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TRANSMISSION SYSTEM OFPARALLEL LATHE MACHINE TOOLS

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ABSTRACT

The tailstock that allows machining long and concentric components, as well as drilling, reaming and threading. More precise measurements can be obtained with more careful work and more rigorous procedures by personnel competent in skill and ability. It is the conventional machine tool widely used to produce flat and also cylindrical surfaces, in the manufacture of gears, cylindrical straight teeth, helical, hypoid, dovetail, in dies it is used to manufacture punches of different shapes and cutting dies and inlay.

KEYWORDS: *Precise, Gears, Cylindrical, Helical, Hypoid, Dovetail*

INTRODUCTION

The machine tools are basically constituted of the following elements: The bench or frame in which the guides of the work table are located (main carriage in the case of the lathe), which facilitates the cutting and advance movements; the precision of the work depends on the maintenance care of the bench. **[1]**

These machines are composed of: a). Transmission system, which facilitates the cutting movement, of the advances, for turning and facing work, also facilitates the operation of the Norton Mechanism for threading the threads of different shapes.

In these machines the precision range to be obtained is as follows:

Range of precision in machining by chip removal	
Machine tool	Precision to be obtained
Planer	0.1 mm
Milling machine	0.05 mm.
I turn parallel	0.02 mm
Flat grinder	0.005 mm
Universal grinding machine	0.02 mm

More precise measurements can be obtained with more careful work and more rigorous procedures by personnel competent in skill and ability. The advantage is that its costs are more comfortable, while its manufacturing times are longer, unlike that unconventional machine tools use less time to do the same work, in addition to carrying out work on even tempered material, but their costs they are taller. **[2]**

They are made up of the bench, which is the most important part of the lathe on which the main carriage that carries the transverse carriage and the auxiliary carriage rest, requires special care on the part of the operator placed in it. The precision of the components to be produced lies. **[3]**

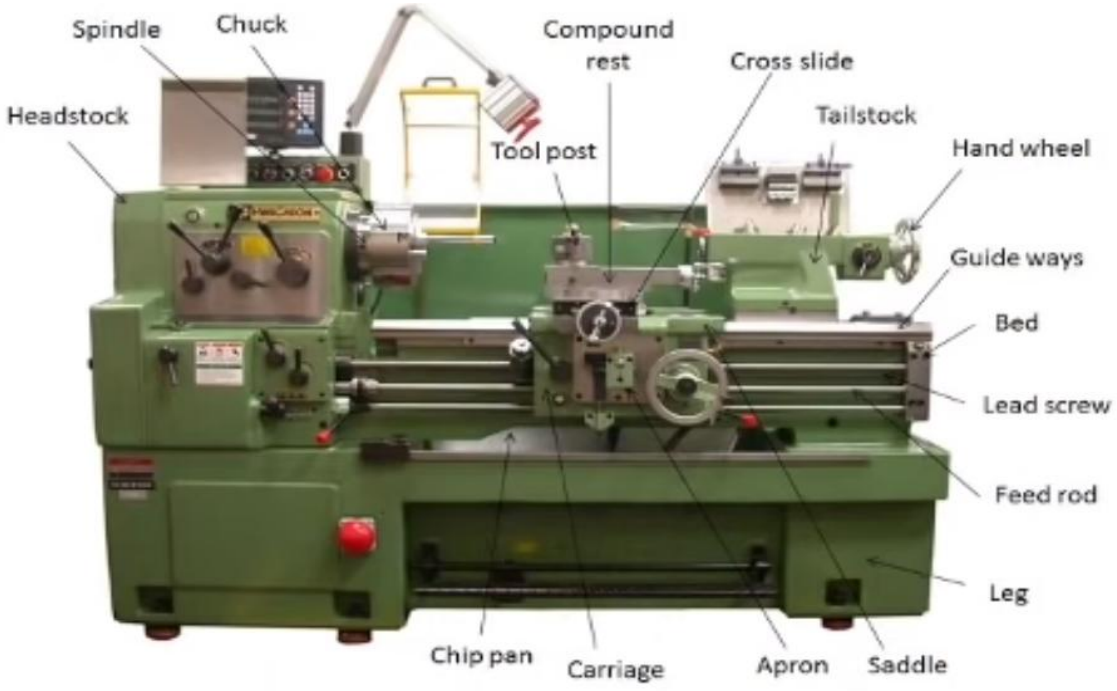

Illustration 1. Mechanical parallel lathe

The gearbox, which allows to obtain various angular speeds in the main spindle, the feedbox that generates different feeds for rough or fine machining, the threading bar that will allow to obtain the feed rate to make threads in combination with the advance box.

The tailstock that allows machining long and concentric components, as well as drilling, reaming and threading.

The console is made of gray cast iron that has been aged to make it more resistant to wear, they are hardened by induction tempering. Some machines are made of stealing cast iron which makes them more resistant to wear and tear and resistant to greater stress. **[4]**

The main operations carried out on the parallel lathe shown in the graph are: a) Facing, b)Conical, c) Shape turning, d) Profiling, e) Chamfering, f) Parting, g) Filleting, h) Turning Internal, i)Drilling, reaming, j) Knurling.

