AUTOMATIC BAR FEEDER WITH HYDRAULIC SUSPENSION

ATTACHMENTS LIST
MANUAL FOR USE AND MAINTENANCE
KEYBOARD INSTRUCTION MANUAL
SPARE PARTS BOOK
SCHEMATICS
COLLETS SELECTION MANUAL
EC CONFORMITY DECLARATION FOR MACHINE

GENIUS 118

GB **MANUAL FOR USE AND MAINTENANCE**

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S/N

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TYPE OF DOCUMENT:	**MANUAL FOR USE AND MAINTENANCE**
PRODUCT:	**AUTOMATIC BAR FEEDER WITH HYDRAULIC SUSPENSION**
MODEL:	**GENIUS 118**

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Operations described in paragraphs showing this symbol, must be performed by qualified and skilled personnel only.
Any other operation can be performed either by qualified personnel or by professional bar feeder operators.

Before carrying out any servicing whatsoever on the bar feeder, it is of the utmost importance to read this manual carefully.

1.1 TERMS OF WARRANTY

The warranty validity is conditional on good alignment between the bar feeder and the lathe and the subsequent bar feeder fixing to the ground with expansion plugs, as explained in the sections "Levelling and alignment" and "Feeder fastening".

1.2 MANUAL PURPOSE

This manual has been written and supplied by the manufacturer and is integral part of the bar feeder and of its equipment.

The compliance with the instructions contained herein ensures the operator and bar feeder safety as well as a running economy and a longer life of the bar feeder itself.

In order to allow a quick search of contents, consult the descriptive index.
Particularly important parts of this manual have been highlighted in bold type and preceded by the following symbols:

DANGER - WARNING:
shows impending danger which might cause serious injuries, exert the maximum caution.

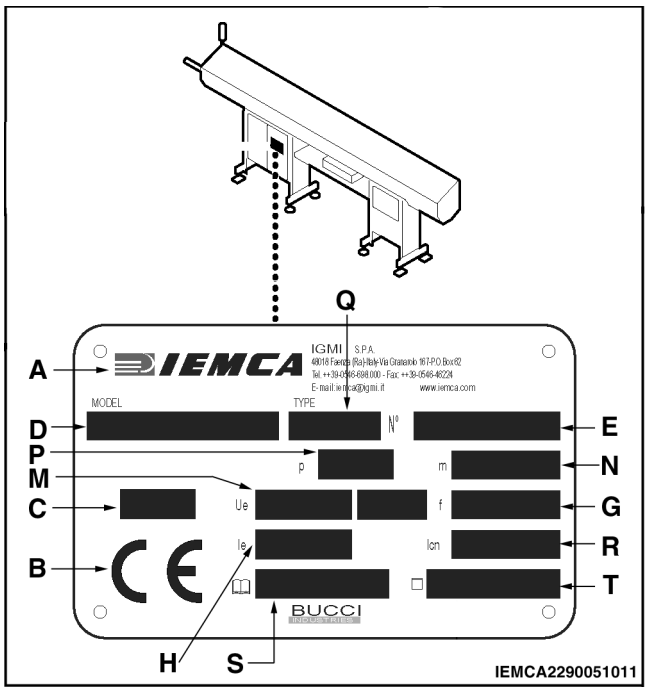
CAUTION - PRECAUTION
indicates measures to be adopted to avoid accidents or damages to property.

INFORMATION
technical instructions of particular importance.

For a quick search of topics see the table of contents and/or the index.
In addition to this manual, which contains all the instructions for the bar feeder use and maintenance, two more are supplied: the "Push-button panel instruction manual" and the "Quick reference guide".
The "Push-button panel instruction manual" contains all the instructions on how to use the installed software.
The "Quick reference guide" contains the minimum required instructions to use the bar feeder and the software.

1.3 MANUFACTURER AND BAR FEEDER IDENTIFICATION

A Manufacturer's identification
B CE conformity marking
C Year of manufacture
D Bar feeder model
E Serial number
G Mains frequency
H Absorption power
M Feeding voltage
N Direct driving voltage
P Air pressure
Q Bar feeder and pusher length
R Breaking capacity
S Number of base wiring diagram
T Number of interface wiring diagram



INFORMATION:

Always provide the Manufacturer with the above mentioned specifications when requesting information or ordering spare parts, etc.

1.4 TECHNICAL ASSISTANCE

Whenever necessary, please apply to one of the Technical Assistance Centres shown in the attached list.

INFORMATION

when requesting technical assistance for the bar feeder, always specify the information shown on the machine dataplate.

1.5 ANNEXES ENCLOSED

- Push-button panel instruction manual.
- GUIDES - BAR PUSHER - REVOLVING TIPS - COLLETS. Manual for choice.
- Wiring diagram.
- Lathe coupling instructions.

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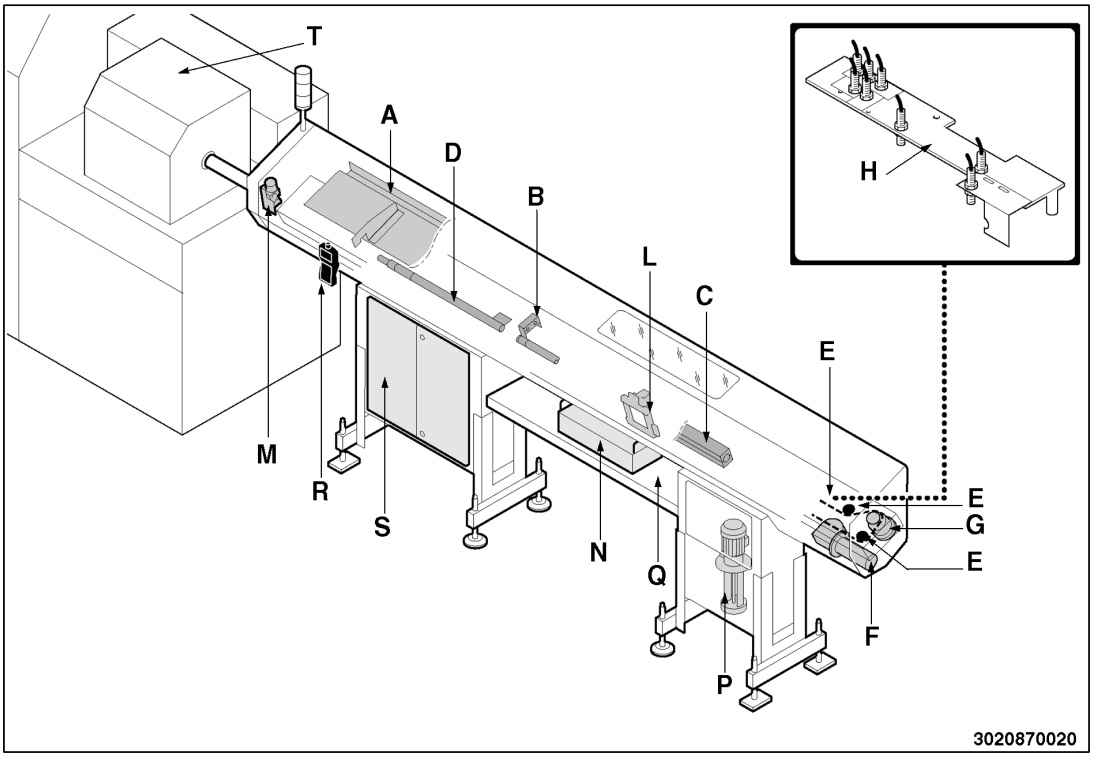
2.1 GENERAL BAR FEEDER DESCRIPTION

The GENIUS automatic bar feeder is used in the machine-tool industry and in particular, for automatic lathe feeding. It is particularly suitable for feeding fixed or sliding headstock lathes, numerical control or cam lathes.
The working cycle is controlled by a control panel with built-in PLC, which is able to dialogue with the lathe control.
The hand-held keyboard facilitates programming and enables to control bar feeder functions without having to leave the lathe
The bar feeder can be used to feed bars, pipes and various sections.
The guide channel is fully closed during machining; a pump is provided to maintain a continuous oil flow inside the channel, creating a hydrodynamic support effect; these characteristics allow the bar to rotate at a high r.p.m. number, with no vibrations and no surface damaging.
The use of a d.c. motor and adjustable clutch make it possible to adjust feed speed and thrust to optimum values at every moment of the working cycle.
The bar feeder operator side and bar loading side may be either on the right or on the left.

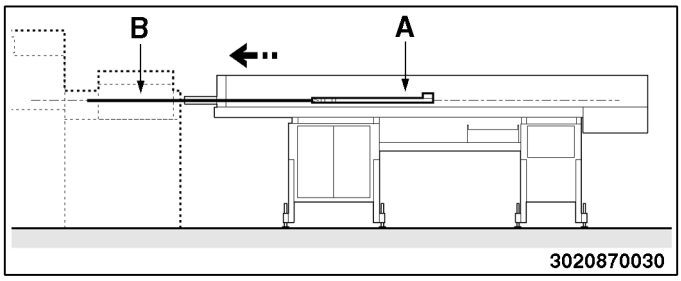
MAIN PARTS



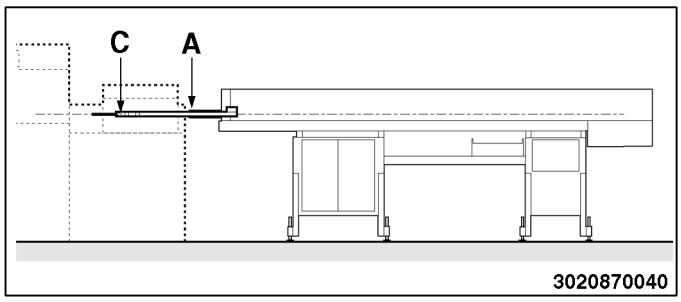
A Magazine; where bars are stored.
B Bar selection device; it allows the first bar to be lowered into the guides and holds back the remaining bars in the magazine.
C Guides; they guide the bars during machining.
D Bar-pusher; it pushes the bar during machining.
E Feed chain; it transmits motion from the drive system to the bar-pusher.
F Drive system; it drives the bar-pusher and the bar feeder parts controlling bar insertion into the collet and subsequent bar remnant extraction. It also drives the bar feeder parts controlling guide opening/closing and bar selection.
G Clutch; it transmits motion from the drive system to the feed chain. It can be set to obtain thrust adjustment.
H Sensors unit; enable control and command of bar feeder movements.
L Clamps; they hold the bar during bar introduction in and extraction from the bar-pusher collet.
M Facing device; it sends a signal at bar passage.
N Remnant collection box; bar remnants are dropped into this box after extraction from the bar-pusher collet.
P Lubricating pump; it delivers oil to the guides.
Q Oil recovery device; it collects oil flowing out of the guides.
R Hand-held keyboard; it allows bar feeder programming and function actuation.
S Electric cabinet; it contains the electric switchboard.
T Lathe

2.2 OPERATING CYCLE - GENERAL DESCRIPTION

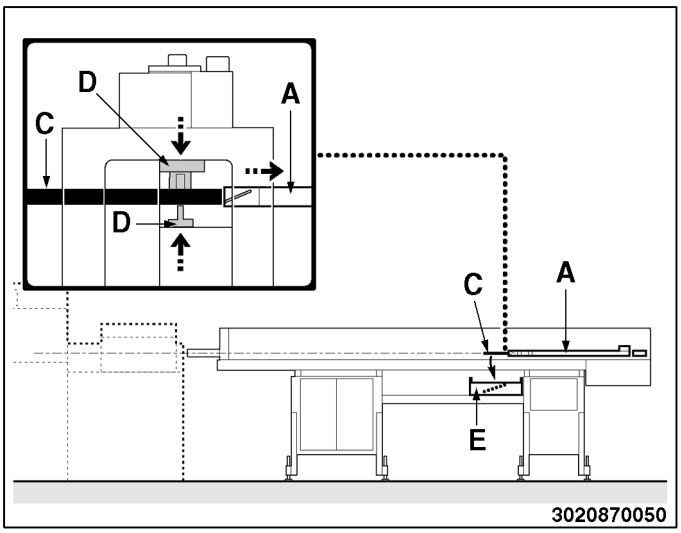
In the automatic operation mode, bar feeder movements are controlled in the sequence described below:



PHASE 1
The bar-pusher (A) feeds bar (B) in the lathe by following lathe impulses until bar end.

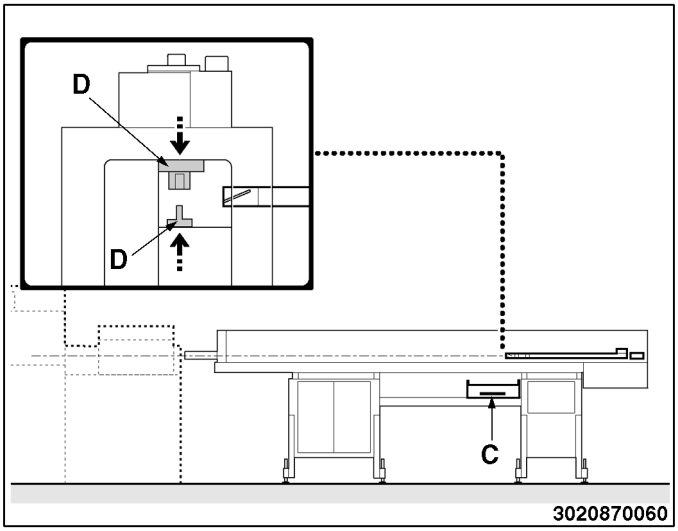


PHASE 2
The bar-pusher (A) and remnant (C) are in their forwards limit stop position.

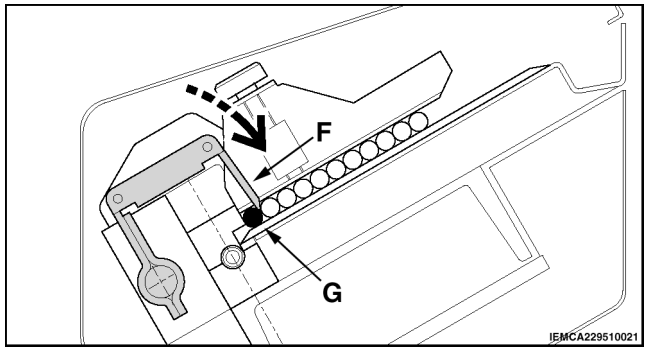


PHASE 3
The bar-pusher (A) and remnant (C) reach their backwards limit stop position.
The clamps (D) close and the bar-pusher moves back; the remnant is extracted from the collet.
The clamps open and the remnant is dropped into the box (E).

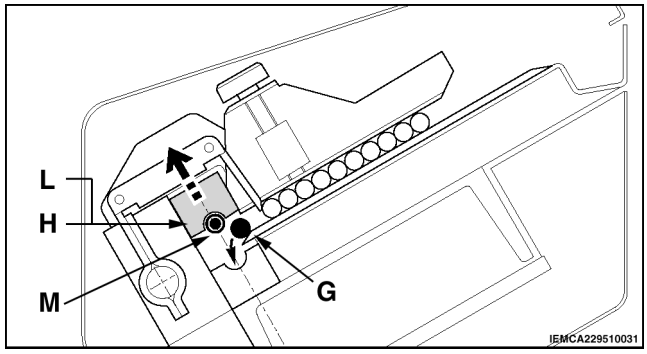
PHASE 4
Clamps (D) close again to perform remnant (C) extraction check.
If the remnant is still inserted in the bar-pusher collet, the feeder stops; otherwise, it continues its cycle.



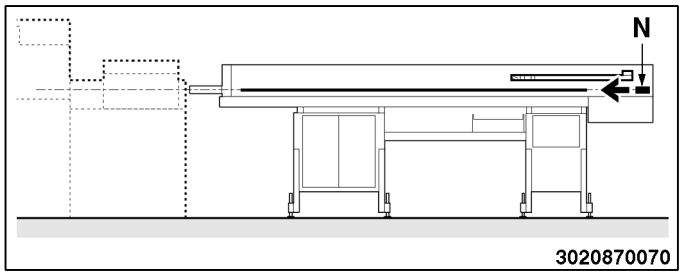
PHASE 5
The bar selector (F) is lowered, and all the bars in the magazine are held back except for the first bar (G).



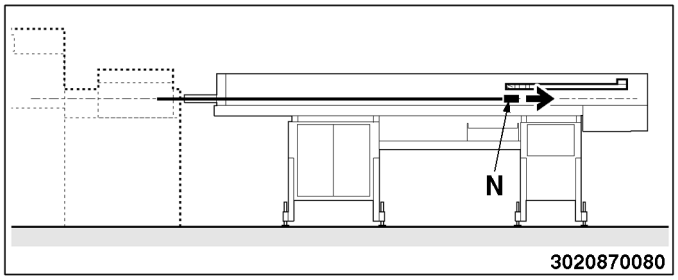
PHASE 6
The front top guide channels (H) and rear top guide channels (L) rise up together with the bar pusher (M), and bar (G) falls into the lower guide.



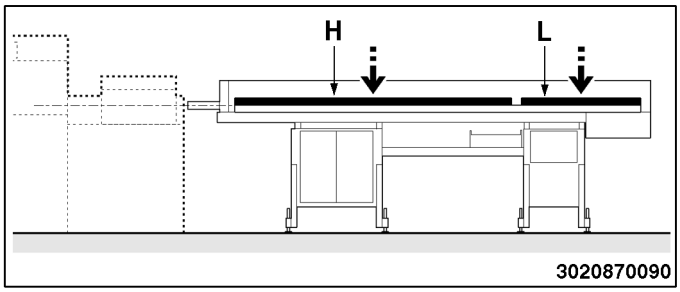
PHASE 7
The small pusher truck (N) starts its stroke.



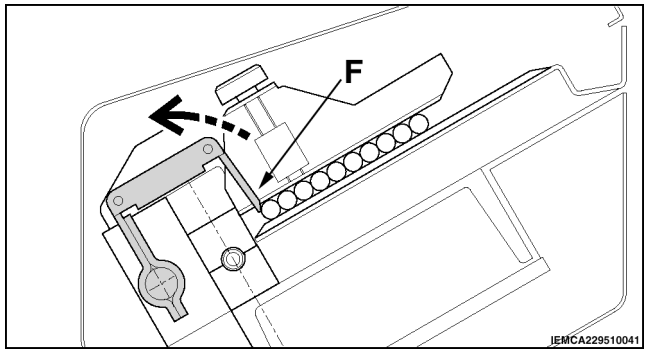
PHASE 8
When the small pusher truck (N) completes its stroke, the required space has been created for bar-pusher insertion.
The small pusher truck executes its return stroke.



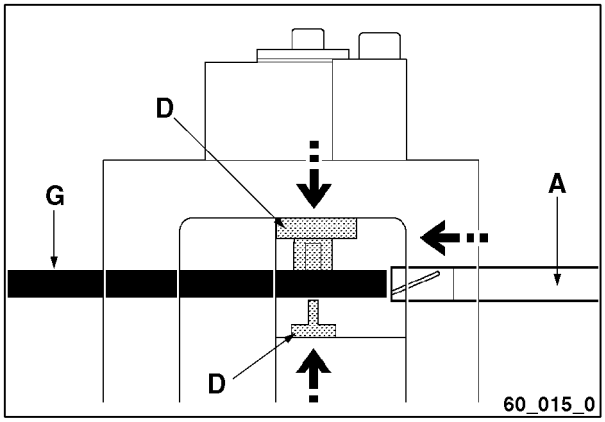
PHASE 9
The front top guide channels (H) and rear top guide channels (L) close; the bar pusher places itself along the bar axis.



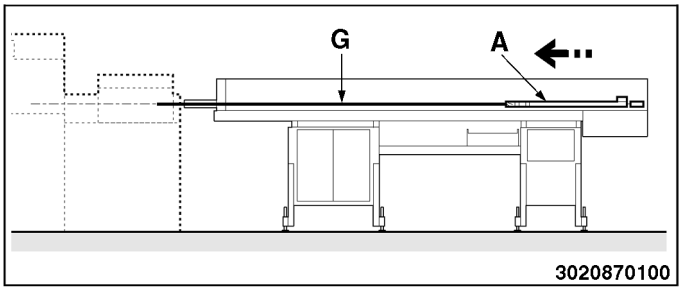
PHASE 10
The bar selector (F) rises.



PHASE 11
The clamps (D) close, the bar-pusher (A) moves forwards; the bar (G) is inserted into the bar-pusher collet.



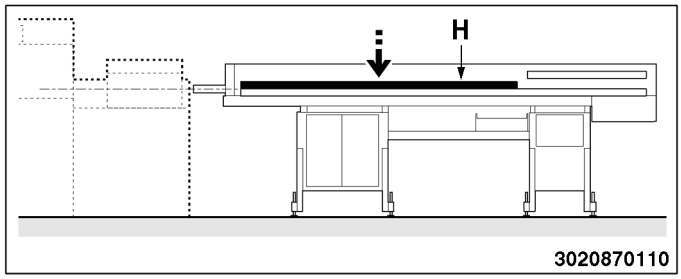
PHASE 12
The bar-pusher (A) and bar (G) execute their facing stroke. (A) new automatic work cycle is started.



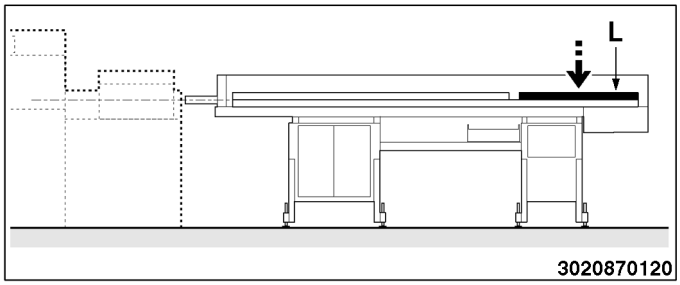
OPTIONAL WORKING CYCLE

For working on bars with very small diameters (less than 2 mm), or highly flexible bars, the standard working cycle of the bar feeder can be modified so that closing of the top front guide channels occurs before the first feeding stroke.
The working cycle is different from the standard one, as described below.

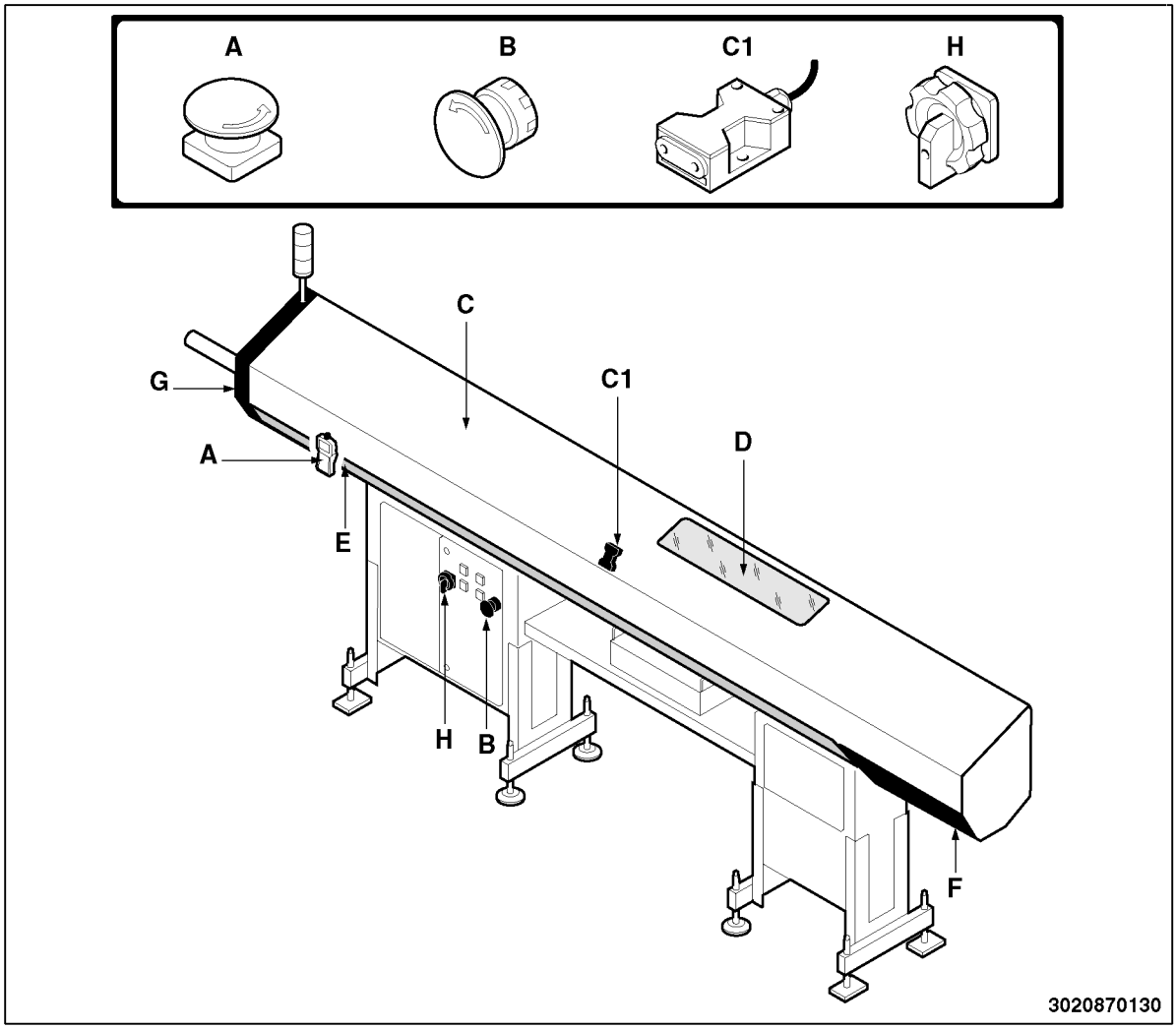
PHASE 6/1 optional
Closing of the front top guide channels (H) occurs after the bar falls into the lower guide channels (phase 6).
This movement ensures that the bar is "conducted" to the next first feeding phase (phase 7).



PHASE 9 optional
Closing of the rear upper guide channels (L) occurs after the first feeding carriage has performed a return stroke (phase 8).



2.3 SAFETY DEVICES - POSITION AND DESCRIPTION



A B EMERGENCY BUTTON; by working it, all feeder and lathe functions are stopped in an emergency situation.

C INTERLOCKED SLIDING GUARD: connected with the microswitch (C1).
When this guard is opened, the bar feeder and lathe will stop.
Only if this guard is opened during the feeding phase will the bar feeder and lathe continue to work without this implying any risks for the operator.

D FIXED GUARD: made of transparent material to allow visual inspection of the bar magazine area and the terminals.

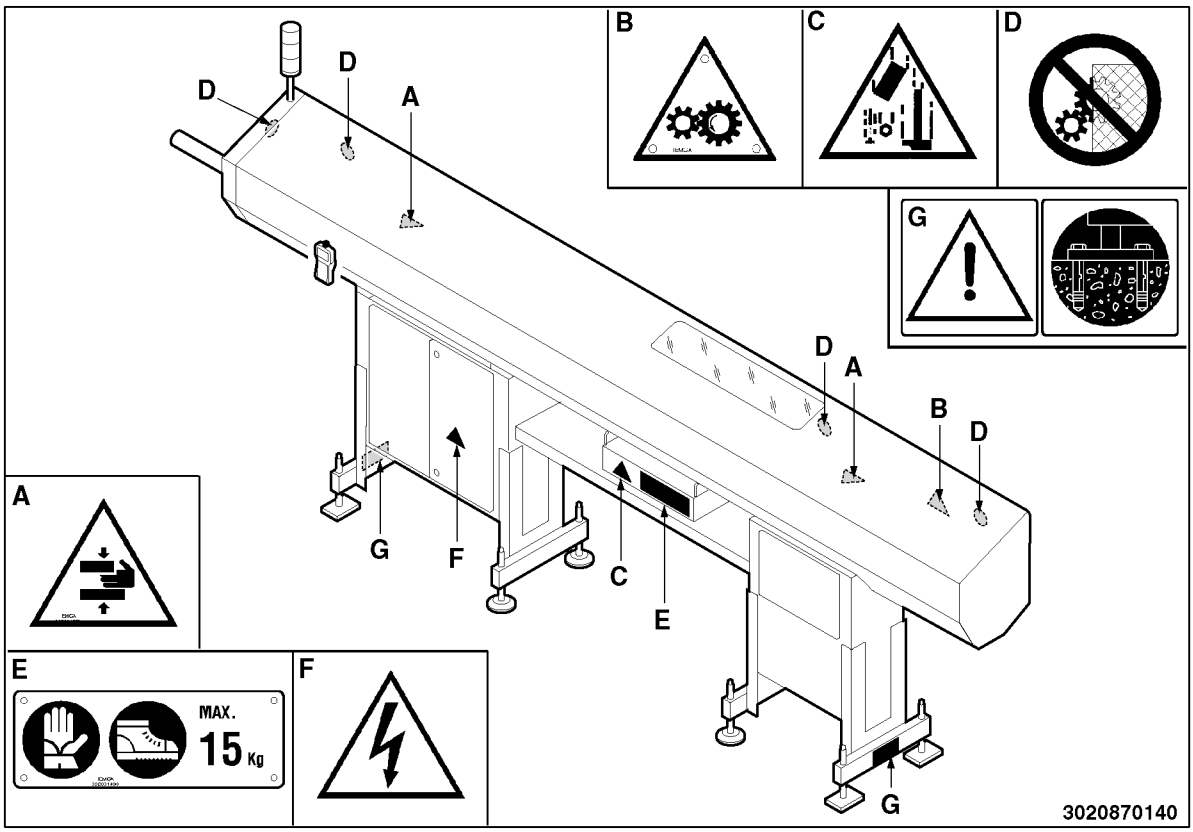
E FIXED GUARD: prevents unintentional access to moving parts.

F FIXED GUARD: it prevents accidental access to the drive area.

G FIXED GUARD: iprevents unintentional access to moving parts.

H MAIN SWITCH: disconnects the electric supply source when operations are being performed on the electric panel, and when the feeder is not in use.

2.4 SAFETY PLATES - POSITION AND DESCRIPTION



A Danger of arm crushing.
B Beware of running parts.
C Danger of material fall.
D Do not remove safety barriers.
E Wear working gloves and shoes.
Do not lift manually loads exceeding 15 kg.
F Danger of electric shock.
G Warning: fix the bar feeder to the ground.

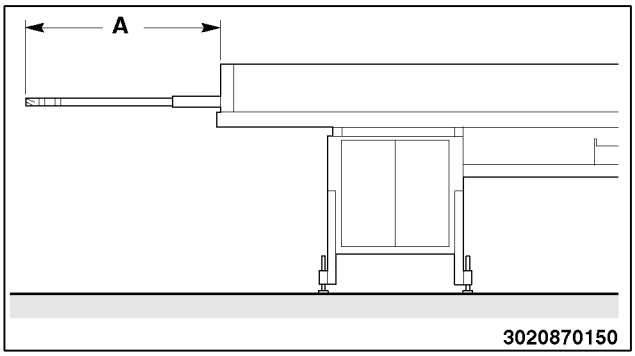
2.5 VERSION DESCRIPTION

Table 1. Maximum bar length

Model	Version	Max. length mm (ft)
GENIUS 118	32	3210 (10.5)
	37	3730 (12.2)

Table 2. Max. bar-pusher extension

Model	Version	A – Max extension (mm)
GENIUS 118	L	958
	LL	1218
	XL	1478



2.6 TECHNICAL SPECIFICATIONS

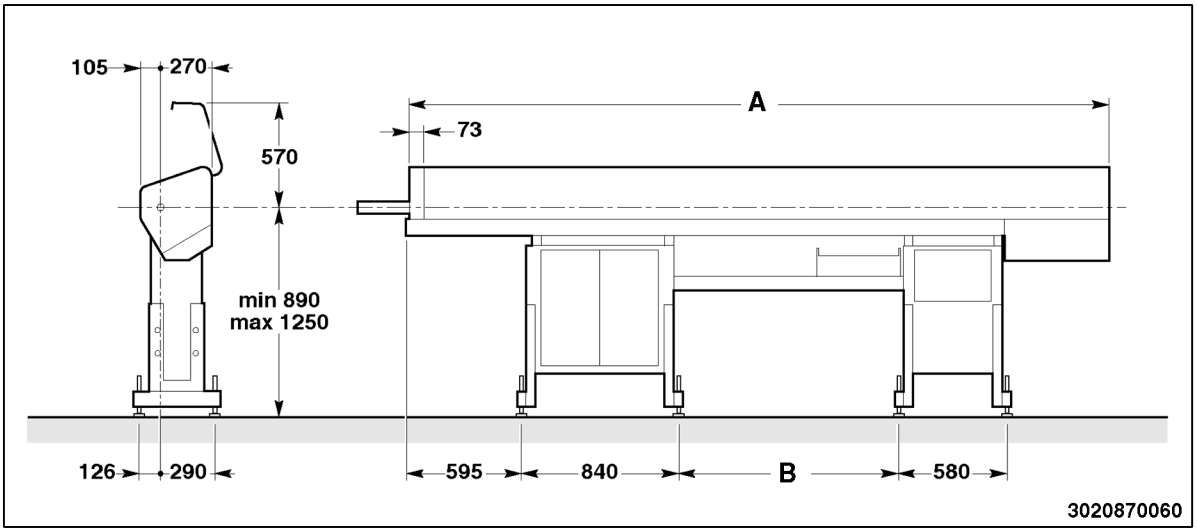


Table 3. Overall dimensions

Model	Version	A (mm)	B (mm)
GENIUS 118	32	3755	1185
	37	4275	1705

Table 4. General technical data

	GENIUS 118	
Round bar diameter	Ø min 1 mm (3/64")	Ø max 18 mm (45/64")
Square bar side	min 1 mm (3/64")	max 12 mm (5/8")
Hexagonal bar height (key socket)	min 1,5 mm (3/16")	max 15 mm (43/64")
Minimum bar length	1500 mm	
Maximum bar length	Mod. 32 – 3210 mm (10.5 ft) Mod. 37 – 3730 mm (12.2 ft)	
Magazine capacity (working width)	220 mm (es. 22 barre da Ø 10 mm)	
Maximum bar remnant length	400 mm	
Bar change time	Mod. 32 – 30 sec Mod. 37 – 32 sec	
Feed speed	500 mm/sec	
Return speed	1000 mm/sec	
Supply voltage	230/400 Volt	
Control voltage	24 Volt	
Installed power	1.5 kW	
Air pressure	6 bar	
Quantity of oil	40 l	
Dry weight	Mod. 32 – 650 kg. Mod. 37 – 700 kg.	

Table 5. Working axis height

Model	Upper screws position	X (mm)
GENIUS 118	1	890÷949
	2	950÷1009
	3	1010÷1069
	4	1070÷1129
	5	1130÷1189
	6	1190÷1250

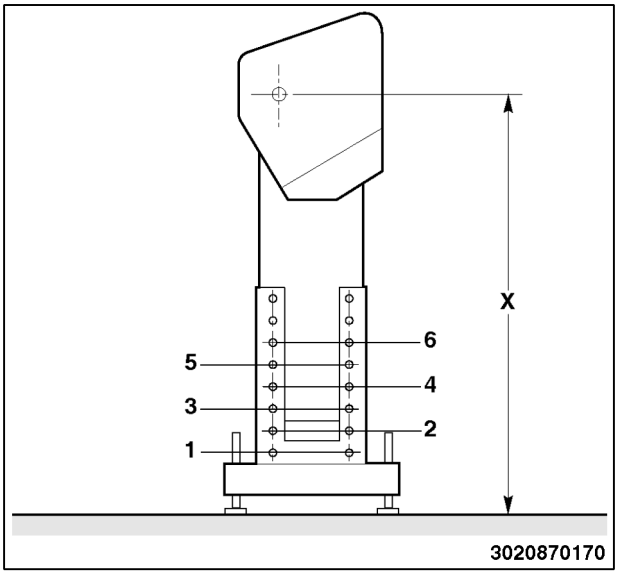


Table 6. Diameters of guides, revolving tip, bars and pipes

Model	Guide diameter (mm)	Revolvig tips diameter (mm)	Bar diameter (mm)		Largest tube diameter (mm) (*)
			Min.	Max.	
GENIUS 118	**6**	5	1	4,7	5,5
	8	7,5	2	6,5	7,5
	11	10	3	8	10
	14	12	3	10	12
	16	15	4	13	15
	18	17	4	15	17
	20	18	4	17	19
	22	20	5	18	20

(*) valid also for prepared bars or normal bars machined with front remnant ejection.

CAUTION:

Barstock diameters for any guide channel are only given as an example. (A) barstock diameter approximately 5 mm smaller than the guide channel diameter may cause vibration and failure to the bar feeder.

Therefore, it may be necessary to slow down the bar rotation speed or to change the guide channel diameter in order to obtain the best performance for a specific application.

Table 7. Lubricating oils for guides

ISO/UNI rating	Make	Name
C class CKB 32	Agip	Acer 32
	Api	Api Cis 32
	BP	Energol CS 32
	Castrol	Magna 32
	Chevron	Circulating Oil 32
	Elf	Movixa 32
	Esso	Nuto 32
	Fina	Solna 32
	IP	IP Hermea 32
	Klüber	Crucolan 32
	Mobil	Vectra Oil Heavy
	Olio FIAT	Daphne LPN 32
	Roloil	Arm V 32
	Shell	Vitrea 32 Tellus C 32
	Tamoil	Industrial Oil 32
	Texaco	Omnis 32
	Total	Cortis 32
		Azolla ZS 32
	Q8	Verdi 32

Lubricants for use with small diameter bars (ø1...4.7mm with ø6 mm guide).

ISO/UNI rating	Make	Name
CLASSE FD 10	Agip	Oso 10
	Api	Api Cis 10
	BP	Energol HP 10
	Castrol	Magna 10
	Elf	Spinelf 10
	Esso	Spinesso 10
	Fina	Hydra 10
	IP	Hydrus 10
	Klüber	Crucolan 10
	Mobil	DTE 21
	Olio FIAT	Hydrobak 10
	Roloil	LI 10
	Shell	Tellus C 10
	Tamoil	Tam Spindle Oil 10
	Texaco	Rando HD 10
	Total	Azolla ZS 15
	Q8	Haydn 10

Table 8. Air lubricator oils

Model	ISO/UNI rating	Make	Name
GENIUS 118	ISO 3448-32	BP	Energal HLP32
		CASTROL	Hyspin AWS32
		CENTURY	PWLA
		ELF	Elfolna 32
		ESSO	Nuto H32
		GULF	Harmony 32
		MOBIL	SHC 524
		MOBIL	DTE 24
		MOBIL	DTE Oil Light
		SHELL	Tellus 32
		TEXACO	Rondo 32

2.6.1 Noise levels

Bar feeder does not cause acoustic noise.
Noise occurs when lathe, connected to the bar feeder, is working and the bar is rotating into bar feeder guides.
In such a case, noise level emitted depends on the following conditions:

- perfect alignment and levelling of the lathe-bar feeder unit;
- proper fastening to the floor both of lathe and bar feeder;
- suitable bar gripping device fitted on lathe;
- dimensions of guide channel and bar-pusher suited to the bar stock;
- front guide bush of suitable diameter (if supplied);
- bar with a straightness within prescribed limits (max. arrows equal to 0.5 ‰m of the bar length);
- spindle liner having the same diameter as the bar feeder guide channel diameter;
- spindle rotation speed suitable for the material to be machined;
- as to the bar feeder, use of oil having features suitable for the diameter of the bar to be machined;
- all bar feeder panels must be closed.

Should the above mentioned conditions be met, the noise level emitted during bar rotation into the guide channel, measured in compliance with the international standards, will be within the following limits:

- brass and steel round bars within 80 dbA
- hexagonal steel bars within 83 dbA
- brass hexagonal bars within 85 dbA

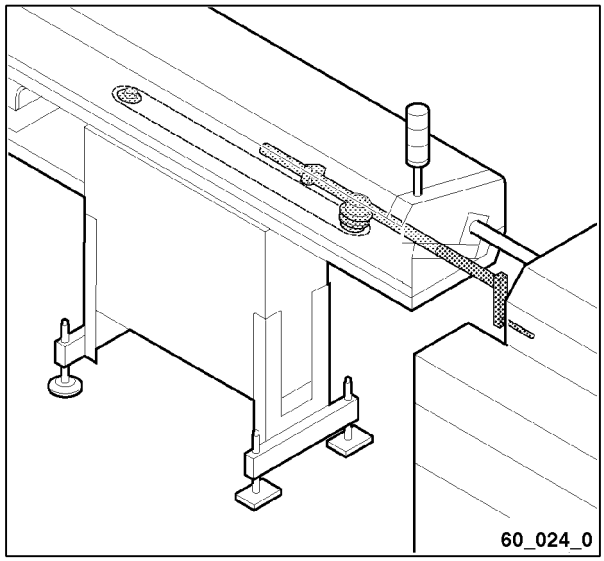
2.7 ACCESSORIES - DESCRIPTION

To improve the feeder performance and increase its versatility, a few optional devices are available which are listed and then described below.

2.7.1 Precision facing device - Description
2.7.2 Axial displacement device - Description
2.7.3 Bush-holder device - Description
2.7.4 Guide channels, bar pusher, embouts tournants and pinces - Instruction selection

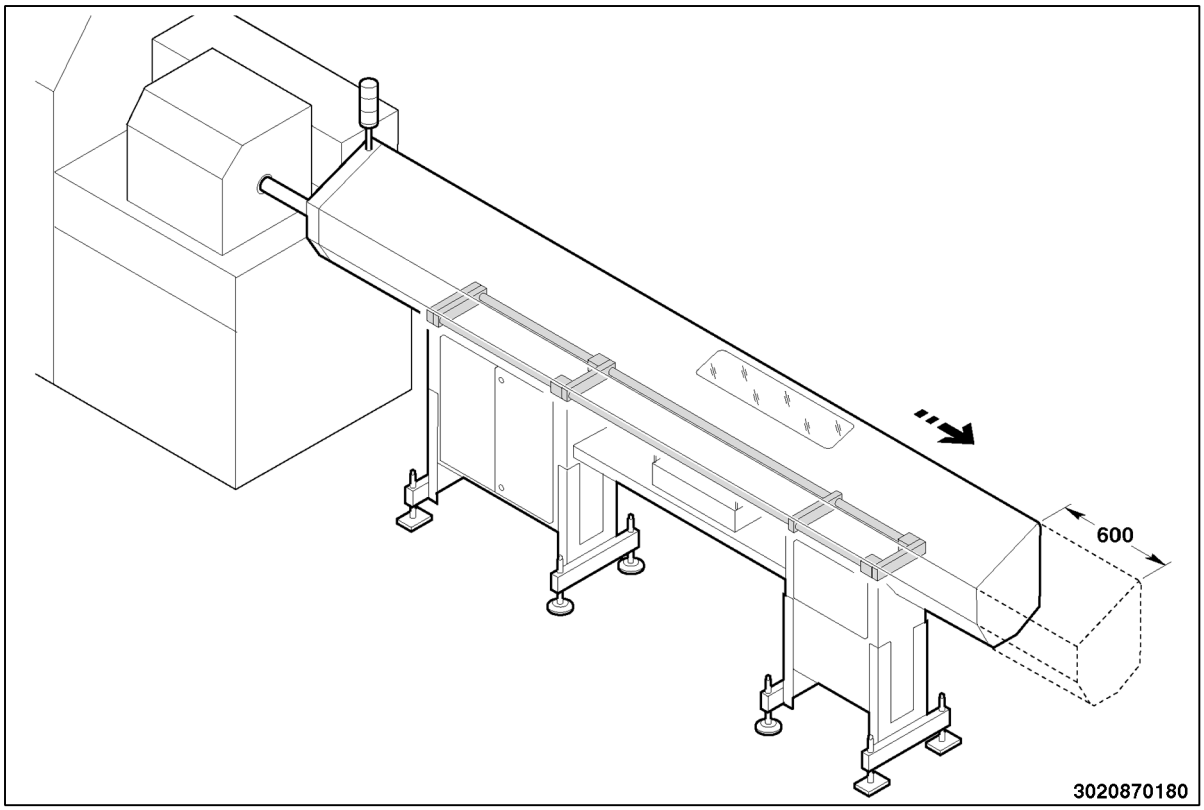
2.7.1 Precision facing device - Description

Used where it is necessary to ensure precise positioning of the bar at the beginning of the working cycle. Can be applied in all operations using a sliding headstock lathe in which the return is ensured by a draw spring.



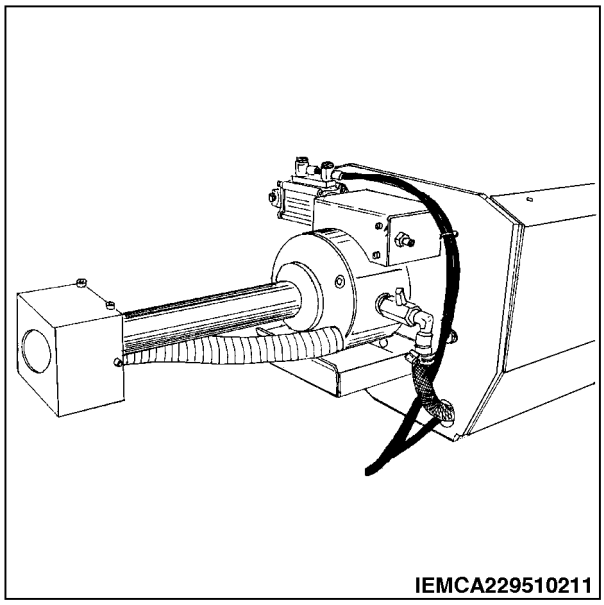
2.7.2 Axial displacement device - Description

It allows the feeder to be moved away from the lathe to allow maintenance, cleaning or any other servicing of the lathe



2.7.3 Diaphrgram bushing device OPTIONAL - Description

This device, attached to the front of the bar feeder, serves to reduce bar vibration to a minimum by keeping the bar centered during rotation using three diaphragm baffles, which, when closed, form a semi-circular channel with a diameter slightly larger than that of the bar being machined.



The diaphragm baffles are size parts and must be changed when the bar diameter changes.

OPERATION:
- When the bar is dropped into the guide channel, the front bar centring device remains open.
- Closure is controlled by a pneumatic cylinder after the feeder has completed the bar feeding cycle. Closure also triggers the oil flow for lubrication and support of the bar.
- When the bar-pusher approaches the device, the diaphragm baffle plates open to allow it to transit and the oil flow is simultaneously discontinued.

2.8 DEVICES FOR SLIDING HEADSTOCK LATHE - DESCRIPTION

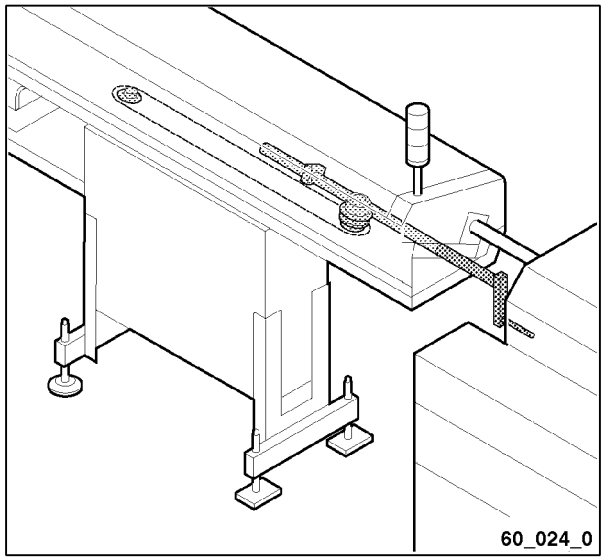
To improve the feeder performance and increase its versatility, a few optional devices are available which are listed and then described below.

