EMG PRESSES
D'ETABLI MANUELLES
PNEUMATIQUES
MECANIQUES
HYDROPNEUMATIQUES
DE MARQUAGE

ETS LONG SAS - 80 RUE DU LOQUOIS
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S.A.S. AU CAPITAL DE 674 800 € - SIRET 780 084 901 00039

USER MANUAL

PRESSES EMG – PM6 / PM30 / PM60

D'ETABLI
PNEUTIQUES
MECANIQUES
HYDROPNEUMATIQUES
DE MARQUAGE

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EC DECLARATION OF CONFORMITY
COVERING EQUIPMENT SUBJECT TO SELF-CERTIFICATION

The undersigned manufacturer **LONG S.A.S** certifies that the following

MANUAL PRESSES PM6, PM30 et PM60

Trademark : **E.M.G.**

having for function the cold working of metals,

Is in conformity with all the requirements of the Machines Directive 2006/42/CE,

and complies with the following harmonised standards:

- EN ISO 12100-1 : 03
- EN ISO 12100-2 : 03

The person authorised to prepare the technical file is Mr. Michel Puthod, 80 rue du Loquois, ZAE RUMILLY SUD, 74150 MARIGNY St MARCEL.

Issued in Marigny, on

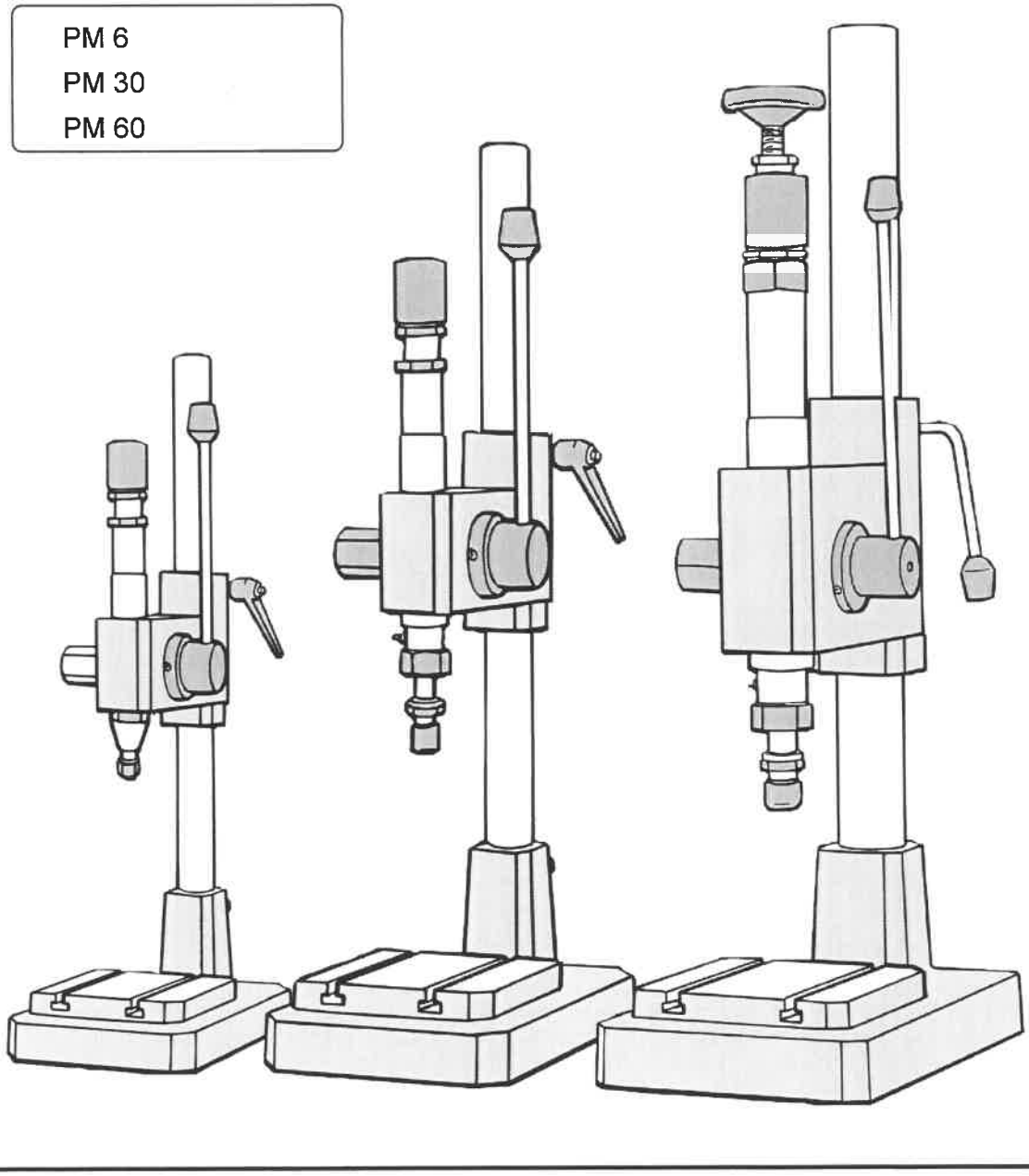
Michel Puthod
Technical manager

Mechanical impact marking presses

PM6 PM30 PM60

User and Maintenance Manual - Spare Parts

PM 6
PM 30
PM 60



PM6 - PM30 - PM60

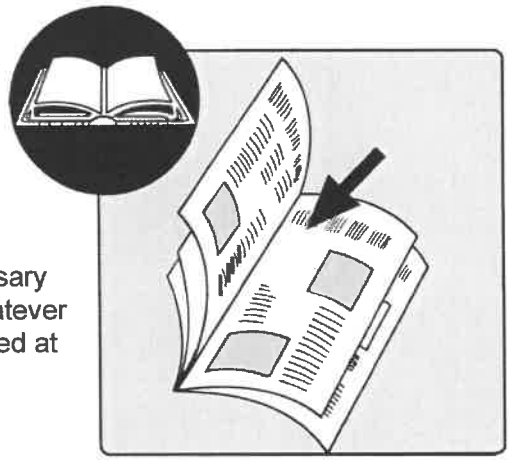
Index

Identifying the Document "INSTRUCTION MANUAL"
The instruction Manual is a document, which is being issued by **LONG SAS**, and which is an integral part of the machine.

Purpose of Document
The main purpose of this document is to enable both the customer and any staff assigned to operate with the machine to work according to the directions quoted in the manual for their own protection and safety.

How to Read and Use the "INSTRUCTION Manual"
The document forms an integral part of the machine, and, therefore, of the first supply.
It must be kept and duly used during the entire machine life span, even in case of transfer to third parties.
Any request for extra copies of this document will be forwarded as a formal purchasing order to **LONG SAS**.

It is strictly compulsory to read most **CAREFULLY** the instructions on use.
Duly trained staff only can work with the machine.



The employer is responsible for disclosing this document to all the staff (operators) who will operate with the machine.
DO NOT keep the manual in an inaccessible place.

NOTE: This Instruction Manual **MUST** always be available to the operator for consultation at any moment.

Any operator to work with the machine must gather all necessary information by reading this handbook before carrying out whatever intervention, while applying the specific safety measures aimed at making safe any kind of man-machine interaction.

Operators must all the same apply and observe the general regulations on industrial accident prevention as provided for by both the Community directives and the specific domestic laws, besides observing strictly that set out in this document.
The customer and/or any third party are strictly forbidden (excluding duly authorized staff from **LONG SAS**) to make whatever change to either the machine or its functions as well as to this technical document.

General Notes upon Delivery

Upon delivery of machine, please verify that:

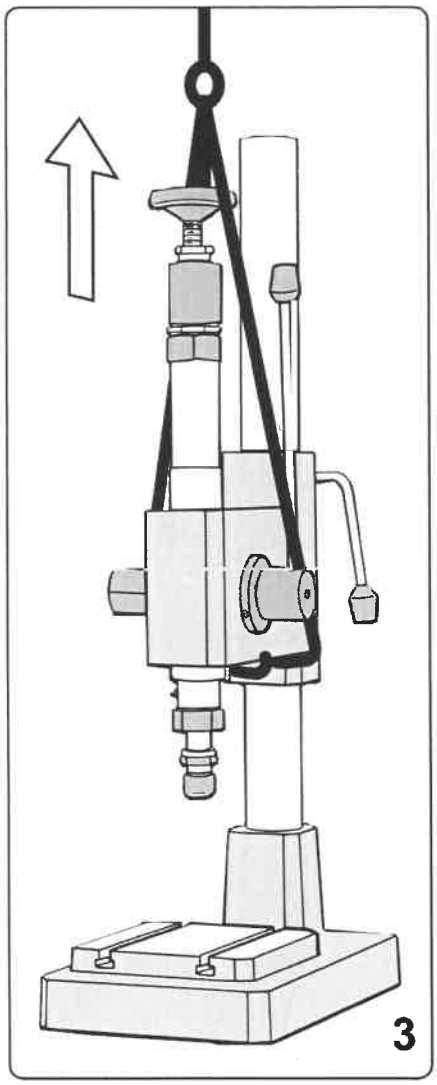
The supply conforms to your order.
There are no visible damages due to transportation or whatever reason (In case of damages or missing parts, please inform immediately and in detail either the forwarding agent or **LONG SAS**).
Note = All data and dimensions are not binding. **LONG SAS** reserves the right to change them without prior notice, while granting to inform the machine user later on by means of updated technical fact sheets.

