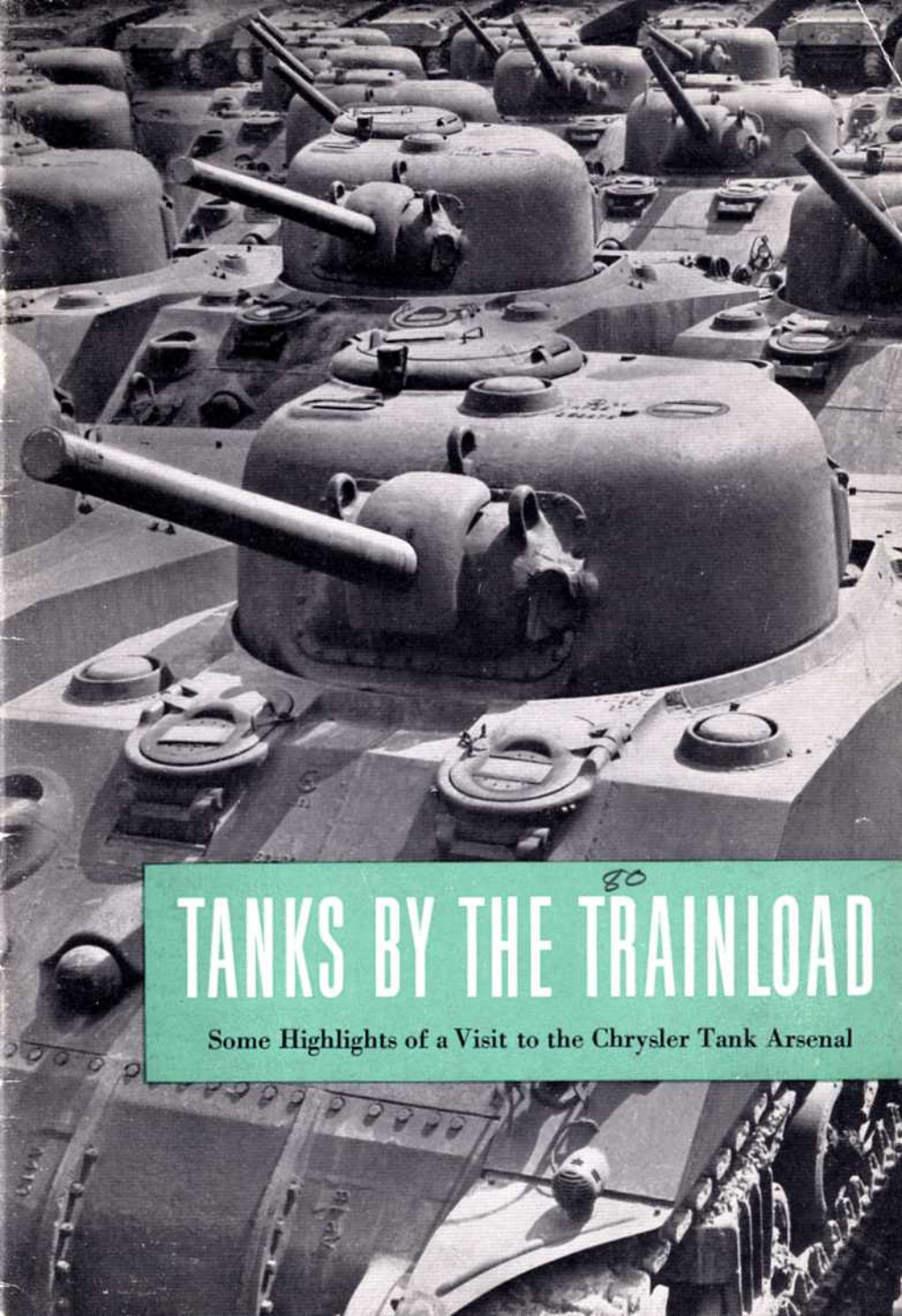

TANKS BY THE TRAINLOAD

80

Some Highlights of a Visit to the Chrysler Tank Arsenal

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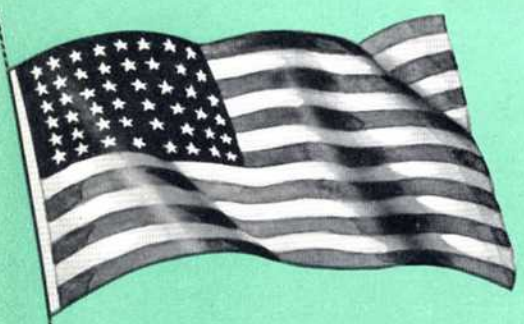
Timetable of the Chrysler Tank Arsenal



AUGUST 15, 1940... Chrysler Corporation entered upon its first tank production contract.

APRIL 12, 1941... First pilot tank completed.

APRIL 15, 1941 . . . Original Tank Arsenal was finished.

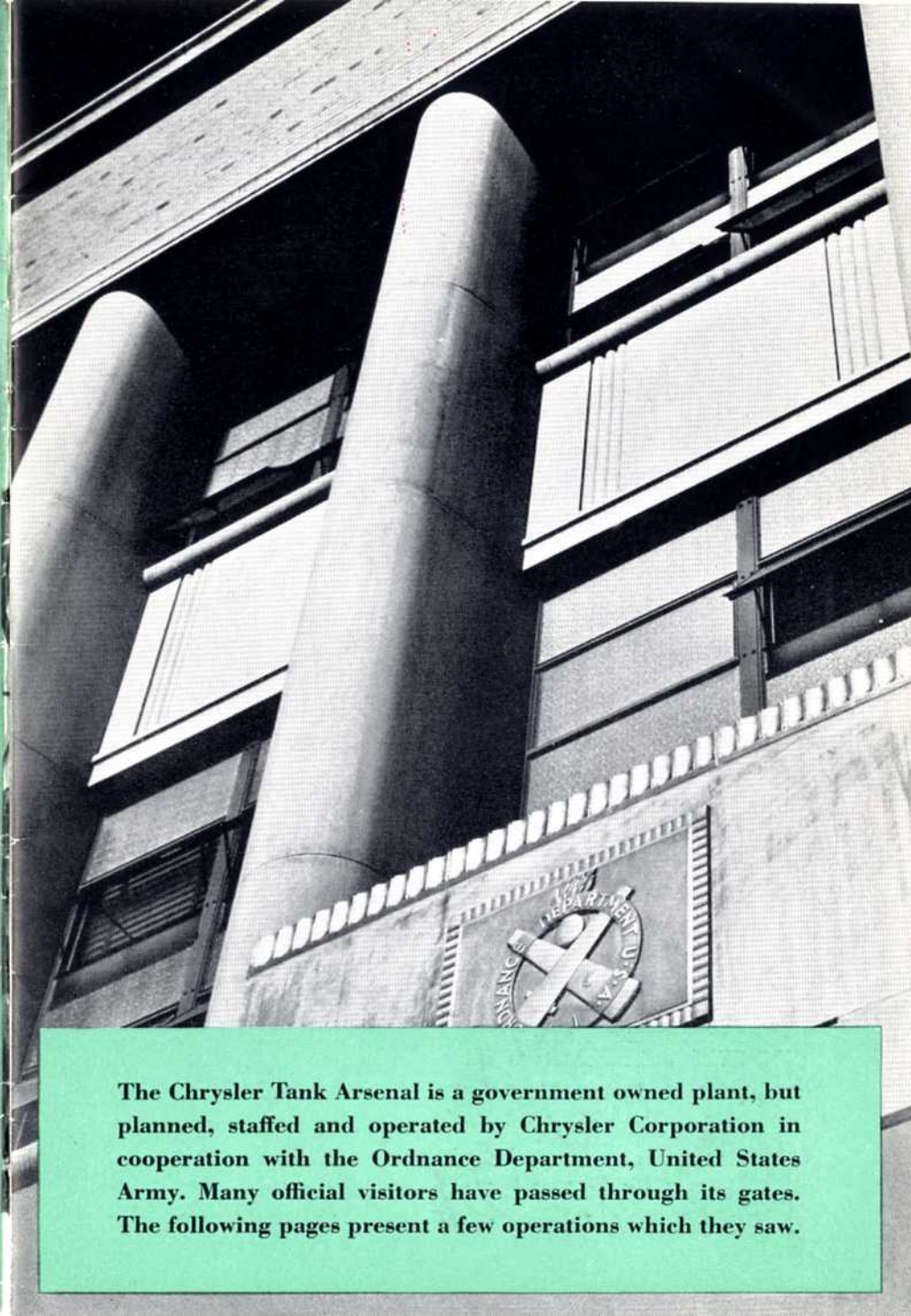
APRIL 24, 1941 . . . First Chrysler-built tanks delivered to Army.

