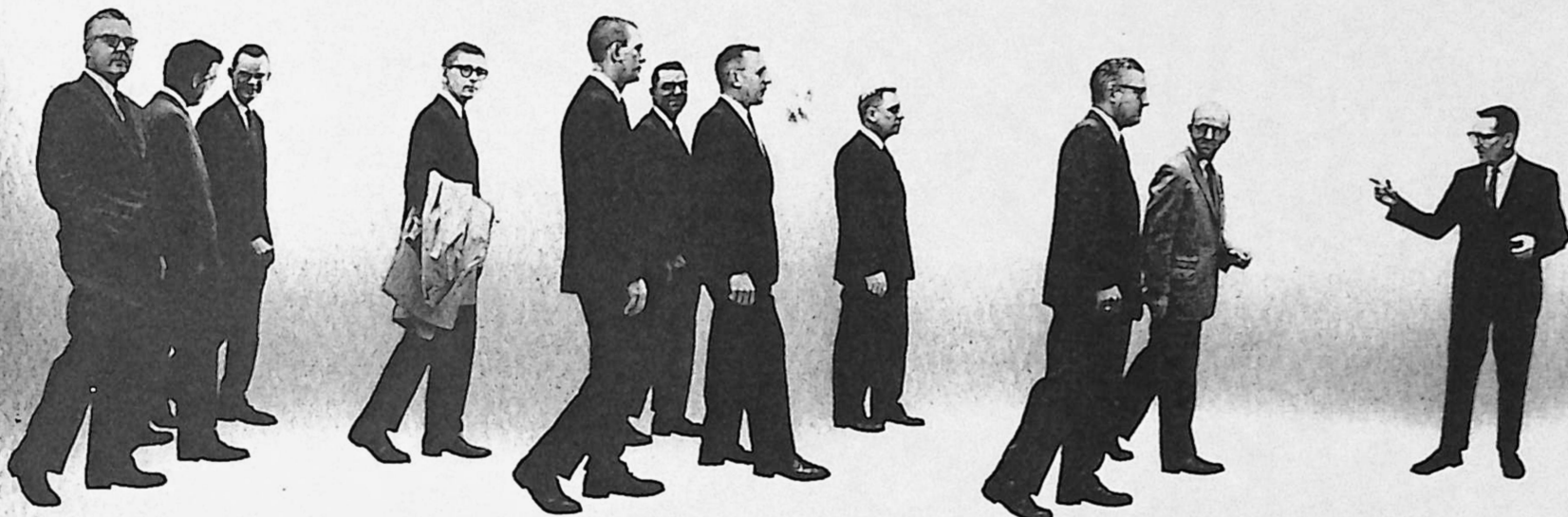
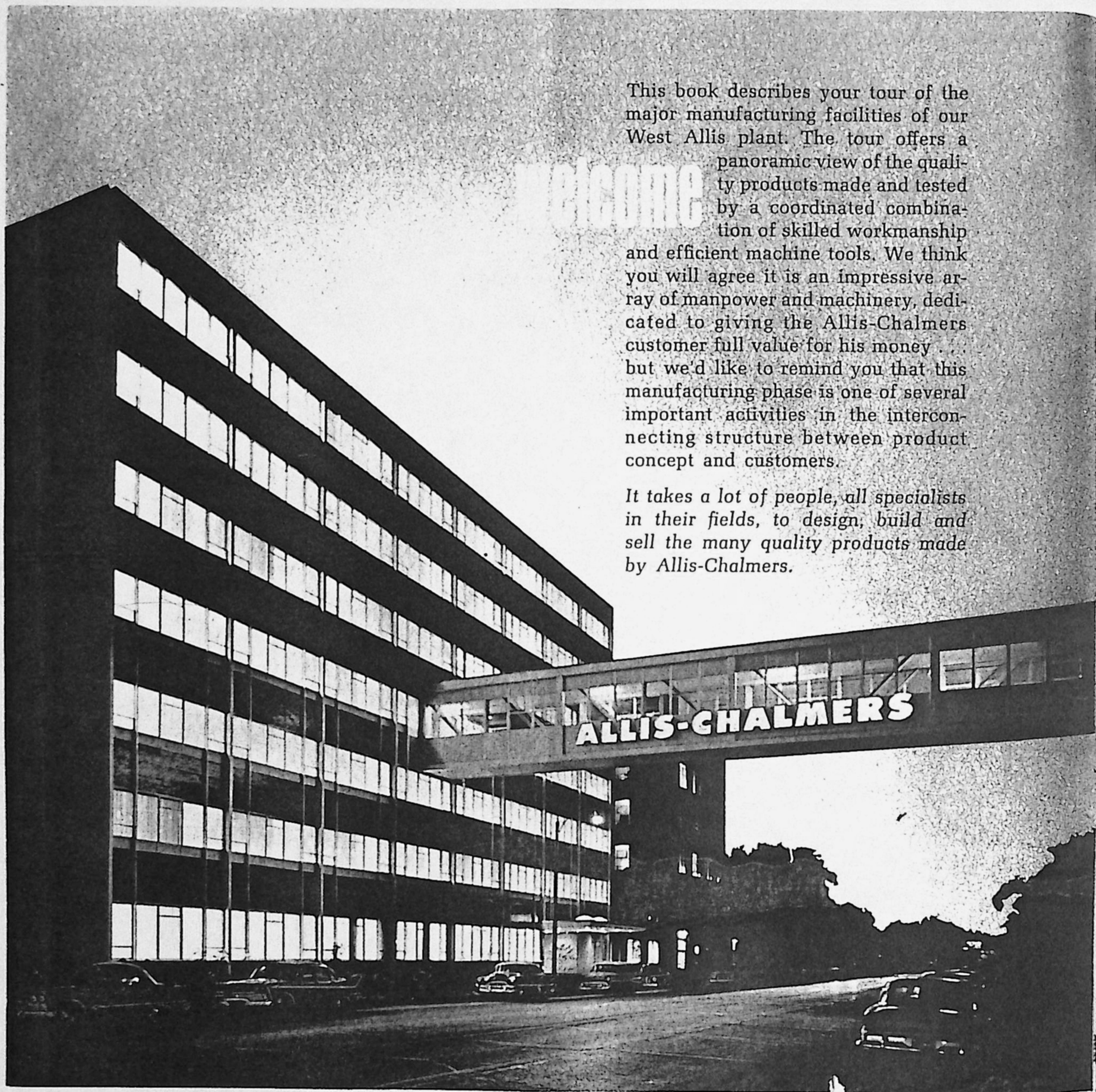


ALLIS-CHALMERS



TOUR GUIDE

ALLIS-CHALMERS • WEST ALLIS PLANT



This book describes your tour of the major manufacturing facilities of our West Allis plant. The tour offers a panoramic view of the quality products made and tested by a coordinated combination of skilled workmanship and efficient machine tools. We think you will agree it is an impressive array of manpower and machinery, dedicated to giving the Allis-Chalmers customer full value for his money . . . but we'd like to remind you that this manufacturing phase is one of several important activities in the interconnecting structure between product concept and customers.

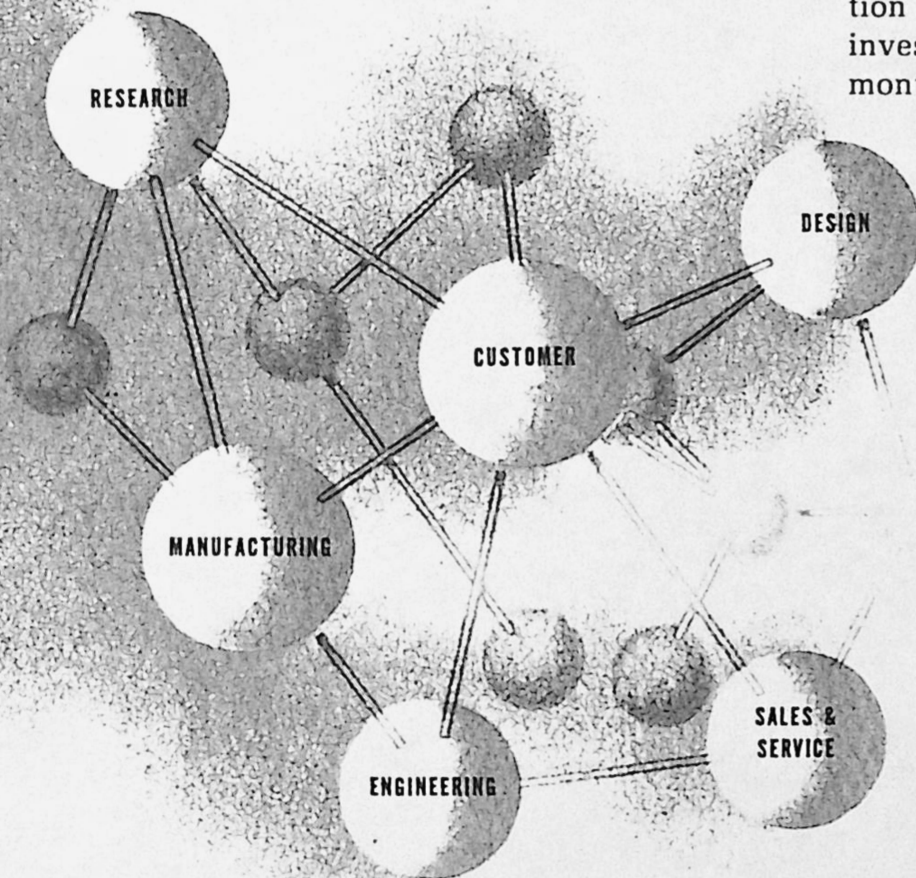
It takes a lot of people, all specialists in their fields, to design, build and sell the many quality products made by Allis-Chalmers.

