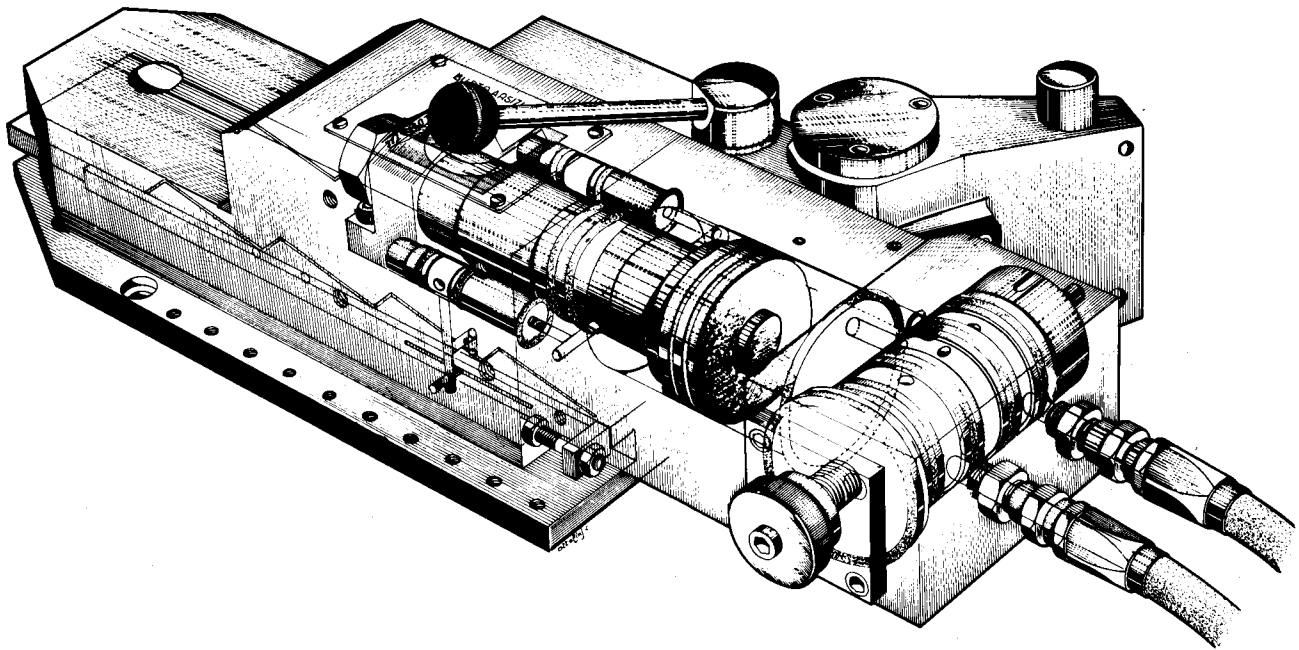
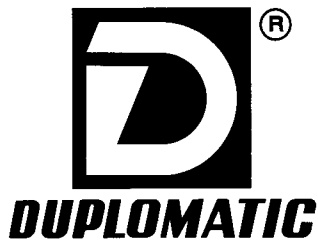




DIPLOMATIC

MAINTENANCE HANDBOOK FOR «TA/20» TRACER





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specifications

Copier model or size	Hydraulic stroke (mms)	Useful stroke at 60° (mms)	Force at 20 Kgs/cm ²		Maximum tool section	Chip section (mm ²) (1)	For lathes with power of (HP)	Weight Kgs (2)
			working-in	working-out				
TA 55	64	55	250	320	16 x 16	1,5	6	23
TA 80	92	80	350	450	20 x 20	2,4	10	34
TA 120	139	120	560	660	25 x 25	4,2	16	62
TA 175	202	175	740	880	32 x 32	5,5	25	93

- (1) Values recorded during operation with copier working-out on steel with R = 70 Kgs/mm².
 (2) Copier only, without turret and accessories.

introduction

This instruction manual is intended to familiarize the use with the «TA» Copying Attachments in such a way to get the best possible use from this equipment for a long period of time.

The back of this book has a listing of possible problems and their suggested corrections. However, if a problem persists, call your dealer who, in turn, will get in touch with the DUPLOMATIC Service.