Machines are delivered in a carton. For the transport, please use a forklift truck.
Press PM60 is screwed onto a wooden pallet.

Withdraw carton from the top.

Remove bolts fixing the cast iron base of machine to the wooden surface.

In order to transport the presses, you have to follow the instructions on product slinging on drawing.



IMPORTANT WARNING
To lift machines, ropes suitable to bear the individual unit weight must be used
(PM 6 = 11 Kg - PM 30 = 35 Kg - PM 60 = 110 Kg).

Soundness of ropes must be checked at regular intervals.

NEVER USE ropes, which are somehow damaged or frayed. In that case, replace them with new sound ones. Avoid pulling any rope caught under the load. Protect ropes with suitable edge protectors, in case of loads with sharp corners or cutting edges.

ATTENTION

The rope capacity should always be considered according to its use.

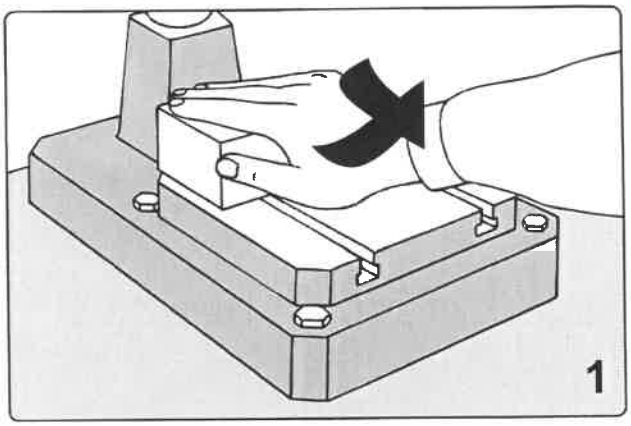
Always read the plate on ropes or the capacity tables prior to lifting the load.

LONG SAS has carefully and exhaustively analyzed each interaction between operator and machine over its whole life span while designing (production of technical file) and drawing up the instruction manual.

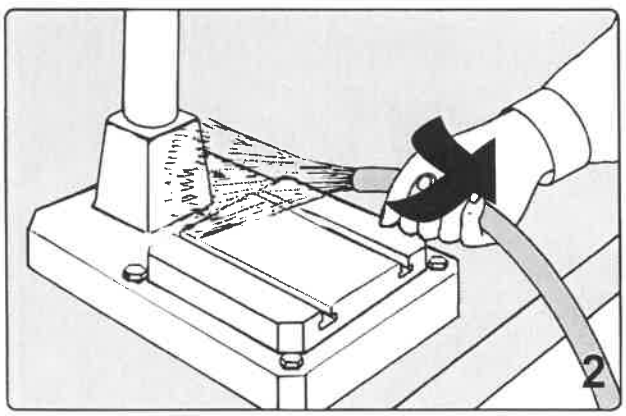
PRIOR TO STARTING THE MACHINE, ALWAYS OBSERVE THE FOLLOWING PREVENTION MEASURES TO WORK UNDER MAXIMUM SAFETY CONDITIONS.

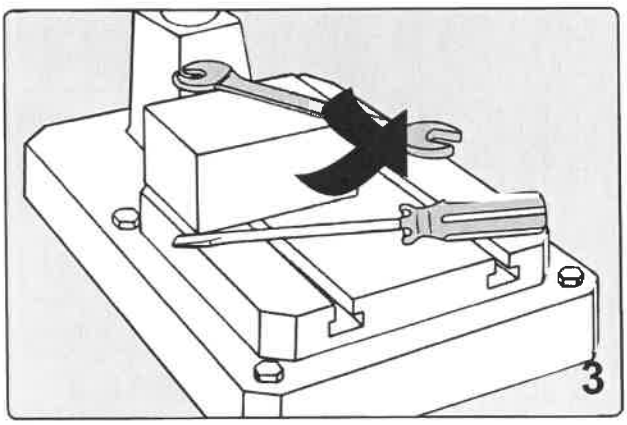
Anybody **NOT BEING ASSIGNED** to use the machine must **NOT** stand close to it when it is running.

NO third parties will **EVER** put their hands inside the machine while it is running. (dwg 1).



NEVER wash machine with direct jets or liquids or corrosive substances. (Dwg. 2).





NEVER rest either tools or other objects on moving parts or which are in apparent stand-by (dwg. 3).

In case of replacement of parts, please apply to **LONG SAS** (The machine manufacturer) or one of its authorized dealer or agent for ORIGINAL spare parts (dwg 4).

Equipment of press PM 6

1- 1 27 mm Wrench
2- 1 17 mm Wrench
3- 1 Impact Spring
4- 1 2 mm Allen Wrench
5- 1 2,5 mm Allen Wrench
6- 1 3 mm Allen Wrench

Equipment of press PM30

1- 1 23 mm Wrench
2- 1 38 mm Wrench
3- 1 Impact Spring Ø bore 2,5 mm
4- 1 Impact Spring Ø bore 3 mm
5- 1 Impact Spring Ø bore 3,6 mm
6- 1 3 mm Allen Wrench
7- 1 5 mm Allen Wrench
8- 1 6 mm Allen Wrench

Equipment of press PM 60

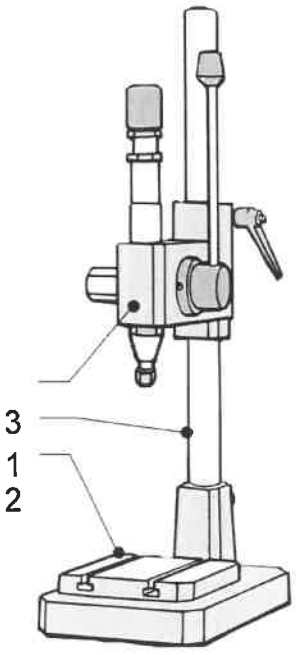
1 - 1 38 mm Wrench
2 - 1 60 mm Wrench
3 - 1 Impact Spring Ø bore 4 mm
4 - 1 Impact Spring Ø bore 5 mm
5 - 1 Impact Spring Ø bore 6 mm
6 - 1 Impact Spring Ø bore 7 mm
7 - 1 3 mm Allen Wrench
8 - 1 5 mm Allen Wrench
9 - 1 6 mm Allen Wrench
10 -1 8 mm Allen Wrench

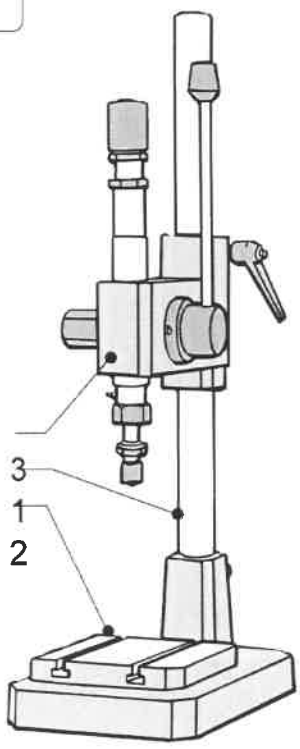
The product models **PM6, PM30** and **PM60** provide an easy way to mark, rivet, shape, stamp, caulk, die-cut, number, shear, etc. They also prove to be very convenient in all those operations requiring a regular and even stroke.
Absolute evenness ensures the perfect repeatability of operation. Some very peculiar applications are carried out under best operative conditions thanks to the impact that let one take advantage from the inertia mass of the piece under impact.

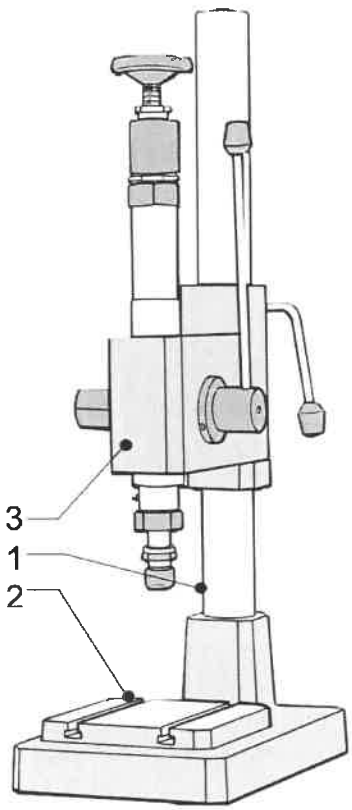
EMG machines working principle is simple:
- Loading of a spring while leaning on the piece to undergo processing
- Immediate release of **"HAMMER"** at the setting stop. The stroke strength is adjustable by calibrating a spring.

APPROACHING STAGE (1)
Re-loading is **AUTOMATIC** upon return: very high paces.
COMPRESSION (2)
- Automatic control of parts
- Impact occurs only when contacting the piece to be processed

Identical impact, regardless the tolerances of pieces to be processed.
IMPACT (3)
Steady power being supplied
Hammer is locked into position: no double-impact
Products include three basic elements:
1- Ground steel column
2- Cast iron base with tee slots to fix tools
3- Main body with impact unit and pneumatic cylinder.