2.8.1 Bar/headstock synchronizing device - Description

2.8.2 Telescopic nose - Description

2.8.1 Bar/headstock synchronizing device - Description

It is used to connect the bar-pusher (and consequently, the bar) to the lathe headstock, to obtain their synchronized forwards/backwards movement.

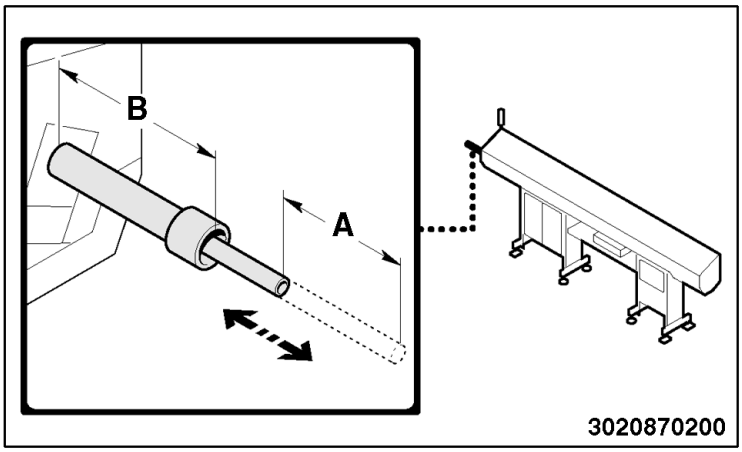


2.8.2 Telescopic nose - Description

Optimises bar guidance in the area between the bar feeder and lathe spindle.

Table 10. Max stroke and overall dimensions

Model	Max stroke A (mm)	Overall dimensions B (mm)
GENIUS 118	120	230
	160	320
	170	200
	220	260
	320	310



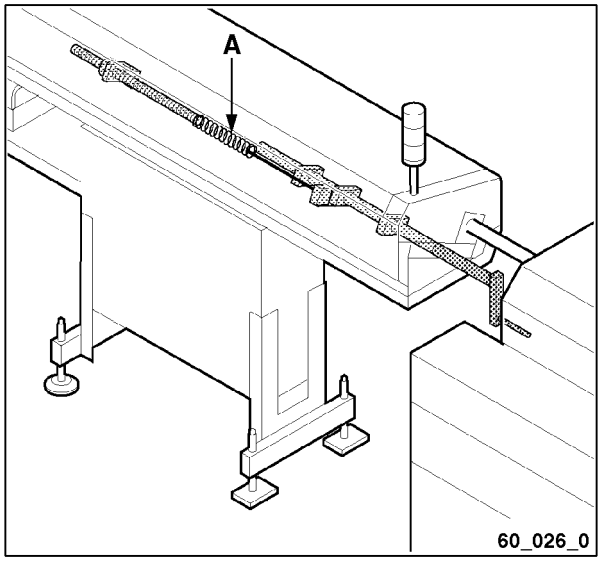
2.9 DEVICES FOR CAM LATHES - DESCRIPTION

This feeder has been designed and manufactured to be coupled to cam lathes too.
To do this, special devices are available which are listed and then described below:

2.9.1 Headstock return device - Description
2.9.2 Cam box- Description
2.9.3 Camshaft release device - Description

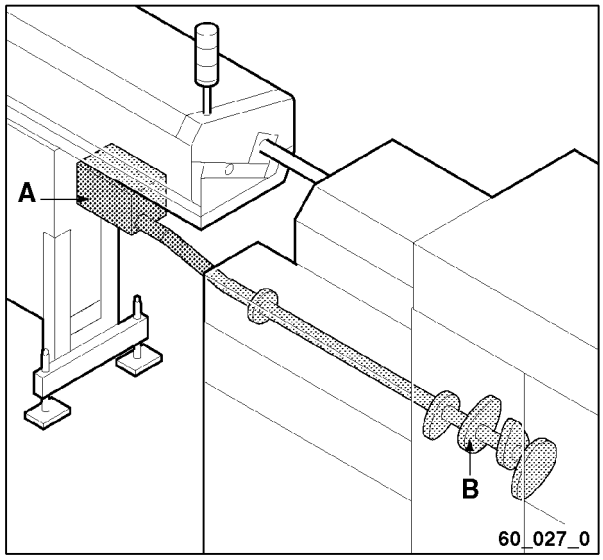
2.9.1 Headstock return device - Description

Necessary when the lathe headstock return spring size hinders feeder installation.
The original lathe spring (A) is then installed inside the feeder.



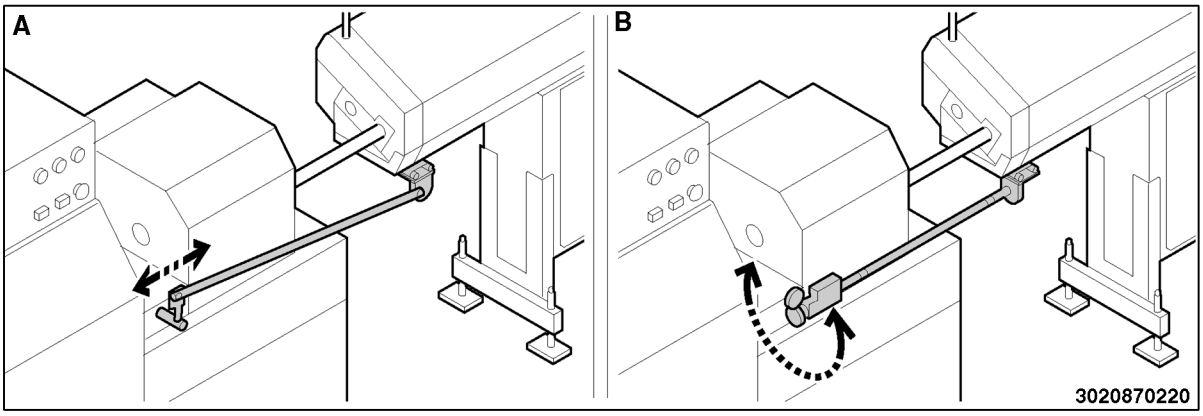
2.9.2 Cam box - Description

Used to synchronize the feeder and cam lathe movements. The cams located in the box (A) are connected to the lathe camshaft (B).



2.9.3 Camshaft release device - Description

Used to release and engage the camshaft during bar changeover. (A) radial version and an (B) axial version of this device are available.



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3.2 HANDLING AND INSTALLATION - Safety 3
3.3 ADJUSTMENTS AND SETTING UP - Safety 3
3.4 USE AND OPERATION - Safety 4
3.5 BAR FEEDER MAINTENANCE - Safety 4

3.1 GENERAL SAFETY PRESCRIPTIONS

It is of the utmost importance to read this manual carefully before installing, using or servicing the bar feeder or performing any other work . Constant compliance with the instructions in this manual is a guarantee of protection against injury.

- The operator and skilled engineer must perform only their specified duties.
- Do not tamper with the safety devices for any reason whatsoever.
- Comply strictly with the work health and safety regulations issued by the relevant authorities in the country of installation of the machine.
- IEMCA declines any liability whatsoever for injury to persons or damage to property if the relevant safety prescriptions are disregarded.

3.2 HANDLING AND INSTALLATION - Safety

- The bar feeder must be handled using suitable means and methods.
- Persons must not stand or transit underneath a suspended load, or within the range of action of the crane, lift truck or other suitable means of lifting and transportation.
- The working area and bar loading area must be cordoned off to prevent collisions between the operator and machines used to transport or handle the barstock or other materials.
- Correct positioning of the bar feeder, adequate lighting and a clean working environment are of the utmost importance as far as personal safety is concerned.
- The electric system connection must be made exclusively by skilled electricians.
- Make sure the electrical system is connected to an efficient earth circuit by means of a dedicated wire.

3.3 ADJUSTMENTS AND SETTING UP - Safety

- Carry out the adjustments as described in the user manual.
- Do not change working parameters to obtain performances other than those envisaged in the design and testing phases.
- Do not adjust the bar feeder when it is running unless expressly requested to do so in the manual.
- Do not feed the machine with bars having dimensions different from those recommended by the manufacturer.
- Do not use hoses as handholds.

3.4 USE AND OPERATION - Safety

- The working area around the bar feeder must always be kept clean and uncluttered in order to allow immediate access to the emergency devices and bar loading to be performed without creating obstructions or danger.
- Perform the cycle starting sequence as prescribed.
- Keep hands and other parts of the body well clear of moving parts or live electrical parts.
- Remove bracelets, watches, rings and neckties.
- Whenever necessary, use strong work gloves with 5 fingers, which do not reduce the sensitivity or power of your grip.
- Wear working shoes as well as personal protection devices provided for by the accident prevention regulations in force in the country in which the machine is installed.
- Inform maintenance personnel of all operating anomalies that come to your attention.
- Before starting the bar feeder, make sure that there are no personnel engaged in servicing or cleaning the machine.

3.5 BAR FEEDER MAINTENANCE - Safety

- Do not allow unauthorized persons to carry out maintenance.
- Read this manual carefully before carrying out maintenance.
- Do not lubricate, repair or adjust the bar feeder while it is running, unless expressly indicated to do so in the manual.
- Stop the bar feeder in accordance with the prescribed methods before carrying out lubrication or other work.
- Do use matches, lighters or torches when servicing the machine in the presence of inflammable fluids.
- Keep spent oil in suitable containers and consign it to companies specialized in the storage and disposal of polluting waste products.
- Do not pollute the environment.
- Use original IEMCA spare parts only.

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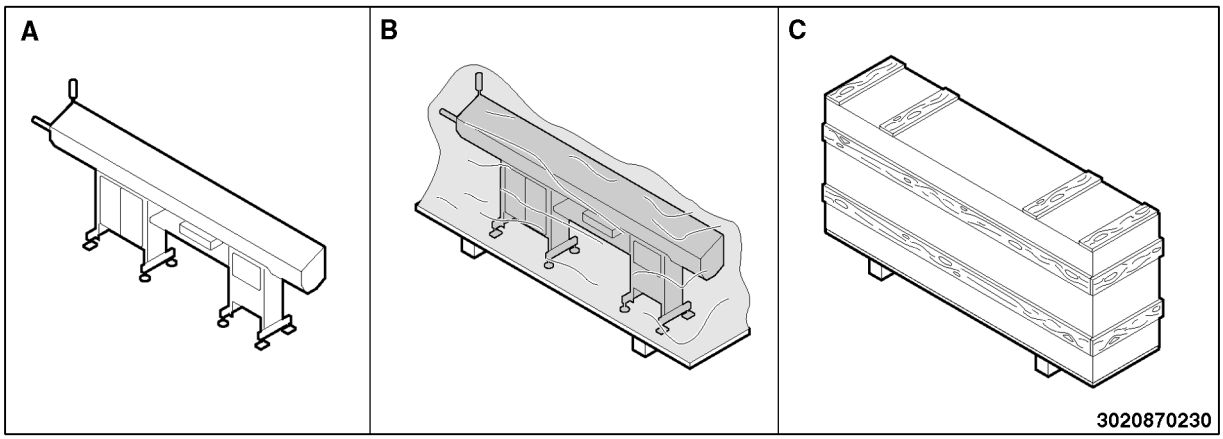
4.1 PACKAGING

There are three possible bar feeder packagings:
A WITH NO PACKAGING
B WITH PALLET: the feeder is placed on a pallet and wrapped in protective film.
C WITH CRATE: the feeder is placed in a crate wrapped in protective film.



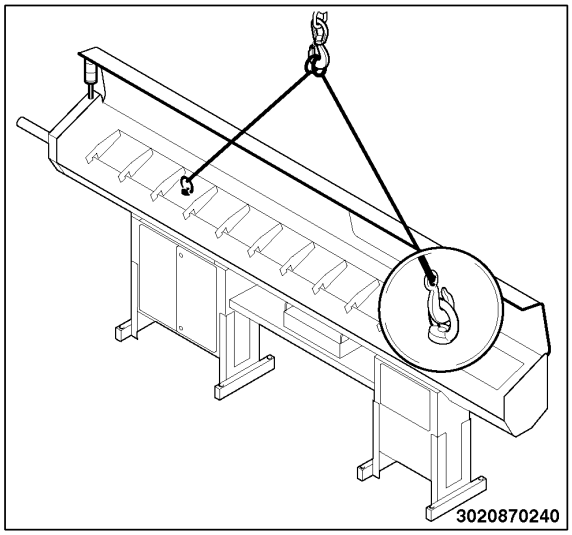
4.2 LIFTING

DANGER - WARNING:
handling and lifting operations should be carried out with suitable equipment (see weight table in paragraph 2.6.) by specially trained and experienced personnel.

According to the packaging choice, lifting is carried out as shown in the next page.

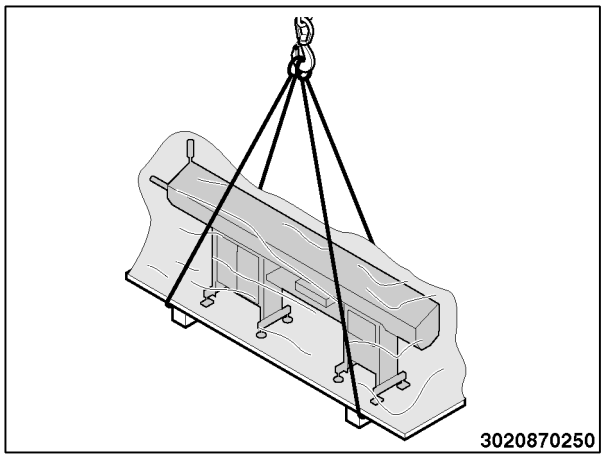
LIFTING WITH NO PACKAGING

- Insert the two eyebolts with threaded shanks (A) (type 1 UNI - ISO3266 M20).
- Use a hook type lifting device of suitable capacity.



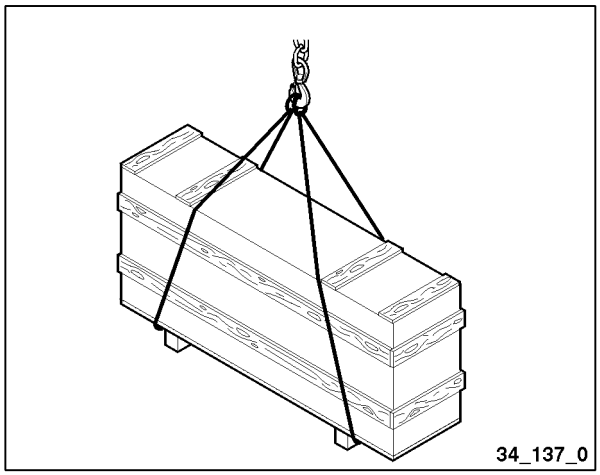
LIFTING WITH PALLET

Use a hook type lifting device of suitable capacity.

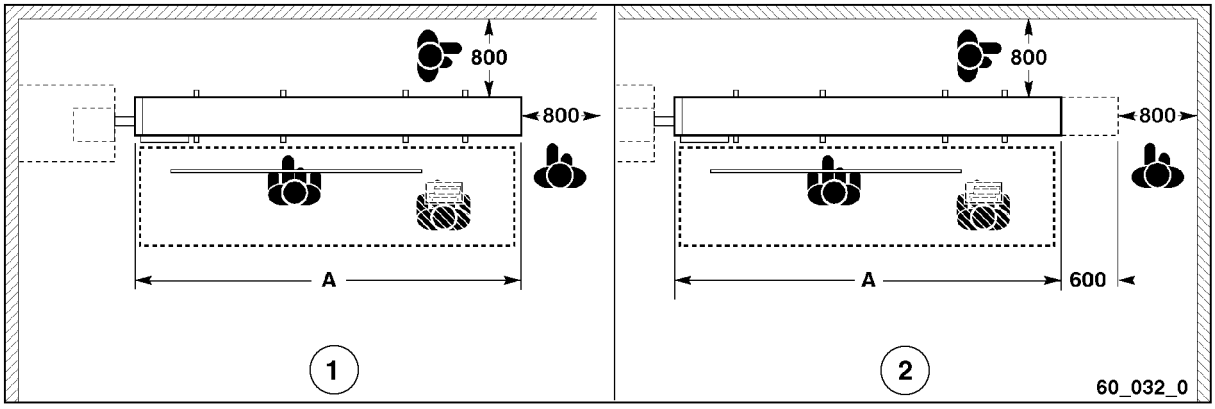


LIFTING WITH CRATE

Use a hook type lifting device of suitable capacity.



4.3 INSTALLATION AREA - CHARACTERISTICS



1 thout axial displacement
2 th axial displacement

The floor should be stable and levelled to guarantee good fastening to the ground.
Provide an area of suitable dimensions according to the type of feeder use.
The areas: (B) (work area), (C) (bar feeding area) and (D) (remnant discharge area) should be properly delimited to prevent collisions between the operator and any handling equipment or transport vehicles travelling near the bar feeder.
The selected bar feeder setting should be suitably lit and provided with an electric power and air outlets.
During operation, the feeder will release small amount of oil vapors. Make sure that the premises where the feeder is installed are suitably ventilated.
The feeder has not been designed and built for use in an explosive atmosphere.

Table 1. Overall dimensions

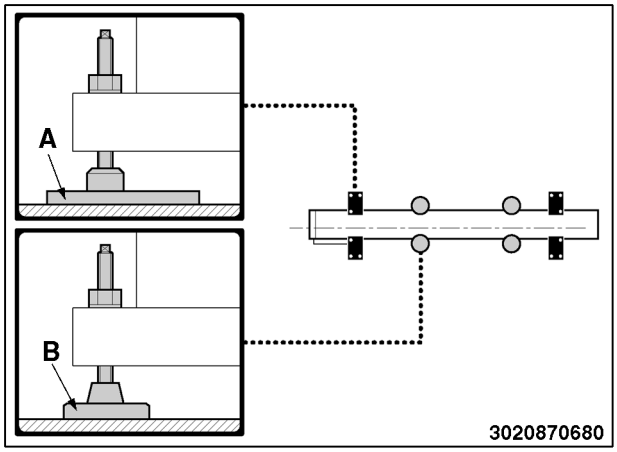
Model	Version	A (mm)
GENIUS 118	32	3755
	37	4275

4.4 INSTALLATION OF BAR FEEDER - INTRODUCTION

Before carrying out feeder installation, check lathe stability; make sure that it is firmly fastened to the ground and with a horizontal spindle axis.

4.4.1 Support plates and feet - Installation

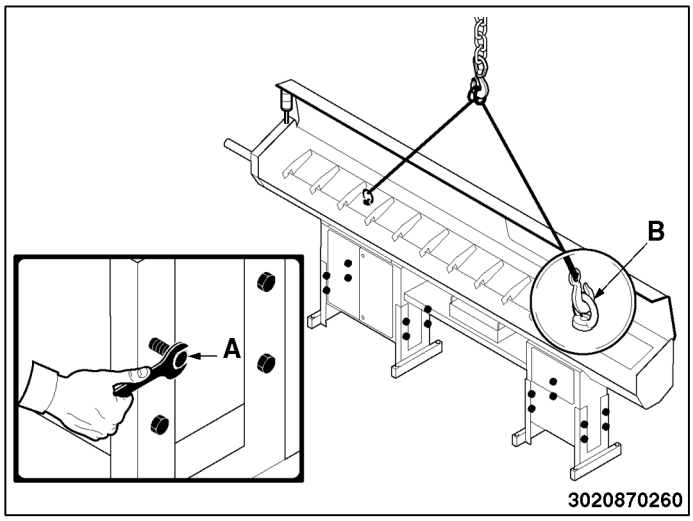
- Position the feeder next to the lathe.
- Keep it lifted and install the plates (A) and feet (B) in the positions shown in the figure.



4.4.2 Height - Adjustment

The feeder is normally factory-preset to have a working axis height adjusted to lathe height. However, if feeder height needs adjustment, proceed as follows:

- tighten the lifting chains and remove the 16 screws (A).



- lift the feeder according to the required dimension X (see table):

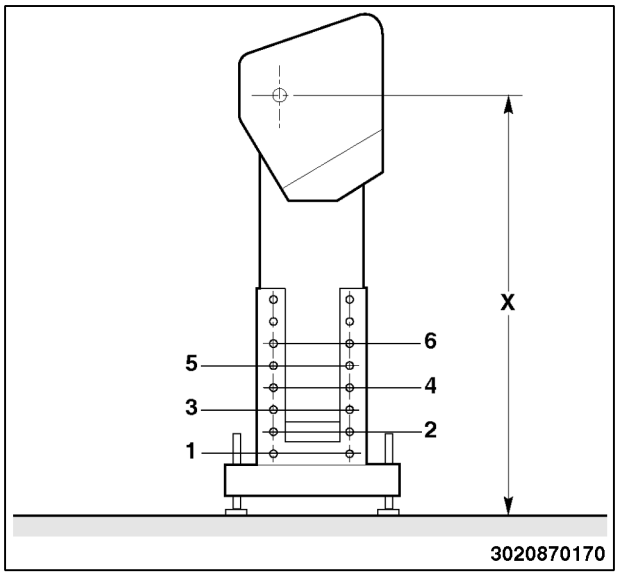


Table 2. Working axis height

Model	Upper screws position	X (mm)
GENIUS 118	1	890÷949
	2	950÷1009
	3	1010÷1069
	4	1070÷1129
	5	1130÷1189
	6	1190÷1250

- screw down the screws (A) and remove the eyebolts (B).

4.4.3 Preliminary positioning

- Position the feeder behind the lathe, by taking into account the overall dimensions and side plays of both machines. The coupling distance (B) should not exceed the bar-pusher max. extension (A).

1 Fixed headstock or steady rest lathe
2 Sliding headstock N.C. lathe
3 Sliding headstock cam lathe

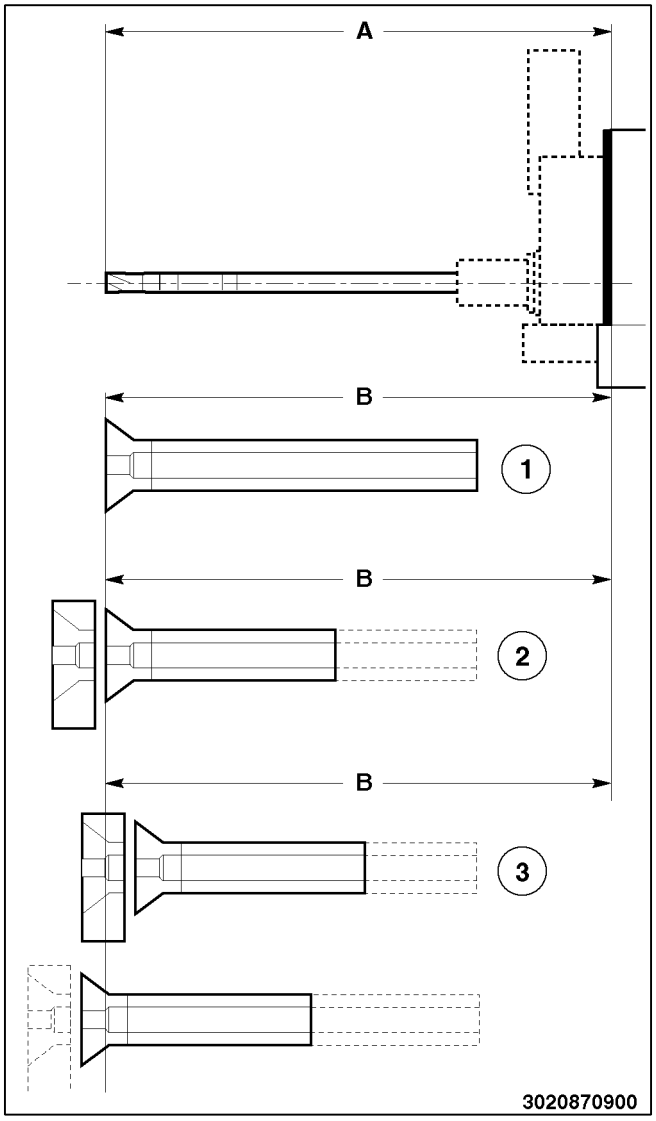
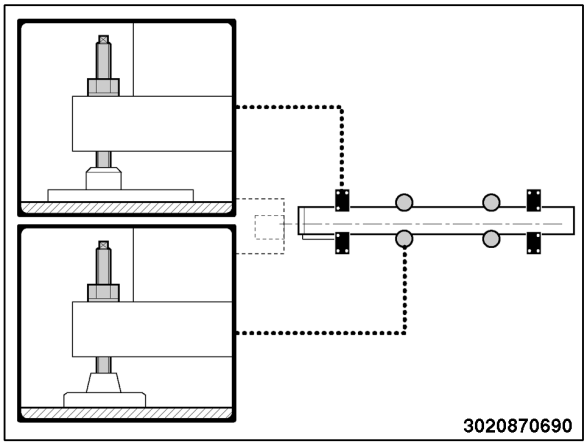


Table 3. Max. bar-pusher extension

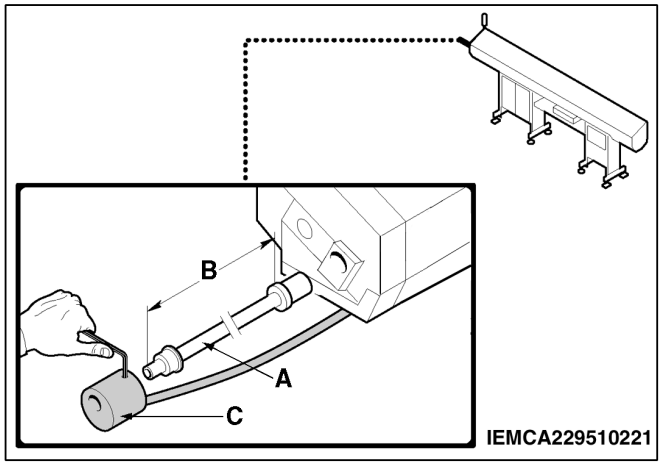
Model	Version	A – Max extension (mm)
GENIUS 118	L	958
	LL	1218
	XL	1478

- Roughly adjust the working axis height to obtain alignment with the lathe by turning the feet screws.



4.4.4 Nose - Installation

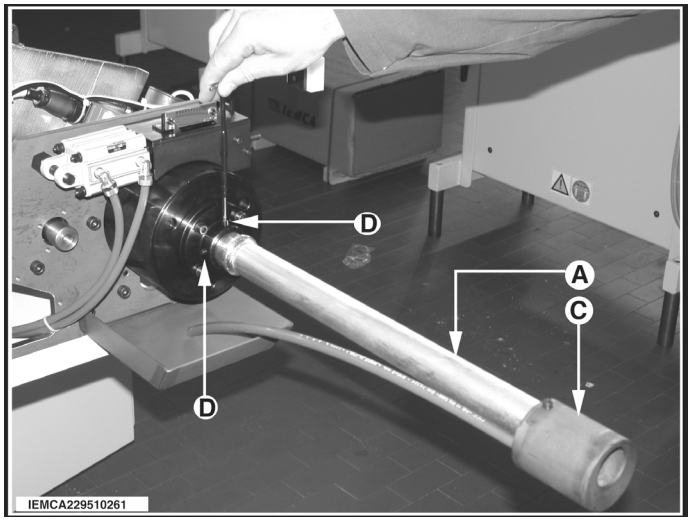
- Cut nose (A) to the length (B) necessary for covering the distance between the bar feeder and the lathe.
- Install the nose.
- Fit the oil recovery (C) and position the drain pipe inside the tank.



With diaphrgram bushing device

- Cut nose (A) to the length (B) necessary for covering the distance between the bar feeder and the lathe.
- Install the nose.

- Fit the oil recovery (C) and position the drain pipe inside the tank.



4.4.5 Levelling and alignment

FOREWORD

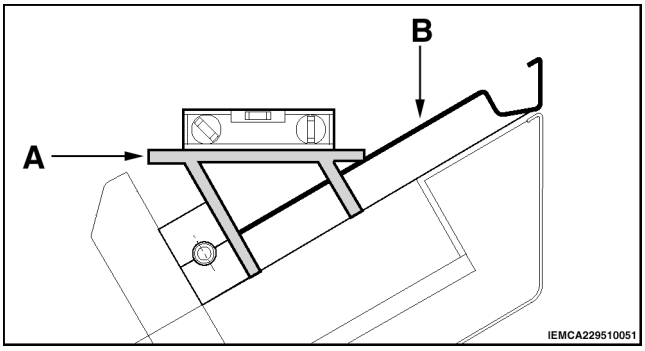
Alignment between the feeder and lathe is the most critical installation phase; therefore, this operation should be carried out by experienced personnel with the greatest accuracy.

CAUTION:

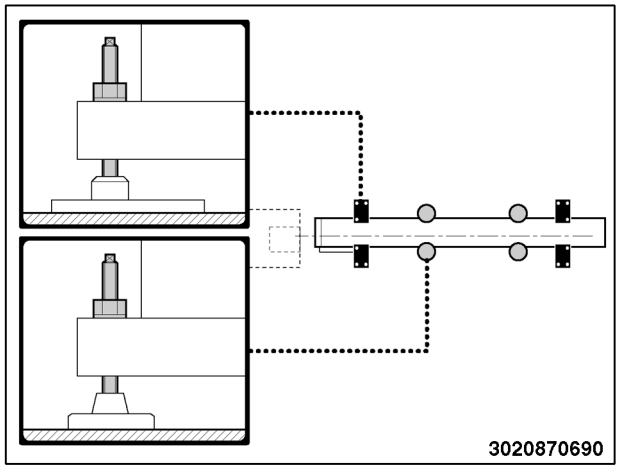
bad alignment can be the main cause of feeder malfunction and resulting damage.

LEVELLING

- Rest the template A on the beam through the holes on shelves B.
- Check the levelling by placing the level transversally and longitudinally.

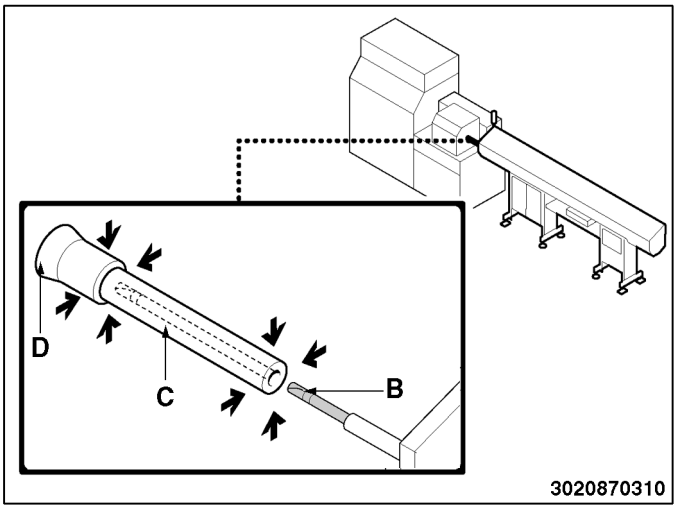


- Make the necessary corrections by adjusting the feet screws.



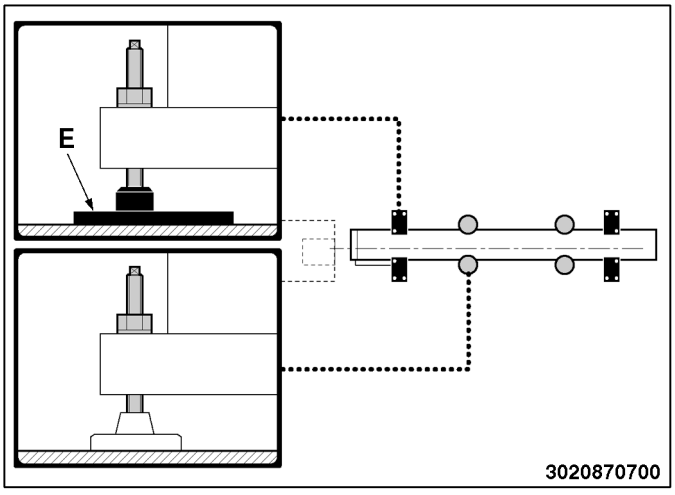
ALIGNMENT

- Position the bar pusher (B) at the inlet of spindle (C) of the lathe and check the alignment.
- Position the bar pusher in the forward end-of-travel position, close to collet (D) of the lathe, and check the alignment.



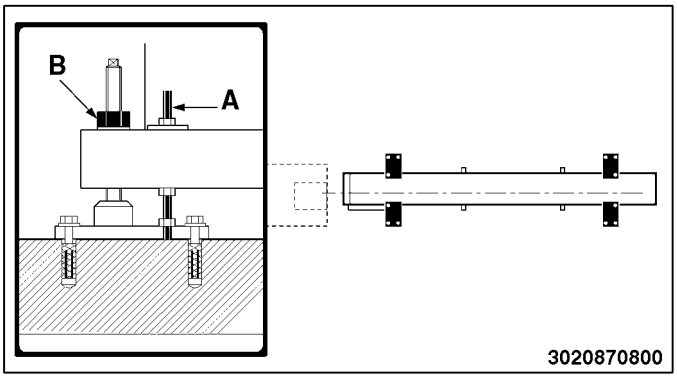
POSITIONING ADJUSTMENTS

Make the necessary corrections after checking alignment of the bar feeder.
Adjust height by turning the screws in the support feet; carry out lateral adjustment with calibrated mallet blows on the sides of plates (E).
During this phase, any adjustment carried out during levelling should be preserved; therefore, in most cases, feeder positioning will be the result of a good adjustment compromise.



4.4.6 Feeder fastening

FASTENING TO THE GROUND



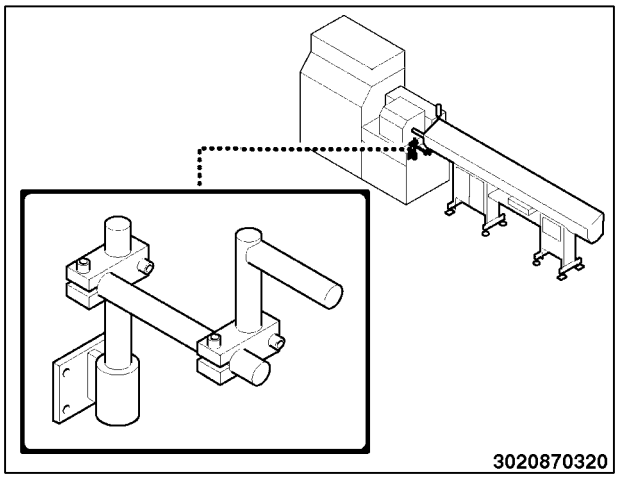
CAUTION:

failure to fix the bar feeder to the ground or bad bar feeder fixing to the ground can be the main cause of bar feeder bad operation and resulting damaging.

- Drill the floor and fix the backing plates with expansion plugs.
- Fix the feeder to the plates through the tie-rods (A) and lock with nuts (B).
- Perform another levelling and alignment check.
- Remove all the equipment used for levelling and alignment and restore initial feeder conditions.

FASTENING TO THE LATHE

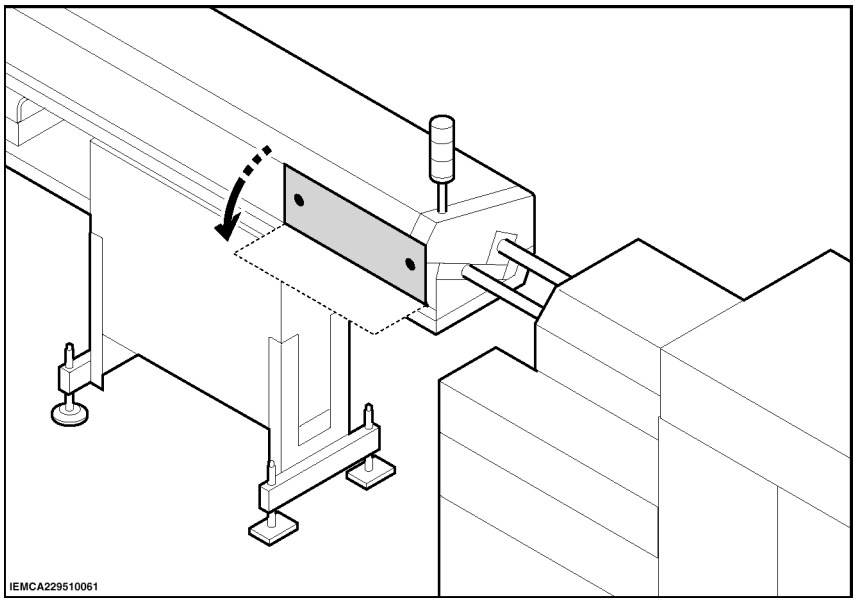
Wherever possible, the feeder should be fastened to the lathe through the suitable coupling unit according to lathe make and type. The figure shows a general example of fastening; contact IEMCA service department for more information.



4.5 ACCESSORIES - INSTALLATION

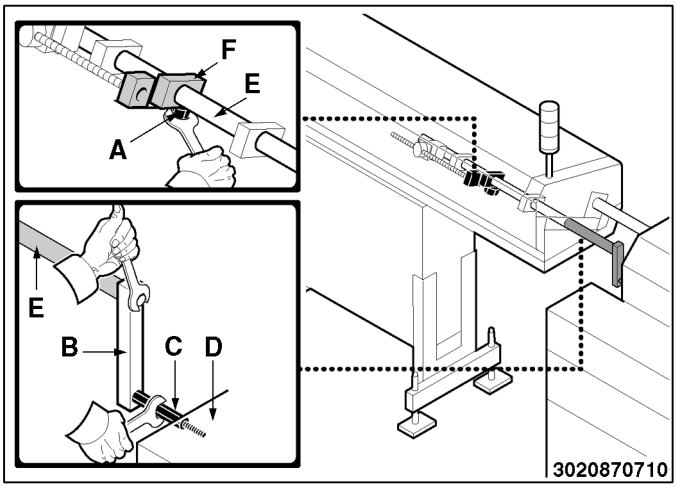
4.5.1 Precision facing device - Installation

- Open the rear guard after loosing its locking screws.



INFORMATION:

the figure shows a general example of installation; contact IEMCA service department for more information.

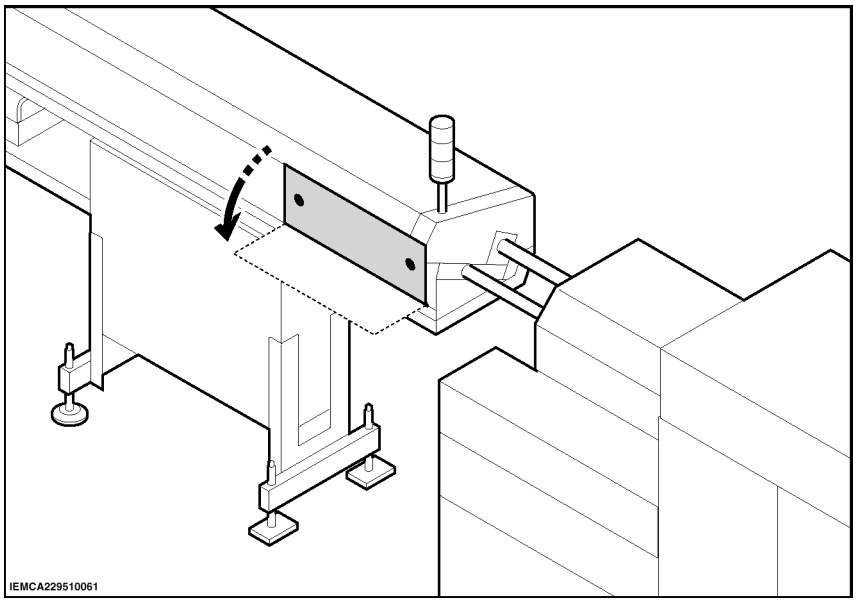


- Screw out the screw (A)
- Install the bar (B) and tie-rod (C) and make sure that the headstock (D) can run freely throughout its stroke together with shaft (E).
- Position the support (F) in such a way as not to hinder the headstock stroke and tighten the screw (A).
- Close the rear guard.

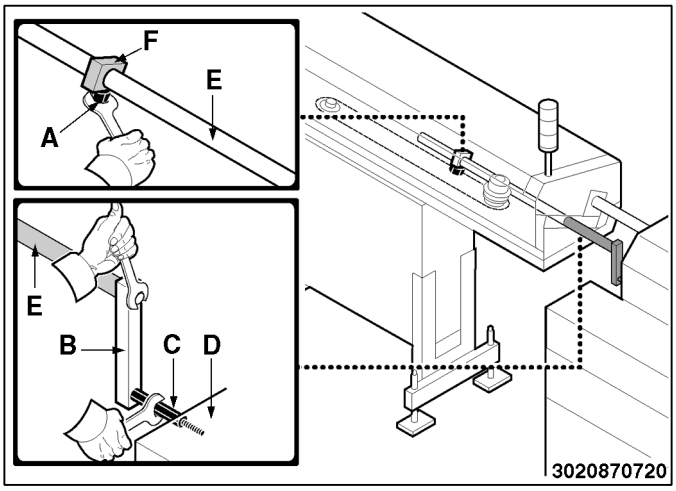
4.6 DEVICES FOR SLIDING HEADSTOCK LATHES - INSTALLATION

4.6.1 Bar-headstock synchronisation device - Installation

- Open the rear guard after loosing its locking screws.



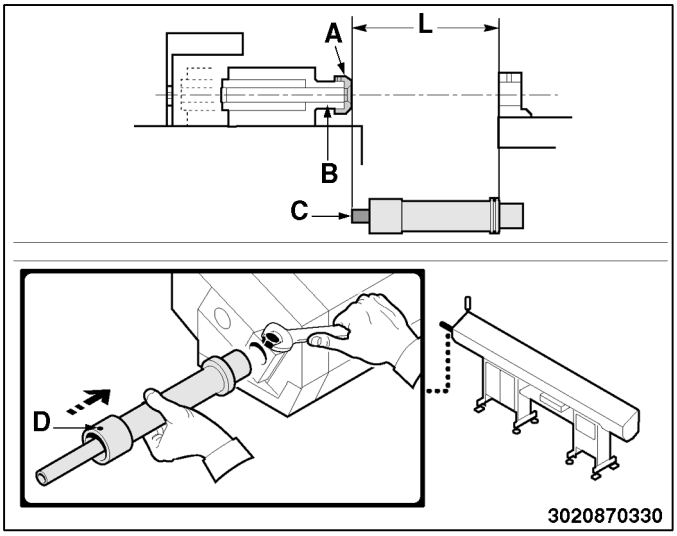
INFORMATION:
the figure shows a general example of installation; contact IEMCA service department for more information.



- Screw out the screw (A)
- Install the bar (B) and tie-rod (C) and make sure that the headstock (D) can run freely throughout its stroke together with shaft (E).
- Position the support (F) in such a way as not to hinder the headstock stroke and tighten the screw (A).
- Close the rear guard.

4.6.2 Telescopic front nose - Installation

- Remove the fixed sleeve that had been installed to obtain alignment between the feeder and the lathe.
- Fix the flange (A) (a general example is shown in the figure).



INFORMATION:

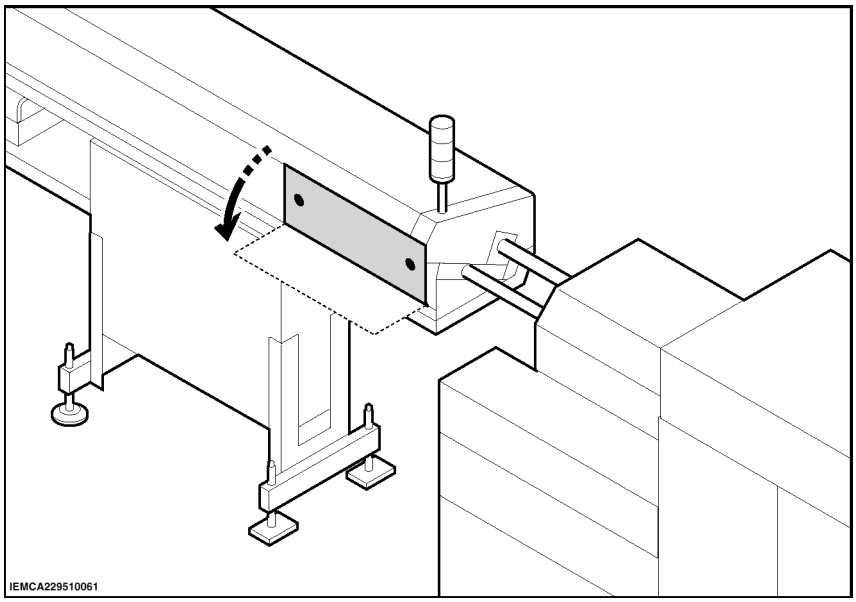
the lathe spindle nose (B) should not turn. If it does, a bearing or another similar device should be mounted to prevent telescopic nose turning after it has been installed.

- Move the headstock to the "completely backwards" position and measure value (L). Push the telescopic nose to the end of travel (less 5 mm) and cut tube (C) to the value measured.
- Move the headstock to the "completely forwards" position and install the nose.
- The small red dot (D) must be pointing up so that the inner oil drain channel points downwards.
- Check smooth sliding of the telescopic nose by moving the headstock forwards and backwards.

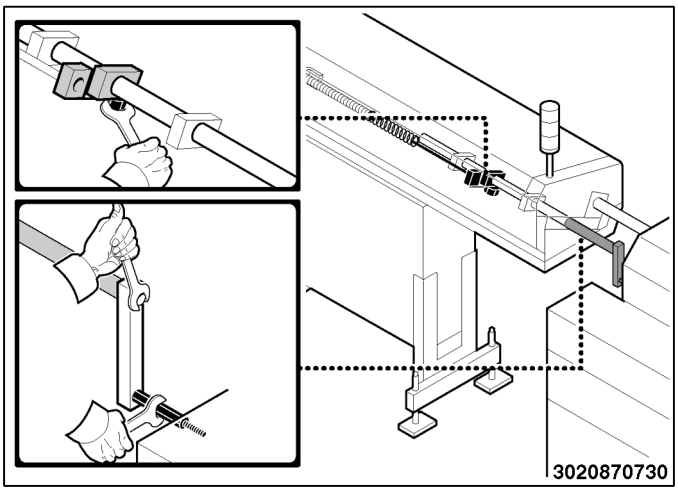
4.7 DEVICES FOR CAM LATHES - INSTALLATION

4.7.1 Headstock return device - Installation

- Open the rear guard after loosing its locking screws.

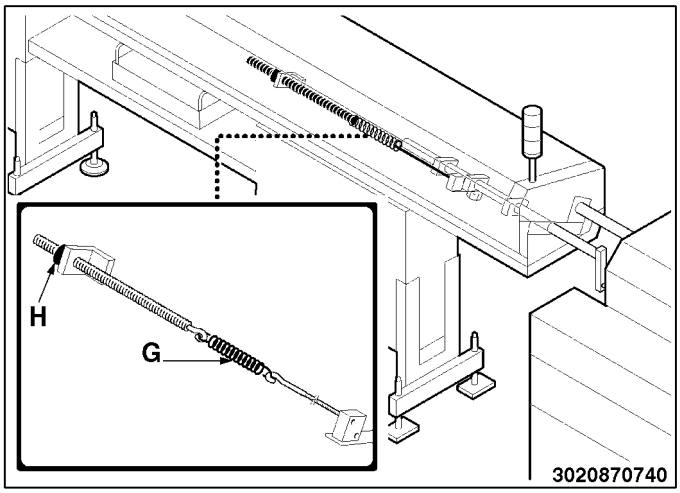


INFORMATION:
the figure shows a general example of installation; contact IEMCA service department for more information.



