M8 MANUAL SNAP GAUGE

MARPOSS

INTRODUCTION

You have selected a MARPOSS M8 manual snap gauge, a product that has been made with innovative technologies, in order to ensure the highest degree of precision in measurements in a shop environment.

Below you will find some rules for the use of this instrument. We advise you to follow them, because this will allow your M8 snap gauge to preserve its characteristics and performance for a long time.

GENERAL CHARACTERISTICS OF SNAP GAUGE

The MARPOSS M8 manual line is a measuring system for outside diameters. This product has been designed so as to make it possible to display the measurement both with pencil probes and with mechanical or digital dial indicators, having a connection diameter of 8 mm or 3/8".

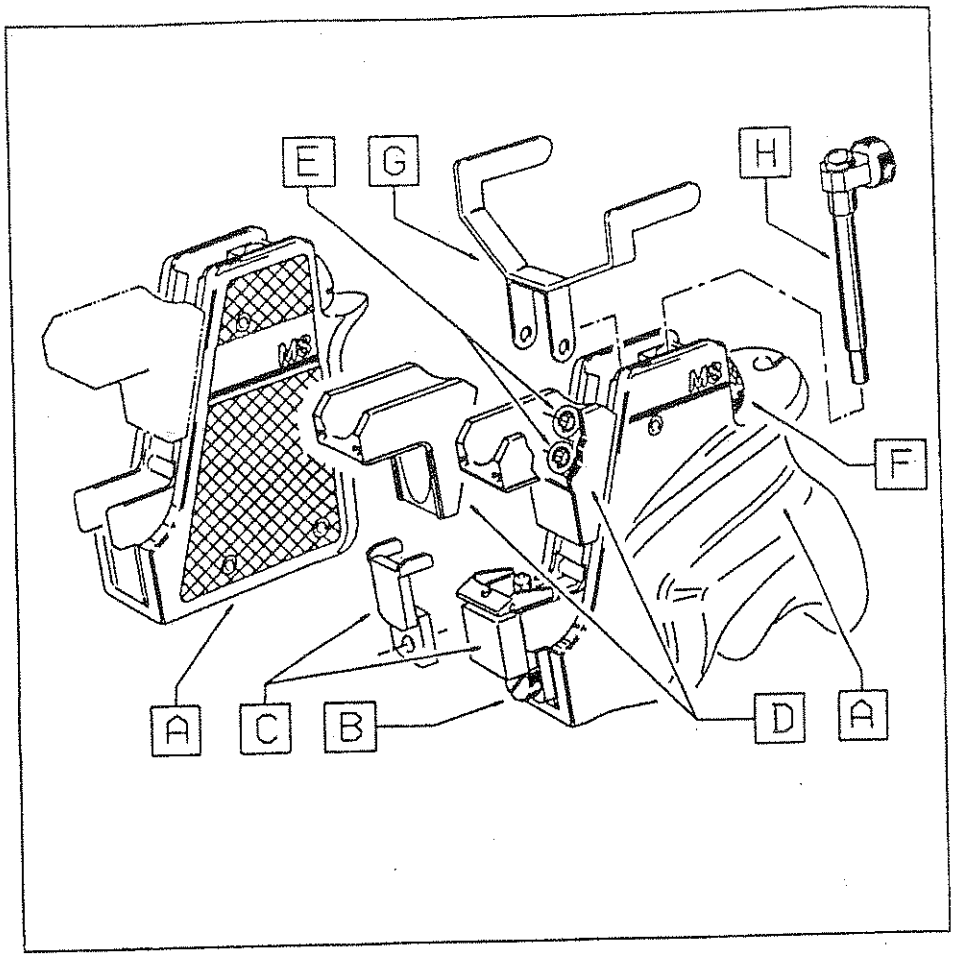
The M8 line covers a measuring range from 3 to 100 mm (.12"-3.94") by means of three snap gauge bodies which can be retooled very quickly within their respective measuring ranges, and can be mechanically zero-set without having to use the device which reads the measurement.

The M8 can be used as a manual gauge, or can be placed on an optional stand and used as a bench gauge.

Thanks to these characteristics, and to its excellent qualities of accuracy, the MARPOSS M8 is a highly precise and versatile system for measuring outside diameters.

MAIN COMPONENTS

The M8 snap gauge is formed by the following main components:



a) *Snap gauge body* with anatomic or slim handle

b) *Knob for fixing the pretravel adjuster* to the snap gauge body

c) *Pretravel adjuster* with or without pusher

d) *Reference prism* with supporting carbide surface, entire or in bars

e) *Screw for fastening the reference prism*

f) *Locking knob* for pencil probe or dial indicator adapter unit

g) *Tongue for protecting the dial indicator adapter unit*

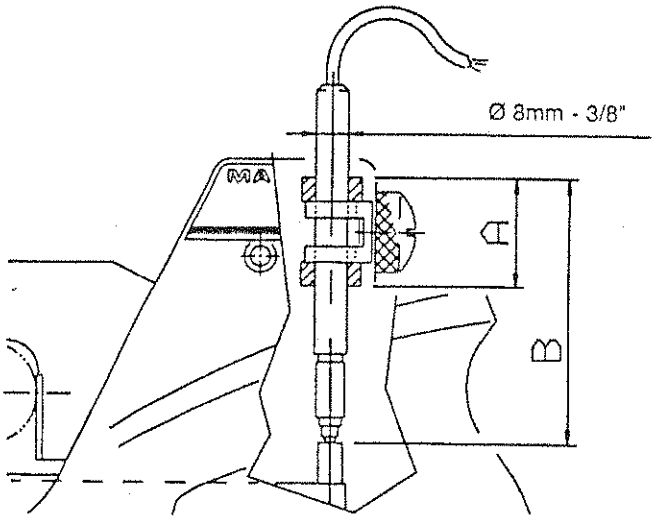
h) *Dial indicator adapter unit-holding interface assembly*

Preliminary checks

Before carrying out the zero-setting of the M8 manual snap gauge, we advise you to verify whether the dimensions of the measurement reading device you have chosen are appropriate for the dimensions and connections of the M8.