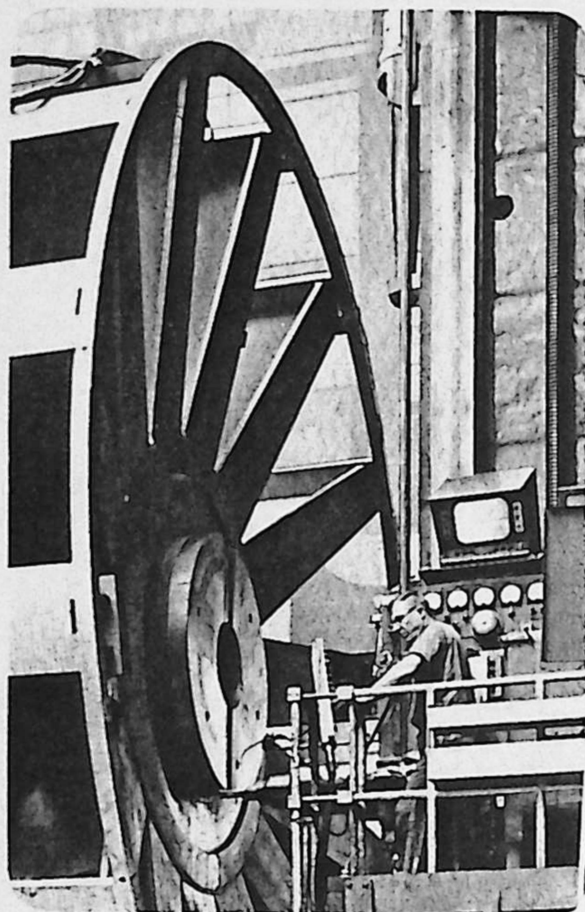
manufacturing

is one of the most fascinating
links connecting us with
our customers.

. . . In a simple analysis, we receive raw materials . . . build a product . . . and ship it to the customer. However, it is not quite so simple.

Manufacturing requires skilled men and women engaged in fabricating, machining and assembling the parts that make up the finished product; the purchasing and storage of both raw and finished materials; the constant attention to accident prevention; the tremendous investment in tools, supplies and labor . . . months in advance; the teamwork between design and manufacturing, so production capabilities are ready when needed; the coordination with sales and service to be continually ready to meet customer needs.

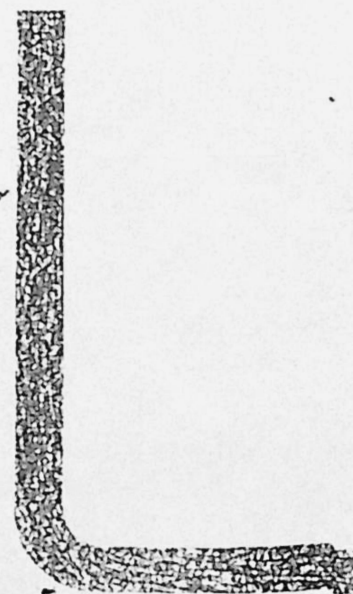


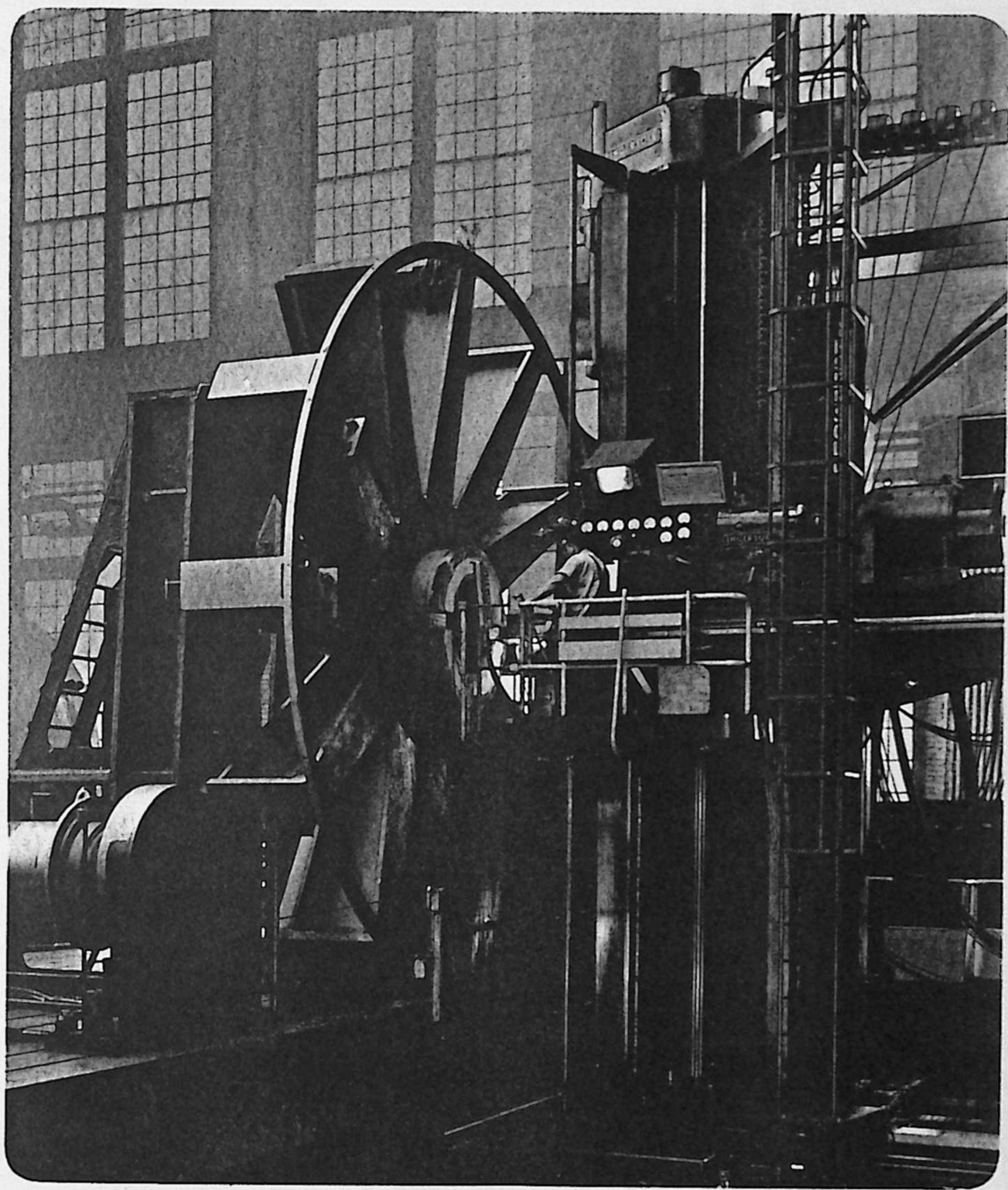


STATION

1

Typical of the large machine tools required for the manufacture of large electrical and mechanical products is the eight-inch horizontal boring bar installed in No. 5 Shop. This machine, which cost more than \$1 million, is extremely versatile. It can be used for boring, drilling, facing and milling on a wide variety of products and components. It is equipped with a television camera and screen to enable the operator to view three vernier scales governing the movement of the machine in increments of $\frac{1}{2}$ -thousandths of an inch.

