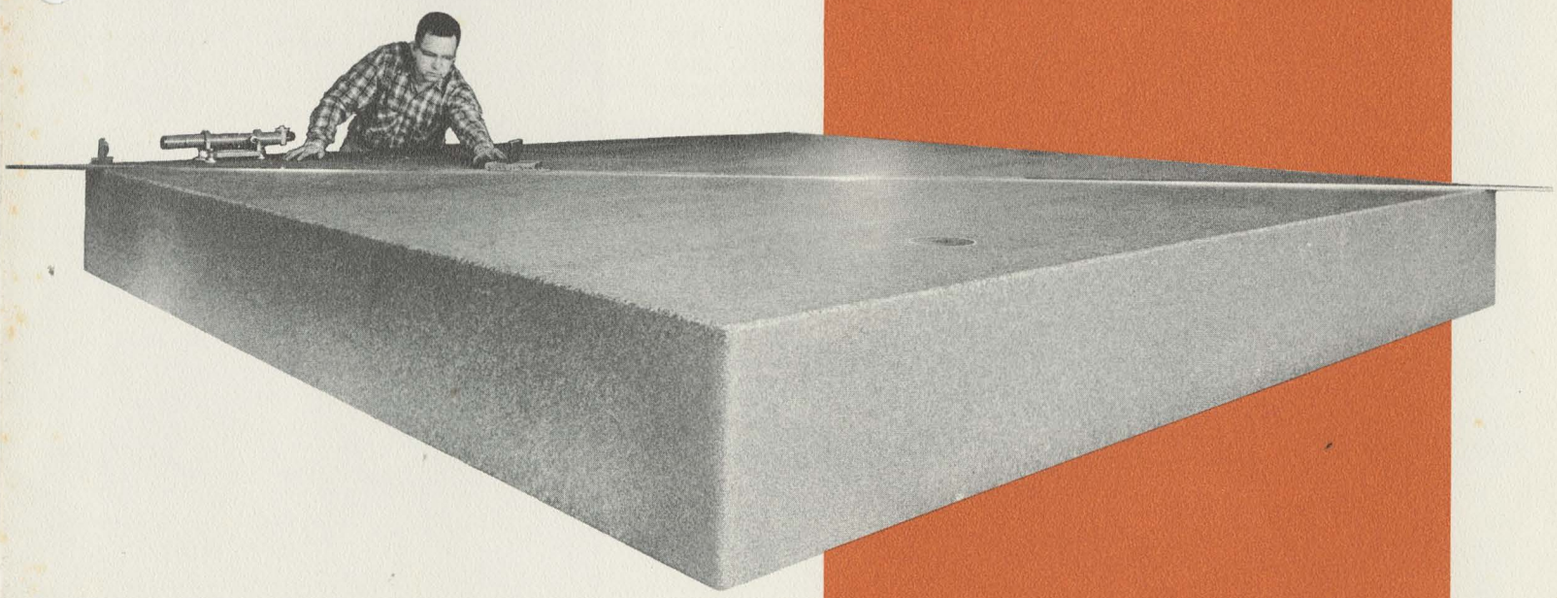
OVERSIZE GRANITE SURFACE PLATES

. . . for precision measurement of large parts and assemblies



Missile inspection plate of Mt. Airy gray granite.
Dimensions: 12′ x 12′ x 18.5″
Weight: 37,000 pounds

OVERSIZE GRANITE SURFACE PLATES

WILL KEEP CLOSE TOLERANCE YEAR AFTER YEAR WITHOUT REALIGNMENT

Mt. Airy quarry, which is the largest open face quarry in the world, enables HERMAN STONE to produce larger surface plates than any other manufacturer. The only limiting factor in the size that can be produced is transportation facilities. The largest practical plate is 50′ long, the length of a railroad flat car.

Produced entirely in one piece, oversize surface plates eliminate the problem of lining up several small plates to create one large reference surface. The single-unit plate will keep close tolerance year after year without realignment.