- Remove the original headstock return unit from the lathe.
- Screw out the screw (A)
- Install the bar (B) and tie-rod (C) and make sure that the headstock (D) can run freely throughout its stroke together with shaft (E).
- Position the support (F) in such a way as not to hinder the headstock stroke and tighten the screw (A).

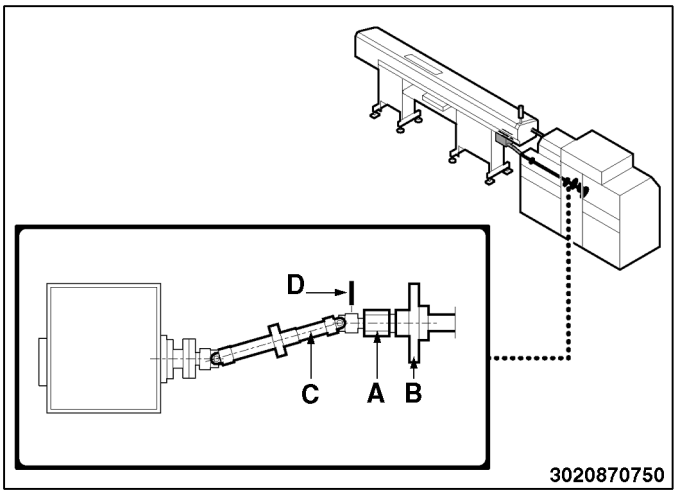
- Install the (original lathe) spring (G) and adjust its tension through the ring nut (H).
- Close the rear guard.



4.7.2 Cam box - Installation

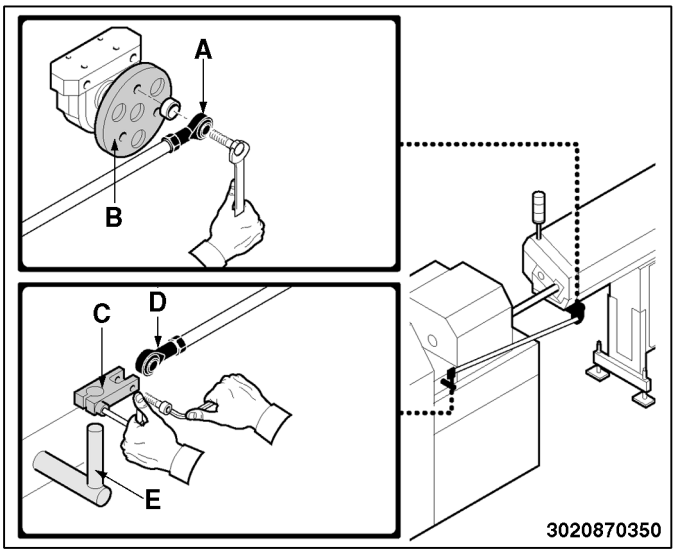
INFORMATION:
the figure shows a general example of installation; contact IEMCA service department for more information.

- Install the sleeve (A) on the lathe camshaft (B) .
- Connect the shaft (C) to the sleeve through the pin (D).



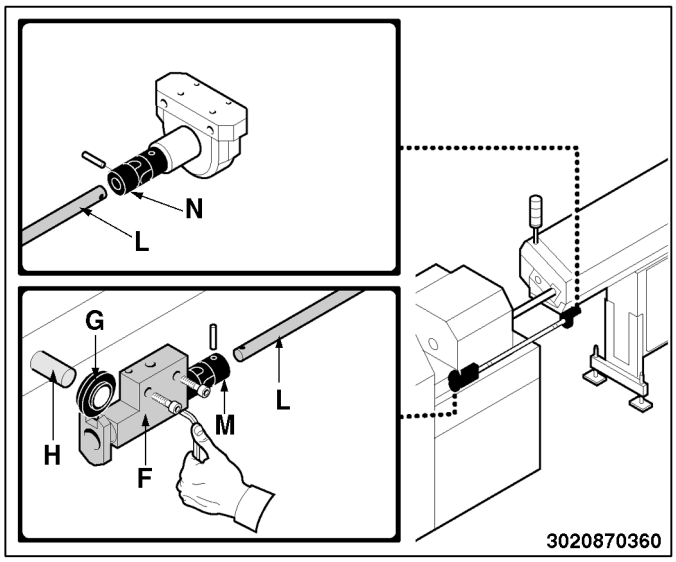
4.7.3 Camshaft release device

INFORMATION:
the figures show a general example of installation; contact IEMCA service department for more information.



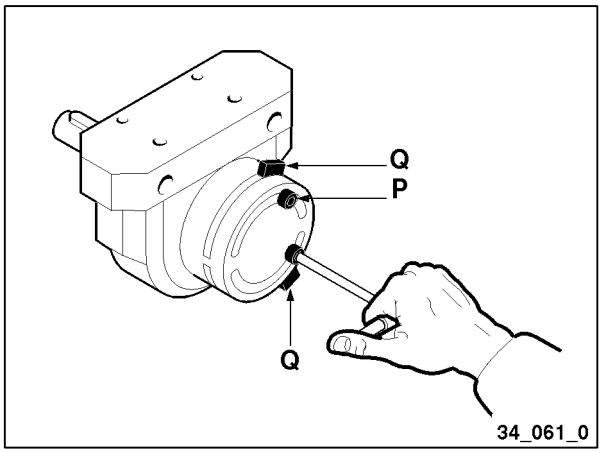
RADIAL VERSION
- Mount the articulation (A) in the flange (B).
- Mount the joint (C) in the articulation (D) and in the lathe control (E).

AXIAL VERSION
- Cut a hole and thread in the lathe casing to fix the transmission unit (F) and mount the disk (G) in the control (H).
- Insert the shaft (L) in the joint (M) and lock with a pin; insert the other end of shaft (L) in joint (N) and lock with a pin.



After completing the above-described operations, the actuator rotation stroke should be adjusted (this operation is necessary for both the radial version and the axial version).

- Loosen the screws, move the slides (Q), retighten the screws (P).

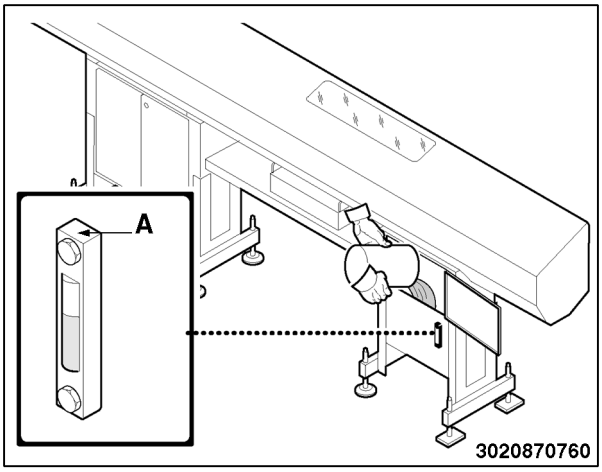


4.8 LUBRICANT OIL - FILLING

CAUTION:
wear personal protections according to the regulations in force.

- Open the door.
- Pour the oil directly into the tank and check the level on indicator (A).

  Oil characteristics: ESSO-NUTO 32, quantity 40 l.
  For the comparative table, see paragraph 2.6.



4.9 ELECTRIC CONNECTION

DANGER - WARNING:

this type of operation should only be entrusted to skilled technical staff to comply with the applicable standards and statutory regulations in force.

The feeder must be electrically connected to the lathe, which in turn, must be connected to the plant wiring system in compliance with the applicable regulations in force.

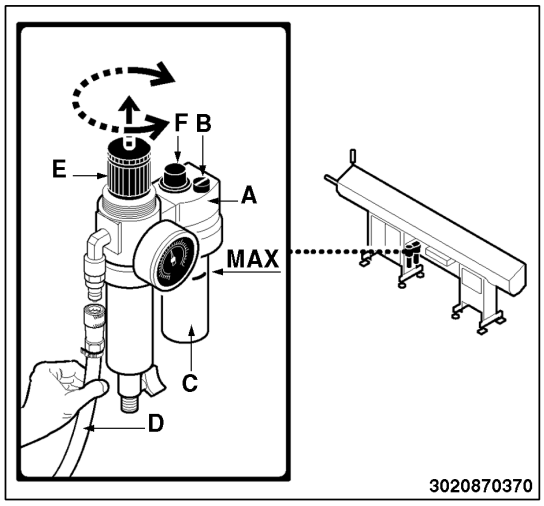
The feeder is normally provided with a multiple plug to plug into the special lathe outlet; refer to the "Wiring diagram" if necessary.

4.10 PNEUMATIC CONNECTION

INFORMATION:

the operations described below refer only to bar feeders fitted with pneumatic devices.

- Fill the tank of lubricator (A) removing plug (B) or cup (C); the oil level must reach the MAX. reference. See section 2.6. for the oil comparison table.
- Connect pipe (D) to the compressed air ductwork system as shown in the figure. With knob (E), adjust the pressure at 6 bar.
- Check air lubrication (1-12 drops per 1000 l. of air); adjust by turning the screw (F).



4.11 SELF-LEARNING DIMENSIONS - PROGRAMMING

Self-learning data depend on the type and size of the lathe to which the feeder is coupled.
For information on how to carry out this operation, check the "Keyboard instruction manual".

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5.2 GENERAL ADJUSTMENTS - FOREWORD 2
5.2.1 Feed chain - Adjustment 3
5.2.2 Drive belt - Adjustment 3
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5.3.1 Guide channels, bar pusher and collet - Replacement 6
5.3.2 Small diameter bars (Ø1÷Ø4,7 mm with Ø6 mm guide channel) - Adjustment 13
5.3.3 Guide channel closing - Set-up 14
5.3.4 Nose - Replacement 16
5.3.5 Bar magazine - Adjustment 18
5.3.6 Bar selection device - Adjustment 19
5.3.7 Clamps - Adjustment 20
5.3.8 Clutch thrust - Adjustment 22
5.4 PRECISION FACING DEVICE - ADJUSTMENT 24
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5.1 ADJUSTMENT AND SETTING-UP - FOREWORD

DANGER - WARNING:

do not perform any adjustment while the feeder is in motion unless explicitly requested in the manual.

In addition to normal adjustments throughout its service life, this bar feeder also needs set-up according to the type of operation. According to bar size and type of machining, setting up may also include replacement of a few components.
These operations are listed and then described below:

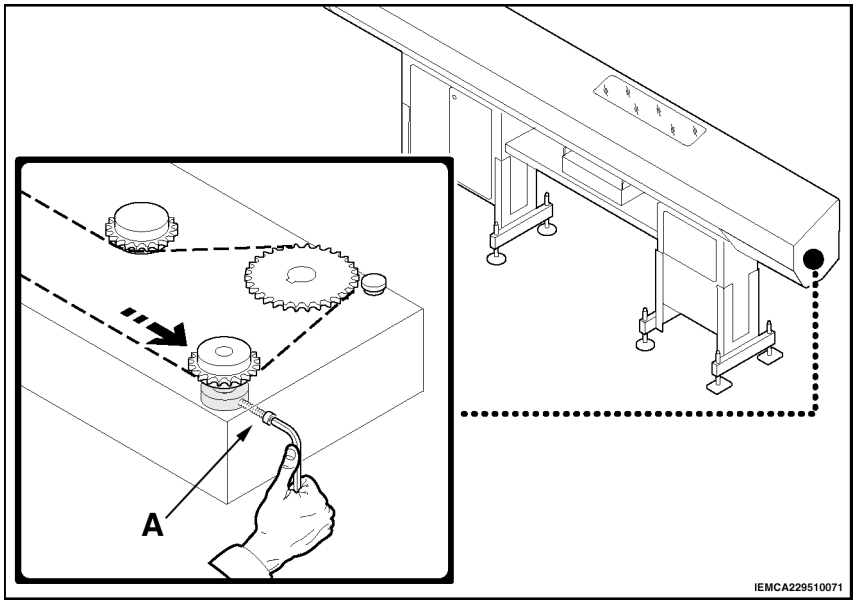
5.2. General adjustments - Foreword
5.3. Setting-up the bar feeder according to the bar to be machined
5.4. Precision facing device - Adjustment
5.5. Cam box - Timing

5.2 GENERAL ADJUSTMENTS - FOREWORD

Including all the necessary adjustments for good feeder operation. They may become necessary after maintenance, trouble fixing or component replacement.
5.2.1 Feed chain - Adjustment
5.2.2 Drive belt - Adjustment

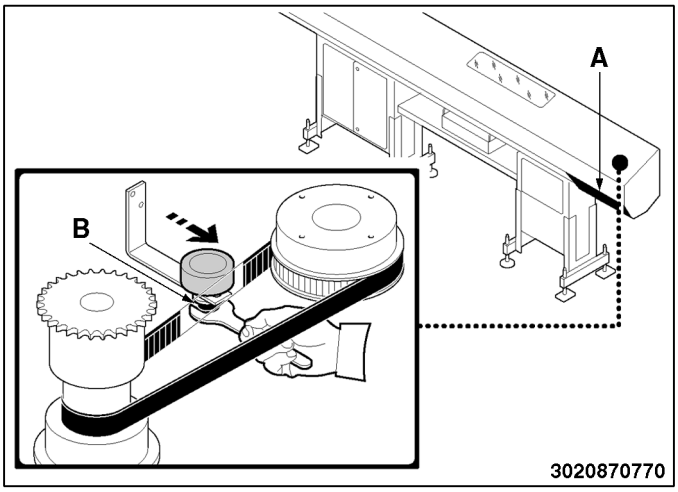
5.2.1 Feed chain - Adjustment

- Tension the chain by means of screw A.



5.2.2 Drive belt - Adjustment

- Remove guard (A).
- Loosen nut (B).
- Stretch the chain, moving the roller in the direction of the arrow and lock nut (B).
- Refit the guard previously removed.



5.3 SETTING-UP THE BAR FEEDER ACCORDING TO THE BAR TO BE MACHINED

Depending on the diameter of the bar previously machined and that of the new cycle, various set-up operations have to be performed.
It is possible to establish the type of operation to be carried out with the aid of the following table.

Table 1. Diameters of guides, bar-pusher, bars and pipes

Model	Guide diameter (mm)	Revolvig tips diameter (mm)	Bar diameter (mm)		Largest tube diameter (mm) (*)
			Min.	Max.	
GENIUS 118	**6**	5	1	4,7	5,5
	8	7,5	2	6,5	7,5
	11	10	3	8	10
	14	12	3	10	12
	16	15	4	13	15
	18	17	4	15	17
	20	18	4	17	19
	22	20	5	18	20

(*) valid also for prepared bars or normal bars machined with front remnant ejection.

CAUTION:

Barstock diameters for any guide channel are only given as an example. A barstock diameter approximately 5 mm smaller than the guide channel diameter may cause vibration and failure to the bar feeder. Therefore, it may be necessary to slow down the bar rotation speed or to change the guide channel diameter in order to obtain the best performance for a specific application.

EXAMPLE 1
The previous machining cycle had been carried out under these conditions:

Guide diameter (mm)	Bar-pusher Diameter (mm)	Bar diameter (mm)
6	5	1

The new machining cycle requires feeding of 2 mm bars. The operations to be carried out are as follows:

- replacing the bar pusher collet;
- adjusting the bar magazine;
- adjusting the bar selection device;
- adjusting the terminals;
- adjusting the clutch thrust.

EXAMPLE 2
The previous machining cycle had been carried out under these conditions:

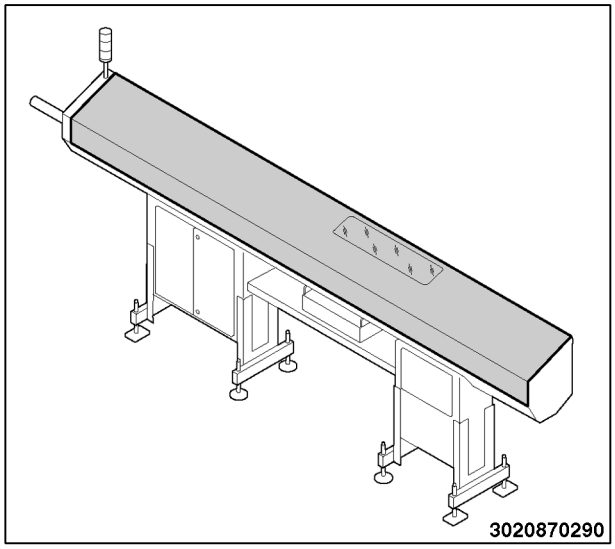
Guide diameter (mm)	Bar-pusher Diameter (mm)	Bar diameter (mm)
6	5	2

The new machining cycle requires feeding of 8 mm bars. The operations to be carried out are as follows:
- replacing the guide channels (Ø 6 mm to ø 11 mm);
- replacing the bar pusher (Ø 5.5 mm to ø 10 mm);
- replacing the bar pusher collet;
- setting up the guide channel closing mode;
- replacing the nose;
- adjusting the bar magazine;
- adjusting bar selection device;
- adjusting the terminals;
- adjusting clutch thrust;

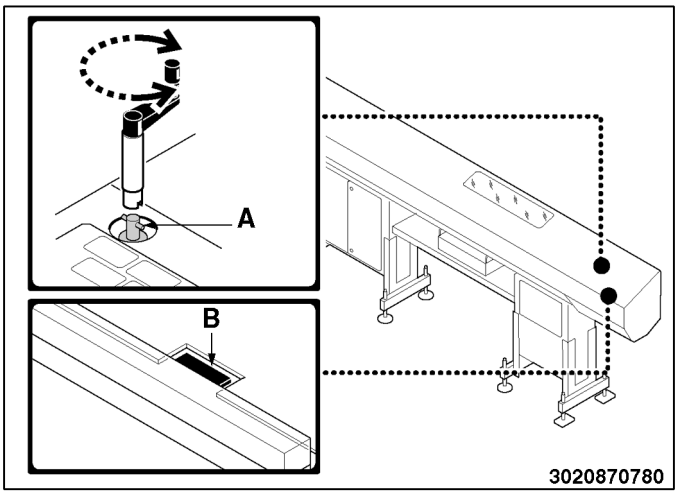
The information regarding these operations is contained in the paragraphs listed below, followed by the description
5.3.1 Guide channels, bar pusher and collet - Replacement
5.3.2 Small diameter bars (Ø1...Ø4.7 mm with Ø6 mm guide channel) - Adjustment
5.3.3 Guide channel closing - Set-up
5.3.4 Nose - Replacement
5.3.5 Bar magazine - Adjustment
5.3.6 Bar selection device - Adjustment
5.3.7 Clamps - Adjustment
5.3.8 Clutch thrust - Adjustment

5.3.1 Guide channels, bar pusher and collet - Replacement

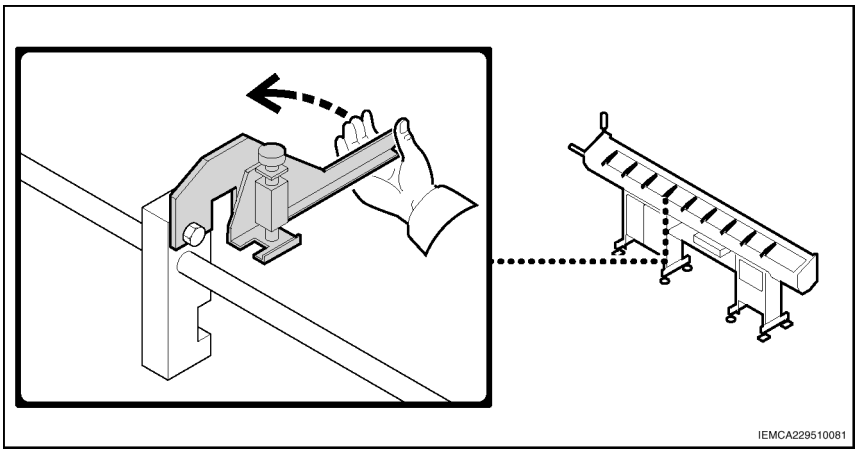
- Bring the bar pusher "completely backwards" to the "bar feeder zero setting" position.
- Open top guard.



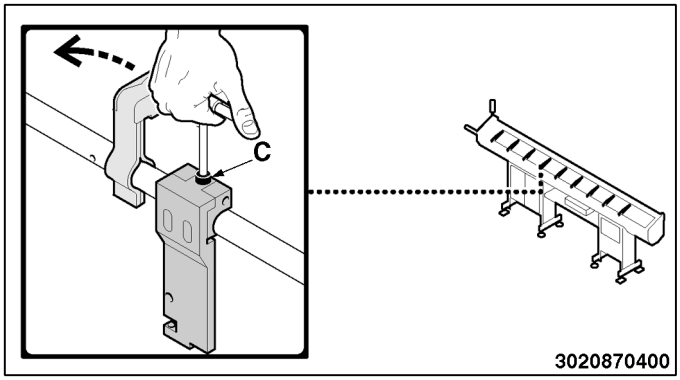
- Insert the crank (supplied) in shaft (A) and move flag (B) of the bar pusher to the opening.



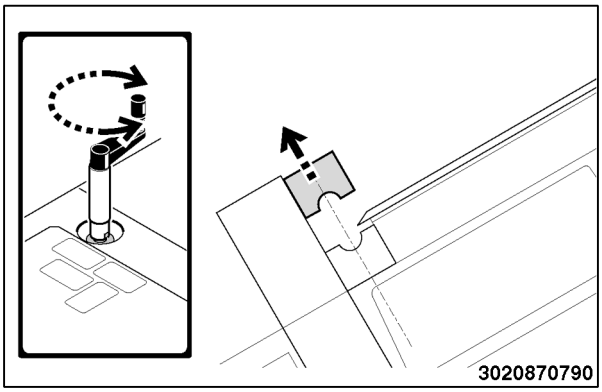
- Turn all supports backwards.



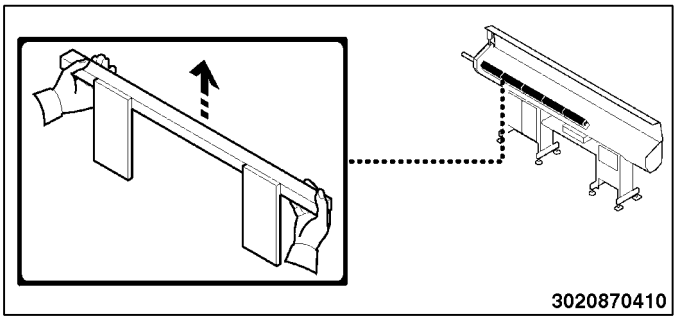
- Remove screws (C) and turn all the selectors over backwards.



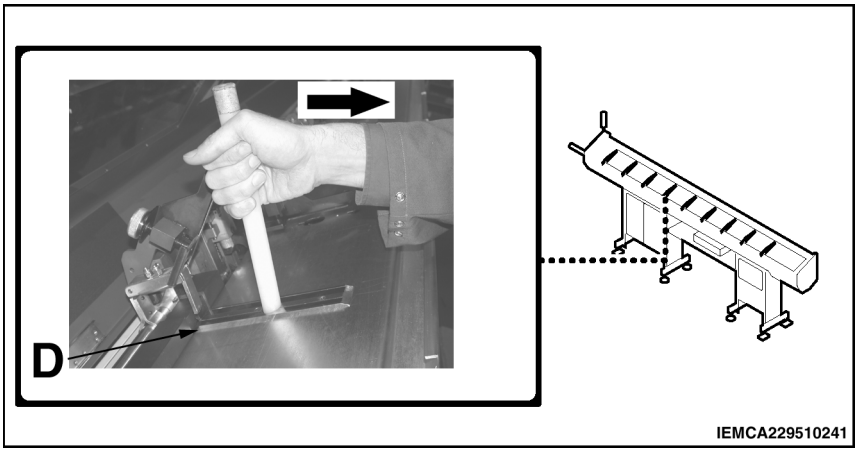
- Lift the upper guide channels.



- Remove the upper guides.



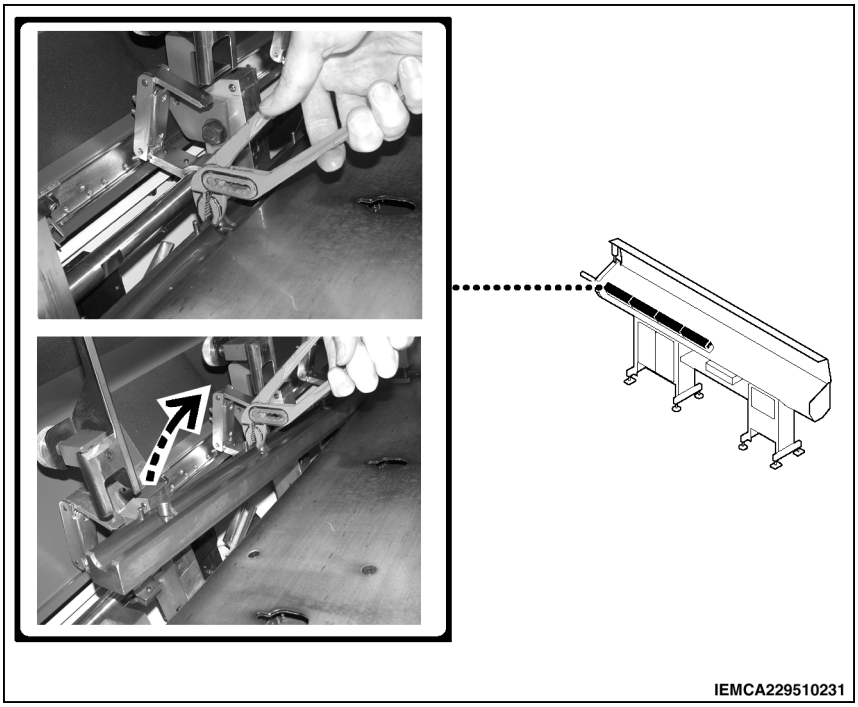
- Remove all spacers D; this step is absolutely necessary to the following phase, when lower guides will be removed.



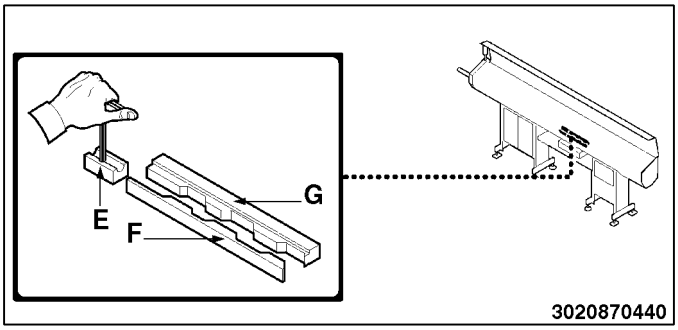
- Remove the lower guides.

WARNING-PRECAUTION:

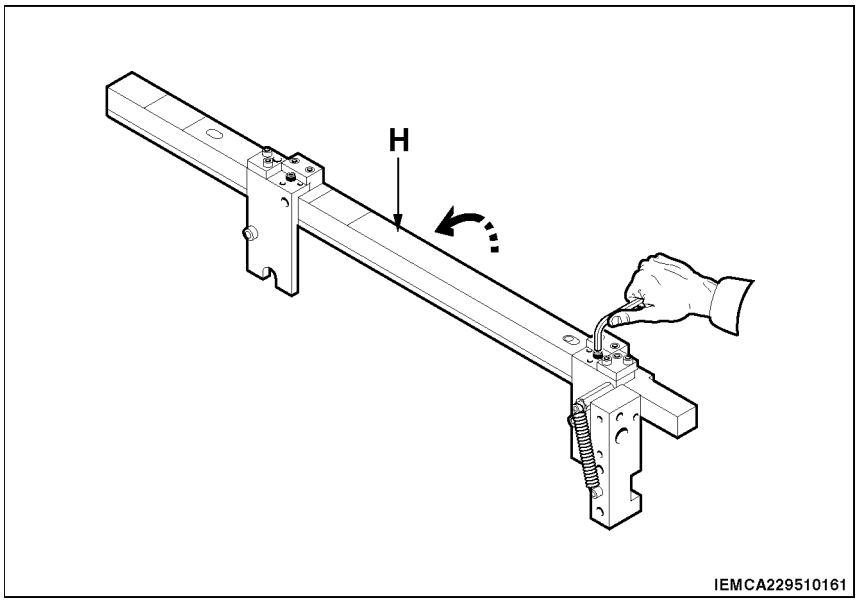
After lifting the guide channel, check for the presence of foreign material under the guide channel and remove. The accumulation of foreign material under the guide channel can cause misalignment!



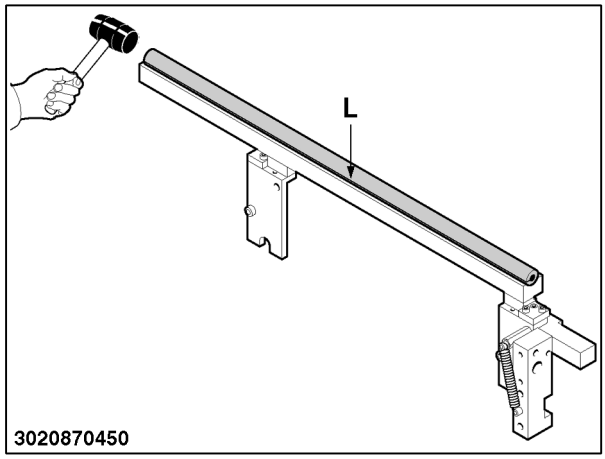
- Replace the parts (E), (F) and (G) with other parts suitable for the bar.
- Install lower guides and top guides suitable for the bar.



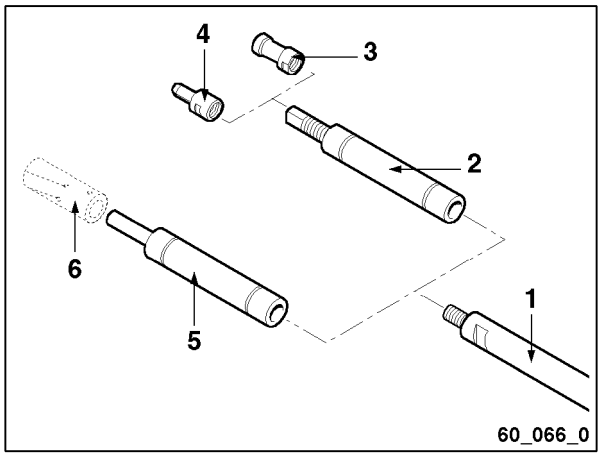
- Turn the guide channel (H) over backwards, after screwing out the screws.



- Remove the tube (L) (with the bar pusher inside).



- Choose a suitable collet for the bar.

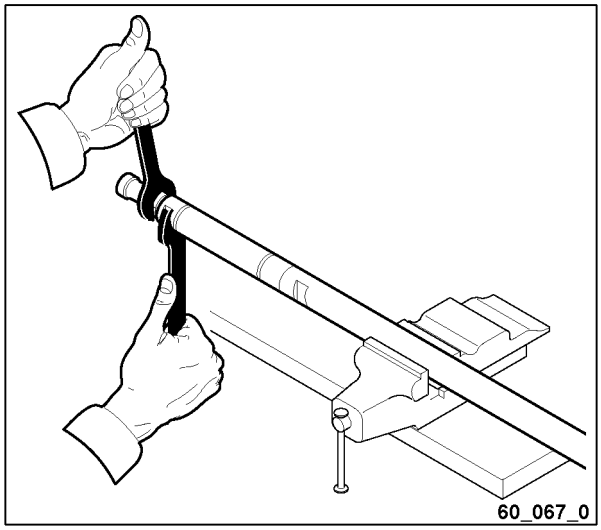


INFORMATION:
for more information contact IEMCA Service Dept.

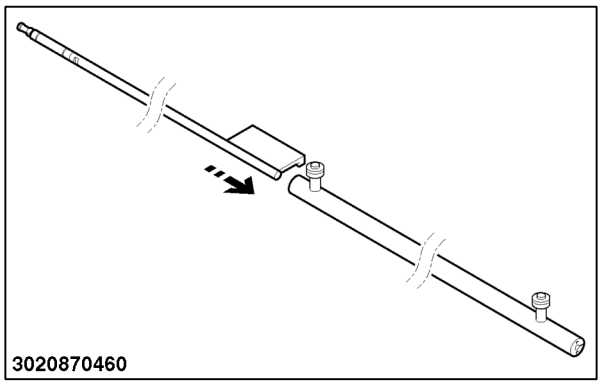
Legend:
1 Bar pusher.
2 "IEMCA" collet rotating unit
3 "IEMCA" collet for bars.
4 "IEMCA" collet for tubes.
5 "SCHLENKER" collet rotating unit.
6 "SCHLENKER" collet.

CAUTION:
the collet outside diameter should be at least 0.5 mm smaller than the bar-pusher outside diameter.

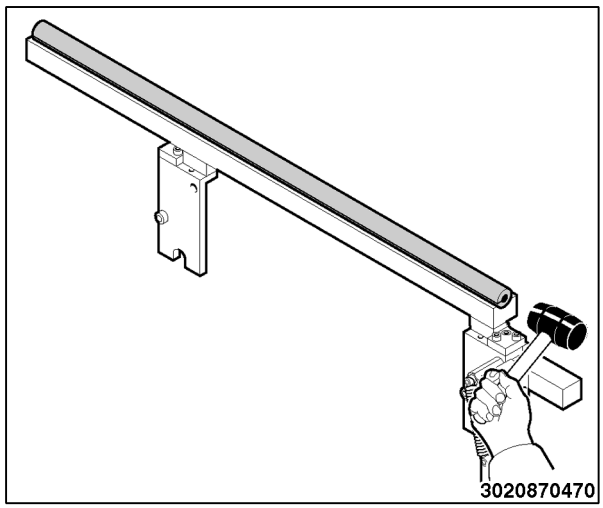
- Screw the collet into a bar pusher suitable for the bar.



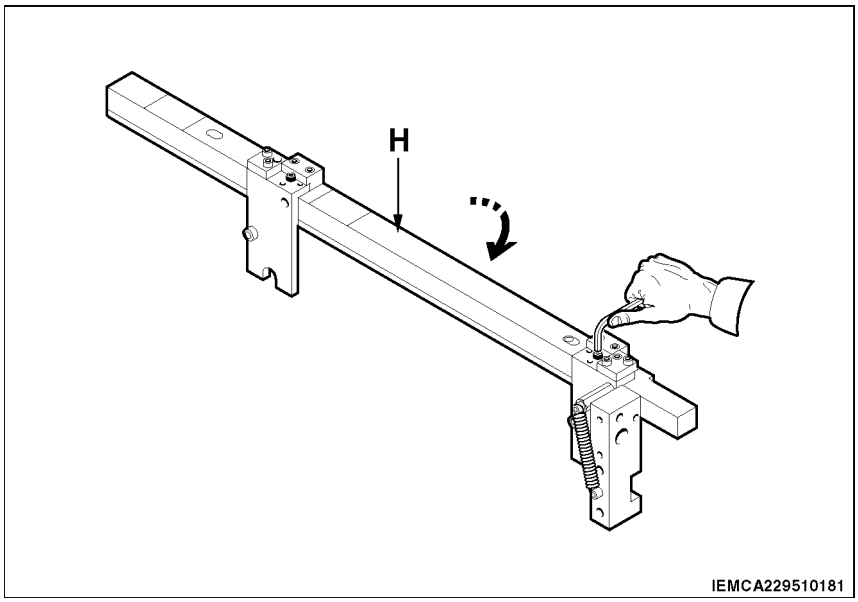
- Insert the bar pusher in a tube suitable for the bar.



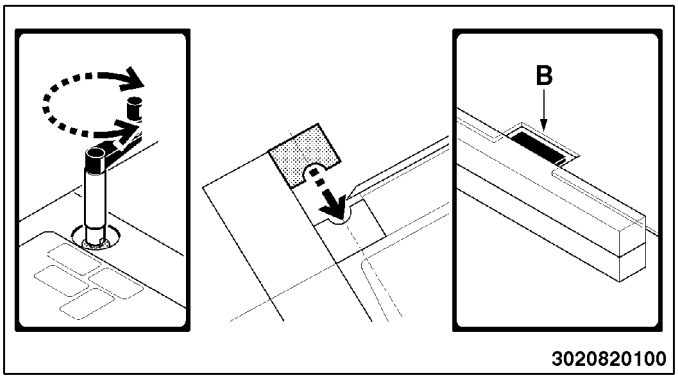
- Install the tube.



- Turn the guide channel (H) over forwards and screw down the screws.



- Close the top guides and make sure that the flag (B) is inserted well into the carriage seat.
- Restore the initial bar feeder conditions.



5.3.2 Small diameter bars (Ø1÷Ø4,7 mm with Ø6 mm guide channel) - Adjustment

The following section illustrates the operations required for optimum results when working with bars from ø1... ø4.7mm with ø6 mm guide channel.

FIXING OF GUIDE CHANNELS TO FEEDER
Remove the taper pins and secure the guide channels to the feeder with the screws supplied.

CLUTCH
For this configuration we recommend removing one of the clutch plates and working with the two remaining plates.
To remove the clutch plate follow the directions in heading 7.2.6.

FEED CHAIN
Use P=6 chain.

GUIDE CHANNELS LUBRICATION
Drain the ISO CKB 32 oil from the feeder and replace with the same quantity of ISO FD 10 oil.
For the oil change procedure follow the directions in heading 7.2.3.

ISO/UNI rating	Make	Name
CLASSE FD 10	**Agip**	Oso 10
	Api	Api Cis 10
	BP	Energol HP 10
	Castrol	Magna 10
	Elf	Spinelf 10
	Esso	Spinesso 10
	Fina	Hydra 10
	IP	Hydrus 10
	Klüber	Crucolan 10
	Mobil	DTE 21
	Olio FIAT	Hydrobak 10
	Roloil	LI 10
	Shell	Tellus C 10
	Tamoil	Tam Spindle Oil 10
	Texaco	Rando HD 10
	Total	Azolla ZS 15
	Q8	Haydn 10

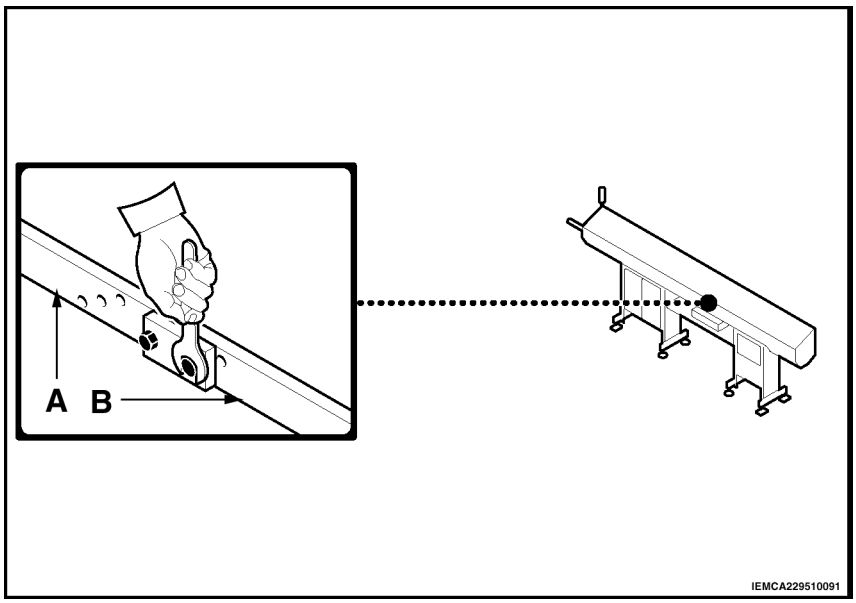
TELESCOPIC NOSE
If the processing conditions allow, it is advisable to avoid installing the telescopic nose, using a fixed nose in its place.

5.3.3 Guide channel closing - Set-up

SINGLE CLOSING AFTER FIRST FEEDING STROKE

This method is used for closing the front guide channels simultaneously with the rear ones after the first feeding phase.
It is recommended for bars having diameter greater than 2 mm.

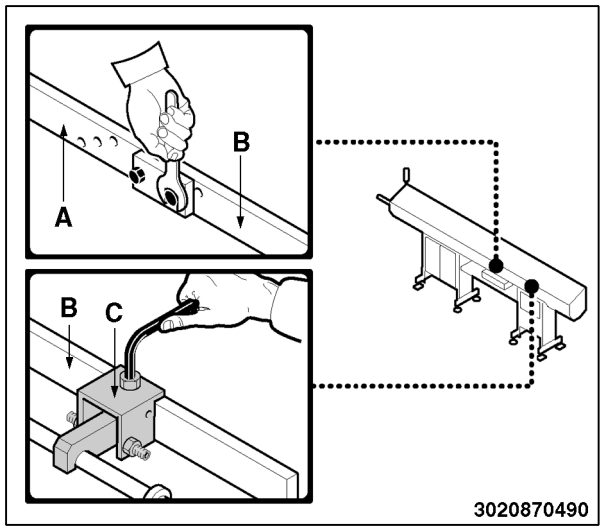
- Validate the special parameter, see the "Keyboard instruction manual".
- Fit the screws holding bar (A) to bar (B) in the clamps area.



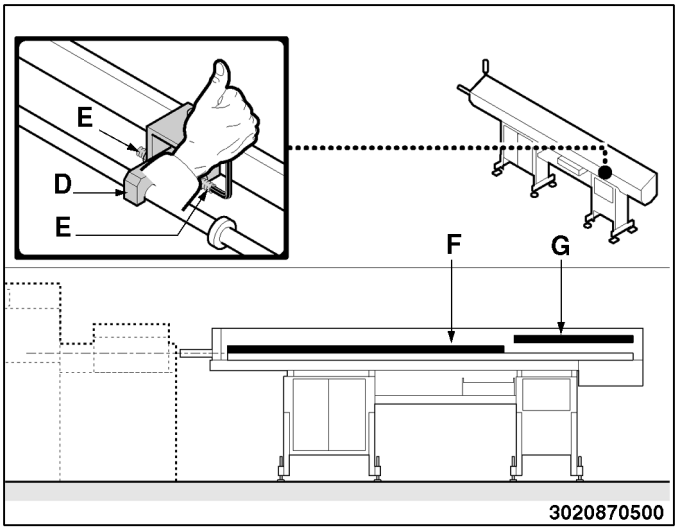
FRONT GUIDE CHANNEL PARTIAL CLOSING, BEFORE FIRST FEEDING STROKE

This method (optional), guarantees "conduction" of the bar to the first feeding phase.
It is recommended for bars with diameter less than 2 mm, and for highly flexible bars.

- Disable the special parameter, see the "Keyboard instruction manual".
- Remove the screws which hold bar (A) to bar (B) in the clamps area.
- Fit bracket (C) on rod (B).

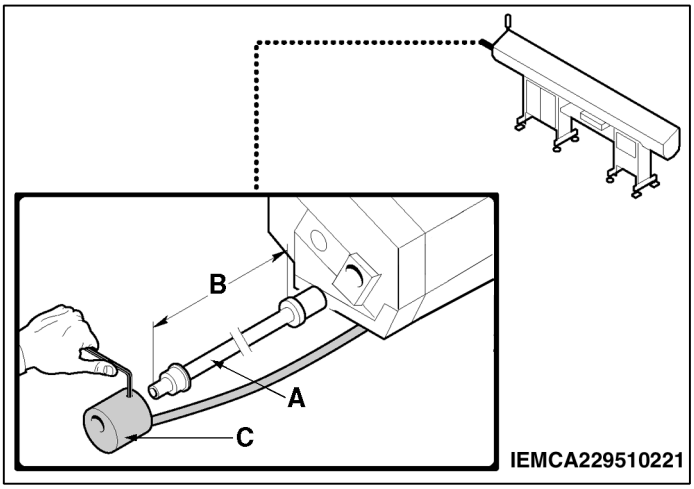


- Adjust the position of the stop (D) via the screws (E) with check nuts. Before the 1st feeding stroke, the front guide channels (F) must be fully closed and the rear guide channels (G) must be fully open.



5.3.4 Nose - Replacement

INFORMATION:
after removing the nose, replace the spindle liner

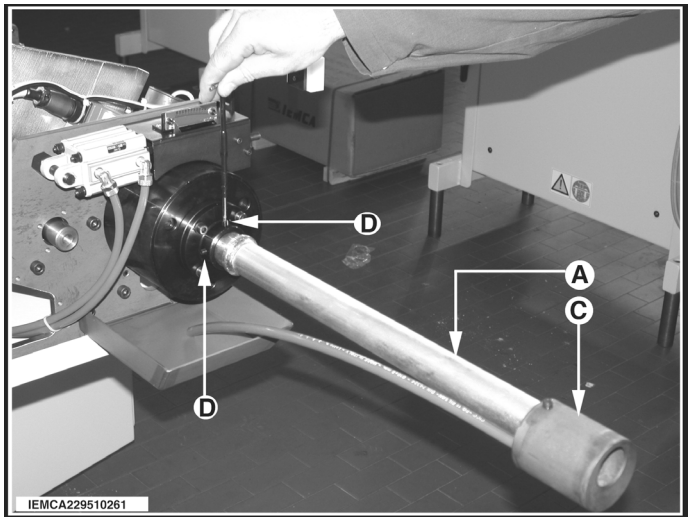


FIXED NOSE

- Remove the oil recovery (C).
- Replace the sleeve (A) with another sleeve suitable for the bar. Length (B) must cover the distance between the bar feeder and the lathe.
- Fit the oil recovery and position the drain pipe inside the tank.

With diaphragm bushing

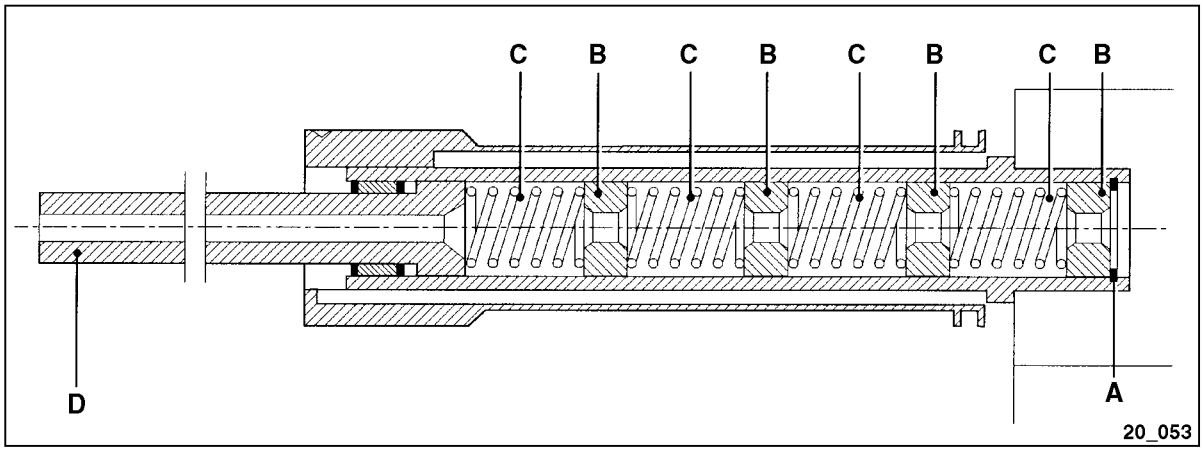
- Remove the oil recovery (C).
- Loosen grub screws (D).
- Replace the sleeve (A) with another sleeve suitable for the bar. Length (B) must cover the distance between the bar feeder and the lathe.
- Fit the oil recovery and position the drain pipe inside the tank.
- Tighten grub screws (D) to clamp the nose.



