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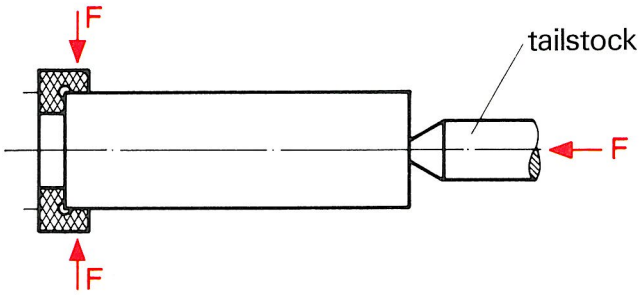
Approach reference point

Main switch ON
Drive ON

B

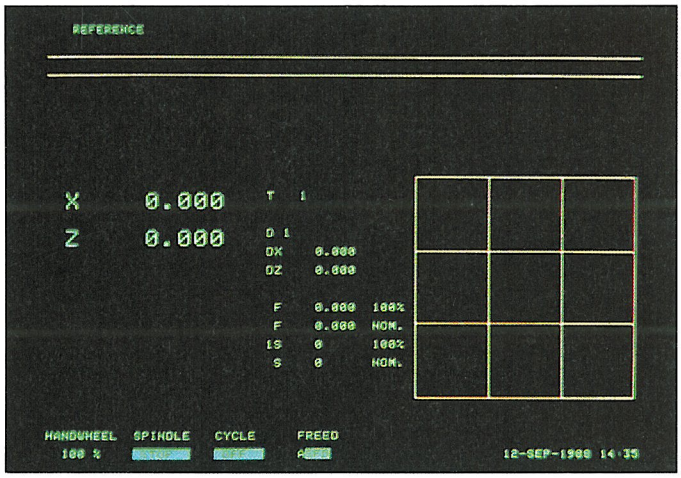
MANUAL

Traverse slides in
X and Z direction
towards reference cams

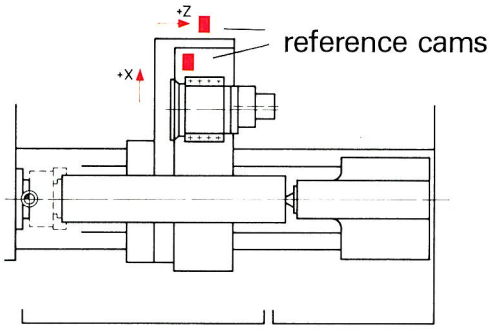


B

REFE-
RENCE



I



B

1. −X → +X
2. −Z → +Z

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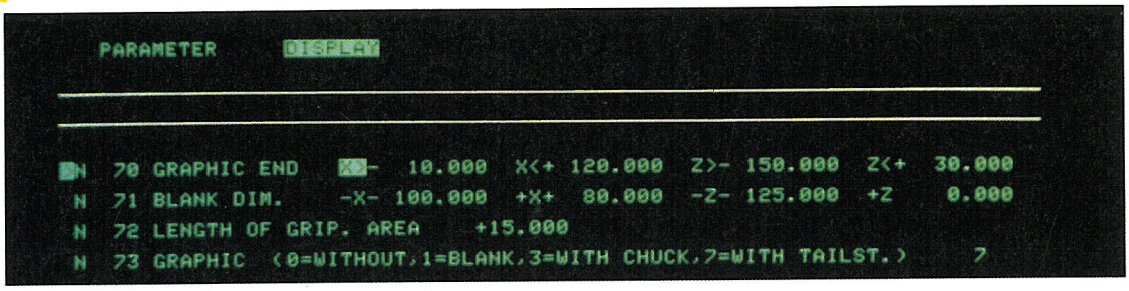