Machine Finish

A special lapping machine is used to accurately finish the surface of these large plates. This machine propels large lapping blocks, weighing as much as 4000 pounds, over the plate, finishing the surface to a uniform overall accuracy.

Use of the special machine with large lapping blocks eliminates the waves that can result from hand finishing of large surfaces with small lapping blocks.

Atmosphere in the specially equipped finishing plant is temperature and humidity controlled within close limits around the clock. Such precise controls are necessary to obtain the high accuracy in manufacturing to the standards of HERMAN STONE.

Superior Performance

To make HERMAN STONE surface plates, only the highest quality true quartz granite is selected.

Mt. Airy granite is used for "gray" surface plates, Herman Pink and Crystal for "pink" plates.

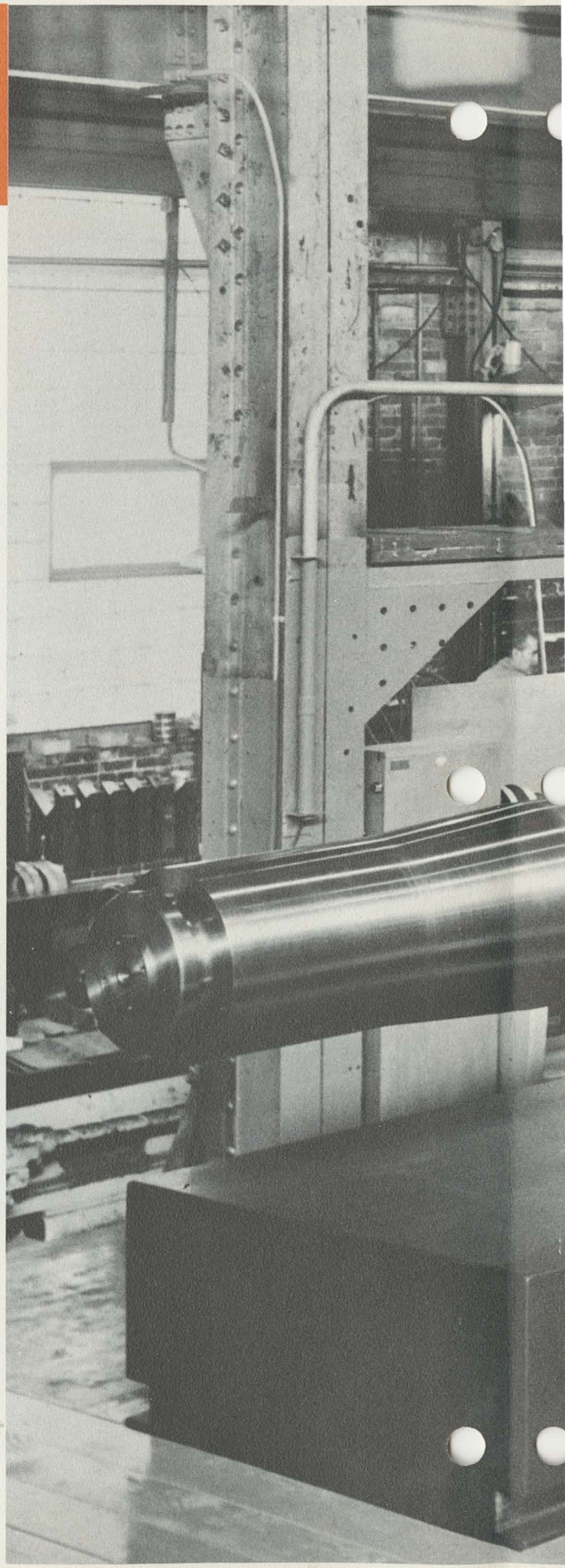
Herman Pink being superior, having the same mineral content but having a tighter bond. Any of these granites can be dyed black with a permanent deep penetrating dye.