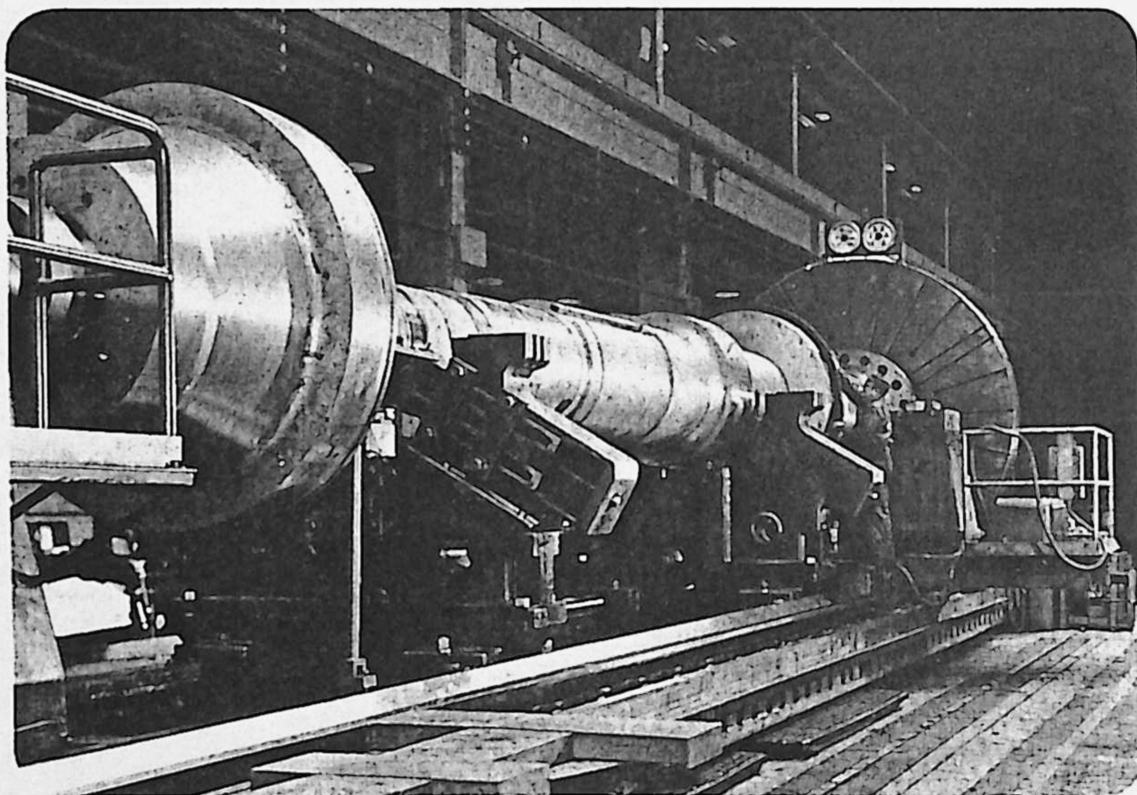


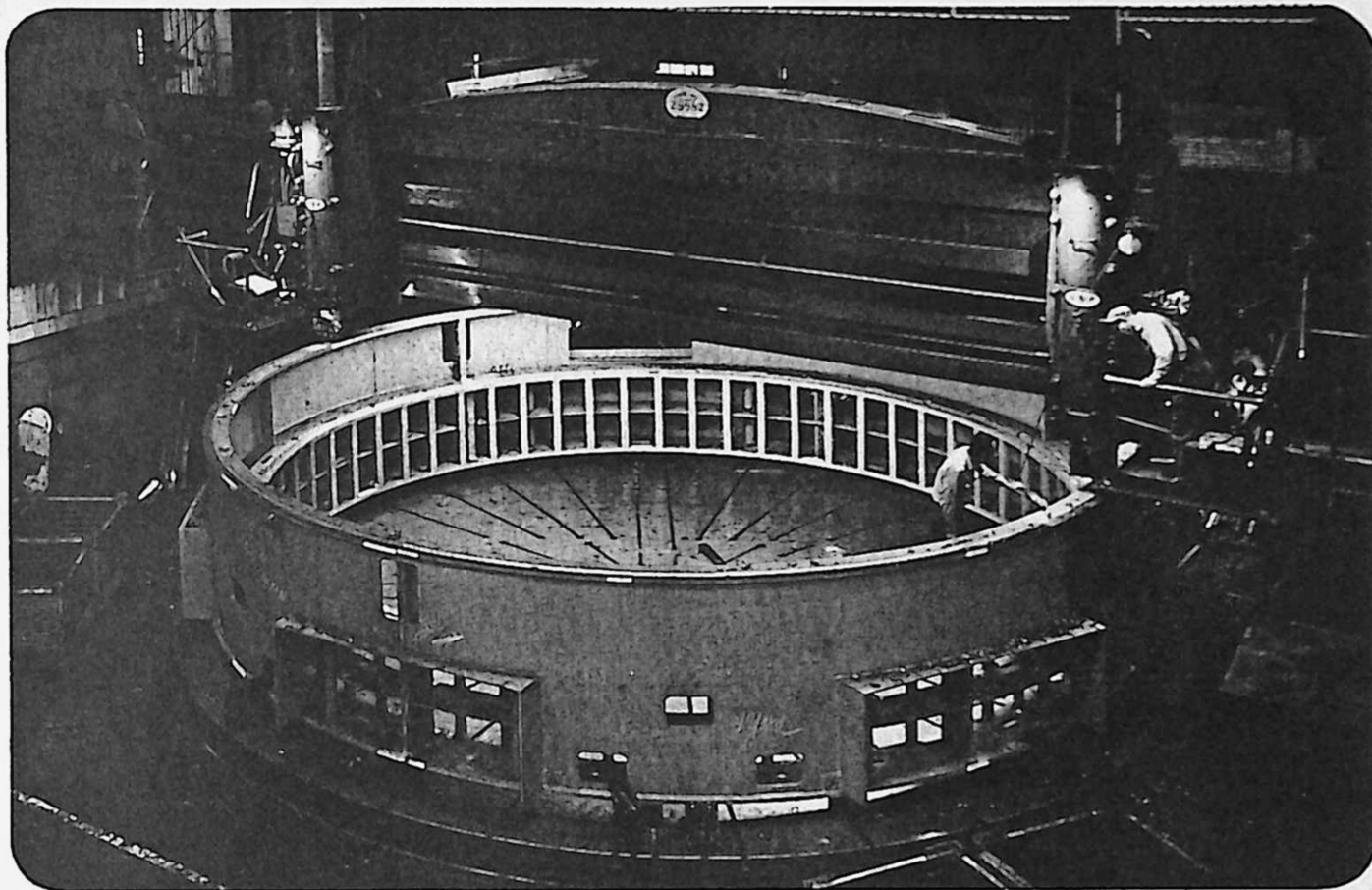


STATION

2

Largest engine lathe in the West Allis plant, and one of the largest in the world, is this unit installed in No. 3 Shop. Known as a 144-inch-diameter engine lathe, this tool can machine pieces up to 12 feet in diameter and more than 45 feet in length. The huge pieces machined on this lathe are placed in position by two 100-ton cranes installed especially for this purpose. This lathe, for example, could machine a 200-ton forging into a shaft weighing 160 tons, creating an almost incredible 40 tons of steel shavings in the process.





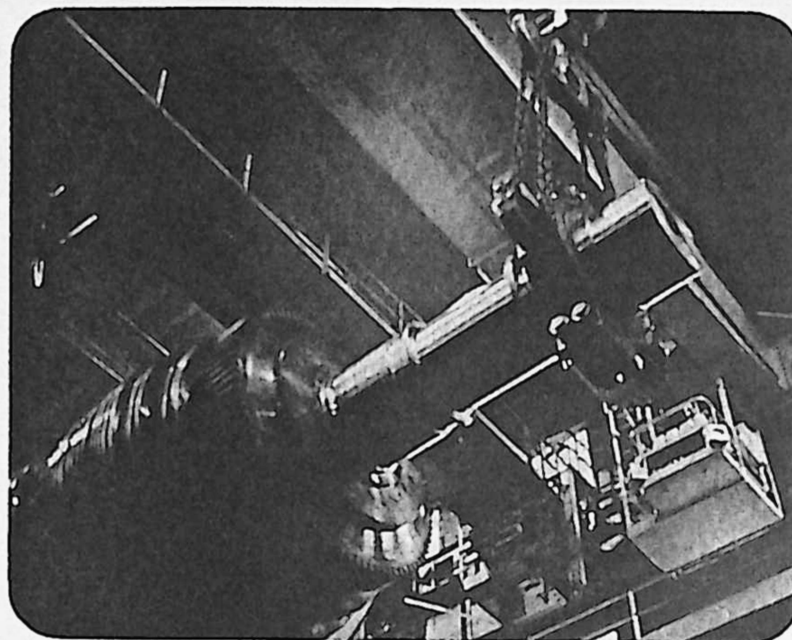
STATION

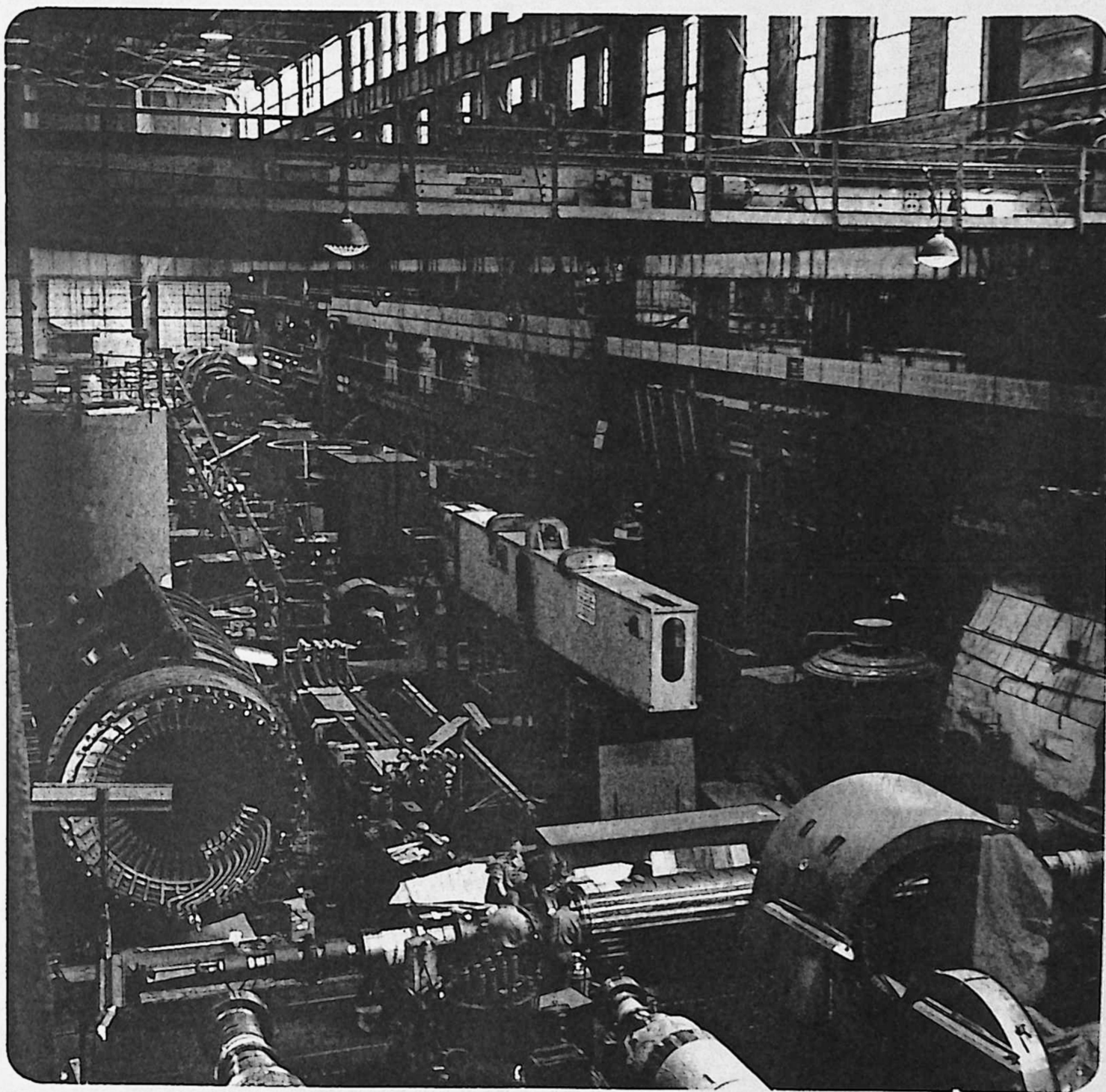
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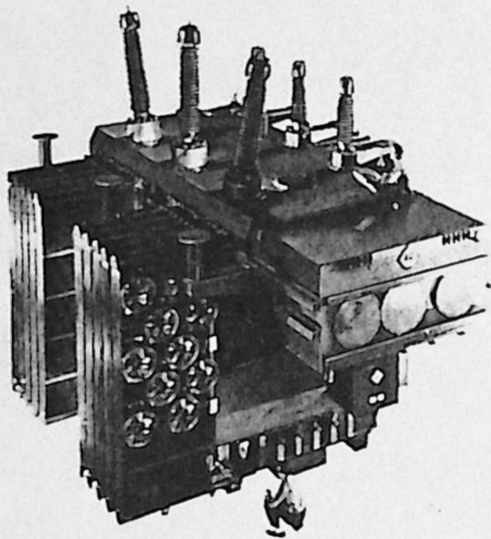
This 40-foot vertical boring mill is the largest mill in this plant and one of the largest in America. The revolving table has a diameter of 33 feet, 6 inches, and a capacity of 200 tons. This mill is capable of machining a piece 16 feet, 11 inches high. This machine probably is mentioned more often by visitors than any other feature of the West Allis plant.