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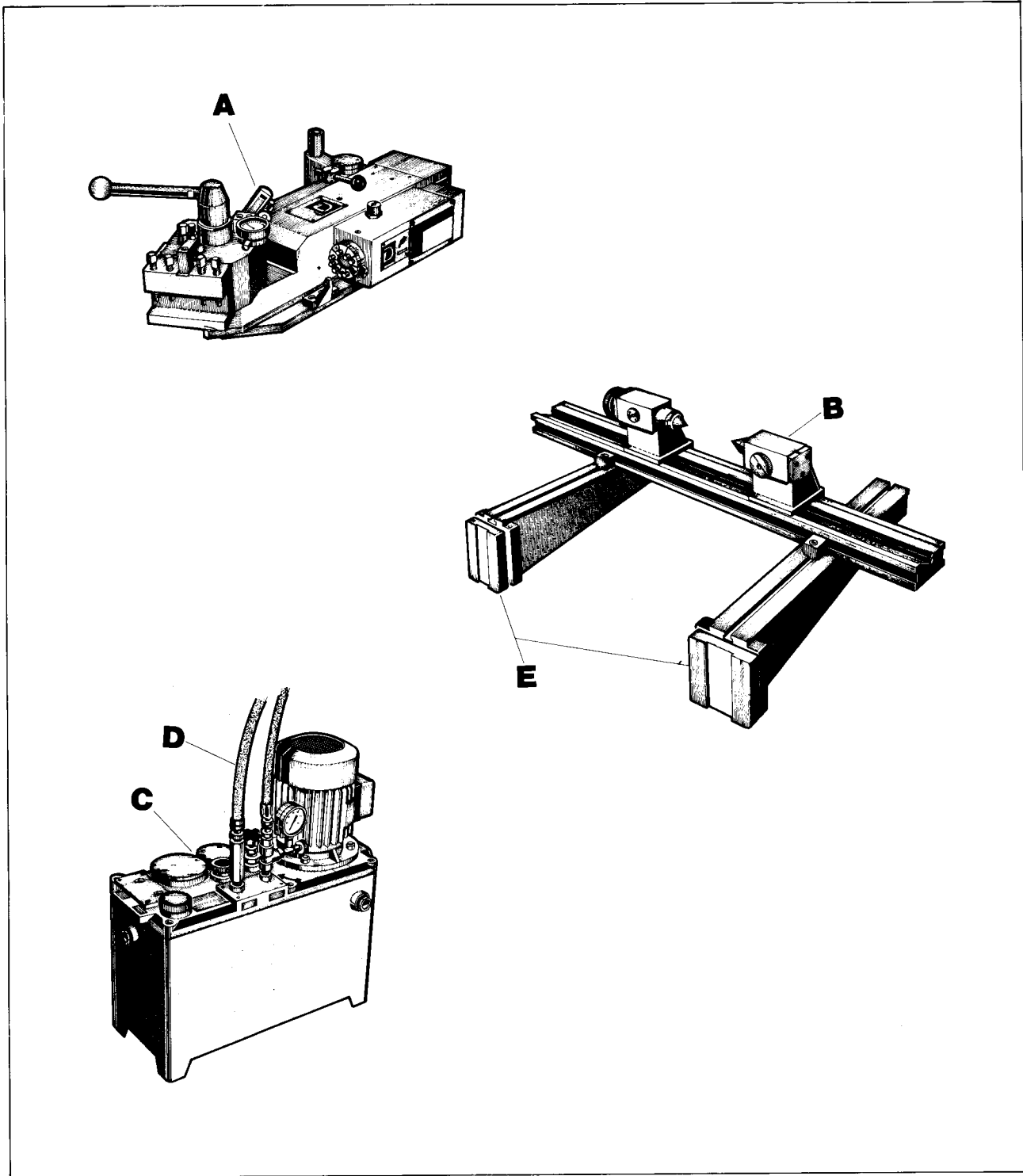
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standard supply components



- A Hydraulic copying device complete with turret and two tool-holders
- B Master-holder unit
- C Power unit
- D Pair of hoses
- E Pair of pads (when necessary)
- F Instruction handbook
- G Set of service wrenches

at receipt of the equipment

The device is supplied entirely assembled, ready to be mounted on the lathe. Please remember that the power unit is shipped without oil.

The right oil should have a viscosity of 2.8 to 3.3° E at 50° C, with additives for way lubrication (f.i. vasculine oil 1405). Please check the oil chart of page 13.

When uncrating, be sure to check and account for all contents. Then remove the protective coating from all unpainted surfaces. This coating is either vaseline or cosmoline, remove with kerosene.

The components are arranged into the crate as shown on figs. 1 and 2.