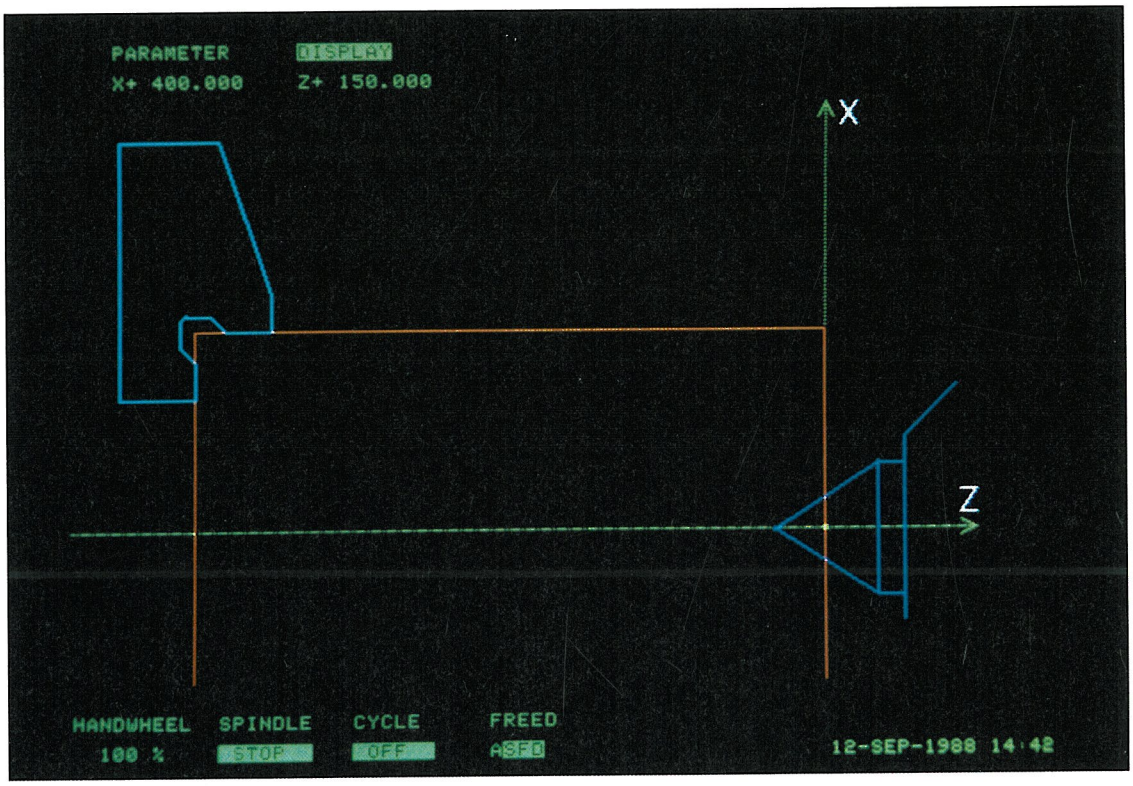

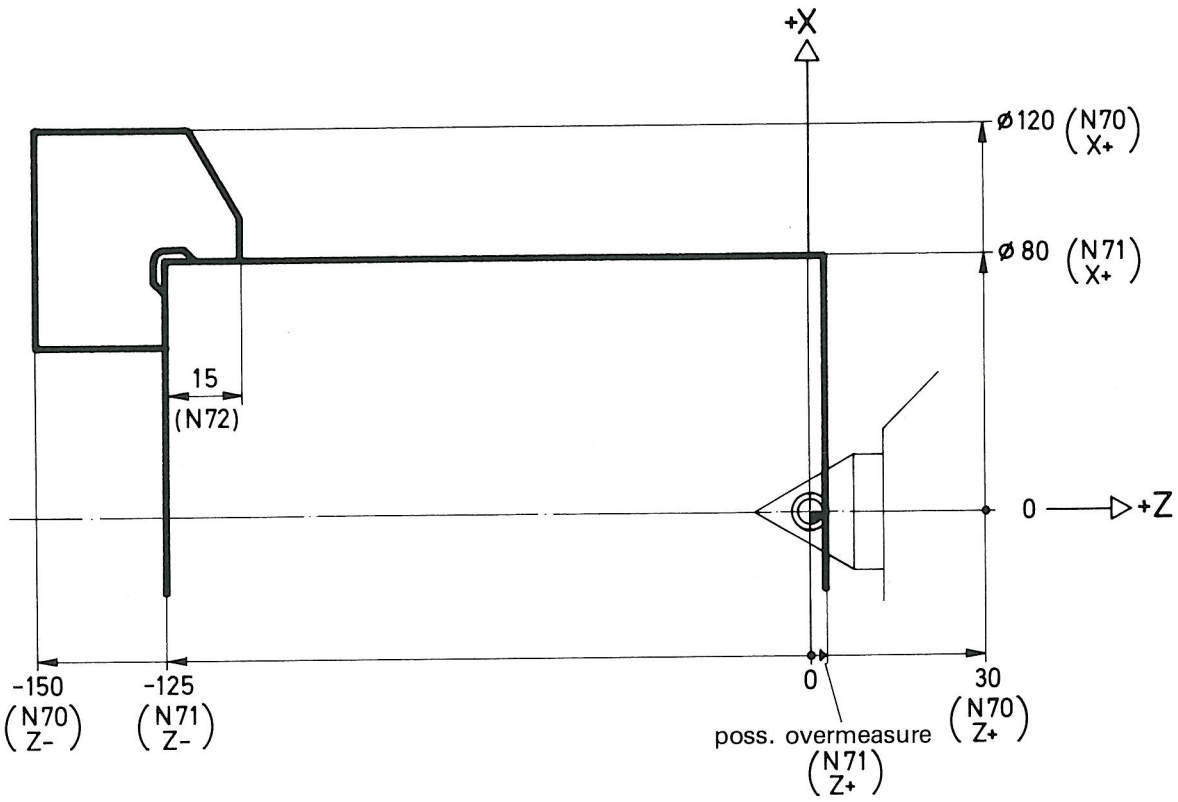

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Programming a blank component

N70 X— range 0 → —10	N71 X— range 100 → 200

both values should not be changed

N70 END OF GRAPHICS

The value for X— is normally 0 to —10 and is not changed

The value for X+ is the outside diameter of the chuck jaws

The value for Z— is the length of blank + length of the jaws

The value for Z+ is without tailstock 10 mm, and with tailstock 30 to 50 mm

If N73 is set at 0, then in N70 the blank diameter is to be entered as X+ and the blank length as Z—. N71 and N72 are not then considered.

N71 BLANK DIMENSIONS

The value for X— is normally from X-100 to X-200 and is not changed

The value for X+ is the blank diameter

The value for Z— is the length of blank

The value for Z+ is the finishing allowance in the Z+ direction

N72 CLAMPING LENGTH (clamping length of the component in the chuck)

N73 Enter: **0** = graphics show only the axis intersection point

1 = graphics show as in **0**, but with blank component

3 = graphics show as in **1**, but with jaws

7 = graphics show as in **3**, but with tailstock

Note: With long components the X and Z values are not shown proportional.

