

॥ नमस्ते ॥

MEASURING INSTRUMENTS

1. Calipers



They are usually of two types- inside and outside caliper. They are used to measure internal and external size (for e.g. diameter) of an object. It requires external scale to compare the measured value.

2. Vernier caliper

It is a precision tool used to measure a small distance with high accuracy. It has got two different jaws to measure outside and inside dimension of an object. It can be a scale, dial or digital type Vernier caliper.



3. Micrometer

It is an excellent precision tool which is used to measure small distances and is more accurate than the vernier caliper. Another type is a large micrometer caliper which is used to measure large outside diameter or distance. They are available in two types- Inside micrometer (to measure inside diameter) and Outside micrometer (for measuring outside diameter)



4. Feeler gauge

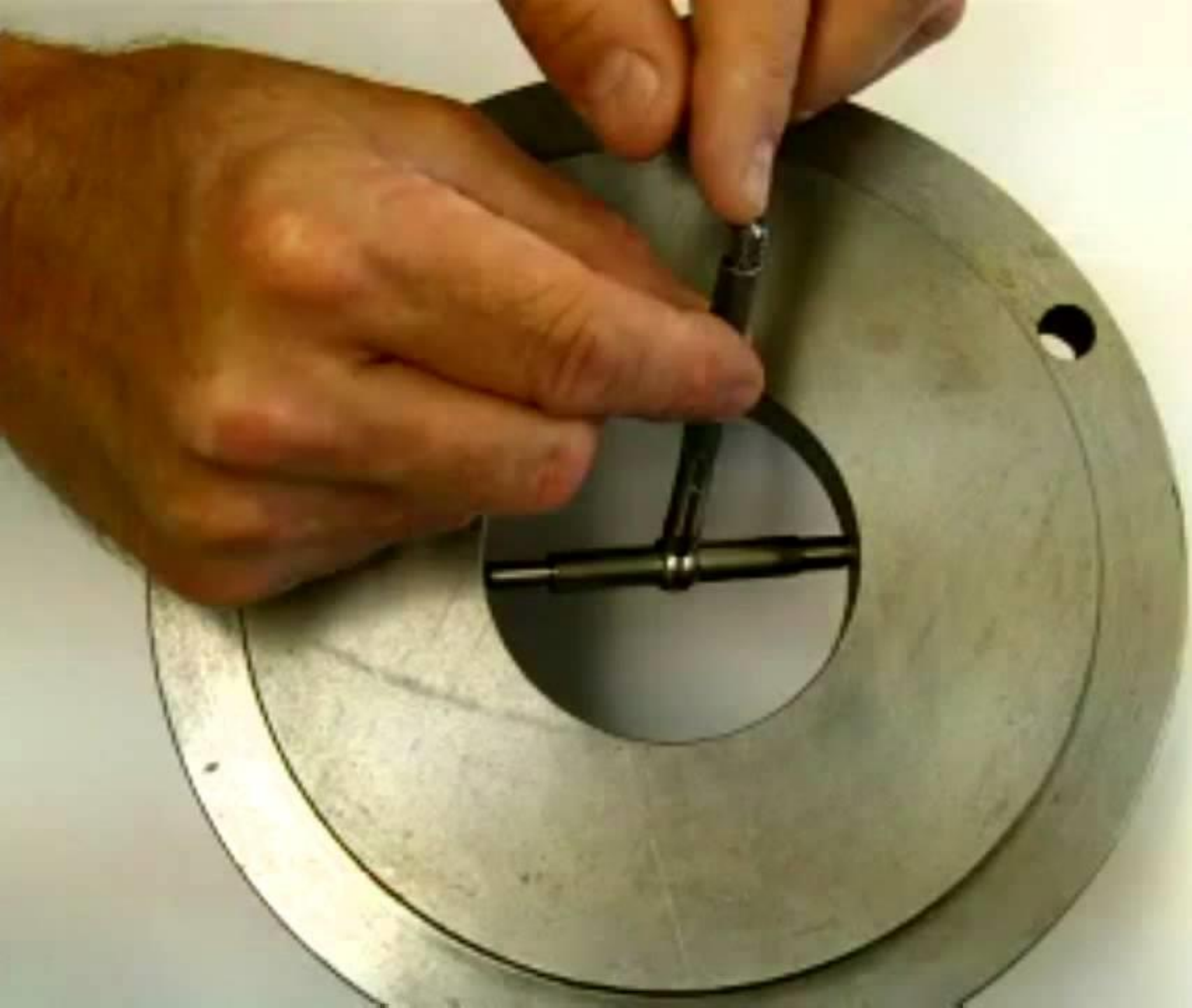
Feelers gauges are a bunch of fine thickened steel strips with a marked thickness which is used to measure gap width or clearance between surface and bearings.