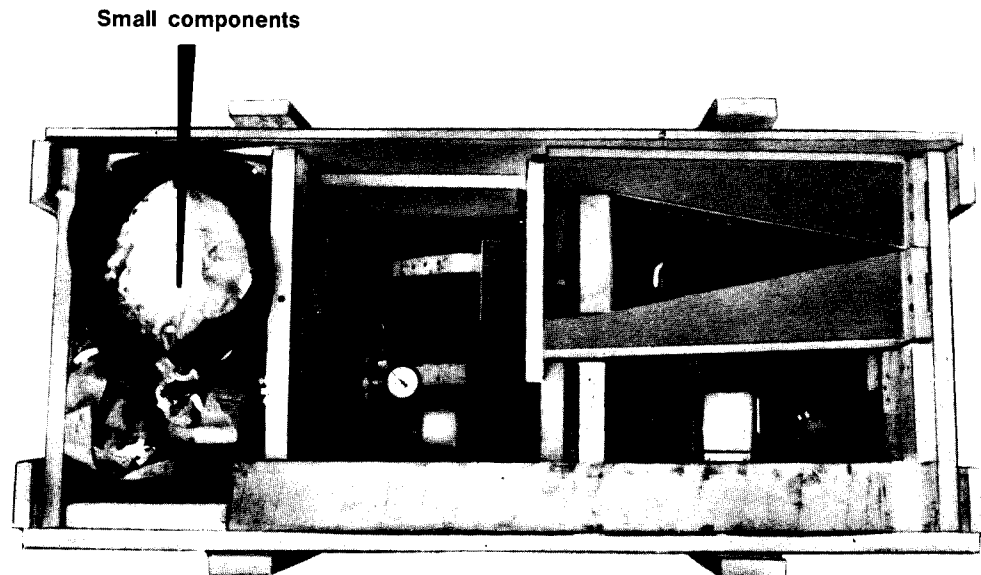


Fig. 1 - The crate opened

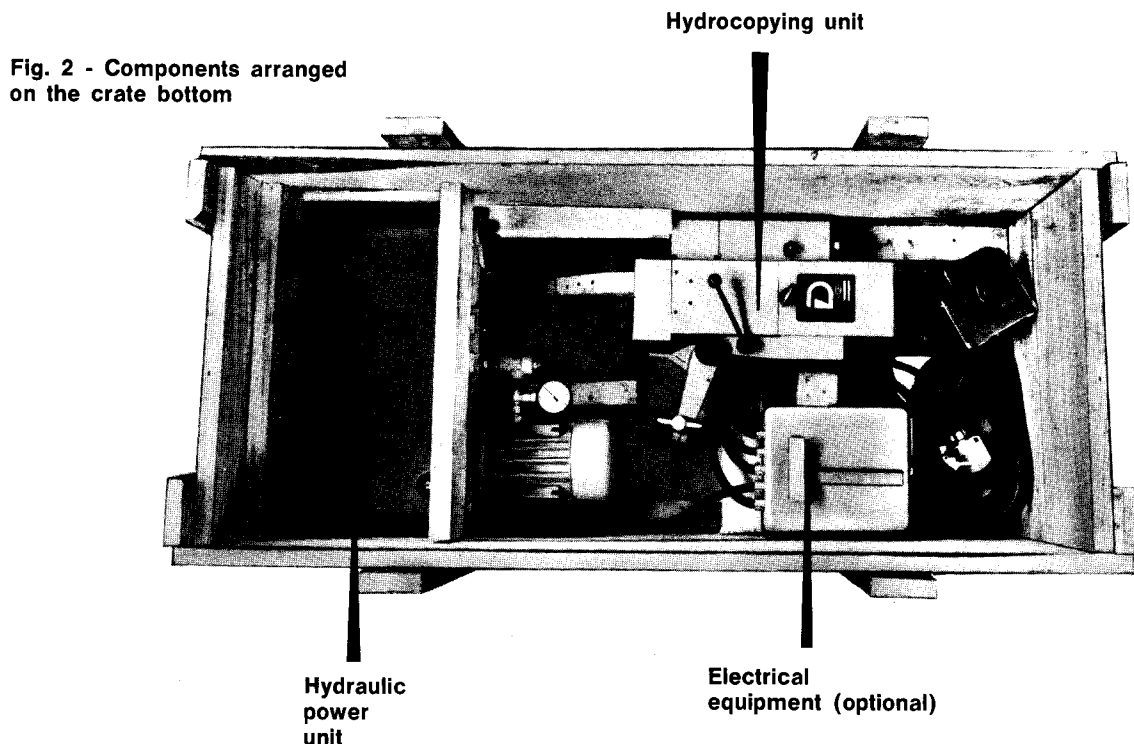


Fig. 2 - Components arranged on the crate bottom

set up of the equipment

The fig. 3 shows the standard assembly of a copying device. The device is mounted on the rear side of the lathe transverse slide. As a rule, a plate with a circular slot is used for adapting the copying device to the lathe (fig. 4 and fig. 5).

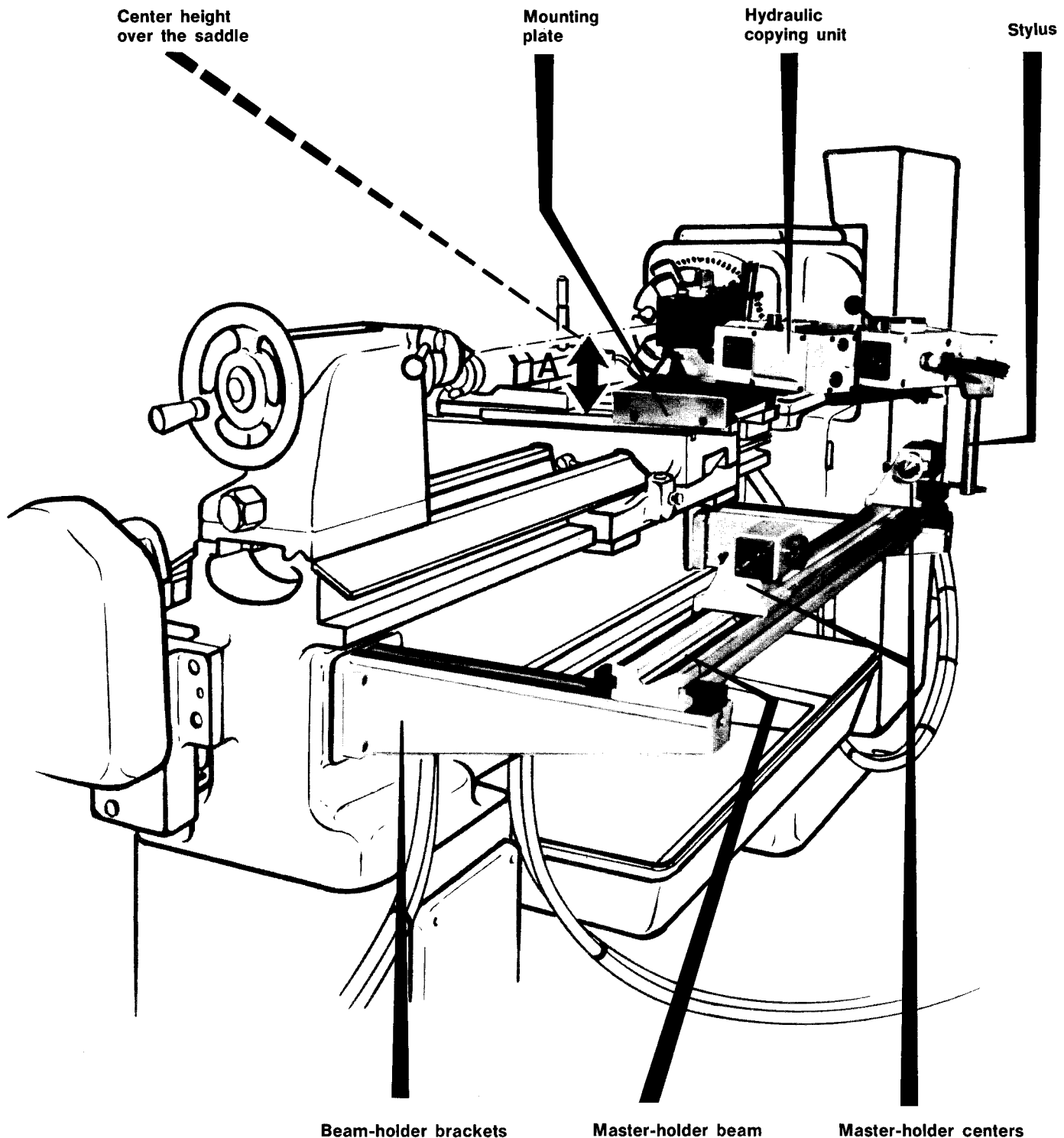
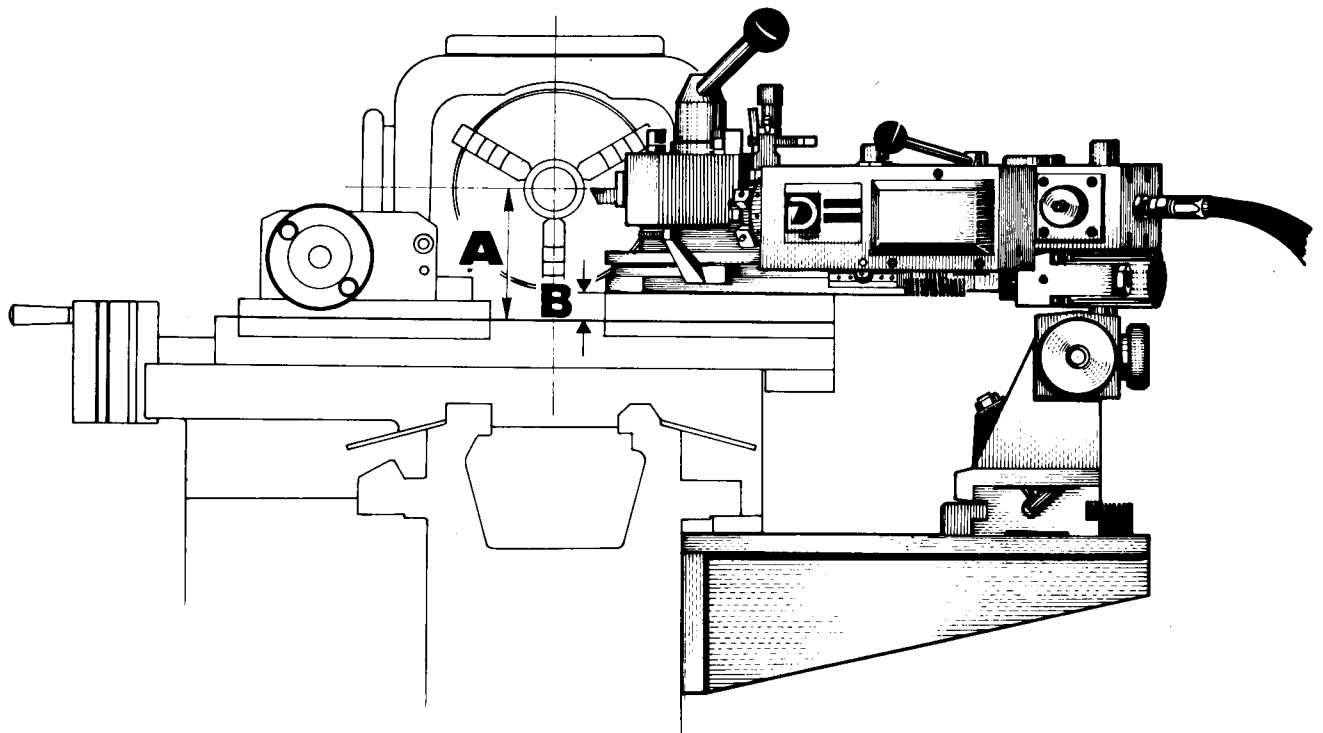