PENCIL PROBES
MARPOSS advises you to use the following pencil probes:
- M8 3-25 mm (.12"-.98"): AF050/AH050
  with contact extension 1008616127
- M8 25-100 mm (.98"-3.94"): AF100/AH100/A32

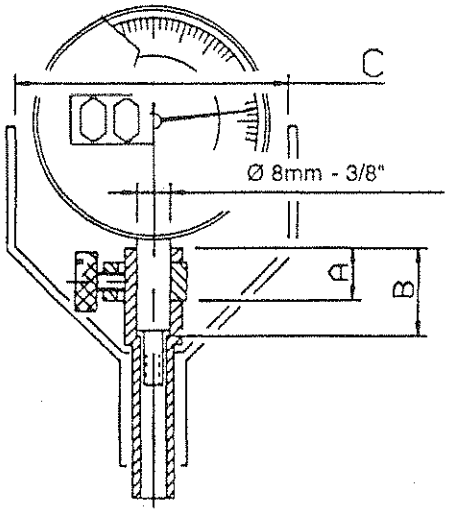
A = locking area
B = min. length pencil probe + contact



	A	B
Ø 3-25mm (.19"-.98")	14,5mm (.57")	37,5mm (1.48")
Ø 25-50mm (.98"- 1.97")	27mm (1.06")	65,5mm (2.58")
Ø 50-100mm (1.97"-3.94")	27mm (1.06")	65,5mm (2.58")

To install the dial indicator on the M8 snap gauge it is necessary to equip it with a dial indicator adapter unit holding interface. Please check the dial indicator connecting stem and dial are dimensionally fitting.

A = dial indicator stem min. length
B = dial indicator stem seat length
C = max. dia. dial indicator



	A	B	C
Ø 3-25mm (.19"-.98")	10,5mm (.41")	19mm (.75")	65mm (.2.56")
Ø 25-50mm (.98"- 1.97")	10,5mm (.41")	19mm (.75")	65mm (.2.56")
Ø 50-100mm (1.97"-3.94")	10,5mm (.41")	19mm (.75")	65mm (.2.56")

models of the M8 line.

Mechanical zero-setting

This operation can be performed by means of the master with or without mounting the pencil probe or the mechanical or digital dial indicator on the M8. Hold the snap gauge as shown in Figure 1.

1) Unscrew knob B.
2) Move pretravel adjuster C (with or without pusher) down as far as it stops (zero-setting position).
3) Rescrew knob B.
4) Loosen screws E1 and E2, using the CH6 hexagonal wrench, but leave reference prism D loosely fastened to its guide.
5) Hold the snap gauge as shown in Figure 2, and place the master on the reference prism.
6) Push reference prism D so as to press the zero-setting master against pretravel adjuster C, until it stops against C2: see Figure 3. If the pretravel adjuster is equipped with a pusher, C1, you must overcome its pressure.

   Note: In order to ensure that the prism is correctly positioned, press the prism and master toward C2 as shown in Figure 4. This prevents the prism from rising out of the sliding guide.
   Should the prism come out of the guide, the master might get jammed among the mechanical references, after operation 7: In this case, the zero-setting operation must be redone.

7) Make sure that the master is correctly positioned, and lock the prism by tightening screw E1, then screw E2.

Do not remove the master from the mechanical references yet, because its presence there facilitates the subsequent operations.