Stroke	Kg. 0 ÷ 600
Tang	mm. Ø 8 x 30
Weight	Kg. 11
Max. Rack Stroke	mm. 28
Tool holder stroke	mm. 8

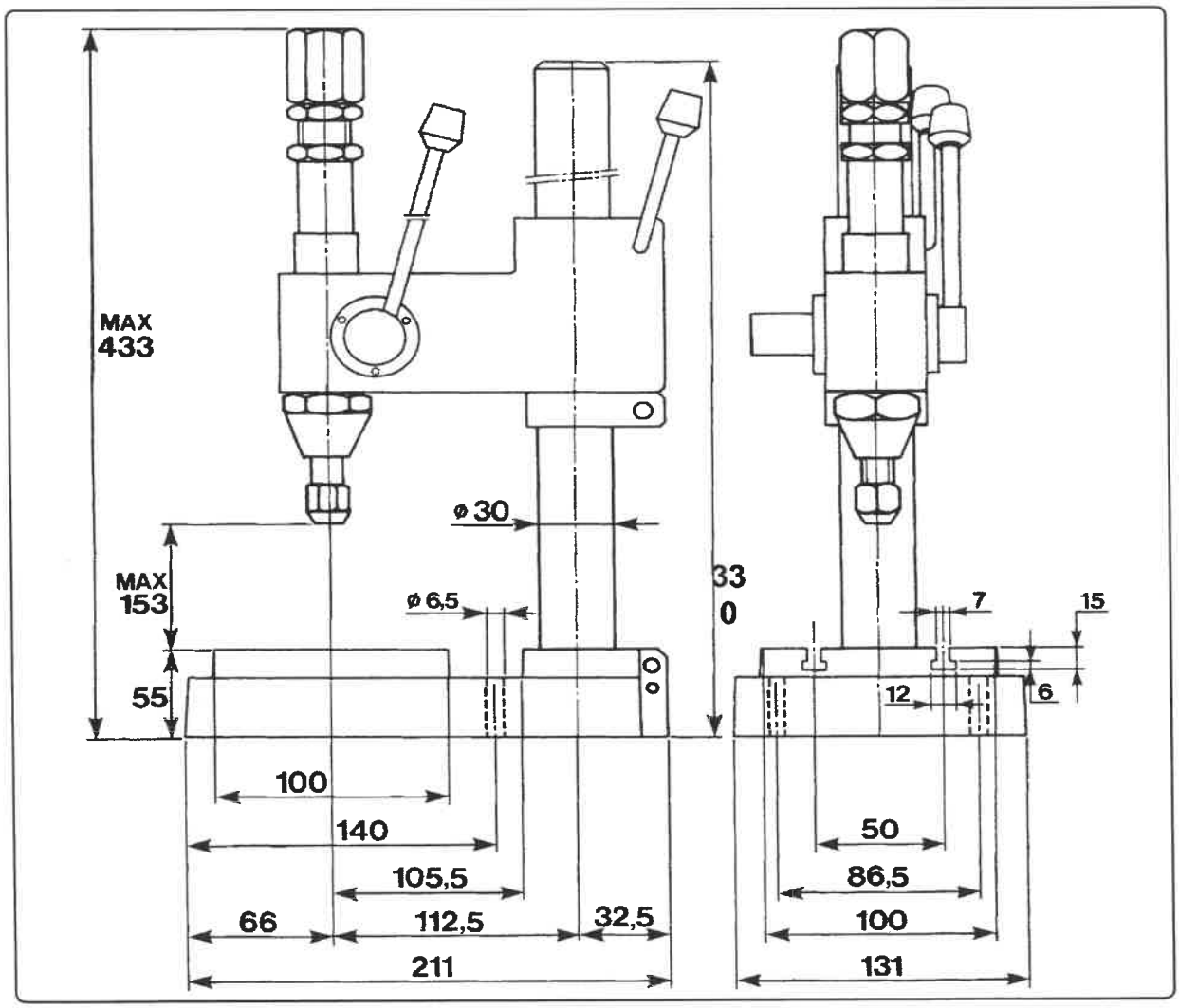
Tableau showing marking possibilities

Type height	mm.	1	1,5	2	2,5	3	4	5
On Aluminium S11	ca.	12	11	10	8	6	5	4
On Iron Fe 37	ca.	6	5	4	3	2	1	1

Noise levels

according to ISO 3746

LwA Acoustic power level dB (A) : dB (A) : **72**



PM30 - Technical Data and Overall Dimensions

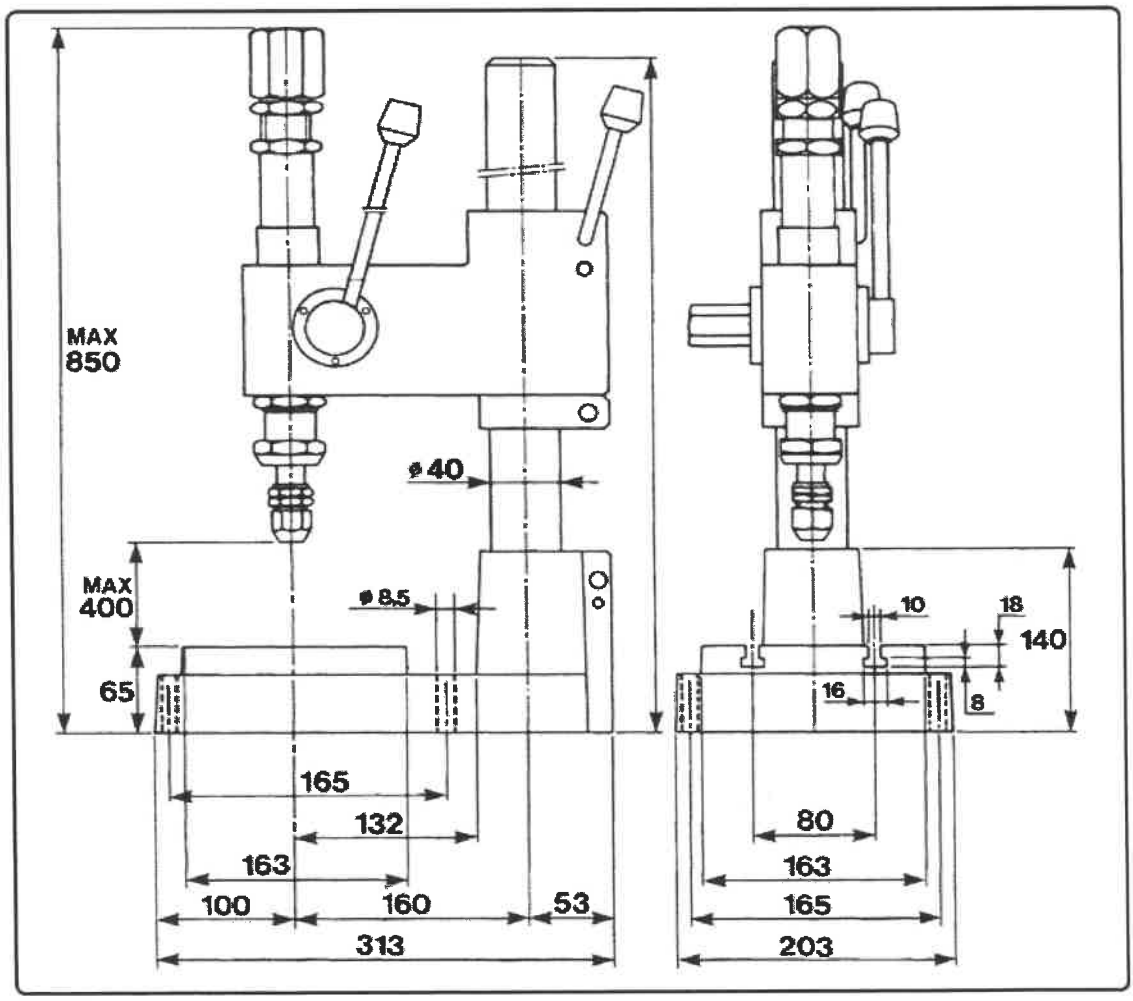
Stroke	Kg. 0 ÷ 3000
Tang	mm. Ø 10 x 40
Weight	Kg. 30
Max. Rack Stroke	mm. 52
Tool Holder Stroke	mm. 14

Table showing marking possibilities

Type height	mm. 1	1,5	2	2,5	3	4	5	6	10
On Aluminium S11	ca. 28	26	24	22	20	16	14	6	3
On Iron Fe 37	ca. 15	14	12	11	9	8	6	3	1

Noise levels according to ISO 3746

LwA Acoustic power level dB (A):	dB (A) : **89,3**
LpA Acoustic pressure level at control post dB (A):	dB (A) : **78,0**