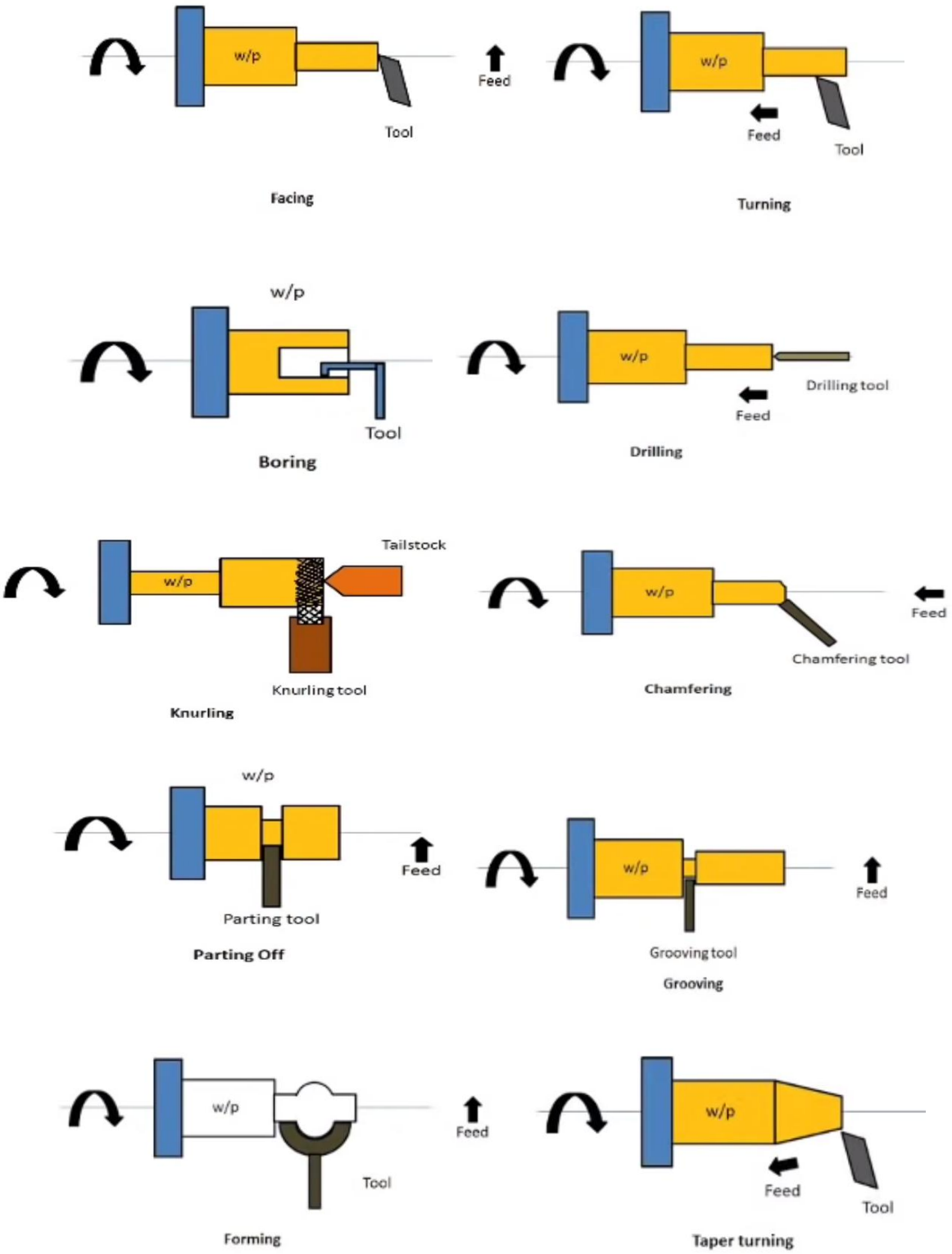
w/p
Tool
Feed
Facing
w/p
Feed
Tool
Turning
w/p
Tool
Boring
w/p
Drilling tool
Feed
Drilling
Tailstock
w/p
Knurling tool
Knurling
w/p
Feed
Chamfering tool
Chamfering
w/p
Parting tool
Feed
Parting Off
w/p
Feed
Grooving tool
Grooving
w/p
Tool
Feed
Forming
w/p
Feed
Tool
Taper turning

Illustration 2. Operations on the lathe.

The universal milling machine. It is the conventional machine tool widely used to produce flat and also cylindrical surfaces, in the manufacture of gears, cylindrical straight teeth, helical, hypoid, dovetail, in dies it is used to manufacture punches of different shapes and cutting dies and inlay. It is made up of the console on which the other parts rest, such as the main carriage whose displacement is vertical (Z axis) on which the longitudinal carriage (X axis) are mounted and the transverse movement (Y) occurs on the bench. **[5]**

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