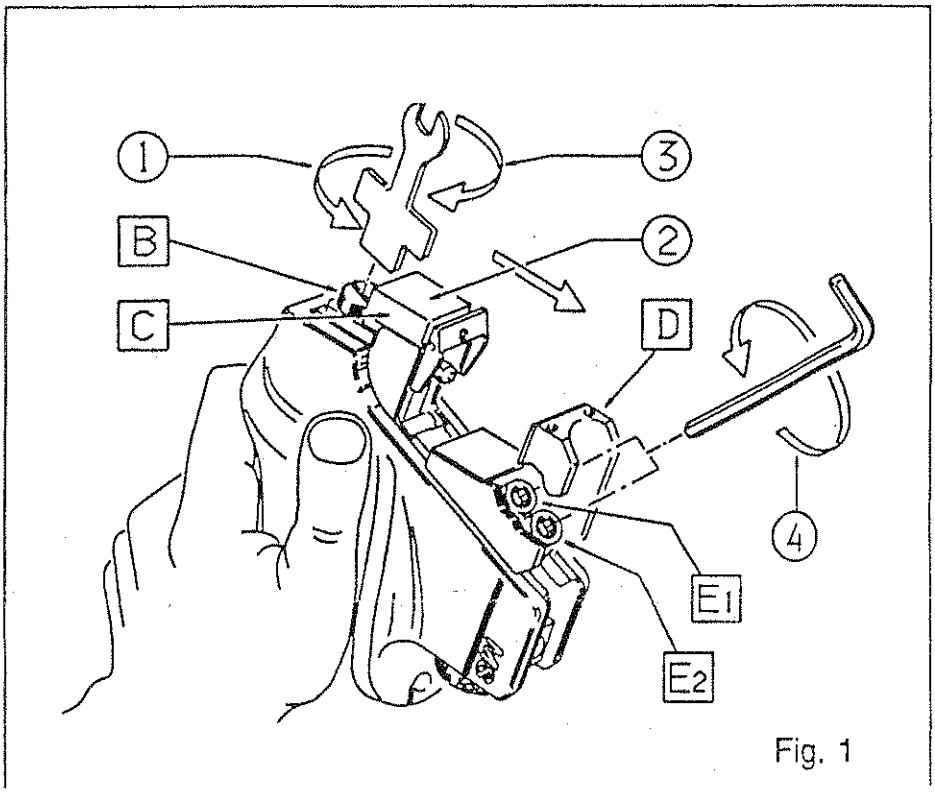


Fig. 1

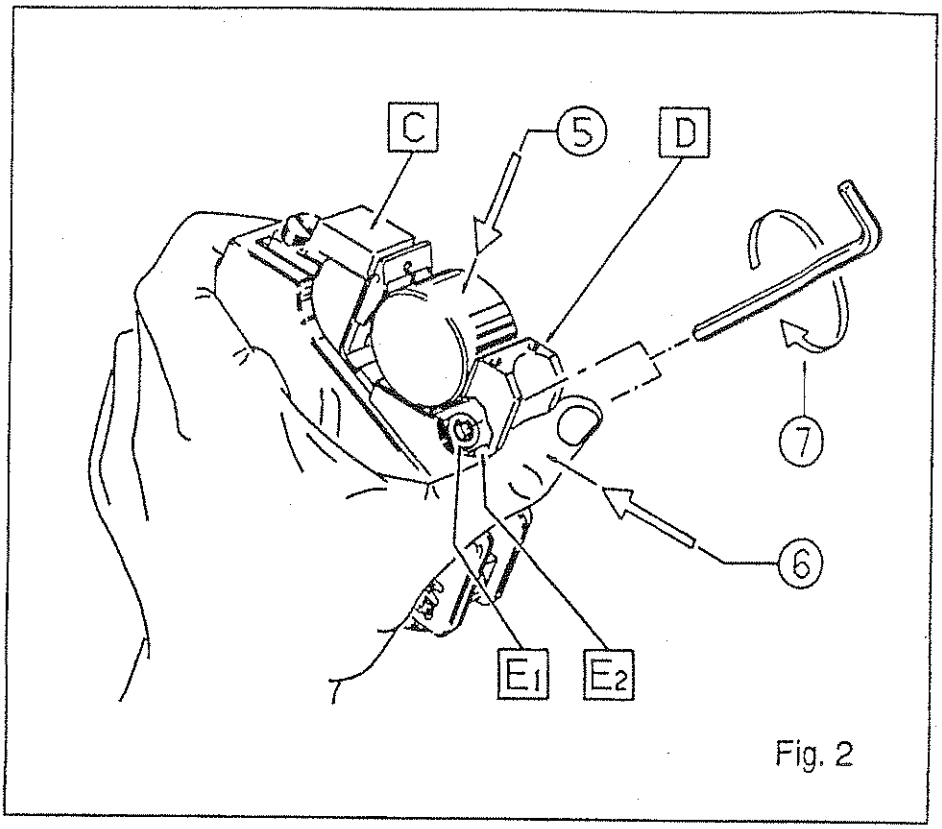


Fig. 2

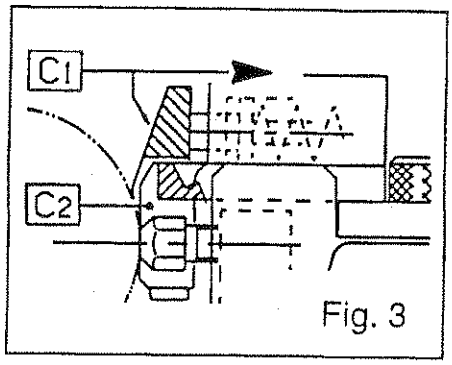


Fig. 3

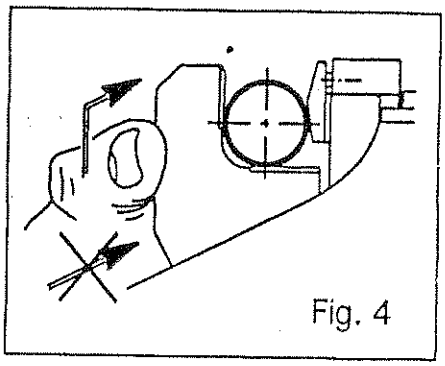


Fig. 4

Zero-setting of measurement reading device

PENCIL PROBE

With the master still locked among the mechanical references, connect the pencil probe to the electronic display unit, and set a high scale range.
Turn over the snap gauge on the supporting surface (Fig. 5).

1) Insert the pencil probe into seat I, and tighten knob F, leaving the pencil probe loosely fastened.
2) Push the head down until the electronic display indicates a value near zero.
3) Tighten knob F until the head is locked (a high locking torque is not needed).
4) Unscrew knob B and remove the zero-setting master.
5) Move pretravel adjuster C down as far as it stops.
6) Rescrew knob B pressing the pretravel adjuster C down

Now carry out the fine zero-setting.
Set an appropriate scale range on the electronic display unit.
Put the M8 in measuring position on the master and act on the zero-setting device of the electronic unit until its display indicates zero.

NOTE:
The anatomic handle of the M8 for ranges 25 to 50 mm (.98"-1.97") and 50 to 100 mm (1.97"-3.94") has a housing where the cable of the pencil probe can be inserted if it interferes with the measuring operations. The M8 for range 3 to 25 mm (.12"-.98") instead is equipped with a band for fastening the cable.
If necessary, proceed as shown in Figure 6, taking care not to damage the cable of the pencil probe.