PM60 - Technical data and overall Dimensions

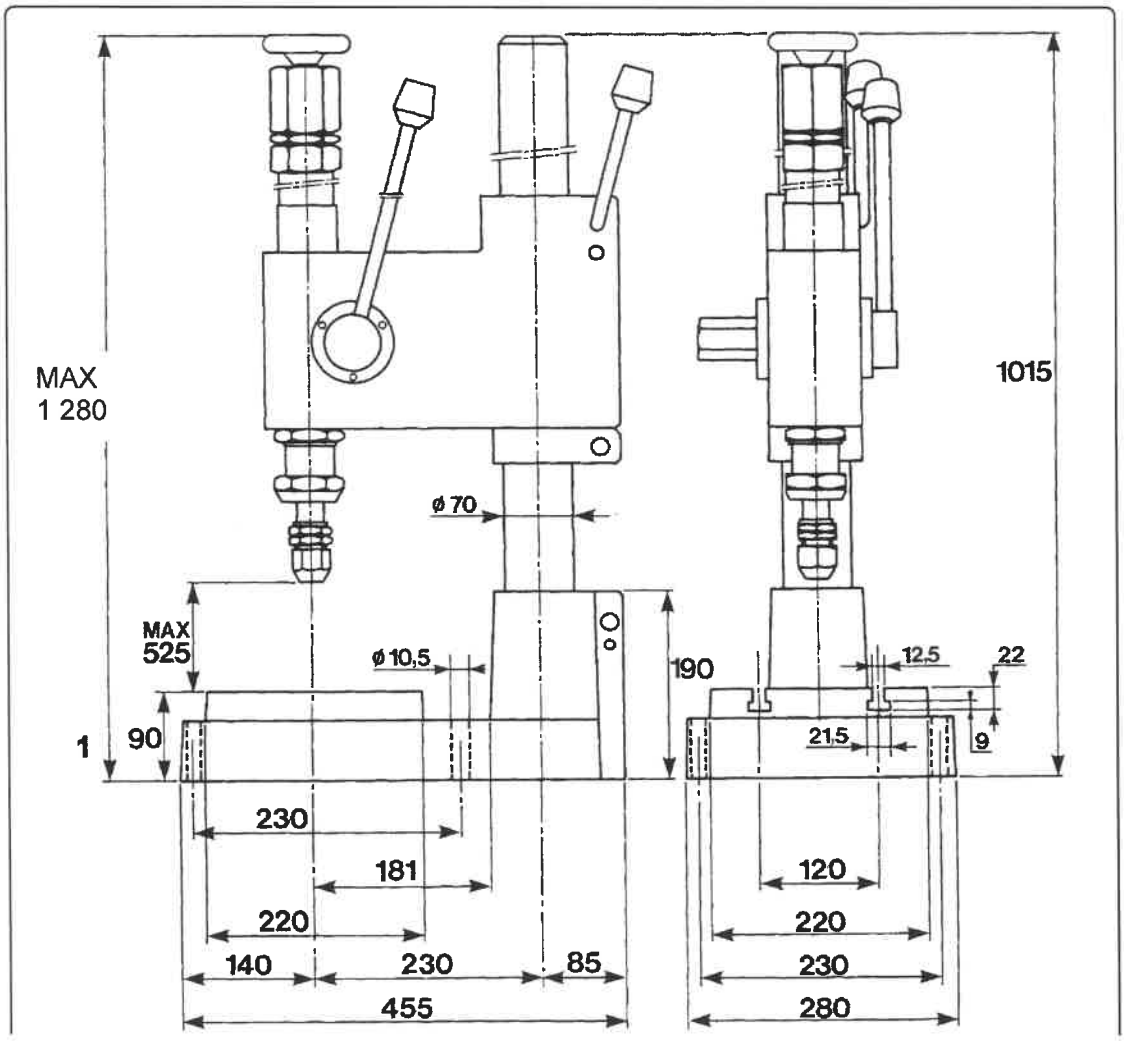
Stroke	Kg. 0 ÷ 6000
Tang	mm. Ø 16 x 50
Weight	Kg. 110
Max. Rack Stroke	mm. 111
Tool Holder Stroke	mm. 22

Table showing Marking possibilities

Type height	mm.	1	1,5	2	2,5	3	4	5	6	10
On Aluminium S11	ca.	70	65	60	55	50	45	43	25	8
On Iron Fe 37	ca.	32	27	24	17	15	13	10	8	4

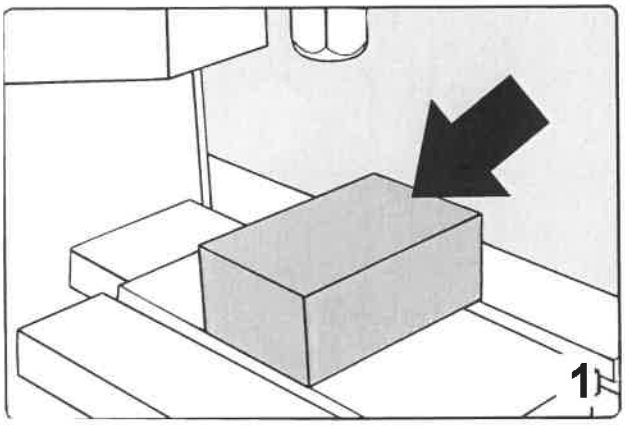
Noise levels according to ISO 3746

LwA Acoustic power level dB (A):	dB (A) : **96,2**
LpA Acoustic pressure level at control post dB (A):	dB (A): **84,5**



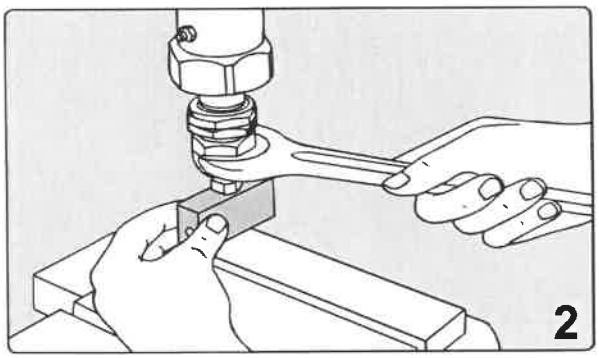
Manual Adjustments:

It is highly recommended that the part to be processed be not placed directly onto the product base, as this is in cast iron and may damage very easily.
It is advisable to interpose a steel template between the base and the piece to be processed (Dwg.1), with a thickness of at least 20 mm. The surfaces of the template must be refined and perfectly parallel.

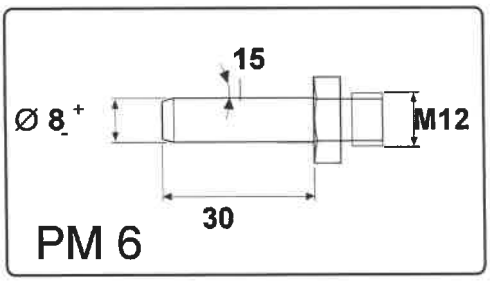


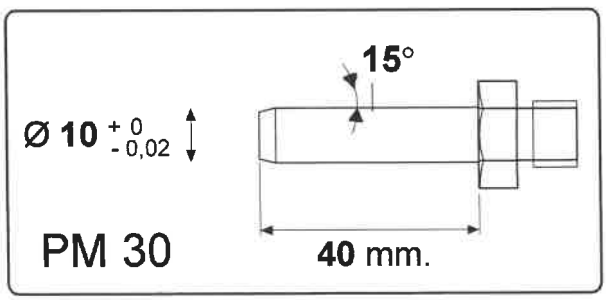
1) **Mount tool** (punches, numbering heads, type holders, clichés, etc.) on product (Dwg.2).

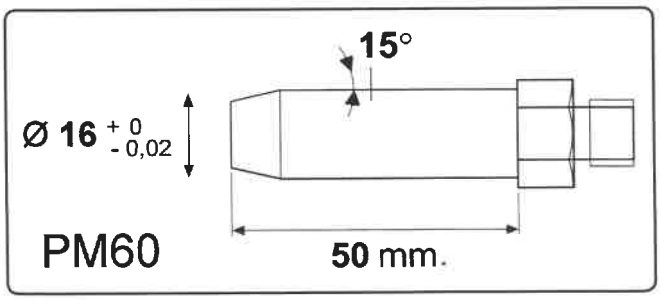
To accomplish this, unscrew nut with a wrench (of 17 mm for press PM6 - of 23 mm for press PM30 – of 38 mm for press PM60). Then, pass the tang of tool through the nut bore, and lock it with same wrench.



Fixing tangs will have the following sizes:







Continued
"manual adjustments" :

2) **Adjust clearance between the tool and the part to be processed.**

Approach the tool to the part to be processed as much as possible (minimum gap is 3 mm). This is to meet with the industrial accident prevention requirements in force.

To accomplish this, slacken knob on the main body (Dwg.1 – Pos. 1), and tighten dowel still on the main body.

HOWEVER, IT IS HIGHLY RECOMMENDED TO LEAVE THE MINIMUM POSSIBLE GAP BETWEEN THE PART TO BE PROCESSED AND THE TOOL. THIS WILL HELP OBSERVE THE INDUSTRIAL ACCIDENT PREVENTION REQUIREMENTS AND INCREASE THE PRODUCT SPEED AS WELL AS COMPRESSED AIR SAVING.