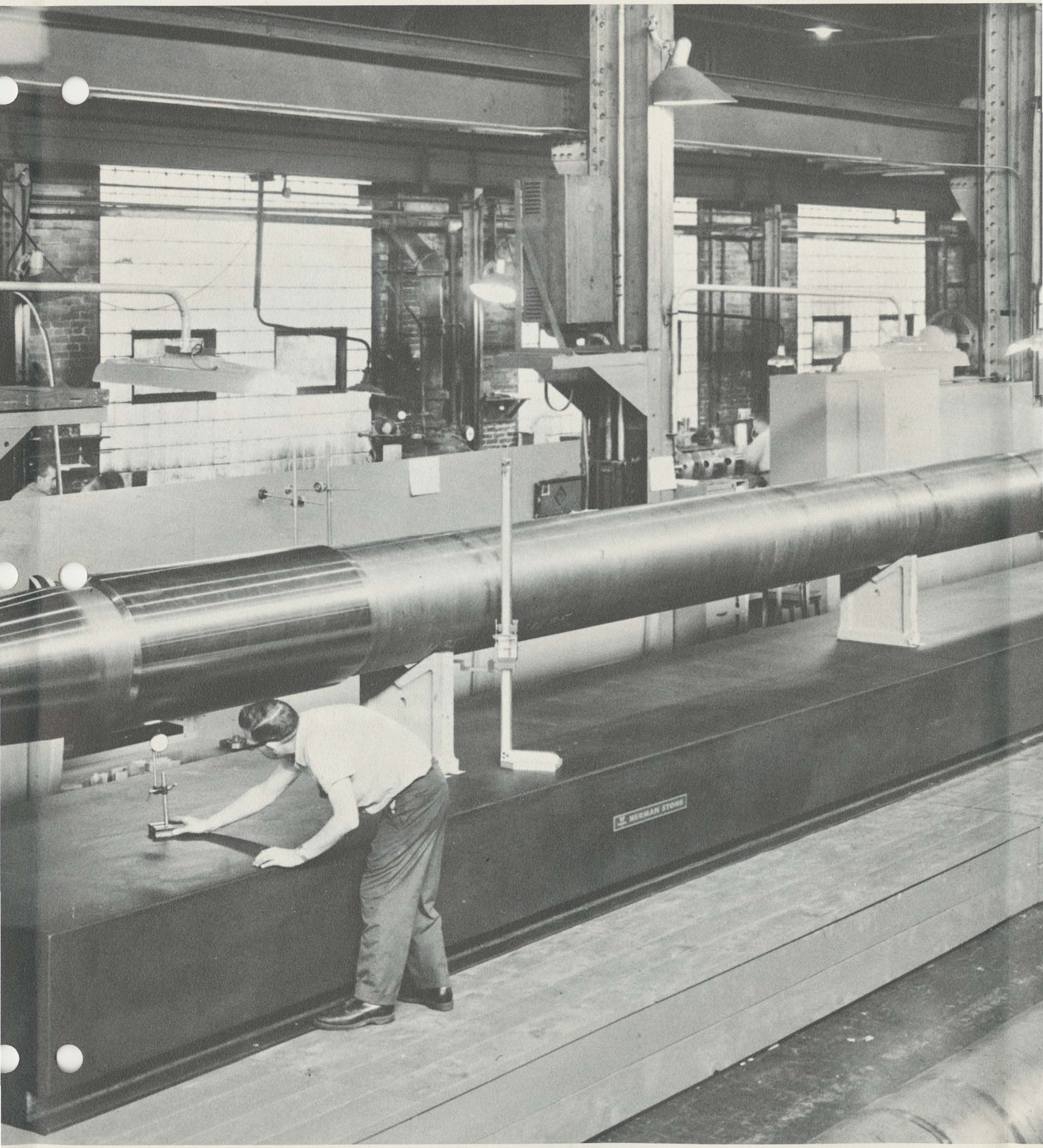
Twenty years' experience in manufacturing precision granite products has shown that these quartz granites assure greater dimensional stability, cause less abrasion to tools and instruments, eliminate wringing action, and provide the longest service life and best accuracy in any type of precision surface plate.

