

# ACCURACY OF PIN TIP ANGLE INSPECTION



TIME  
SAVER



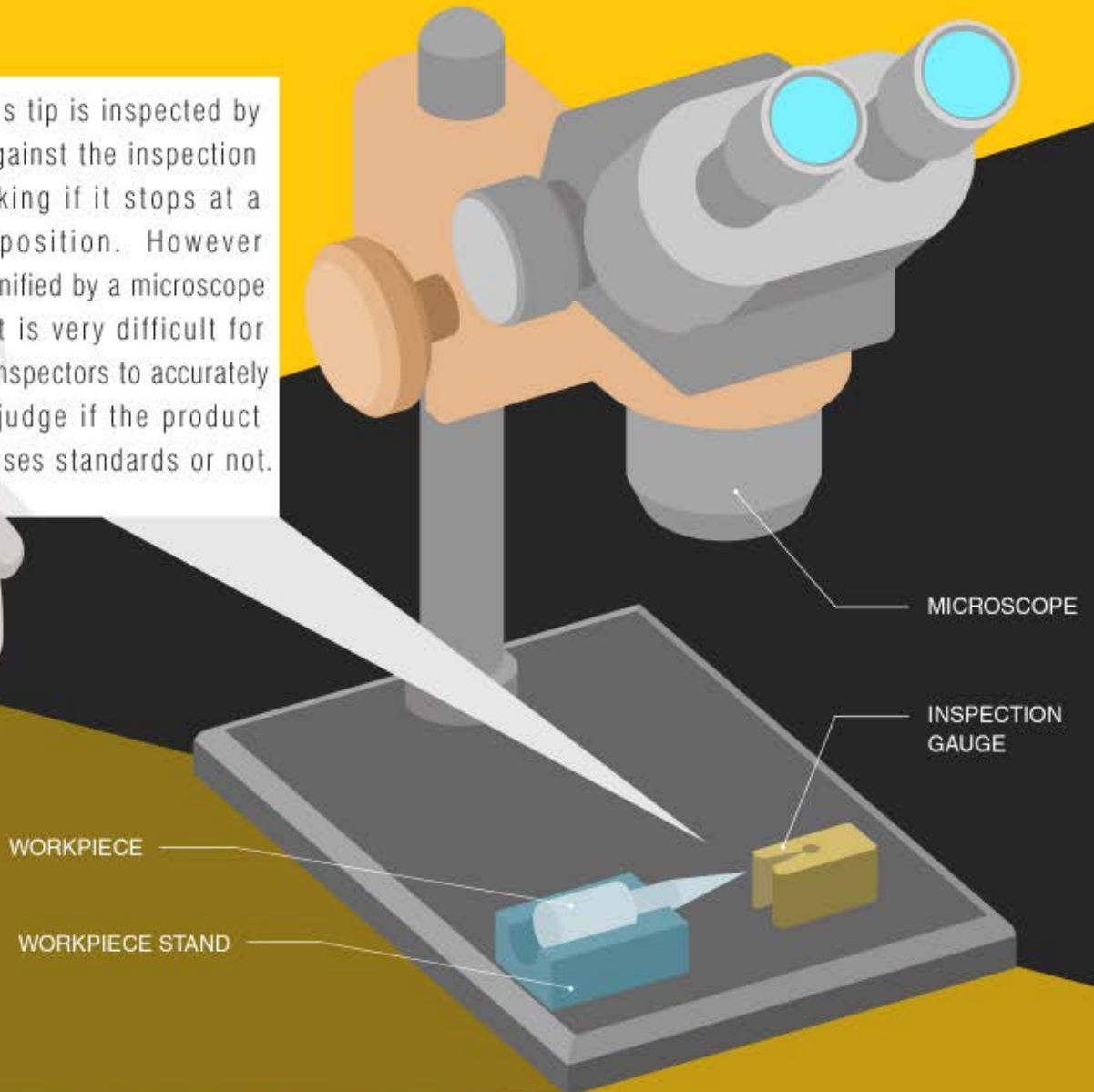
PROCESS  
IMPROVEMENT



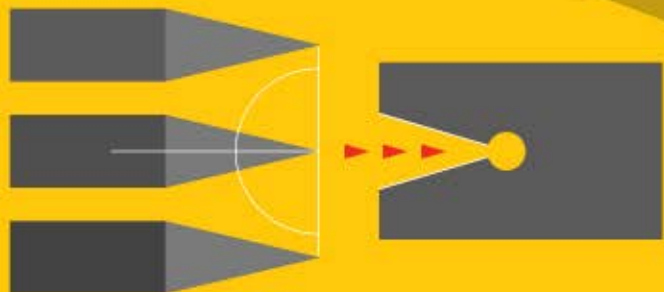


## USING MICROSCOPES AND INSPECTION GAUGES FOR QUALITY INSPECTION OF PIN GAGES PROVIDES DIFFICULTY FOR INSPECTORS.

The pin gage's tip is inspected by pressing it against the inspection gauge, checking if it stops at a designated position. However, when magnified by a microscope, it is very difficult for inspectors to accurately judge if the product passes standards or not.