STATION 4

Superlatives have been stacked one atop the other in describing the Main Erection Shop. A common one is "Hall of Giants," and the photographic view will help you realize why. The floor measures 1361 feet long. The area is equipped with two levels of overhead cranes ranging from 30 ton to 150 ton lifting capacities. Two cranes combined can make a 300 ton lift with ease. Completed products are assembled and tested here, prior to being shipped to customers.



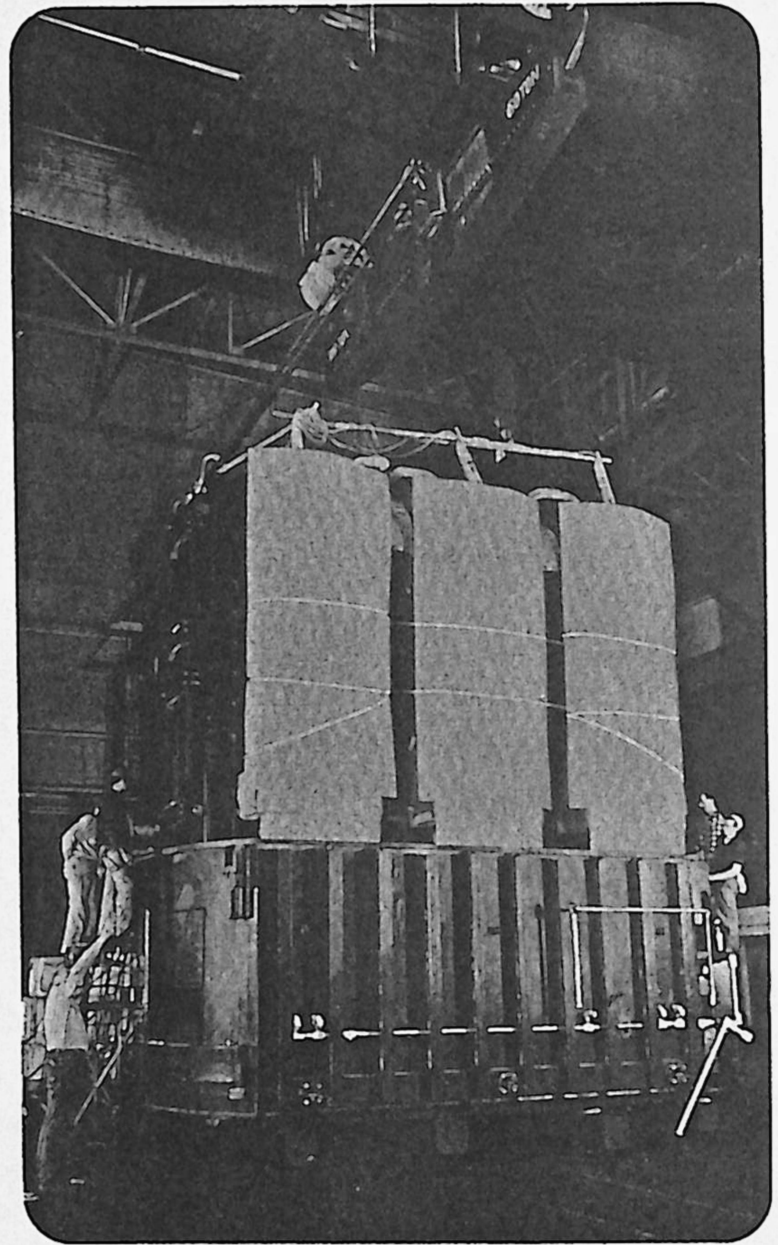




STATION

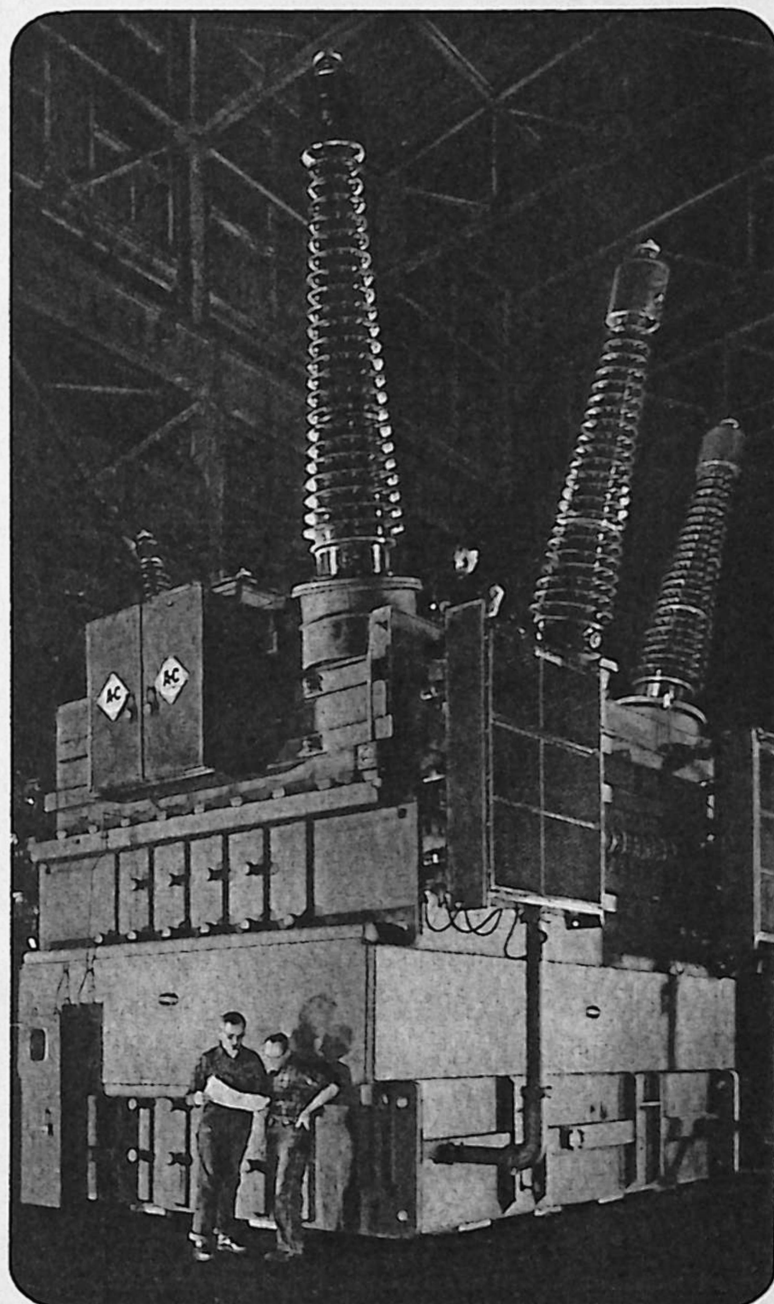
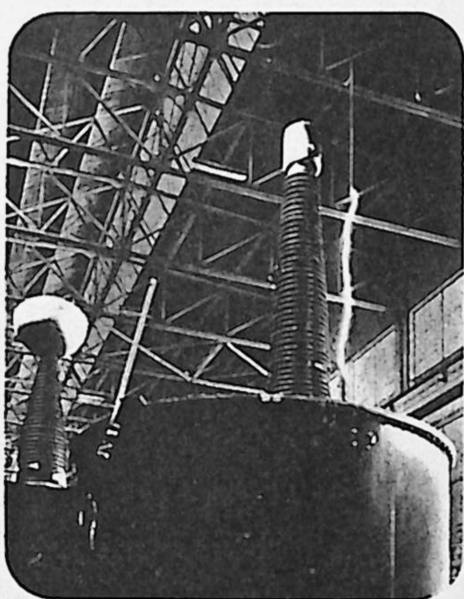
5

After the electric coils have been processed in a huge vacuum drying oven, the magnetic core and these coils are assembled to become the heart of a finished transformer. Completed transformers are subjected to rigid testing and recording of electrical characteristics before shipment.





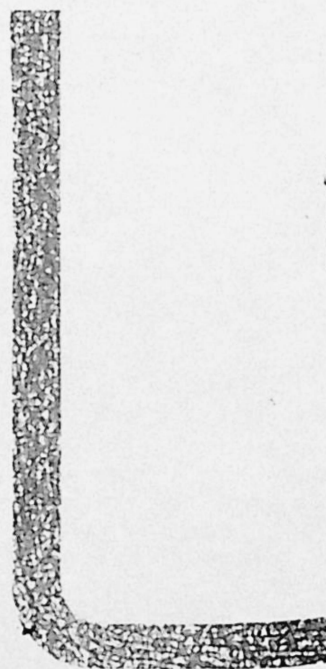
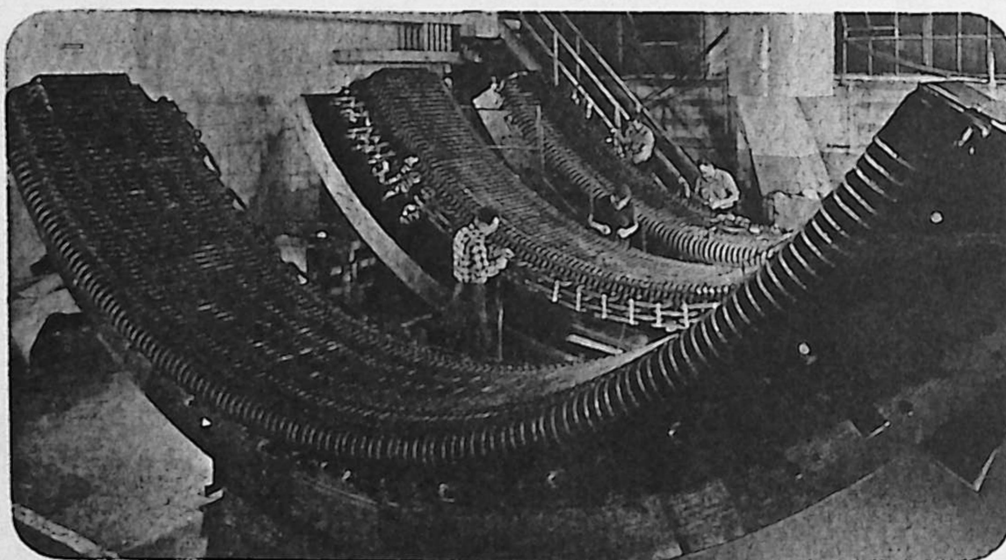
One of the more spectacular tests is "man-made lightning" used to check transformer characteristics up to four million volts. The arc jumping across the gap illustrates the tremendous voltage used in this test. An "extra high voltage" autotransformer is shown being prepared for testing in front of the impulse generator which produces the high test voltages.