5. Bore Gauge

A tool to accurately measure the size of any hole is known as bore gauge, It can be a scale, dial or digital type instrument.





6.Wire Gauge

wire gauge or WG is a standard tool which is circular and has various slots of different diameter in its circumference. It is used to measure the cross section of an electric cable or wire.



7. Depth gauge

A depth gauge is used to measure the depth of a slot, hole or any other surface of an object.

It can be of scale, dial or digital type.



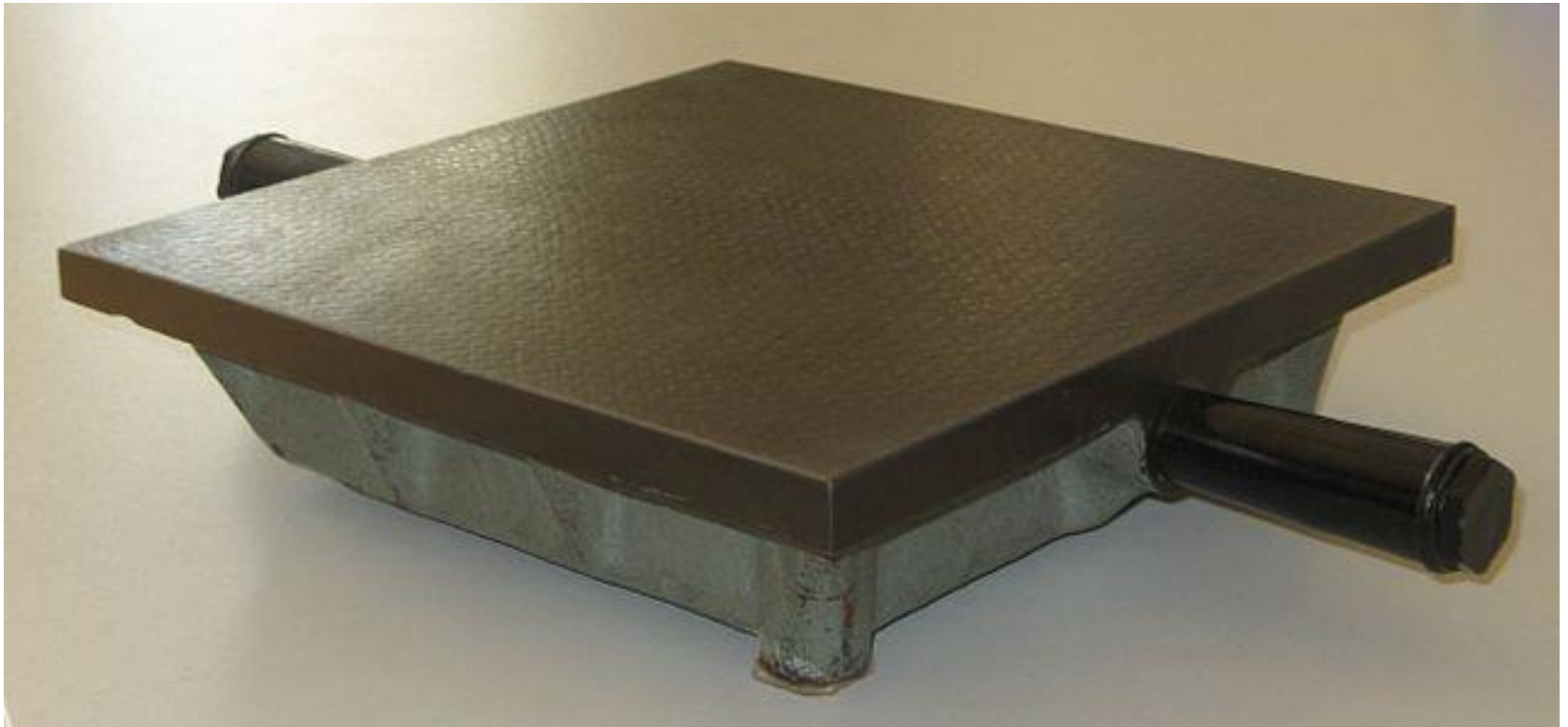
8. Angle plate or tool

It is a right angle plate or device used to measure the exact right angle of two objects joined together.



9.Flat Plate

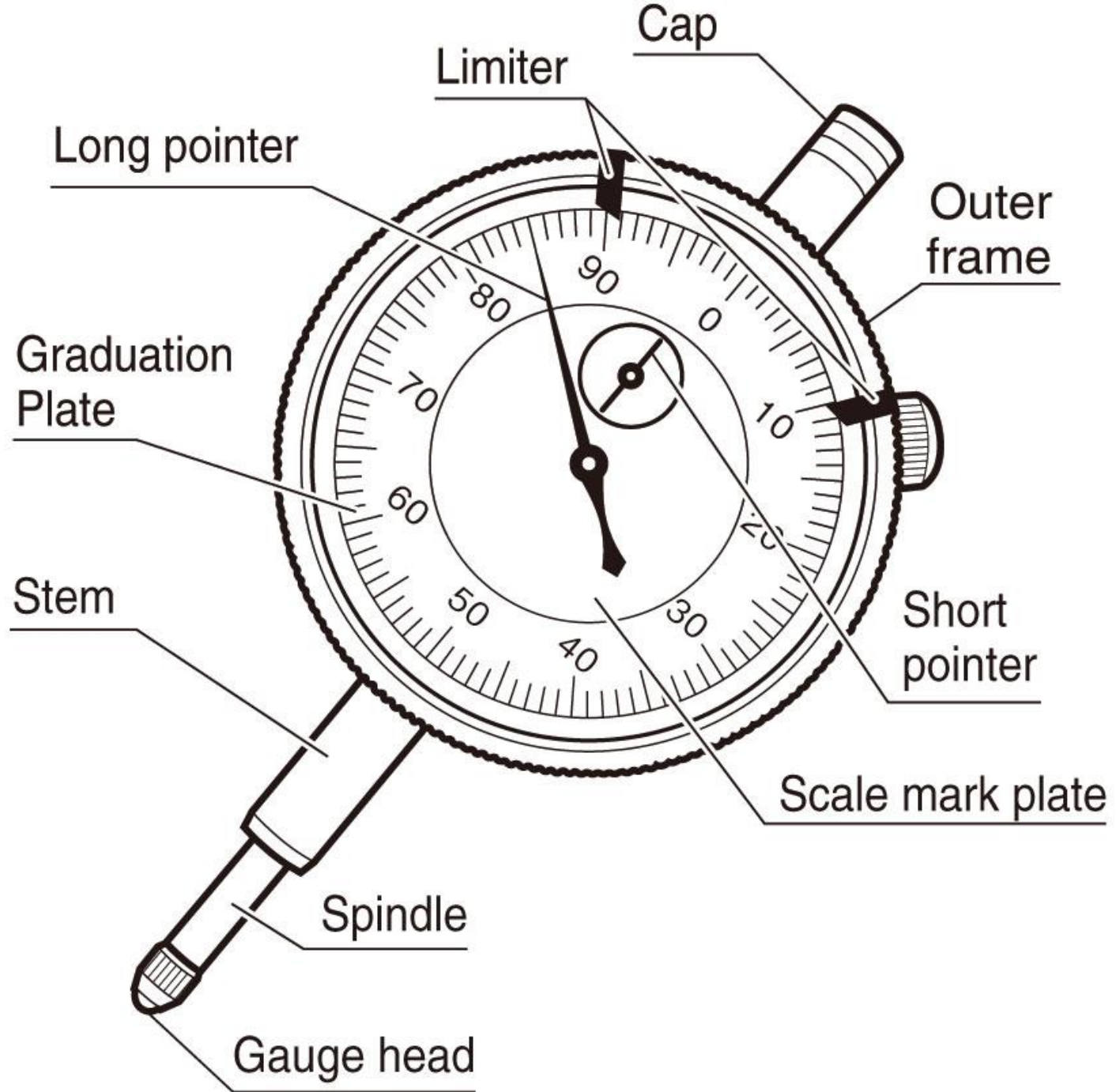
The flat plate is a precision flat surface used to measure the flatness of an object when it is kept over the flat plate.