AUGUST 1, 1941 . . . Three assembly lines in operation.

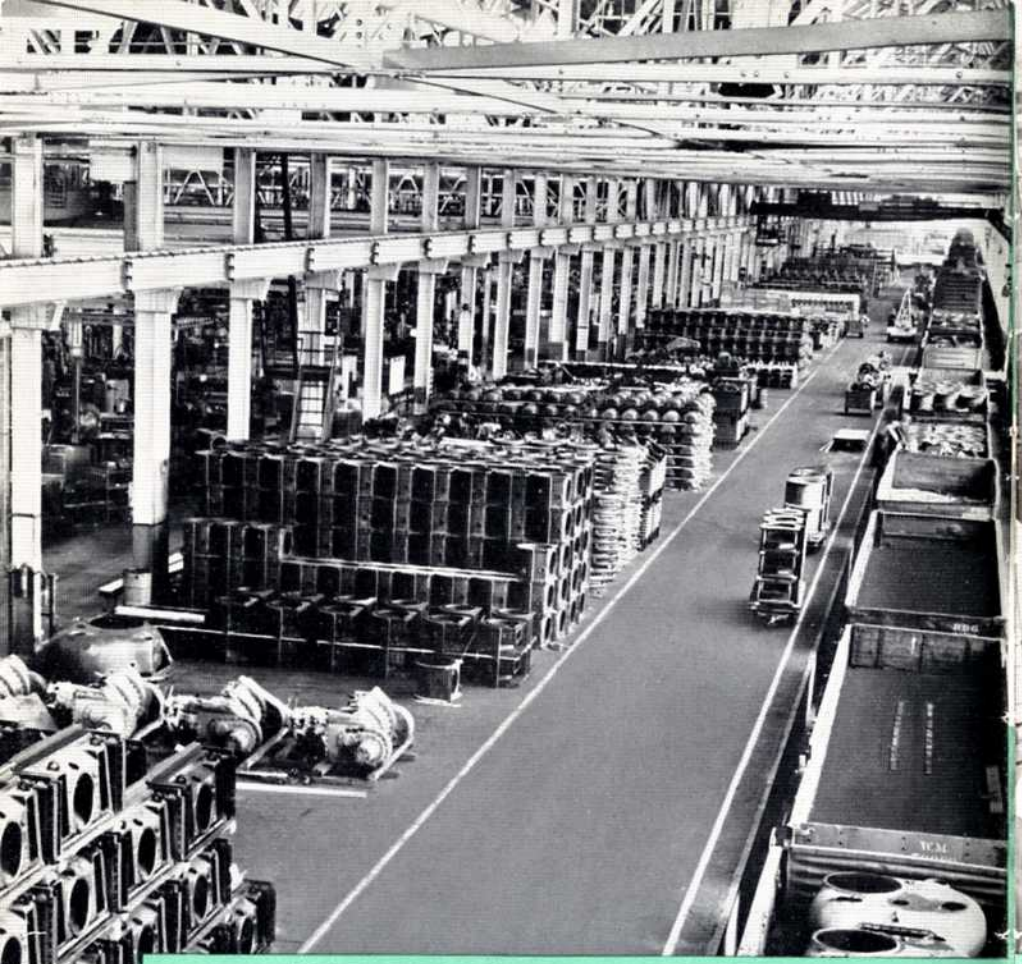
AUGUST 3, 1942 . . . Production was switched from the M3 to the new General Sherman (M4) without stopping assembly lines. Arsenal 200% ahead of schedule.

AUGUST 10, 1942 . . . First war production plant in the United States to be awarded the Army-Navy "E"—"for high achievement in the production of war equipment."

JULY 20, 1943 . . . 10,000th Chrysler-built tank came off the assembly lines.



The Chrysler Tank Arsenal is a government owned plant, but planned, staffed and operated by Chrysler Corporation in cooperation with the Ordnance Department, United States Army. Many official visitors have passed through its gates. The following pages present a few operations which they saw.



Materials flow into the Arsenal

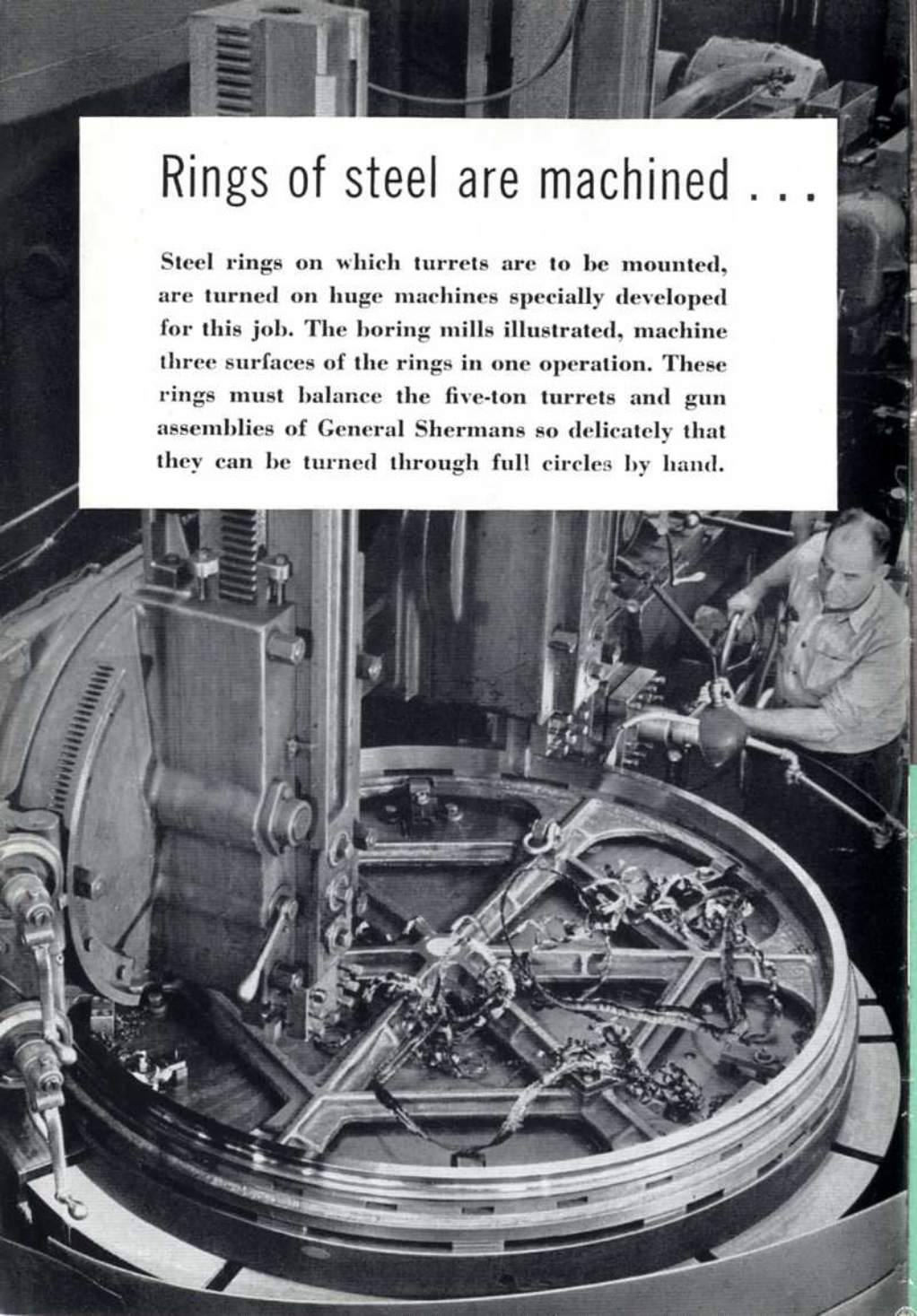
From eleven Chrysler Corporation plants and from 2700 subcontractors all over the country, materials, parts and assemblies flow into the Arsenal by railroad and in giant trucks. From the loading docks this material moves across the plant, is machined and made ready for installation into tanks by the time it reaches the assembly lines on the opposite side of the building.