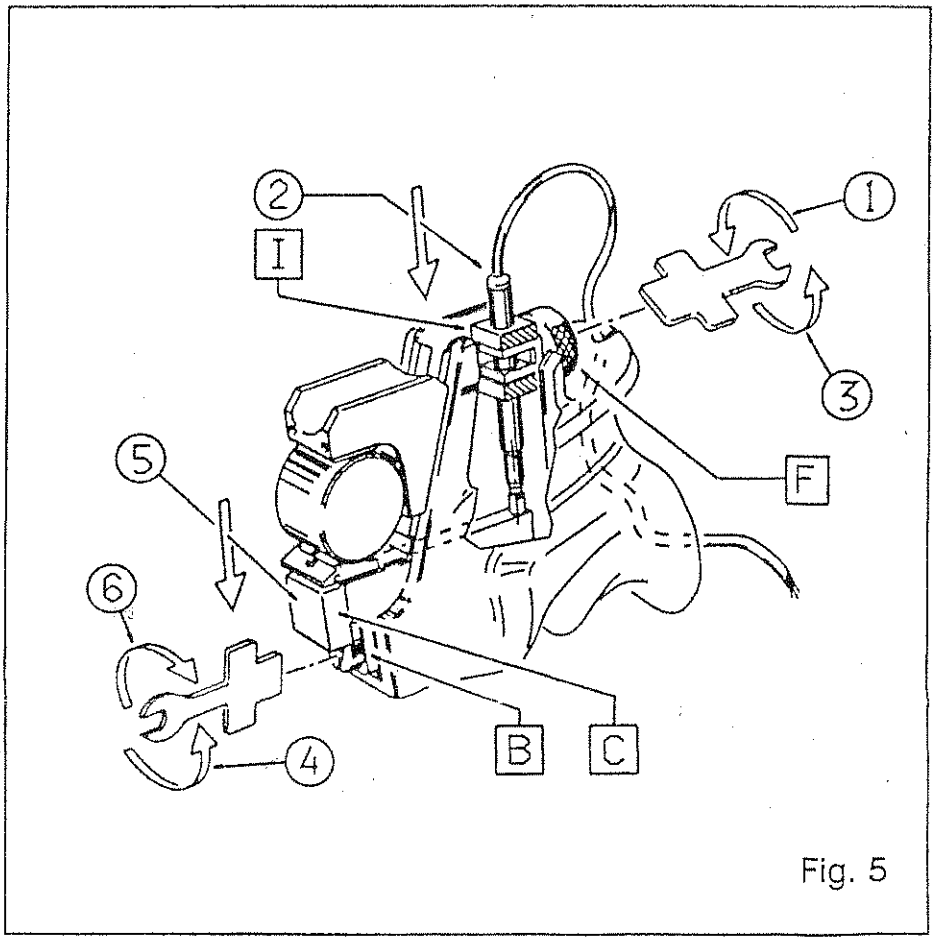


Fig. 5

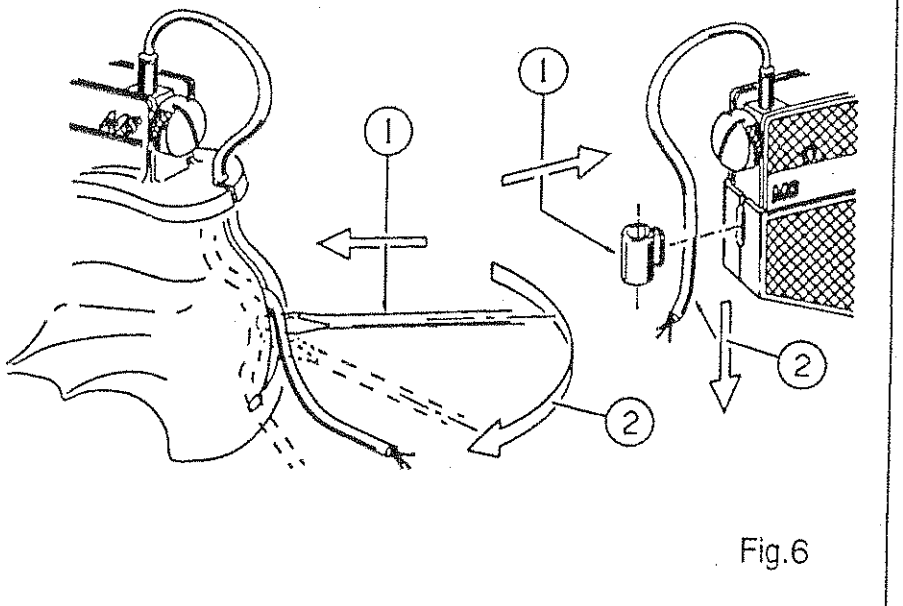


Fig.6

MECHANICAL OR DIGITAL DIAL INDICATOR ADAPTER UNIT

Mount the dial indicator mounting unit on the dial indicator as follows (fig. 7):

1) Unscrew the contact from the dial indicator and add extension H between the dial indicator and contact.

   NOTE: for the M8 range 3-25 mm (.12″-.98″) (fig. 7) three extensions H are supplied: two are 20 mm (.79″) long, one is 15 mm (.59″) long. Use them in combination depending on the mechanical dial indicator sizes used (please refer to item 2.).

2) Mount the dial indicator with the contact extension on adapter H1 and lock it. Be sure value X is always higher than value Y (fig. 8). The value depends on the measuring travel interval of the dial indicator where you wish to work.
3) Insert the dial indicator unit in its dedicated seat I (fig. 9). Tighten knob F leaving the dial indicator unit loosely fastened.

4) Push the dial indicator unit down along its measuring travel until you reach the desidered position.
5) Screw knob F until the dial indicator unit is locked (a high locking torque is not needed).
6) Unscrew knob B and remove the zero-setting master.
7) Move pretravel adjuster C down as far as it stops.
8) Rescrew knob B pressing pretravel adjuster C down.

Should you need the use of a dial indicator protection tongue, mount it on the M8 snap gauge as per the following indications:

9) Unscrew screws M.
10) Remove washers N.
11) Insert the dial indicator protection tongue G.
12) Rescrew screws M.

Perform the fine zero-setting bringing the M8 in measuring position on the master and act on the dial indicator following the specific zero-set procedure.

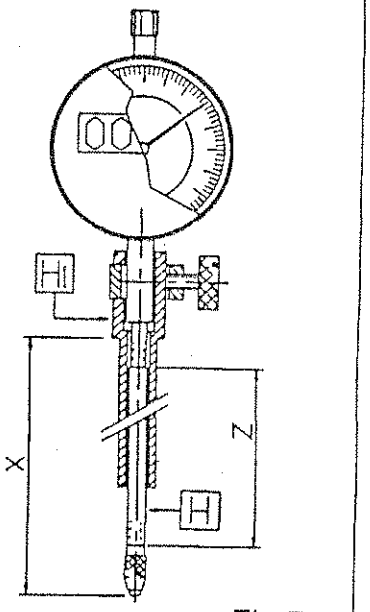


Fig.7

	Z
Ø 3-25mm (.19"-.98")	20mm (.79") / 15mm (.60")
Ø 25-50mm (.98"- 1.97")	70mm (2.76")
Ø 50-100mm (1.97"-3.94")	80mm (3.15")

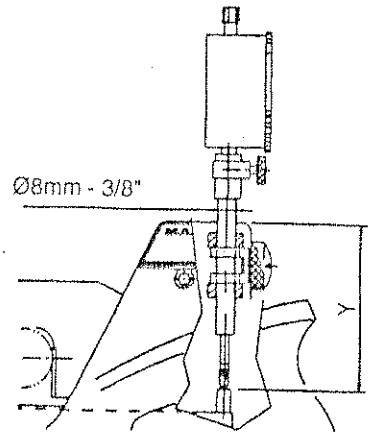


Fig.8

	Y
Ø 3-25mm (.19"-.98")	43mm (1.67")
Ø 25-50mm (.98"- 1.97")	71mm (2.80")
Ø 50-100mm (1.97"-3.94")	79mm (3.11")