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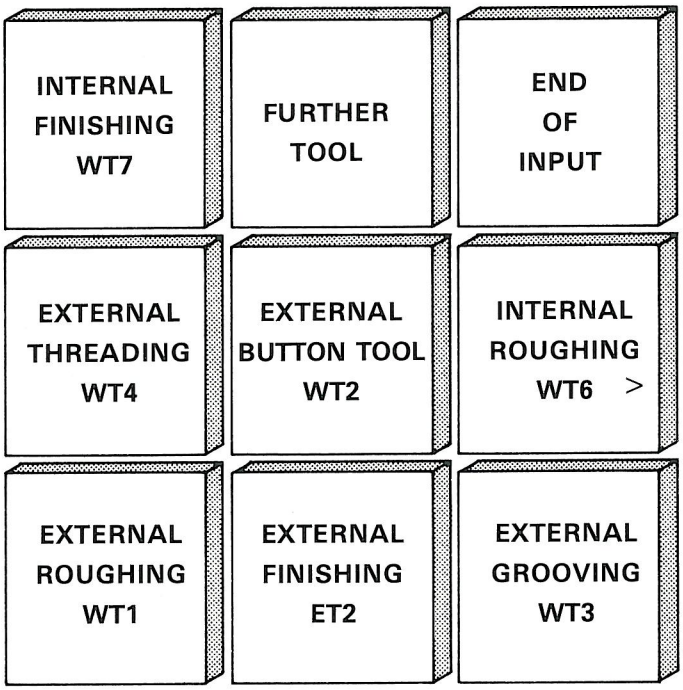
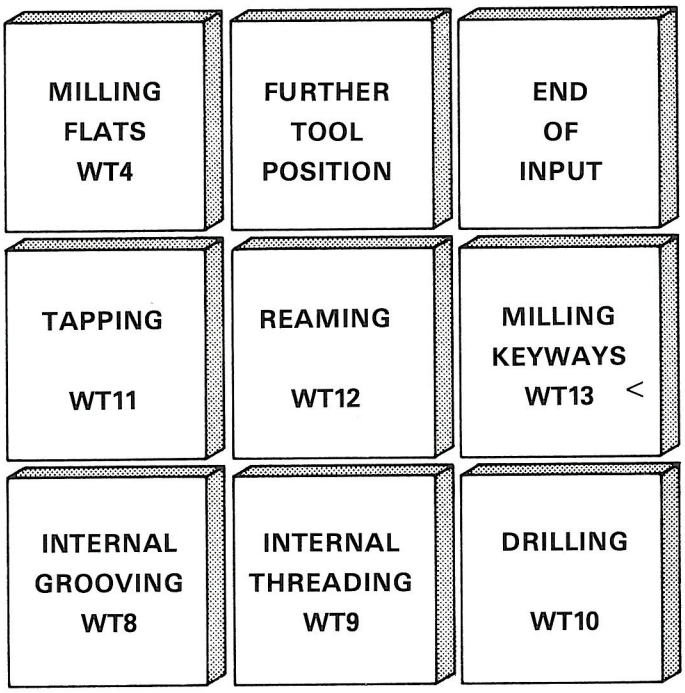
The tool library

The following tools* are shown in the menue





* driven tools are not considered here

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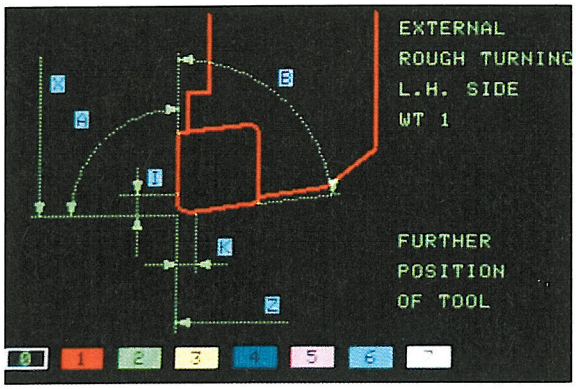

