NEW OR OLD MACHINES CAN PRODUCE MORE WHEN EQUIPPED WITH HARDINGE COLLET INDEX FIXTURES

Time and time again, you have experienced the need for a fixture to quickly hold work accurately and, at the same time, provide a means for rapid indexing. The Hardinge Collet Index Fixtures fulfill those requirements economically and there planned interchangeability of the various units for application to a wide variety of work.

These fixtures are for direct application or for use with a sub-base on your Milling Machines, Grinders, Shapers and Drill Presses. It is no longer necessary for your operators to make expensive holding devices for each different application.

H-4 HORIZONTAL COLLET INDEX FIXTURE

This fixture was designed for use in tool-room and inspection departments. The spindle takes 1" capacity 5C HARDINGE Collets and has a hardened and ground index plate with 24 holes to give 2, 3, 4, 6, 8, 12 and 24 divisions or 15° spacings. Index holes and index pin have 8° included angle taper for positioning and locking. The index pin is spring backed for quick location in the index holes. Fixture is provided with 1/2" wide removable keys for parallel or right angle fitting to sub-base or machine table.

The spindle is hardened and ground for a taper seat in the fixture frame. There is a hardened thrust washer back of the shoulder on front of the spindle for the usual adjustment. The two long sides of the base and the bottom of the base are accurately ground parallel with the spindle. For other specifications, see the last page of this bulletin.

HV-4 HORIZONTAL-VERTICAL COLLET INDEX FIXTURE

This fixture was designed for use in production departments. It incorporates the features of the fixture described above, plus these four additional features: (1) Hardened and ground index plate has a preselecting arrangement. (2) A collet closer with 100 to 1 leverage to facilitate rapid chucking of work on a production basis. (3) Ratchet device for rapidly rotating the spindle when indexing. (4) Base for operation in either a horizontal or vertical position.

Preselecting Arrangement

The index plate has a screw in each of the 24 index holes so that holes not required for a particular job can be "blinded." As an example, the screws in the plate can be arranged so that the index pin can enter in six holes only, or four only, or any other number divisible into 24, with even and odd spacings. This means that the index plate holes can be arranged for any one job as though the index plate were made for that job only, therefore, the operator cannot make a mistake when indexing. The preselector screws in the index plate are tightened securely against a shoulder when certain holes are not in use or against a retainer ring when being used.

The HV-4 Horizontal-Vertical Collet Index Fixture is furnished for right hand mounting unless left hand mounting is specifically requested.

See last page for typical applications.
Planned interchangeability provides a wide variety of applications

The above illustration graphically shows the interchangeability which exists between the various units. With the T-4 Tailstock and the SB-4 Sub-Base, the application of the HV-4 Horizontal-Vertical Collet Index Fixture makes a production unit; the application of the H-4 Horizontal Collet Index Fixture makes a unit for tool-room and inspection work; the application of another T-4 Tailstock makes a centering device.

Each of these three units can be used interchangeably with one Sub-Base and one Tailstock.

In addition, there are many applications where the units can be used individually or without the sub-base for direct application to the machine bed.

To derive complete advantages offered through the use of HARDINGE Collet Index Fixtures, purchase the units as shown above. Through their use, you will soon find that many "difficult jobs" can be easily machined, as these fixtures standardize your special holding and indexing requirements.

Uses:
Practical time-saving applications make these fixtures essential in the modern tool room and production departments. They are used for milling keyways, punches, pinions, flutes in end mills, taps, counterbores and cutting gear and sprocket teeth. Punches can be ground round, square, hexagon, or round with one or more flat sides. Special size square, hexagon, octagon or other shape test plugs can be machined and ground to size. The fixtures are handy for making one or two lipped cutters for high speed milling heads, grinding to shape from hardened high speed steel. They are ideal for sharpening wood off and other chucked cutters also, for sharpening reamers, end mills, hollow mills, core chasers, and for grinding broaches. The fixtures can be used for testing concentricity of parts. The manufacture of duplicate or interchangeable parts is an excellent application for these fixtures.
H-4 HORIZONTAL COLLET INDEX FIXTURE: Takes standard 50 HARDINGE Collets with 1" round stock capacity. Bases in 4-1/8" long, 4-1/4" wide with 1/2" wide slot at each end for hold down holes. Diameter of the body at the spindle section is 0-7/8". The overall height including the index pin is 7-1/8". Distance from bottom of base to center of spindle is 4.000".