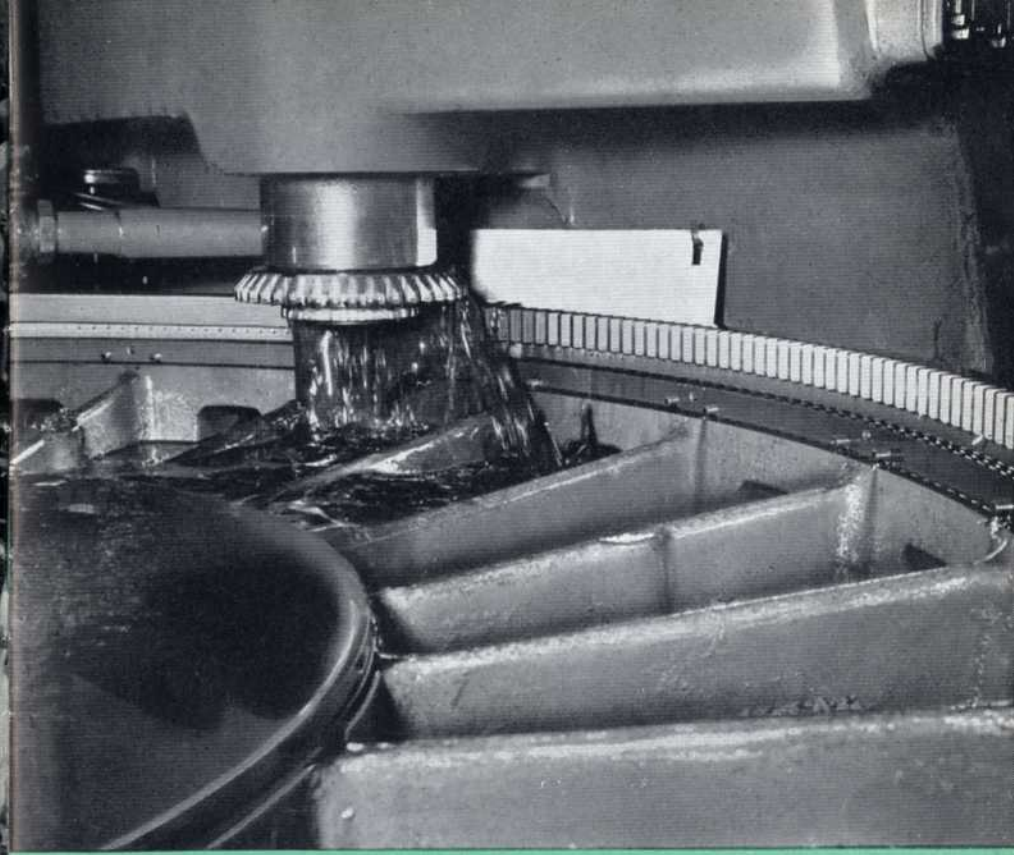
Parts for Combat Maintenance

Hundreds of spare parts, from tiny gears to large drive shafts, are wrapped, dipped in protective waxes, cased and loaded into box cars for shipment to fighting zones all over the world. Processes developed by Chrysler Corporation protect these parts in long transit and after their arrival at the battle fronts, whether under blazing sun, Arctic cold or in swamps and drenching water.

Rings of steel are machined . . .

Steel rings on which turrets are to be mounted, are turned on huge machines specially developed for this job. The boring mills illustrated, machine three surfaces of the rings in one operation. These rings must balance the five-ton turrets and gun assemblies of General Shermans so delicately that they can be turned through full circles by hand.

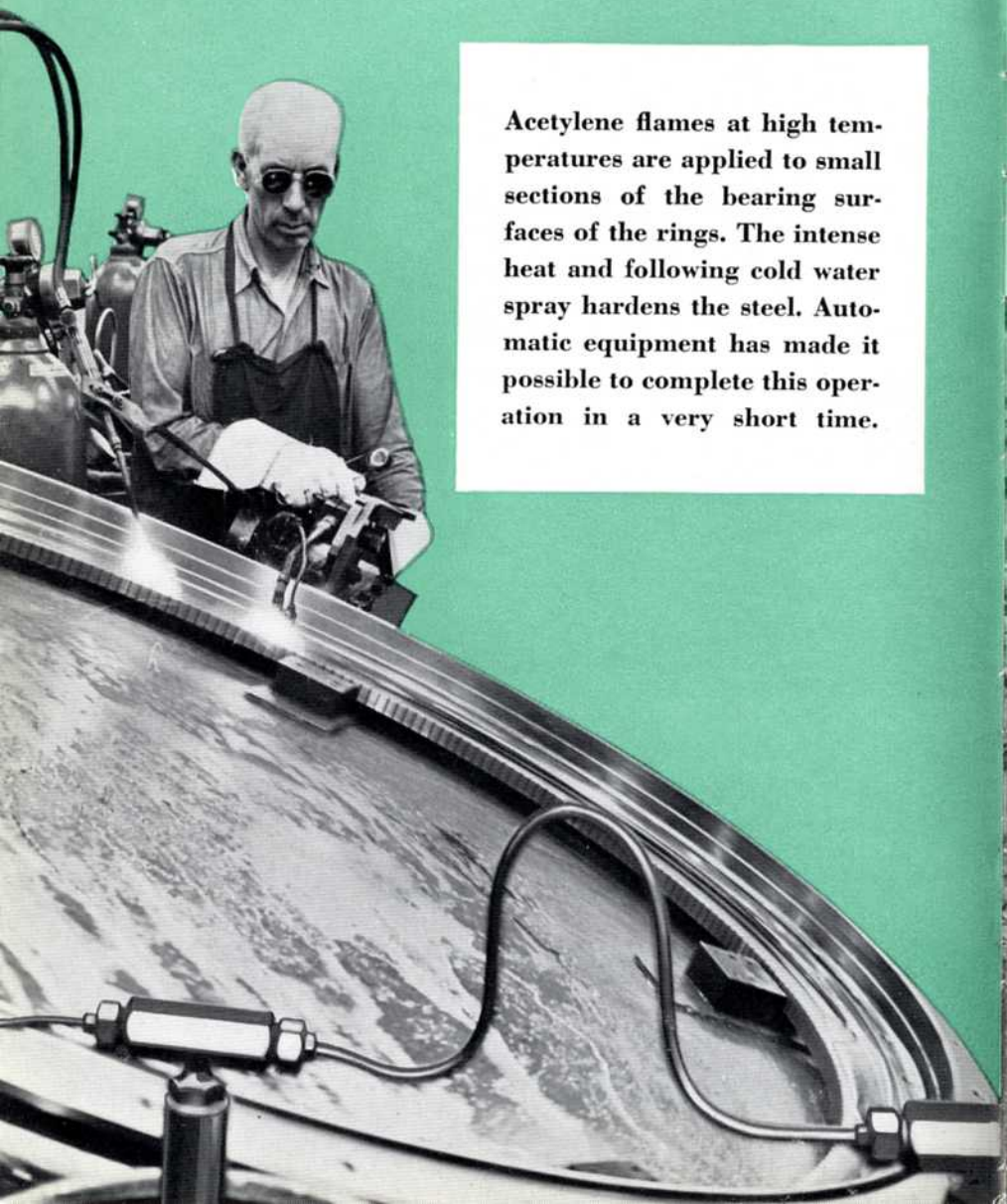




...and Gear Cutters give them teeth

Automatic gear cutting machines, designed and built for this job, bite teeth into the steel rings at a speed four times faster than previous methods. The cutting head, set very carefully, works in a constant bath of cooling oil.