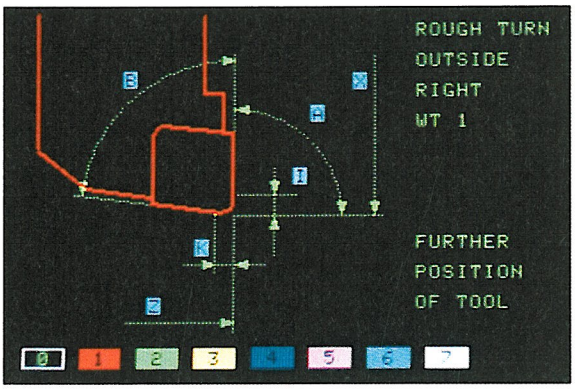

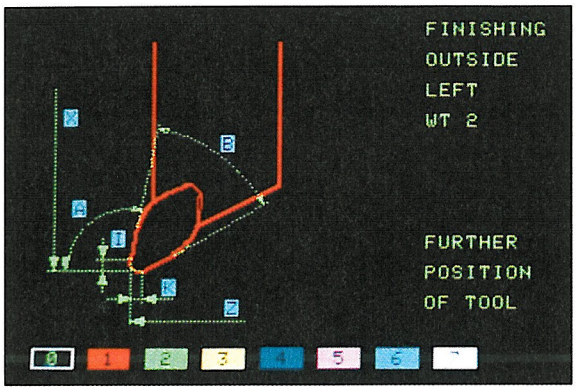

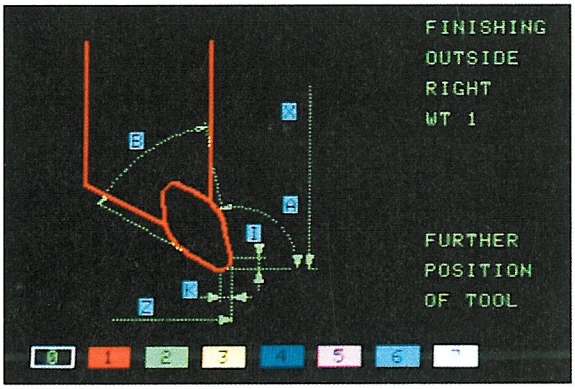

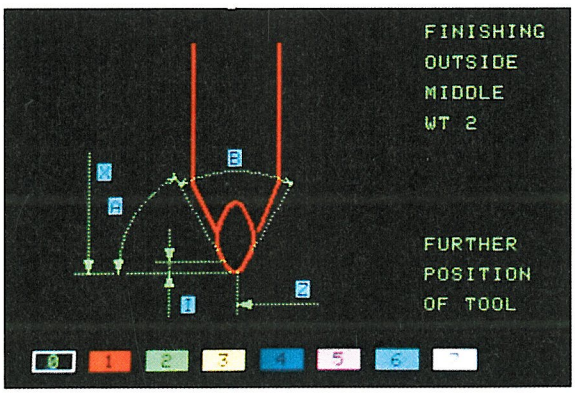

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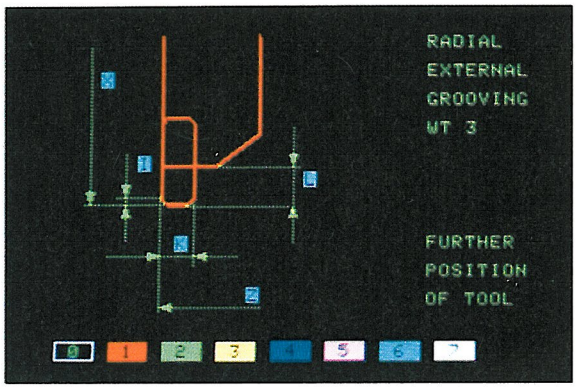

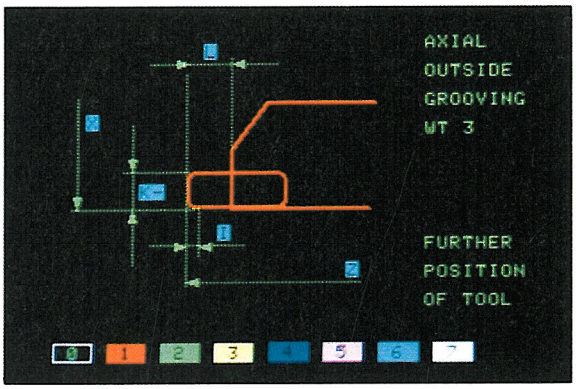

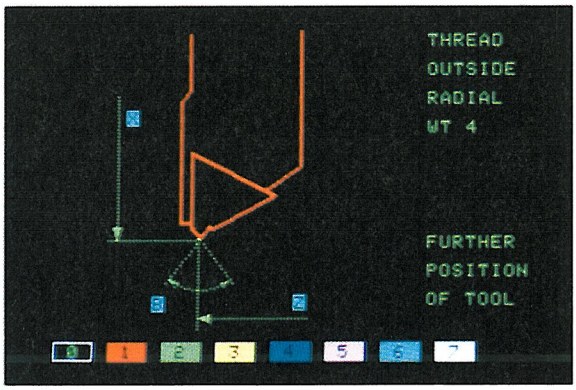

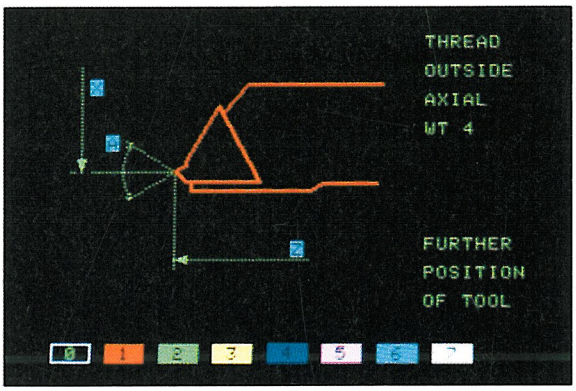

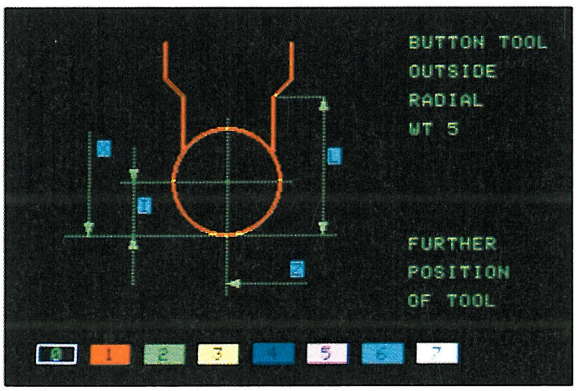

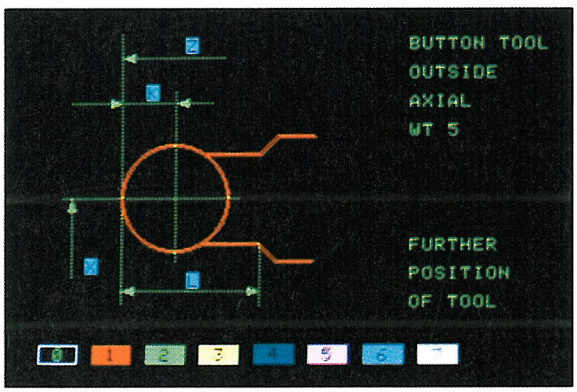

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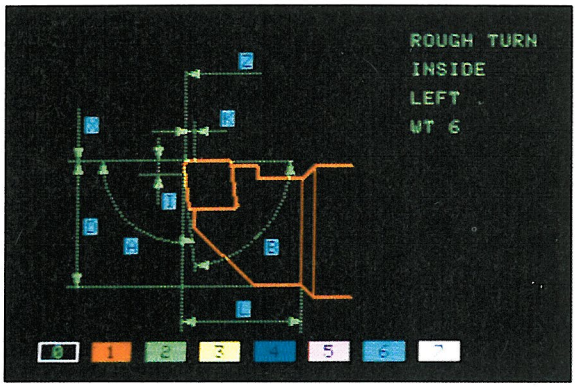

