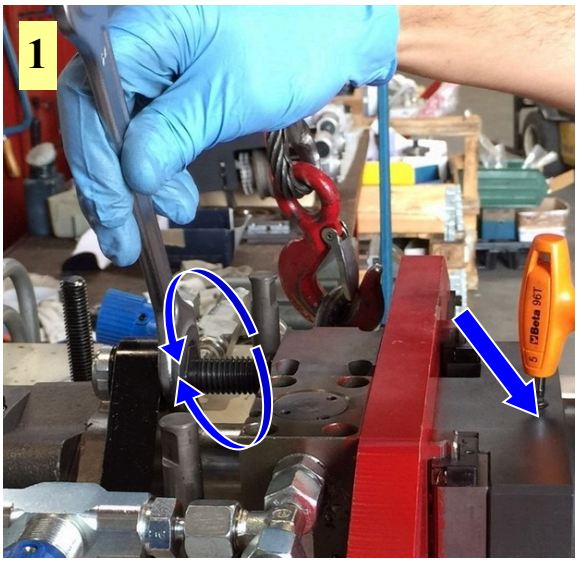


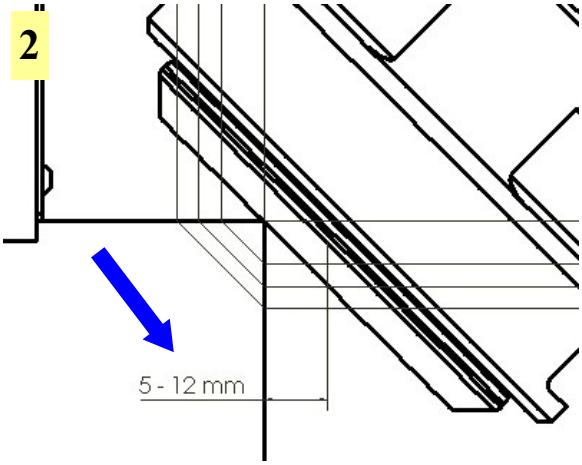


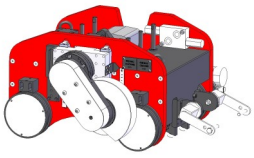


BEVELLING HEAD POSITIONING

1) The bevelling head position can be adjusted by loosing the 3 set screws located on the support.
2) N.B. Keep the center of the face mill away from the pipe edge for about 5-12 mm as shown in the picture.