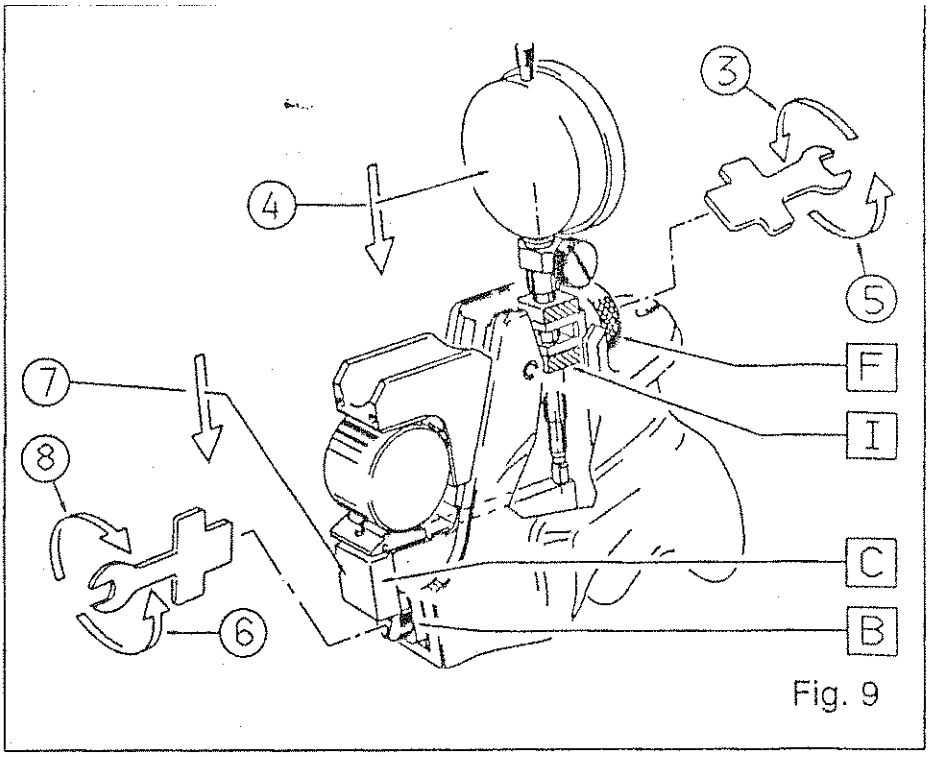


Fig. 9

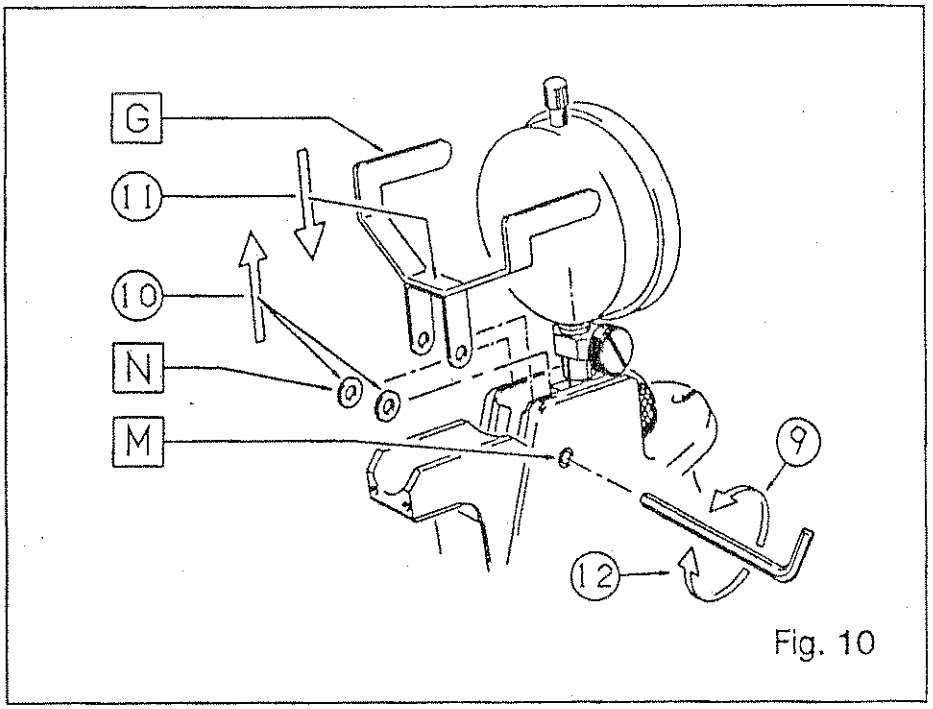


Fig. 10

M8 support for bench applications
After it has been zero-set as described above, the M8 can be mounted on the bench support.

Note: the assembly of the mechanical or digital dial indicator on the snap gauge must be performed keeping the dial on the side of the reference prism.

1) Screw prism C on to support Q by the use of the two screws M4x10.
2) Unlock lever R, holding the snap gauge.
3) Position the snap gauge at the angle that is most convenient for the operator.
4) Relock lever R.
5) Insert the master in measuring position, and verify the zero-setting before starting with the measuring operations.

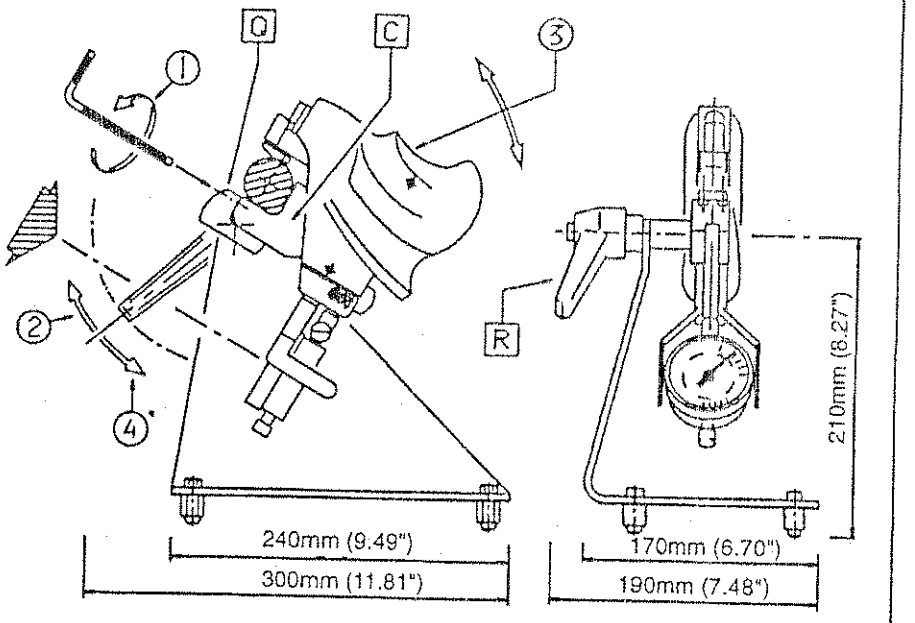


Fig.12

MAINTENANCE

Thanks to its structure, the M8 does not require any specific routine maintenance.