Bearing Races are flame hardened for smooth Turret performance



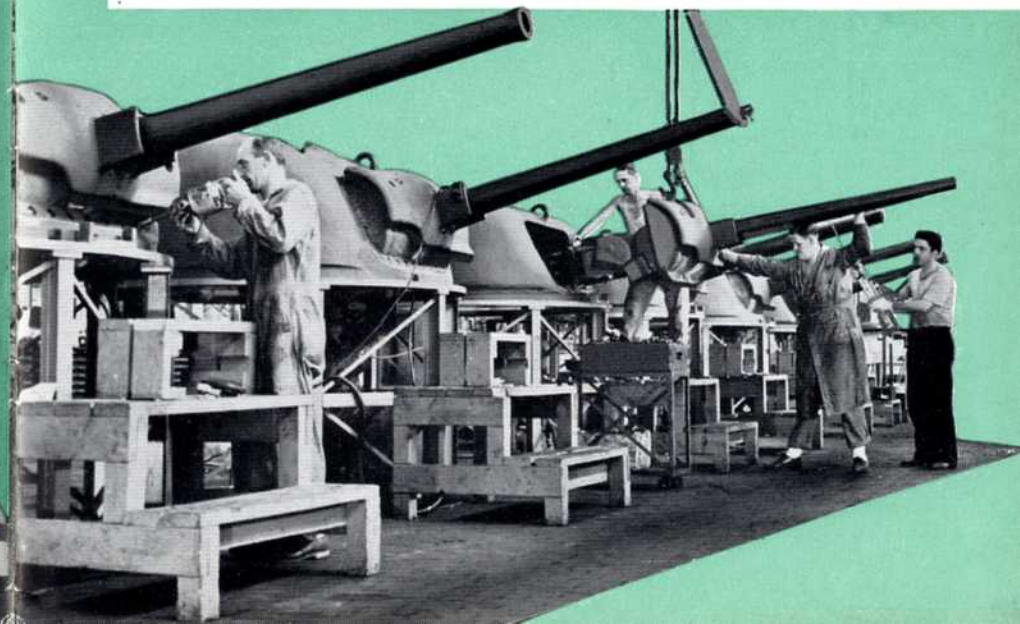
Acetylene flames at high temperatures are applied to small sections of the bearing surfaces of the rings. The intense heat and following cold water spray hardens the steel. Automatic equipment has made it possible to complete this operation in a very short time.

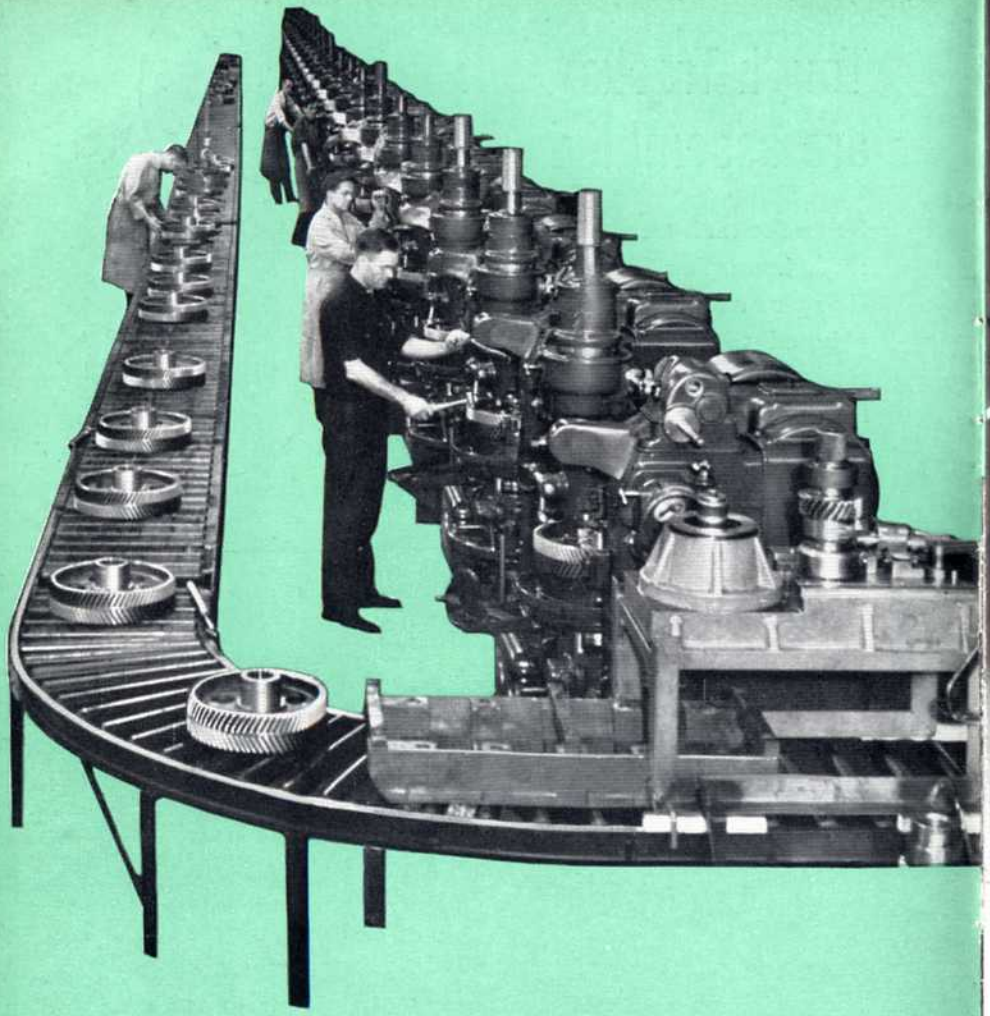
Tough Tracks are assembled

Shoes for tank treads are made in another Chrysler Corporation plant, shipped to the Arsenal ready to be assembled. Shoes linked into full tracks are rolled for easy handling.

Turrets are armed

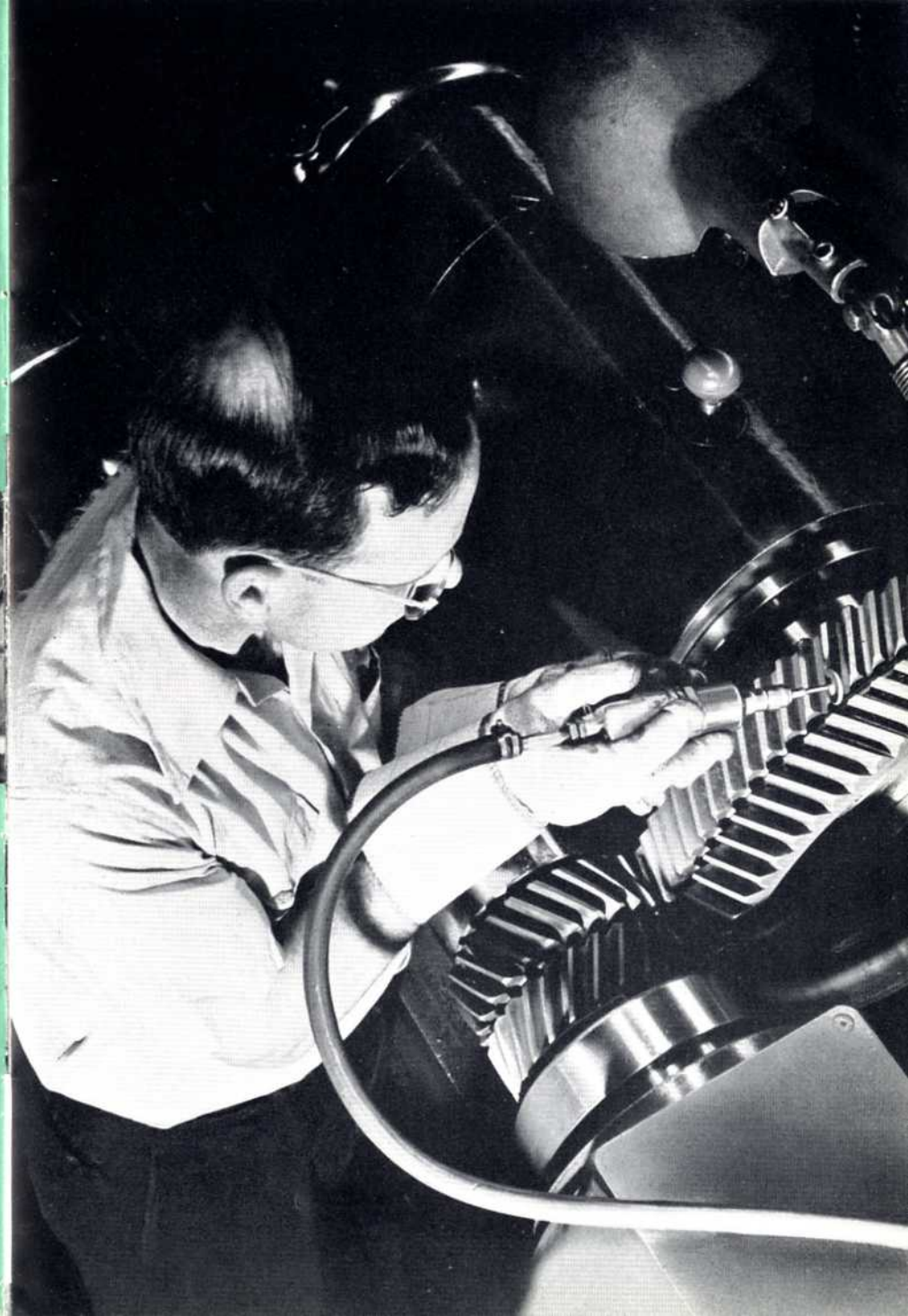
Hard-hitting 75mm. guns are installed in the turrets, adjusted, sighted and are ready for use before the turrets reach the final tank assembly lines.