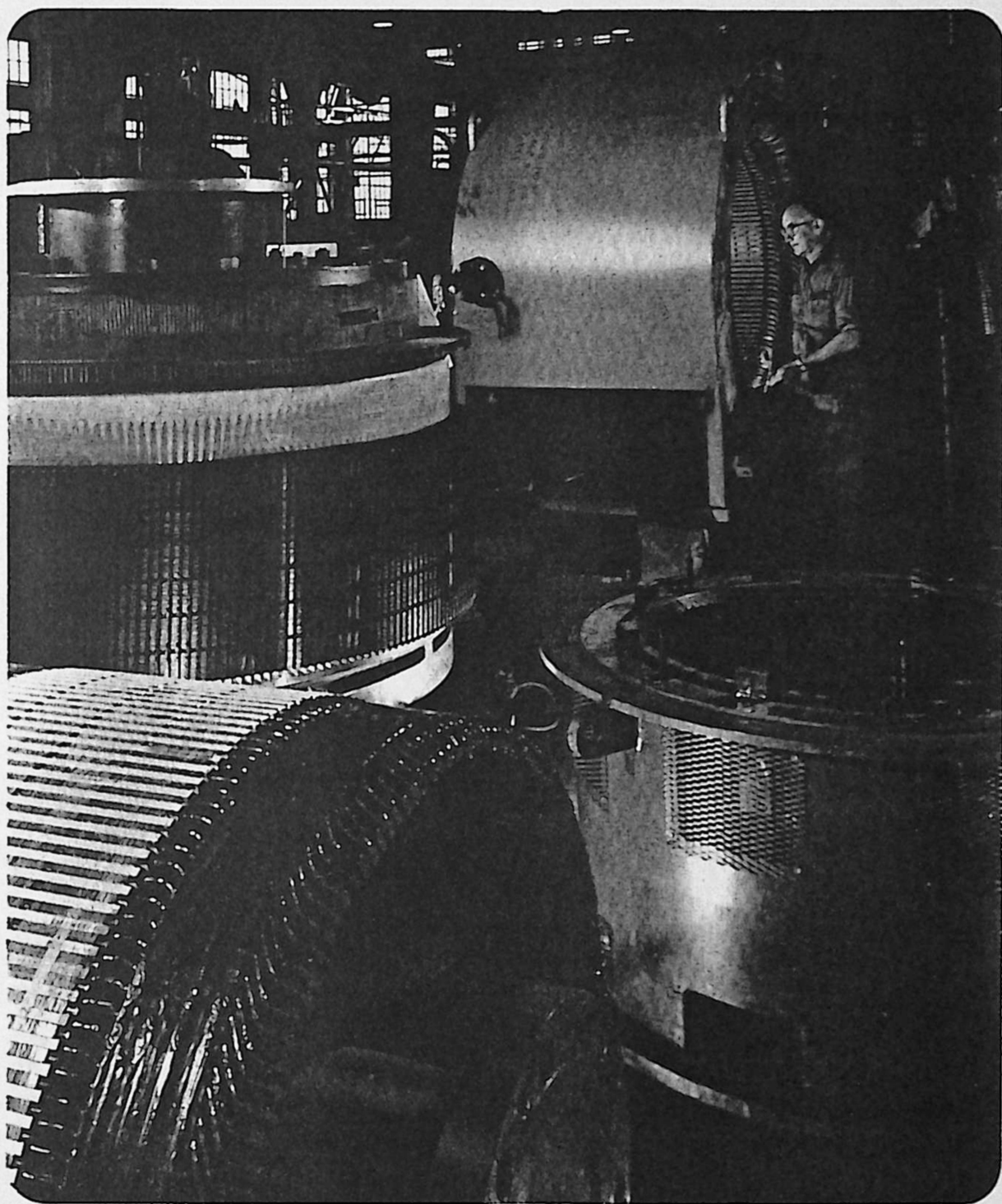


STATION 6



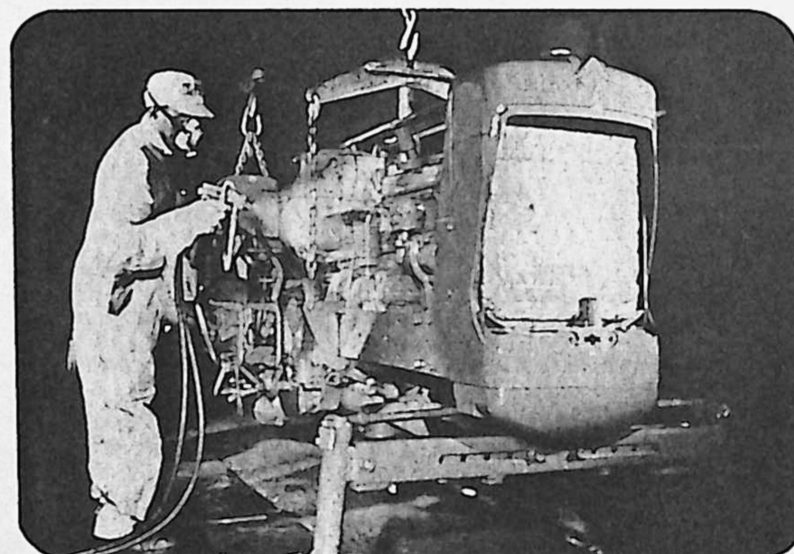
Electric motors in sizes from about 300 to 100,000 horsepower and larger are assembled and tested in this plant. These motors see service in virtually every basic industry . . . another example of the truth in the expression that Allis-Chalmers equipment plays a role in the creation or manufacture of nearly everything we use in everyday life.

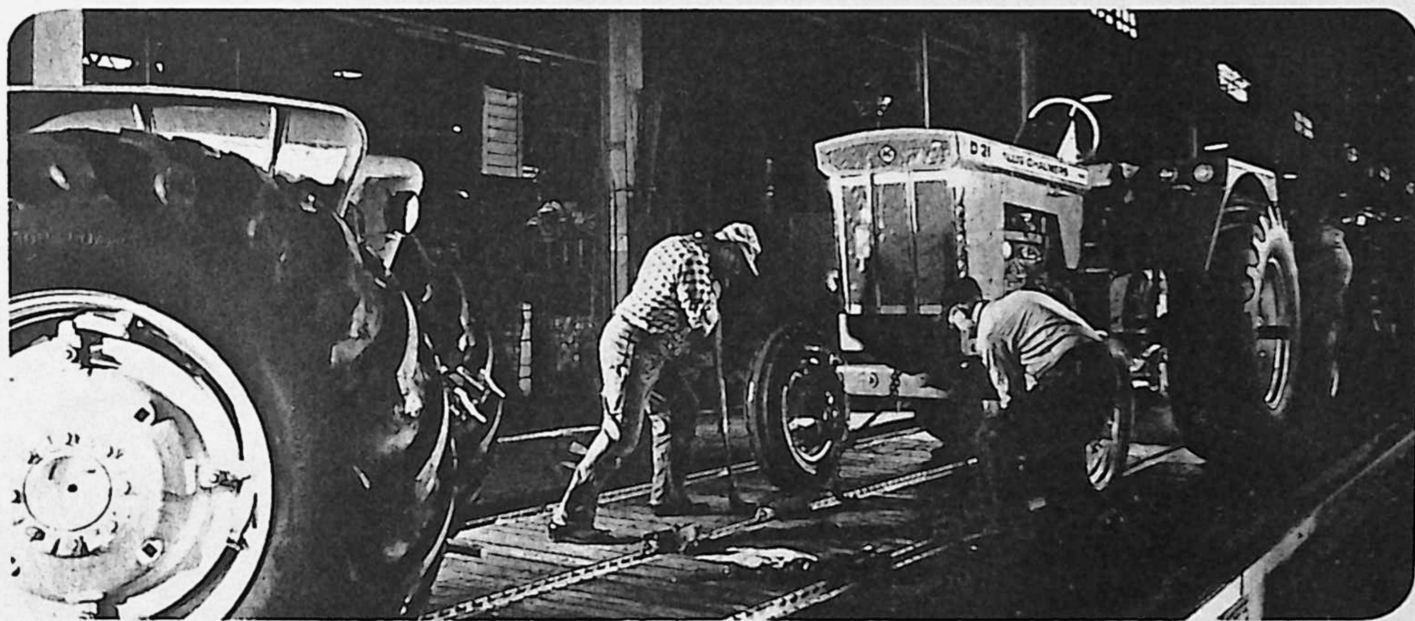
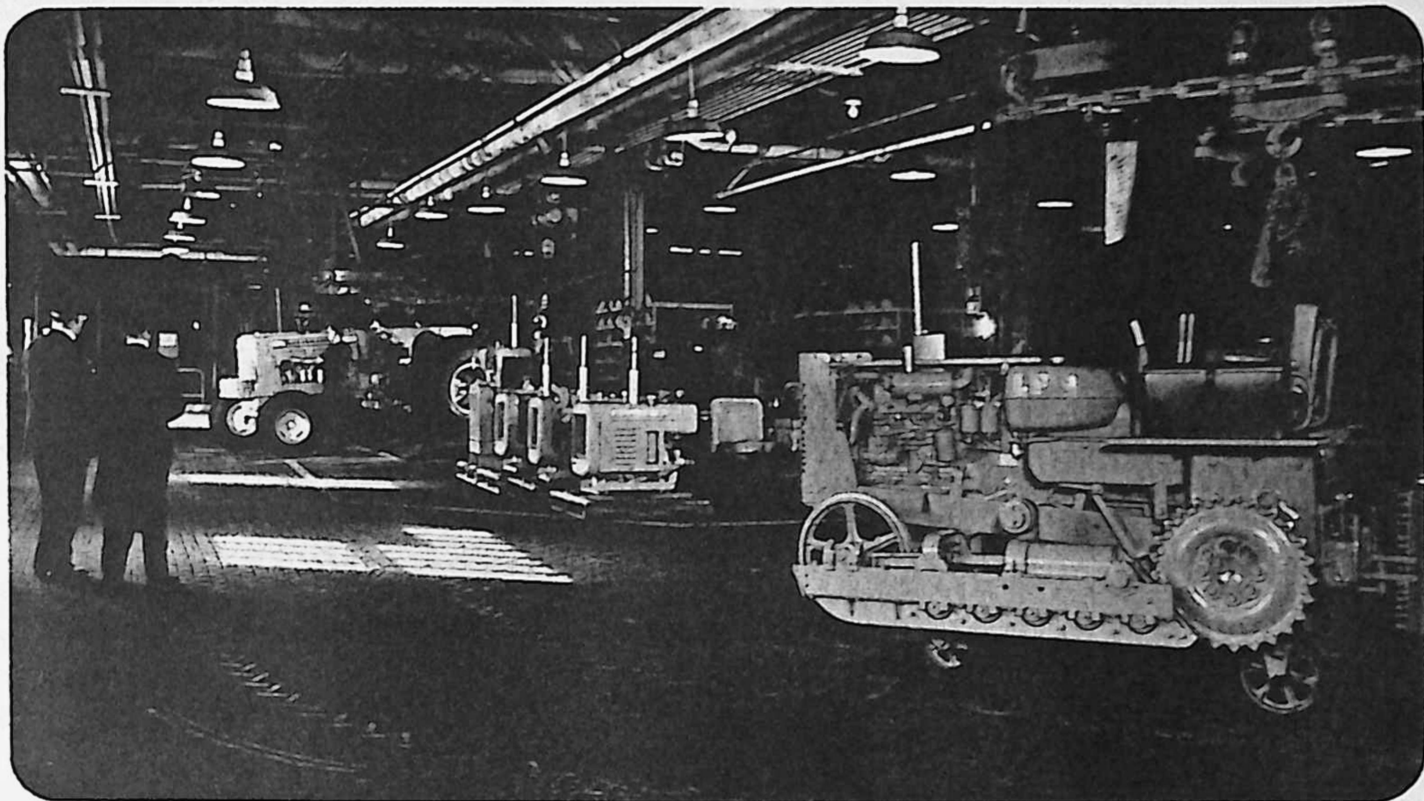