TELESCOPIC NOSE (STROKE 120/160)

When replacing the telescopic sleeve, it is not necessary to change completely the unit, but only some parts supplied with the spare parts kit.

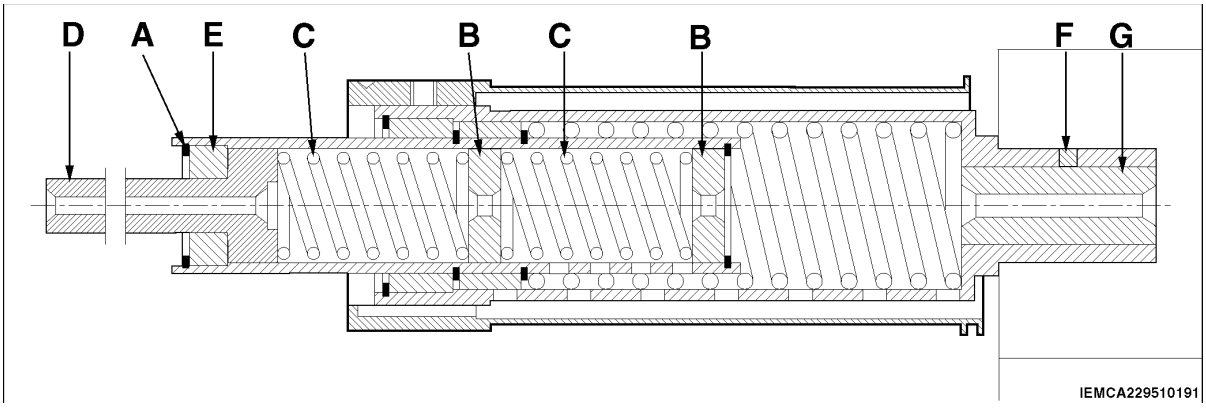
- Remove the sleeve from its housing.
- Remove ring (A).
- Remove bushes (B), springs (C) and sleeve (D).
- Reassemble sleeve (D), bushes (B) and springs (C). The sleeve and bushings must be suitable for the bar.



TELESCOPIC NOSE (STROKE 170/220/320)

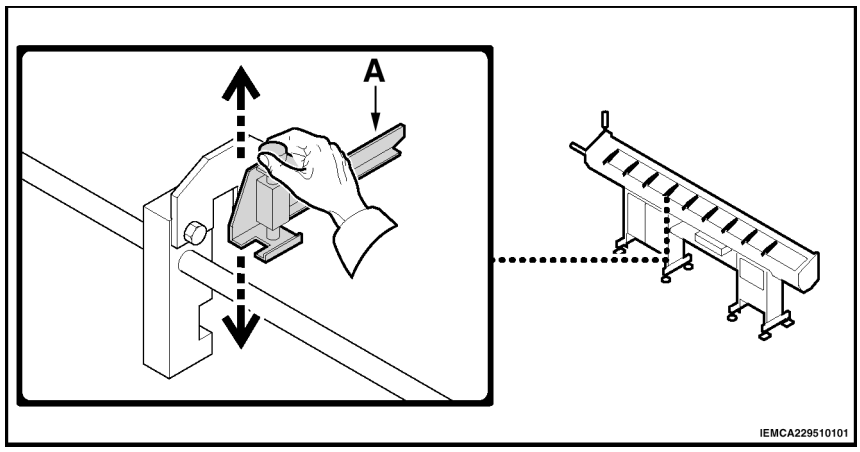
When replacing the telescopic sleeve, it is not necessary to change completely the unit, but only some parts supplied with the spare parts kit.

- Remove the sleeve from its housing.
- Remove ring (A).
- Remove bush (E), sleeve (D), springs (C) and bushes (B).
- Put back in place the bushings (B), the springs (C) and the sleeve (D); the bushings and the sleeve must be suitable for the bar.
  Reassemble ring (A).
- Loosen the screw (F) and remove the ring (G), replace it with another ring suitable for the bar. As far as max. diameter guides (Ø 22 mm) are concerned, do not fit ring (G).

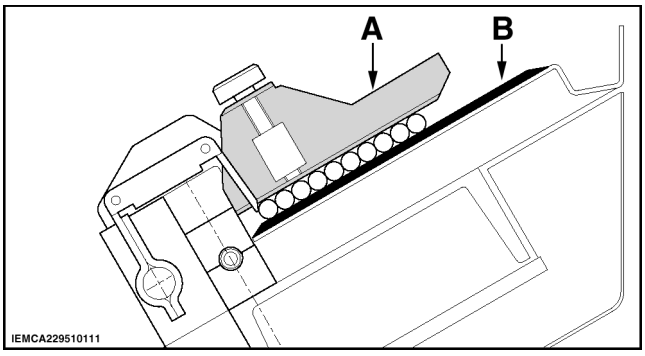


5.3.5 Bar magazine - Adjustment

- Adjust plates A by means of the knobs, so as to allow for bar feeding.

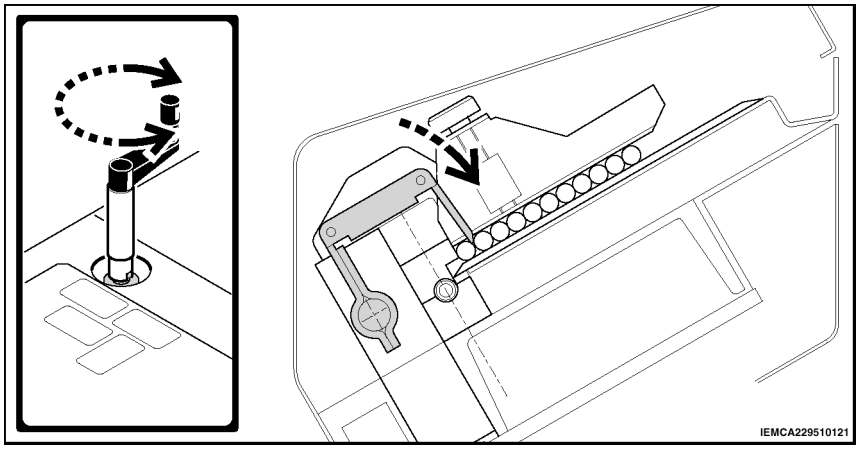


- Feed some bars and carry out a precise adjustment, so that the distance between plates A and spacer B slightly exceeds bar diameter.

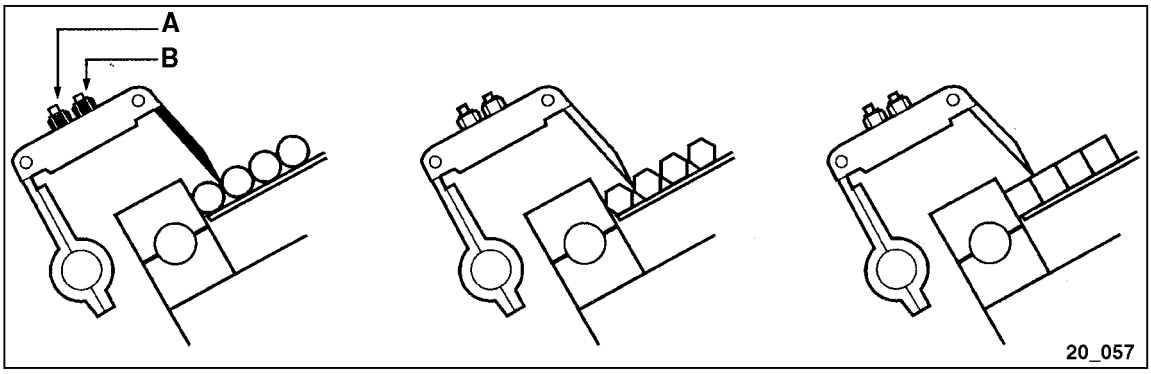


5.3.6 Bar selection device - Adjustment

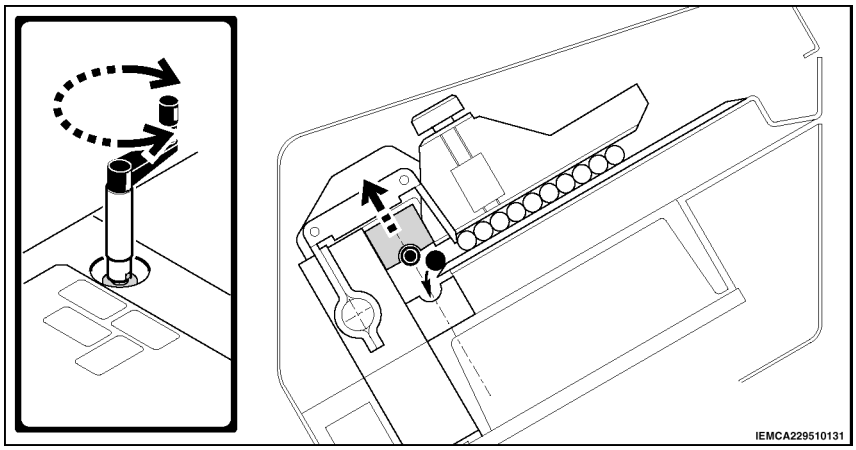
- Lower the selectors to the lowest point of descent.



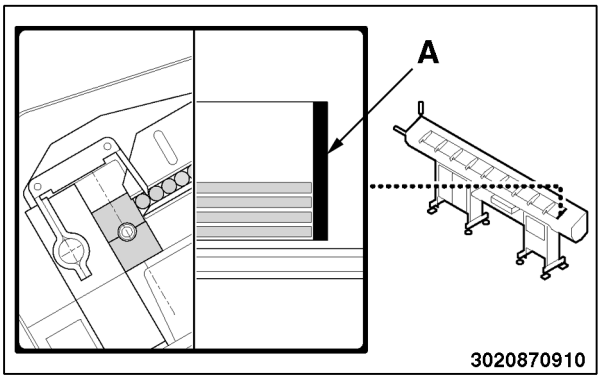
- Adjust the position of the selectors by using nuts (A) and (B) alternately. Nut (A) is used for adjusting the height, the nut (B) for transverse adjustments.



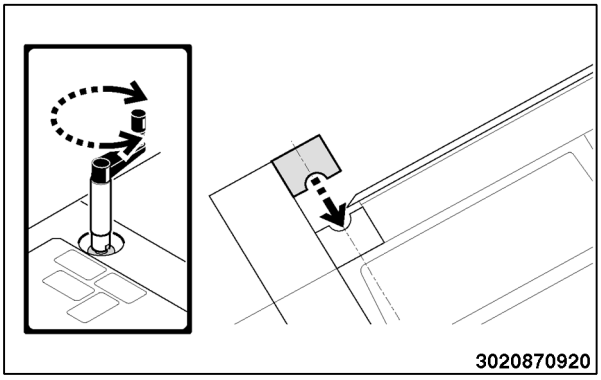
- Open the top guide channels; the first bar must fall into the guide channel, while the others must be held back in the magazine.



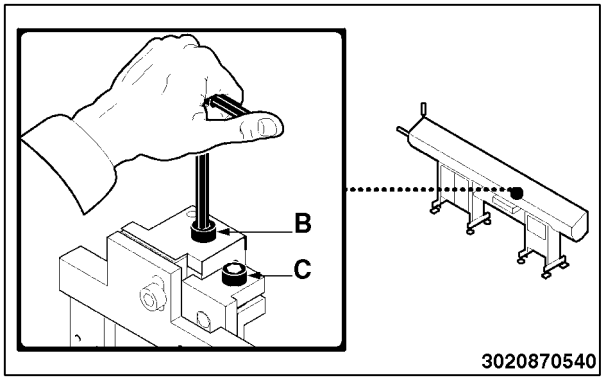
5.3.7 Clamps - Adjustment



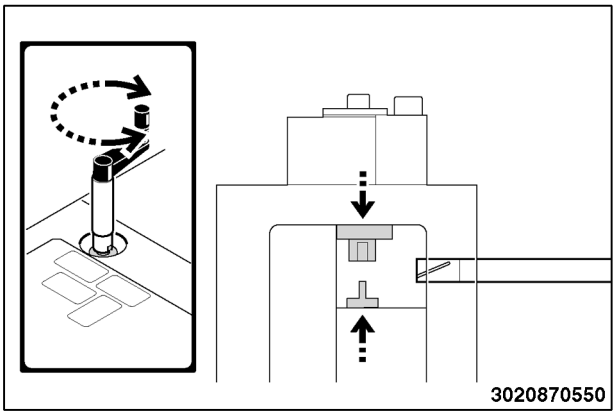
- The bar feeder guide channels must be closed and the bars contained in the magazine must be aligned with the plate (A).
- Close the upper guard.
- Press  to start the bar feeder.
- Press  to select the manual function.
- Hold  down for a few seconds to move the carriage a little forwards starting from the "ZERO SETTING" position.
- Press  and  to select the semiautomatic function, then press  several times until the message "1ST FEEDING RETURN" is displayed; the bar feeder guide channels must be open and the bar must be in its feeding into collet position.
- Press  and open the top cover.
- Close the guide channels.



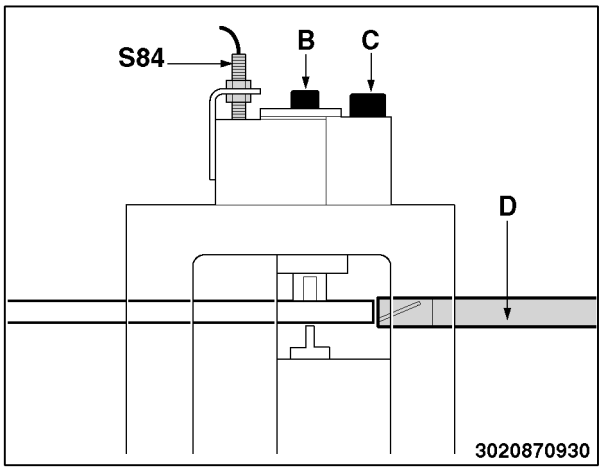
- Lift the top clamp all the way up via the screw (B). Lower the bottom clamp via the screw (C).



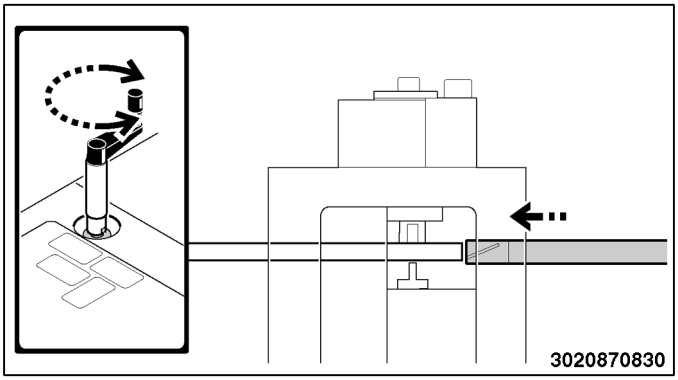
- Close the clamps.



- Lift the bottom clamp using screw (C), until the bar axis is lifted by about 2 mm above the bar pusher (D) axis. Lower the top clamp using screw (B), until the bar axis is in line with the bar pusher axis; the sensor S84 must not be energised.

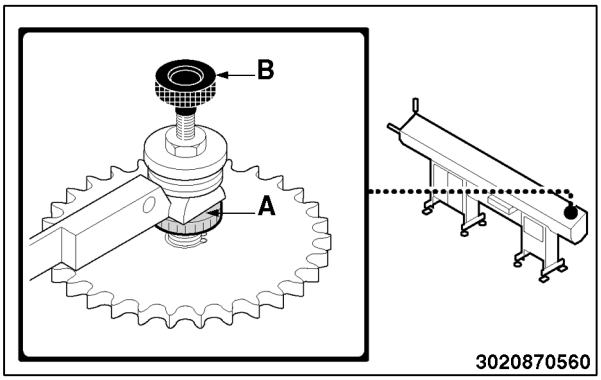


- Turn the crank vigorously to obtain bar introduction into the bar-pusher collet. During this operation, make sure that the bar does not slip out of the clamp grip and that the sensor (S84) is not energised. Repeat this operation two or three times to make sure that good adjustment has been obtained.
- Turn the crank to reach the end of its travel.



5.3.8 Clutch thrust - Adjustment

The feeding thrust received by the bar via the clutch must de adjusted according to the diameter of the bar itself.
Adjustment can be carried out in three different ways: electronic adjustment, mechanical adjustment and adjustment by changing the clutch pack configuration
For the electronic adjustment, the values of a few parameters must be changed; check the "Keyboard instruction manual".
For the mechanical adjustment, turn the ring nut (A) by checking the effect obtained during the earliest machining phases.



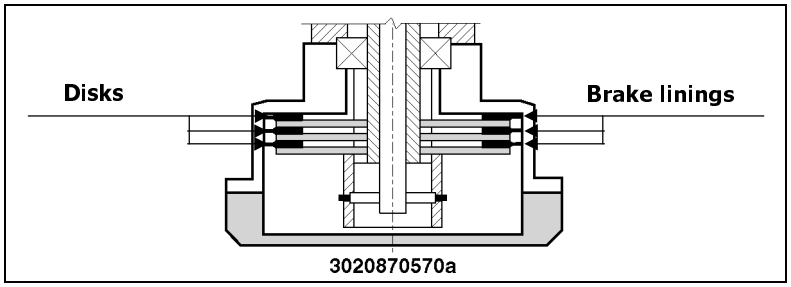
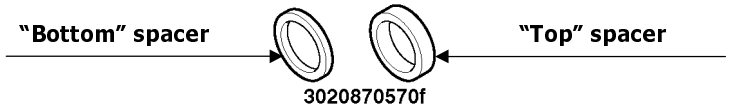
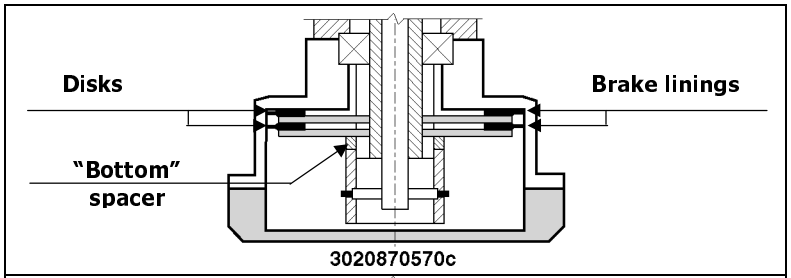
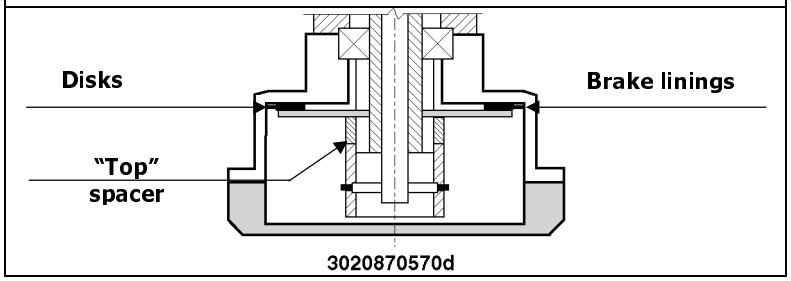
CAUTION:

the knob (B) can be used to manually move the feed chain. If it is turned when the power is switched off, control a "MACHINE ZERO SETTING" before restarting the bar feeder.

To modify the clutch pack configuration proceed as follows, bearing in mind that the more removed brake disks and linings, the smaller the obtained thrust.

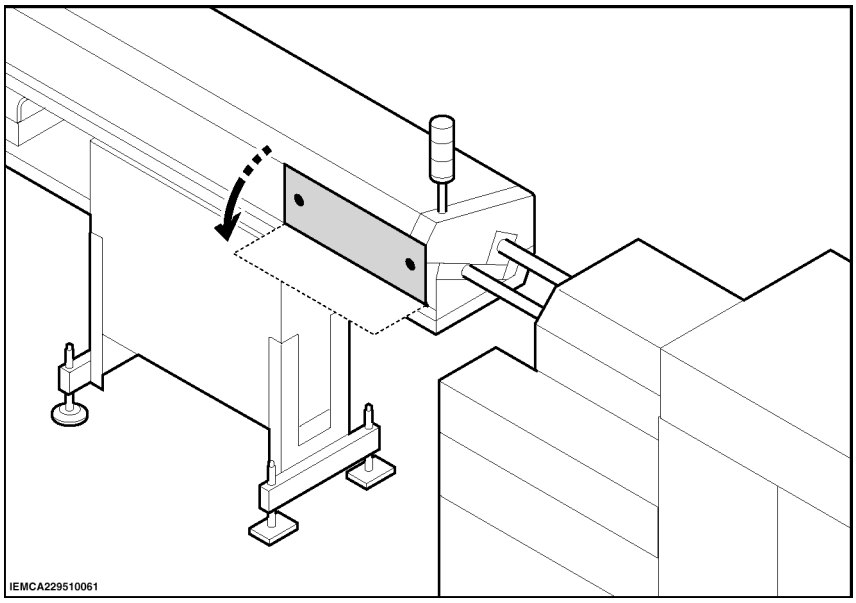
- Remove the clutch, see section 7.2.6.
- Make up the clutch pack by choosing one of the "Possible configurations" shown in the table
- Reassemble the clutch, see section 7.2.6.

Table 2. Clutch pack configuration

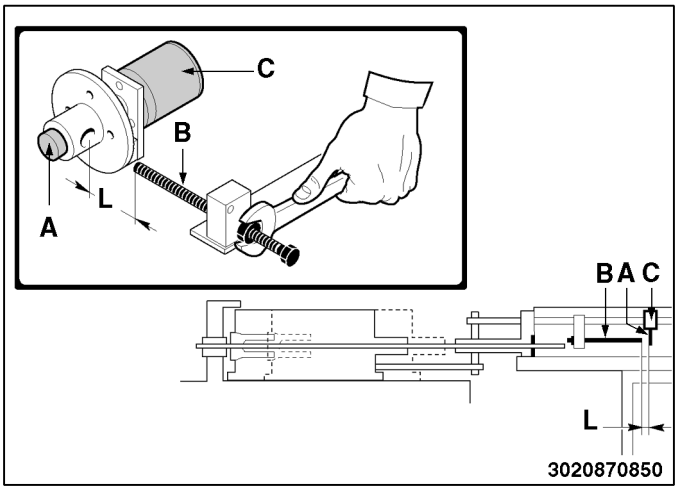
GENIUS 118	
First equipment configuration	
Supplied parts	
Possible configurations	 

5.4 PRECISION FACING DEVICE - ADJUSTMENT

- Open the rear guard after loosing its locking screws.



- Move the headstock forward to the maximum point of the working stroke.
- Close latch (A) manually and position screw (B) at distance (L), corresponding to the section of the bar to be faced.
- Validate the special parameter, see the "Keyboard instruction manual ".
- While machining the last workpiece, the micro S90, located in the cam box, activates the electromagnet (C) preventing the passage of screw (B). After bar change, the headstock moves backwards only by distance (L).
- In the early machining, check the position of the bar during the facing; to increase or decrease section (L) of the faced bar, adjust screw (B).



5.5 CAM BOX - TIMING

If the feeder is equipped with a cam box, each cam should be timed to its own microswitch. The timing procedure is as follows.

MICROSWITCH FUNCTION

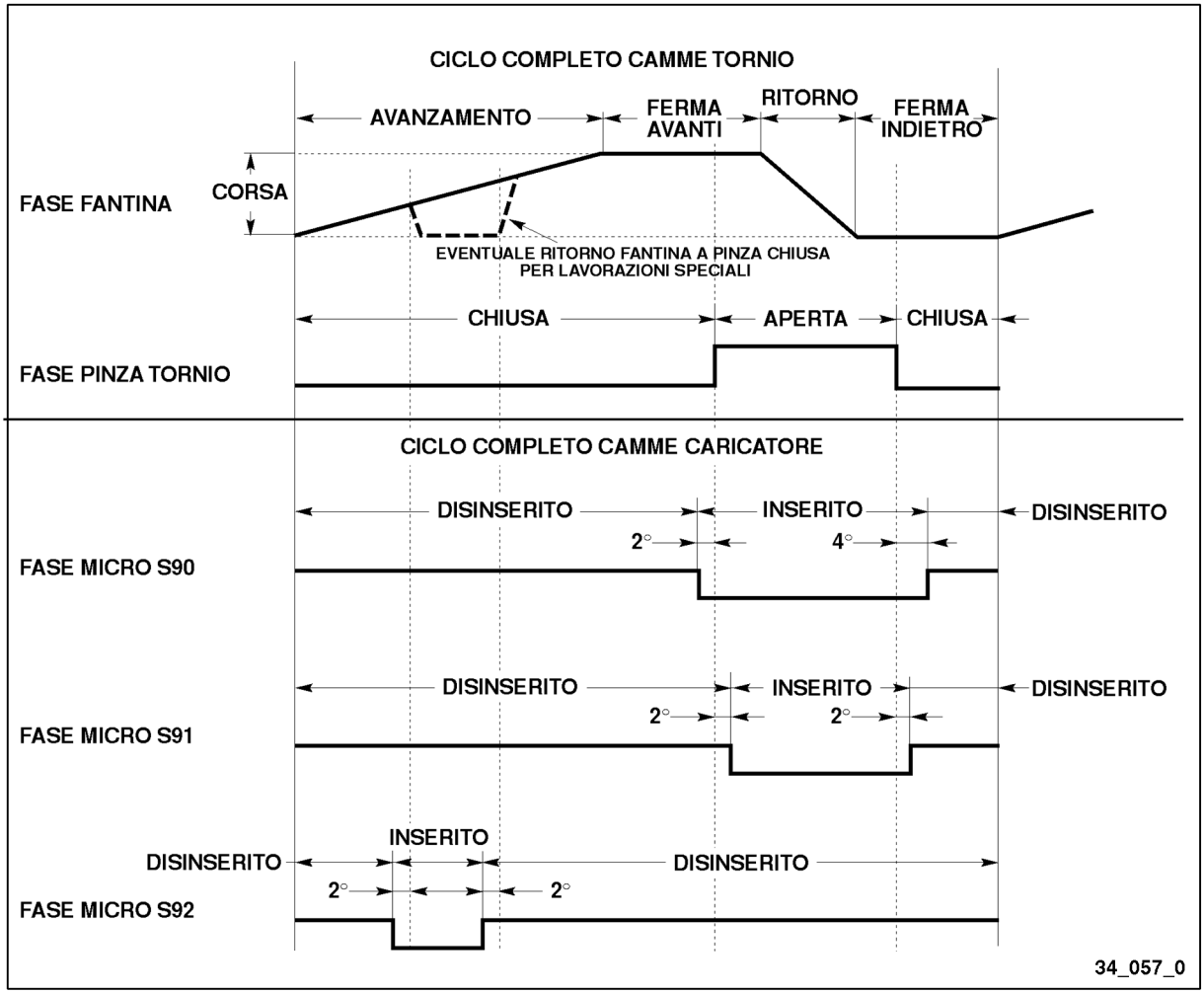
S90 - Bar feed enabling
Controls the bar feeding motor start and stop and must be activated whenever the collet opens. Furthermore controls the bar-headstock synchronising device and controls the activation of precision facing device in sliding headstock lathes, during the bar change-over.

S91 - Bar change-over enabling
It signals lathe collet opening/closing to the feeder.
It determines the camshaft stop position at bar end.

S92 - Feed stop enabling
Only used in sliding headstock lathes. It disables the feeding thrust during any operations requiring headstock return with a closed collet.

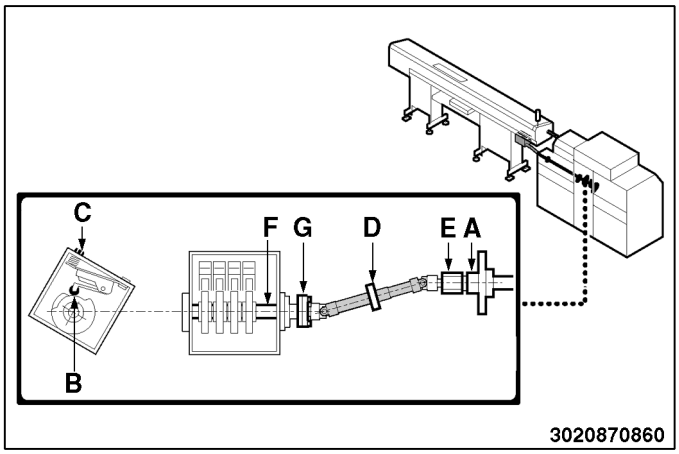
S99 - Camshaft stop
It determines the camshaft stop position when there is no thread (connected in series with a microswitch or relay located on the lathe).

MICROSWITCH FUNCTION



Microswitches S90 and S91

- Rotate manually shaft (A) up to a distance of 10° approx. from the collet opening, then (S90) microswitch cam until wheel (B) is released.
- Turn shaft (A) until the collet opens.
- Turn (S91) microswitch cam to release the wheel.
- Rotate shaft (A) until the collet closes.
- Turn the cam to lift S91 microswitch cam.
- Rotate shaft (A) of 10° approx., then lift (S90) microswitch

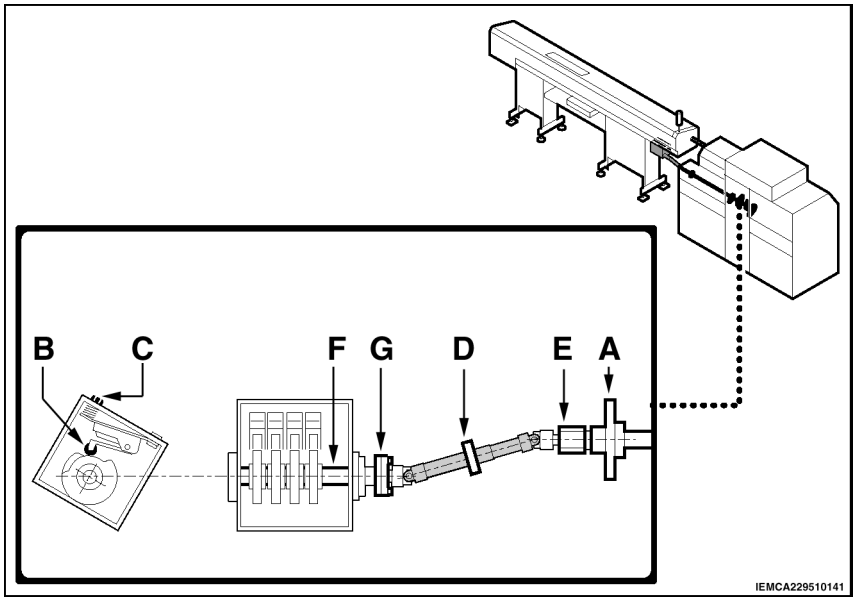


INFORMATION:

(S90) and (S91) microswitch wheels must lower when the headstock is in a forward position and lift when the headstock is backwards, in any case before the following feeding.

Microswitch S92

- Rotate manually shaft (A) until the headstock starts its return stroke with closed collet.
- Release (S92) microswitch wheel.
- Continue rotation until the headstock has completed its return stroke.



Microswitch S99

When the threading tool starts its return stroke, lower (S99) microswitch wheel and lift it before the stroke is over.
Should microswitch (S99) be fitted on lathe, setting adjustments are to be performed on lathe cam.

GENERAL REMARKS

- Microswitch activation can be either delayed or advanced through screw (C).
- Whenever servicing the camshaft, disconnect the cam box, according to the following procedure:
  - loosen clamp (D) and unscrew sleeve (E);
  - service the lathe camshaft;
  - screw sleeve (E) and tighten clamp (D);
  - should shaft (F) be out of phase, loosen sleeve (G) screws, rotate it and tighten the screws.

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6.2 DESCRIPTION OF KEYBOARD CONTROLS 4
6.3 INDICATOR LIGHTS - DESCRIPTION OF INDICATIONS 6
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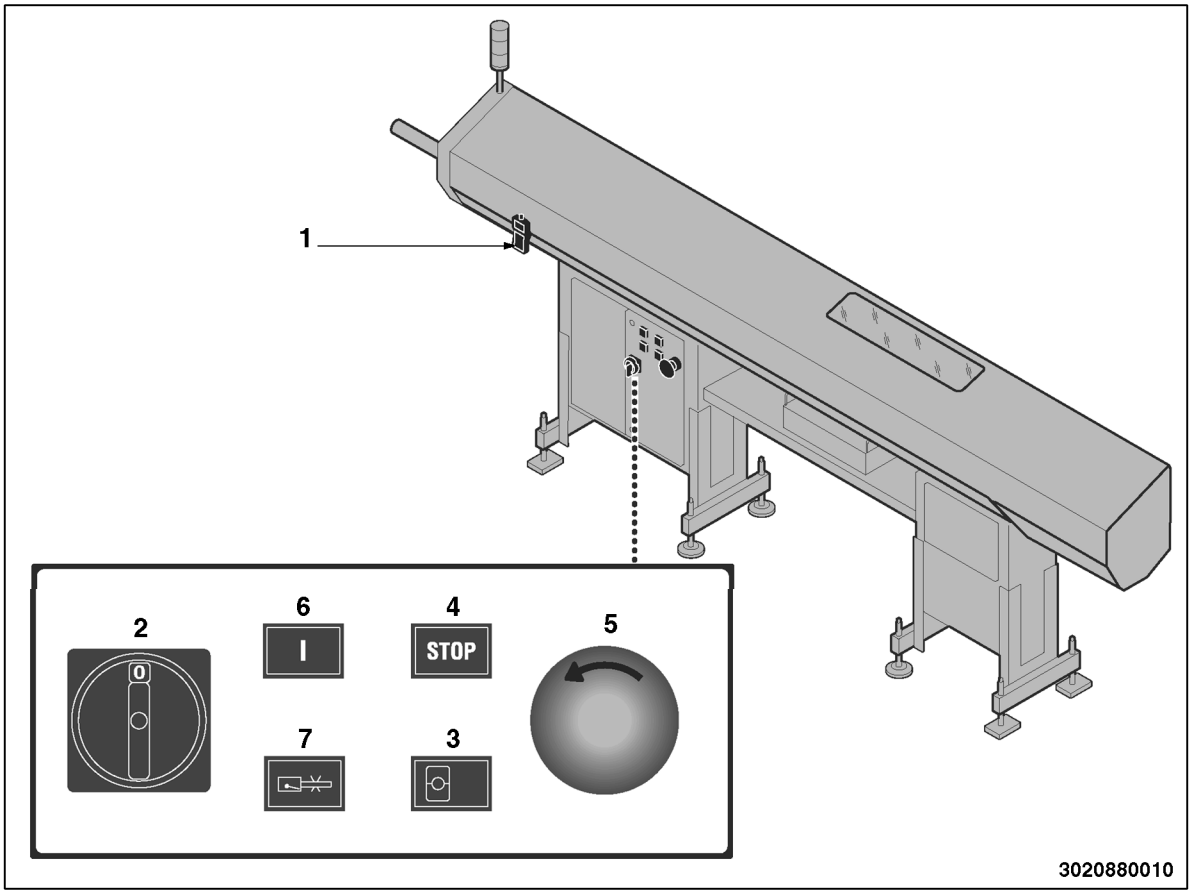
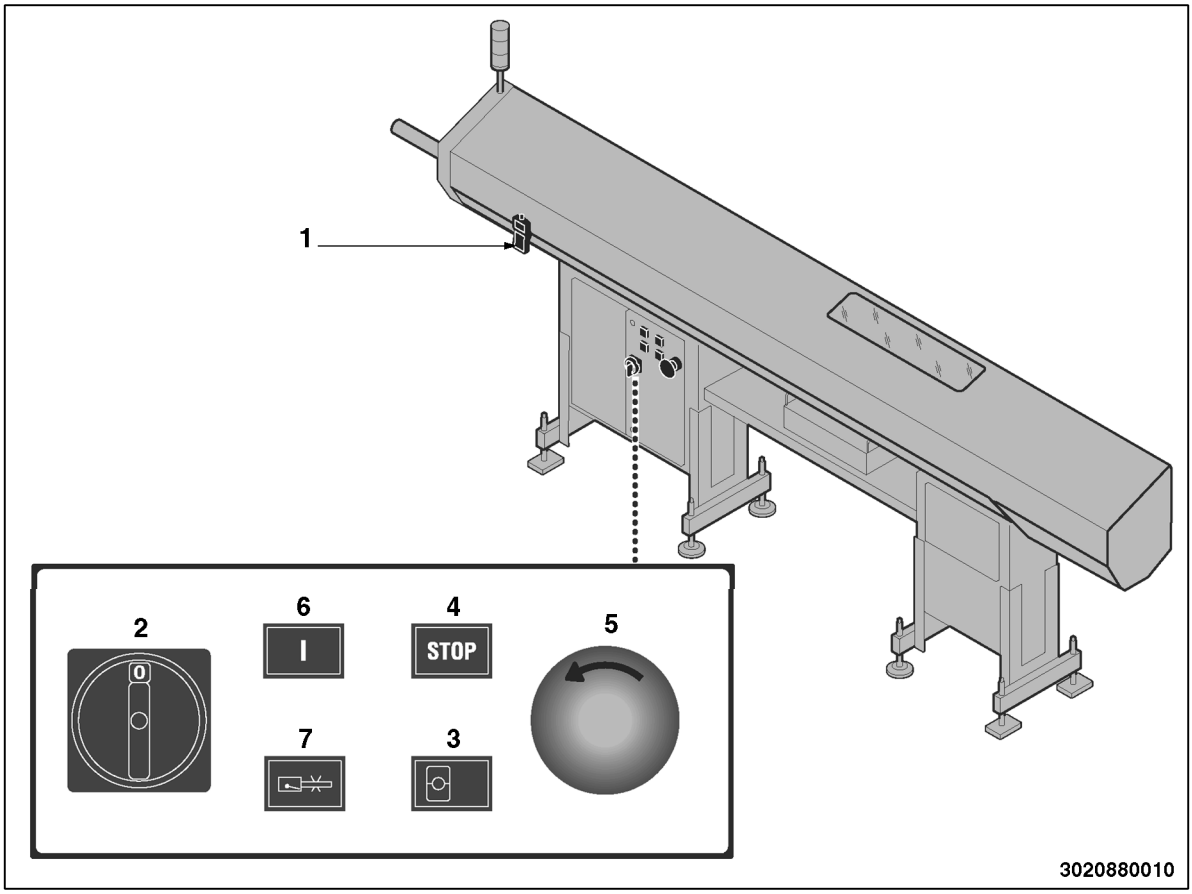
6.1 DESCRIPTION OF THE CONTROLS

The illustration shows the positions of both the electrical controls and hand-held keyboard "1".



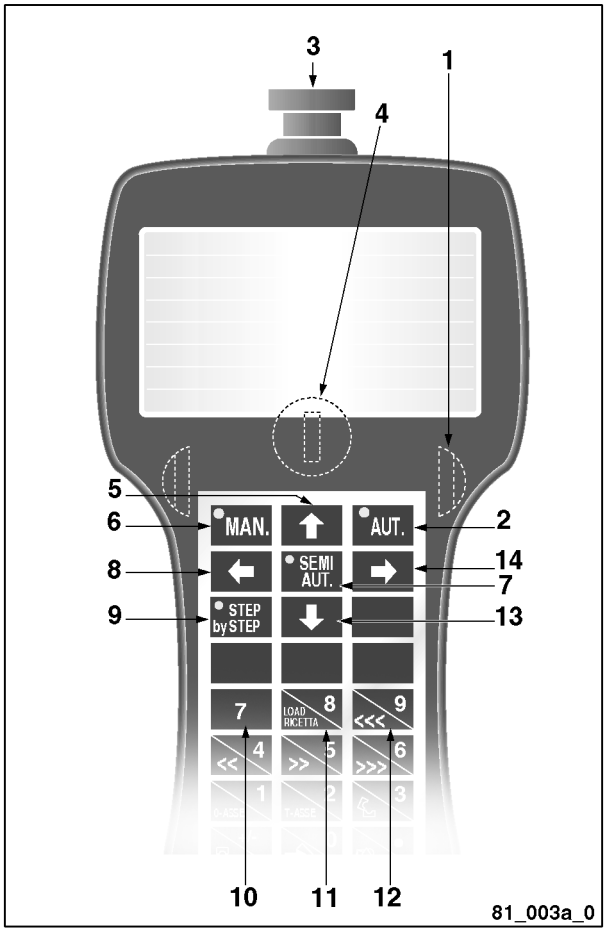
2 MAIN SWITCH: turns the power supply on and off.
- Position 0 (OFF) the machine has no power supply.
- Position I (ON) the machine has power supply.

3 BUSH HOLDER DEVICE OPENING AND CLOSING BUTTON (white light) (OPTIONAL)
- During the "Manual" mode, when the bar feeder is in the required position, the half-bushings will close when this button is pushed. If pushed again, the half-bushing will open.
- During the "Automatic" mode, if pushed, the half-bushings will open and close, according to the selected sequence. If pressed again, the half-bushings will remain open during the entire operating cycle.



4 BAR FEEDER STOP BUTTON (red): to stop the bar feeder and to reset "Errors".
5 EMERGENCY STOP BUTTON: this button stops the bar feeder in an emergency situation. To restart, first you must manually unlock the button
6 BAR FEEDER START BUTTON (green light): to start the bar feeder, hold down the button until the button itself lights up.
7 REMNANT DETECTION DISABLING BUTTON (green light)
Press the button to feed a "new " bar without the detection of bar remnant in the bar pusher collet.

6.2 DESCRIPTION OF KEYBOARD CONTROLS



1 Start buttons: opposite buttons that when pushed together will start some procedures. Press the two buttons, and at the same time, the key corresponding to the required function.
2 Selects the automatic mode.
3 Stops the bar feeder: to restart you must manually un-lock the button.
4 Selects the keyboard modes:
- in the position; the "messages display" mode is selected.
- in the position the "parameters display" mode is selected.

5 Multifunction
- Allows you to scroll the page upwards.
- Moves the cursor upwards.
- Increases the preset data programming of date and time, by one unit.

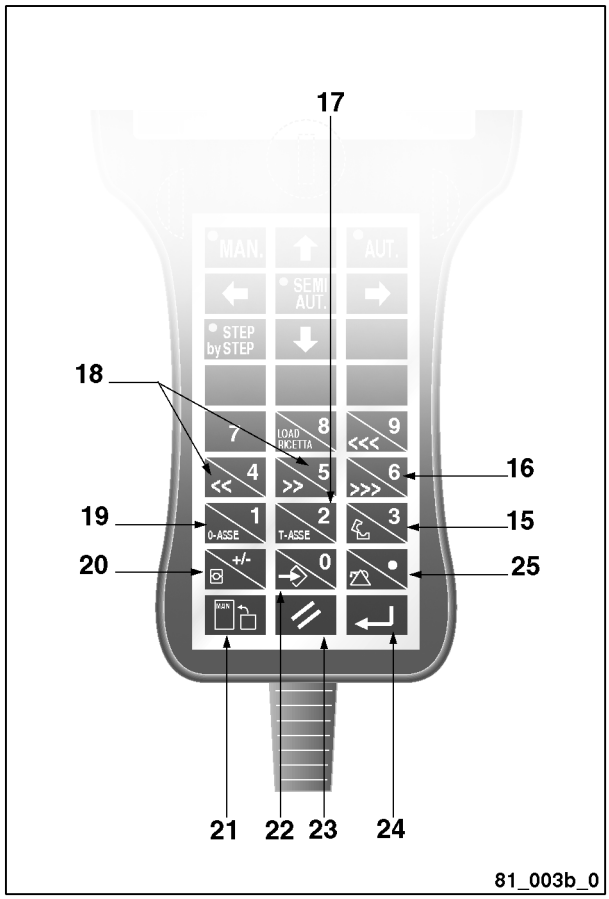
6 Selects the manual mode.
7 Selects the semi-automatic mode. Push to select, press again to unselect.
8 Multifunction
- Selects the previous parameter.
- Moves the cursor towards the left.

9 Starts "step-by-step" movement of an operation cycle: every push of the key initiates a step in the cycle.
10 Number setting.
11 Multifunction
- Number setting.
- Loads the programme from the PLC (entering default settings in the parameters).

12 Multifunction
- Number setting.
- Moves the bar pusher to a high speed.

13 Multifunction
- Allows the downwards scrolling of the page.
- Moves the cursor downwards.
- Decreases the programming mode of date and time by one unit

14 Multifunction
- Selects the next parameter
- Moves the cursor towards the right



15 Multifunction
- Number setting.
- Opens the guide channels.
  Hold down the two start buttons and then the key; release the two buttons and the key only when the movement has terminated.

16 Multifunction
- Number setting.
- Moves the bar pusher to a high speed.

17 Multifunction
- Number setting.
- Sets the carriage movement motor.
  During the daily use of the bar feeder this function must never be used.

18 Multifunction
- Number setting.
- Moves the bar pusher to a low speed.

19 Multifunction
- Number setting.
- Resets the "BAR FEEDER ZERO SETTING" of the carriage.
  Hold down the two start buttons and then the * key; release the two buttons and the key when the carriage starts moving towards the "BAR FEEDER ZERO SETTING".

20 Multifunction
- Number setting.
- Closes the guide channels.
  Push the two start buttons and then the * key; release the two buttons and the key only when the movement has terminated.

21 Goes to the MAIN MENU.

22 Multifunction
- Number setting.
- Recalls the cursor.

23 Multifunction
- Interrupts the selection mode.
- Resets the values held before the modifications, which were not confirmed.

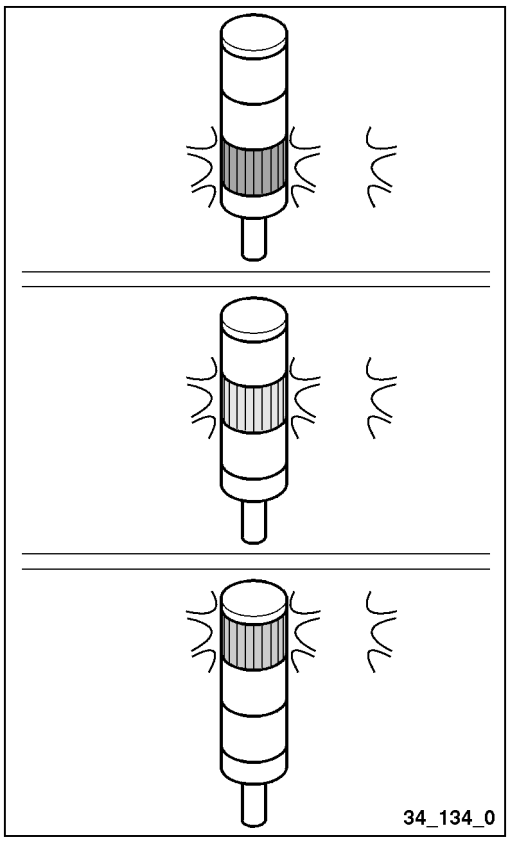
24 Confirms the data entered.

25 Multifunction
- Sets the font.
- Starts and turns off the oil pump.
  Push to start the pump and push again to turn it off.