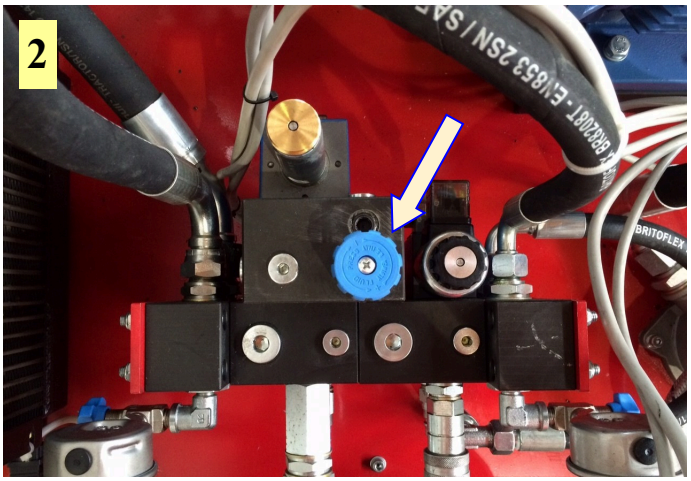


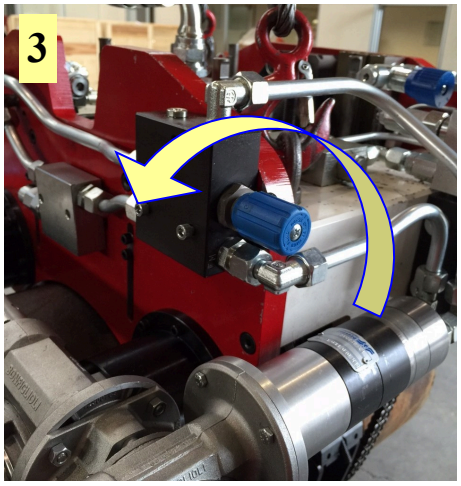
BEVELLING PROCEDURE

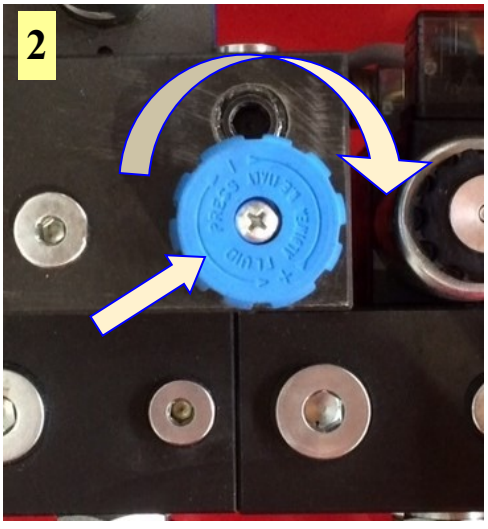
1) Turn on the hydraulic power pack following the procedures reported in the previous paragraphs.
2) Set the mill head speed rotation to the maximum by rotating the regulating knob of the power pack clockwise.

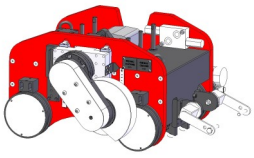
N.B. The bevelling process shall always be executed with the mill head set at the maximum speed rotation. The speed can be increased by turning the knob in the opposite sense of the arrows engraved on it as shown in the picture.

3) In order to work at full speed you will want to set to the maximum the feeding regulator as well so that you will reach the maximum working speed..



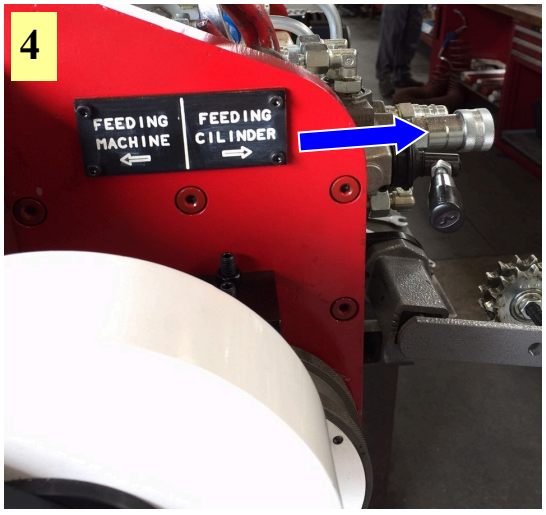


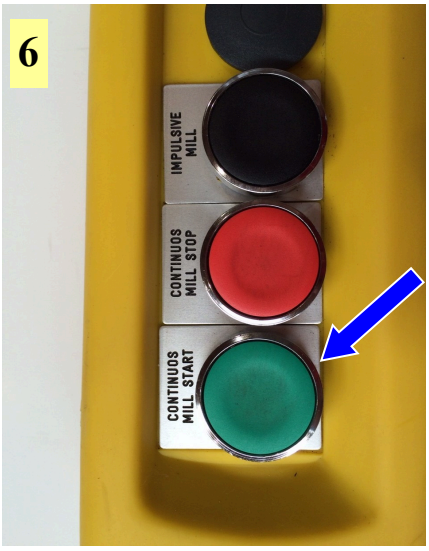


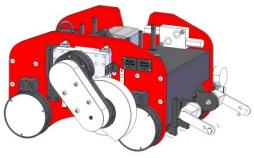


BEVELLING PROCEDURE (Initial stage)

4) Move the oil diverter lever to “FEEDING CILINDER”
5) Ensure the selector to be on “FEEDING LEFT”
6) Press the green button “CONTINUOUS MILL START” and the mill head will start.
7) Press the green butrton “CONTINUOUS FEEDING START” to move the mill head towards the pipe.