STATION 7

Wheel tractors and small crawler tractors, for farm, industrial and municipal use, are in the finishing stages of production here. After the units leave the paint spray booth and drying ovens, tires and wheels are installed, electrical wiring is hooked up and identifying decals are put in place. As the engines come to life, the tractors are driven to a final inspection area and then shipped to A-C dealers and customers in many parts of the world.

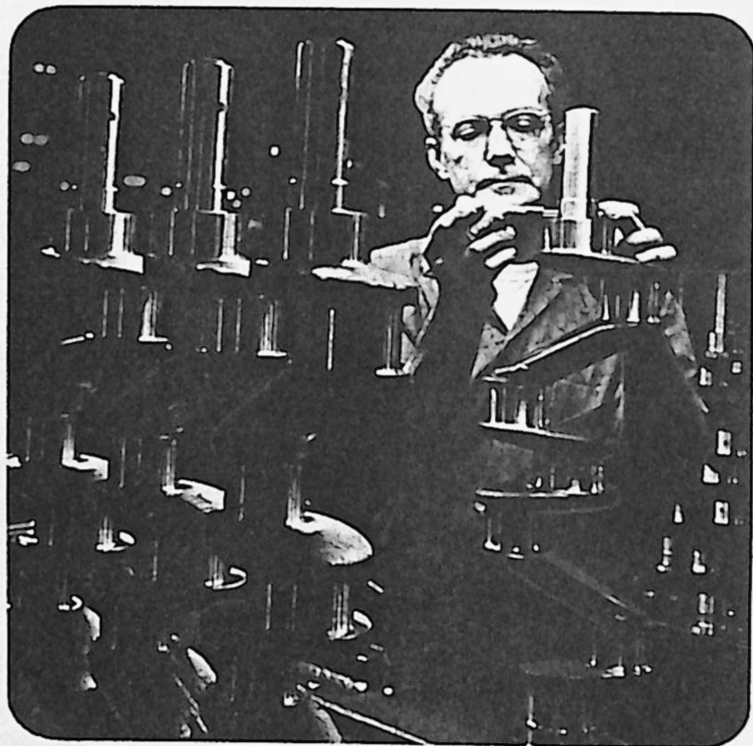
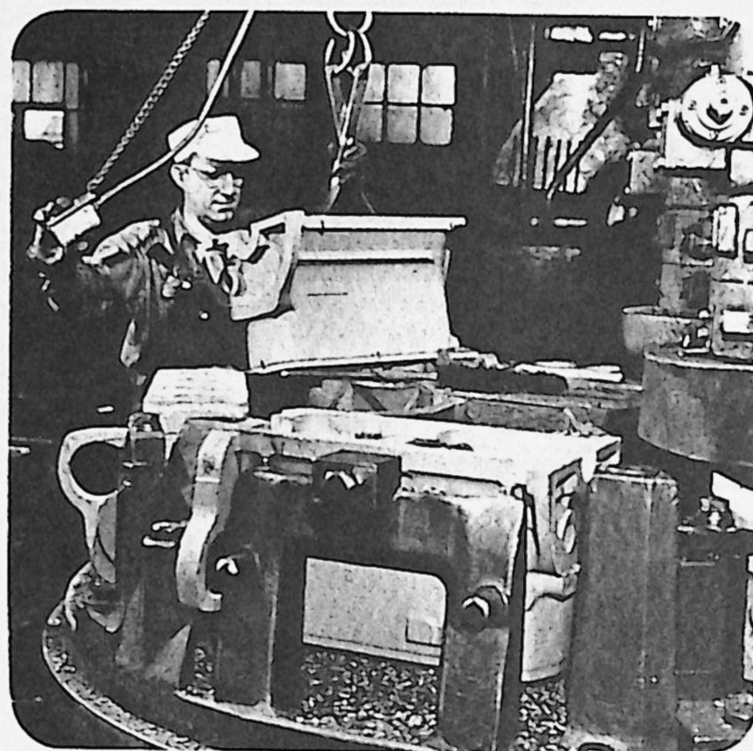




STATION

8

Tractor engine blocks and engine crank-shafts are machined here and then go to the engine assembly line nearby. Many of the sub-assemblies for the several tractor models made at this plant are carried by overhead conveyor to be "in the right place at the right time." This overhead system can carry enough parts for 135 tractors at one time, as it fills its job of supplying the assembly lines.



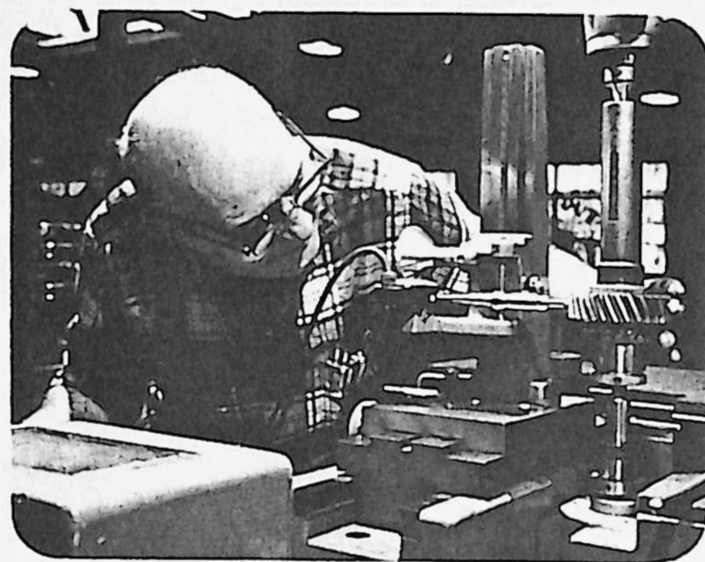
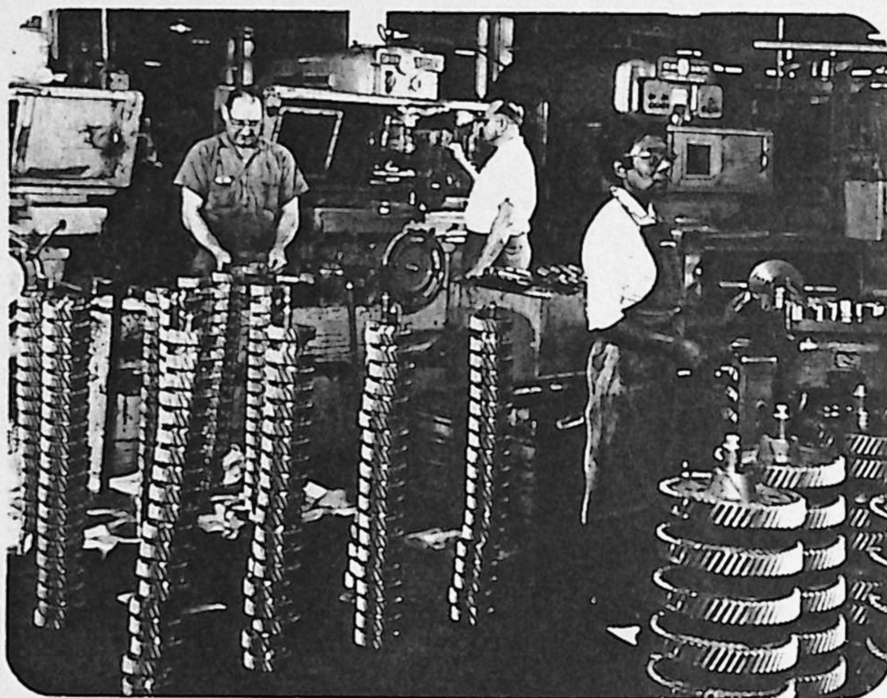