Fig. 3 - Standard assembly of a rear mounted tracer

height determination of the copier mounting plate



Copier	Tool	Tool-holder	A		B suggested
			Tool with cutting edge up	Tool with cutting edge down	
TA. 55	16 x 16	normal	116 ÷ 131	100 ÷ 115	20
		intermediate	101 ÷ 116	85 ÷ 100	20
		extended	86 ÷ 101	70 ÷ 85	20
TA. 80	20 x 20	normal	138 ÷ 153	118 ÷ 133	22
		intermediate	123 ÷ 138	103 ÷ 118	22
		extended	108 ÷ 123	88 ÷ 103	22
TA. 80	20 x 20	normal	151 ÷ 166	131 ÷ 146	35
TA. 120	25 x 25	normal	166 ÷ 186	141 ÷ 161	25
		intermediate	146 ÷ 166	121 ÷ 141	25
		extended	126 ÷ 146	101 ÷ 121	25
TA. 120	25 x 25	normal	186 ÷ 206	166 ÷ 186	45
TA. 175	32 x 32	normal	194 ÷ 214	162 ÷ 182	25
		intermediate	169 ÷ 194	137 ÷ 162	25
		extended	149 ÷ 169	117 ÷ 137	25
TA. 175	32 x 32	normal	214 ÷ 234	182 ÷ 202	45

mounting plate (swivel baseplate)

The copying attachment is mounted to the rear of the cross-slide, and for the purpose of flexibility (rotation), a swivel plate is furnished. To establish the correlation concerning thickness of swivel plate, center height and tool holders, see chart on page 6.

If the cross-slide has T-slots, these can be used to fasten the swivel plate. In this case, drill and counterbore matching holes for socket head screws. Make sure screws are of proper length and do not touch bottom of T-slot (Fig. 4).

