HARLOW CURTICE TAKES BUICK TO WAR

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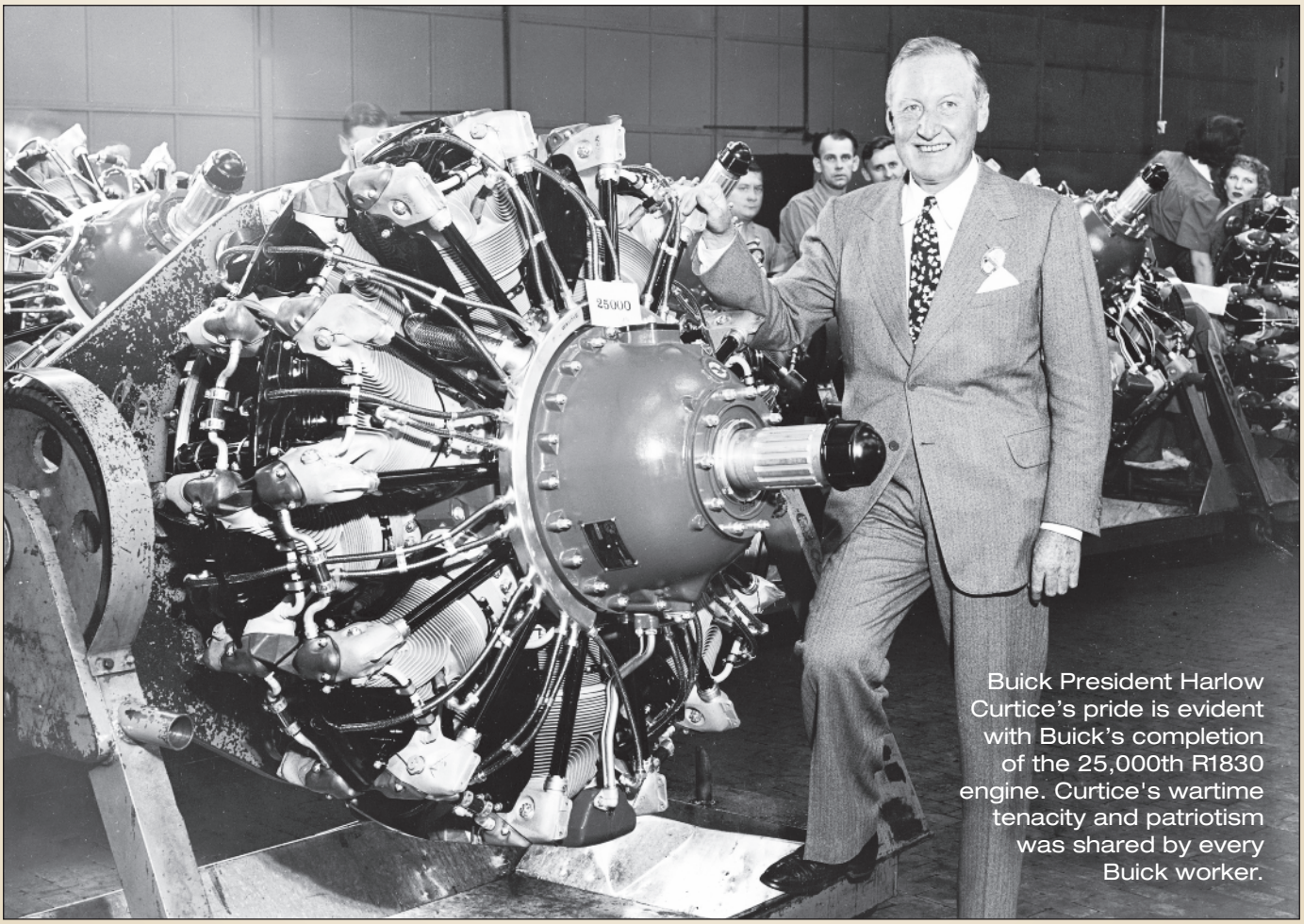
Photos Courtesy of the David M. Landow Collection

The epic land, sea and air battles of World War II that took place far from American soil, and the courageous Allied service personnel that fought in them, are what led the Allies to victory. That victory is partially owed to those Americans who worked at home to produce unfathomable quantities of war hardware at a pace never seen before. With whole-hearted determination, the men and women at Buick successfully fulfilled the many responsibilities that the U.S. Federal Government entrusted to them, making a great contribution to the outcome of WWII. At a time when our nation most needed manufacturing capability, Buick was ready to go to work on several wartime missions to which it was assigned. Buick Motor Division was involved in about 30 contracts that exceeded $1 billion (approximately $15 billion in today's dollars) for various types of war hardware, but none would prove more crucial than its involvement in the U.S. Army's heavy bomber program. This would become Buick's largest and most important role in WWII.

PRATT & WHITNEY R1830 14-CYLINDER RADIAL AIRCRAFT ENGINE

Buick received its contract to build Pratt aircraft engines in 1941, well before the United States entered the war. Former General Motors President William S. Knudsen, who had been appointed by FDR as chairman of the Office of Production Management, personally asked Buick Motor Division President Harlow Curtice to accept the Pratt & Whitney engine project. The contract grew into the largest aircraft engine order ever awarded, requiring



Buick President Harlow Curtice's pride is evident with Buick's completion of the 25,000th R1830 engine. Curtice's wartime tenacity and patriotism was shared by every Buick worker.