STATION

9

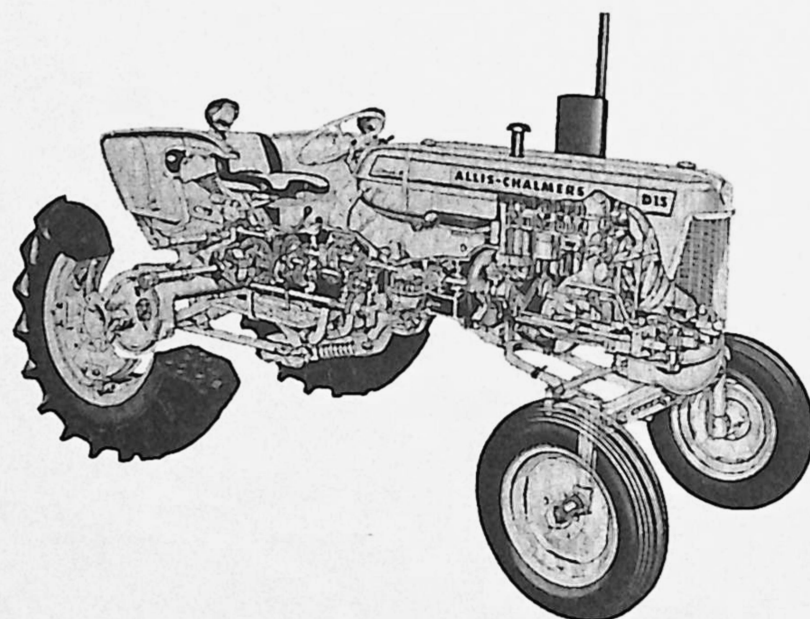
Hydraulic pump bodies and components are machined here prior to assembly and test. Close inspection at critical tolerances is vital in achieving the high performance reliability of these pumps for hydraulic control of implements, draft regulation and traction boosting — popular features of Allis-Chalmers farm tractors.





STATION 10

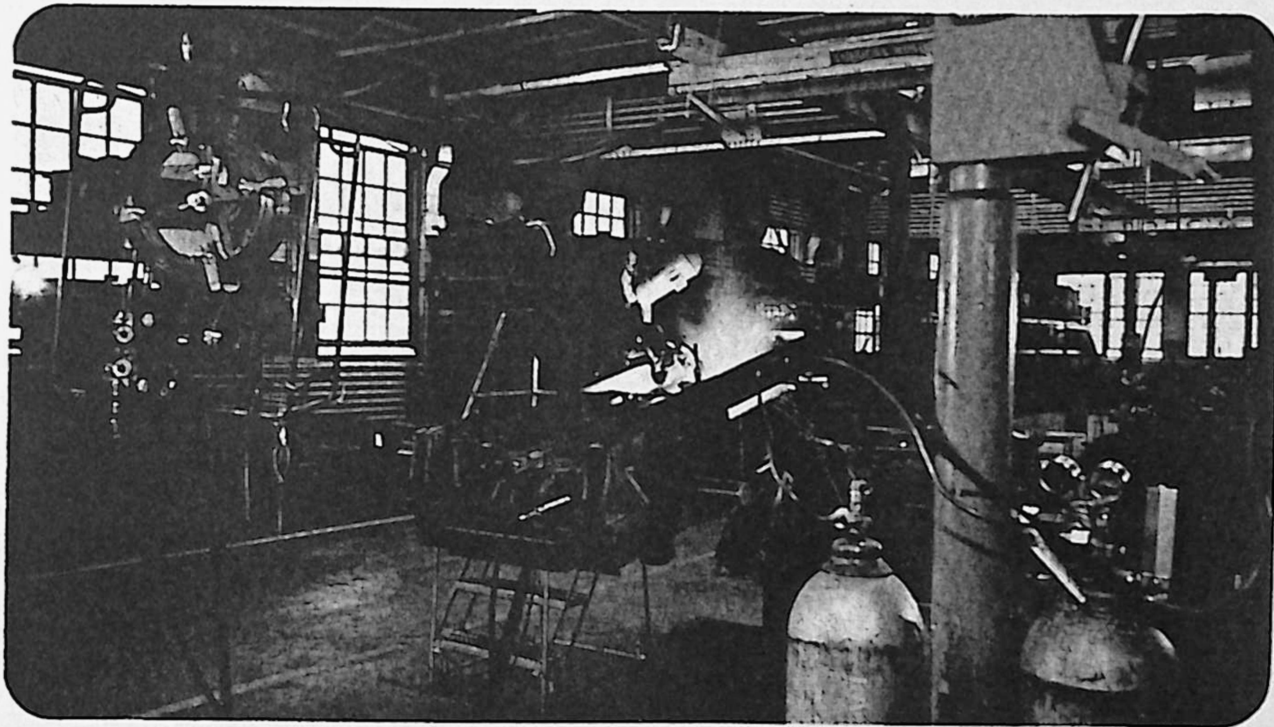
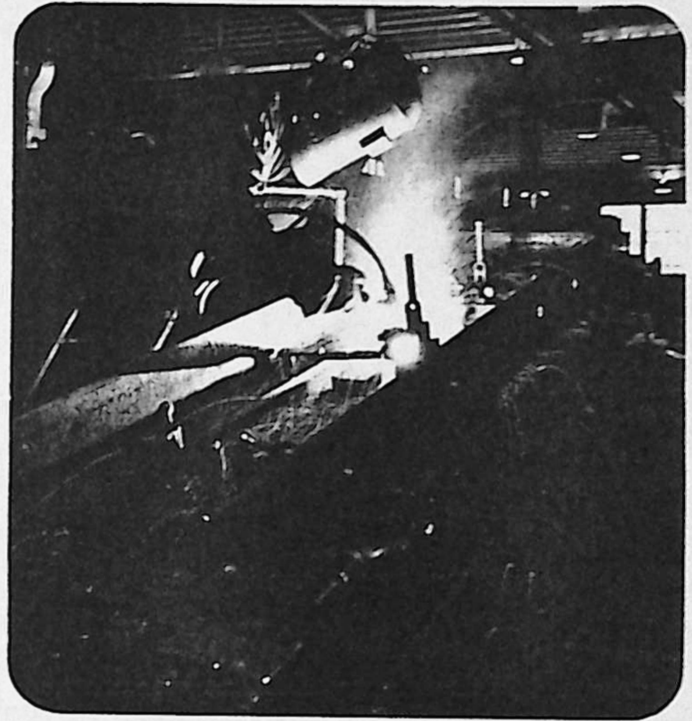
A medium-sized wheel tractor, for example, requires 45 gears of many types, shapes and sizes. Most of those used in Allis-Chalmers tractors are machined and inspected here. Then they are conveyed to assembly lines for various models of tractors.



STATION

11

Amid a shower of sparks, welders fabricate components for the D-21, largest wheel tractor made at this plant. Note the welding positioners and holding devices being used which place the work in the best possible position for the welder, and put the work in the right position for the strongest possible weld.