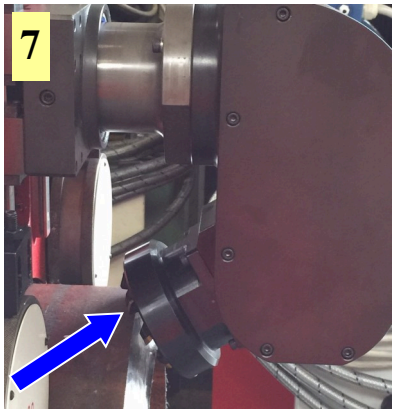


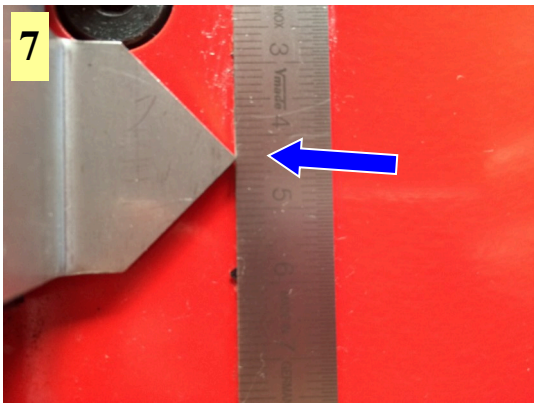


7) As soon as the mill head slightly touches the pipe edge you have to check the value on the gauge located on the side of the vertical slide. (i.e. 43mm)

8) Once this number is noted continue lowering the mill head until you reach the vertical depth reported on the chart like in the example picture.
(10mm for an angle of 17,5°) the total measure will be 43+10=53mm.

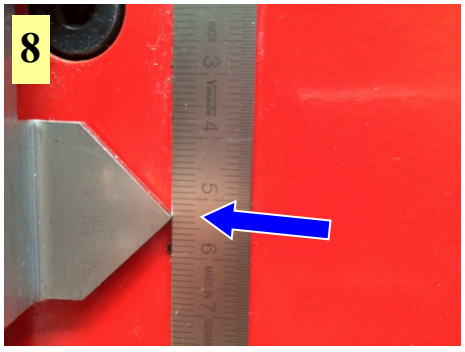
N.B. The example given above , does not make reference to the 1st pass but instead to the subsequent passes and the highlighted values are casual because they vary in relation to the diameter of the pipe.
The vertical depth for the 1st pass is double.

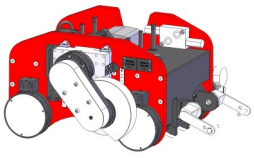




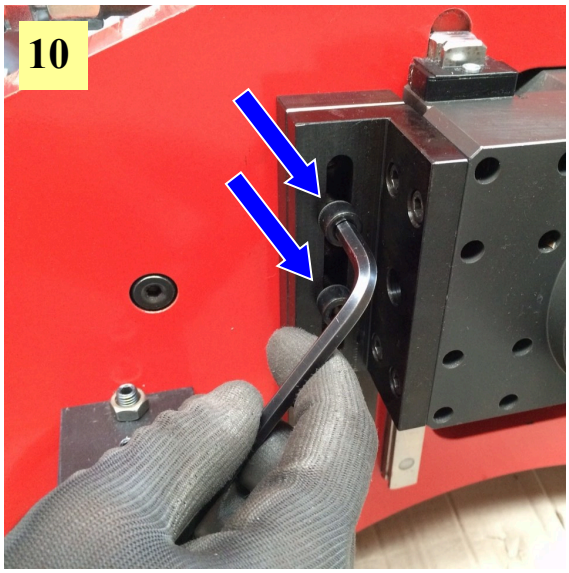
8

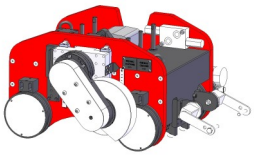
Angolo (°)	Profondità di taglio (mm)	Quota assiale (mm)	Quota radiale (mm)
15,5	3	3,1	11,2
16	3	3,1	10,9
16,5	3	3,1	10,6
17	3	3,1	10,3
17,5	3	3,1	10,0
18	3	3,2	9,7