It is advisable, however, to keep the supporting surface of the contact and of the reference prism clean, in order to ensure the correct execution of the measurement.

In any case, when a cleaning is needed, use mildly alkaline detergent solutions, and, if necessary, a non abrasive brush.
Dry with a blast of compressed air.

REPLACING THE CONTACT

To replace the contact, proceed as follows (Fig. 11).

1) Remove the pretravel adjuster and the reference prism.
2) Using the expressly supplied wrench, unscrew the contact.
3) Screw the new contact in.
4) Using a gauge, check distance "h" between the prism upper surface and that one of the mechanical arm level.
5) Remount the pretravel adjuster and the reference prism.

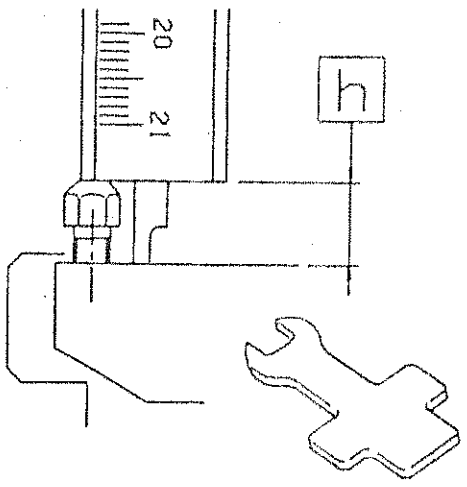
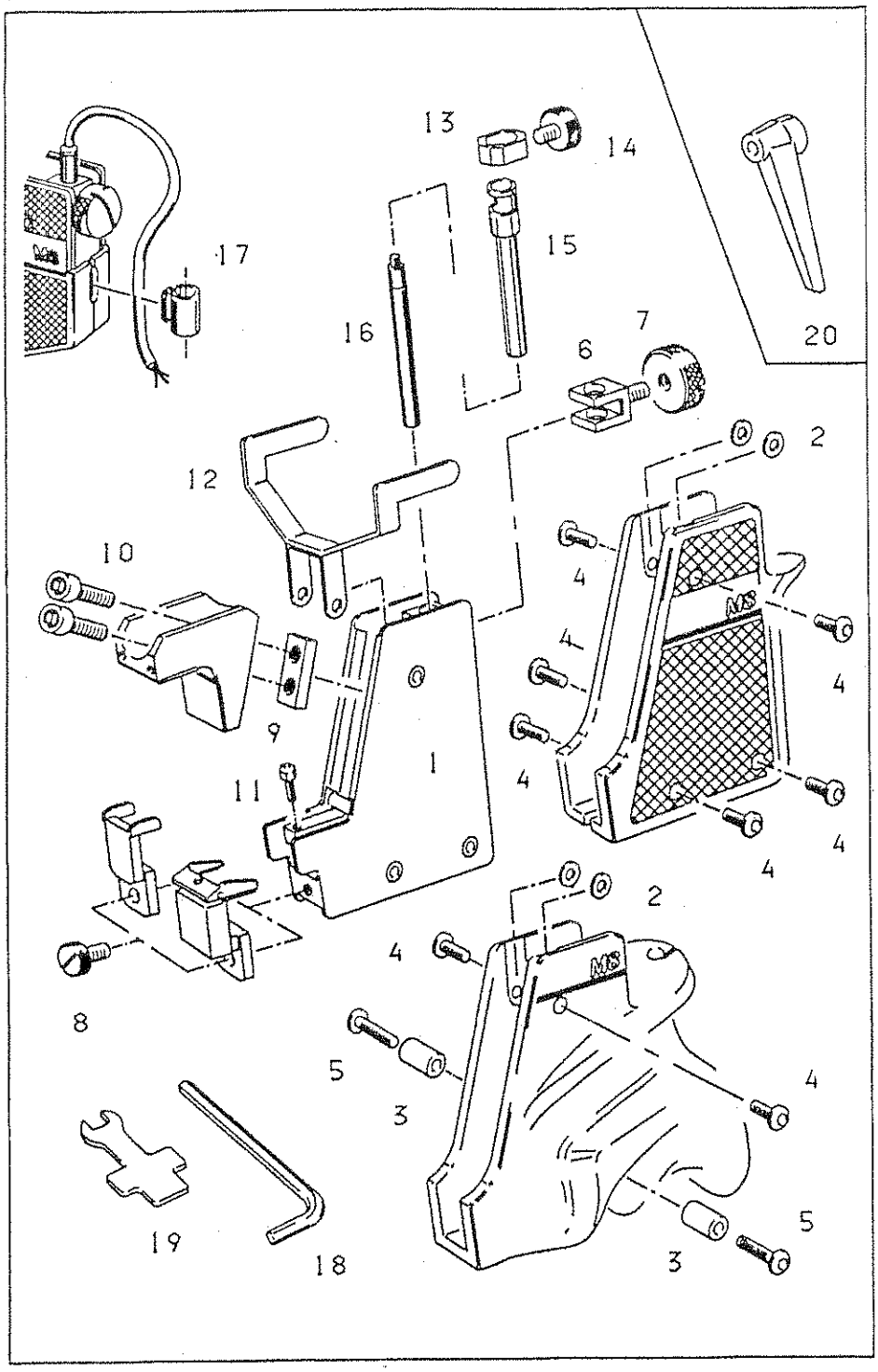


Fig. 11

	h
Ø 3-25mm (.19"-.98")	4,3mm (.17")
Ø 25-50mm (.98"- 1.97")	8,2mm (.32")
Ø 50-100mm (1.97"-3.94")	8,2mm (.32")