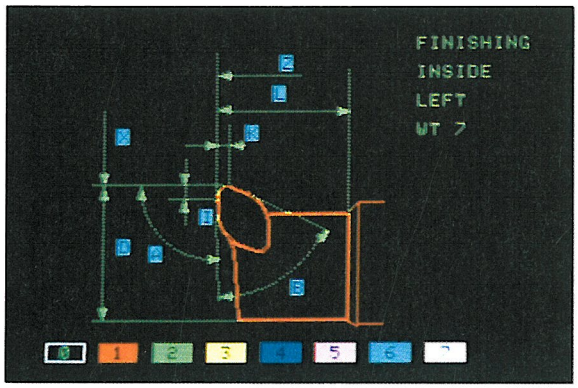

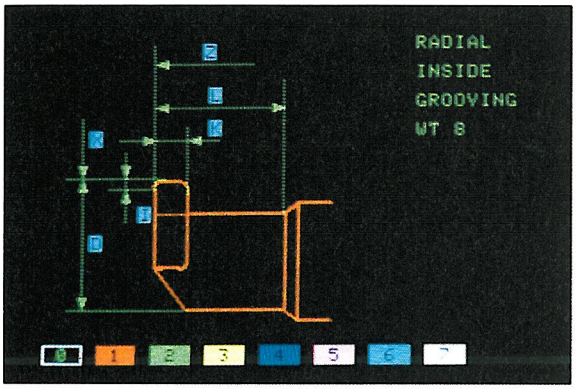

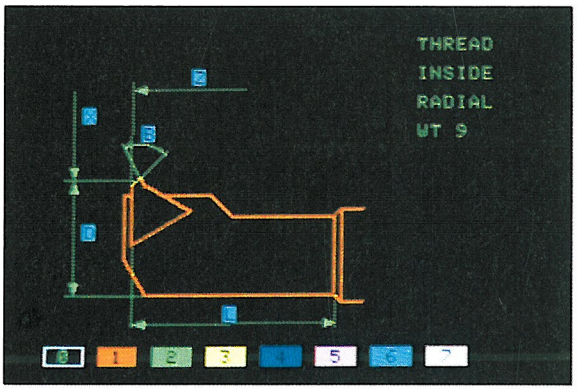

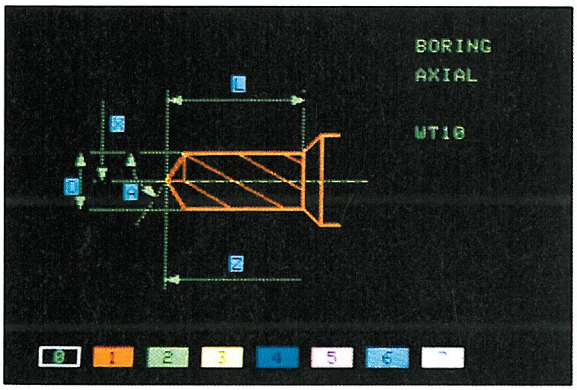

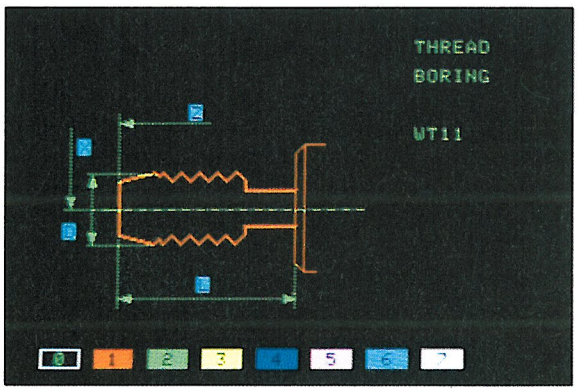

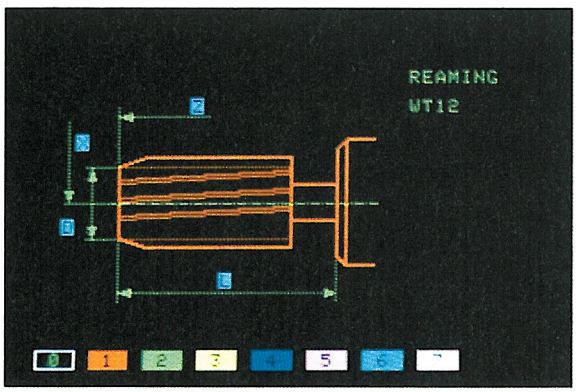

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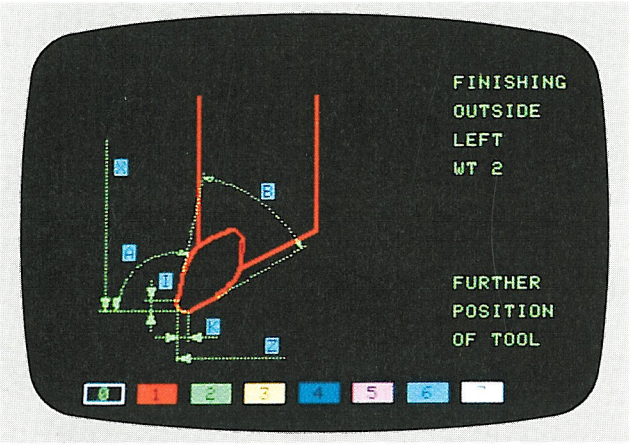
Tool dimensions

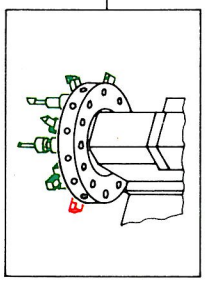
Parameter

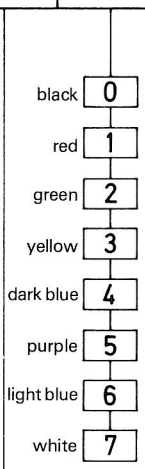
N = Block number
T = Tool number
WT = Tool type
FC = Colour code
X = Setting dimension L (Radius value)
Z = Setting dimension Q
I = Position of tool center point in X direction
K = Position of tool center point in Z direction
A = Setting angle $\varkappa$
B = Induced angle ε
D = Diameter of the tool
L = Usable length of the tool