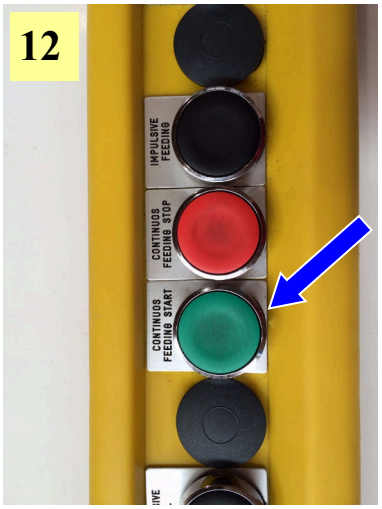


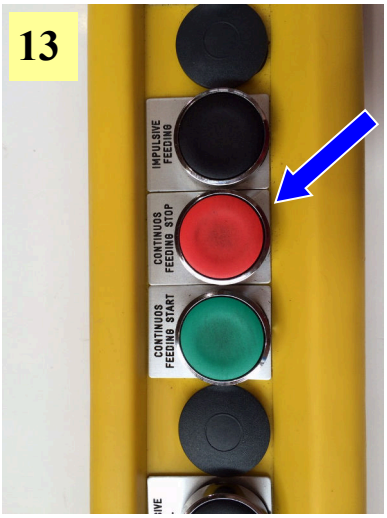
9) Press the red button "CONTINUOUS FEEDING STOP" to stop the mill head in the desired position.
10) Fasten the two screws located on the mechanical stop on the side of the vertical slide.

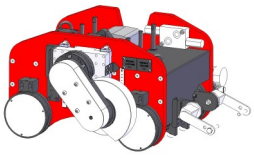




11) Move back the oil diverter lever on “FEEDING MACHINE”.
12) Start the machine by pressing the green button “CONTINUOUS FEEDING START”
13) Oncwe the bevel is don press the red button “CONTINUOUS FEEDING STOP”

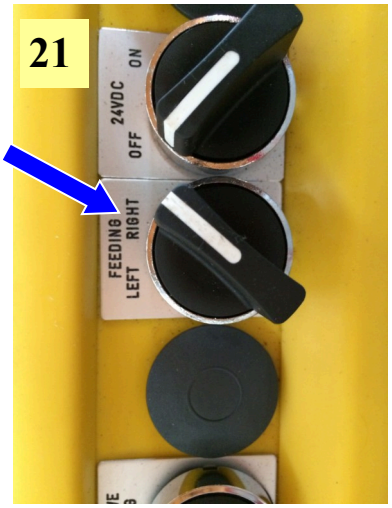


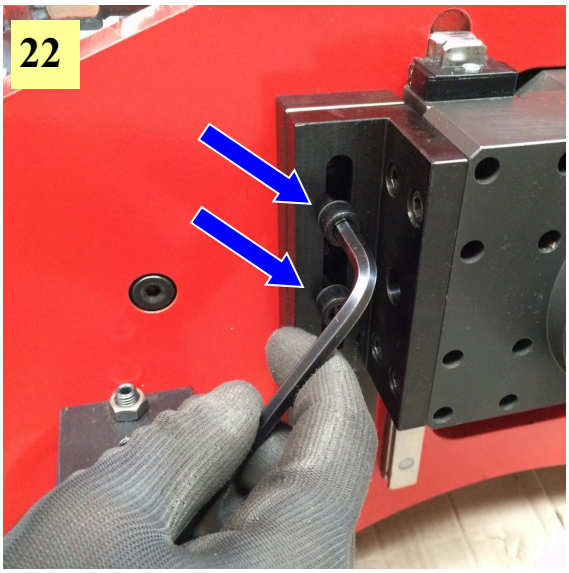


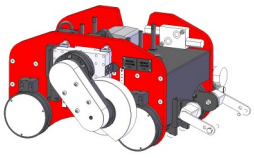


BEVELLING PROCEDURE (Second pass and consecutive passes)