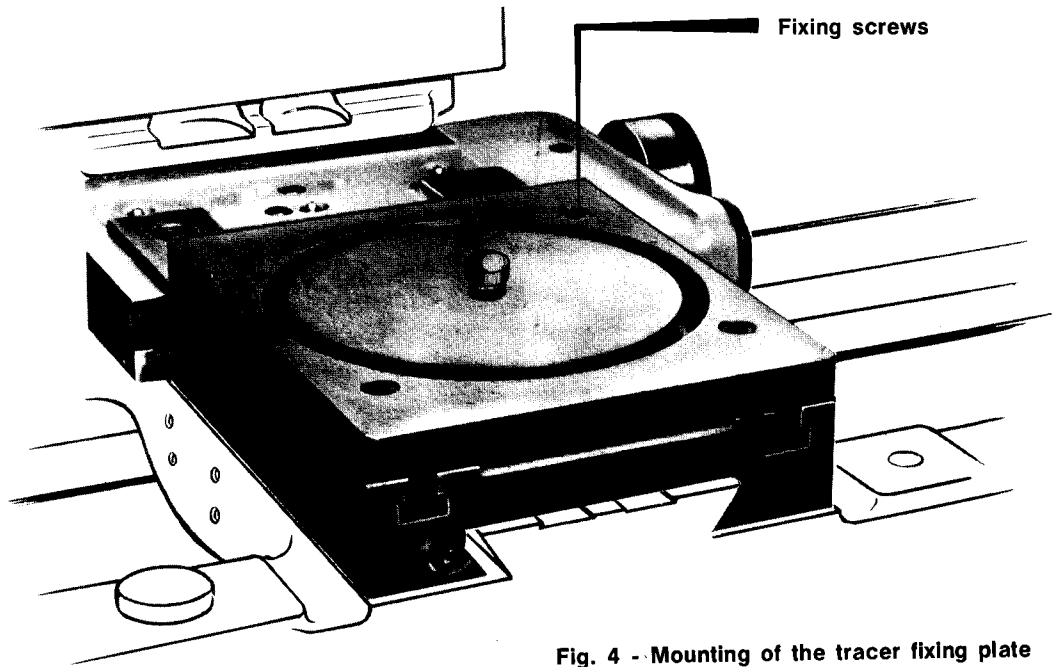


Fig. 4 - Mounting of the tracer fixing plate

Some lathes have a dovetail arrangement on the extended cross slide. In this case a clamping arrangement will serve to accurately hold the swivel plate to the carriage (Fig. 5).

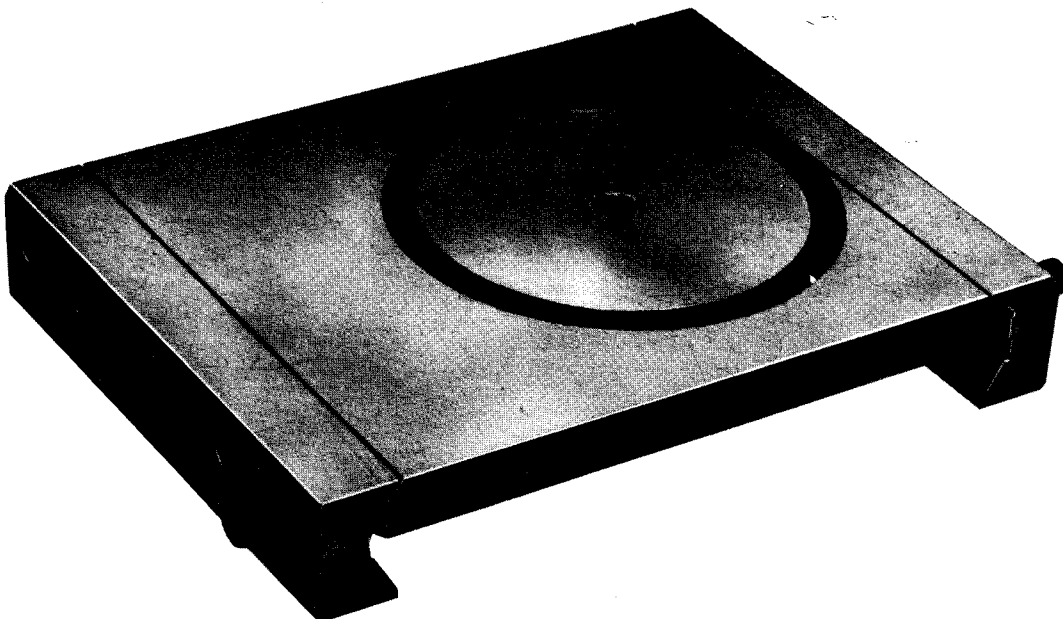


Fig. 5 - Fixing plate for lathes without T-slots

leveling pads for master beam supports

These should be used when rear of lathe bed does not have true machined surface to attach supporting arms. DUPLOMATIC supplies these pads undrilled permitting the customer to drill mounting holes and holes for leveling screws as needed.