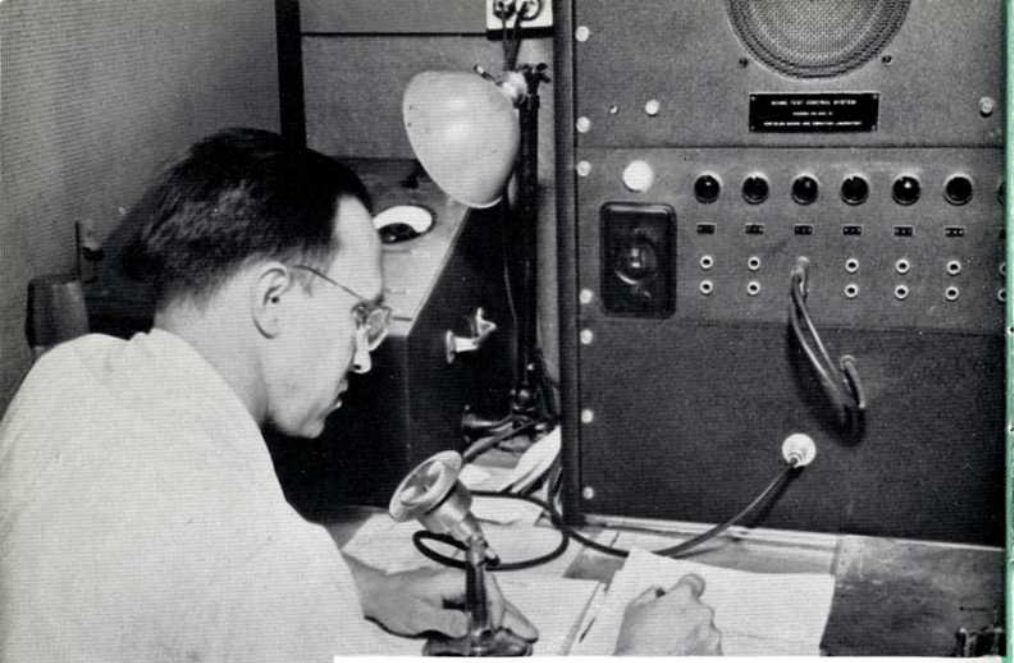


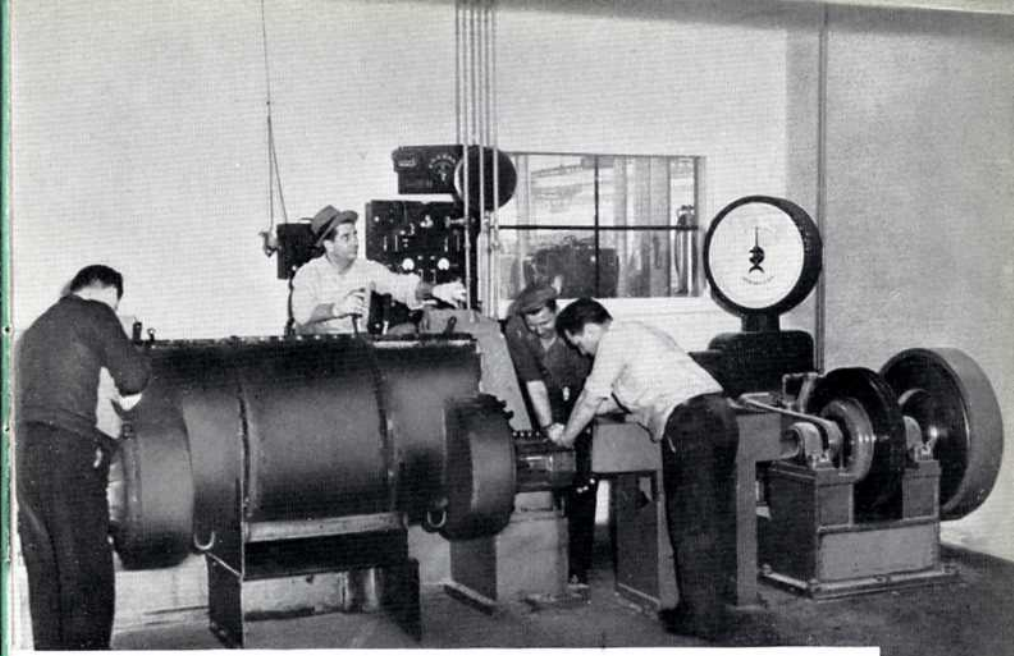


Gears made in volume...rigidly inspected

Large gears roll down the conveyor lines between rows of gear cutting machines. Originally all gears for Chrysler-built tanks were made at the Arsenal, now other Chrysler Corporation plants supply smaller gears. All sets of herring-bone gears are hardened, test run, and carefully checked before assembly.