Registered Accuracy

The auto-collimator is used for checking plate accuracies during production, as well as in final inspection. All HERMAN STONE surface plates must pass this critical test. After inspection, a graph of the surface tolerance is prepared and registered by serial number in your name. Kept on file at the factory, duplicate copies are available on request.

With registered accuracy you get the skill and integrity of a manufacturer who originated granite surface plates and who has specialized in surface plate making ever since.

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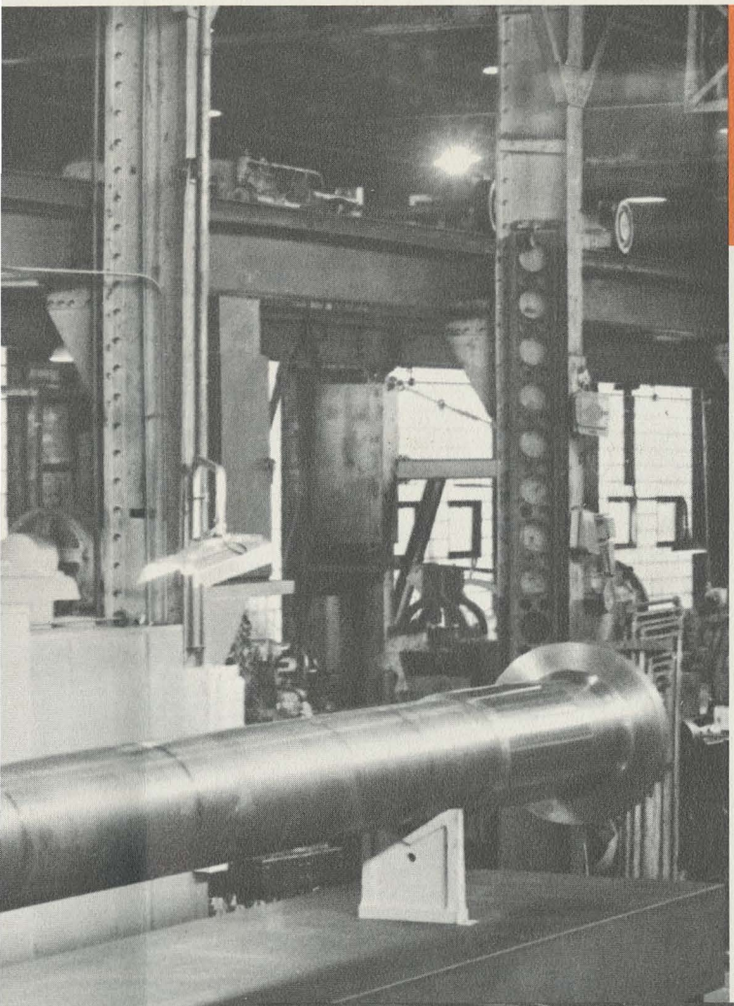


Mount Airy Granite Plate, dyed black, used for inspection of shipshafting and large compressor crankshafts at Titusville Crankshaft and Machine Company, Titusville, Pennsylvania, a subsidiary of National Forge Company, Irvine, Warren County, Pennsylvania.