6.3 INDICATOR LIGHTS - DESCRIPTION OF INDICATIONS

INFORMATION:

The indicator light can also be placed on the rear part of the bar feeder where you find holes prepared for fixing and a slot to fit the cable.



RED LIGHT; signals that the bar feeder is not operating, or that it is in the manual mode.

GREEN LIGHT; it indicates that the bar feeder is in the automatic mode.

BLUE LIGHT; signals that the bar feeder is carrying out the bar change.

6.4 BARS TO BE MACHINED - CHARACTERISTICS AND PREPARATION

CAUTION:

do not feed bars having different sizes than the manufacturer's prescribed sizes.

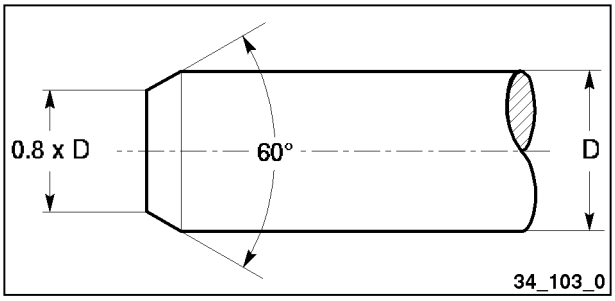
Table 1. Minimum and maximum length of bars

Model	Version	Minimum length mm (ft)	Maximum length mm (ft)
GENIUS 118	32	700 (2,3)	3210 (10,5)
	37		3730 (12,2)

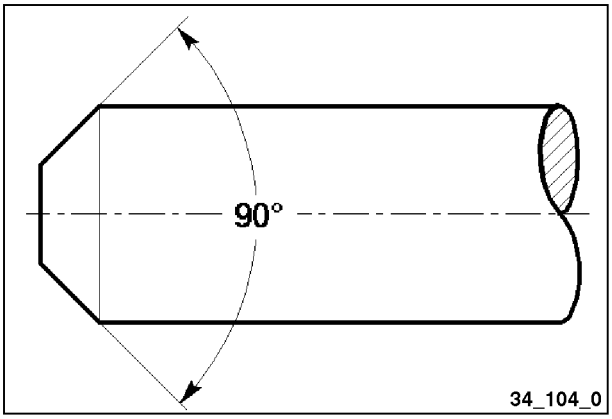
Bar must not present a straightness defect above 0.5 per 1000.

SOLID BARS

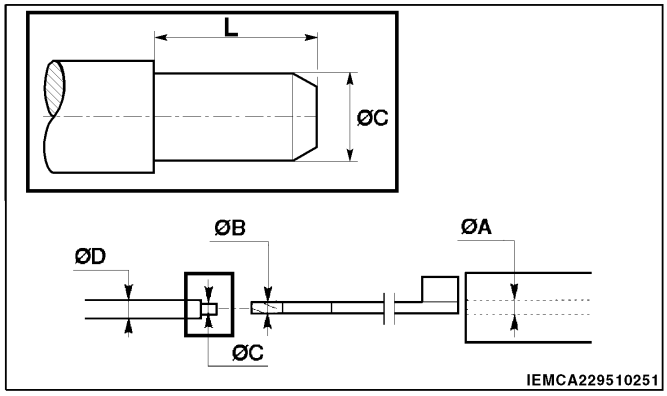
Check that there is not too much rag on bar head, which might hinder insertion in the lathe collet. Check that there is not too much rag on bar rear end, which might hinder insertion in the bar-pusher collet. In any case, to improve operation during this phase, we advise to chamfer the bar as shown in the figure.



If bars with front remnant ejection have to be machined, we advise to chamfer the bar rear end as shown in the figure.



If bars have to be machined having a diameter equal to or only slightly smaller than the bar-pusher diameter, bar rear ends should be machine-turned; diameter "D" should be suitable for the collet size installed in the bar-pusher.



INFORMATION:

assuming the lathe spindle bar capacity is adequate, and if the appropriate diameter guide channels and bar pusher are installed, there is no need to turn the rear end of the bars.

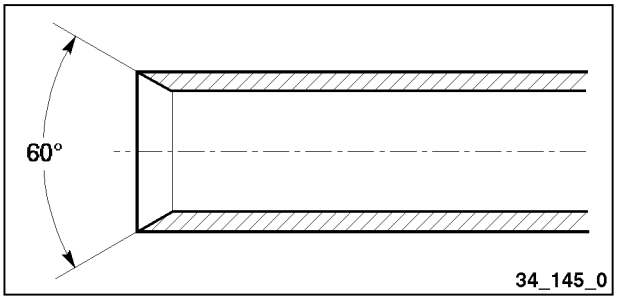
Table 2. Guide channel, revolving tip, turning, bar diameters and turning length.

Model	Guide diameter ø A (mm)	Revolvig tips diameter ø B (mm)	Maximum turning diameter ø C (mm)	Turning length L (mm)	Bar diameter ø D (mm)
GENIUS 118	**6**	5	4	16	4,8÷5,5
	8	7,5	5,5	16	6,6÷7,5
	11	10	7,5	16	8,1÷10
	14	12	9,5	16	10,1÷12
	16	15	12,5	16	13,1÷15
	18	17	14,5	16	15,1÷17
	20	18	16,5	16	17,1÷19
	22	20	17,5	21	18,1÷20

(*) it is not necessary to turn the rear end of the bar

PIPES

If pipes have to be machined, their rear ends should be chamfered as shown in the figure.

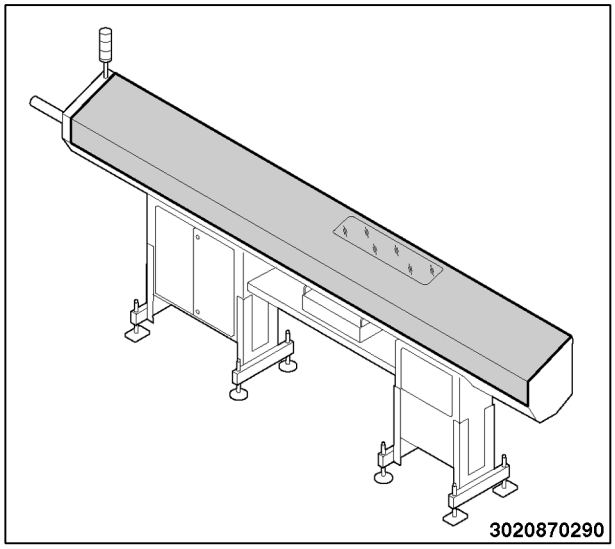


6.5 FEEDER SET-UP AND AUTOMATIC CYCLE START

The following list is a sequence of feeder set-up and automatic cycle start operations required if the feeder has to be started up for the first time.

- Perform the software parametering (refer to the "Push-button panel instruction manual")
- Carry out feeder set-up according to the bar to be machined (paragraph 5.3.)
- Prepare the bars to be machined (paragraph 6.4.).
- Feed bars to the magazine (paragraph 6.5.1).
- Load the bar magazine (paragraph 6.5.1).
- Adjust lube oil flow (paragraph 6.5.2).
- Start the automatic cycle (paragraph 6.5.3).

6.5.1 Bar magazine - Filling



CAUTION:

do not manually lift loads with weights exceeding those prescribed by the applicable regulations in force; ask for another worker's help if necessary.

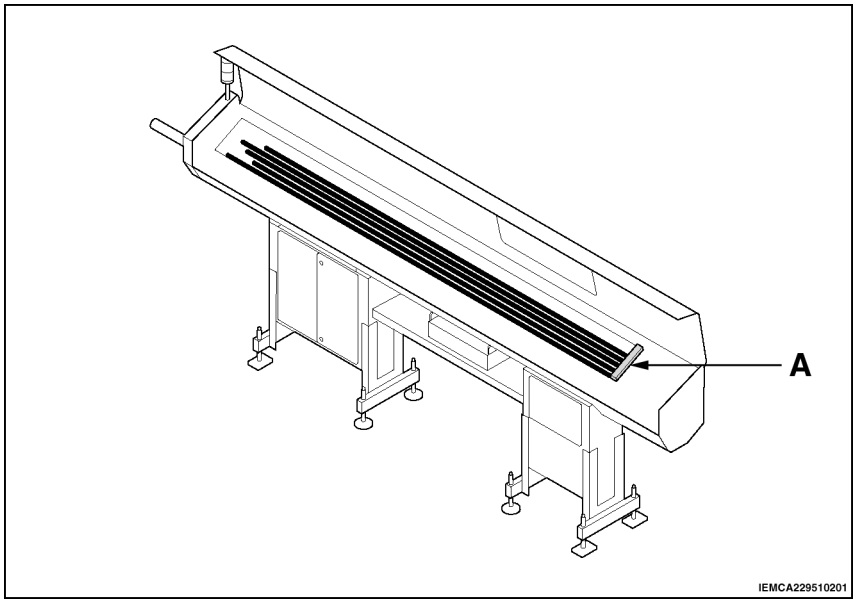
CAUTION:

wear personal protections according to the regulations in force.

Follow these instructions to load bars:

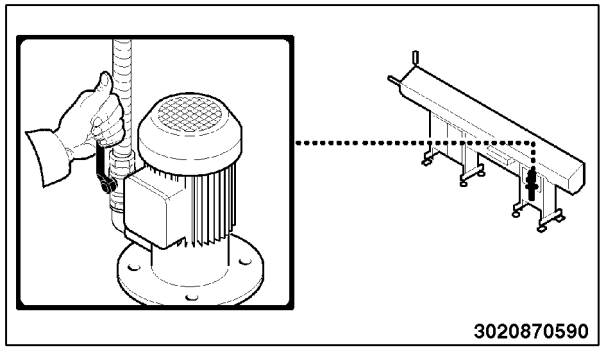
- open the upper guard;

- place bars against the plate "A" and close the upper guard.



6.5.2 Lubrication oil - Flow adjustment

The oil flow in the guide channels is automatically activated during the bar feeder automatic cycle. The pump starts up after the bar feeder has performed a bar change and stops when the bar pusher comes close to the nose.
Oil flow should be adjusted according to bar diameter and profile through the valve located upstream from the installation.



6.5.3 Automatic cycle start

- Power the lathe on.
- Turn the main power switch to the position I (ON).
- Press I to start the bar feeder.
- Press MAN. to select the manual mode.
- Carry out a "BAR FEEDER ZERO SETTING" in the following way:

press the start buttons plus 1 0-ASSE , if the top guides are not closed, the bar feeder will not complete a "ZERO SETTING"; messages are displayed describing the operations to carry out in order to bring the top guides to the required position.

After carrying out the required operations, press the start buttons plus 1 0-ASSE.

- Enter the parameter values (refer to the "Push-button panel instruction manual").
- Press >> 5 to move the bar fore end closer to the cutting tool.

To start machining, press AUT. , when the lathe collet is closed. In this way, you will obtain automatic bar feeding until bar running out or according to the selected program.

- Empty the remnant collection box during machining.

CAUTION:

use the procedure described above also each time the bar feeder is switched on, after deactivating and then activating the electric supply.

- Select the manual function by pressing MAN..
- Control a "ZERO SETTING" by pressing the start buttons and 1 0-ASSE.
- Bring the bar to its facing position by pressing .
- Press AUT. and start the automatic cycle following the instructions shown on the display.
- If the magazine is to be reloaded during the machining, adopt the procedure described in paragraph 6.5.1.

INFORMATION:

do not carry out reloading during the bar change phase.

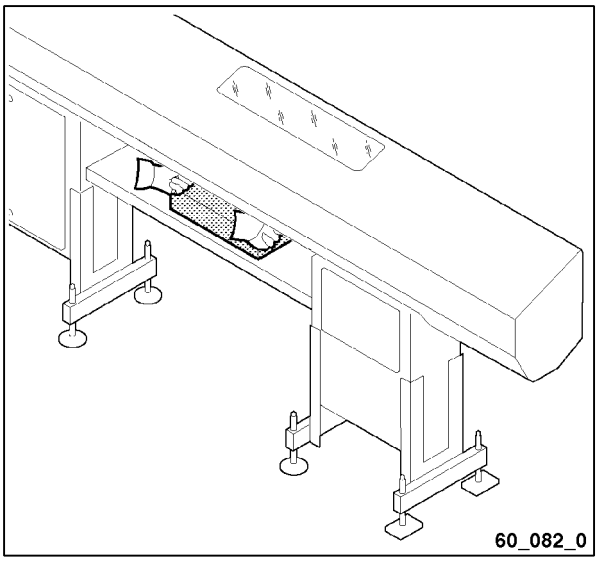
- Empty the remnant collection box during machining.

CAUTION:

do not manually lift weights exceeding those prescribed by the applicable regulations in force; ask for another worker's help if necessary.

Wear personal protections prescribed by the applicable regulations in force.

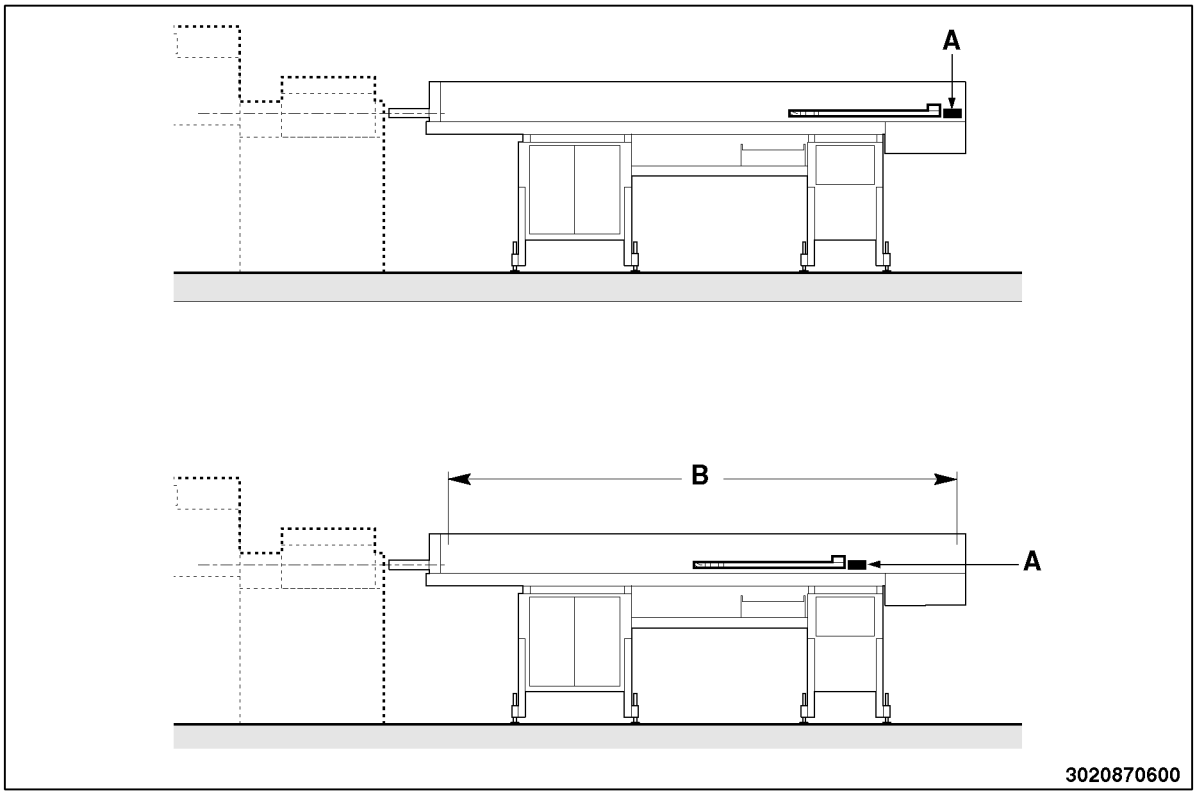
- Place the box back under the remnant outlet.



6.5.4 Guide channel opening/closing procedure

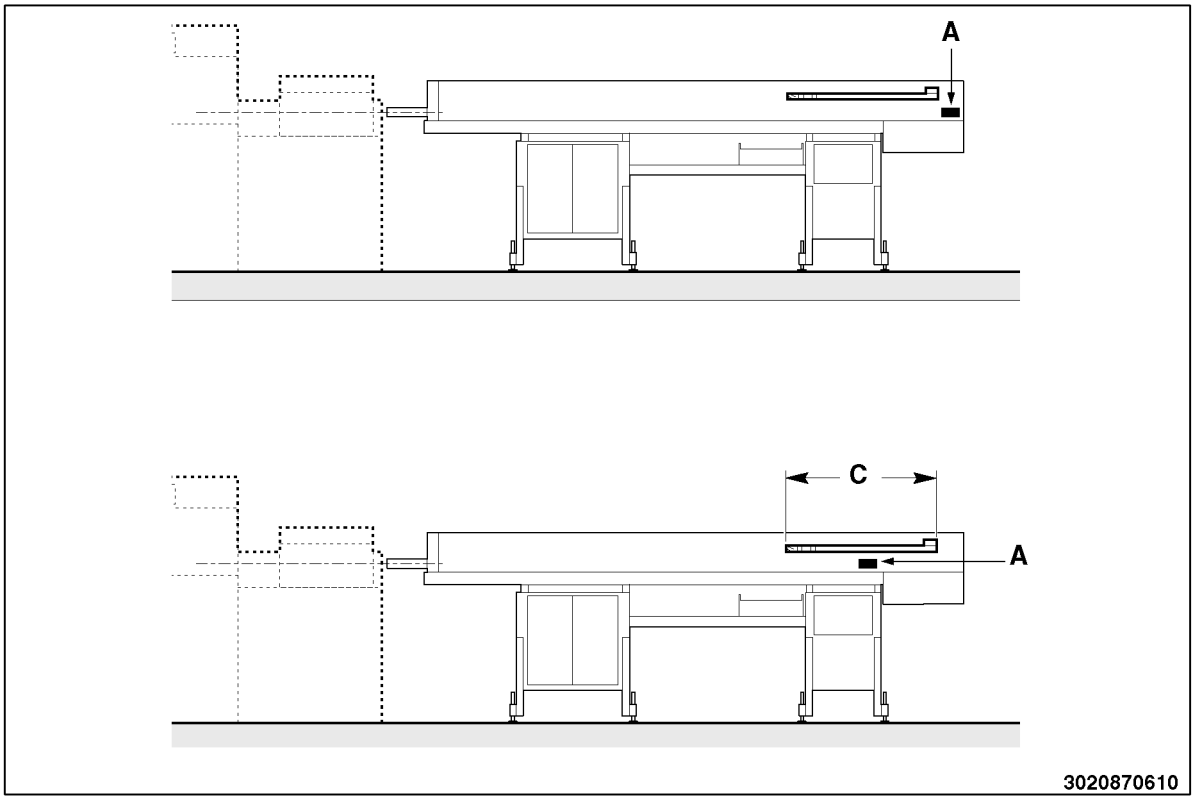
The following instructions concern guide channel opening and closing in the manual function.

OPENING PROCEDURE



Open the guide channels by pressing the start buttons and 3; if the carriage A is in the "ZERO SETTING" position, the guide channels will open immediately. If the carriage is at any point beyond the "ZERO SETTING" position (area B), the guide channels will open after the carriage has automatically moved to that position.

CLOSING PROCEDURE



If the carriage "A" is located in the area beyond the clamps (area "B"), close the guide channels by pressing the start buttons plus +/-.

If the carriage is located in the area before the clamps (area "C"), move it to the "BAR FEEDER ZERO SETTING" position by pressing any one of the following keys: >> 5.

When the carriage reaches this position, the displayed message will be:

Close the guide channels by pressing the start buttons plus +/-.

6.5.5 Cycle actuation mode in the STEP BY STEP function

Introduction
This mode can be used for many reasons, as for instance:
- to check a complete bar change cycle;
- to check the bar feeder mechanics;
- to load a single bar with the intent of checking the facing;
- eccetera.

Procedure
- Press I to start the bar feeder.
- Check that the bar feeder is under closed guide channel conditions.
- Press SEMI AUT. plus AUT. to select the semiautomatic function.
- Press STEP by STEP, the bar feeder performs the first step.
- Press STEP by STEP, the bar feeder performs the second step, and so on.

6.6 FEEDER STOP

FEEDER EMERGENCY STOP

CAUTION:
if the emergency stop is used during lathe machining, before resuming work make sure that the sudden stop has not created any hazardous condition (e.g., if the tool was cutting chips, move the tool away from the workpiece before restarting the lathe).

- To stop the feeder in an emergency, press an emergency push-button, either that of the lathe or that of the feeder.

FEEDER STOP AT WORK END

CAUTION:
do not use emergency buttons for normal machine stop.

- Complete the operations in your work schedule.
- Stop the feeder by pressing the button STOP.
- Stop the lathe.
- Turn the main power switch to the position O (OFF).

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7.1 MAINTENANCE - GENERAL RULES

DANGER - WARNING:
carry out machine maintenance and cleaning while the machine is off.

Regular cleaning and maintenance are critical to ensure smooth operation and longer machine service life.
It is recommended to regularly and effectively clean the machine, its accessories and work area, which also increases operator's safety.
Do not use petrol or solvents which would damage the painted and transparent parts, the cable sheaths etc.

INFORMATION:
oxidation can damage metal parts and electric equipment.

To protect the bar feeder when you expect not to use it for long periods of time, disconnect it from mains voltage and from compressed air supply and cover it with a suitable protective sheet.
Any protection used should not be fully closed or sealed at the base; it should have ventilation holes to make sure that air within the envelope cannot condense due to lack of circulation.

7.2 SCHEDULED MAINTENANCE

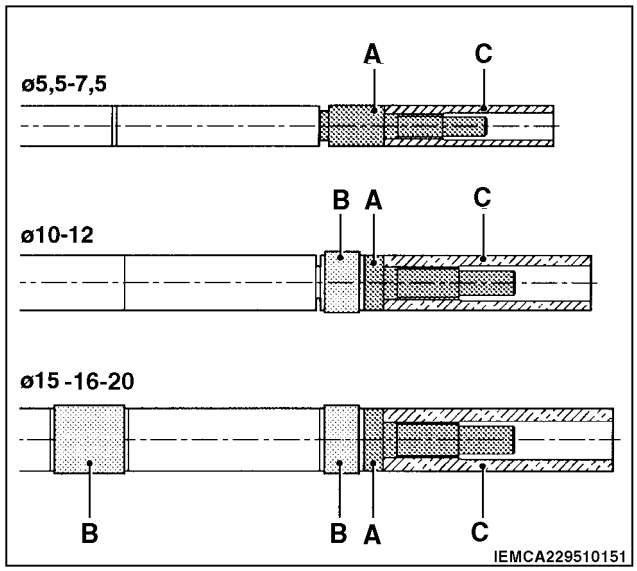
Table 1. Scheduled maintenance

Bar feeder part	Operation to carry out	Frequency				
		Hours			Every year	Periodically
		200	1250	2500		
Revolving tip and collet	Wear check	•				
Lubrication system	Oil level check	•				
	Oil change			•		
Guides	Repair and cleanness check		•			
Clutch	Oil level check	•				
	Oil change			•		
	Disk wear check		•			
Control rack	Greasing		•			
Feed chain	Lubrication	•				
	Tension check	•				
Driving motor brushes	Wear inspection		•			
Drive belt	Tension check	•				
Air filter (*)	Check					•
PLC Battery	Replacement				•	
Keyboard battery	Replacement				•	

(*) Only if installed.

7.2.1 Revolving tip and collet - Check

- Remove bar-pusher as described in paragraph 5.3.1.
- Make sure shaft (A) and bushes (B) turn freely and are not excessively worn out.
  Make sure collet (C) is in proper working conditions.



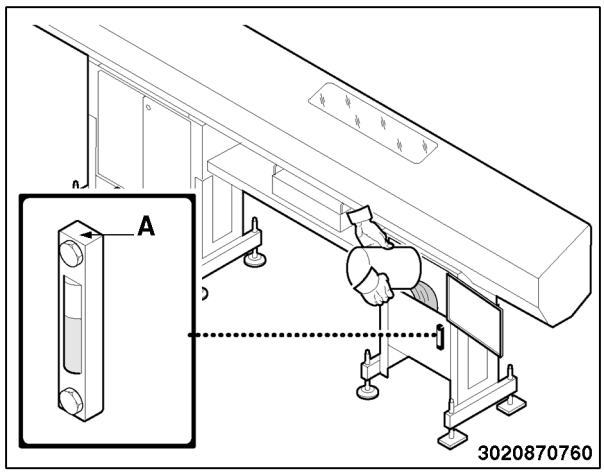
7.2.2 Lubricating oil - Level check

CAUTION:

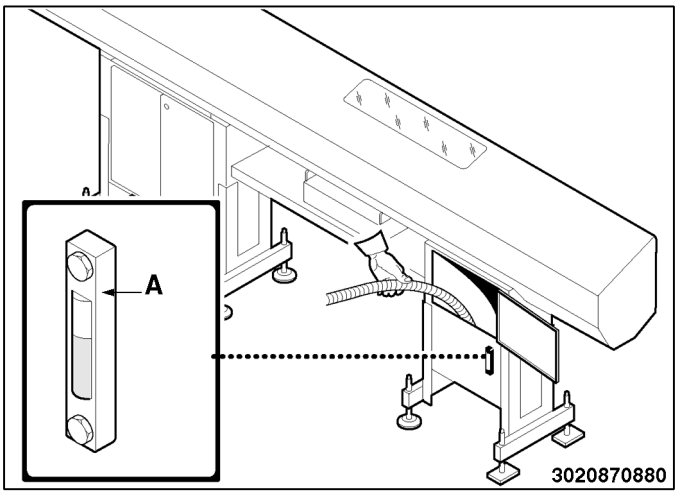
wear personal protections according to the regulations in force.

- Drain the tank using an auxiliary pump. Clean the tank bottom and pump suction system.
- For loading, pour the oil directly into the tank and check its level by means of the "A" indicator.

Oil characteristic: class C CKB32
See paragraph 2.6. for the comparative table.



7.2.3 Lubricating oil - Change



CAUTION:

make use of the personal protections recommended by the regulations in force.

INFORMATION:

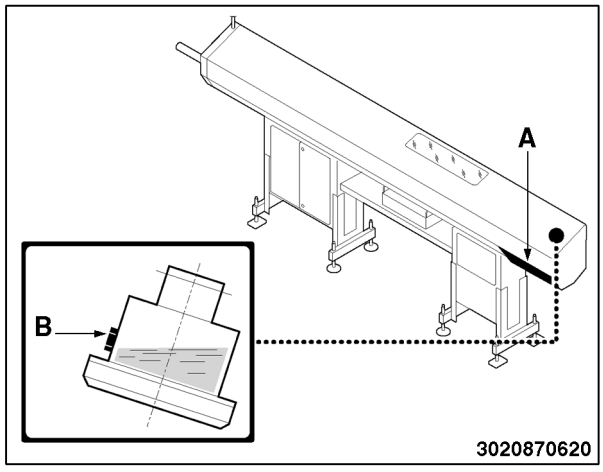
store spent oil in special containers to be delivered to companies specialized in pollutant disposal and storage. Do not pollute the environment.

- Drain the tank using an auxiliary pump. Clean the tank bottom and pump suction system.
- For loading, pour the oil directly into the tank and check its level by means of the "A" indicator.

Oil characteristic: class C CKB32, quantity 40I.

See paragraph 2.6. for the comparative table.

7.2.4 Clutch oil - Checking



CAUTION:

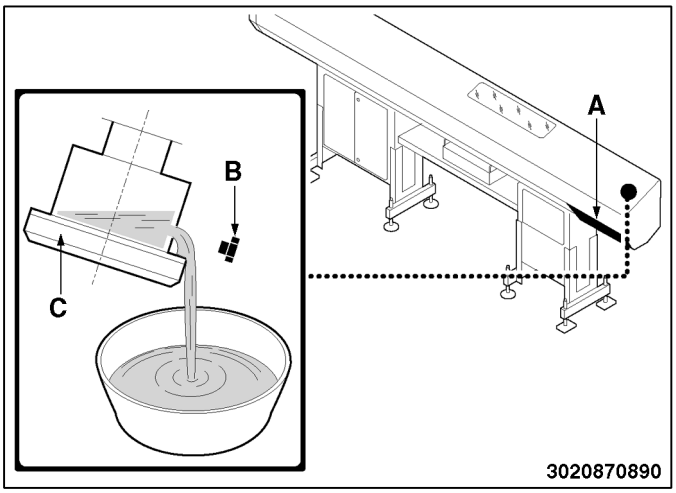
wear personal protections according to the regulations in force.

- Remove guard (A).
- Position the clutch so that cap (B) is at the highest point.
- Remove the cap. The oil level must reach the hole.
- For topping up, if necessary, use BP Energol HLP-D32 type oil.
- Screw the cap on and refit the guard previously removed.

7.2.5 Clutch oil - Change

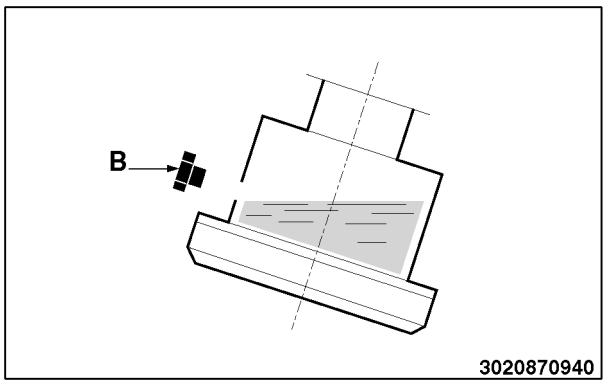
CAUTION:
wear personal protections according to the regulations in force.

INFORMATION:
store spent oil in special containers to be delivered to companies specialized in pollutant disposal and storage. Do not pollute the environment.



- Remove guard (A).
- Position the clutch so that cap (B) is at the lowest point.
  Remove the plug and let the oil flow out.
- Remove the cover (C) to drain oil completely, clean it and put it back.

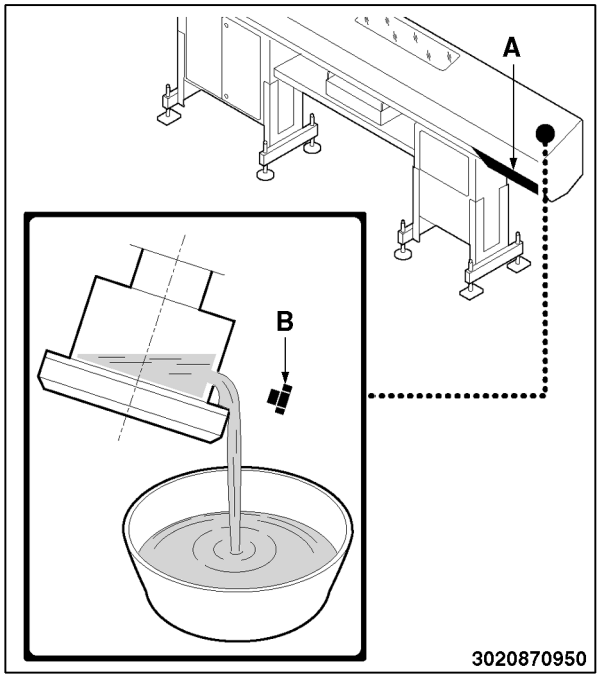
- Position the clutch so that the hole in the cap is at the highest point.
  Pour in BP Energol HLP-D32 type oil; the oil level must reach the hole.
- Screw the cap on and refit the guard previously removed.



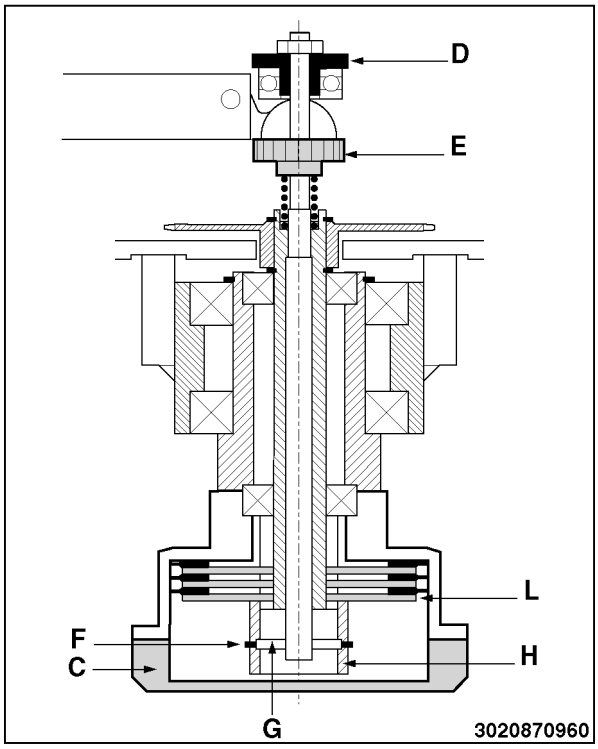
7.2.6 Clutch disks - Checking for wear

CAUTION:
wear personal protections according to the regulations in force.

- Remove guard (A).
- Position the clutch so that cap (B) is at the lowest point.
  Remove the cap and let the oil flow.

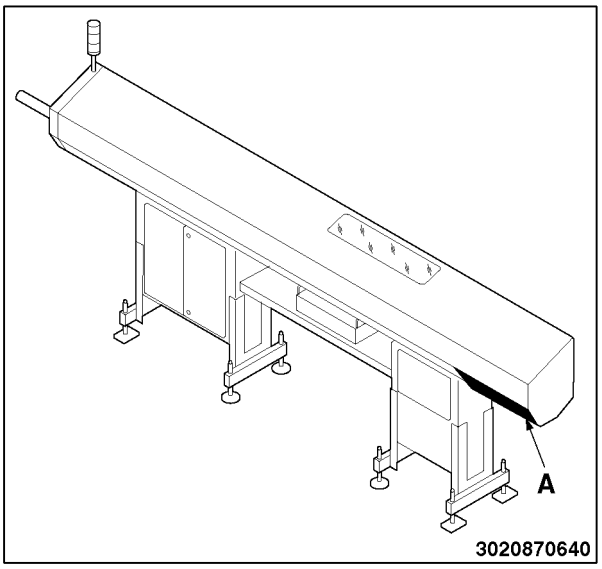


- Remove cover (C).
- Loosen the ring nuts (D) and (E) to lower the clutch shaft until the Seeger circlip ring (F) can be removed and the pin (G) can be extracted.
- Remove ring (H) and disks (L) with the relative linings.
- Clean the inside of housing and the clutch shaft carefully.
  Clean the disks and linings, check for wear, and refit or replace.
- Refit the parts previously removed.
- Restore the oil level as described in paragraph 7.2.5.
- Refit the guard previously removed.

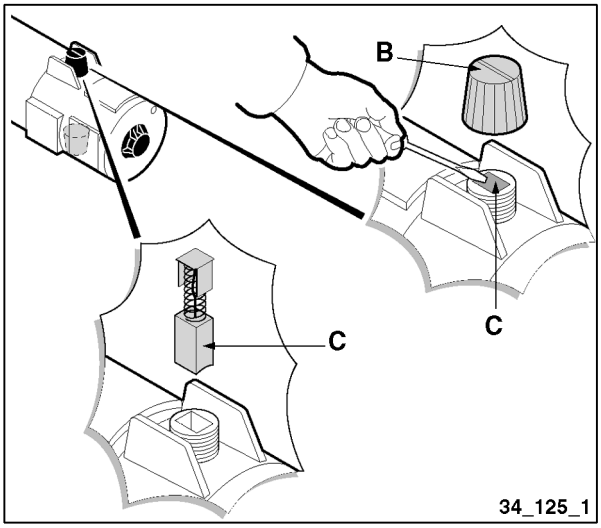


7.2.7 Feed motor brushes - Checking for wear

- Remove guard (A).



- Remove covers (B) and the brushes (C).
- Blow air inside to remove dust produced by wearing of the



CAUTION:

remove both plugs so that air blown into a hole can come out of the second hole.

If only one cap is removed, dust will expand inside the motor and damage the motor.

- Check thickness. If it is less than 9 mm, replace the brushes.
- Refit the covers and the guard previously removed.

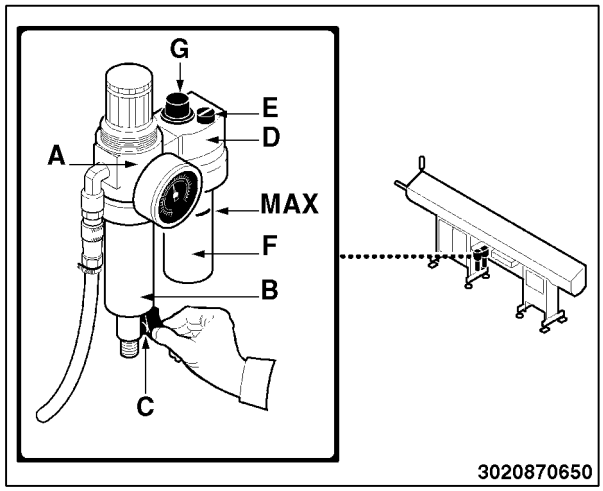
7.2.8 Air filter unit - Check

FILTER A

- Make sure that cup (B) is not full of condensate. If need be, bleed the condensate by valve (C).

LUBRICATOR D

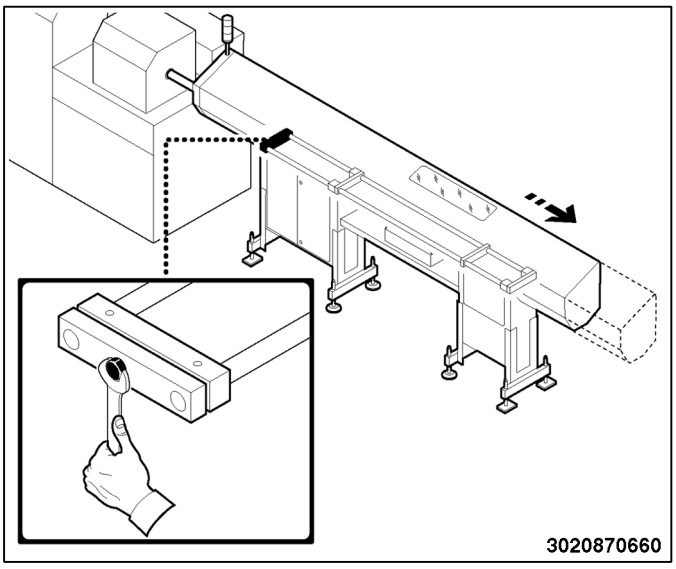
- Check that the oil level is not under the suction level.
- If need be, top up as follows:
  - disconnect the compressed air supply.
  - fill the tank removing plug (E) or cup (F); the oil level must reach the MAX. reference. 9÷11 Cst at 40×C ISO VG 10.
    See paragraph 2.6. for the comparative table.
  - Reset the compressed air supply.



- Check air lubrication (1-12 drops every 1000 l. of air), adjust by turning the screw (G).

7.3 AXIAL DISPLACEMENT DEVICE - USE

- If the feeder is fixed to the bar, release it. Disconnect any installed devices (e.g. the bar/headstock synchronizing device, the cam box, the camshaft release device etc.).
- Loosen the screw completely.
- Move the bar feeder backwards taking care to avoid damaging the connecting cables (example: electric cable interfacing with the lathe, cable of the camshaft disconnector device, pneumatic connection tube, etc.).
- Carry out all the maintenance operations on the lathe.
- Move the bar feeder forwards and restore the initial conditions.



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8.2 BAR MAGAZINE - Faults 2
8.3 INSERTION IN THE COLLET - Faults 3
8.4 BAR FEEDING - Faults 3

8.1 GENERAL FAULTS

TROUBLE	CAUSES	CURES
The bar feeder will not start	No power	Check the electric connections
	Open guard	Close the guard
	Emergency systems on	Disconnect the emergency devices
	Motor thermal switch tripped	Reset the motor overload cut-out with the special push-buttons.
The bar feeder has been reset but the automatic cycle will not start	No lathe signal	Check electric connection to the lathe
The pneumatic devices will not respond to controls	No air	Check the air system
The pre-feed and feed suddenly stop	Motor thermal switch tripped	Reset the motor overload cut-out with the special push-buttons

8.2 BAR MAGAZINE - Faults

TROUBLES	CAUSES	CURES
The bar will not enter the magazine during feeding	The bar plates are too low	Adjust the plates position
The first magazine bar is not dropped into the guides	Wrong adjustment of the bar selectors	Adjust the bar selectors
All the magazine bars are dropped into the guides	.Wrong adjustment of the bar selectors	Adjust the bar selectors

8.3 INSERTION IN THE COLLET - Faults

PROBLEMS	CAUSES	CORRECTIVE ACTION
Bar fails to enter collet.	Incorrect clamps adjustment.	Adjust clamps.
	Collet diameter not suitable for bar diameter.	Change collet.
	Excessive rag on bar rear end.	Trim rag before feeding.

8.4 BAR FEEDING - Faults

PROBLEMS	CAUSES	CORRECTIVE ACTION
Difficult bar introduction into lathe spindle	Bar feeder not aligned with lathe.	Check and correct alignment.
Difficult bar introduction into lathe collet	Excessive rag on bar rear end.	Trim rag before feeding.

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9.2 CLUTCH DISKS - REPLACEMENT 2
9.3 FEED MOTOR BRUSHES - REPLACEMENT 2
9.4 PLC BATTERY - REPLACEMENT 3
9.5 KEYBOARD BATTERY - REPLACEMENT 4
9.6 FEED MOTOR DRIVE - REPLACEMENT 5
9.7 RECOMMENDED SPARE PARTS 6

9.1 FEED CHAIN - REPLACEMENT

Replacement of the feed chain is a highly complex operation; call IEMCA after-sales service.

9.2 CLUTCH DISKS - REPLACEMENT

To replace, follow the procedure described in paragraph 7.2.6.

9.3 FEED MOTOR BRUSHES - REPLACEMENT

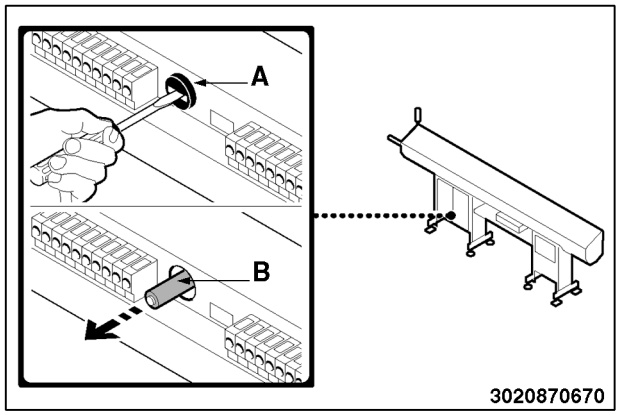
To replace, follow the procedure described in paragraph 7.2.7.

9.4 PLC BATTERY - REPLACEMENT

Replace the battery at least every year, and when the following message is displayed:

INFORMATION:

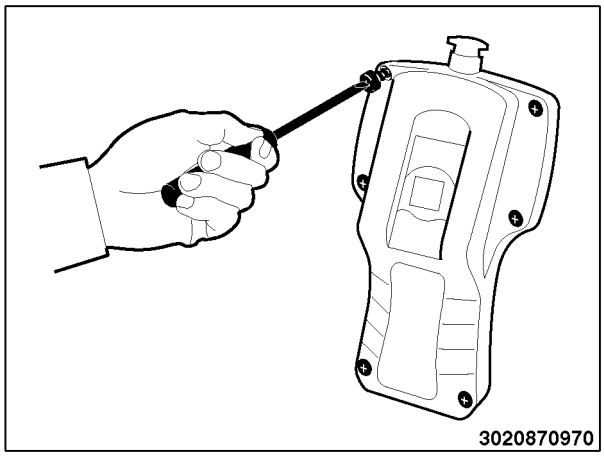
when this message is displayed, the battery should be replaced within one day, otherwise, the "PLC/NC Software" data will be deleted.



- Unscrew cap (A) and pull out battery (B);
- insert a new battery (AA 3.6 volts lithium-type battery) and make sure that it is introduced correctly, then tighten the cap (A).

9.5 KEYBOARD BATTERY - REPLACEMENT

The keyboard battery should be replaced every year.

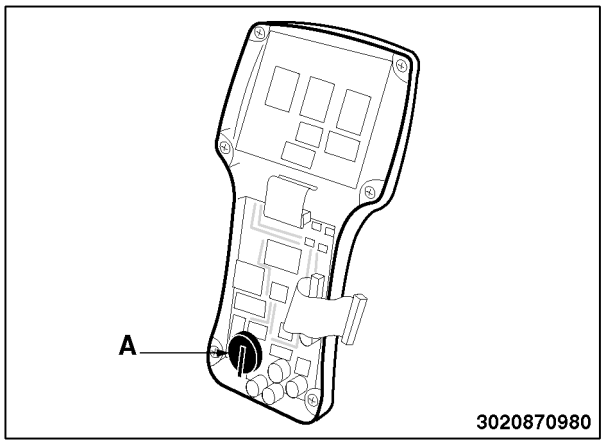


INFORMATION:

failure to replace the battery can cause the calendar - clock memory to be deleted.

- Disconnect power.
- Screw out the six screws and remove the two half-shells.

- Remove the battery A from its housing.
- Insert a new battery (type DURACELL DL2430).



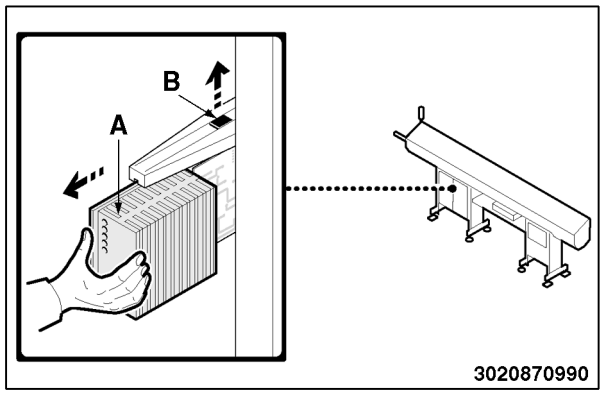
DANGER - WARNING:

danger of battery explosion if the battery is mounted with inverted poles.

- Put the two half-shells back in place and screw down the six screws.
- Connect electric power again.

9.6 FEED MOTOR DRIVE - REPLACEMENT

- Disconnect electric power, open the electrical switchboard doors.
- Remove the drive (A) from its seat by lifting the lever (B), and insert the new drive.



- Close the doors and connect electric power again.
- Control motor setting ("Offset" function) in the following way.
  Move the bar pusher to a position where it is free to move back and forth.
  Press the key 2 T-ASSE. The display must read:
  When the message goes off on the display, setting is completed.

9.7 RECOMMENDED SPARE PARTS

The heavy-wear parts or easily broken parts are listed below (this list refers to bar feeder requirements for a two year's period of normal use).