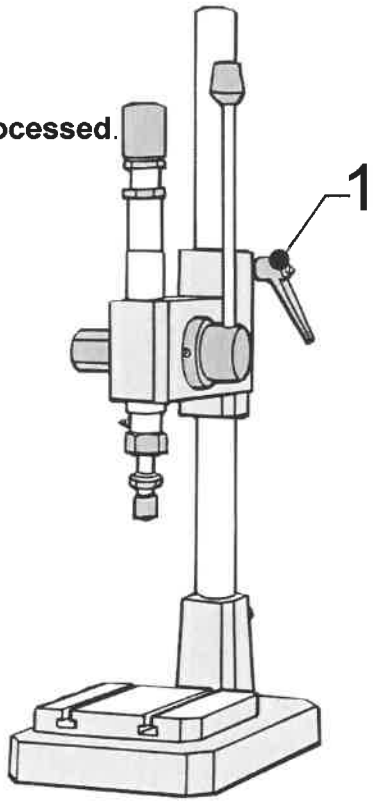
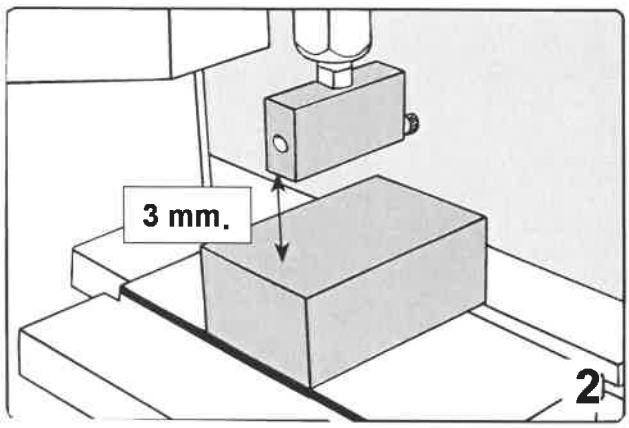


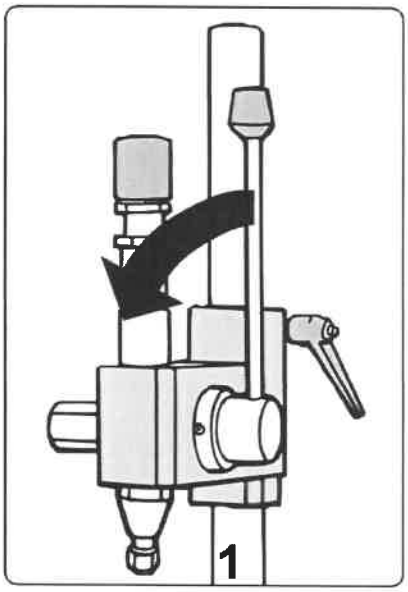
Fig. 1

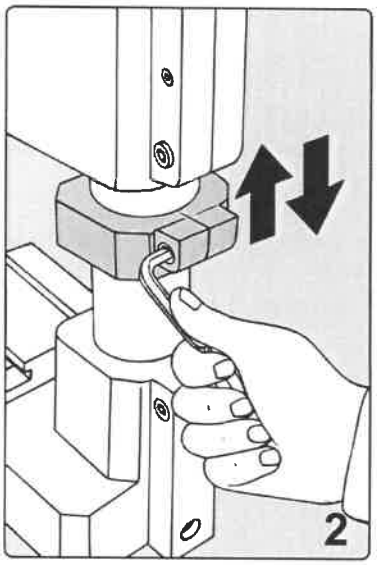


Continued **Manual Adjustments:**

To help the operator's engagement, lower lever (Dwg. 1) until the tool contacts the bucking piece (Dwg. 3). Keep pressing the lever until the body moves upward on the column
Once the required height has been reached, keep the lever pressed against the bucking piece while unscrewing the socket head screw of ring on Dwg. 2. Bring ring into contact with the main body and lock it.

To lower the main body, unscrew ring (Dwg. 2) to move it downwards. Lower the lever (Dwg. 1) until the tool contacts the bucking piece (Dwg.3), slacken handle (Dwg. 4 – Pos. 1), screw dowel, and release lever so that the main body lowers. Then, bring ring (Dwg. 2) against the body and lock it, while always keeping the lever pressed against the bucking piece
Now, unscrew dowel of the body and tighten the handle.





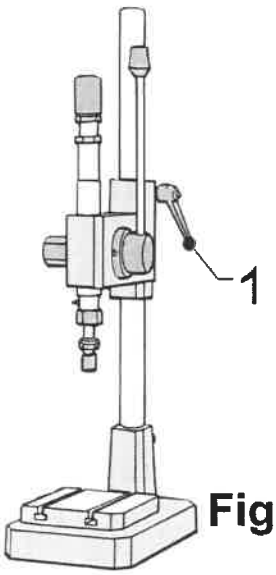
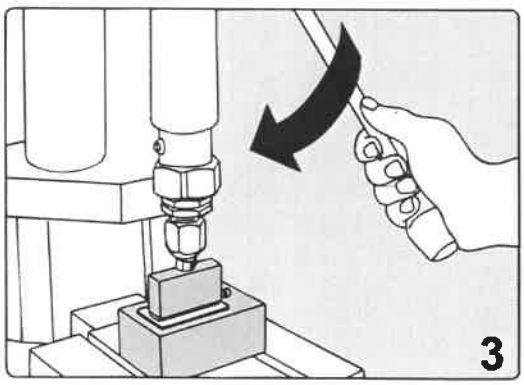


Fig. 4



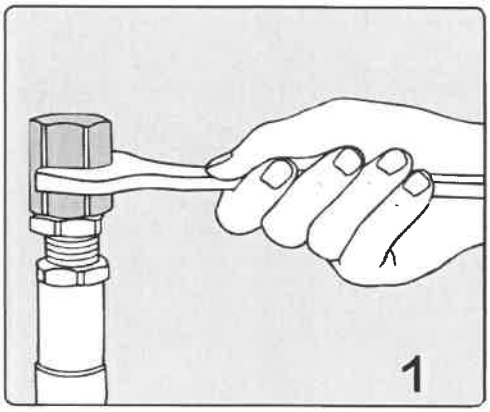
Continued **Manual Adjustments:**

3) Impact Adjustment

Products are supplied complete with impact springs with various bores, with the exception of press **PM6** for which only one impact spring exists.

For press **PM30,** bores are: **2,5 - 3 - 3,6 mm.** These springs are supplied in the same package as the service wrench, while spring with bore **3,2 mm** comes pre-mounted on the product.

For press **PM60,** bores are: **4 - 5 - 6 - 7 mm.** These springs are supplied in the same package as the service wrench, while spring with bore **6,5 mm.** comes pre-mounted on the product.



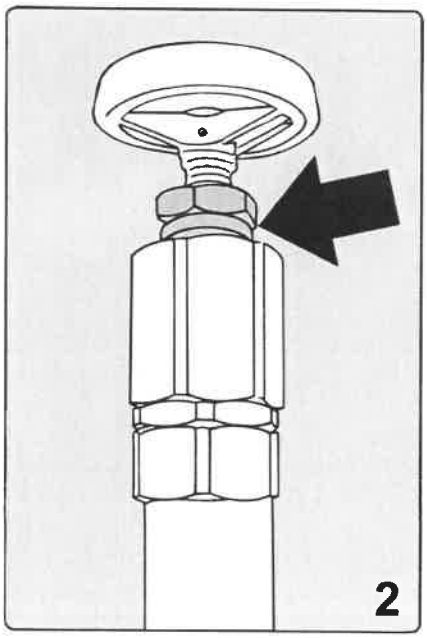
In order to adjust the impact strength, the operator should intervene manually as follows :

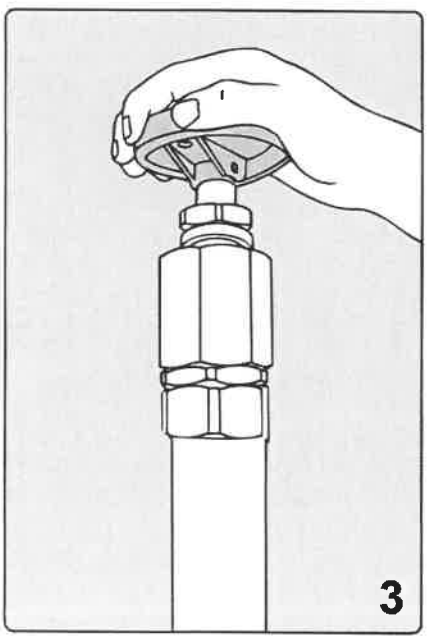
PRESSES PM 6 et PM 30:
Release the lock nut, and turn the cap (Dwg. 1) with a wrench of 27 mm for press PM6, and a 38 mm

wrench for press PM30.

PRESSE PM 60:
Release the lock nut (Dwg. 2), and then turn the handwheel (Dwg.3) as necessary with a wrench of 41 mm.

THE IMPACT STRENGTH IS INCREASED BY SCREWING THE LOCK NUT, AND DECREASED BY UNSCREWING IT.