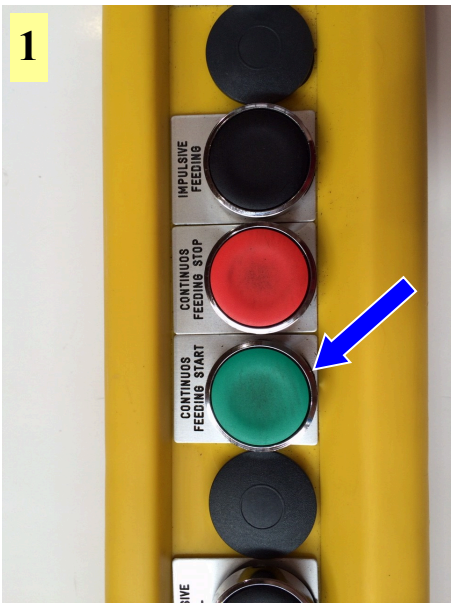
20) Move the oil diverter lever on “FEEDING CILINDER”.
21) Rotate the selector on “FEEDING RIGHT”.
22) Unlock the mechanical stop by loosing the screws.

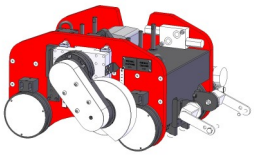






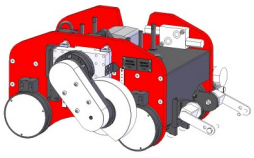
1) Press the green button “CONTINUOUS FEEDING START” to raise the head.
2) N.B. Stop the head by pressing the red button “CONTINUOUS FEEDING STOP” when the mill head is just a few millimeters from the bevel.





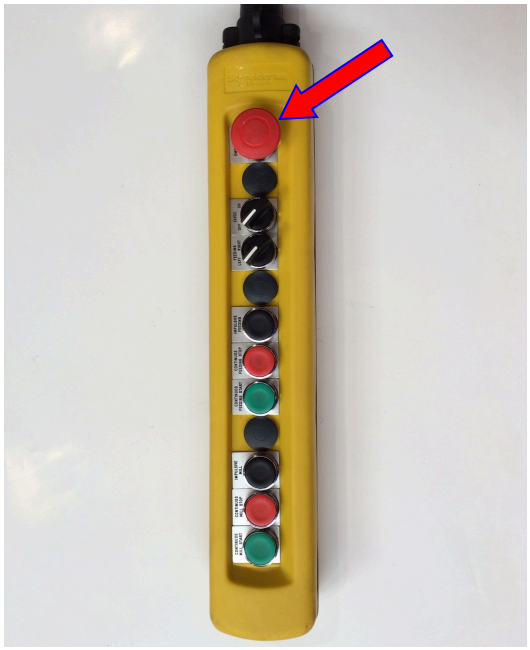
3) Move back the selector on “FEEDING LEFT”

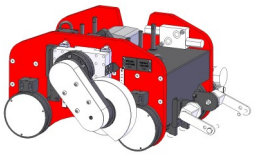
N.B. To increase the bevel repeat the operations from pag.66 to pag.71



EMERGENCY PROCEDURES

N.B. In case of malfunctions during the cutting or bevelling operations press the red emergency button located on the wired control and the machine will immediately stop.





TROUBLESHOOTING

– THE MACHINE DOES NOT START:

1) Check the hydraulic power pack pump rotation to be correct.
2) Check the start up sequence explained in the previous paragraphs has been duly followed.

– MALFUNCTIONS:

1) Check for oil leaks in the hydraulic circuit.
2) If the cutting head or bevelling head movement is intermittent you will have to purge the hydraulic cylinder.
3) If the cutting head does not cut check the conditions of the inserts.
4) If the machine slips on the pipe check the tension of the feeding chains.

N.B. For any other malfunction experienced during any working phase that are not covered by this paragraph you are invited to contact the G.B.C. customer service.