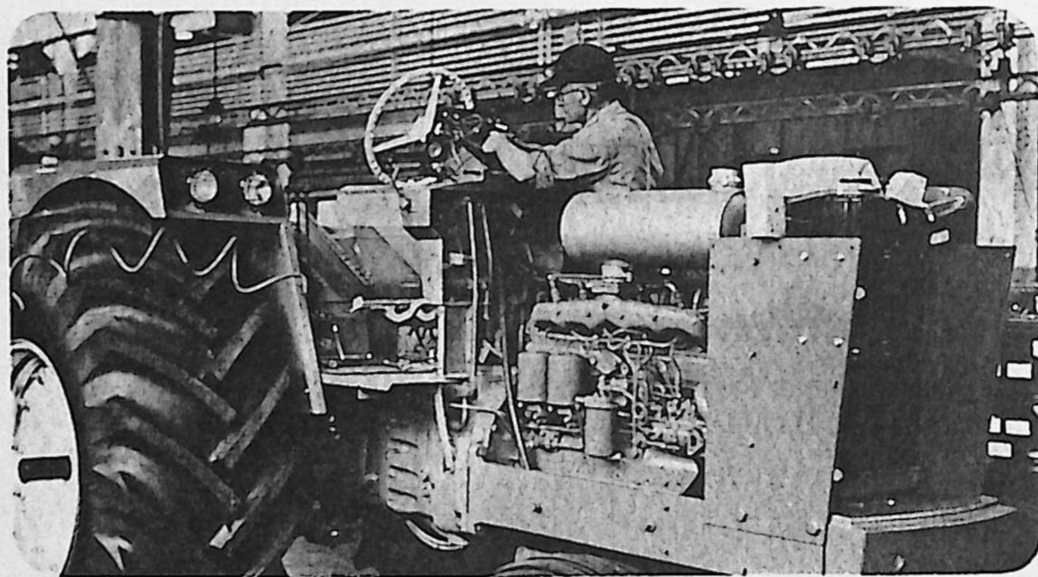


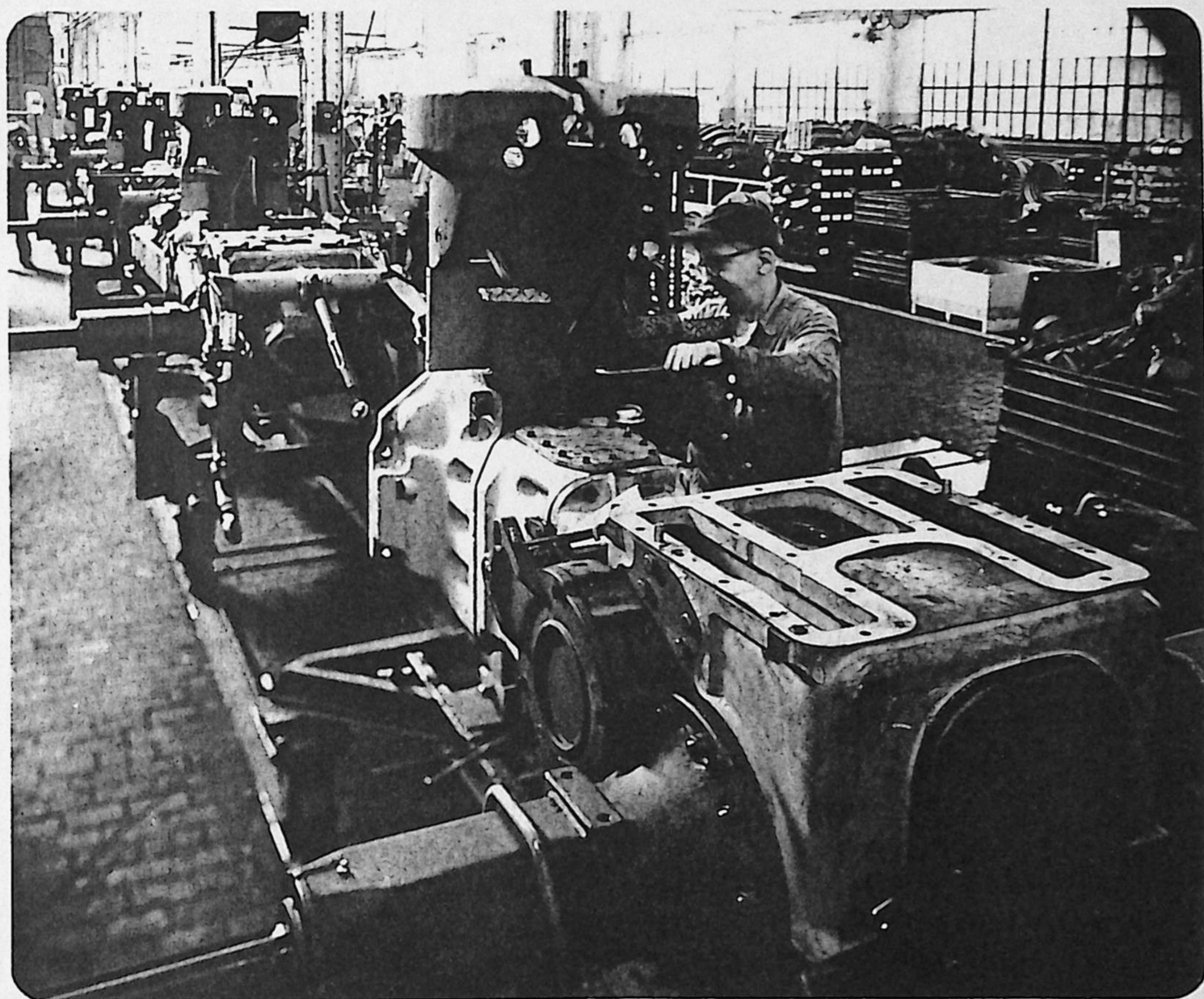
STATION

12



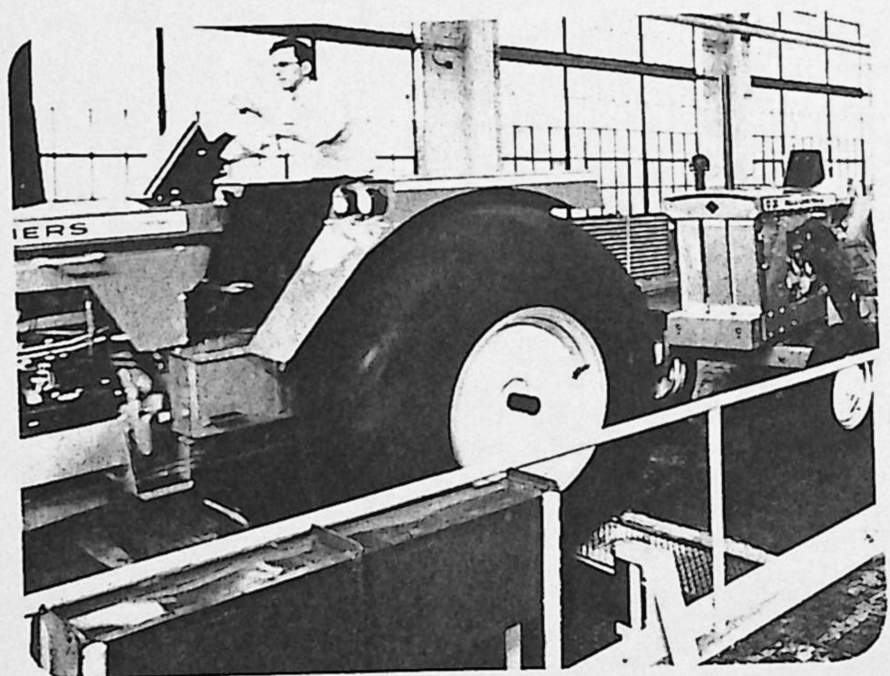
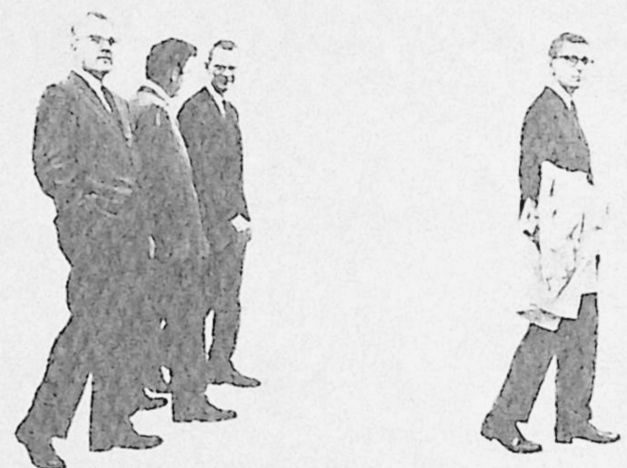
Putting a big tractor together, back-to-front, is a continuous process. Sub-assembly areas feed the main assembly line. Units are spray painted and then completed in the final assembly area.





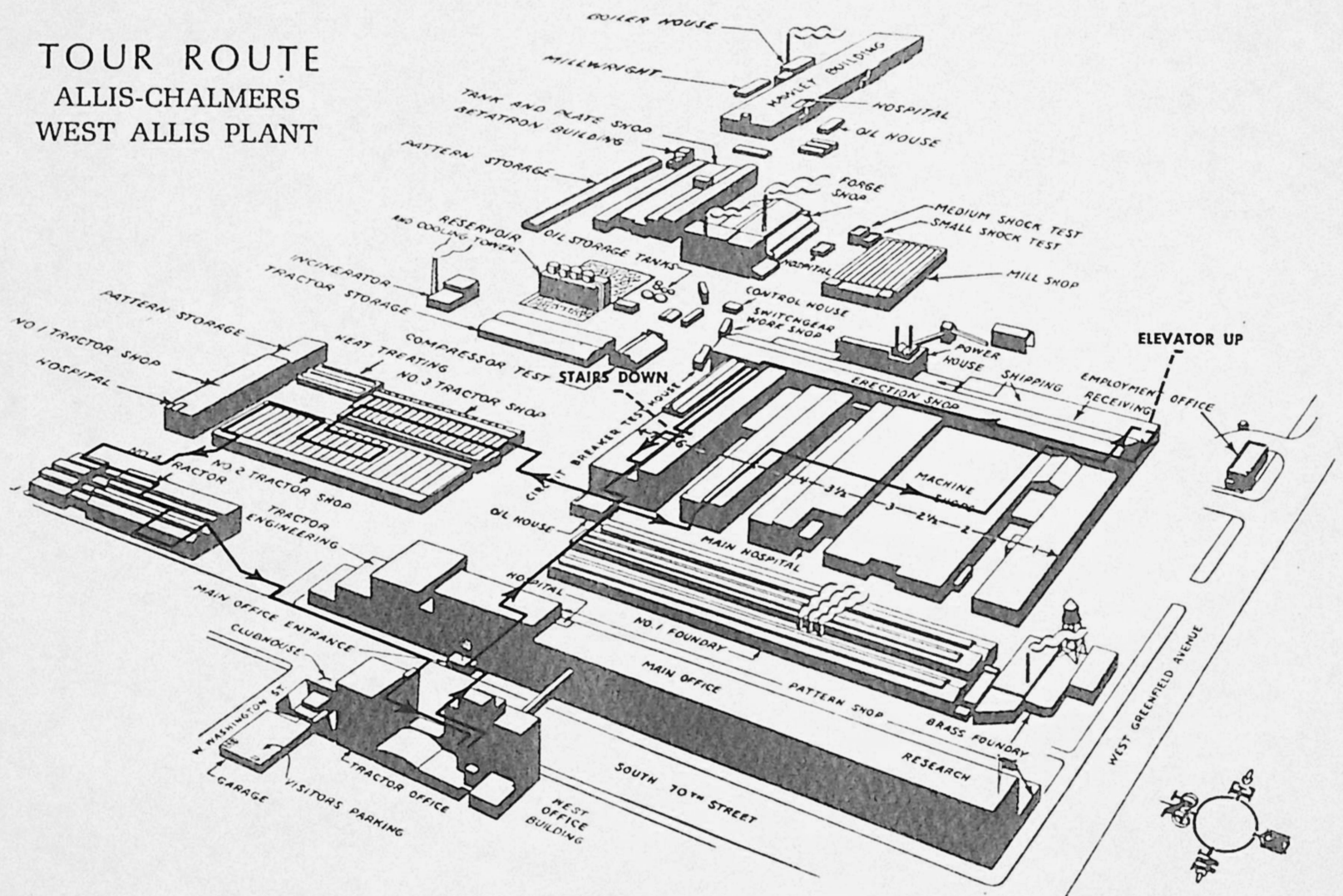
STATION 13

Final touches are added to the D-21 on this end of the assembly line. Final checkout is conducted in the simulated road test inspection area. It emerges as the biggest and most powerful Allis-Chalmers wheel tractor, "The Big D."





TOUR ROUTE ALLIS-CHALMERS WEST ALLIS PLANT



■ 160 acres ■ 4,400,000 sq. ft. of floor space ■ Plant value is about \$70,000,000 ■ 11,000 men and women employed here ■ 21 miles of railroad tracks ■ 5 miles of paved roadways ■ 200 overhead traveling cranes of several sizes with lifting capacities up to 150 tons ■ There are over 25,000 power tools of many various kinds ■ 4,000 major machine tools ■ Main erection shop 1361 ft. long
ALLIS-CHALMERS / MILWAUKEE, WISCONSIN 53201