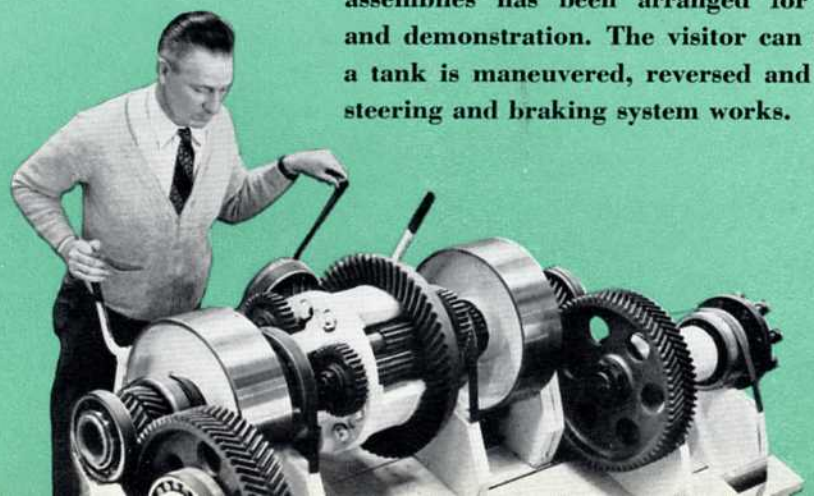


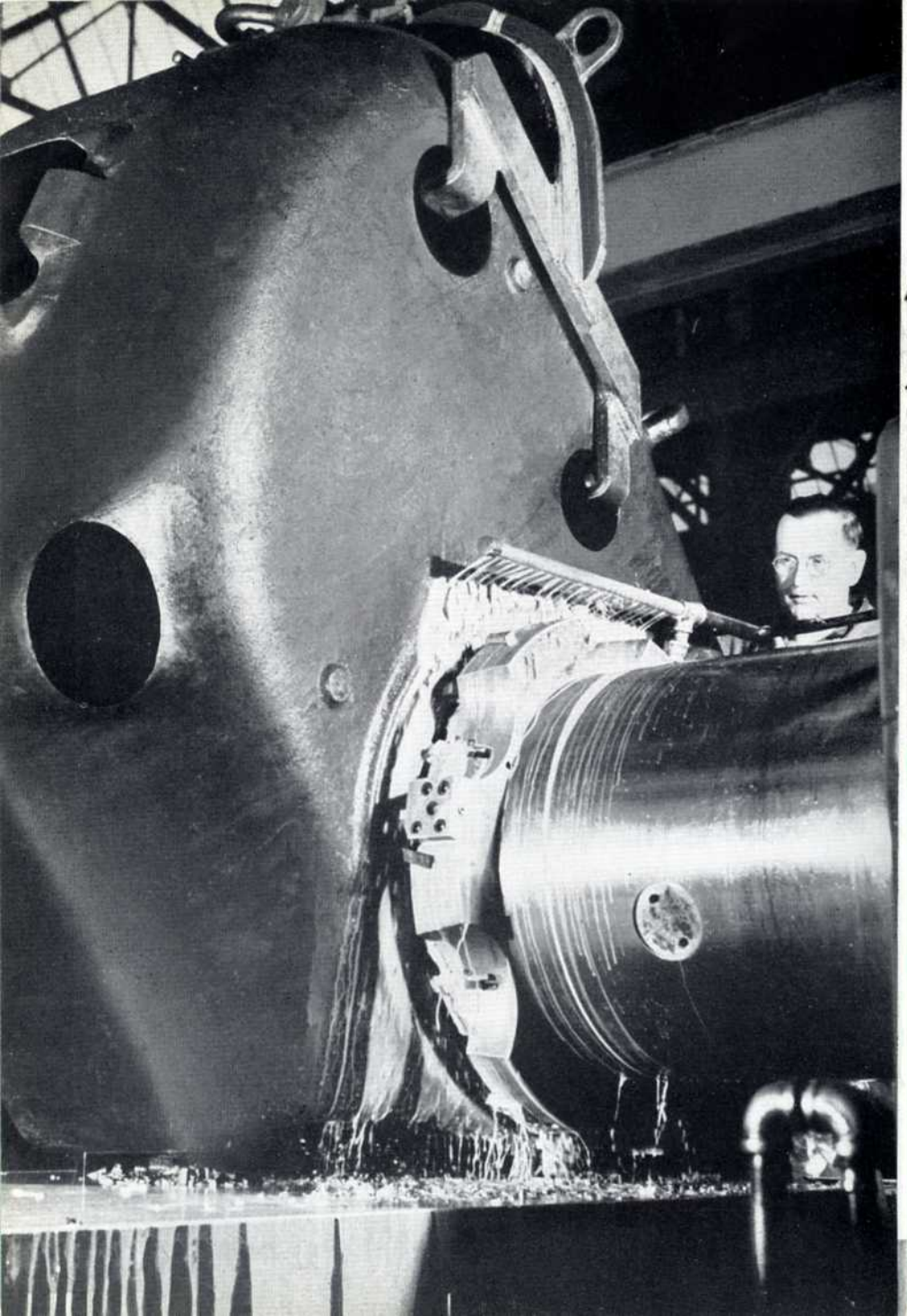


Careful Testing . . . for battlefield efficiency

Into a sound proof test booth where tank operation is closely simulated, goes each final drive for a run-in test. Its performance is scientifically checked and carefully recorded before being sent to final tank assembly lines.

A cutaway model of final drive transmission assemblies has been arranged for display and demonstration. The visitor can see how a tank is maneuvered, reversed and how its steering and braking system works.





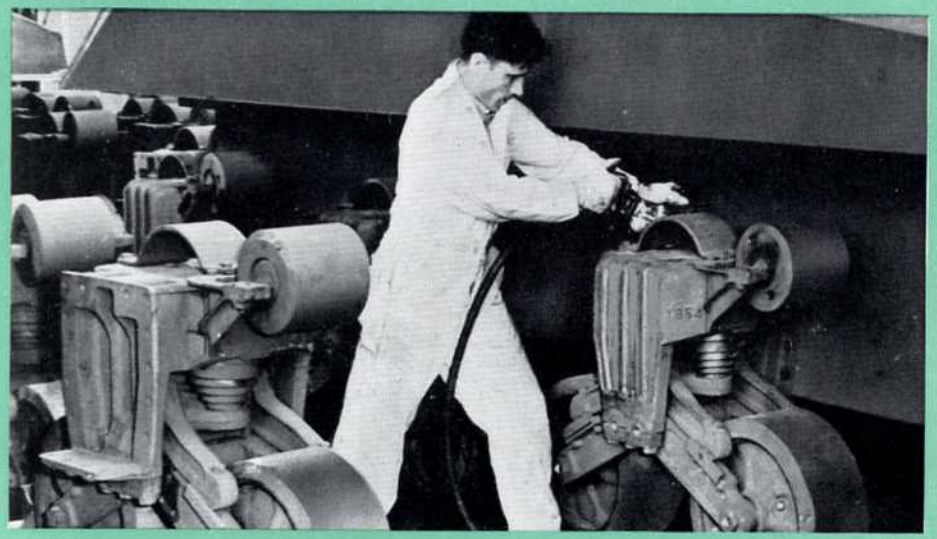
. . . Massive Turrets to Fortify Tanks

Fire-power of a combat tank is its turret. These giant castings are machined in the Arsenal on equipment designed and developed for this important war job. The turret, with its armament and equipment, is completed before it reaches the final assembly lines. This system of building sub-assemblies complete, before final assembly, is one of the secrets of mass production, whether the product be automobiles or tanks.