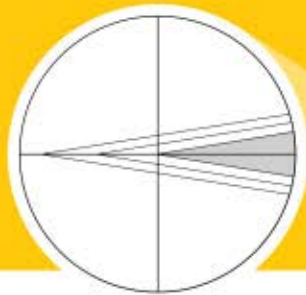


The pin gage is pressed against an inspection gauge with the tip stopping at its designated position. A pin gage with a large tip angle will not reach the designated position, while one with a small angle will exceed it (limit).



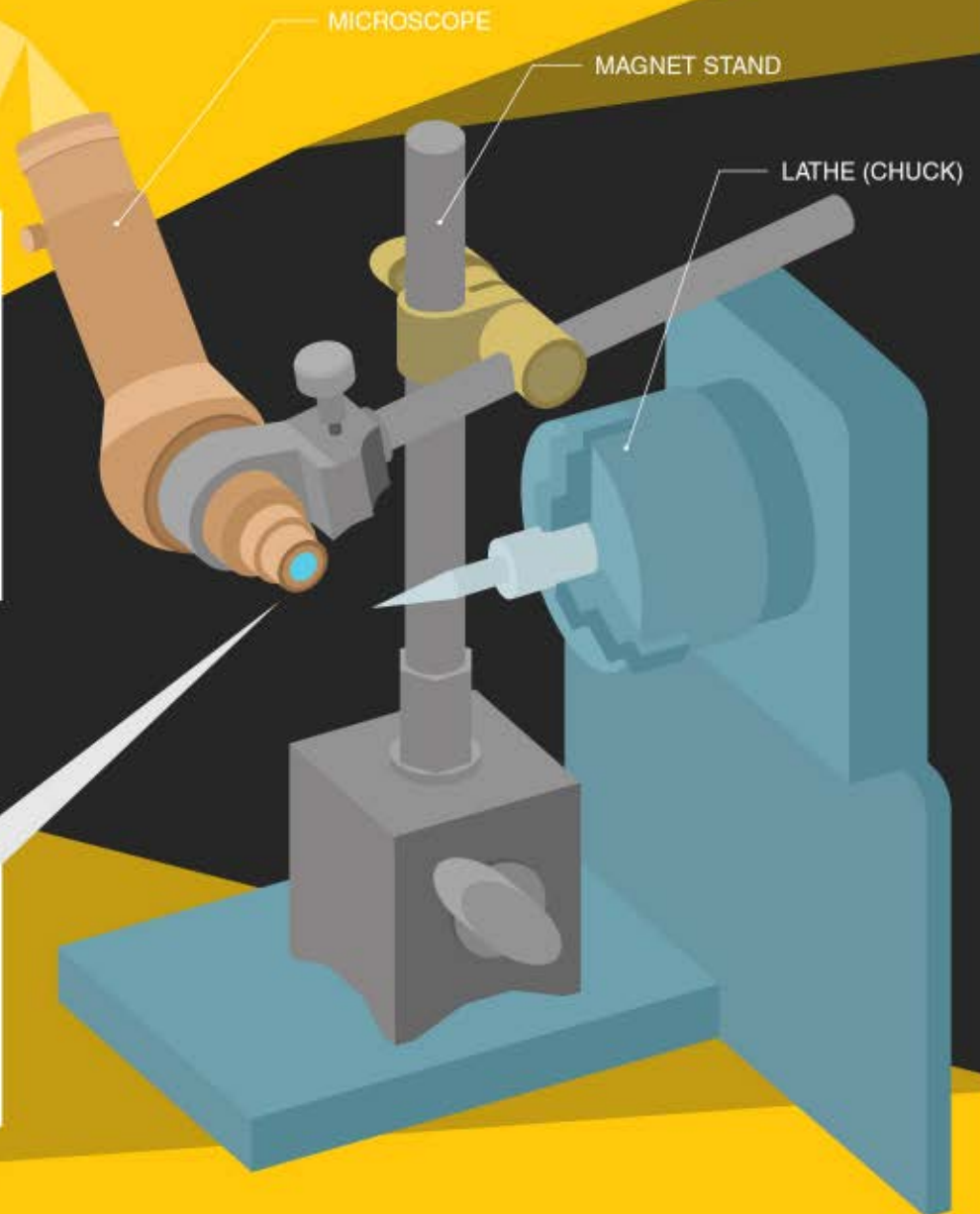


INSPECTION ACCURACY AND WORKABILITY HAVE SIGNIFICANTLY IMPROVED BY USING THE INSPECTION MICROSCOPE WITH BUILT-IN OCULAR MICROMETER.