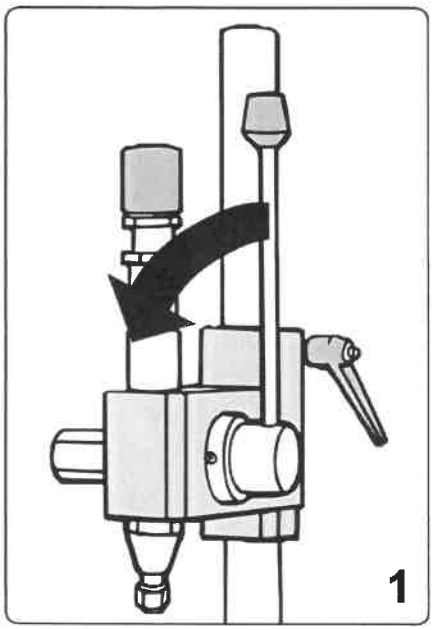




Continued **Manual Adjustments:**

4) Impact Adjustment

To have the impact accomplished, proceed as follows:
- Lower lever (Dwg. 1)
- Bring the tools in touch with the part to be processed by means of the lever. Push on the lever all the way down (Dwg. 2) until the impact is carried out.
- Bring the lever back to its home position

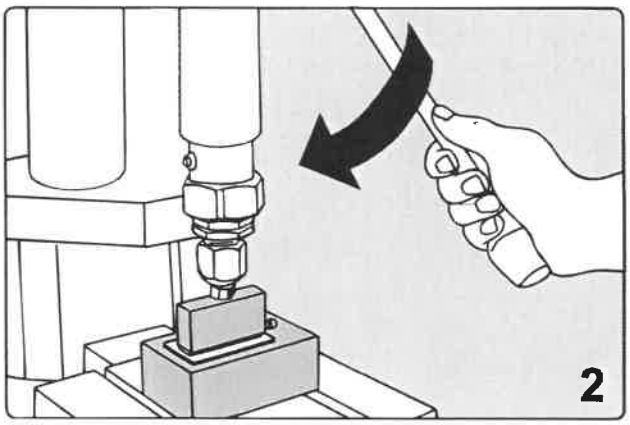


Should the results not be up to the expectations, proceed as follows:

TOO WEAK IMPACT

After adjusting the impact strength as above-mentioned, replace spring while inserting in the product a bigger bored spring.

On presses **PM 6 and PM 30**
Unscrew cap (Dwg.3) completely, remove spring and insert a spring with bigger bore, while screwing cap back and adjusting the strength again.

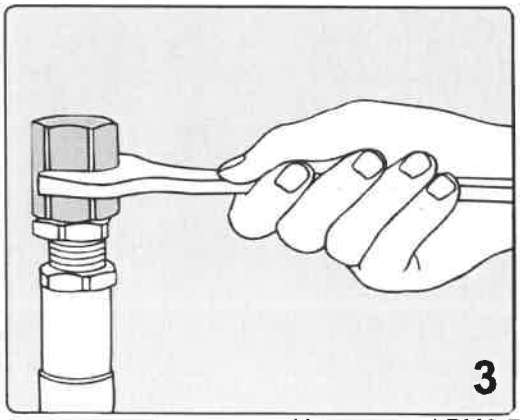


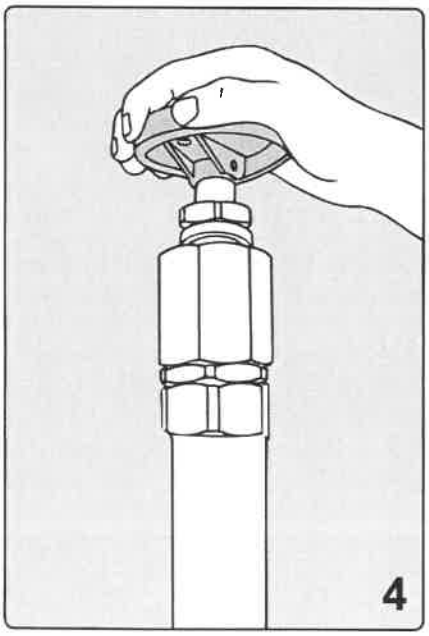
TOO STRONG IMPACT

Apply the same procedure as for **TOO WEAK IMPACT** but insert a spring with lower bore.

IMPORTANT NOTE

To mount the spring back, it is recommended to apply the mounting procedure as quoted in the Spare Parts tables



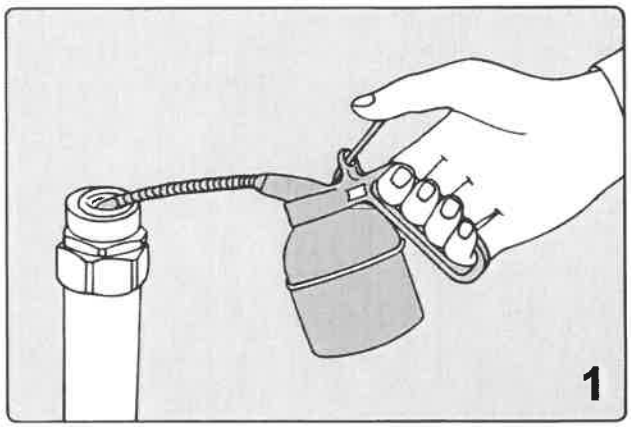


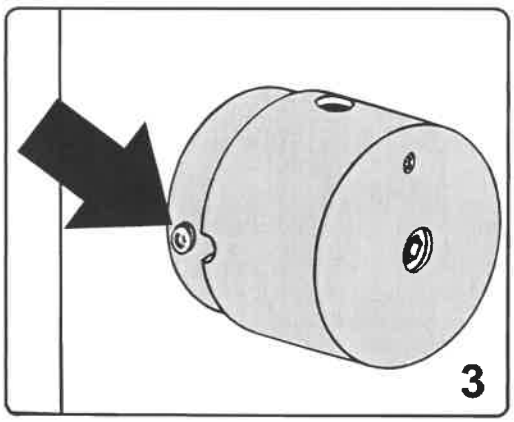
Lubrication:

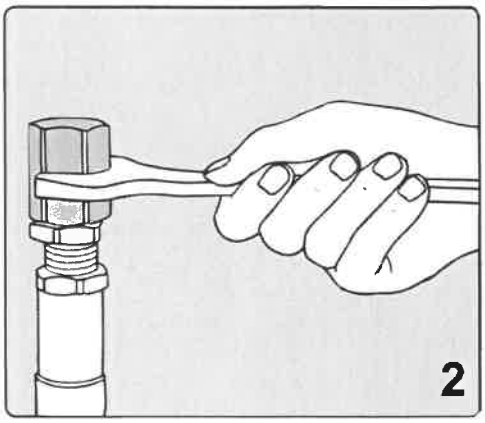
The following elements of the products must be lubricated:

A) Lubrication point as indicated by arrow on Dwg. 3

To lubricate use white mineral oil

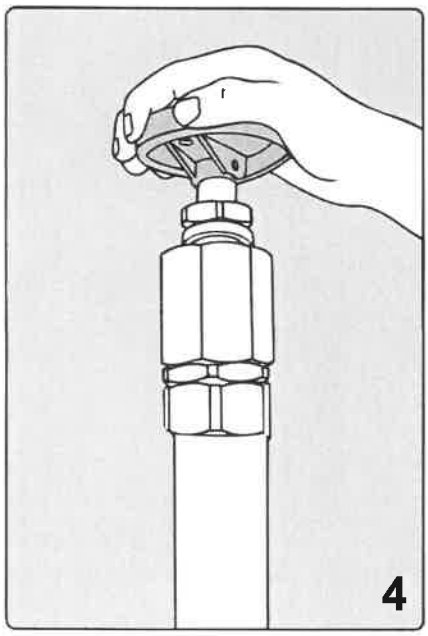






B) Lubricate the mechanism (Dwg. 1) with WHITE MINERAL OIL.

To lubricate, remove cap, (Dwg. 2 or 4) and spray oil over the impact spring. The oil will then flow down inside the mechanism.



The following synoptic tables help the operator to locate trouble and make necessary repairs.

MECHANICAL TROUBLES

IMPORTANT NOTE:
It is necessary to have at hand the Spare Parts Tables of this Manual to apply the indications quoted on synoptic tables: TROUBLES - CAUSE - SOLUTIONS.

TROUBLE : THE PRODUCT DOES NOT IMPACT

CAUSE : Balls broken (part no. 25), spare parts table.

SOLUTION : Check smooth stroke of tool holder N.15 on the central rack (part no. 18) to verify that this is the real cause. A 2 ∏ 3 mm stroke is normal.
If this happens, it confirms that the balls are broken (part n. 25).

To replace them:
Unscrew sleeve (part n. 27) (with a 27 mm wrench for press PM6 - with a 38 mm for press PM30 and with a 60 mm for press PM60). Once released, withdraw the entire part from central rack.
Withdraw spring (part n. 22) (this spring sometimes remains on the rack bottom - part n. 18) from main pipe (part n. 24). Withdraw puller (part n. 23), while paying attention that remaining balls do not fall into the rack (part n.18). Withdraw main pipe (part n. 24) from hammer (part n. 29).
Clean the inside of rack thoroughly (part n. 18) so that no fragments of balls remain, as they could cause seizures. Check that puller (part n. 23), main pipe (part n. 24) and hammer (part n. 29) are not crushed or swollen.
If parts are crushed, replace them. If they are swollen, buff them, remembering that it would be best to buff them anyway.
Check that springs (part n. 26 and part n. 22) still provide optimum elasticity.
Once all these checks have been carried out, assemble everything back according to the assembling sequence as shown on the spare parts table, and considering that:

A) The ball diameter for press PM6 is 2,5 mm., for press PM30 is 3,5 mm., and for press PM60 is 6 mm.
B) The puller (part no.23) has two different inner diameters, the bigger one of which must face upwards.

TROUBLE: THE PRODUCT DOES NOT IMPACT (For presses PM30 and PM60 only)

CAUSE: No stroke of tool holder (part no. 15) (Spare Parts Table).
SOLUTION : Reset stroke, while lowering nut (part no.12) and lock nut (part no.11) until the machine impact is heard.
Now, lock nuts (part no.12) and (part no.11).