TANKS START TO TAKE SHAPE

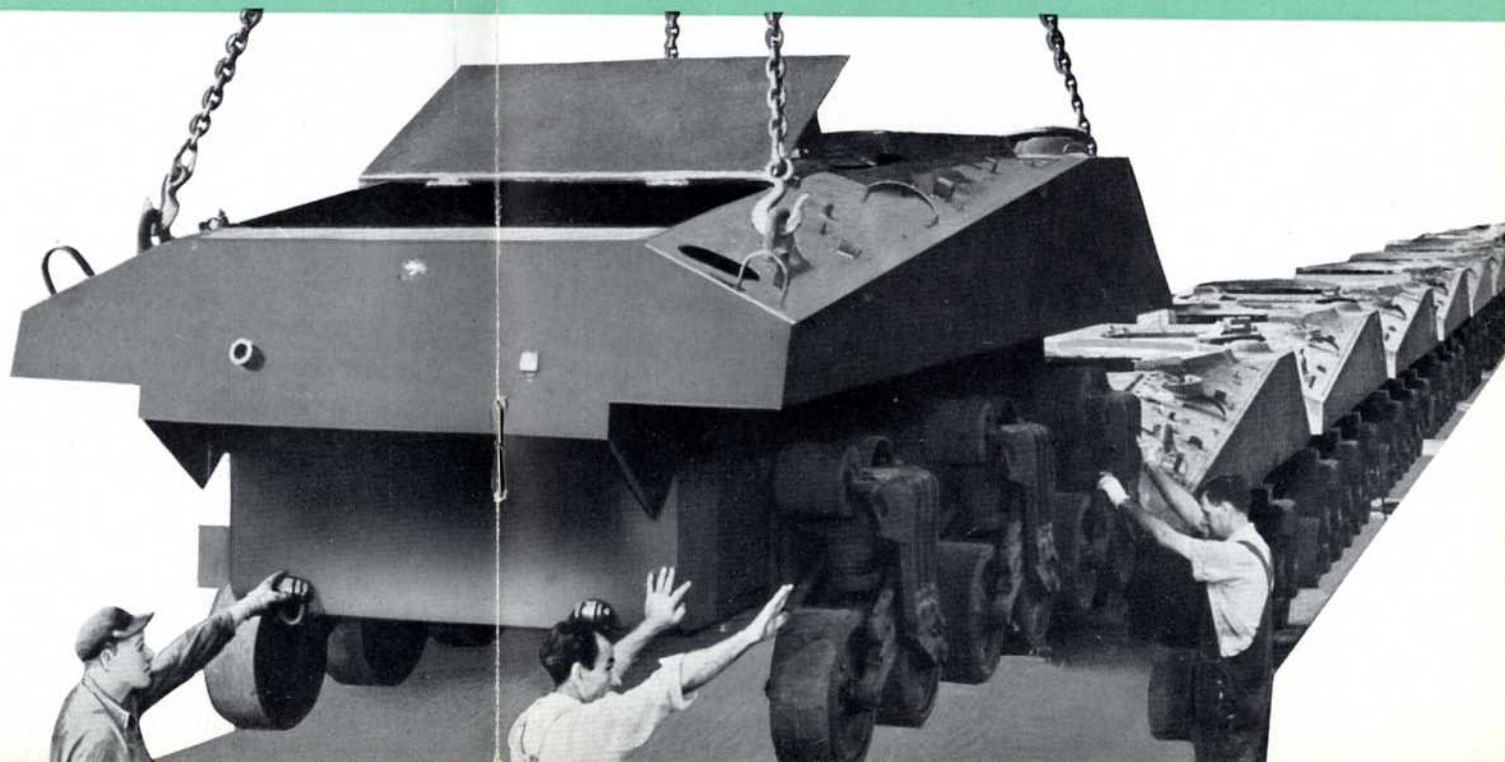
. . . Wheels come first

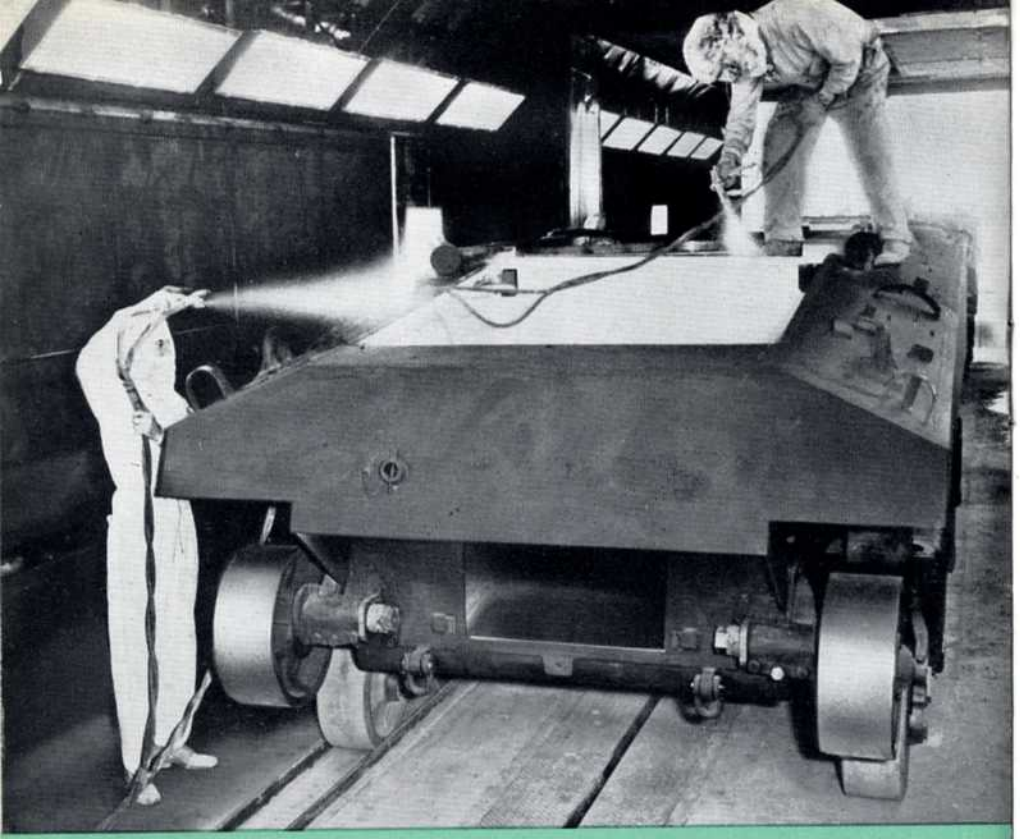
Onto the complete welded tank hulls, which are made in another plant, first are added the wheels and spring assemblies (called volute suspension units).



Hulls are lowered to assembly lines . . .

Then these hulls, with their wheels in place, are lowered to assembly lines. From then on tanks may roll on their own wheels, growing in the process from empty hulls to fighting machines.



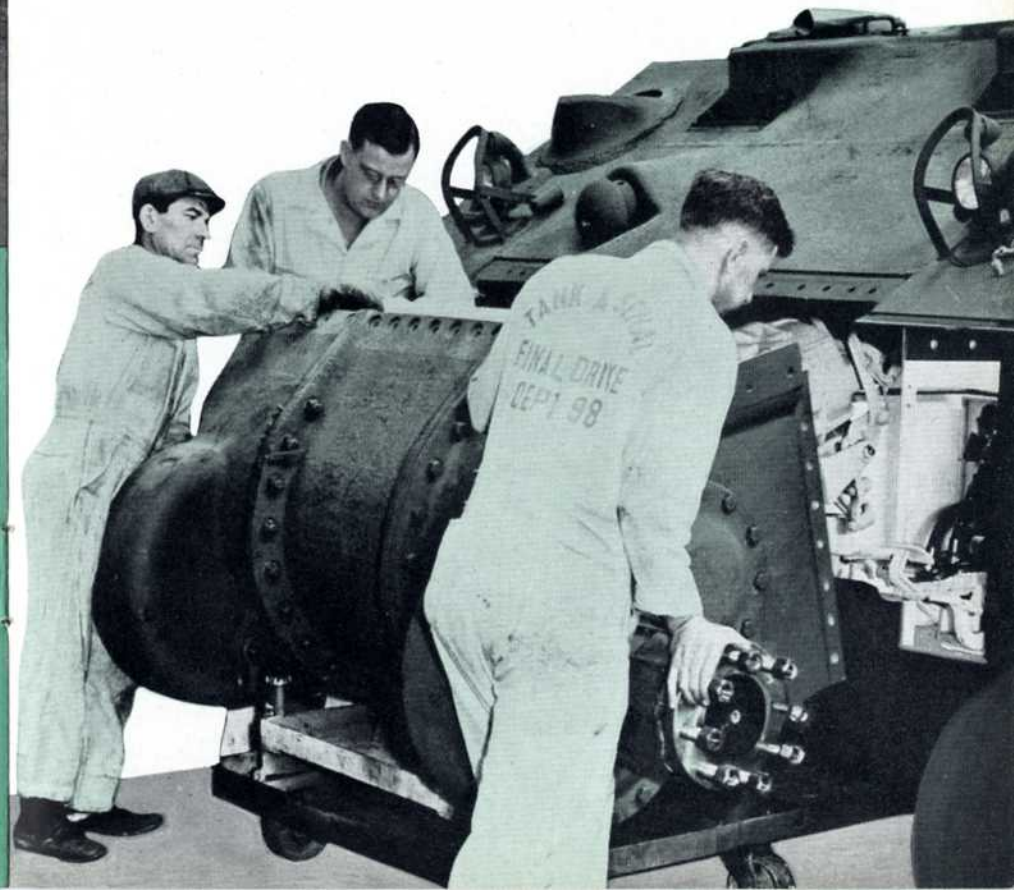


. . . First coat of paint

After preliminary assemblies and parts have been installed, the tank is ready for its first spray painting—olive drab outside, white for extra visibility inside.

Final Drive Assemblies Are Installed

Final drive and transmission assemblies, arriving at the lines complete, inspected and ready for use, are installed. The heavy assemblies are moved into position on special conveyors.