The hardened and ground index plate has 24 holes to give 2, 3, 4, 6, 9, 12 and 24 divisions or 15° spacing. Index holes and pin have 8° included angle taper for positioning and locking. The hardened and ground index pin is lever operated and spring backed for quick location in the index holes. Draw spindle knurled handle is 2-1/2" in diameter.

H-6 HORIZONTAL COLLET INDEX FIXTURE: This fixture has the same specifications as the H-4 Horizontal Collet Index Fixture with the exception that it has a 20 hole index plate for 2, 4, 5, 10 and 20 divisions.

H-4 HORIZONTAL-VERTICAL COLLET INDEX FIXTURE: Takes standard 50 HARDINGE Collets with 1" round stock capacity. Overall height when in horizontal position is 8". Overall length is 8-1/8", Overall width including handle is 8". Length of base is 5-9/16. Width of base is 4". Distance from bottom of base to center of spindle is 4.000".

The hardened and ground index plate has 24 holes to give 2, 3, 4, 6, 9, 12 and 24 divisions or 15° spacing. Index holes and pin have 8° included angle taper for positioning and locking. The hardened and ground index pin is lever operated and spring backed for quick location in the index holes. The index plate is provided with preselector screws as described on page two of this bulletin.

The HV-4 Horizontal-Vertical Collet Index Fixture has an accurately fitted hardened and ground spindle, which has a taper seat in the fixture frame. There is a hardened thrust washer back of the shoulder on front of spindle for the usual adjustment. Spindle has a ratchet for use when indexing and a collar shown with 180° to 1 hexagon. The base for the horizontal position is provided with 1/2" wide removable keys for parallel fitting to the sub-base or machine table.

Note: Separate plates are not available because the fixtures are designed for use with only one plate to provide greatest economy.

T-4 TAILSTOCK: Base is 2-1/2" long by 3-1/8" wide. The body section is 2-1/2" wide. Spindle is 5/8" diameter with flush top and has a travel of 1-1/4". Spindle is operated by a 1-1/2" diameter nut and is locked in any position of its travel by a standard clamp bolt. Center height is 4.000".

The tailstock is furnished with two 1/2" wide removable keys for parallel fitting to the sub-base or machine table.

SB-4 SUB-BASE: 24-1/2" x 5-1/8" with 21-1/4" x 4-7/8" surface for fixtures and tailstock. Maximum center distance is 11" with H-4 Fixture and T-4 Tailstock. 10" with HV-4 Fixture and T-4 Tailstock and 13" with 2 T-4 Tailstocks —the foregoing dimensions are with back edge of the units flush with the ends of the Sub-Base. Height of the Sub-Base is 1-1/2". For alignment purposes, the side of the Sub-Base has a ground surface which is at a right angle with the top of the Sub-Base and parallel with the tee slot. Centering units are slotted so that the Sub-Base can be set at an angle. Tee slot takes standard 7/16" bolts with 7/8" square heads. Sub-Base is furnished with bolts.

HARDINGE COLLETS: These collets are interchangeable between the H-4, H-6, HV-4 and HV-0 Fixtures. Collet has an overall length of 3-9/32" not including the cone at base. The body diameter is 1.250" and the threads are 1.245 50 H. The capacity is 1" round, 7/8" hexagon and 29/32" square.

HARDINGE Collets have been recognized for accuracy and durability since 1890.

They are hardened and ground internally and externally and have heat treated threads.

HARDINGE BROTHERS, INC.
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