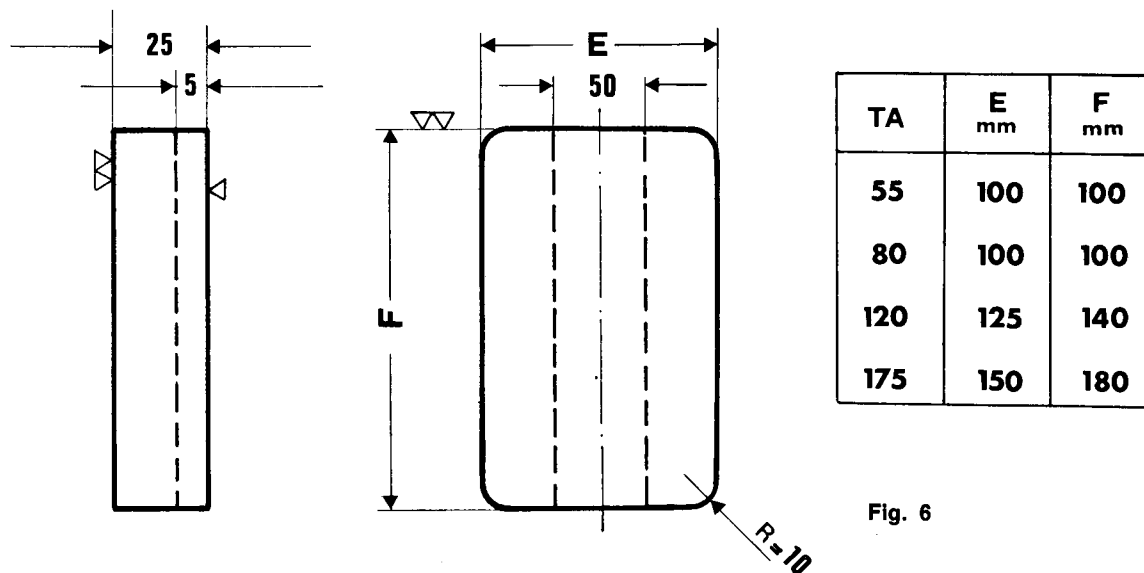


Fig. 6

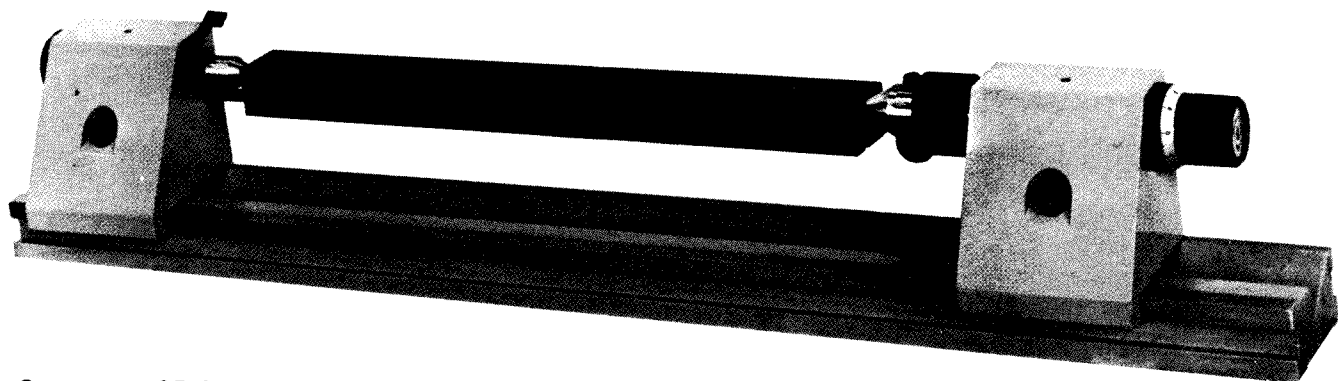
mounting the master holder assembly

Before proceeding, check the bed configuration for the best possible positioning of this assembly. For most work, the headstock end of the beam should be in line with the chuck face. The position of the template should be as high as possible, but not to interfere with the cross slide. Lay out the most convenient center height to determine the position of the supports. It is important that the arms and rail are parallel to the lathe center line and careful mounting to achieve this is suggested.

rear template-holder rule

This accessory can be furnished when flat templates are used. It is inserted between the centers and locked against rotation.

Fig. 7 - Rear template holder assembly



See page 25 for description of adjustments of centers.

face tracing

With copying attachment turned to either 30° or 0° , longitudinal movement locked and cross-feed engaged, it is now possible to do face tracing operations. For this purpose, a facing template holder has to be mounted to the right hand side of the carriage as shown in fig. 8.