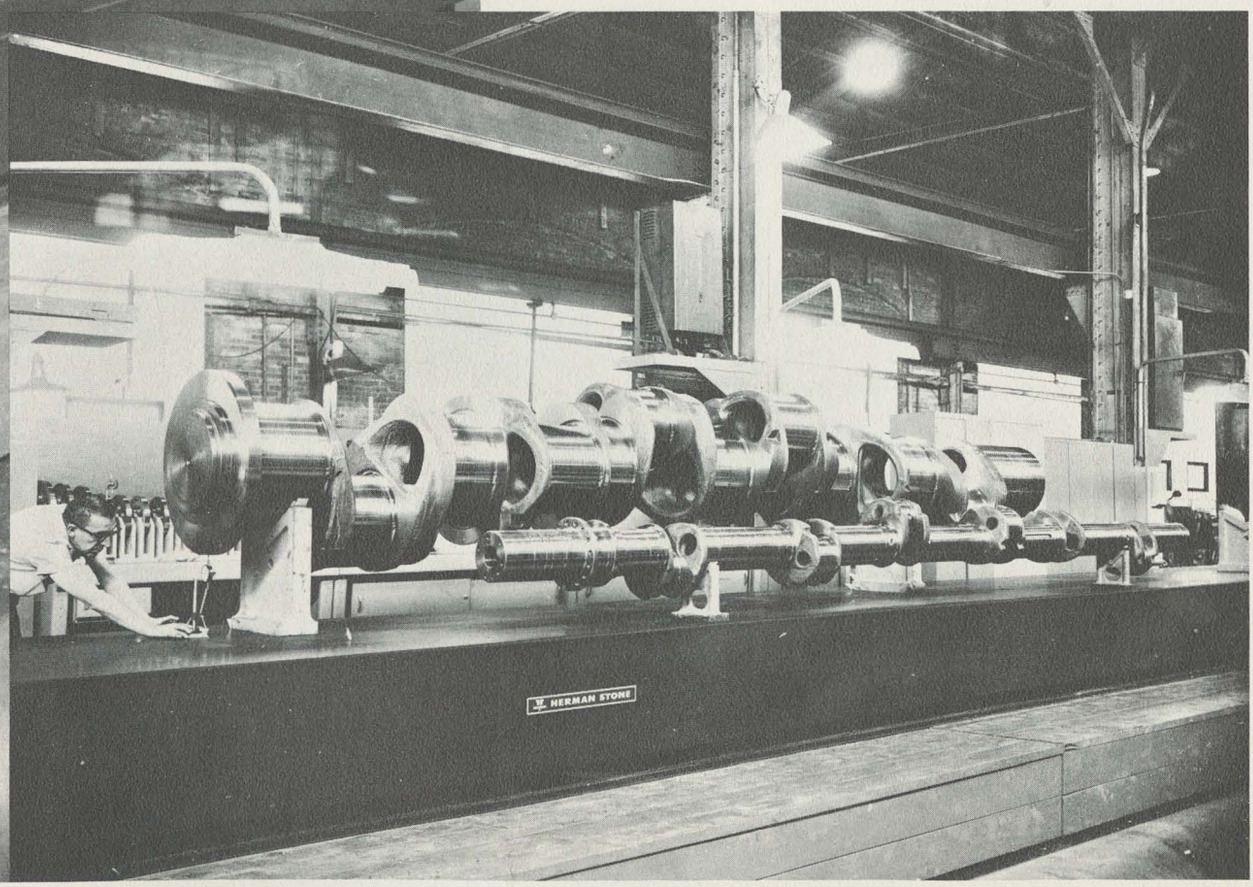
Dimensions: 45′0″ x 5′0″ x 3′0″

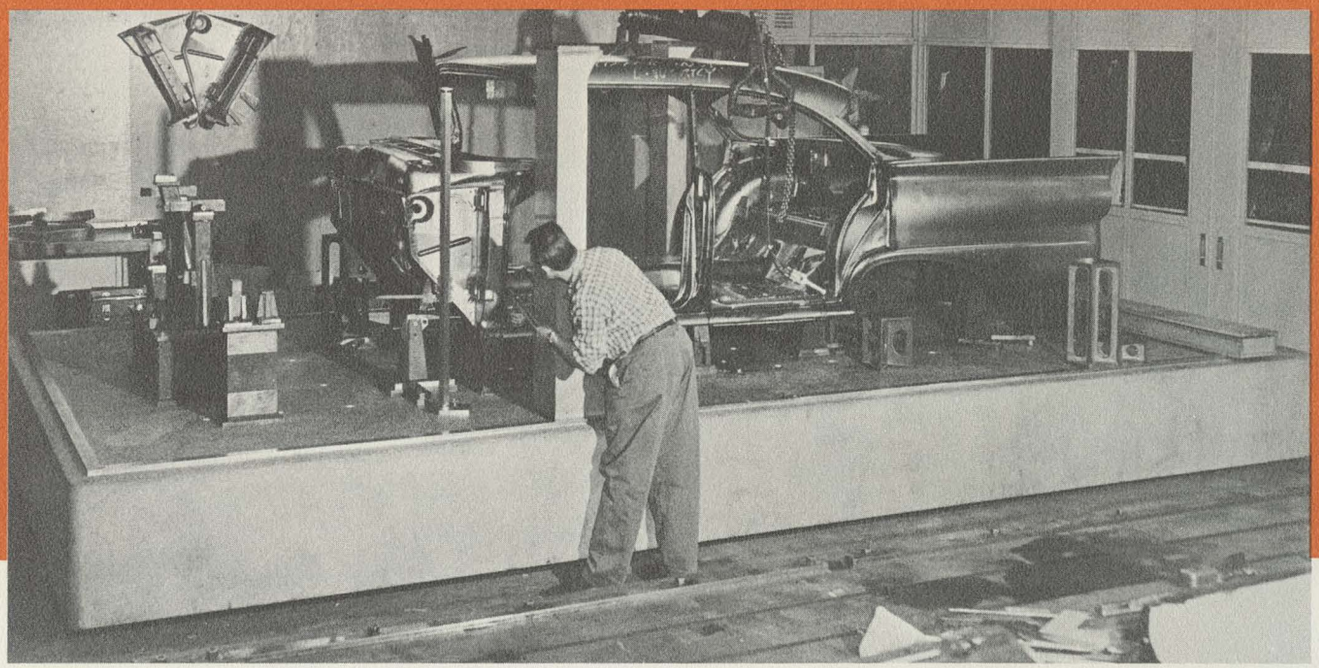
Weight: 116,000 pounds

Overall accuracy: Side to side .0003
End to end .004

Mr. Richard Pike, Manager of Quality Control, says:

> "Our one piece granite plate is the answer to our accuracy problems on inspection of large components. It is far superior to the multiple unit plates."





Used for precision inspection at the Ford Motor Company of Canada. This unusual plate has 68 bolt holes for attaching fixtures, and graduated steel straight edges along the length and width of the plate.