The standard tip angle of the pin gage is engraved on the built-in ocular micrometer in three reference lines so inspectors can immediately decide whether it passes inspection standards or not.

Various positions are made possible by attaching the microscope to the magnetic stand. Inspection is also possible without removing the workpiece from the chuck after lathing!



The engraving, composed of three reference lines, is convenient, allowing more accurate and speedy results in the quality inspection of the pin gages.

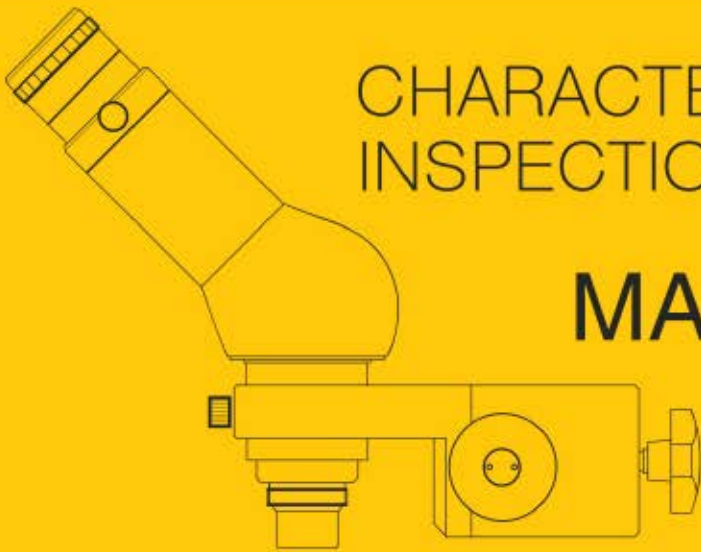
In addition, by fixing the microscope into a magnetic stand, the user can attach the device directly in contact with the lathe machine, making it possible to inspect the product right after processing.



# CHARACTERISTICS OF THE INSPECTION MICROSCOPE

## MAJOR SCOPE

# M-45



THE LENSES ARE BRIGHT, THE ACTUAL FIELD OF VIEW IS WIDE AND THIS IS A FULLY UPRIGHT IMAGE TYPE MICROSCOPE.



THIS CAN BE USED AS A NON-CONTACT, MEASURING MICROSCOPE BY USING VARIOUS LENSES TOGETHER WITH THE OCULAR MICROMETER.



BY REPLACING THE OCULAR MICROMETER, IT CAN BE USED IN MANY WAYS LIKE MEASURING, INSPECTING, CENTERING, POSITIONING, ETC.



THE MANUFACTURE OF CUSTOM-BUILT MICROMETERS TO SUIT THE CUSTOMER'S SPECIFICATIONS IS ALSO POSSIBLE.



ACCESSORIES (10X EYEPIECE 2X OBJECTIVE LENS)

### READING THE OCULAR MICROMETER WITH A MINIMUM SCALE VALUE OF 1

THE OCULAR MICROMETER'S SCALE CAN BE CALCULATED BY DIVIDING IT BY THE MAGNIFICATION OF THE OBJECTIVE LENS WHICH USES A MINIMUM SCALE OF 0.1 MM (ENGRAVED ON THE OCULAR MICROMETER).

FOR EXAMPLE, IF THE SCALE OF THE OCULAR MICROMETER IS 10 MM IN 100 EQUAL PARTS (MINIMUM SCALE VALUE OF 1) THE READINGS ARE:

- OBJECTIVE LENS WHEN USING 2X MAGNIFICATION:  $0.1 \div 2 = 0.05$  MM (MINIMUM SCALE VALUE OF 1)
- OBJECTIVE LENS WHEN USING 5X MAGNIFICATION:  $0.1 \div 5 = 0.02$  MM (MINIMUM SCALE VALUE OF 1)
- OBJECTIVE LENS WHEN USING 10X MAGNIFICATION:  $0.1 \div 10 = 0.01$  MM (MINIMUM SCALE VALUE OF 1)