10. Dial Gauge

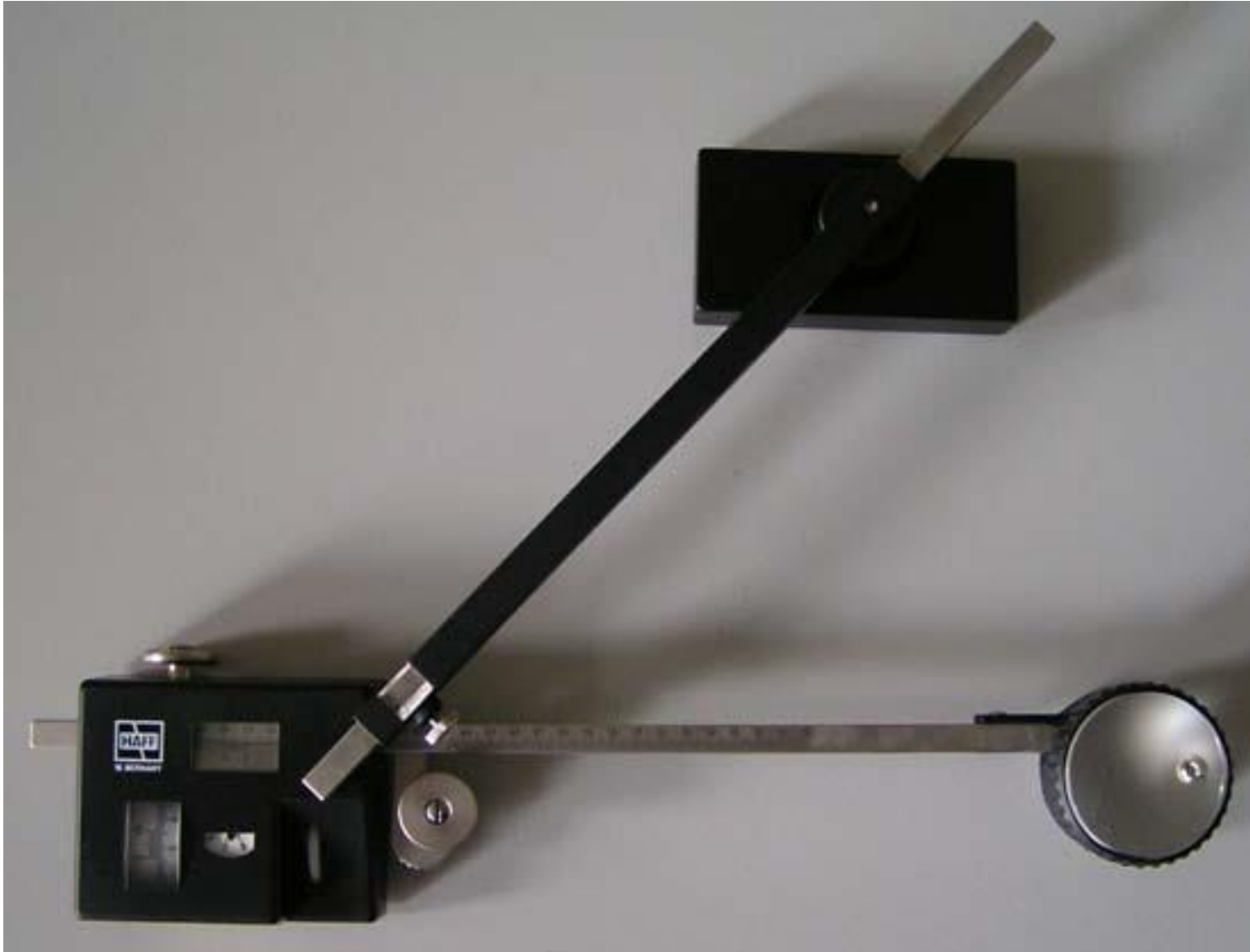
The dial gauge is utilized in different tools as stated above and can be separately used to measure the trueness of the circular object, jumping off an object, etc.