Dimensions: 20′ x 10′ x 20″
Weight: 56,000 pounds

Fixtures and Accessories

Another advantage of oversize granite surface plates by HERMAN STONE is the wide selection of special fixtures and accessories that can be built in to any plate to make precision measurements easier and faster.

Included are threaded inserts, adapter holes, tee bars and dove tail slots for holding work or attaching special checking equipment.

Precision Edges

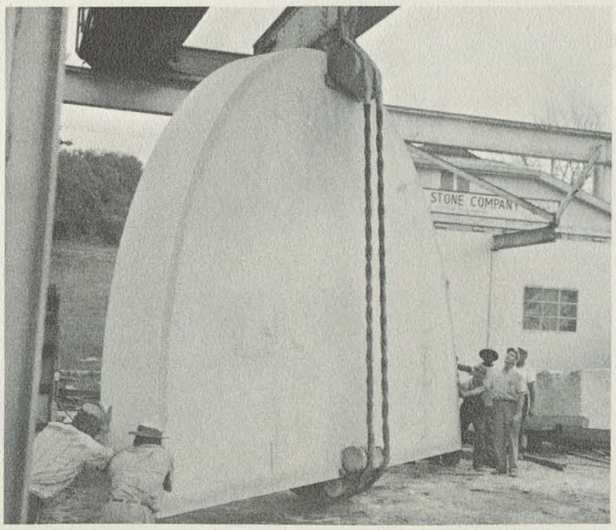
Granite surface plates with precision edges and sides are another HERMAN STONE specialty.