Table 1. Original spares table

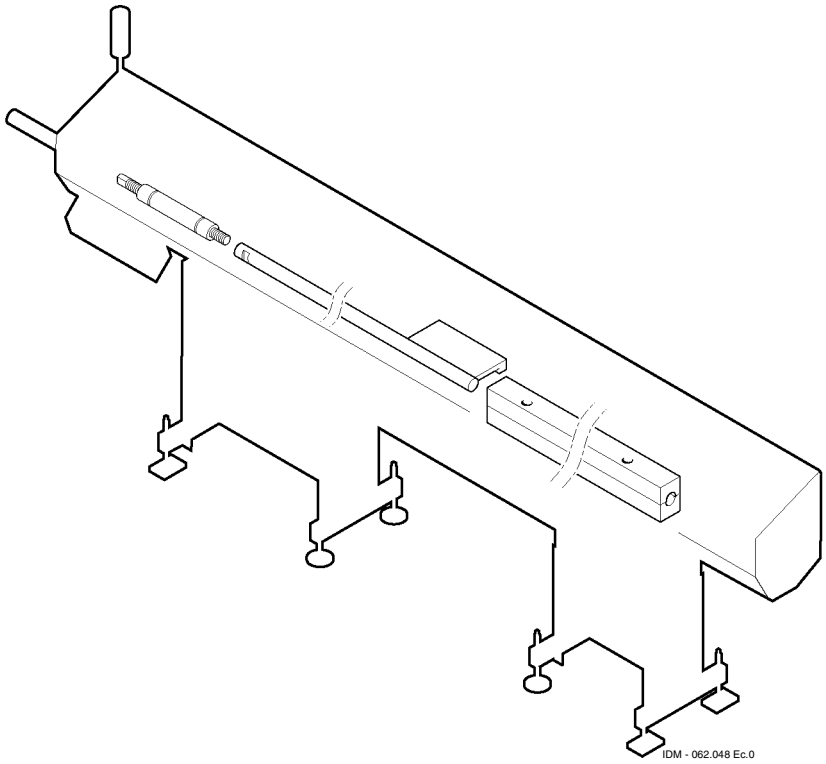
Model	Code	Name	Characteristics	Notes	Q.ty
GENIUS 118	24150243	Clutch lining	15 L81 D97		3
		Clutch oil	BP ENERGOL HLP - D32		300 gr.
	220030120	Facing device electromagnet	24 V cc		1
	33180002	Clutch reinforcement electromagnet	S60M - 24V DC		1
	24371341	Toothed belt	345 L 050		1
	24371182	Toothed belt	187 L 075		1
	34320043	Feed motor brush	12x7x18 L59 MPC		2
	32210401	Sensor	M8 3RG4011-OAG12 Siemens		1
	24290601	Link	P6		2
		Bar pusher		Specify diameter and length	1
		Rotary unit		Specify diameter	1
		Collet		Specify internal and external diameter	2

LIST OF AFTER-SALES CENTERS

ENGLAND:	CSJ Enterprises	Unit 96 Springhill Farm Salters Lane, Lower Moor Nr. Pershore, Worcs WR10 2PE	Tel. +44 01386 861777 Fax +44 01386 861666 Email: CSJENT@AOL.com
FRANCE:	IEMCA France	Z.I. Des Grands Pres 145, rue Louis Armand 74300 Cluses	Tel +33 450 896960 Telefax +33 450 896135 Email: iemca@iemca.fr
GERMANY: *(West - Nord-Deutschl.)*	Hoßfeld GmbH	Königsberger Straße 10 D-58511 Lüdenscheid	Tel. ++49 02351 / 80521 Fax ++49 02351 / 860442 Email: HossfeldgmbH@t-online.de
GERMANY: *(Neue Länder)*	Heyde Maschinen Service	Albin-Trommler-Str. 3 D-08297 Zwönitz	Tel. ++49 037754 / 5090 Telefax ++49 037754 / 50920 Email: Heyde-maschinen-service@t-online.de Heyde-zwoenitz@t-online.de
GERMANY: *(Süd-Deutschl)*	Reimo Lobers	Elektro-Mechanischer Betrieb Rebgartenweg 5/1 D-79576 Weil am Rhein	Tel. ++49 07621 / 69551 Fax ++49 07621 / 69491 Email: Mail@lobers.de
ITALY:	IEMCA S.p.A.	Via Granarolo, 167 I-48018 Faenza (RA)	Tel. 0546 / 698208 Fax 0546 / 698290 Email: iemca@igmi.it
SWITZERLAND: *(Canton ticino)*	IEMCA S.p.A.	Via Granarolo, 167 I-48018 Faenza (RA)	Tel. 0546 / 698208 Telefax 0546 / 698290 Email: iemca@igmi.it
SWITZERLAND: *(Deutschl. Switzerland)*	FRITZ NIEDERHAUSER HANDEL & SERVICE AG	Bahnhofstrasse 18 CH-6048 Horw	Tel. ++41 041 / 3405075 Telefax ++41 041 / 3405074 Email: info@niederhauser.ch
SWITZERLAND: *(Switzerland Français)*	BARSPEED	Zone industrielle CH- 2607 Cortébert	Tel. ++41 032 / 4892726 Telefax ++41 032 / 4892729
TAIWAN:	GIMCO	No9, 19th Road Taichung Industrial Park - Taichung - Taiwan R.O.C	Tel. ++886-4-359-6980 Telefax ++886-4-358-6838 Email: gimco@gimco.com.tw
JAPAN:	IGM Nippon K.K.	321-1-967, Kashiwagaya, Ebina-shi, Kanagawa Zip code 243-0402	Tel ++81 462 36 3613 Telefax ++81 462 36 3614 E-mail: hitoshi-j-bigl@msg.biglobe.ne.jp
U.S.A. **CANADA :**	HYDROMAT INC.	11600 Adie Road St. Louis, MO 63043	Tel. ++314 6928388 Telefax ++314 6925152 Email:iemcaservice@hydromat.com

GUIDE CHANNELS
GUIDE-BARRES
BAR PUSHER
POUSSETTE
REVOLVING TIPS
EMBOUTS TOURNANTS

GENIUS 118



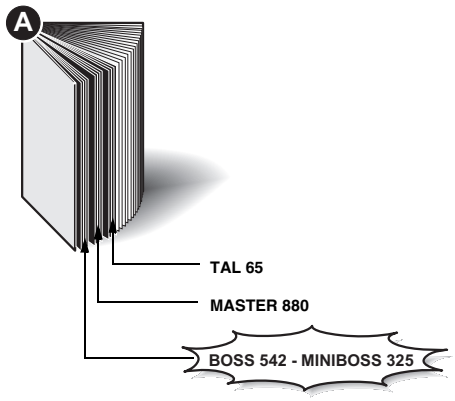
REL. 5 DATA 30/10/02

Read this introductory section carefully; it will help you easily trace the data you require. This manual is divided into a number of parts which are in turn divided into a number of sections (see contents page). These contain detailed information relative to the equipping of the bar feeders depending on the cross-section of the barstock, its diameter, the type of collet to be used, etc.
An example of the method of consultation described below refers to equipping of a BOSS 542 model bar feeder; the procedure described may vary for other bar feeder models.

Nous recommandons de lire attentivement cette partie introductive ; vous pourrez ainsi retrouver plus facilement les données qui vous intéressent. Ce manuel est composé de plusieurs fascicules subdivisés en différentes sections (voir index). Il contient une série d'informations articulées, relatives au montage des chargeurs en fonction de la barre à usiner, de son diamètre, du type de pinces à utiliser,etc.
L'exemple de consultation ci-dessous concerne le montage du chargeur modèle BOSS 542; la procédure qui y est décrite peut subir des variations selon les modèles de chargeurs.

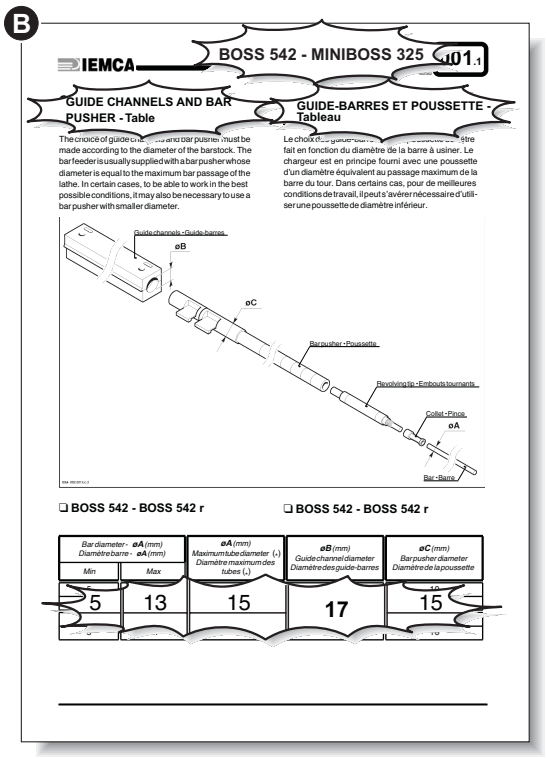
Ⓐ Select and consult the specific section concerning the bar feeder you are interested in.

Ⓐ Sélectionner et consulter le fascicule correspondant au modèle du chargeur qui vous intéresse.



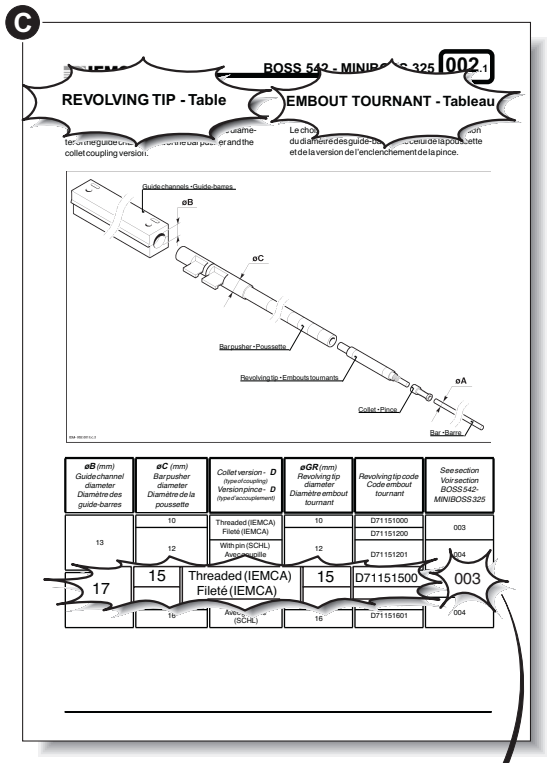
Ⓑ Consult the **"GUIDE CHANNELS AND BAR PUSHER - Table"** section of the selected section, select the guide channels and bar pushers suitable for the diameter of the barstock. While ordering these, specify the code, which is to be found in the "Spare parts catalogue".

Ⓑ Consulter la section **"GUIDE-BARRES ET POUSSETTE - Tableau"** du fascicule sélectionné, choisir les guide-barres et la poussette en fonction du diamètre de la barre à usiner. Pour toute commande, spécifier le code, indiqué dans le "Catalogue des pièces détachées".



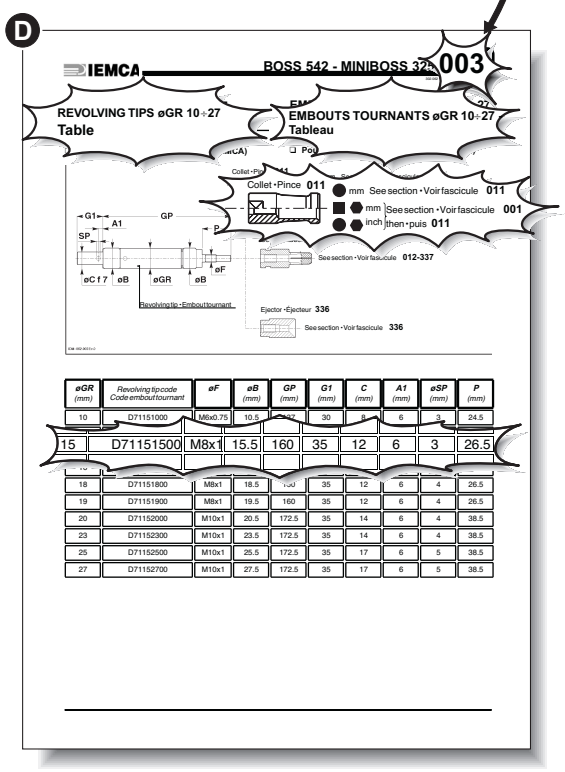
C Consult the **"REVOLVING TIP - Table"** section to select the revolving tip according to the diameter of the guide channel and that of the bar pusher, and the collet model to be used(1).

C Consulter la section **"EMBOUT TOURNANT - Tableau"** pour choisir l'embout tournant en fonction du diamètre des guide-barres, de celui de la poussette et de la version pince à utiliser(1).



D Consult the **"REVOLVING TIP øGR 10÷27 - Table"** section to select the type of collet(2).
This section contains the dimensions of the revolving tip and a series of drawings of collets, with reference to the corresponding sections in which you will find the code number of the collet to be used.

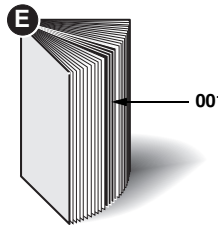
D Consulter la section **"EMBOUTS TOURNANTS øGR 10÷27 - Tableau"** pour choisir le type de pince(2).
Cette section présente un tableau des dimensions de l'embout tournant et une série d'illustrations des pinces accompagnée des références aux différents fascicules dans lesquels retrouver le code de la pince à utiliser.

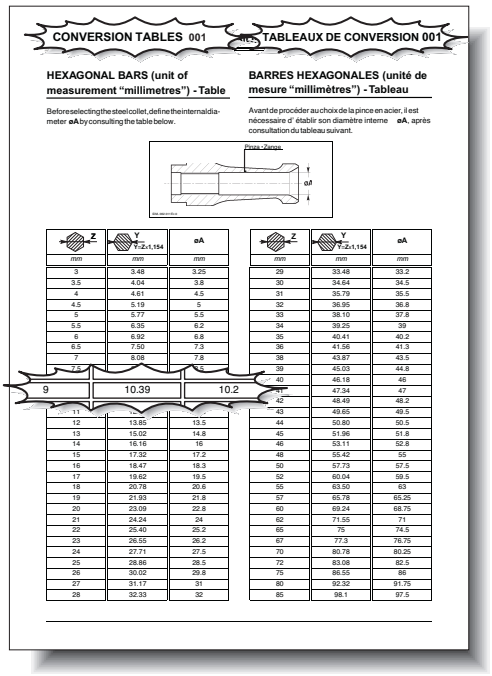


(1) Collet model; identifies the type of collet-revolving tip coupling (e.g. threaded coupling, pin coupling, etc.).
Version pince; indique le type d'accouplement (par ex. accouplement fileté, avec goupille, etc.).
(2) Type of collet; identifies the cross-section of the barstock and the type of machining.
Type de pince; indique la section de la barre à usiner et le type d'usinage à adopter.

Ⓔ Consult the **"001 - Conversion Tables"** section which contains the conversion tables for defining the internal diameter of the collet depending on the:
- profile and cross-section of the barstock
- the unit of measurement of the section dimensions (in millimetres for square and hexagonal sections, and in inches for round and hexagonal sections).

Ⓔ Consulter le fascicule **"001 - Tableaux de conversion"** contenant les tableaux de conversion pour établir le diamètre interne de la pince en fonction:
- du profil et de la section de la barre à usiner
- de l'unité de mesure de la dimension de la section (en millimètres pour les sections carrées et hexagonales et en pouces pour les sections rondes et hexagonales).





CONVERSION TABLES 001 — TABLEAUX DE CONVERSION 001

HEXAGONAL BARS (unit of measurement "millimetres") - Table

Before selecting the steel collet, define the internal diameter **øA** by consulting the table below.

BARRES HEXAGONALES (unité de mesure "millimètres") - Tableau

Avant de procéder au choix de la pince en acier, il est nécessaire d' établir son diamètre interne **øA**, après consultation du tableau suivant.

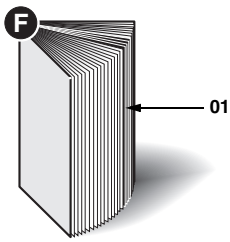
Pince - Zange

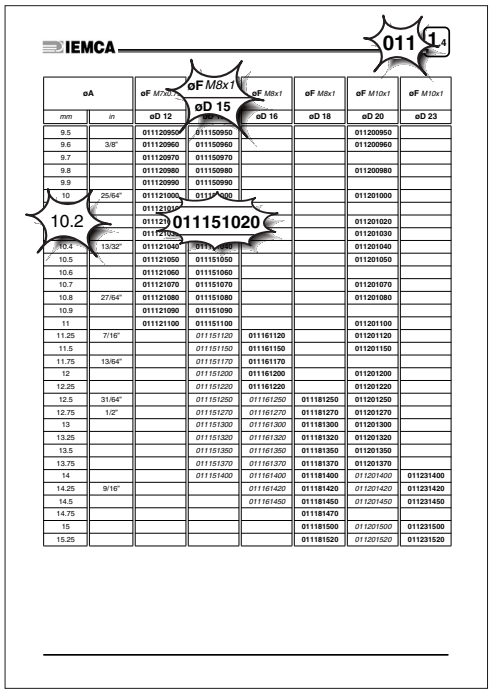
Z mm	Y T=Z:1,154 mm	øA mm
3	3.48	3.25
3.5	4.04	3.8
4	4.61	4.5
4.5	5.19	5
5	5.77	5.5
5.5	6.35	6.2
6	6.92	6.8
6.5	7.50	7.3
7	8.08	7.8
7.5		8.5
9	10.39	10.2
11		
12	13.85	13.5
13	15.02	14.8
14	16.16	16
15	17.32	17.2
16	18.47	18.3
17	19.62	19.5
18	20.78	20.6
19	21.93	21.8
20	23.09	22.8
21	24.24	24
22	25.40	25.2
23	26.55	26.2
24	27.71	27.5
25	28.86	28.5
26	30.02	29.8
27	31.17	31
28	32.33	32

Z mm	Y T=Z:1,154 mm	øA mm
29	33.48	33.2
30	34.64	34.5
31	35.79	35.5
32	36.95	36.8
33	38.10	37.8
34	39.25	39
35	40.41	40.2
36	41.56	41.3
38	43.87	43.5
39	45.03	44.8
40	46.18	46
41	47.34	47
42	48.49	48.2
43	49.65	49.5
44	50.80	50.5
45	51.96	51.8
46	53.11	52.8
48	55.42	55
50	57.73	57.5
52	60.04	59.5
55	63.50	63
57	65.78	65.25
60	69.24	68.75
62	71.55	71
65	75	74.5
67	77.3	76.75
70	80.78	80.25
72	83.08	82.5
75	86.55	86
80	92.32	91.75
85	98.1	97.5

Ⓕ Consult the **"011 - Bar collets"** section to identify the code number of the collet selected.
For identifying this code, use the data obtained from previous consultations.
For example:
- coupling diameter with revolving tip
- internal diameter of collet corresponding to diameter of the round section bar (in millimetres); for profiles of bars which do not have these characteristics, consult the references found in the **"001 - Conversion Tables"** section**.**

Ⓕ Consulter le fascicule **"011 - Pinces barres"** pour identifier le code de la pince sélectionnée.
Pour l'identification de ce code, utiliser les données déjà obtenues au cours des consultations précédentes.
Par exemple :
- diamètre d'accouplement avec l'embout tournant
- diamètre interne de la pince correspondant au diamètre de la barre avec section ronde (en millimètres); pour les profils de barres ne présentant pas les mêmes caractéristiques, consulter les références indiquées précédemment dans le fascicule **"001 - Tableaux de conversion"**.





IEMCA — 011 1.4

øA		øF M7x1	øF M8x1	øF M8x1	øF M8x1	øF M10x1	øF M10x1
			øD 15				
mm	in	øD 12		øD 16	øD 18	øD 20	øD 23
9.5		011120950	011150950			011200950	
9.6	3/8"	011120960	011150960			011200960	
9.7		011120970	011150970				
9.8		011120980	011150980			011200980	
9.9		011120990	011150990				
10	25/64"	011121000	011151000			011201000	
10.2		011121020	011151020			011201020	
10.3		011121030				011201030	
10.4	13/32"	011121040	011151040			011201040	
10.5		011121050	011151050			011201050	
10.6		011121060	011151060				
10.7		011121070	011151070			011201070	
10.8	27/64"	011121080	011151080			011201080	
10.9		011121090	011151090				
11		011121100	011151100			011201100	
11.25	7/16"		011151120	011161120		011201120	
11.5			011151150	011161150		011201150	
11.75	13/64"		011151170	011161170			
12			011151200	011161200		011201200	
12.25			011151220	011161220		011201220	
12.5	31/64"		011151250	011161250	011181250	011201250	
12.75	1/2"		011151270	011161270	011181270	011201270	
13			011151300	011161300	011181300	011201300	
13.25			011151320	011161320	011181320	011201320	
13.5			011151350	011161350	011181350	011201350	
13.75			011151370	011161370	011181370	011201370	
14			011151400	011161400	011181400	011201400	011231400
14.25	9/16"			011161420	011181420	011201420	011231420
14.5				011161450	011181450	011201450	011231450
14.75					011181470		
15					011181500	011201500	011231500
15.25					011181520	011201520	011231520

❑ Symbols

Parts of the text which are of considerable importance are highlighted in bold and are preceded by the following symbols:

CAUTION: indicates that it is necessary to adopt suitable measures for preventing accidents and damage to objects.

INFORMATION: these are technical instructions of considerable importance.

The symbols used in the tables and figures are as follows:
● bars with round section
■ bars with square section
⬣ bars with hexagonal section
○ bars with tubular section

❑ Abbreviations

CH key socket
GR revolving tip
SP hole for pin

The abbreviations in the drawings, which are easy to interpret, are not included in this list.

❑ Symboles

Les parties les plus importantes du texte sont mises en relief en caractères gras et sont précédées des symboles :

PRECAUTION: indique qu'il s'avère nécessaire d'adopter les comportements adéquats afin d'éviter accidents et dommages.

AVERTISSEMENT: il s'agit d'indications techniques particulièrement importantes.

Dans les tableaux et figures, les symboles suivants peuvent apparaître:
● barre à section ronde
■ barre à section carrée
⬣ barre à section hexagonale
○ barre à section tubulaire

❑ Abréviations

CH prise de clé
GR embout tournant
SP orifice pour goupille

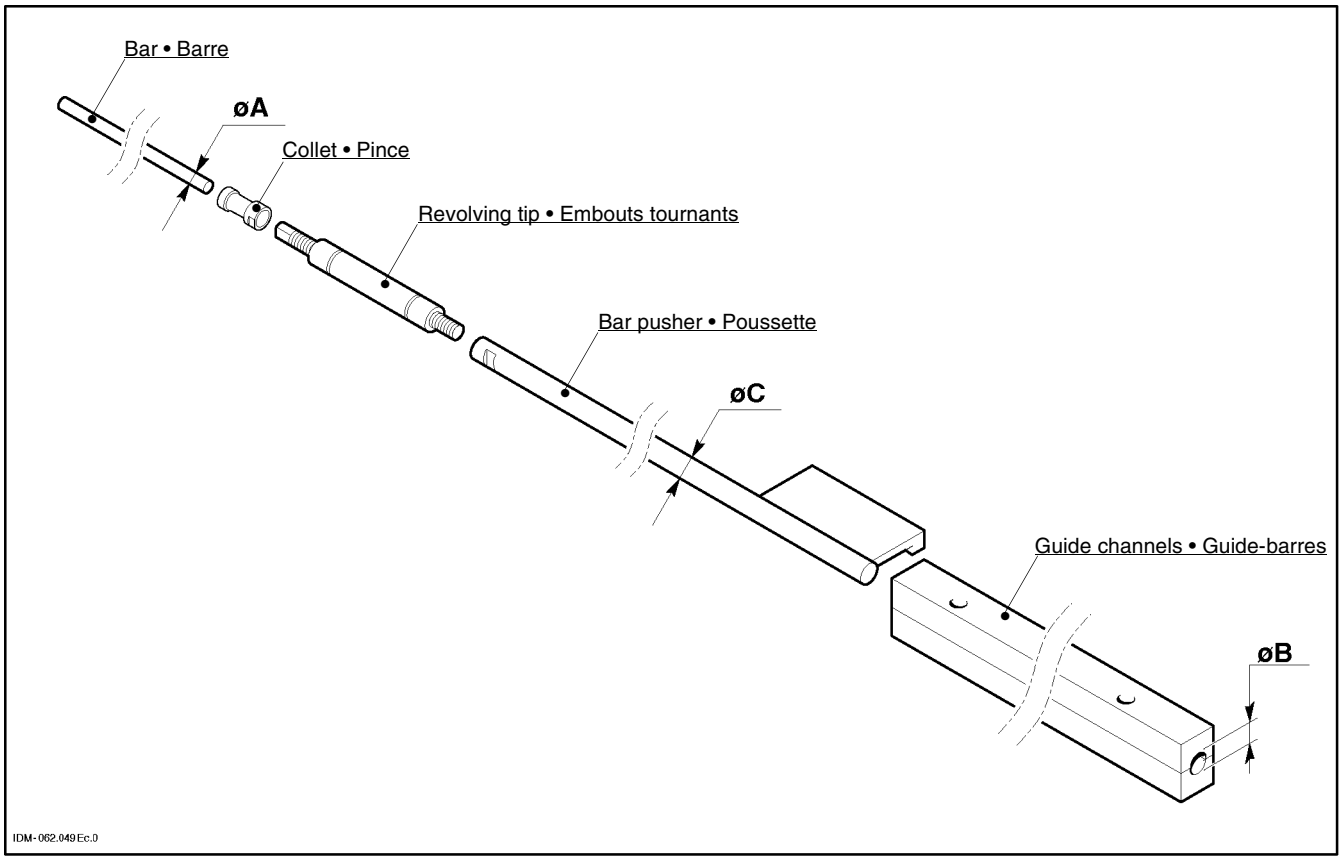
Les abréviations faciles à interprétées reportées dans les illustrations, ne font pas partie de cette liste.

GUIDE CHANNELS AND BAR PUSHER - Table

The choice of guide channels and bar pusher must be made according to the diameter of the barstock. The bar feeder is usually supplied with a bar pusher whose diameter is equal to the maximum bar passage of the lathe. In certain cases, to be able to work in the best possible conditions, it may also be necessary to use a bar pusher with smaller diameter.

GUIDE-BARRES ET POUSSETTE - Tableau

Le choix des guide-barres et de la poussette doit être fait en fonction du diamètre de la barre à usiner. Le chargeur est en principe fourni avec une poussette d'un diamètre équivalent au passage maximum de la barre du tour. Dans certains cas, pour de meilleures conditions de travail, il peut s'avérer nécessaire d'utiliser une poussette de diamètre inférieur.



❑ GENIUS 118

CAUTION: the field of application of collets for machining specific bar diameters in the different guide channels are indicated in the table. If the bar diameter is smaller by about 10 mm with respect to the guide channel diameter, vibrations and failures could arise in the bar feeder. Therefore, in order to optimise operation, the bar rotation speed should be reduced or the guide channel diameter should be changed.

INFORMATION: upon request also non standard collets with reduced thickness (which are not mentioned in the a.m. table) are available. Their durability is however below the durability of standard collets.

❑ GENIUS 118

PRECAUTION: le champ d'application des pinces pour les diamètres des barres usinables dans chaque guide-barre est celui qui est indiqué sur le tableau. Lorsque ce diamètre est plus petit de 10 mm que le diamètre du guide-barre, peuvent se créer des vibrations et des défaillances sur le chargeur. Il faut donc considérer la possibilité de réduire la vitesse de rotation de la barre ou bien de changer le diamètre du guide-barre pour optimiser l'application.

AVERTISSEMENT: sur demandes spécifiques des clients, nous pouvons fournir des pinces pas standard (pas indiquées sur le tableau), avec des épaisseurs plus minces, qui évidemment ne garantissent pas la même durée que celles de dotation.

*Diametro barra - **øA** (mm)* *Durchmesser Werkstück - **øA** (mm)*		***øA** (mm)* *Diametro massimo tubi (⋆)* *Maximaler Durchmesser Rohrmaterial (⋆)*	***øB** (mm)* *Diametro guide* *Durchmesser Führungskanäle*	***øC** (mm)* *Diametro gruppo rotante* *Durchmesser Drehhülsen*
Min	*Max*			
1	4.7	5.5	**6**	5.5
2	6.5	7.5	**8**	7.5
3	7.5	8.5	**11**	8.5
3	8	10	**11**	10
3	8	10	**14**	10
3	10	12	**14**	12
4	13	15	**16**	15
4	13	15	**18**	15
4	14	16	**18**	16
4	15	17	**18**	17
4	16	18	**20**	18
4	17	19		19
5	18	20	**22**	20
5	18	20	**22**	21

(⋆) *Also valid for prepared bars and normal barstock with front ejection of bar remnant.*

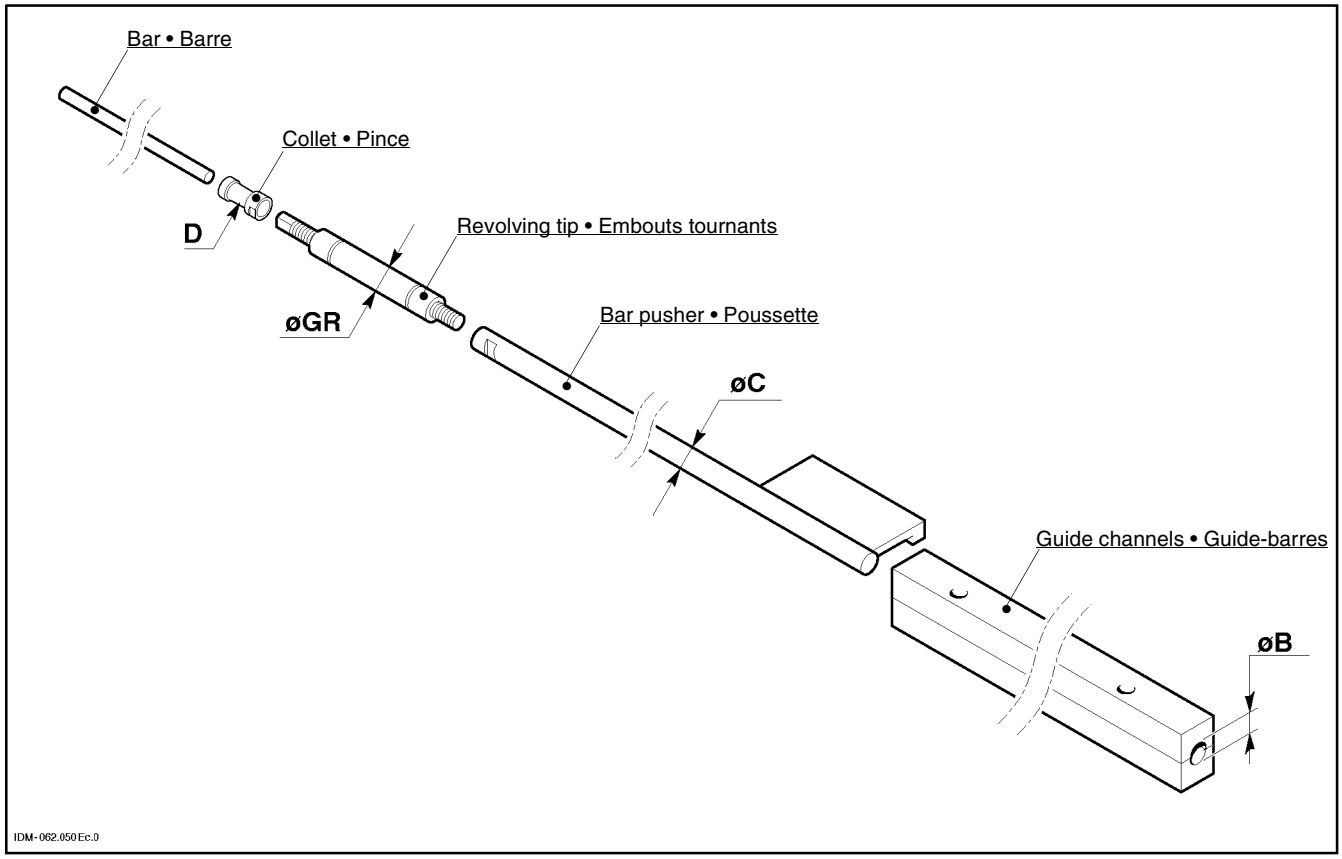
(⋆) *Valable également pour les barres préparées ou les barres normales pour un usinage avec éjection antérieure de la chute.*

REVOLVING TIP - Table

The choice of the revolving tip depends on the diameter of the guide channel, that of the bar pusher and the collet coupling version.

EMBOUT TOURNANT - Tableau

Le choix de l'embout tournant doit être fait en fonction du diamètre des guide-barres, de celui de la poussette et de la version de l'enclenchement de la pince.



❑ GENIUS 118

❑ GENIUS 118

øB *(mm) Guide channel diameter Diamètre des guide-barres*	***øC*** *(mm) Bar pusher diameter Diamètre de la poussette*	*Collet version -* ***D*** *(type of coupling) Version pince -* ***D*** *(type d'accouplement)*	***øGR*** *(mm) Revolving tip diameter Diamètre embout tournant*	*Revolving tip code Code embout tournant*	*See section Voir section GENIUS 118*
6	5	Filettato (IEMCA-SCHL) Gewindepassung (IEMCA-SCHL)	5	D00150500	305
8	7.5/5	Filettato (IEMCA-SCHL) Gewindepassung (IEMCA-SCHL)	5	D00150500	305
	7.5	Filettato (IEMCA) Gewindepassung (IEMCA)	7.5	D73150705	306
11	10/8.5	Filettato (IEMCA) Gewindepassung (IEMCA)	8.5	D73150805	306
	10	Con spina (SCHL) Mit Stift (SCHL)	10	D73151000	307
				D73151001	308
14	12/10	Filettato (IEMCA) Gewindepassung (IEMCA)	10	D73151000	307
	12		12	D73151200	
	12/10	Con spina (SCHL) Mit Stift (SCHL)	10	D73151001	308
	12		12	D73151201	
16	15	Filettato (IEMCA) Gewindepassung (IEMCA)	15	D71151500	303
		Con spina (SCHL) Mit Stift (SCHL)		D71151501	304
18	15	Filettato (IEMCA) Gewindepassung (IEMCA)	15	D71151500	303
		Con spina (SCHL) Mit Stift (SCHL)		D71151501	304
		Filettato (IEMCA) Gewindepassung (IEMCA)	16	D71151600	303
		Con spina (SCHL) Mit Stift (SCHL)		D71151601	304
		Filettato (IEMCA) Gewindepassung (IEMCA)	17	D71151700	303
		Con spina (SCHL) Mit Stift (SCHL)		D71151701	304

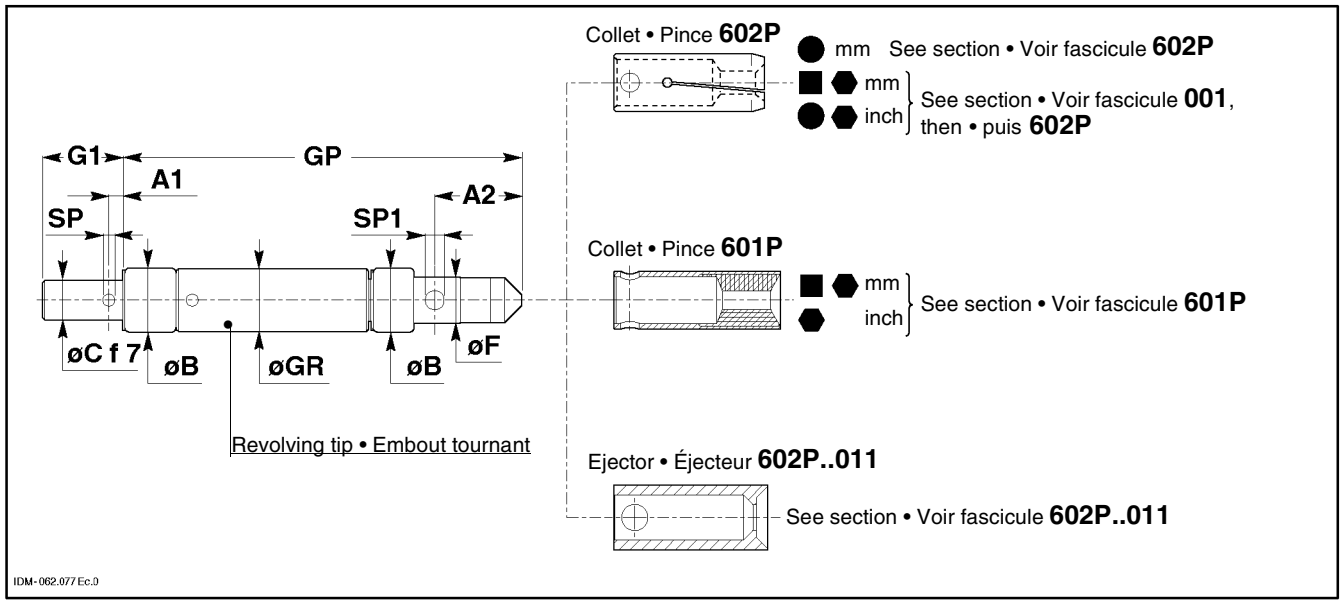
øB *(mm) Guide channel diameter Diamètre des guide-barres*	***øC*** *(mm) Bar pusher diameter Diamètre de la poussette*	*Collet version -* ***D*** *(type of coupling) Version pince -* ***D*** *(type d'accouplement)*	***øGR*** *(mm) Revolving tip diameter Diamètre embout tournant*	*Revolving tip code Code embout tournant*	*See section Voir section GENIUS 118*
20	18	Filettato (IEMCA) Gewindepassung (IEMCA)	18	D71151800	303
			19	D71151900	
		Con spina (SCHL) Mit Stift (SCHL)	18	D71151801	304
			19	D71151901	
22	20	Filettato (IEMCA) Gewindepassung (IEMCA)	20	D71152000	303
			21	D71152100	
		Con spina (SCHL) Mit Stift (SCHL)	20	D71152001	304
			21	D71152101	

REVOLVING TIPS øGR 15÷29 - Table

❑ **For collet with pin coupling (SCHL)**

EMBOUTS TOURNANTS øGR 15÷29 - Tableau

❑ **Pour pinces à accouplement avec goupille (SCHL)**



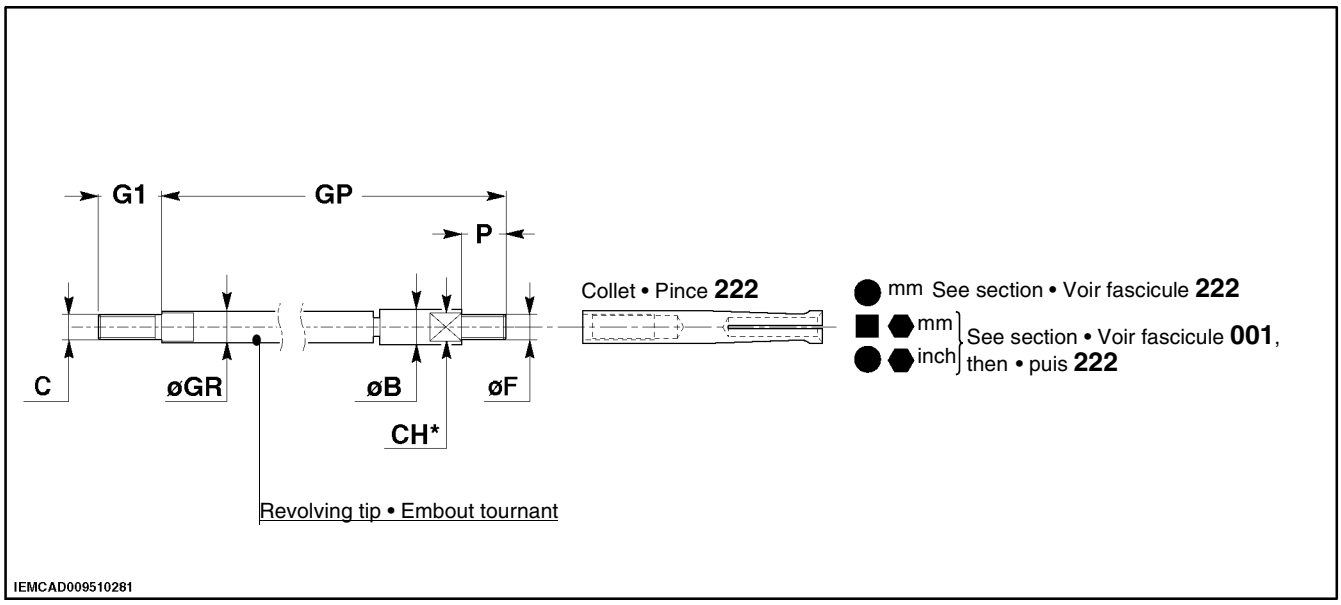
øGR (mm)	*Revolving tip code / Code embout tournant*	*øF (mm)*	*øB (mm)*	*GP (mm)*	*G1 (mm)*	*C (mm)*	*A1 (mm)*	*øSP (mm)*	*A2 (mm)*	*øSP1 (mm)*
15	D71151501	11	15.5	160	35	12	6	3	18.5	6
16	D71151601	11	16.5	160	35	12	6	3	18.5	6
17	D71151701	11	16.5	160	35	12	6	3	18.5	6
18	D71151801	11	18.5	160	35	12	6	4	18.5	6
19	D71151901	11	19.5	160	35	12	6	4	18.5	6
20	D71152001	14	20.5	172.5	35	14	6	4	37.5	8
21	D71152101	14	21.5	172.5	35	14	6	4	37.5	8
23	D71152301	14	23.5	172.5	35	14	6	4	37.5	8
25	D71152501	20	25.5	172.5	35	17	6	5	37.5	8
27	D71152701	20	27.5	172.5	35	17	6	5	37.5	8
29	D71152901	20	29.5	172.5	35	17	6	5	37.5	8

REVOLVING TIPS øGR 5 - Table

❑ **For collet with threaded coupling (IEMCA-SCHL)**

EMBOUTS TOURNANTS øGR 5 - Tableau

❑ **Pour pinces à accouplement fileté (IEMCA-SCHL)**



(*) CH: double-ended fork wrench DIN3110
(*) CH: Clé à forche double DIN3110

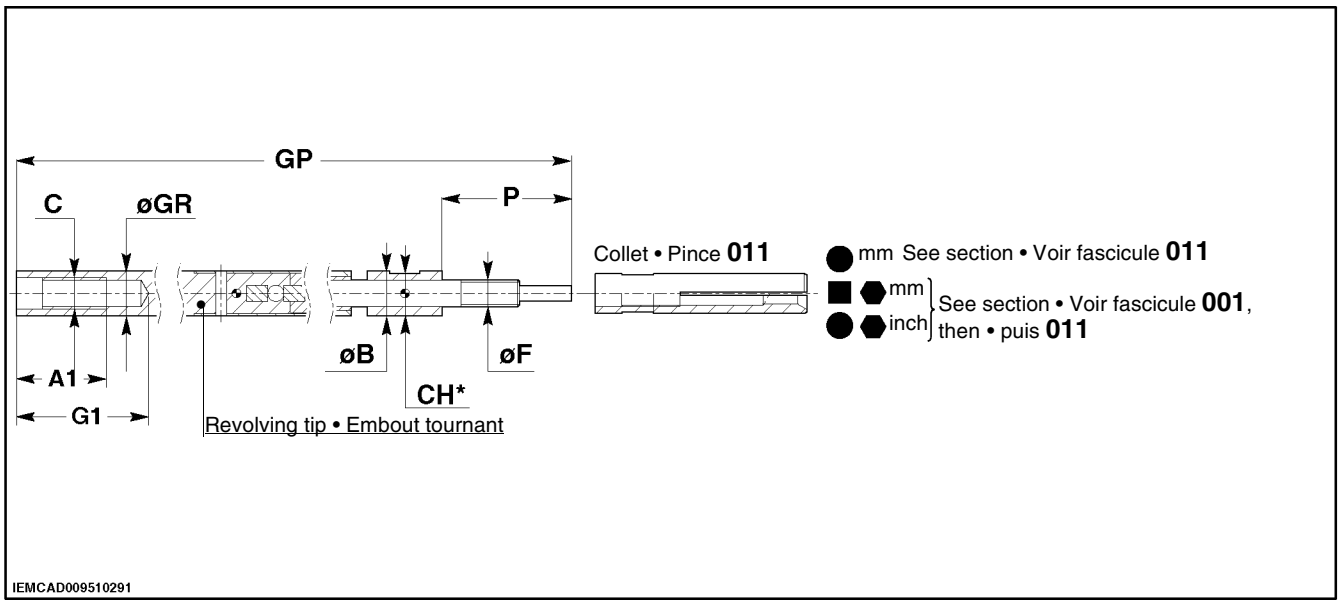
øGR *(mm)*	*Revolving tip code Code embout tournant*	***øF*** *(mm)*	***øB*** *(mm)*	***GP*** *(mm)*	***G1*** *(mm)*	***C*** *(mm)*	***P*** *(mm)*	***CH*** *(mm)*	
5	D00150500	M4	5.5	80	10	M4	7	5	SCHLENKER
5	D00150501	M4	5.5	81	10	M4	7	5	ANDRE' FREI

REVOLVING TIPS øGR 7,5÷8,5 - Table

❑ **For collet with threaded coupling (IEMCA)**

EMBOUTS TOURNANTS øGR 7,5÷8,5 - Tableau

❑ **Pour pinces à accouplement fileté (IEMCA)**



øGR (mm)	*Revolving tip code* *Code embout tournant*	*øF* (mm)	*øB* (mm)	*GP* (mm)	*G1* (mm)	*C* (mm)	*A1* (mm)	*P* (mm)	*CH* (mm)
7.5	D73150705	M5x0.5	7.5	151	25	M6x0.75	17	24.5	7
8.5	D73150805	M5x0.5	8.5	151	25	M6x0.75	17	24.5	7

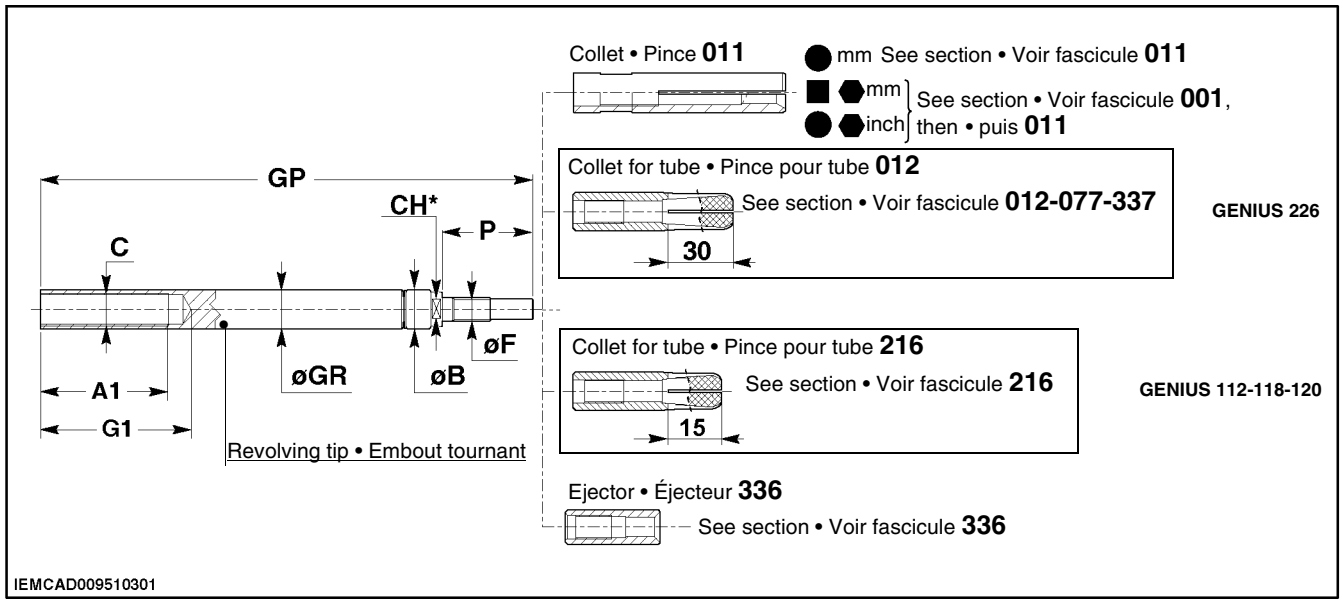
(*) CH: double-ended fork wrench DIN3110
(*) CH: Clé à forche double DIN3110

REVOLVING TIPS øGR 10÷12 - Table

EMBOUTS TOURNANTS øGR 10÷12 - Tableau

❑ **For collet with threaded coupling (IEMCA)**

❑ **Pour pinces à accouplement fileté (IEMCA)**



øGR (mm)	*Revolving tip code* *Code embout tournant*	*øF* (mm)	*øB* (mm)	*GP* (mm)	*G1* (mm)	*C* (mm)	*A1* (mm)	*P* (mm)	*CH* (mm)
10	D73151000	M6x0.5	10.5	137	30	M8x1	24	24.5	8
12	D73151200	M7x0.5	12.5	143	30	M10x1	24	26.5	10

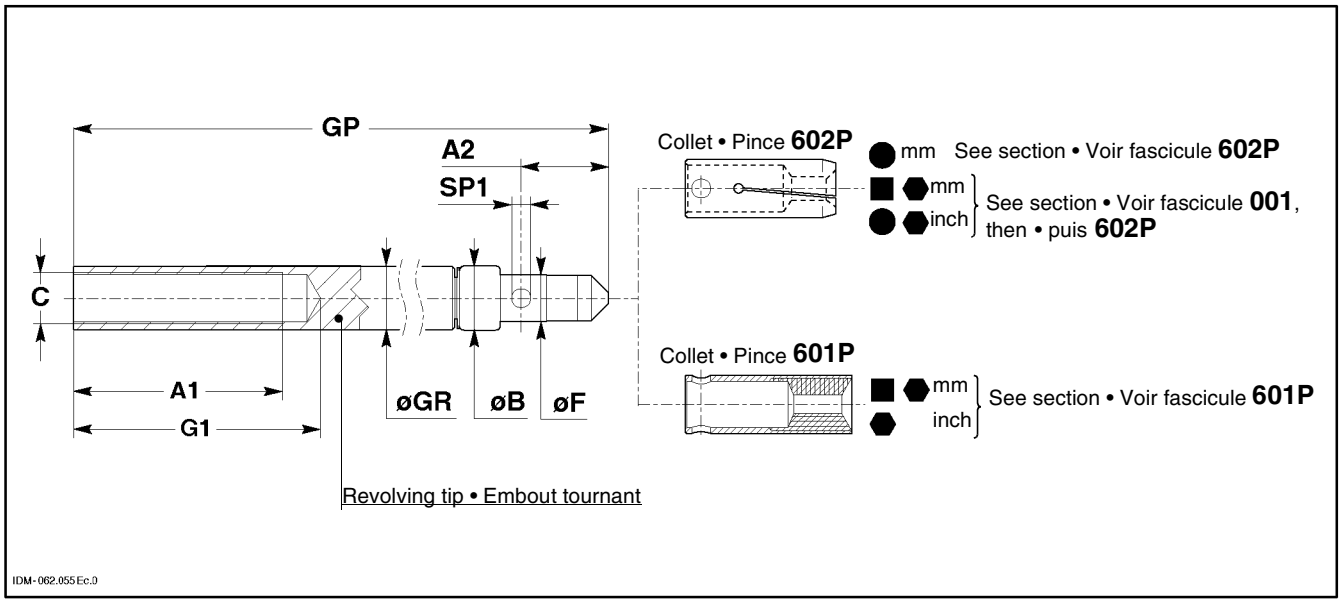
(*) CH: double-ended fork wrench DIN3110
(*) CH: Clé à forche double DIN3110

REVOLVING TIPS øGR 10÷12 - Table

- **For collet with pin coupling (SCHL)**

EMBOUTS TOURNANTS øGR 10÷12 - Tableau

- **Pour pinces à accouplement avec goupille (SCHL)**



øGR *(mm)*	*Revolving tip code* *Code embout tournant*	*øF* *(mm)*	*øB* *(mm)*	*GP* *(mm)*	*G1* *(mm)*	*C* *(mm)*	*A1* *(mm)*	*A2* *(mm)*	*øSP1* *(mm)*
10	D73151001	7	10.5	137	30	M8x1	24	18	4
12	D73151201	8	12.5	143	30	M10x1	24	18	4

001

CONVERSION TABLES
TABLEAUX DE CONVERSION

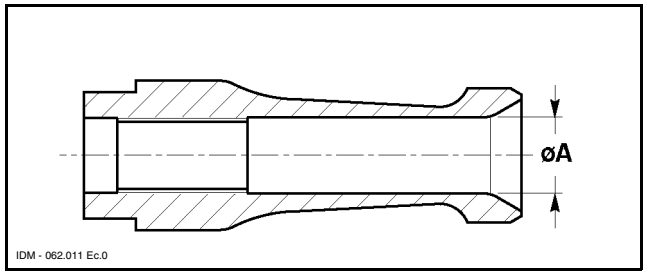
REL. 2.1 **DATA** 01/06/01

HEXAGONAL BARS (unit of measurement “millimetres”) - Table

Before selecting the steel collet, define the internal diameter **øA** by consulting the table below.