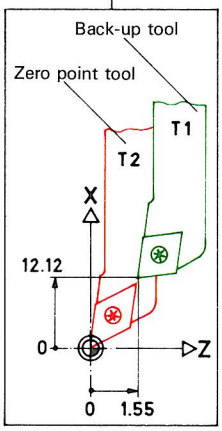


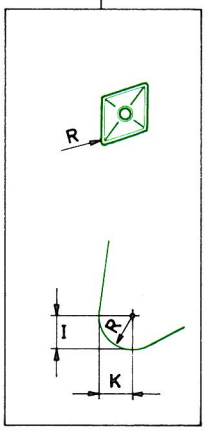
Values are extracted from the tooling catalogue

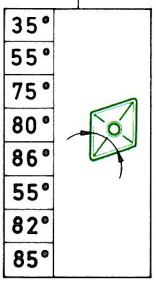
N 1001	T 1	WT 1	FC 2	X – 12.12	Z – 1.55	I 0.8	K 0.8	A 93	B 85	D 30*	L 90*

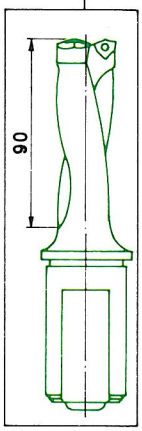


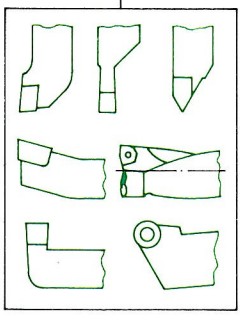


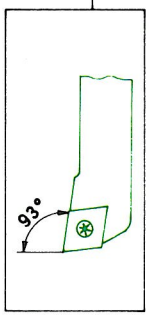


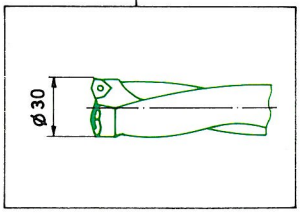












* only programmed with drills, boring bars and grooving tools

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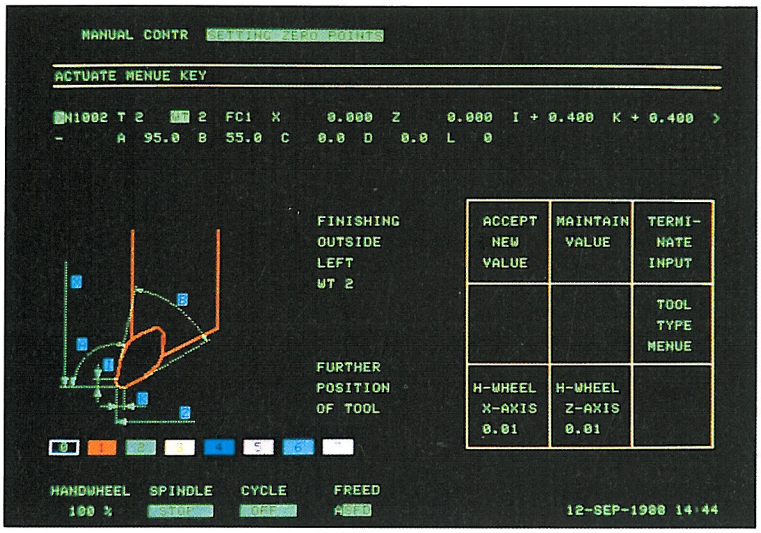
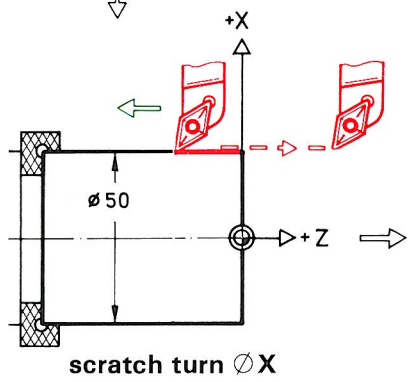
GILDEMEISTER AUTOMATION

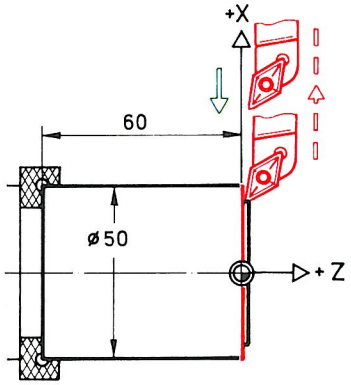
Setting component zero point



Sequence → **B** → MANUAL → SETTING MODE → ZERO POINT SHIFT → Index required tool and enter tool type WT and colour code FC



1. X value → scratch turn ∅X → Gauge diameter eg z. B. 50.000 → cursor at X → ACCEPT NEW VALUE → enter diameter 50.000 → 7 8 9 / 4 5 6 / 1 2 3 → confirm → X0.000 (tool value) X50.000 (actual value)



2. Z value → scratch turn length Z → Gauge length → cursor at Z → ACCEPT NEW VALUE → enter value Z0 or Z0 — blank dimension → 7 8 9 / 4 5 6 / 1 2 3 → confirm → Z0.000 (tool value) Z0.000 (actual value) → enter further tool values I, K, etc. or → TERMI-NATE INPUT

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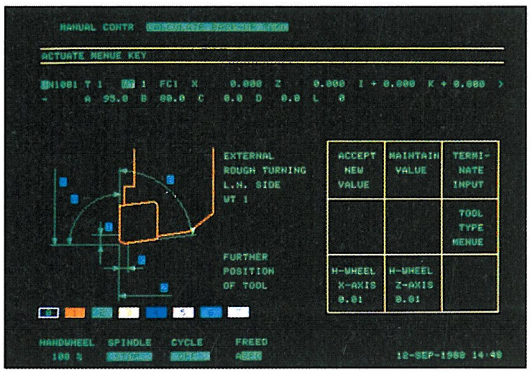
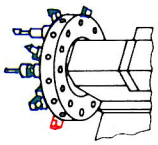
Referencing back-up tooling