TROUBLE: THE PRODUCT DOES NOT IMPACT

CAUSE: If trouble persists after replacing balls (Spare Parts Table).
SOLUTIONS : Unscrew sleeve (part no. 27) (with a 38 mm for press PM30 and with a 60 mm for press PM60), and withdraw the entire part from rack after releasing (part no.18).
Withdraw all the parts: spring (part no. 22) from main pipe (part no.24), puller from main pipe (part no. 24), while paying attention that balls do not fall (part no. 25). Withdraw main pipe from hammer (part no. 29), and spring (part no. 26) from hammer (part no. 29).
Unscrew cap (part no.31), remove spring (part no. 30), and hammer (part no. 29).
Now check that the sleeve bottom (part no.27) where the hammer collar (part no.29) rests is perfectly smooth and sound [it might happen that some debris detaching from spring (part no.30) reach under the hammer collar (part no.29) giving it a tilt position instead of a perpendicular one].
Should this bottom be not smooth, either you replace the sleeve or buff the sleeve again on the lathe to obtain a smooth bottom.
Turning must remove only the exceeding material, thus being deposited on this bottom, otherwise the machine then might not work.
After accomplishing this, assemble everything back while applying the assembling sequence as shown on the spare parts table.

TROUBLE: MACHINE IMPACTS ONCE AND THEN DOES NOT RESET ITSELF

CAUSE: Burr on key (part no. 19/A for presses PM30 and PM60 and part no. 16 for press PM6) (Spare Parts Table).
SOLUTION : Check that key (part no. 19/A) of tool holder (part no. 15) is not burred.
To accomplish this, unscrew nut (part no. 14), remove key (part no.19/A or 16) from rack (part no.18), after removing nut and washer **(for presses PM30 and PM60 only)**.
Key should be burred. Once all burrs have been removed, assemble everything back while applying the assembling sequence as shown on the spare parts table.

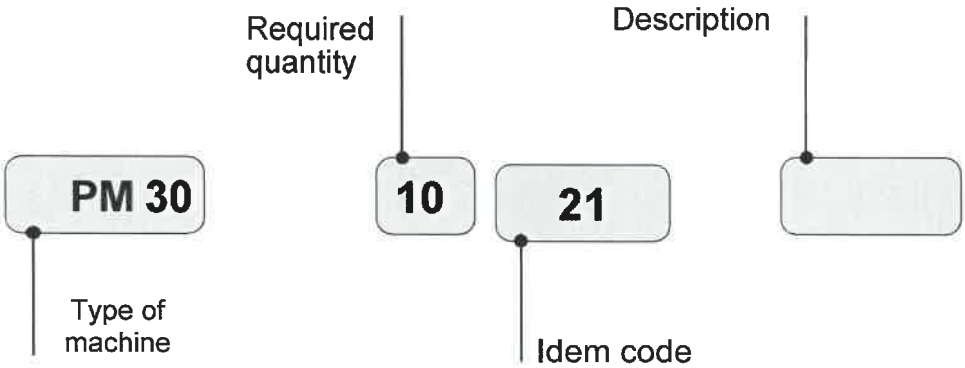
Instructions to order spare parts

In order to help us satisfy your requests for spare parts without error, and in the shortest time, we advise you to apply the following procedure when forwarding an order.

Spare parst orders must report all the elements necessary to identify the spare part both quickly and correctly, i.e.,

- → Type of machine
- → Required quantity of each item
- → Item code number
- → Description

Example :



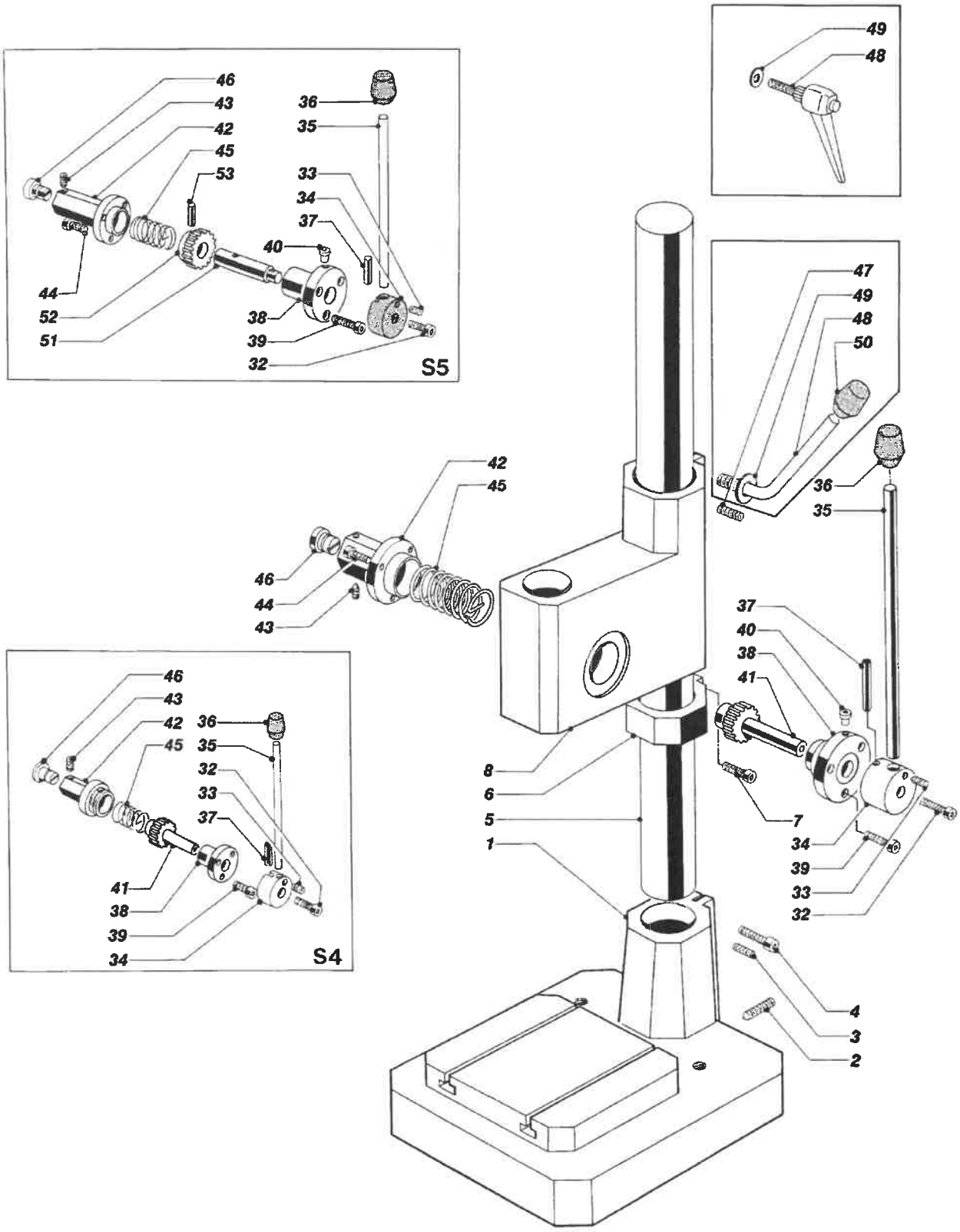
All orders for spare parts must be forwarded to :

LONG SAS
80 rue du Loquois - ZAE Rumilly Sud - 74150 Marigny Saint Marcel-FRANCE
Tél : + 33 4 50 01 11 58 – Fax : + 33 4 50 01 14 85
contact@emg.fr

PRESSES E.M.G. : www.emg.fr

or to :