11. Planimeter

An instrument which is used to measure areas of irregularly shaped areas of an arbitrary two-dimensional shape on plans or drawings.



12. Go No-Go Gauge/ Plug Gage

GO, NOGO and Master cylindrical plain gauges have different intended uses.

A GO cylindrical plain gage is intended to go into/onto the piece being tested. The GO is testing the maximum material condition.

A NOGO cylindrical plain gauge is intended not to go into/onto the piece being tested. The NOGO is testing the minimum material condition.

A Master cylindrical plain gage is intended to be used as a master for setting another tool or gauge to size.



13.Thread gauge/screw gauge/pitch gauge

Thread pitch gauges are used as a reference tool in determining the pitch of a thread that is on a screw or in a tapped hole. This tool is not used as a precision measuring instrument, rather it allows the user to determine the profile of the given thread and quickly categorize the thread by shape and pitch. This device also saves time, in that it removes the need for the user to measure and calculate the thread pitch of the threaded item.





Today's Amazing Fact???????

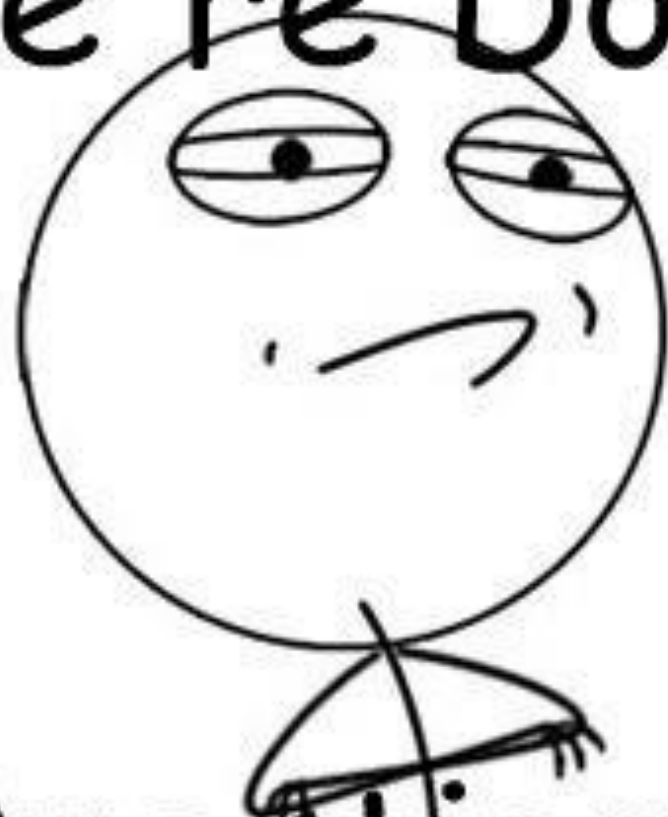
Comparing speed achieved in seconds

Hayabusa 180km/hr in 3.4 Sec

Space shuttle 3500Km/hr in 60 Sec



We're Done.



Questions?

धन्यवाद

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