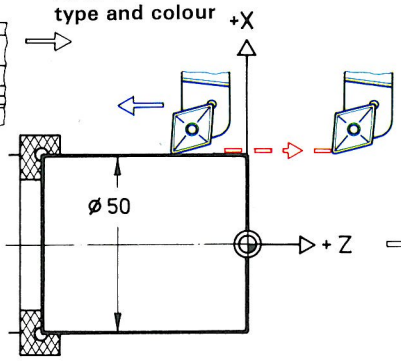


B → MANUAL → SETTING MODE → BACK-UP TOOL

Index back-up tool

Enter tool type and colour





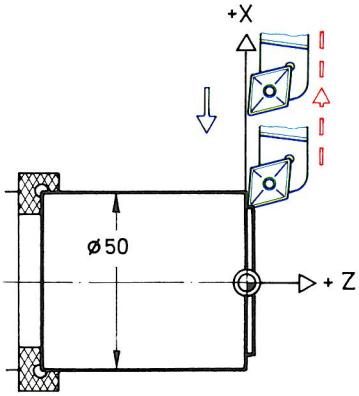
1. X-value → cursor at X → ACCEPT NEW VALUE → confirm

tool value

difference between zero point tool and back-up tool → X 12.120 radial value

actual position

X = 50.000



2. Z-value → cursor at Z → ACCEPT NEW VALUE → confirm

tool value

difference between zero point tool and back-up tool → Z 1.550

actual value → Z0 or Z0 + finishing allowance

enter further tool values I, K, etc. or → TERMI-NATE INPUT

Note:
If a new diameter or new length is scratch-turned with a back-up tool, then the **X** or **Z value** is to be given instead of confirm.

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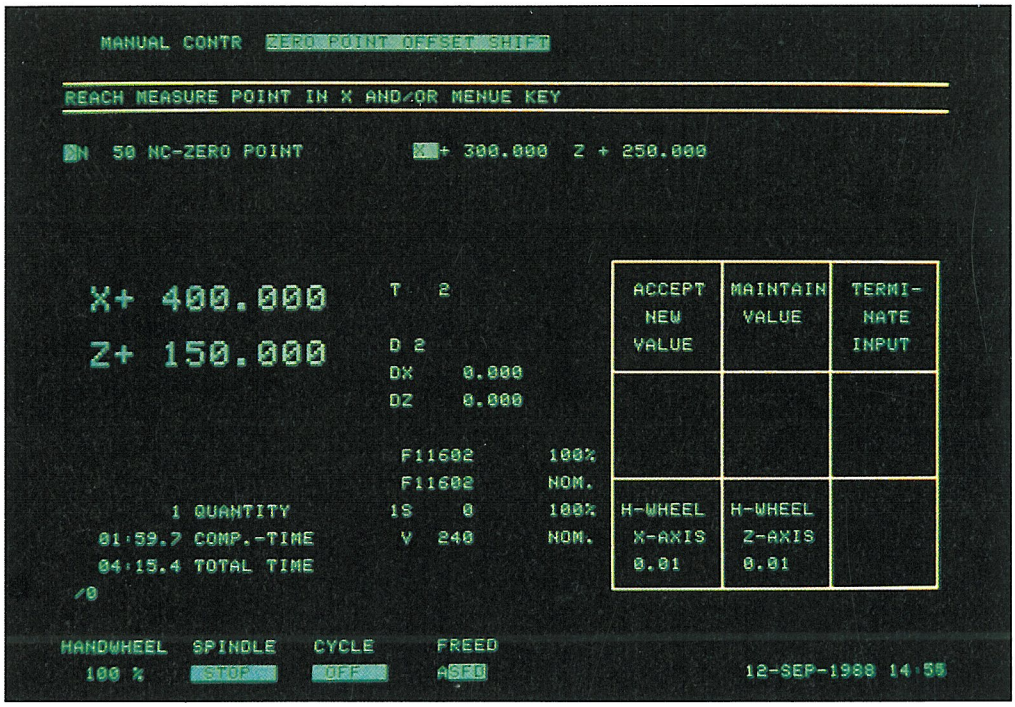
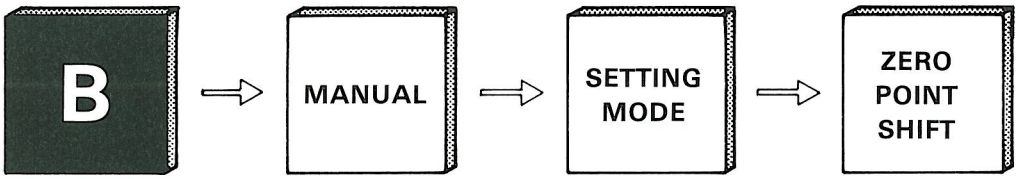
GILDEMEISTER AUTOMATION

Zero point shift with back-up tool



This function is used if the zero point tool is not in the turret, or if working without setting the zero point. The zero point shift can be carried out with any selected back-up tool which has been referenced.

1. Sequence of operation:



2. Scratch turn diameter:
Programming: As component zero point setting (see page 121)

3. Scratch turn length:
Programming: As component zero point setting (see page 121)

Note:
The zero point shift is mainly used in the **Z axis**.