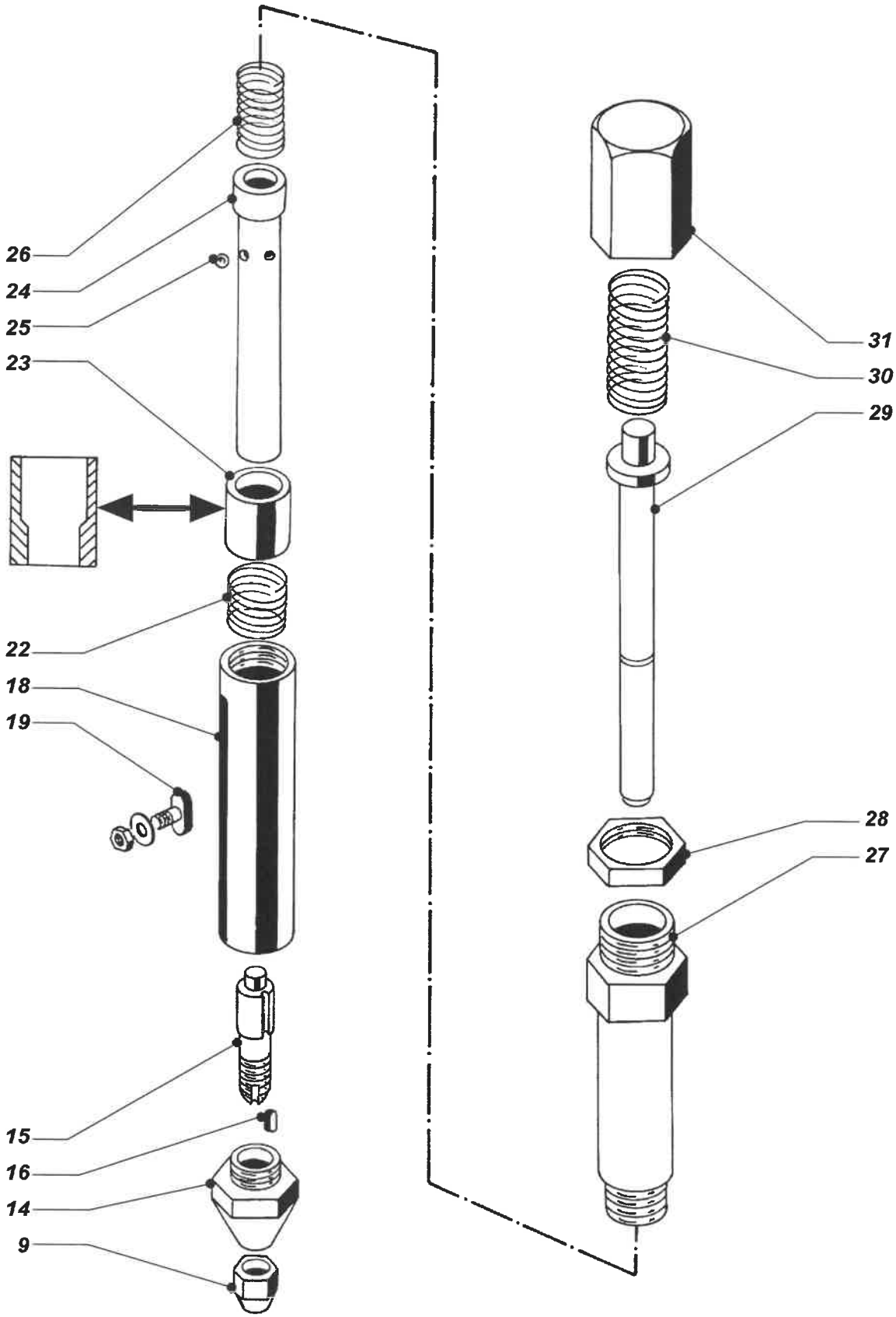
N° Part.	DESCRIPTION	PM6	PM30	PM60	NOTES
1	Base	1	1	1	
2	Dowel	1	1	1	
3	Dowel	-	1	1	
4	Socket Head Screw	1	1	1	
5	Column	1	1	1	
6	Ring	1	1	1	
7	Socket Head Screw	1	1	1	
8	Main Body	1	1	1	
32	Socket Head Screw	1	1	1	
33	Dowel	1	1	1	
34	Handle Holder	1	1	1	
35	Lever	1	1	1	
36	Knob	1	1	1	
37	Spring Pin	1	1	1	
38	Right Flange	1	1	1	
39	Socket Head Screw	3	3	3	
40	Greaser	-	1	1	
41	Gear	1	-	1	
42	Spring Cover	1	1	1	
43	Dowel	2	2	2	
44	Socket Head Screw	-	3	3	
45	Rack backstroke spring	1	1	1	
46	Spring Tightener	1	1	1	
47	Dowel	1	1	1	
48	Body lock lever	1	1	1	
49	Washer	1	1	1	
50	Knob	1	1	1	
51	Pinion Shaft	-	1	-	
52	Pinion	-	1	-	
53	Spring pin		1	-	


S5
S4

PM6 - PM30 - PM60

Impact Unit Assembly 8.4

N° Part.	DESCRIPTION	PM6	PM30	PM60	NOTES
	Pliers Nut				
9		1	1	1	
10	Pliers	-	1	1	
11	Anti-vibrating Lock Nut	-	1	1	
12	Anti-vibrating Nut	-	1	1	
13	Rubber Washer	-	1	1	
14	Locking Nut	1	1	1	
15	Tool Holder	1	1	1	
16	Tool Holder Key	1	1	1	
17	Key Register Nut	-	1	1	
18	Rack	1	1	1	
18A	Rack	-	1	1	
19	Rack Key	1	1	1	
19A	Tool Holder Key	-	1	1	
22	Puller Spring	1	1	1	
23	Puller	1	1	1	
24	Main Pipe	1	1	1	
25	Balls	3	6	6	
26	Main Pipe Spring	1	1	1	
27	Sleeve	1	1	1	
28	Sleeve Lock Nut	1	1	1	
29	Hammer	1	1	1	
30	Impact Spring	1	1	1	
31	Cap	1	1	1	
54	Fixing Screw	-	-	1	
55	Washer	-	-	1	
56	Spring Presser	-	-	1	
57	Lock Nut	-	-	1	
58A	Adjusting Screw	-	-	1	
85	Handwheel	-	-	1	
86	Spring Pin	-	-	1	
	NOTE When ordering Spring Code 30 **(For Models S5 and S6)**, always specify the bore section.				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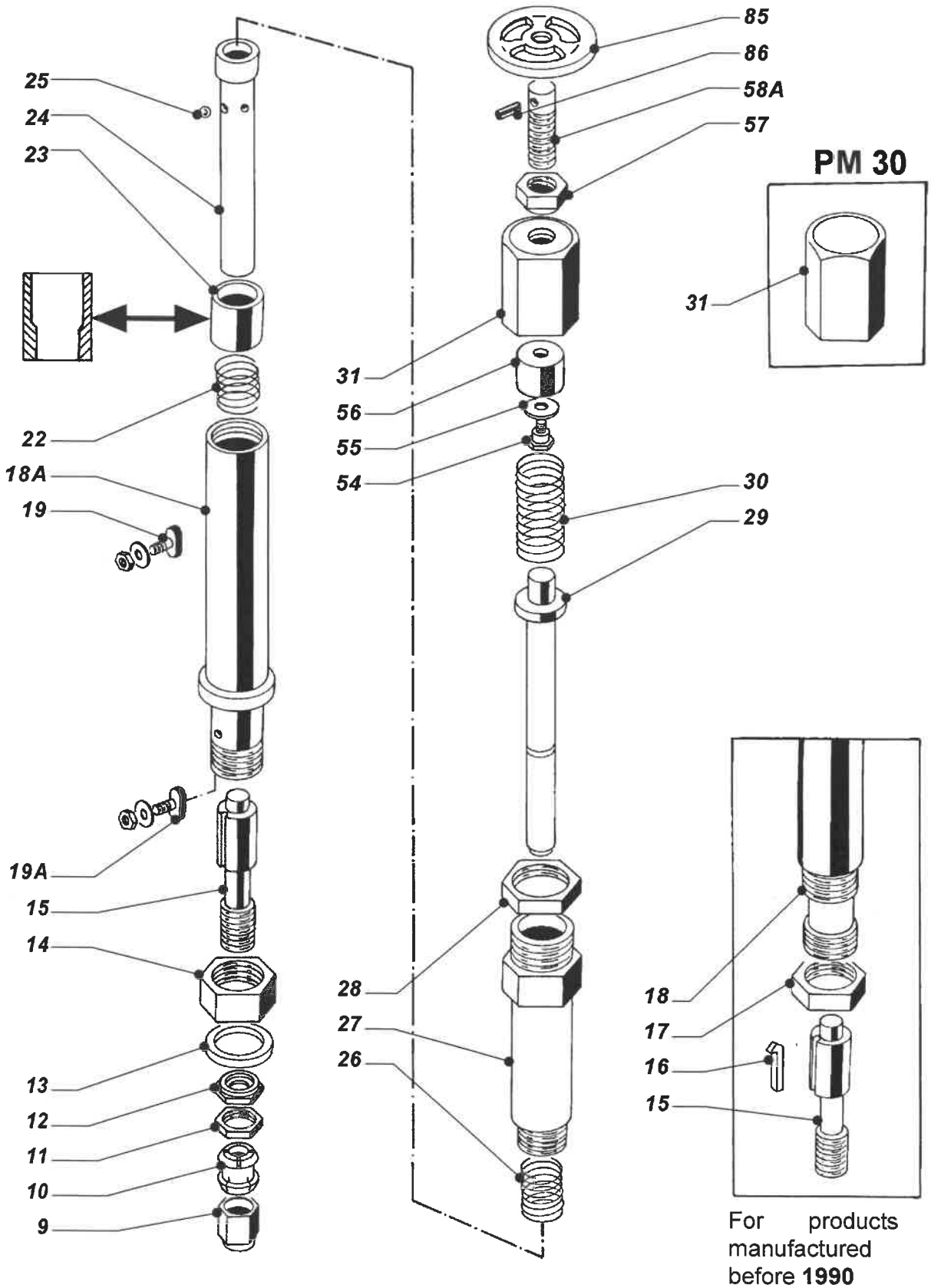
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18A
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19A
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14
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85
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58A
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55
54
30
29
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27
26
PM 30
31
18
17
16
15
For products manufactured before 1990

List of spare parts Suggested as the User's Stock

PM6 - PM30 - PM60

1 Tool Holder	PM 6/15	PM 30/15	PM 60/15
1 Pliers	--	PM 30/10	PM 60/10
1 Puller Spring	PM 6/22	PM 30/22	PM 60/22
1 Main Pipe Spring	PM 6/26	PM 30/26	PM 60/26
30 Balls	PM 6/25	PM 30/25	PM 60/25
1 Key	PM 6/16	PM 30/19A	PM 60/19A

Notes