BARRES HEXAGONALES (unité de mesure “millimètres”) - Tableau

Avant de procéder au choix de la pince en acier, il est nécessaire d’ établir son diamètre interne **øA**, après consultation du tableau suivant.



Z	Y Y=Zx1,154	øA
mm	*mm*	*mm*
1.5	1.73	1.7
2	2.31	2.2
2.5	2.89	2.8
3	3.48	3.25
3.5	4.04	3.8
4	4.61	4.5
4.5	5.19	5
5	5.77	5.5
5.5	6.35	6.2
6	6.92	6.8
6.5	7.50	7.3
7	8.08	7.8
7.5	8.66	8.5
8	9.23	9
9	10.39	10.2
10	11.54	11.3
11	12.70	12.5
12	13.85	13.5
13	15.02	14.8
14	16.16	16
15	17.32	17.2
16	18.47	18.3
17	19.62	19.5
18	20.78	20.6
19	21.93	21.8
20	23.09	22.8
21	24.24	24
22	25.40	25.2
23	26.55	26.2
24	27.71	27.5
25	28.86	28.5
26	30.02	29.8
27	31.17	31

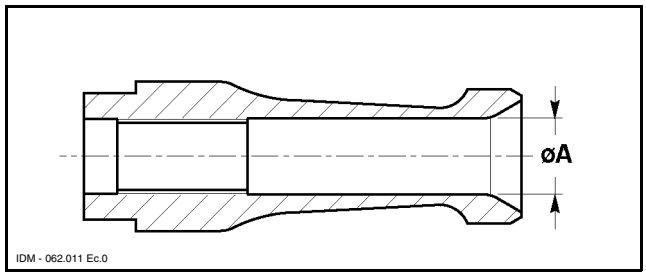
Z	Y Y=Zx1,154	øA
mm	*mm*	*mm*
28	32.33	32
29	33.48	33.2
30	34.64	34.5
31	35.79	35.5
32	36.95	36.8
33	38.10	37.8
34	39.25	39
35	40.41	40.2
36	41.56	41.3
38	43.87	43.5
39	45.03	44.8
40	46.18	46
41	47.34	47
42	48.49	48.2
43	49.65	49.5
44	50.80	50.5
45	51.96	51.8
46	53.11	52.8
48	55.42	55
50	57.73	57.5
52	60.04	59.5
55	63.50	63
57	65.78	65.25
60	69.24	68.75
62	71.55	71
65	75	74.5
67	77.3	76.75
70	80.78	80.25
72	83.08	82.5
75	86.55	86
80	92.32	91.75
85	98.1	97.5

SQUARE BARS (unit of measurement “millimetres”) - Table

Before selecting the steel collet, define the internal diameter **øA** by consulting the table below.

BARRES CARRÉES (unité de mesure “millimètres”) - Tableau

Avant de procéder au choix de la pince en acier, il est nécessaire d’ établir son diamètre interne **øA**, après consultation du tableau suivant.



Z	Y Y=Zx1,414	øA
mm	*mm*	*mm*
1	1.41	1.3
1.5	2.12	2
2	2.82	2.7
2.5	3.53	3.4
3	4.24	4
4	5.65	5.5
4.5	6.36	6.2
5	7.07	6.8
5.5	7.77	7.5
6	8.48	8.3
6.5	9.19	9
7	9.89	9.7
8	11.31	11
8.5	12.01	11.8
9	12.72	12.5
10	14.14	13.8
10.5	14.84	14.5
11	15.55	15
12	16.97	16.5
12.5	17.67	17
13	18.38	18
14	19.79	19.5
15	21.21	20.8
16	22.62	22
17	24.04	23.5
18	25.52	25
19	26.86	26

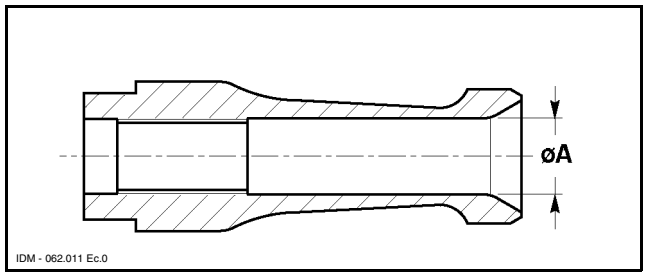
Z	Y Y=Zx1,414	øA
mm	*mm*	*mm*
20	28.28	27.5
22	31.10	30.5
23	32.52	32
24	33.93	33
25	35.35	34.5
26	36.76	36
27	38.17	37.5
28	39.59	38.5
30	42.42	41.5
32	45.24	44.5
34	48.07	47
35	49.49	48.5
36	50.90	50
37	52.31	51.5
38	53.73	52.5
39	55.15	54.5
40	56.56	55.5
41	57.97	57
42	59.38	58.5
43	60.08	59
44	62.21	61
45	63.63	62.5
46	65.04	64
50	70.7	69.5
55	77.77	76.75
60	84.84	83.75
65	91.91	91

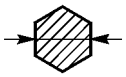
HEXAGONAL BARS (unit of measurement “inches”) - Table

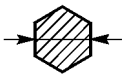
Before selecting the steel collet, define the internal diameter **øA** by consulting the table below.

BARRES HEXAGONALES (unité de mesure “pouces”) - Tableau

Avant de procéder au choix de la pince en acier, il est nécessaire d’établir son diamètre interne **øA**, après consultation du tableau suivant.



	øA	
inch	*mm*	*inch*
1/8	3.5	9/64
3/16	5.25	13/64
1/4	7	9/32
5/16	8.75	11/32
3/8	10.75	27/64
7/16	12.5	31/64
1/2	14.25	9/16
9/16	16.25	41/64
5/8	18	45/64
11/16	19.75	25/32
3/4	21.75	55/64
13/16	23.5	59/64
7/8	25.25	63/64
15/16	27.25	1”5/64
1”	29	1”9/64
1”1/16	30.75	1”13/64
1”1/8	32.5	1”9/32
1”3/16	34.25	1”11/32
1”1/4	36.25	1”27/64
1”5/16	38	1”1/2

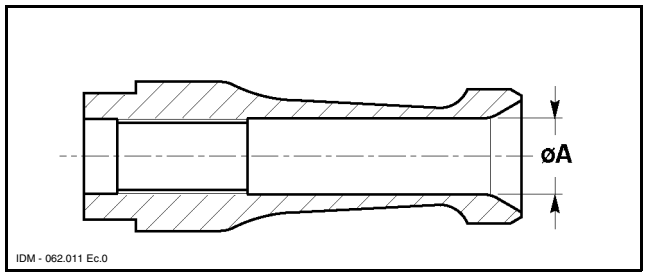
	øA	
inch	*mm*	*inch*
1”3/8	39.75	1”9/16
1”7/16	41.75	1”41/64
1”1/2	43.5	1”23/32
1”9/16	46.5	1”53/64
1”5/8	47.25	1”55/64
1”11/16	49	1”15/16
1”3/4	50.75	2”
1”13/16	52.75	2”5/64
1”7/8	54.5	2”9/64
1”15/16	56.25	2”7/32
2”	58	2”9/32
2”1/16	59.75	2”11/32
2”1/8	61.5	2”27/64
2”3/16	63.5	2”1/2
2”1/4	65.25	2”37/64
2”1/2	72.5	2”55/64
2”3/4	79.75	3”9/64
3”	87	3”27/64
3”1/4	94.25	3”23/32

ROUND BARS (unit of measurement “inches”) - Table

Before selecting the steel collet, define the internal diameter **øA** by consulting the table below.

BARRES RONDES (unité de mesure “pouces”) - Tableau

Avant de procéder au choix de la pince en acier, il est nécessaire d’ établir son diamètre interne **øA**, après consultation du tableau suivant.



	øA
inch	*mm*
1/32	0.8
3/64	1.2
1/16	1.6
5/64	2
3/32	2.4
7/64	2.8
1/8	3.2
9/64	3.6
5/32	4
11/64	4.4
3/16	4.8
13/64	5.2
7/32	5.6
15/64	6
1/4	6.4
17/64	6.8
9/32	7.2
19/64	7.6
5/16	8
21/64	8.4
11/32	8.8
23/64	9.1
3/8	9.6
25/64	10
13/32	10.4
27/64	10.8
7/16	11.25
29/64	11.5
15/32	12
31/64	12.5
1/2	12.75
33/64	13.25

	øA
inch	*mm*
17/32	13.5
35/64	14
9/16	14.25
37/64	14.75
19/32	15
39/64	15.5
5/8	16
41/64	16.25
21/32	16.75
43/64	17
11/16	17.5
45/64	18
23/32	18.25
47/64	18.75
3/4	19
49/64	19.5
25/32	19.75
51/64	20.25
13/16	20.75
53/64	21
27/32	21.5
55/64	21.75
7/8	22.25
57/64	22.75
29/32	23
59/64	23.5
15/16	24
61/64	24.25
31/32	24.75
63/64	25
1	25.5
1”1/16	27

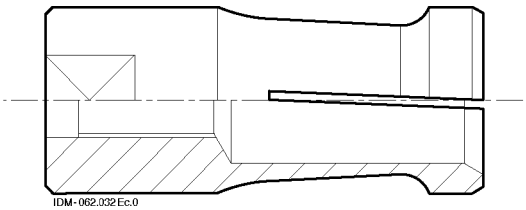
	øA
inch	*mm*
1”1/8	28.5
1”3/16	30.25
1”1/4	31.75
1”5/16	33.25
1”3/8	35
1”7/16	36.25
1”1/2	38
1”9/16	39.75
1”5/8	41.25
1”11/16	43
1”3/4	44.5
1”13/16	46
1”7/8	47.75
1”15/16	49.25
2”	50.75
2”1/16	52.5
2”1/8	54
2”3/16	55.5
2”1/4	57.25
2”5/16	58.75
2”3/8	60.5
2”7/16	62
2”1/2	63.5
2”9/16	65
2”5/8	66.75
2”11/16	68.25
2”3/4	70
2”13/16	71.5
2”7/8	73
2”15/16	74.75
3”	76.25

INCH/MM CONVERSION TABLE
TABLE DE CONVERSION POUCES / MILLIMÈTRES

Inch fraction Fraction de pouce		Inch/pouces			
		0	1	2	*3*
		MM/millimètres			
0	**0**	0	25,400 0	50,800 0	76,200 0
1/64	**0,015 625**	0,396 9	25,796 9	51,196 9	76,596 9
1/32	**0,031 25**	0,793 8	26,193 8	51,593 8	76,993 8
3/64	**0,046 875**	1,190 6	26,590 6	51,990 6	77,390 6
1/16	**0,062 5**	1,587 5	26,987 5	52,387 5	77,787 5
5/64	**0,078 125**	1,984 4	27,384 4	52,784 4	78,184 4
3/32	**0,093 75**	2,381 2	27,781 2	53,181 2	78,581 2
7/64	**0,109 375**	2,778 1	28,178 1	53,578 1	78,978 1
1/8	**0,125**	3,175 0	28,575 0	53,985 0	79,375 0
9/64	**0,140 625**	3,571 9	28,971 9	54,371 9	79,771,9
5/32	**0,156 25**	3,968 8	29,368 8	54,768 8	80,168 8
11/64	**0,171 875**	4,365 6	29,765 6	55,165 6	80,565 6
3/16	**0,187 5**	4,762 5	30,162 5	55,562 5	80,962 5
13/64	**0,203 125**	5,159 4	30,559 4	55,959 4	81,359 4
7/32	**0,218 75**	5,556 2	30,956 2	56,356 2	81,756 2
15/64	**0,234 375**	5,953 1	31,353 1	56,753 1	82,153 1
1/4	**0,25**	6,350 0	31,750 0	57,150 0	82,550 0
17/64	**0,265 625**	6,746 9	32,146 9	57,546 9	82,946 9
9/32	**0,281 25**	7,143 8	32,543 8	57,943 8	83,343 8
19/64	**0,296 875**	7,540 6	32,940 6	58,340 6	83,740 6
5/16	**0,312 5**	7,937 5	33,337 5	58,737 5	84,137 5
21/64	**0,328 125**	8,334 4	33,734 4	59,134 4	84,534 4
11/32	**0,343 75**	8,731 2	34,131 2	59,531 2	84,931 2
23/64	**0,359 375**	9,128 1	34,528 1	59,928 1	85,328 1
3/8	**0,375**	9,525 0	34,925 0	60,325 0	85,725 0
25/64	**0,390 625**	9,921 9	35,321 9	60,721 9	86,121 9
13/32	**0,406 25**	10,318 8	35,718 8	61,118 8	86,518 8
27/64	**0,421 875**	10,715 6	36,115 6	61,515 6	86,915 6
7/16	**0,437 5**	11,112 5	36,512 5	61,912 5	87,312 5
29/64	**0,453 125**	11,509 4	36,909 4	62,309 4	87,709 4
15/32	**0,468 75**	11,906 2	37,306 2	62,706 2	88,106 2
31/64	**0,484 375**	12,303 1	37,703 1	63,103 1	88,503 1
1/2	**0,5**	12,700 0	38,100 0	63,500 0	88,900 0
33/64	**0,515 625**	13,096 9	38,496 9	63,896 9	89,296 9
17/32	**0,531 25**	13,493 8	38,893 8	64,293 8	89,693 8
35/64	**0,546 875**	13,890 6	39,290 6	64,690 6	90,090 6
9/16	**0,562 5**	14,287 5	39,687 5	65,087 5	90,487 5
37/64	**0,578 125**	14,684 4	40,084 4	65,484 4	90,884 4
19/32	**0,593 75**	15,081 2	40,481 2	65,881 2	91,281 2
39/64	**0,609 375**	15,478 1	40,878 1	66,278 1	91,678 1
5/8	**0,625**	15,875 0	41,275 0	66,675 0	92,075 0
41/64	**0,640 625**	16,271 9	41,671 9	67,071 9	92,471 9
21/32	**0,656 25**	16,668 8	42,068 8	67,468 8	92,868 8
43/64	**0,671 875**	17,065 6	42,465 6	67,865 6	93,265 6
11/16	**0,687 5**	17,462 5	42,862 5	68,262 5	93,662 5
45/64	**0,703 125**	17,859 4	43,259 4	68,659 4	94,059 4
23/32	**0,718 75**	18,256 2	43,656 2	69,056 2	94,456 2
47/64	**0,734 375**	18,653 1	44,053 1	69,453 1	94,853 1
3/4	**0,75**	19,050 0	44,450 0	69,850 0	95,250 0
49/64	**0,765 625**	19,446 9	44,846 9	70,246 9	95,646 9
25/32	**0,781 25**	19,843 8	45,243 8	70,643 8	96,043 8
51/64	**0,796 875**	20,240 6	45,640 6	71,040 6	96,440 6
13/16	**0,812 5**	20,637 5	46,037 5	71,437 5	96,837 5
53/64	**0,828 125**	21,034 4	46,434 4	71,834 4	97,234 4
27/32	**0,843 75**	21,431 2	46,831 2	72,231 2	97,631 2
55/64	**0,859 375**	21,828 1	47,228 1	72,628 1	98,028 1
7/8	**0,875**	22,225 0	47,625 0	73,025 0	98,425 0
57/64	**0,890 625**	22,621 9	48,021 9	73,421 9	98,821 9
29/32	**0,906 25**	23,018 8	48,418 8	73,818 8	99,218 8
59/64	**0,921 875**	23,415 6	48,815 6	74,215 6	99,615 6
15/16	**0,937 5**	23,812 5	49,212 5	74,612 5	100,012 5
61/64	**0,953 125**	24,209 4	49,609 4	75,009 4	100,409 4
31/32	**0,968 75**	24,606 2	50,006 2	75,406 2	100,806 2
63/64	**0,984 375**	25,003 1	50,403 1	75,803 1	101,203 1

011

COLLETS FOR BARS
PINCES POUR BARRES



REL. 3 DATA 30/10/02

011 COLLETS FOR BARS - Table

CAUTION: the external diameter of the collet must be at least 0.5 mm less than the external diameter of the bar pusher.

Note for consultation

Codes on a grey background refer to the "USE RANGE" for completing a set of collets while working with the larger channel, and coupling **øF** on the revolving tip is the same.

Note for ordering

- *Collets with codes in bold characters are available from stock.*
- *Collets with codes in italics have longer delivery times.*

011 PINCES POUR BARRES - Tableau

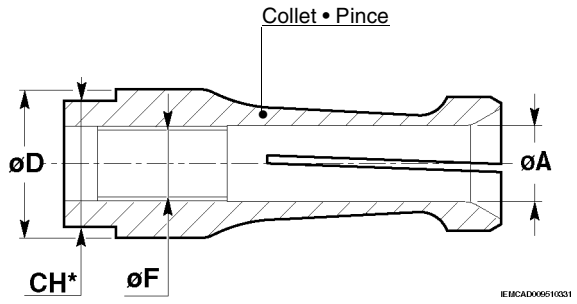
PRECAUTION: le diamètre externe de la pince doit être inférieur d'au moins 0,5 mm au diamètre externe de la poussette.

Note pour la consultation

Les codes sur fond gris indiquent le "GROUPE D'UTILISATION" pour compléter un jeu de pinces quand l'usinage a lieu sur le guide-barre le plus important, et que l'enclenchement **øF** sur l'embout tournant est le même .

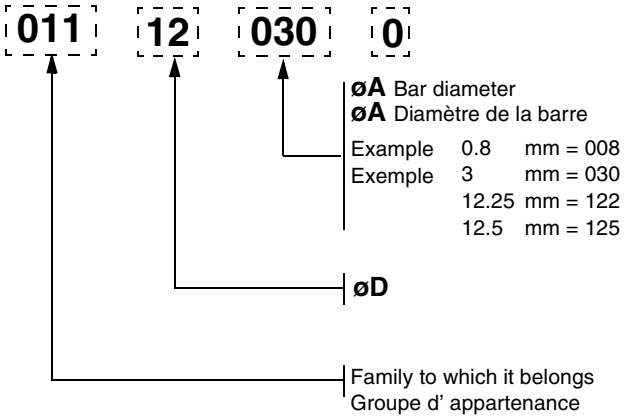
Remarque pour la commande

- *Les pinces qui ont les codes en gras sont disponibles dans le magasin.*
- *Les pinces qui ont les codes en italique ont un délai de livraison plus long.*



(*)CH: Double-ended fork wrench DIN3110
(*)CH: Clé à fourche double DIN3110

Code structure
Structure du code



øA		øF *M5x0.5* CH6	øF *M6x0.75* CH8	øF *M7x0.75* CH10			
mm	*in*	øD 7.5	øD 10	øD 12			
0.8	1/32"	*011070080*					
0.9		*011070090*					
1		**011070100**	*011100100*	*011120100*			
1.2	3/64"	**011070120**	*011100120*	*011120120*			
1.3		**011070130**	*011100130*	*011120130*			
1.4		**011070140**	*011100140*	*011120140*			
1.5		**011070150**	*011100150*	*011120150*			
1.6	1/16"	**011070160**	*011100160*	*011120160*			
1.7		**011070170**	*011100170*	*011120170*			
1.8		**011070180**	*011100180*	*011120180*			
1.9		**011070190**	*011100190*	*011120190*			

øA		øF *M5x0.5* CH6	øF *M6x0.75* CH8	øF *M7x0.75* CH10	øF *M8x1* CH13	øF *M10x1* CH17	
mm	*in*	øD 7.5	øD 10	øD 12	øD 15	øD 20	
2	5/64”	011070200	011100200	*011120200*			
2.1		011070210	011100210	*011120210*			
2.2		011070220	011100220	*011120220*			
2.3		011070230	011100230	*011120230*			
2.4	3/32”	011070240	011100240	*011120240*			
2.5		011070250	011100250	*011120250*			
2.6		011070260	011100260	*011120260*			
2.7		011070270	011100270	*011120270*			
2.8	7/64”	011070280	011100280	*011120280*			
2.9		011070290	011100290	*011120290*			
3		011070300	011100300	011120300	*011150300*		
3.1		011070310	011100310	011120310	*011150310*		
3.2	1/8”	011070320	011100320	011120320	*011150320*		
3.3		011070330	011100330	011120330	*011150330*		
3.4		011070340	011100340	011120340	*011150340*		
3.5		011070350	011100350	011120350	*011150350*		
3.6	9/64”	011070360	011100360	011120360	*011150360*		
3.7		011070370	011100370	011120370	*011150370*		
3.8		011070380	011100380	011120380	*011150380*		
3.9		011070390	011100390	011120390	*011150390*		
4	5/32”	011070400	01110040	011120400	011150400	011200400	
4.1		011070410	011100410	011120410	011150410	011200410	
4.2		011070420	011100420	011120420	011150420	011200420	
4.3		011070430	011100430	011120430	011150430	011200430	
4.4	11/64”	011070440	011100440	011120440	011150440	011200440	
4.5		011070450	011100450	011120450	011150450	011200450	
4.6		011070460	011100460	011120460	011150460	011200460	
4.7		011070470	011100470	011120470	011150470	011200470	
4.8	3/16	011070480	011100480	011120480	011150480	011200480	
4.9		011070490	011100490	011120490	011150490	011200490	
5		011070500	011100500	011120500	011150500	011200500	
5.1		011070510	011100510	011120510	011150510	011200510	
5.2	13/64”	011070520	011100520	011120520	011150520	011200520	
5.3		011070530	011100530	011120530	011150530	011200530	
5.4		011070540	011100540	011120540	011150540	011200540	
5.5		011070550	011100550	011120550	011150550	011200550	
5.6	7/32”	011070560	011100560	011120560	011150560	011200560	
5.7		011070570	011100570	011120570	011150570	011200570	
5.8		011070580	011100580	011120580	011150580	011200580	

øA		øF *M5x0.5* CH6	øF *M6x0.75* CH8	øF *M7x0.75* CH10	øF *M8x1* CH13	øF *M10x1* CH17	
mm	*in*	øD 7.5	øD 10	øD 12	øD 15	øD 20	
5.9		**011070590**	**011100590**	**011120590**	**011150590**	**011200590**	
6	15/64”	**011070600**	**011100600**	**011120600**	**011150600**	**011200600**	
6.1		**011070610**	**011100610**	**011120610**	**011150610**	**011200610**	
6.2		**011070620**	**011100620**	**011120620**	**011150620**	**011200620**	
6.3		**011070630**	**011100630**	**011120630**	**011150630**	**011200630**	
6.4	1/4”	**011070640**	**011100640**	**011120640**	**011150640**	**011200640**	
6.5		**011070650**	**011100650**	**011120650**	**011150650**	**011200650**	
6.6		*011070660*	**011100660**	**011120660**	**011150660**	**011200660**	
6.7		*011070670*	**011100670**	**011120670**	**011150670**	**011200670**	
6.8	17/64”		**011100680**	**011120680**	**011150680**	**011200680**	
6.9			**011100690**	**011120690**	**011150690**	**011200690**	
7			**011100700**	**011120700**	**011150700**	**011200700**	
7.1			**011100710**	**011120710**	**011150710**	**011200710**	
7.2	9/32”		**011100720**	**011120720**	**011150720**	**011200720**	
7.3			**011100730**	**011120730**	**011150730**	**011200730**	
7.4			**011100740**	**011120740**	**011150740**	**011200740**	
7.5			**011100750**	**011120750**	**011150750**	**011200750**	
7.6	19/64”		**011100760**	**011120760**	**011150760**	**011200760**	
7.7			**011100770**	**011120770**	**011150770**	**011200770**	
7.8			**011100780**	**011120780**	**011150780**	**011200780**	
7.9			**011100790**	**011120790**	**011150790**	**011200790**	
8	5/16”		**011100800**	**011120800**	**011150800**	**011200800**	
8.1			*011100810*	**011120810**	**011150810**	**011200810**	
8.2			*011100820*	**011120820**	**011150820**	**011200820**	
8.3			*011100830*	**011120830**	**011150830**	**011200830**	
8.4	21/64”		*011100840*	**011120840**	**011150840**	**011200840**	
8.5			*011100850*	**011120850**	**011150850**	**011200850**	
8.6			*011100860*	**011120860**	**011150860**	**011200860**	
8.7			*011100870*	**011120870**	**011150870**	**011200870**	
8.8	11/32”		*011100880*	**011120880**	**011150880**	**011200880**	
8.9			*011100890*	**011120890**	**011150890**	**011200890**	
9			*011100900*	**011120900**	**011150900**	**011200900**	
9.1	23/64”			**011120910**	**011150910**	**011200910**	
9.2				**011120920**	**011150920**	**011200920**	
9.3				**011120930**	**011150930**	**011200930**	
9.4				**011120940**	**011150940**	**011200940**	

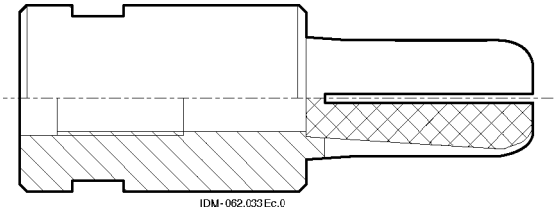
øA		øF *M7x0.75* CH10	øF *M8x1* CH13	øF *M8x1* CH13	øF *M8x1* CH13	øF *M8x1* CH16	øF *M10x1* CH17
mm	*in*	øD 12	øD 15	øD 16	øD 17	øD 18	øD 20
9.5		**011120950**	**011150950**				**011200950**
9.6	3/8”	**011120960**	**011150960**				**011200960**
9.7		**011120970**	**011150970**				**011200970**
9.8		**011120980**	**011150980**				**011200980**
9.9		**011120990**	**011150990**				**011200990**
10	25/64”	**011121000**	**011151000**				**011201000**
10.1		**011121010**	**011151010**				**011201010**
10.2		**011121020**	**011151020**				**011201020**
10.3		**011121030**	**011151030**				**011201030**
10.4	13/32”	**011121040**	**011151040**				**011201040**
10.5		**011121050**	**011151050**				**011201050**
10.6		**011121060**	**011151060**				**011201060**
10.7		**011121070**	**011151070**				**011201070**
10.8	27/64”	**011121080**	**011151080**				**011201080**
10.9		**011121090**	**011151090**				**011201090**
11		**011121100**	**011151100**				**011201100**
11.25	7/16”		**011151120**	**011161120**			**011201120**
11.5			**011151150**	**011161150**			**011201150**
11.75	13/64”		**011151170**	**011161170**			**011201170**
12			**011151200**	**011161200**			**011201200**
12.25			**011151220**	**011161220**			**011201220**
12.5	31/64”		**011151250**	**011161250**		**011181250**	**011201250**
12.75	1/2”		**011151270**	**011161270**		**011181270**	**011201270**
13			**011151300**	**011161300**		**011181300**	**011201300**
13.25			*011151320*	**011161320**		**011181320**	**011201320**
13.5			*011151350*	**011161350**		**011181350**	**011201350**
13.75			*011151370*	**011161370**		**011181370**	**011201370**
14			*011151400*	**011161400**	*011171400*	**011181400**	**011201400**
14.25	9/16”			*011161420*	*011171420*	**011181420**	**011201420**
14.5				*011161450*	*011171450*	**011181450**	**011201450**
14.75				*011161470*	*011171470*	**011181470**	**011201470**
15				*011161500*	*011171500*	**011181500**	**011201500**
15.25					*011171520*	**011181520**	**011201520**
15.5					*011171550*	**011181550**	**011201550**
15.75					*011171570*	**011181570**	**011201570**
16	5/8”				*011171600*	**011181600**	**011201600**
16.25						*011181620*	**011201620**
16.5						*011181650*	**011201650**

øA		øF *M8x1* CH16	øF *M10x1* CH17	øF *M10x1* CH19	øF *M10x1* CH22	øF *M10x1* CH24	øF *M10x1* CH28
mm	*in*	øD 19	øD 20	øD 23	øD 25	øD 27	øD 30
14			011201400	011231400			
14.25			011201420	011231420			
14.5			011201450	011231450			
14.75			011201470	011231470			
15			011201500	011231500			
15.25			011201520	011231520			
15.5			011201550	011231550			
15.75			011201570	011231570			
16	5/8”		011201600	011231600			
16.25	41/64”	*011191620*	011201620	011231620			
16.5		*011191650*	011201650	011231650			
16.75		*011191670*	011201670	011231670			
17		*011191700*	011201700	011231700	011251700		
17.25		*011191720*	011201720	011231720	011251720		
17.5	11/16”	*011191750*	011201750	011231750	011251750		
17.75		*011191770*	011201770	011231770	011251770		
18	45/64”	*011191800*	011201800	011231800	011251800		
18.25				011231820	011251820		
18.5				011231850	011251850		
18.75				011231870	011251870		
19	3/4”			011231900	011251900	011271900	
19.25				011231920	011251920	011271920	
19.5				011231950	011251950	011271950	
19.75	25/32”			011231970	011251970	011271970	
20				011232000	011252000	011272000	
20.25				011232020	011252020	011272020	
20.5				011232050	011252050	011272050	
20.75	13/16”			011232070	011252070	011272070	
21				011232100	011252100	011272100	
21.25					011252120	011272120	
21.5					011252150	011272150	
21.75	56/64”				011252170	011272170	
22					011252200	011272200	
22.25	7/8”				011252220	011272220	
22.5					011252250	011272250	
22.75					011252270	011272270	
23					011252300	011272300	011302300
23.25						011272320	011302320
23.5	59/64”					011272350	011302350

øA		øF *M10x1* CH24	øF *M10x1* CH24	øF *M10x1* CH28	øF *M10x1* CH30		
mm	*in*	**øD 27**	**øD 29**	**øD 30**	**øD 32**		
23.75		**011272370**		**011302370**			
24	15/16”	**011272400**	*011292400*	**011302400**			
24.25		**011272420**	*011292420*	**011302420**			
24.5		**011272450**	*011292450*	**011302450**			
24.75		**011272470**	*011292470*	**011302470**			
25		**011272500**	*011292500*	**011302500**			
25.25	63/64”		*011292520*	**011302520**			
25.5	1”		*011292550*	**011302550**			
25.75			*011292570*	**011302570**			
26			*011292600*	**011302600**	**011322600**		
26.25				**011302620**	**011322620**		
26.5				**011302650**	**011322650**		
26.75	1”1/16			**011302670**	**011322670**		
27	1"5/64			**011302700**	**011322700**		
27.25				**011302720**	**011322720**		
27.5				**011302750**	**011322750**		
27.75				**011302770**	**011322770**		
28				**011302800**	**011322800**		
28.25	1"1/8				**011322820**		
28.5					**011322850**		
28.75					**011322870**		
29					**011322900**		
29.25					**011322920**		
29.5					**011322950**		
29.75					**011322970**		
30					**011323000**		

012 - 077 - 377

COLLETS FOR TUBES
PINCES POUR TUBES



REL. 3 DATA 30/10/02

012-077-377 COLLETS FOR TUBES - Table

CAUTION: the external diameter of the collet must be at least 0.5 mm less than the external diameter of the bar pusher.

INFORMATION: Collets 377… with øF M10x1 are designed for being mounted on revolving tips under ø28. When mounted on revolving tips < ø30 and nipples 078800030, the 1st feeding value shall be increased by 7.5 mm.

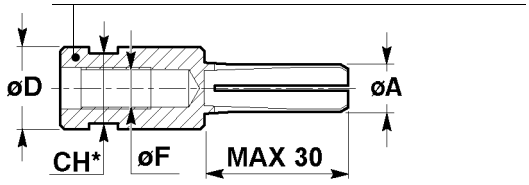
012-077-377 PINCES POUR TUBES - Tableau

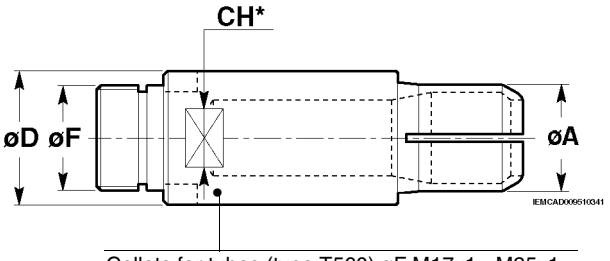
PRECAUTION: le diamètre externe de la pince doit être inférieur d'au moins 0,5 mm au diamètre externe de la poussette.

AVERTISSEMENT: Les pinces 377 avec øF M10x1 ont été projetées pour être installées sur des embouts tournants inférieurs à ø 28. En cas que celles-ci soient installées sur des embouts tournants < ø 30 et avec des nipples type 078800030 , il faudra étendre la cote de préavancement de 7,5 mm.

012 Collets for tubes (type AS) øF M7x0.75 - M8x1
Pinces pour tubes (type AS) øF M7x0.75 - M8x1

377 Collets for tubes (type BOSS) øF M10x1
Pinces pour tubes (type BOSS) øF M10x1





077 Collets for tubes (type T560) øF M17x1 - M25x1
Pinces pour tubes (type T560) øF M17x1 - M25x1

377 Collets for tubes (type T560) øF M25x1.5
Pinces pour tubes (type T560) øF M25x1.5

Code structure
Structure du code

377 **29** **100** **0**

øA Bar diameter
øA Diamètre de la barre
Example: *5 mm = 060*
Exemple: *10 mm = 100*
12.5 mm = 125

øD

Family to which it belongs • Groupe d' appartenance

012 Collets for tubes (type AS) øF M7x0.75 - M8x1
Pinces pour tubes (type AS) øF M7x0.75 - M8x1

077 Collets for tubes (type T560) øF M17x1 - M25x1
Pinces pour tubes (type T560) øF M17x1 - M25x1

377 Collets for tubes (type BOSS) øF M10x1
Pinces pour tubes (type BOSS) øF M10x1

377 Collets for tubes (type T560) øF M25x1.5
Pinces pour tubes (type T560) øF M25x1.5

(*)CH: Double-ended fork wrench DIN3110 *(*)CH: Clé à collier de serrage DIN3110*

øA		**øF** *M7x0.75* **CH10**	**øF** *M8x1* **CH13**	**øF** *M10x1* **CH17**	**øF** *M17x1* **CH22**	**øF** *M10x1* **CH22**	**øF** *M10x1* **CH24**	**øF** *M25x1.5* **CH27**
mm	*in*	**øD 12**	**øD 15**	**øD 20**	**øD 24**	**øD 25**	**øD 27**	**øD 29**
5		**012120500**	**012150500**					
5.5		**012120550**	**012150550**					
6	15/64"	**012120600**	**012150600**	**377200600**	**077240600**			
6.5		**012120650**	**012150650**	**377200650**	**077240650**			
7		**012120700**	**012150700**	**377200700**	**077240700**			
7.5		**012120750**	**012150750**	**377200750**	**077240750**			
8	5/16"	**012120800**	**012150800**	**377200800**	**077240800**			
8.5		**012120850**	**012150850**	**377200850**	**077240850**			
9		**012120900**	**012150900**	**377200900**	**077240900**			
9.5		**012120950**	**012150950**	**377200950**	**077240950**			
10	25/64"		**012151000**	**377201000**	**077241000**			**377291000**
10.5			**012151050**	**377201050**	**077241050**			**377291050**

øA		øF *M7x0.75* CH10	øF *M8x1* CH13	øF *M10x1* CH17	øF *M17x1* CH22	øF *M10x1* CH22	øF *M10x1* CH24	øF *M25x1.5* CH27
mm	*in*	øD 12	øD 15-16	øD 20	øD 24	øD 25	øD 27	øD 29
11			012151100	377201100	077241100			377291100
11.5			012151150	377201150	077241150			377291150
12			012151200	377201200	077241200			377291200
12.5	31/64"		012151250	377201250	077241250			377291250
13			012151300	377201300	077241300			377291300
13.5			012161350	377201350	077241350			377291350
14			012161400	377201400	077241400			377291400
14.5				377201450	077241450			377291450
15				377201500	077241500			377291500
15.5				377201550	077241550			377291550
16	5/8"			377201600	077241600			377291600
16.5				377201650	077241650			377291650
17				377201700	077241700	377251700		377291700
17.5	11/16"			377201750	077241750	377251750		377291750
18	45/64"			377201800	077241800	377251800		377291800
18.5					077241850	377251850		377291850
19	3/4”				077241900	377251900		377291900
19.5					077241950	377251950		377291950
20					077242000	377252000		377292000
20.5					077242050	377252050		377292050
21					077242100	377252100		377292100
21.5					077242150	377252150		377292150
22					077242200	377252200		377292200
22.5					077242250	377252250		377292250
23					077242300	377252300		377292300
23.5					077242350			377292350
24								377292400
24.5								377292450

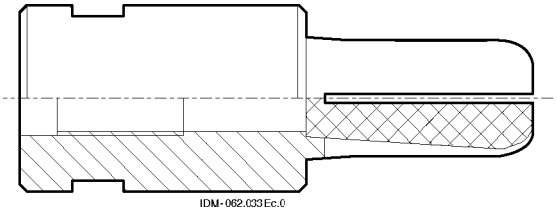
øA		øF *M17x1* CH24	øF *M17x1* CH24	øF *M17x1* CH27	øF *M25x1.5* CH27	øF *M25x1.5* CH27	øF *M25x1.5* CH29
mm	*in*	øD 27	øD 25-27	øD 29	øD 30	øD 32	øD 35
23			**077252300**				
23.5	59/64"	**377272350**	**077272350**				
24	15/16"	**377272400**	**077272400**				
24.5		**377272450**	**077272450**				
25		**377272500**	**077272500**		**377302500**		
25.5	1"	**377272550**	**077272550**		**377302550**		
26				**077292600**	**377302600**		
26.5				**077292650**	**377302650**		
27				**077292700**	*377302500*	**377322700**	
27.5						**377322750**	
28						**377322800**	
28.5	1"1/8					**377322850**	
29						*377322900*	**377352900**
30						*377323000*	**377353000**
31							**377353100**
32							**377353200**
33							**377353300**

øA		øF *M25x1.5* CH36	øF *M25x1.5* CH38	øF *M25x1.5* CH41	øF *M25x1.5* CH46	øF *M25x1.5* CH50		
mm	*in*	øD 40	øD 42	øD 44-45	øD 49	øD 54-55		
34		**377403400**						
35	1"3/8	**377403500**						
36		**377403600**						
37		**377403700**						
38	1”1/2		**377423800**					
39			**377423900**					
40			*377424000*	**377444000**				
40.5				**377444050**				
41				**377444100**				
41.5				**377444150**				
42				**377454200**				
42.5				**377454250**				
43	1"11/16				**377494300**			
43.5					**377494350**			
44					**377494400**			
44.5	1"3/4				**377494450**			
45					**377494500**			
45.5					**377494550**			
46					**377494600**			
46.5						**377544650**		
47						**377544700**		
47.5						**377544750**		
48						**377544800**		
48.5						**377544850**		
49						**377544900**		
49.5						**377544950**		
50						**377545000**		
50.5						**377545050**		
51						**377545100**		
51.5						**377545150**		
52						**377555200**		

øA		øF *M25x1.5* CH55	øF *M25x1.5* CH60	øF *M25x1.5* CH60
mm	*in*	øD 59	øD 64	øD 68
52.5		377595250		
53		377595300		
53.5		377595350		
54	2”1/8	377595400		
54.5		377595450		
55		377595500		
55.5		377595600		
56		377595600		
56.5			377645650	
57			377645700	
57.5			377645750	
58			377645800	
58.5			377645850	
59			377645900	
59.5			377646000	
60			377646000	
60.5			377646050	
61			377646100	
61.5				377686150
62				377686200
62.5				377686250
63				377686300
63.5				377686350
64				377686400
64.5				377686450
65				377686500
65.5				377686550
66				377686600

216

COLLETS FOR TUBES
PINCES POUR TUBES



REL. 5 DATA 30/10/02

216 COLLETS FOR TUBES - Table

CAUTION: the external diameter of the collet must be at least 0.5 mm less than the external diameter of the bar pusher.

Note for ordering

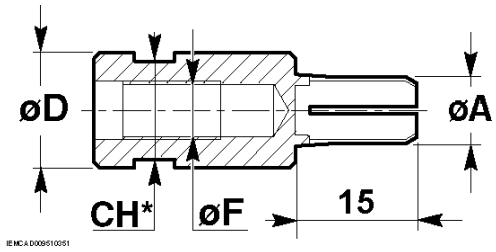
- *Collets with codes in bold characters are available from stock.*
- *Collets with codes in italics have longer delivery times.*

216 PINCES POUR TUBES - Tableau

PRECAUTION: le diamètre externe de la pince doit être inférieur d'au moins 0,5 mm au diamètre externe de la poussette.