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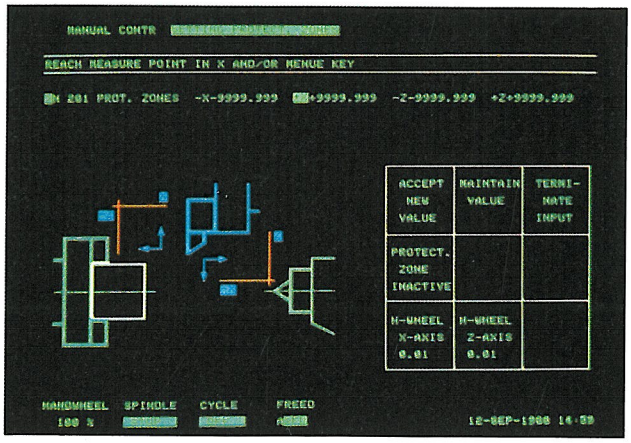
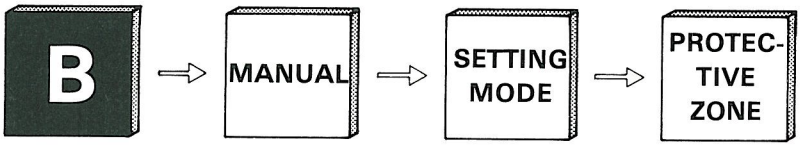
GILDEMEISTER AUTOMATION

Setting protective zones

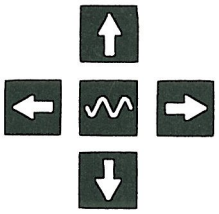


Protective zones are estblished to prevent collision of the tool with the work holding or with the tailstock.

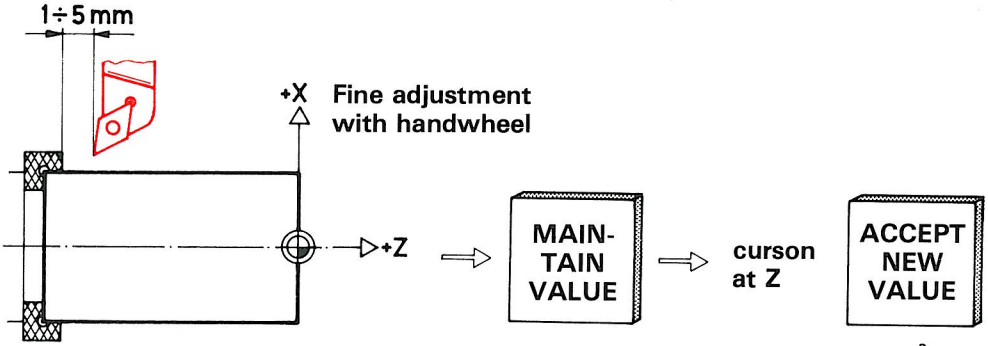
The protective zones are active in both automatic and manual operation. The protective zones can be established with any selected tool which has been referenced. All referenced tools, when brought into operation, are automatically **re-calculated** in relation to the protective zone.



Setting the **Z— PROTECTIVE ZONE with a tool which has been referenced:**



Traverse the tool close up to the chuck



The control calculates automatically the value in relation to the machine zero point. Due to the reference to the machine zero point, unusually large demensions result.

Note: if the **ACCEPT NEW VALUE** button is pressed, then only **confirm** may be entered and **never** a new value.

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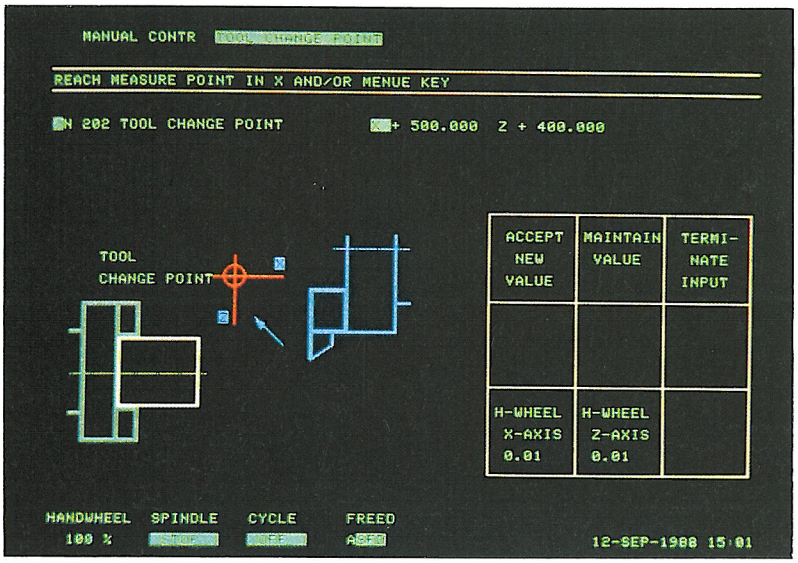
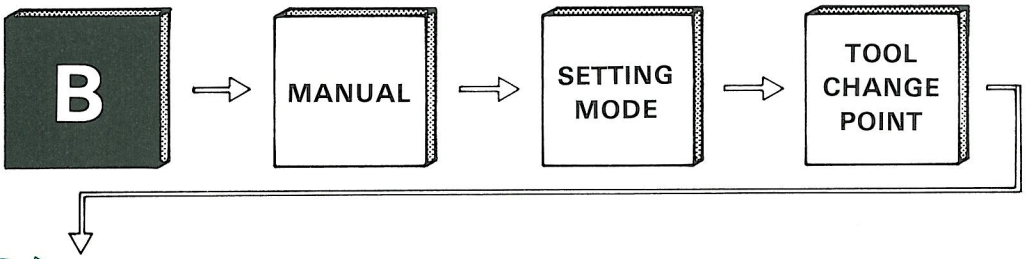
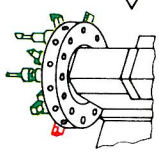
Setting tool change point



The function is used with small batch sizes in order that a secure tool change position can be guaranteed. The established tool change position is called up in the programme with G14.





Traverse the turret with the jog buttons so that a collision free indexing is possible with all the tools.

Cursor at X

ACCEPT NEW VALUE

Confirm

Cursor at Z

ACCEPT NEW VALUE

Confirm → The control automatically calculates the value in relation to the machine zero piont. Due to the reference to the machine zero point unusually larg dimensions result.

Note:
If the **ACCEPT NEW VALUE button is pressed, then only confirm** may be entered and **never** a new value.