Precision edges can be made square with the top surface and adjacent edges, and parallel with opposite edges for maximum versatility.

Stands and Foundations

For convenience in supporting the finished surface plates, HERMAN STONE can construct a variety of sturdy steel stands, or design and engineer special foundations to be built in your plant.

Semi-circular surface plate for research work at Princeton University.
Dimensions: 25′ x 15′ x 20″
Weight: 94,000 pounds



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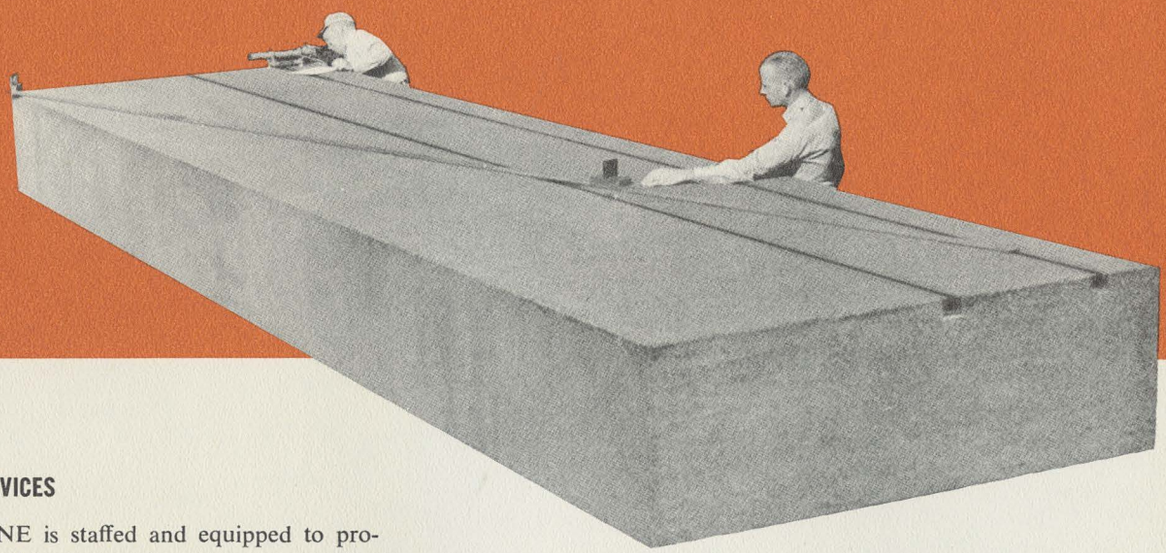

Granite surface plate equipped with two 25′ stainless steel tee bars and has a guaranteed overall accuracy of .0018″.
Dimensions: 25′ x 6′8″
Weight: 62,000 pounds

ENGINEERING SERVICES

HERMAN STONE is staffed and equipped to provide complete engineering services to guarantee that you will always get the right surface plate for the right job. These services include . . .

. . . consultation and engineering assistance with problems of design to help determine the type, size and shape surface plate to best fit your needs.

. . . aid with design and fabrication of fixtures and special accessory equipment to make precision measuring jobs easier, faster and more accurate.

. . . installation supervision to assure that all oversize and special surface plates are properly mounted and installed to provide required accuracies.

. . . field inspection services with the Auto-Collimator to periodically check the exact tolerance accuracy of any of the surface plates in your plant.

HERMAN STONE engineers will provide prompt, expert assistance on any problem connected with surface plate design, installation and use. Let us help you get the *best* from your surface plates . . . we invite your inquiry.

ORIGINATORS OF GRANITE SURFACE PLATES

THE HERMAN STONE COMPANY

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