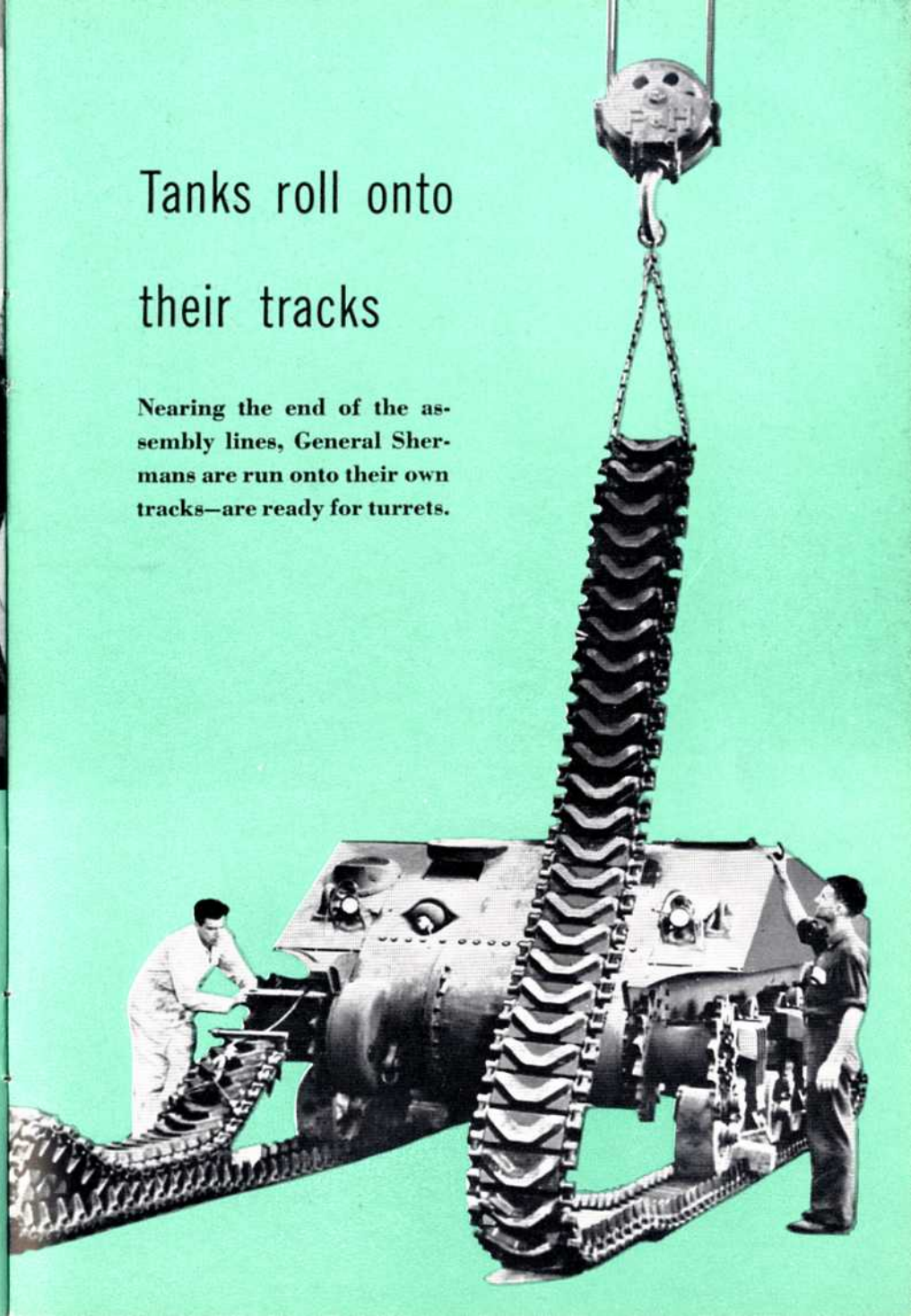


. . . Sprockets give driving power

Further down the assembly lines, heavy sprockets are added. These big teeth bite into the tank track connecting links and drive the tanks over the roughest terrain. At many intervals along the lines the tanks are inspected.

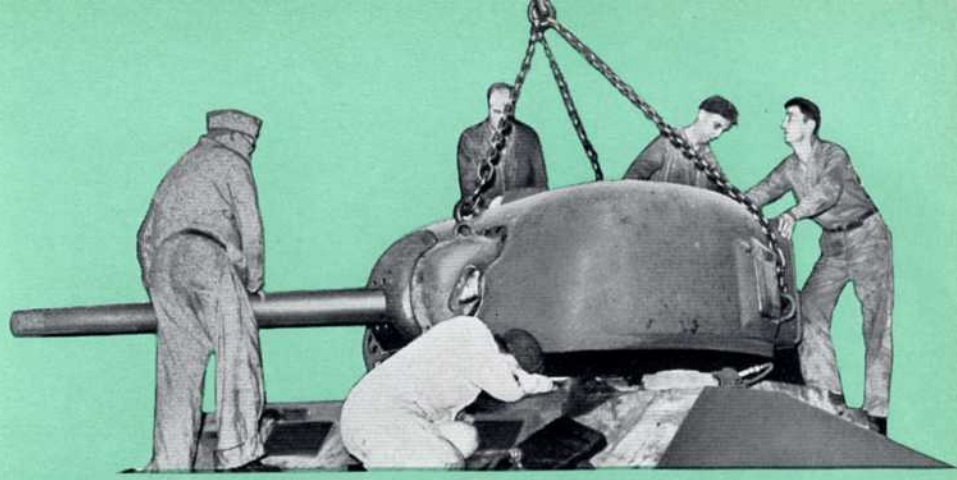
Tanks roll onto their tracks

Nearing the end of the assembly lines, General Shermans are run onto their own tracks—are ready for turrets.



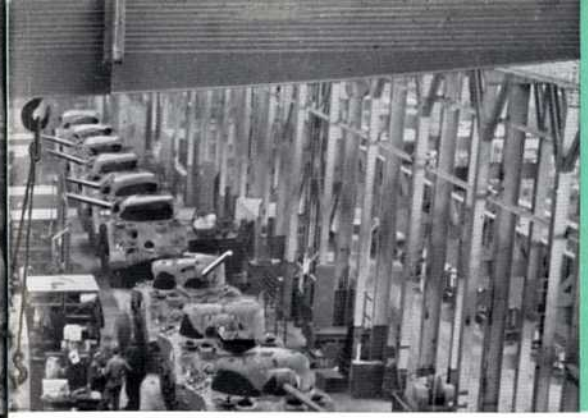
Turrets and Guns are added

After the hulls and treads are completely assembled, power plants installed and all interior fittings in, the massive turrets and heavy guns are lowered into place. With this operation finished the General Shermans have their hitting power and protection.



. . . Tanks are finished!

Rolling off the lines under their own power, the low-slung M-4's get their final inspection and are ready for their 50 mile run-in. They are products of teamwork and experience gained through the years of making cars and trucks.



Assembly Lines are the heart of the Arsenal

On many assembly lines running lengthwise down one side of the Arsenal, tanks take shape—sub-assemblies and parts flow up to the lines complete, are ready for use, timed to the assembly schedule.

Every Tank gets its Test Run

Over the test track outside the Arsenal the tanks plow through heavy mud, run in all kinds of weather. Drivers watch their performance carefully, report their findings.

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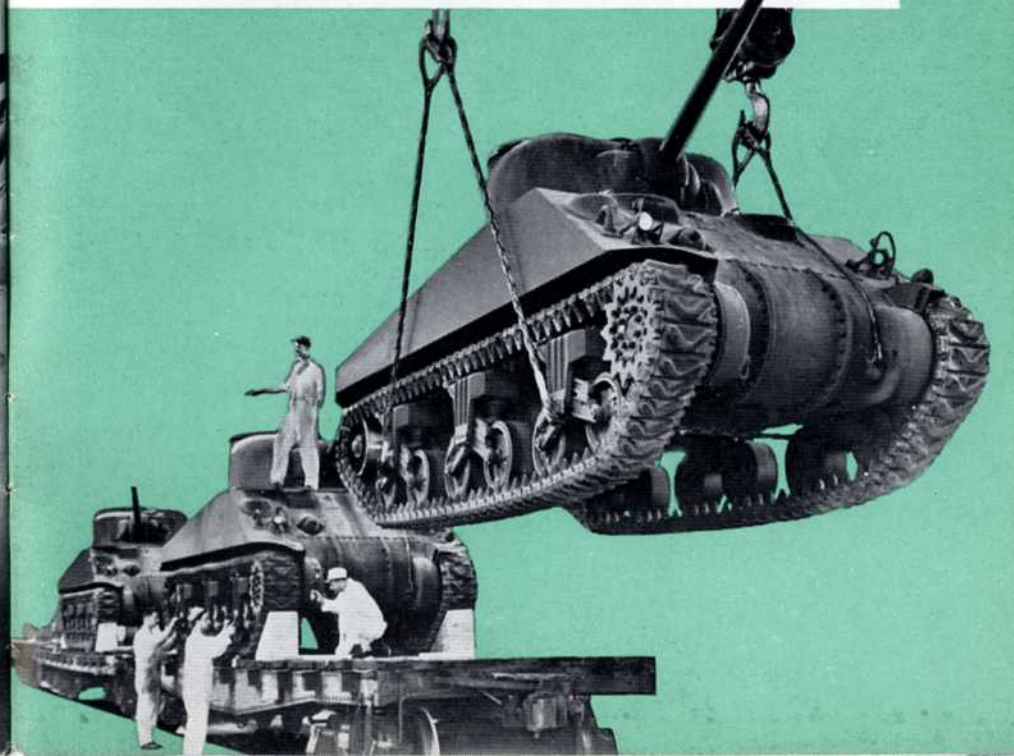
Tanks . . . ready for shipment . . .

Their running tests completed, guns battened down, the M4's are ready for delivery. Passing months at the Arsenal have seen new high shipment figures established as more and more finished tanks leave the lines.

. . . Are swung aboard flat-cars

Giant cranes swing the 30-ton monsters onto flat-cars, headed for Army battle action anywhere in the world.



TANKS BY THE TRAINLOAD

Here is another proof of America's industrial might; proof that production lessons learned under a free competitive enterprise system in peace, bring strength to a nation at war.

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