SPARE PARTS

	DESCRIPTION	RANGE Ø 3-25 mm (.12"-.98")	RANGE Ø 25-50 mm (.98"-1.97")	RANGE Ø 50-100 mm (1.97"-3.94")
1	Base assembly with Ø = 8 mm gauge connection	2919750200	2919750050	2919750100
	Base assembly with Ø = 3/8" gauge connection	2919750201	2919750051	2919750101
2	Washer	4340659300		
3	Spacer		1019750503	
4	Screw for fixing handle	4317080604	4317080803	
5	Screw for fixing anatomic handle		4317080807	
6	Tie	1019750061		
7	Ring nut	1019750062		
8	Knob	1019750210	1019750060	
9	Plate for fixing prism	1019750216	1019750069	
10	Screw for fixing prism	4306311408	4306071450	
11	Contact	3391975015	3391975068	
12	Protective tongue	1019750243	1019750094	1019750123
13	Tie	1019750092		
14	Knob	1019750060		
15	Dial indicator assembly bushing with Ø = 8 mm	1019750241	1019750091	
	Dial indicator assembly bushing with Ø = 3/8"	1019750246	1019750096	
16	Contact extension for dial indicator with M2.5	1019750248 (L = 20 mm) (.79")	1019750093	1019750122
		1019750249 (L = 15 mm) (.59")		
	Contact extension for dial indicator with 4/48 UNF	1019750247 (L = 20 mm) (.79")	1019750097	1019750116
		1019750250 (L = 15 mm) (.59")		
17	Band for fastening cable	1019750244		
18	Wrench, 90°/CH = 6 (prism screws)	4413675308		
19	Special wrench (screwdriver plus hexagon for contact)	1320238000		
20	Bench gauge support blocking lever	4423100080		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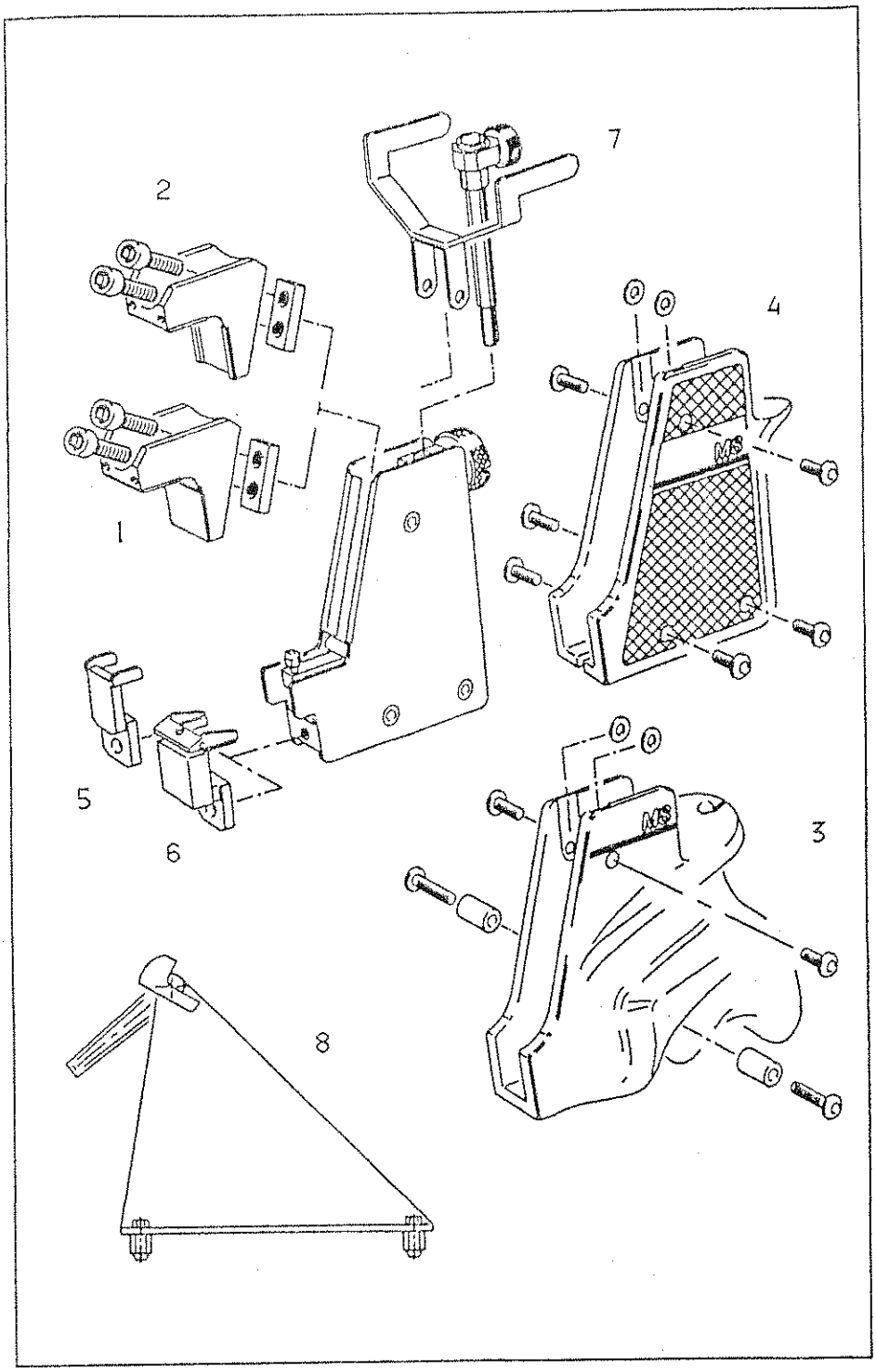
	DESCRIPTION	RANGE Ø 3-25 mm (.12"-.98")	RANGE Ø 25-50 mm (.98"-1.97")	RANGE Ø 50-100 mm (1.97"-3.94")
1	Reference prism assembly with entire carbide	Ø 3-5 mm (.12"-.20") 2919750072	2919750081	2919750170
		Ø 5-10 mm (.20"-.39") 2919750071		
		Ø 10-25 mm (.39"-.98") 2919750070		
2	Reference prism assembly with bar carbide		2919750082	2919750171
3	Anatomic handle assembly		2919750080	2919750160
4	Slim handle assembly	2919750060	2919750085	2919750180
5	Pretravel adjuster without pusher	1019750209	1019750059	
6	Pretravel adjuster with pusher	2919750220	2919750150	
7	Dial indicator adapter unit mounting with Ø = 8 mm	2919750240	2919750090	2919750120
	Dial indicator adapter unit mounting with Ø = 3/8"	2919750245	2919750095	2919750115
8	Bench support	2919750020		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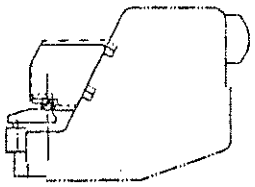
TECHNICAL SPECIFICATIONS