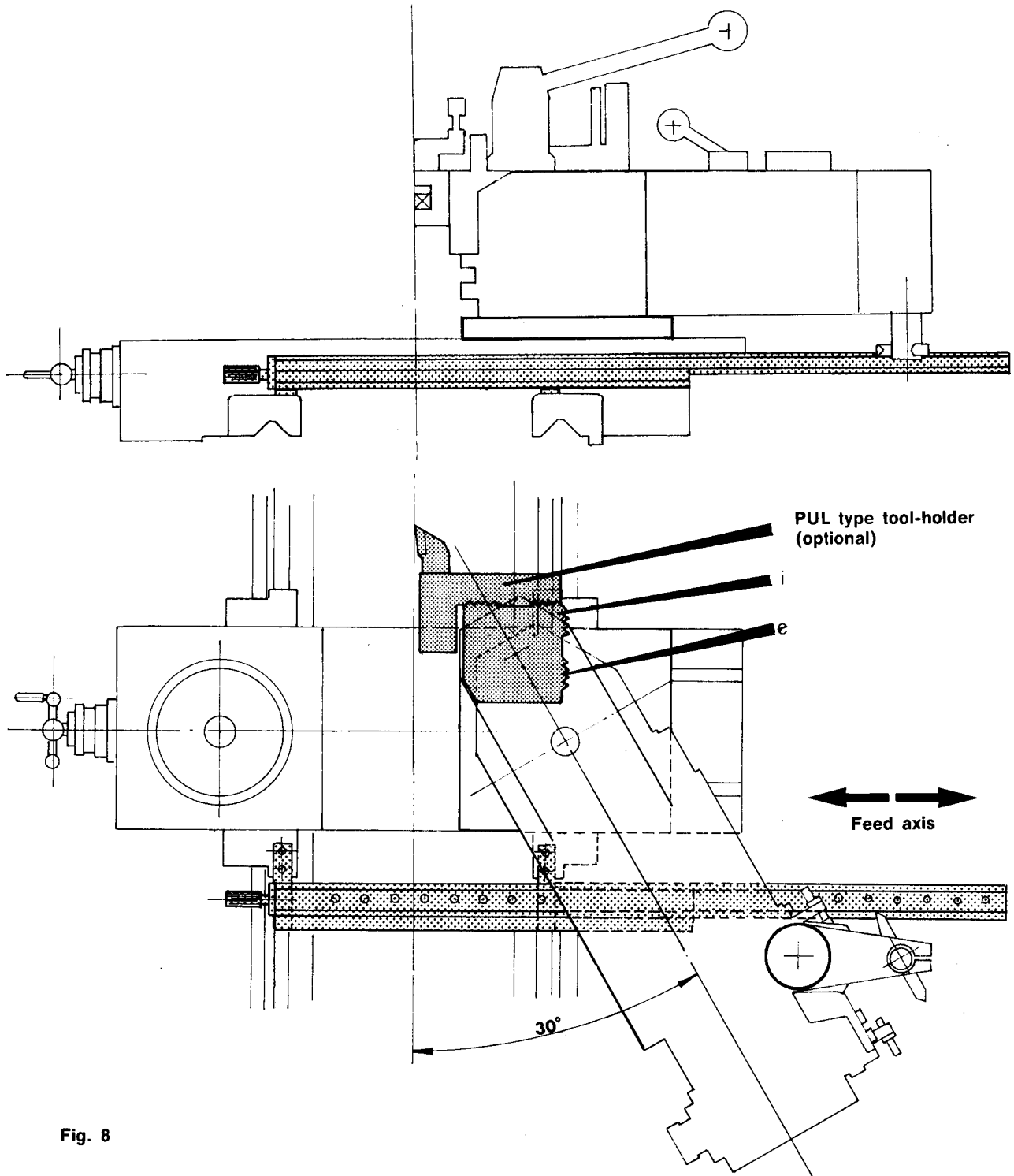


Fig. 8

When orientating the copier at 30° or 0° , with reference to the center axis (facing work), the side «e» will be the farthest one from the center axis.

A special optional tool-holder PUL can be supplied which-when fitted on the side «i» - puts the tool over the center axis, for internal facing work or any work where the tool protrudes over the tool-holder axis.

Here too, the mounting has to be done with care; the facing template holder has to be set perfectly parallel to the cross slide ways. Many lathes have machined pads and even drilled and tapped hoses on the right hand side of the carriage to accommodate a follow rest. These can be utilized. In other cases, it might be necessary first to create level surfaces with the aid of pads fastened to the carriage attaching the template holder to these pads.