Remarque pour la commande

- *Les pinces qui ont les codes en gras sont disponibles dans le magasin.*
- *Les pinces qui ont les codes en italique ont un délai de livraison plus long.*



(*) CH: Double-ended fork wrench DIN3110
(*) CH: Clé à fourche double DIN3110

Code structure
Structure du code

216 **29** **100** **0**

øA Bar diameter
øA Diamètre de la barre
Example: *5 mm = 060*
Exemple: *10 mm = 100*
12.5 mm = 125

øD

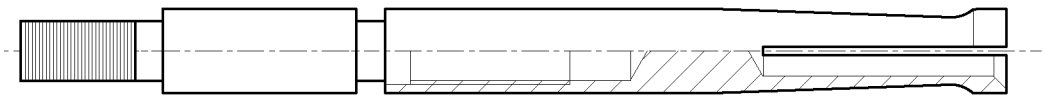
Family to which it belongs • Groupe d' appartenance
216 Collets for tubes (type CH)
Pinces pour tubes (type CH)

øA		**øF** *M5x0.5* **CH6**	**øF** *M6x0.75* **CH8**	**øF** *M7x0.75* **CH10**	**øF** *M8x1* **CH13**			
mm	*in*	**øD 7.5**	**øD 10**	**øD 12**	**øD 15**			
5		**216070500**	**216100500**	**216120500**	**216150500**			
5.1		**216070510**	**216100510**	*216120510*	*216150510*			
5.2	13/64"	**216070520**	**216100520**	*216120520*	*216150520*			
5.3		**216070530**	**216100530**	*216120530*	*216150530*			
5.4		**216070540**	**216100540**	*216120540*	*216150540*			
5.5		**216070550**	**216100550**	**216120550**	**216150550**			
5.6	7/32"	**216070560**	**216100560**	*216120560*	*216150560*			
5.7		**216070570**	**216100570**	*216120570*	*216150570*			
5.8		**216070580**	**216100580**	*216120580*	*216150580*			
5.9		**216070590**	**216100590**	*216120590*	*216150590*			
6	15/64"	**216070600**	**216100600**	**216120600**	**216150600**			
6.1		**216070610**	**216100610**	*216120610*	*216150610*			
6.2		**216070620**	**216100620**	*216120620*	*216150620*			
6.3		**216070630**	**216100630**	*216120630*	*216150630*			
6.4	1/4"	**216070640**	**216100640**	*216120640*	*216150640*			
6.5			**216100650**	**216120650**	**216150650**			

øA		øF *M6x0.75* CH8	øF *M7x0.75* CH10	øF *M8x1* CH13	øF *M10x1* CH17	øF *M10x1* CH22		
mm	*in*	øD10	øD 12	øD 15	øD 20	øD 25		
6.6		**216100660**	*216120660*	*216150660*				
6.7		**216100670**	*216120670*	*216150670*				
6.8	17/64"	**216100680**	*216120680*	*216150680*				
6.9		**216100690**	*216120690*	*216150690*				
7		**216100700**	**216120700**	**216150700**				
7.1		**216100710**	*216120710*	*216150710*				
7.2	9/32"	**216100720**	*216120720*	*216150720*				
7.3		**216100730**	*216120730*	*216150730*				
7.4		**216100740**	*216120740*	*216150740*				
7.5		**216100750**	**216120750**	**216150750**				
7.6	19/64"	**216100760**	*216120760*	*216150760*				
7.7		**216100770**	*216120770*	*216150770*				
7.8		**216100780**	*216120780*	*216150780*				
7.9		**216100790**	*216120790*	*216150790*				
8	5/16”	**216100800**	**216120800**	**216150800**				
8.5		**216100850**	**216120850**	**216150850**				
9			**216120900**	**216150900**				
9.5				**216150950**				
10	25/64”			**216151000**				
10.5				**216151050**				
11				**216151100**	**216201100**			
11.5				**216151150**	**216201150**			
12				**216151200**	**216201200**			
12.5	31/64”			**216151250**	**216201250**			
13				**216151300**	**216201300**			
13.5					**216201350**			
14					**216201400**			
14.5					**216201450**			
15					**216201500**			
15.5					**216201550**			
16					**216201600**	**216251600**		
16.5						**216251650**		
17						**216251700**		
17.5						**216251750**		
18						**216251800**		
18.5						**216251850**		
19						**216251900**		
19.5						**216251950**		
20						**216252000**		

222

COLLETS FOR BARS
PINCES POUR BARRES

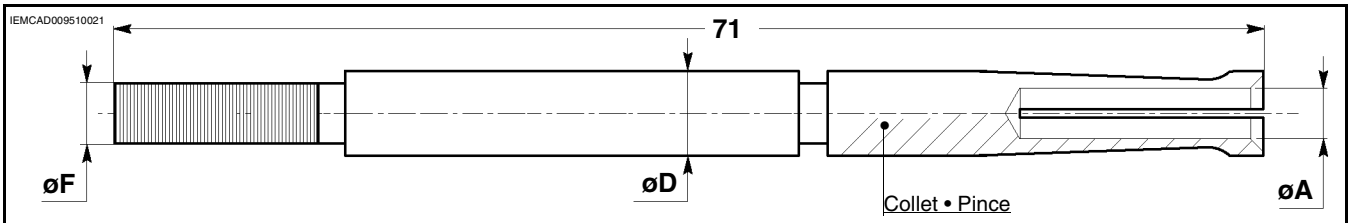


IEMCAD009510011

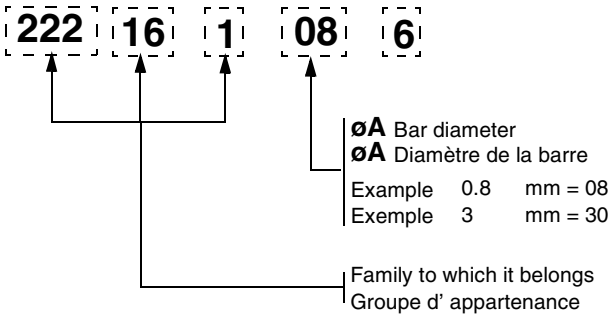
REL. 1.1 DATA 01/06/01

222 COLLETS ø4,5 FOR BARS - Table (Only for CH bar feeders)

222 PINCES ø4,5 POUR BARRES - Tableau (Seulement pour chargeurs CH)



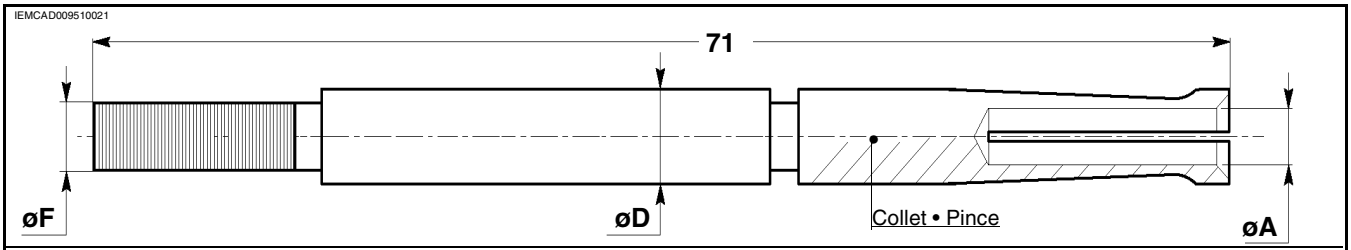
Code structure
Structure du code



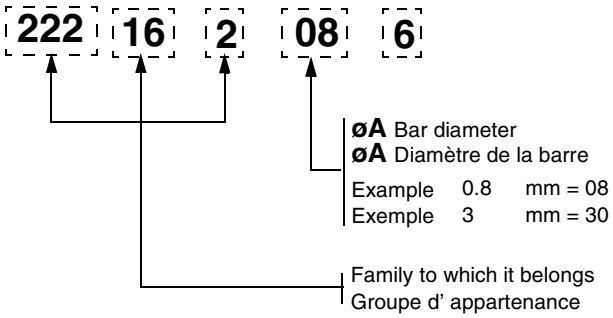
øA		øF *M3x0,5*	øA		øF *M3x0,5*
mm	*in*	**øD 4,5**	*mm*	*in*	**øD 4,5**
0.7		**222161076**	2.2		**222161226**
0.8	1/32”	**222161086**	2.3		**222161236**
0.9		**222161096**	2.4	3/32”	**222161246**
1		**222161106**	2.5		**222161256**
1.1		**222161116**	2.6		**222161266**
1.2	3/64”	**222161126**	2.7		**222161276**
1.3		**222161136**	2.8	7/64”	**222161286**
1.4		**222161146**	2.9		**222161296**
1.5		**222161156**	3		**222161306**
1.6	1/16”	**222161166**	3.1		**222161316**
1.7		**222161176**	3.2	1/8”	**222161326**
1.8		**222161186**	3.3		**222161336**
1.9		**222161196**	3.4		**222161346**
2		**222161206**	3.5		**222161356**
2.1		**222161216**	3.6	9/64”	**222161366**

222 COLLETS ø5,5 FOR BARS - Table (Only for CH bar feeders)

222 PINCES ø5,5 POUR BARRES - Tableau (Seulement pour chargeurs CH)



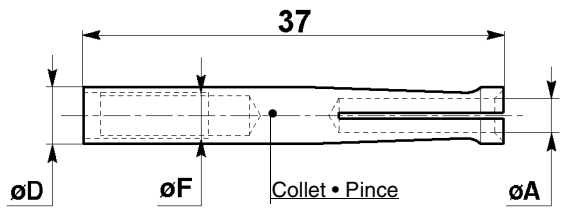
Code structure
Structure du code



øA		øF *M4x0,5*	øA		øF *M4x0,5*	øA		øF *M4x0,5*
mm	*in*	**øD 5,5**	*mm*	*in*	**øD 5,5**	*mm*	*in*	**øD 5,5**
0.7		**222162076**	2.2		**222162226**	3.6	9/64”	**222162366**
0.8	1/32”	**222162086**	2.3		**222162236**	3.7		**222162376**
0.9		**222162096**	2.4	3/32”	**222162246**	3.8		**222162386**
1		**222162106**	2.5		**222162256**	3.9		**222162396**
1.1		**222162116**	2.6		**222162266**	4	5/32”	**222162406**
1.2	3/64”	**222162126**	2.7		**222162276**	4.1		**222162416**
1.3		**222162136**	2.8	7/64”	**222162286**	4.2		**222162426**
1.4		**222162146**	2.9		**222162296**	4.3		**222162436**
1.5		**222162156**	3		**222162306**	4.4	11/64”	**222162446**
1.6	1/16”	**222162166**	3.1		**222162316**	4.5		**222162456**
1.7		**222162176**	3.2	1/8”	**222162326**	4.6		**222162466**
1.8		**222162186**	3.3		**222162336**	4.7		**222162476**
1.9		**222162196**	3.4		**222162346**			
2		**222162206**	3.5		**222162356**			
2.1		**222162216**						

222 COLLETS FOR BARS - Table

222 PINCES POUR BARRES - Tableau



IEMCAD009510031

Code structure
Structure du code

222 **16** **4** **08** **0**

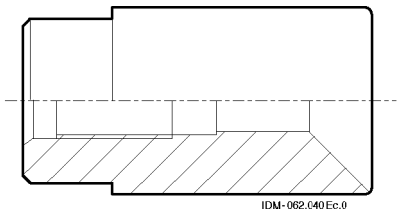
øA Bar diameter
øA Diamètre de la barre
Example 0.8 mm = 408
Exemple 3 mm = 430

Family to which it belongs
Groupe d' appartenance

øA		**øF** *M4*	**øA**		**øF** *M4*	**øA**		**øF** *M4*
mm	*in*	**øD 5**	*mm*	*in*	**øD 5**	*mm*	*in*	**øD 5.4**
0.7		**222164070**	2.2		**222164220**	3.6	9/64”	**222164360**
0.8	1/32”	**222164080**	2.3		**222164230**	3.7		**222164370**
0.9		**222164090**	2.4	3/32”	**222164240**	3.8		**222164380**
1		**222164100**	2.5		**222164250**	3.9		**222164390**
1.1		**222164110**	2.6		**222164260**	4	5/32”	**222164400**
1.2	3/64”	**222164120**	2.7		**222164270**	4.1		**222164410**
1.3		**222164130**	2.8	7/64”	**222164280**	4.2		**222164420**
1.4		**222164140**	2.9		**222164290**	4.3		**222164430**
1.5		**222164150**	3		**222164300**	4.4	11/64”	**222164440**
1.6	1/16”	**222164160**	3.1		**222164310**	4.5		**222164450**
1.7		**222164170**	3.2	1/8”	**222164320**	4.6		**222164460**
1.8		**222164180**	3.3		**222164330**	4.7		**222164470**
1.9		**222164190**	3.4		**222164340**			
2		**222164200**	3.5		**222164350**			
2.1		**222164210**						

336

EJECTOR
ÉJECTEUR



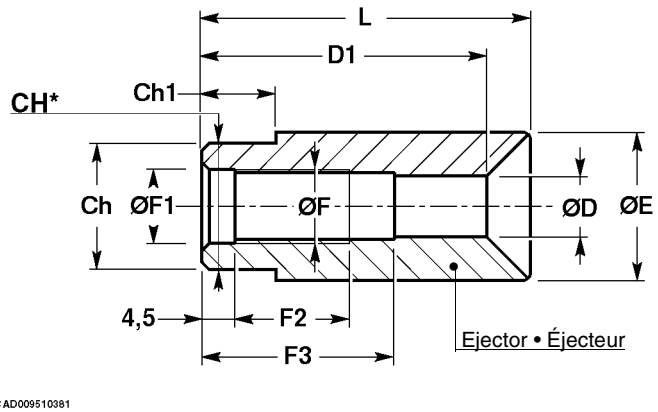
REL. 3 DATA 30/10/02

336 EJECTORS - GUIDES Ø<30 - TABLE

CAUTION: the external diameter of the collet must be at least 0.5 mm less than the external diameter of the bar pusher.

336 ÉJECTEURS - GUIDES Ø<30 - TABLEAU

PRECAUTION: le diamètre externe de l'éjecteur doit être inférieur d'au moins 0,5 mm au diamètre externe de la poussette.



(*) CH: Double-ended fork wrench DIN 3110 *(*)CH: Clé à fourche double DIN 3110*

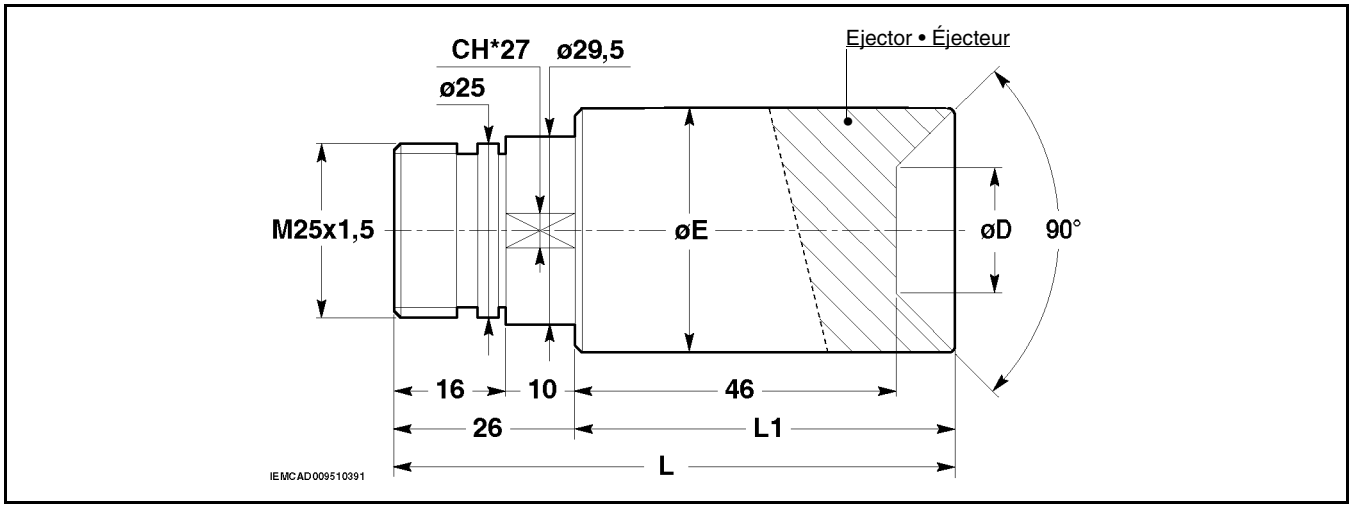
øF	F1 *(mm)*	F2 *(mm)*	F3 *(mm)*	øE *(mm)*	L *(mm)*	øD *(mm)*	D1 *(mm)*	Ch *(mm)*	Ch1 *(mm)*	*N. code Numero code*
M7x0.75	7	12	18	12	29.75	5.5	26.5	10	6	336803120
M8x1	8	12	18	15	30.75	6.5	26.5	13	10	336803150
M8x1	8	12	18	18	32	6.5	26.5	15	10	336803180
M10x1	10	15.5	26	20	44.4	8.2	38.5	17	10	336803200
M10x1	10	15.5	26	23	46	8.2	38.5	19	10	336803230
M10x1	10	15.5	26	25	47	8.2	38.5	22	12	336803250
M10x1	10	15.5	26	27	48	8.2	38.5	24	12	336803270
M10x1	10	15.5	26	29	49	8.2	38.5	27	12	336803290

336 EJECTORS - GUIDES Ø>32 - TABLE

CAUTION: the external diameter of the collet must be at least 0.5 mm less than the external diameter of the bar pusher.

336 ÉJECTEURS - GUIDES Ø>32 - TABLEAU

PRECAUTION: le diamètre externe de l'éjecteur doit être inférieur d'au moins 0,5 mm au diamètre externe de la poussette.

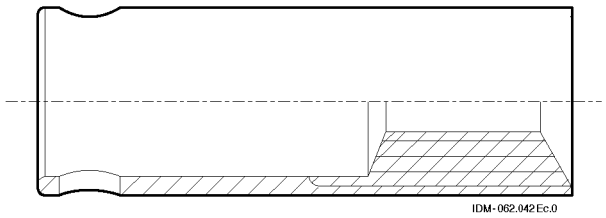


(*) CH: Double-ended fork wrench DIN 3110 *(*)CH: Clé à fourche double DIN 3110*

øE *(mm)*	**øD** *(mm)*	**L** *(mm)*	**L1** *(mm)*	*N. code Numero code*
31	10	82.5	56.5	336803310
32	14	81	55	336803320
35	18	80.5	54.5	336803350
40	18	83	57	336803400
42	18	84	58	336803420
45	21	84	58	336803450
50	23	84	58	336803500

601P

“UNILOCK” COLLETS FOR BARS
PINCES “UNILOCK” POUR CARRÉES



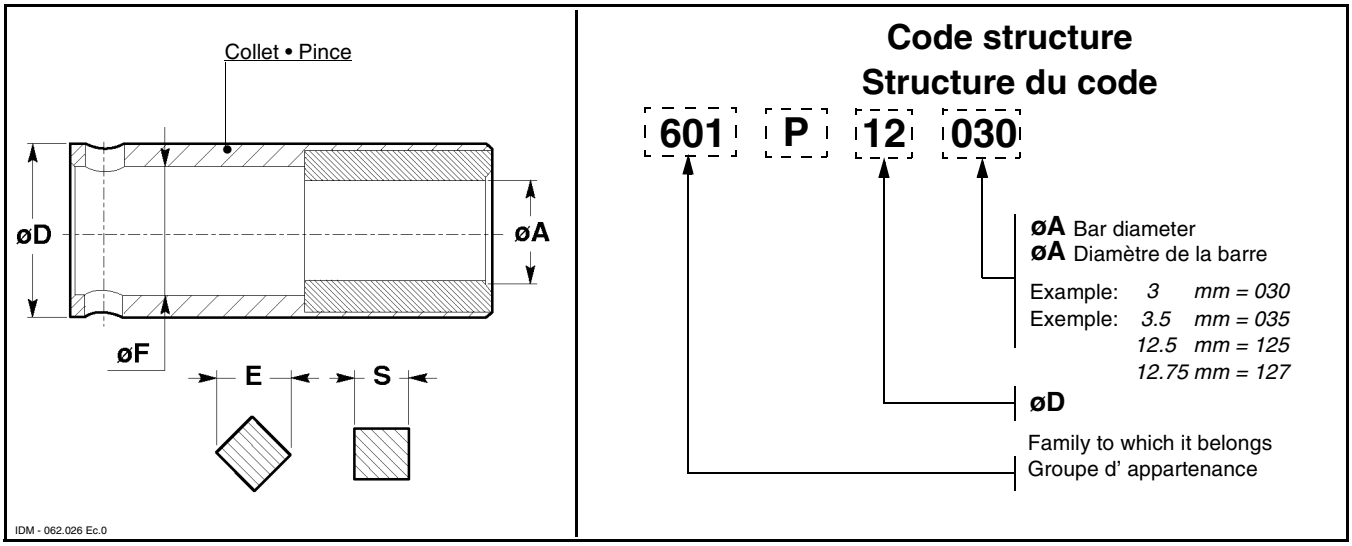
REL. 1.1 DATA 01/06/01

601P "UNILOCK" COLLETS FOR SQUARE BARS - Table

INFORMATION: for defining the internal diameter øA do not consult "001 - Conversion Tables" document, but directly consult the table below.

601P PINCES "UNILOCK" POUR BARRES CARRÉES - Tableau

AVERTISSEMENT: pour définir le diamètre interne øA ne pas consulter le fascicule "001 - Tableaux de conversion", mais consulter directement le tableau suivant.



S	E E=Sx1.414	øA +0.1 0	øF *M5x0.5*	øF *ø8 G6*	øF *ø11 G6*	øF *ø14 G6*	øF *ø20 G6*
mm	*mm*	*mm*	**øD 7.5**	**øD 12**	**øD 18**	**øD 21**	**øD 25**
3	4.24	3.8	**601P08038**				
4	5.65	5.1		**601P12051**			
5	7.07	6.6		**601P12066**			
6	8.48	8		**601P12080**	**601P18080**		
7	9.90	9.2			**601P18092**	**601P21092**	
8	11.31	10.3			**601P18103**	**601P21103**	
9	12.73	11.7			**601P18117**	**601P21117**	
10	14.14	13.1			**601P18131**	**601P21131**	**601P25131**
11	15.55	14.5				**601P21145**	**601P25145**
12	16.97	15				**601P21150**	**601P25150**

S	**E** **E=Sx1.414**	**øA** $^{+0.1}_{0}$	**øF** *M5x0.5*	**øF** *ø8 G6*	**øF** *ø11 G6*	**øF** *ø14 G6*
mm	*mm*	*mm*	**øD 25**	**øD 29**	**øD 32**	**øD 36**
13	18.38	17.4	**601P25174**			
14	19.80	18.8	**601P25188**			
15	21.21	20.2	**601P25202**			
16	22.62	21.6		**601P29216**		
17	24.04	23		**601P29230**		
18	25.45	24.5			**601P32245**	
19	26.87	25.9			**601P32259**	
20	28.28	27.3			**601P32273**	
21	29.69	28.7				**601P36287**
22	31.11	30.1				**601P36301**
23	32.52	31.5				**601P36315**

601P "UNILOCK" COLLETS FOR HEXAGONAL BARS - Table

INFORMATION: for defining the internal diameter øA do not consult "001 - Conversion Tables" document, but directly consult the table below.

Note for consultation

The Codes on a grey background refer to the "USE RANGE" to for complete a set of collets while working with the larger channel, and coupling **øF** on the revolving tip is the same.

Note for ordering

- *Collets with codes in bold characters are available from stock.*
- *Collets with codes in italics have longer delivery times.*

601P PINCES "UNILOCK" POUR BARRES HEXAGONALES - Tableau

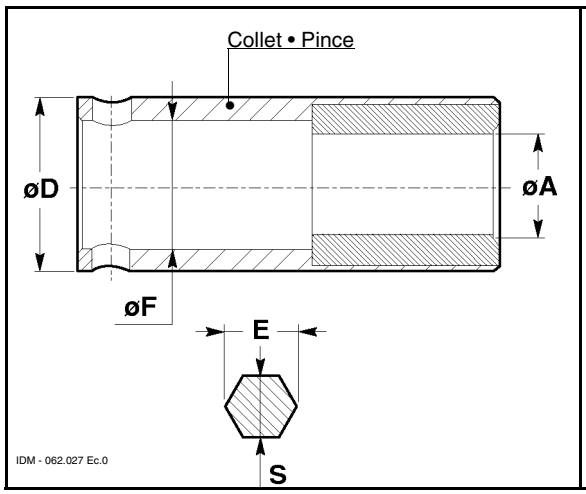
AVERTISSEMENT: pour définir le diamètre interne øA ne pas consulter le fascicule "001 - Tableaux de conversion", mais consulter directement le tableau suivant.

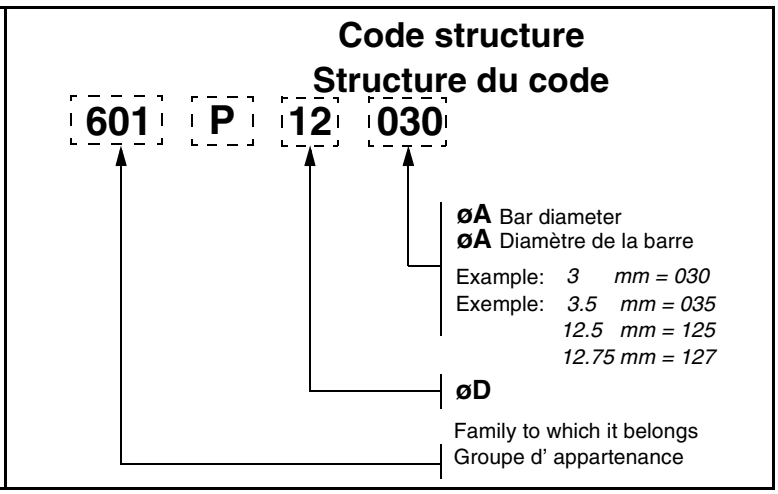
Note pour la consultation

Les codes sur fond gris indiquent le "GROUPE D'UTILISATION" pour compléter un jeu de pinces quand l'usinage a lieu sur le guide-barre le plus important, et que l'enclenchement **øF** sur l'embout tournant est le même .

Remarque pour la commande

- *Les pinces qui ont les codes en gras sont disponibles dans le magasin.*
- *Les pinces qui ont les codes en italique ont un délai de livraison plus long.*



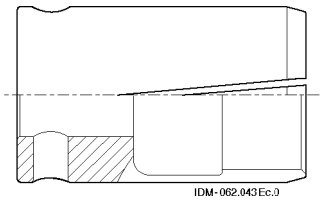


S		E E=SX1.154	øA +0.1 0	øF *M5 x0.5*	øF *ø8 G6*	øF *ø11 G6*	øF *ø14 G6*	øF *ø20 G6*
mm	*in*	*mm*	*mm*	**øD 7.5**	**øD 12**	**øD 18**	**øD 21**	**øD 25**
3		3.46	3.1	**601P08031**				
	1/8"	3.66	3.3	**601P08033**				
4		4.62	4.1	**601P08041**				
	3/16"	5.5	5		**601P12050**			
5		5.77	5.2		**601P12052**			
6		6.92	6.2		**601P12062**			
	1/4"	7.33	6.6		**601P12066**	*601P18066*		
7		8.08	7.3		*601P12073*	**601P18073**		
	5/16"	9.16	8.3			**601P18083**	**601P21083**	
8		9.23	8.4			**601P18084**	**601P21084**	
9		10.39	9.5			**601P18095**	**601P21095**	
	3/8"	10.99	10			**601P18100**	**601P21100**	
10		11.54	10.6			**601P18106**	**601P21106**	
11		12.7	11.7			**601P18117**	**601P21117**	
	7/16"	12.82	11.8			**601P18118**	**601P21118**	
12		13.85	12.8			**601P18128**	**601P21128**	**601P25128**

S		E E=SX1.154	øA +0.1 0	øF *14 G6*	øF *20 G6*	øF *20 G6*	øF *20 G6*	øF *20 G6*
mm	*in*	*mm*	*mm*	**øD 21**	**øD 25**	**øD 29**	**øD 32**	**øD 36**
	1/2”	14.65	13.7	**601P21137**	**601P25137**			
13		15	14	**601P2140**	**601P25140**			
14		16.16	15.2	**601P21152**	**601P25152**			
	9/16”	16.49	15.5	**601P21155**	**601P25155**			
15		17.31	16.3	**601P21163**	**601P25163**			
	5/8”	18.32	17.3		**601P25173**			
16		18.46	17.5		**601P25175**			
17		19.62	18.6		**601P25186**			
	11/16”	20.15	19.2		**601P25192**	*601P29192*		
18		20.77	19.8		**601P25198**	*601P29198*		
19	3/4”	21.93	21			**601P29210**		
20		23.08	22.1			**601P29221**		
	13/16”	23.81	22.8			**601P29228**		
21		24.24	23.2			**601P29232**	*601P32232*	
22		25.39	24.4				**601P32244**	
	7/8”	25.65	24.7				**601P32247**	
23		26.54	25.5				**601P32255**	
	15/16”	27.48	26.5				**601P32265**	
24		27.7	26.7				**601P32267**	*601P36267*
25		28.85	27.9					**601P36279**
	1”	29.31	28.3					**601P36283**
26		30	29					**601P36290**
	1-1/16”	31.14	30.2					**601P36302**
28		32.31	31.3					**601P36313**

602P

COLLETS FOR BARS
PINCES POUR BARRES



REL. 3 DATA 01/12/01

602P COLLETS FOR BARS - Table

CAUTION: the external diameter of the collet must be at least 0.5 mm less than the external diameter of the bar pusher.

Note for consultation

The Codes on a grey background refer to the "USE RANGE" to for complete a set of collets while working with the larger channel, and coupling **øF** on the revolving tip is the same.

Note for ordering

- *Collets with codes in bold characters are available from stock.*
- *Collets with codes in italics have longer delivery times.*

602P PINCES POUR BARRES - Tableau

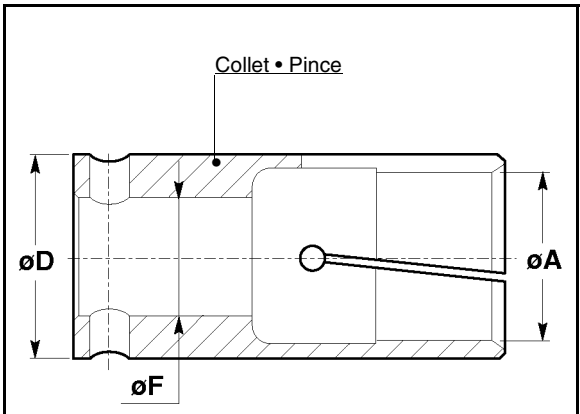
PRECAUTION: le diamètre externe de la pince doit être inférieur d'au moins 0,5 mm au diamètre externe de la poussette.

Note pour la consultation

Les codes sur fond gris indiquent le "GROUPE D'UTILISATION" pour compléter un jeu de pinces quand l'usinage a lieu sur le guide-barre le plus important, et que l'enclenchement **øF** sur l'embout tournant est le même .

Remarque pour la commande

- *Les pinces qui ont les codes en gras sont disponibles dans le magasin.*
- *Les pinces qui ont les codes en italique ont un délai de livraison plus long.*



DM - 062.028 Ec.0

Code structure
Structure du code

602 P 12 030

øA Bar diameter
øA Diamètre de la barre

Example: *3 mm = 030*
Exemple: *3.5 mm = 035*
12.5 mm = 125
12.75 mm = 127

øD

Family to which it belongs
Groupe d' appartenance

øA		**øF** *ø8 G6*	**øF** *ø11 G6*			
mm	*in*	**øD 12**	**øD 15**			
3		**602P12030**				
3.1		**602P12031**				
3.2	1/8"	**602P12032**				
3.3		**602P12033**				
3.4		**602P12034**				
3.5		**602P12035**				
3.6	9/64"	**602P12036**				
3.7		**602P12037**				
3.8		**602P12038**				
3.9		**602P12039**				
4	5/32"	**602P12040**	*602P15040*			
4.1		**602P12041**	*602P15041*			
4.2		**602P12042**	*602P15042*			
4.3		**602P12043**	*602P15043*			
4.4	11/64"	**602P12044**	*602P15044*			
4.5		**602P12045**	*602P15045*			
4.6		**602P12046**	*602P15046*			
4.7		**602P12047**	*602P15047*			
4.8	3/16"	**602P12048**	*602P15048*			
4.9		**602P12049**	*602P15049*			
5		**602P12050**	**602P15050**			
5.1		**602P12051**	**602P15051**			

øA		øF *ø8 G6*	øF *ø11 G6*	øF *ø14 G6*	øF *ø20 G6*		
mm	*in*	**øD 12**	**øD 15**	**øD 20**	**øD 25**		
5.2	13/64”	**602P12052**	**602P15052**				
5.3		**602P12053**	**602P15053**				
5.4		**602P12054**	**602P15054**				
5.5		**602P12055**	**602P15055**				
5.6	7/32”	**602P12056**	**602P15056**				
5.7		**602P12057**	**602P15057**				
5.8		**602P12058**	**602P15058**				
5.9		**602P12059**	**602P15059**				
6	15/64”	**602P12060**	**602P15060**				
6.1		**602P12061**	**602P15061**				
6.2		**602P12062**	**602P15062**				
6.3		**602P12063**	**602P15063**				
6.4	1/4”	**602P12064**	**602P15064**				
6.5		**602P12065**	**602P15065**				
6.6		**602P12066**	**602P15066**				
6.7		**602P12067**	**602P15067**				
6.8	17/64”	**602P12068**	**602P15068**				
6.9		**602P12069**	**602P15069**				
7		**602P12070**	**602P15070**				
7.1		**602P12071**	**602P15071**				
7.2	9/32”	**602P12072**	**602P15072**				
7.3		**602P12073**	**602P15073**				
7.4		**602P12074**	**602P15074**				
7.5		**602P12075**	**602P15075**				
7.6	19/64”	**602P12076**	**602P15076**				
7.7		**602P12077**	**602P15077**				
7.8		**602P12078**	**602P15078**				
7.9		**602P12079**	**602P15079**				
8	5/16”	**602P12080**	**602P15080**	**602P20080**	**602P25080**		
8.1		**602P12081**	**602P15081**	**602P20081**	**602P25081**		
8.2		**602P12082**	**602P15082**	**602P20082**	**602P25082**		
8.3		**602P12083**	**602P15083**	**602P20083**	**602P25083**		
8.4	21/64”	**602P12084**	**602P15084**	**602P20084**	**602P25084**		
8.5		**602P12085**	**602P15085**	**602P20085**	**602P25085**		
8.6		**602P12086**	**602P15086**	**602P20086**	**602P25086**		
8.7		**602P12087**	**602P15087**	**602P20087**	**602P25087**		
8.8	11/32”	**602P12088**	**602P15088**	**602P20088**	**602P25088**		
8.9		**602P12089**	**602P15089**	**602P20089**	**602P25089**		
9		**602P12090**	**602P15090**	**602P20090**	**602P25090**		
9.1	23/64”	**602P12091**	**602P15091**	**602P20091**	**602P25091**		
9.2		**602P12092**	**602P15092**	**602P20092**	**602P25092**		

øA		øF ø8 G6	øF ø11 G6	øF ø11 G6	øF ø11 G6	øF ø14 G6	øF ø20 G6
mm	in	øD 12	øD 15	øD 16	øD 18	øD 20	øD 25
9.3		602P12093	602P15093			602P20093	602P25093
9.4		602P12094	602P15094			602P20094	602P25094
9.5		602P12095	602P15095			602P20095	602P25095
9.6	3/8”	602P12096	602P15096			602P20096	602P25096
9.7		602P12097	602P15097			602P20097	602P25097
9.8		602P12098	602P15098			602P20098	602P25098
9.9		602P12099	602P15099			602P20099	602P25099
10	25/64”	602P12100	602P15100			602P20100	602P25100
10.1			602P15101			602P20101	602P25101
10.2			602P15102			602P20102	602P25102
10.3			602P15103			602P20103	602P25103
10.4	13/32”		602P15104			602P20104	602P25104
10.5			602P15105			602P20105	602P25105
10.6			602P15106			602P20106	602P25106
10.7			602P15107			602P20107	602P25107
10.8	27/64”		602P15108			602P20108	602P25108
10.9			602P15109			602P20109	602P25109
11			*602P15110*	602P16110		602P20110	602P25110
11.25	7/16”		*602P15112*	602P16112		602P20112	602P25112
11.5	29/64”		*602P15115*	602P16115		602P20115	602P25115
11.75			*602P15117*	602P16117		602P20117	602P25117
12	15/32”		*602P15120*	602P16120		602P20120	602P25120
12.25			*602P15122*	602P16122		602P20122	602P25122
12.5	31/64”		*602P15125*	602P16125	*602P18125*	602P20125	602P25125
12.75	1/2”		*602P15127*	602P16127	*602P18127*	602P20127	602P25127
13			*602P15130*	*602P16130*	602P18130	602P20130	602P25130
13.25	33/64”			*602P16132*	602P18132	602P20132	602P25132
13.5	17/32”			*602P16135*	602P18135	602P20135	602P25135
13.75				*602P16137*	602P18137	602P20137	602P25137
14	35/64”			*602P16140*	602P18140	602P20140	602P25140
14.25	9/16”				602P18142	602P20142	602P25142
14.5					602P18145	602P20145	602P25145
14.75	37/64”				602P18147	602P20147	602P25147
15	19/32”				602P18150	602P20150	602P25150
15.25					602P18152	602P20152	602P25152
15.5	39/64”				602P18155	602P20155	602P25155
15.75					602P18157	602P20157	602P25157

øA		**øF** *ø11 G6*	**øF** *ø14 G6*	**øF** *ø14 G6*	**øF** *ø14 G6*	**øF** *ø20 G6*	**øF** *ø20 G6*
mm	*in*	**øD 18**	**øD 20**	**øD 21**	**øD 23**	**øD 25**	**øD 27**
16	5/8”	**602P18160**	**602P20160**		*602P23160*	**602P25160**	
16.25	41/64”		**602P20162**		*602P23162*	**602P25162**	
16.5			*602P20165*	**602P21165**	**602P23165**	**602P25165**	
16.75	21/32”		*602P20167*	**602P21167**	**602P23167**	**602P25167**	
17	43/64”		*602P20170*	**602P21170**	**602P23170**	**602P25170**	
17.25			*602P20172*	**602P21172**	**602P23172**	**602P25172**	
17.5	11/16”		*602P20175*	**602P21175**	**602P23175**	**602P25175**	
17.75			*602P20177*	**602P21177**	**602P23177**	**602P25177**	
18	45/64”		*602P20180*	**602P21180**	**602P23180**	**602P25180**	
18.25	23/32”			**602P21182**	**602P23182**	**602P25182**	
18.5				**602P21185**	**602P23185**	**602P25185**	
18.75	47/64”			**602P21187**	**602P23187**	**602P25187**	
19	3/4”			**602P21190**	**602P23190**	**602P25190**	
19.25					**602P23192**	**602P25192**	
19.5	49/64”				**602P23195**	**602P25195**	
19.75	25/32”				**602P23197**	**602P25197**	
20					**602P23200**	**602P25200**	
20.25	51/64”				**602P23202**	**602P25202**	
20.5					**602P23205**	**602P25205**	
20.75	13/16”				**602P23207**	**602P25207**	
21	53/64”				**602P23210**	*602P25210*	**602P27210**
21.25						*602P25212*	**602P27212**
21.5	27/32”					*602P25215*	**602P27215**
21.75	55/64”					*602P25217*	**602P27217**

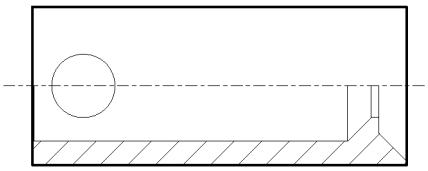
øA		**øF** *ø20 G6*	**øF** *ø20 G6*	**øF** *ø20 G6*	**øF** *ø20 G6*	**øF** *ø20 G6*	**øF** *ø20 G6*
mm	*in*	**øD 25**	**øD 27**	**øD 29**	**øD 32**	**øD 35**	**øD 36**
22		*602P25222*	**602P27222**				
22.25	7/8”	*602P25225*	**602P27225**				
22.5		*602P25220*	**602P27220**				
22.75	57/64”	*602P25227*	**602P27227**	*602P29227*			
23	29/32”	*602P25230*	**602P27230**	*602P29230*			
23.25			**602P27232**	*602P29232*			
23.5	59/64”		**602P27235**	*602P29235*			
23.75			**602P27237**	*602P29237*			
24	15/16”		*602P27240*	**602P29240**			
24.25	61/64”		*602P27242*	**602P29242**			
24.5			*602P27245*	**602P29245**			
24.75	31/32”		*602P27247*	**602P29247**			
25	63/64”		*602P27250*	**602P29250**	*602P32250*		
25.25				**602P29252**	*602P32252*		
25.5	1"			**602P29255**	*602P32255*		
25.75				**602P29257**	*602P32257*		
26				*602P29260*	**602P32260**		
26.25				*602P29262*	**602P32262**		
26.5				*602P29265*	**602P32265**		
26.75				*602P29267*	**602P32267**		
27	1"1/16			*602P29270*	**602P32270**	*602P35270*	
27.25					**602P32272**	*602P35272*	
27.5					**602P32275**	*602P35275*	
27.75					**602P32277**	*602P35277*	
28					*602P32280*	**602P35280**	*602P36280*
28.25					*602P32282*	**602P35282**	*602P36282*
28.5	1"1/8				*602P32285*	**602P35285**	*602P36285*
28.75					*602P32287*	**602P35287**	*602P36287*

øA		øF *ø20 G6*	øF *ø20 G6*	øF *ø20 G6*	øF *ø20 G6*	øF *ø20 G6*	
mm	*in*	**øD 32**	**øD 35**	**øD 36**	**øD 42**	**øD 45**	
29		*602P32290*	**602P35290**	*602P36290*			
29.25		*602P32292*	**602P35292**	*602P36292*			
29.5		*602P32295*	**602P35295**	*602P36295*			
29.75		*602P32297*	**602P35297**	*602P36297*			
30		*602P32300*	*602P35300*	**602P36300**			
30.25	1"3/16		*602P35302*	**602P36302**			
30.5			*602P35305*	**602P36305**			
30.75			*602P35307*	**602P36307**			
31			*602P35310*	*602P36310*	**602P42310**		
31.25			*602P35312*	*602P36312*	**602P42312**		
31.5			*602P35315*	*602P36315*	**602P42315**		
31.75	1"1/4		*602P35317*	*602P36317*	**602P42317**		
32			*602P35320*	*602P36320*	**602P42320**		
32.25				*602P36322*	**602P42322**		
32.5				*602P36325*	**602P42325**		
32.75				*602P36327*	**602P42327**		
33				*602P36330*	**602P42330**		
33.25	1”5/16			*602P36332*	**602P42332**		
33.5				*602P36335*	**602P42335**		
33.75				*602P36337*	**602P42337**		
34				*602P36340*	**602P42340**		
34.25					**602P42342**		
34.5					**602P42345**		
34.75					**602P42347**		
35	1”3/8				**602P42350**		
35.25					**602P42352**		
35.5					**602P42355**		
35.75					**602P42357**		
36					**602P42360**		
36.25	1”7/16				**602P42362**		
36.5					**602P42365**		
36.75					**602P42367**		
37					*602P42370*	**602P45370**	
37.25					*602P42372*	**602P45372**	
37.5					*602P42375*	**602P45375**	
37.75					*602P42377*	**602P45377**	

øA		øF *ø20 G6*	øF *ø20 G6*	øF *ø20 G6*			
mm	*in*	**øD 42**	**øD 45**	**øD 51**			
38		*602P42380*	**602P45380**				
38.25		*602P42382*	**602P45382**				
38.5		*602P42385*	**602P45385**				
38.75		*602P42387*	**602P45387**				
39		*602P42390*	**602P45390**				
39.25		*602P42392*	**602P45392**				
39.5		*602P42395*	**602P45395**				
39.75		*602P42397*	*602P45397*	**602P51397**			
40		*602P42400*	*602P45400*	**602P51400**			
40.25			*602P45402*	**602P51402**			
40.5			*602P45405*	**602P51405**			
40.75			*602P45407*	**602P51407**			
41			*602P45410*	**602P51410**			
41.25			*602P45412*	**602P51412**			
41.5			*602P45415*	**602P51415**			
41.75			*602P45417*	**602P51417**			
42			*602P45420*	**602P51420**			
42.25				**602P51422**			
42.5				**602P51425**			
42.75				**602P51427**			
43	1”11/16			**602P51430**			
43.25				**602P51432**			
43.5				**602P51435**			
43.75				**602P51437**			
44				**602P51440**			
44.25				**602P51442**			
44.5				**602P51445**			
44.75				**602P51447**			
45				**602P51450**			
45.25				*602P51452*			
45.5				*602P51455*			
45.75				*602P51457*			
46				*602P51460*			
46.25				*602P51462*			
46.5				*602P51465*			
46.75				*602P51467*			
47				*602P51470*			

602P..011

EJECTOR
ÉJECTEUR



IDM - 062.076 Ec.0

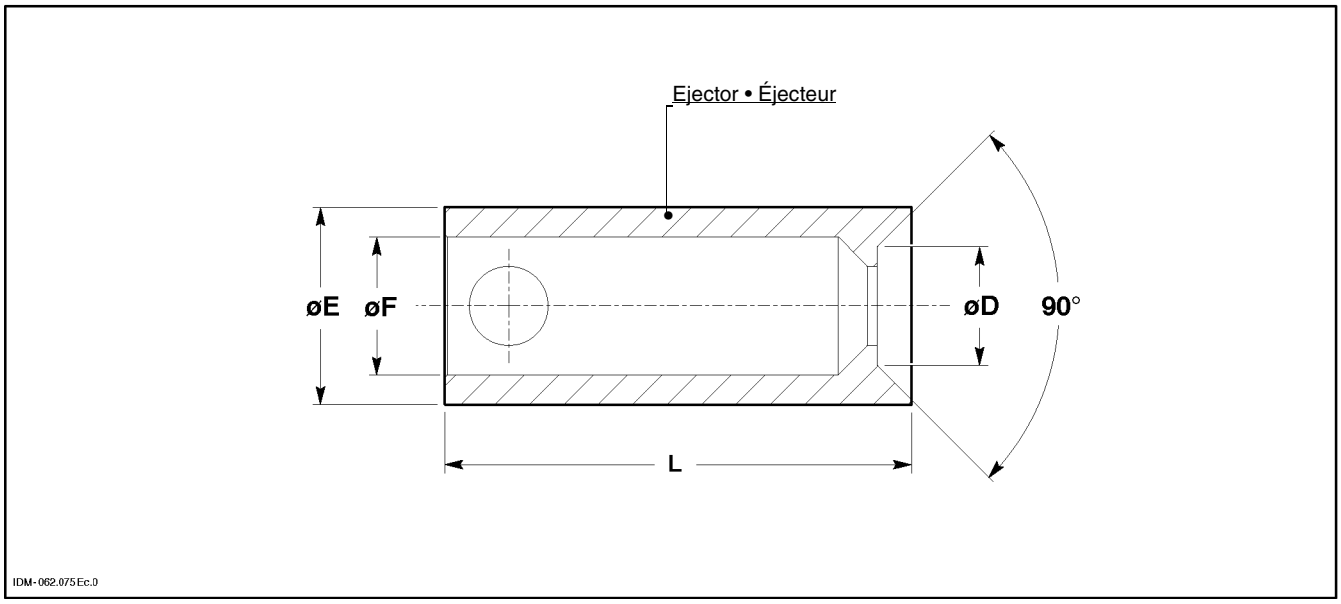
REL. 1 DATA 01/06/00

602P..011 EJECTORS - GUIDES Ø13÷28 - TABLE

CAUTION: the external diameter of the collet must be at least 0.5 mm less than the external diameter of the bar pusher.

602P..011 ÉJECTEURS - GUIDES Ø13÷28 - TABLEAU

PRECAUTION: le diamètre externe de l'éjecteur doit être inférieur d'au moins 0,5 mm au diamètre externe de la poussette.



øE *(mm)*	**øF** *(mm)*	**øD** *(mm)*	**øL** *(mm)*	*N. code Numero code*
12	8	8	24	602P12011
15	11	11	26	602P15011
16	11	12	26	602P16011
18	11	12	27.5	602P18011
19	11	12	28	602P19011
20	14	12	47.5	602P20011
23	14	12	49	602P23011
25	20	12	50.5	602P25011
27	20	12	51.5	602P27011