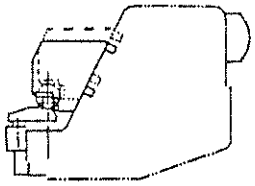
Retooling range	3-25 mm (.12-.98")	25-50 mm (.98-1.97")	50-100 mm (1.97-3.94")
Contact measuring range	± 0.300 mm (.011")	± 0.400 mm (.015")	± 0.500 mm (.019")
Mechanical repeatability (σx 2.77)	≤ 0.001 mm (≤ 40µ")		
Contact measuring force	function of the force of the measuring instrument employed		
Force of the optional pushing device	5-8 N		
Weight (without measuring instrument)	0.340-0.420 Kg (.750-.926 Lb)	0.640-0.875 Kg (1.410-1.929 Lb)	0.850-1.065 Kg (1.874-2.392 Lb)
Width of reference planes on the anvils	20 mm (.787")		
Flatness tolerance of reference planes on the anvils	.01 mm (.0004")		
Fixing diameter of measuring instrument	Ø 8h6 or 3/8"		

DIAGRAM OF OVERALL DIMENSIONS - Measuring range 3-25 mm (.12"-.98")

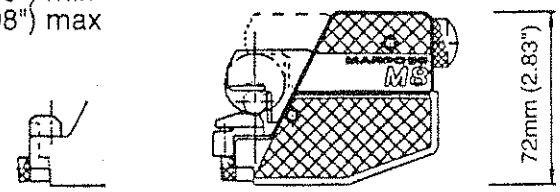
Ø 3mm (.12") min
Ø 5mm (.19") max



Ø 5mm (.19") min
Ø 10mm (.39") max



Ø 10mm (.39") min
Ø 25mm (.98") max



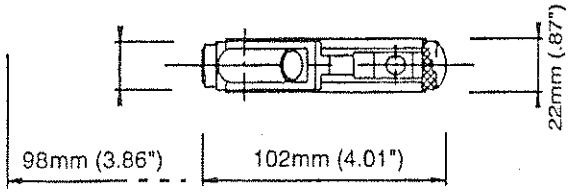


DIAGRAM OF OVERALL DIMENSIONS - Measuring range 25-50 mm (.98"-1.97")

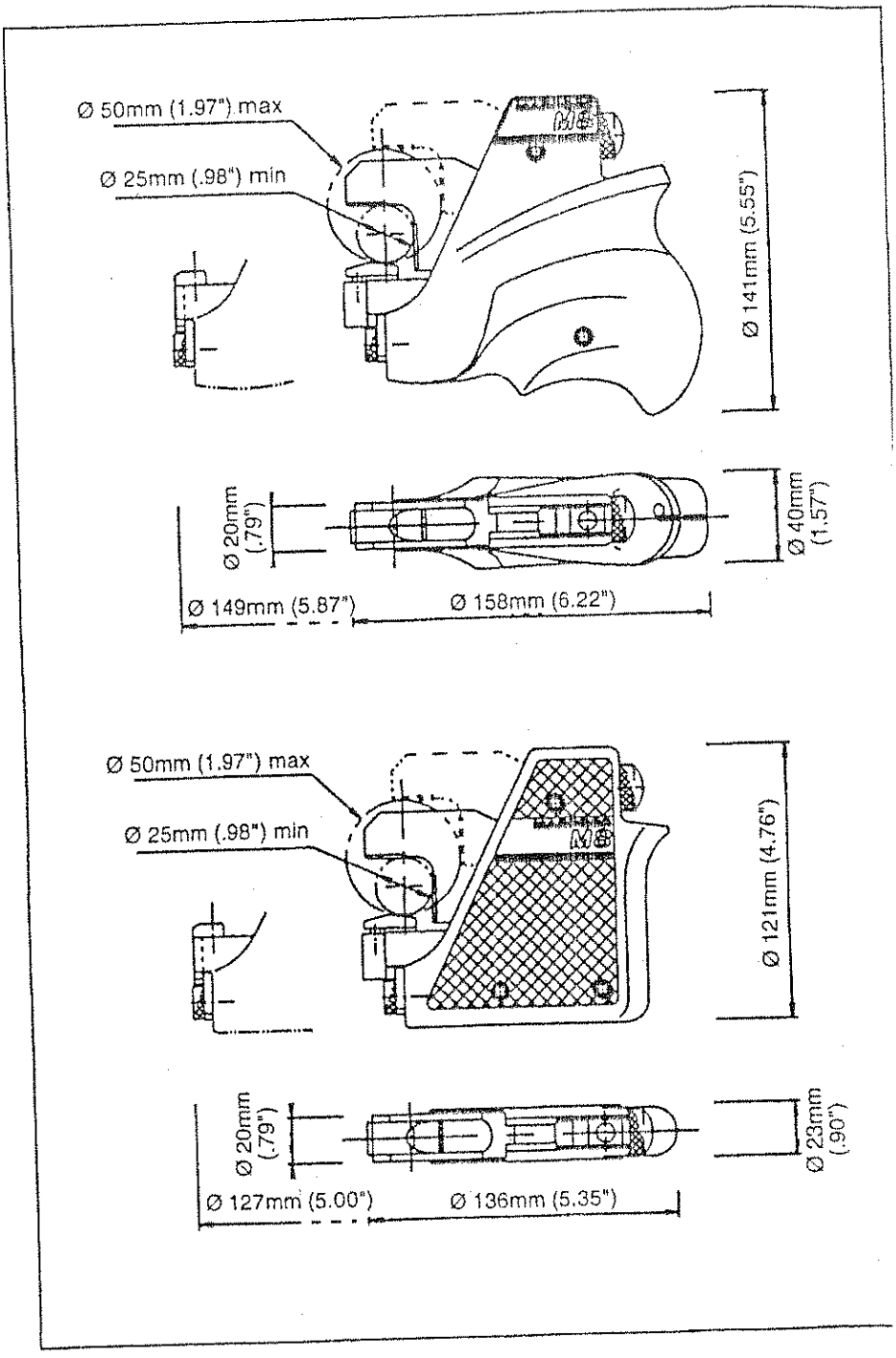


DIAGRAM OF OVERALL DIMENSIONS - Measuring range 50-100 mm (1.97"-3.94")