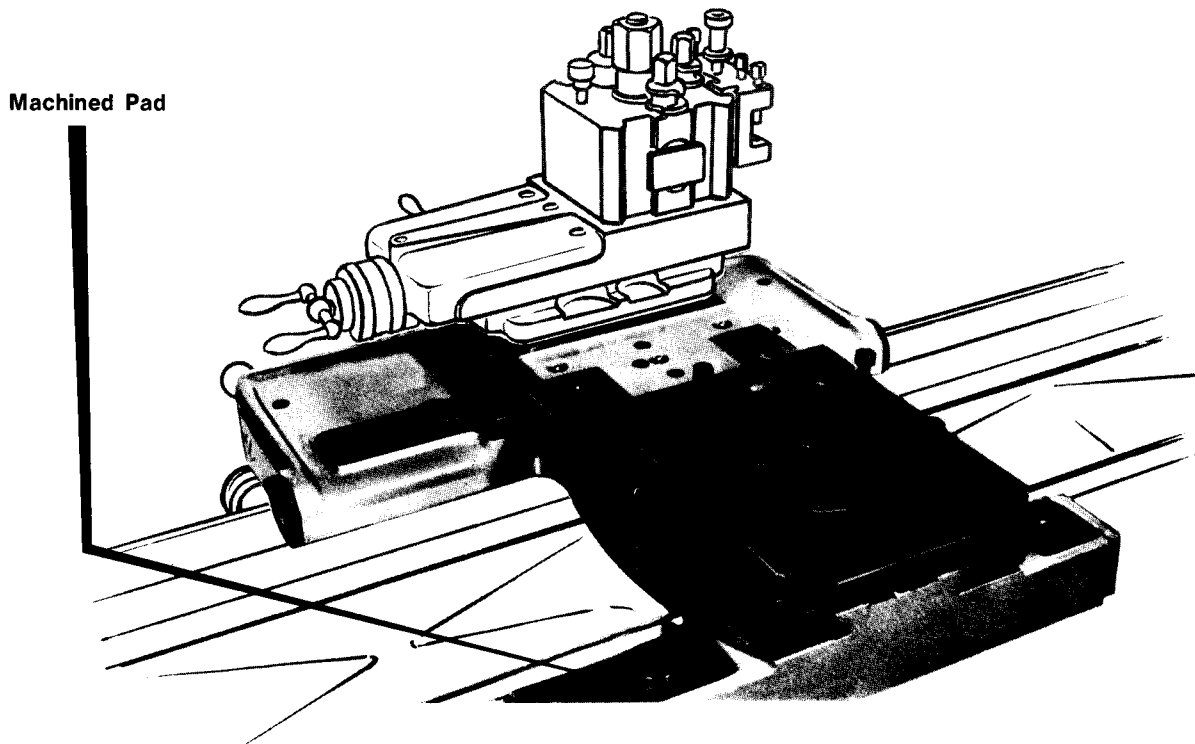


Fig. 9 - Machined pads for facing template

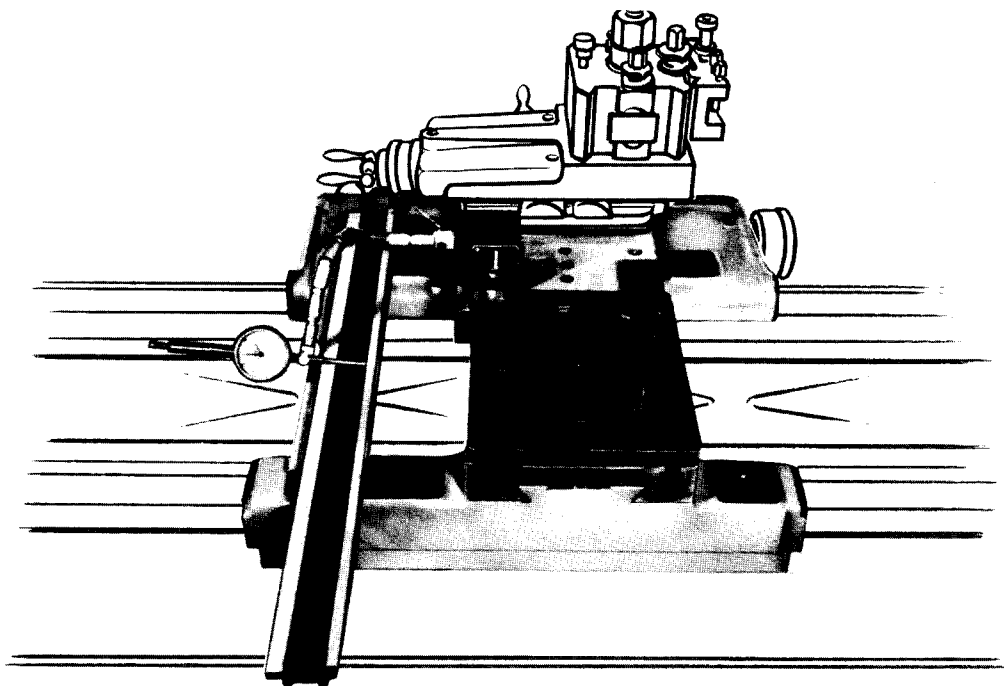
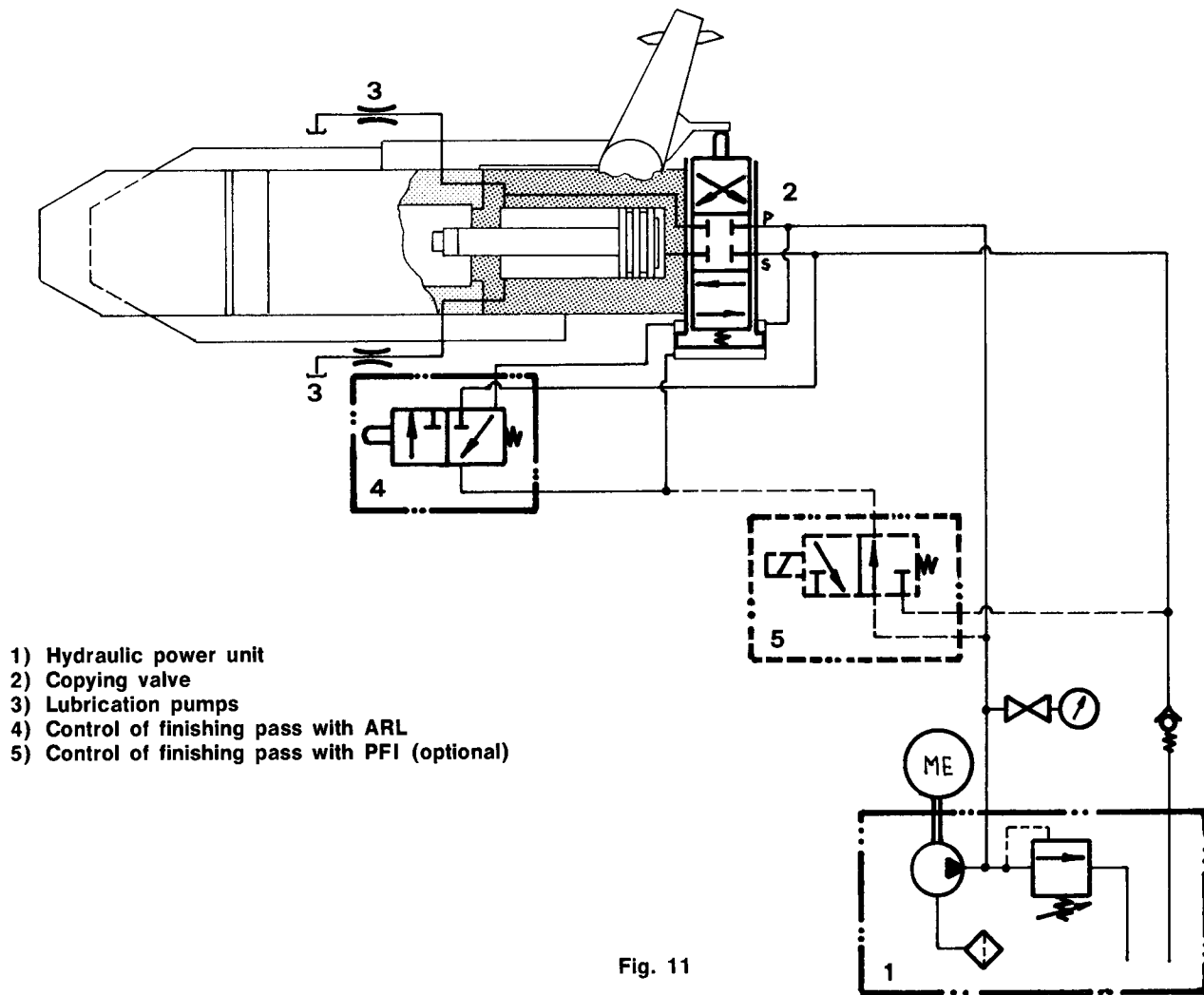


Fig. 10 - Set-up of facing template

Check parallelism with dial indicator on cross slide, point against edge of template holder and scan by moving cross slide.

hydraulic diagram



The power unit supplies the copying device and can also be used for feeding the following units:

- UCP type hydraulic tailstock
- MAC hydraulic clamping device
- UT cut-off unit
- Filematic «RCF» re-indexing

Of course, all these must be actuated successively and never two or more at the same time.

Equipment type	Power unit type	Pump delivery Q-ls/min.	Motor power HP
TA. 55	CTR 22/7	7	0,75
TA. 80	CTR 22/7	7	0,75
TA. 120	CTR 22/13	13	1
TA. 175	CTR 22/13	13	1