▲ Buick affixed a beautiful cloisonné emblem to the front of every R1830 engine, proudly featuring the Pratt & Whitney American Eagle logo and proclaiming "MADE BY BUICK."

One of 2,507 Buick-built M-18 Hellcat Tank Destroyers nears completion. ▶

Aluminum cylinder blocks for the Packard-built 12-cylinder V1650-1 Rolls-Royce Merlin engines were produced in the same plant as the cylinder heads for the Buick-built 14-cylinder R1830 Pratt aircraft engines. ▶

the construction of two new factories: the first on 126 acres in Melrose Park, Illinois, and a second in Flint at the Buick complex to be an aluminum foundry. Buick built and tested 74,797 Pratt R1830 engines at the Melrose Park factory.[1] It also ran a school at Melrose Park, where mechanics were trained to work on the Buick-built radial aircraft engines used exclusively on Consolidated-Vultee B-24 Liberator four-engine heavy bombers. In the newly constructed Building #20 in Flint, Buick produced 3,120,000 aluminum cylinder heads, enough to supply each of the 18,190 Liberators built during the war with three complete sets. An adequate supply of spares was crucial to keep the Liberators flying, and Buick delivered.[2]

BUICK BUILDS A TANK-HUNTER FOR THE U.S. ARMY: THE M-18 "HELLCAT" TANK DESTROYER

As with the Pratt engine contract, before war was declared Buick received a contract to build the U.S. Army's M-18 76mm gun motor carriage. Nicknamed "Hellcat" by Buick, 2,507 were built in four separate factories at Buick's Flint complex. Although it would prove to be a flawed strategy, the Army's Tank Destroyer command wanted a heavily-armed low-silhouette tank hunter that was fast and maneuverable to seek out and destroy enemy tanks. Ultimately capable of speeds approaching 60mph, the Buick-built Hellcat was the fastest WWII armored-tracked military vehicle. However, in actual combat, it was found there was almost no advantage to this speed. In addition, the Hellcat's M1A1 76mm gun (specified by the Army and built by others) proved ineffective at penetrating and disabling the heavily armored German Panther and Tiger tanks.[3] Nevertheless, the Buick-built Hellcat and its well-trained tenacious crews served with great distinction, providing much-needed direct-fire support for infantry rather than its intended tank-destroyer role.

BUICK, PACKARD AND THE ROLLS-ROYCE MERLIN ENGINE

During WWII at its Detroit plant on East Grand Boulevard, Packard built 54,714 Rolls-Royce Merlin V-1650-1 engines mostly used in the famed North American P-51D Mustang fighter. Each Merlin engine had two six-cylinder aluminum

Continued on page 30

▲ The insignia of the Hellcat Tank Destroyer Force is a likeness of a black panther crushing a tank in its jaws.

◀ It was called "The job that couldn't be done." Here, 75mm steel shell casings move along the production line.

blocks affixed to the crankcase. While Packard was busy giving Rolls-Royce lessons in the need for built-in tight tolerances and interchangeable components for successful mass-production of the Merlin engine, it is not widely known that at Buick's Flint complex in Factory #30, workers were busy casting 52,200 of the 109,428 cylinder blocks needed. When the P51 Mustang was paired with the Packard-built Merlin, it was re-designated P51D and became one of the most lethal high-altitude fighters of the war.

MISSION: IMPOSSIBLE

Buick ingenuity was also called upon to solve critical ammunition shortages. During the war, brass was in perilously short supply. The Army's Ordinance Department asked Buick to make 75mm shell casings from steel, a difficult task considering each casing had to withstand repeated firings. Most importantly, each casing needed to be undeviating in surface structure so as not to be too hard at any one point (where it could crack when fired), or too soft at any one point (where it could jam in the gun breech from expansion). At first, resolving the metallurgy seemed like an impossible mission; weaponry experts said it could not be done, but after much experimenting, Buick converted its presses that previously stamped fenders and successfully produced more than 300,000 casings a month. By the end of the war, Buick had produced 2,424,000 75mm steel shell casings that exceeded the Army's specifications.

OTHER NATIONAL ARMAMENTS CONTRACTS

Numerous other wartime contracts were fulfilled by Buick at its Flint complex, including the conversion of 640 M-18 Hellcats to M-39 armored tractors; producing 19,428 transmissions and final-drive assemblies for the M-4 Sherman and M-26 Pershing tanks and for the M-10 tank destroyer; making 148,196 crankshafts for the 6-71 Detroit Diesel engine used in M-4 Sherman tanks and in amphibious landing craft deployed in many American beach landings, including Normandy; and casting 204,500 cylinder heads and engine blocks for Hercules truck engines used in 2.5-ton Studebaker military trucks. Other various contracts were also fulfilled, including 2,952 anti-aircraft gun mounts, 1,149,300 57mm shell bodies and 9,719,000 20mm shell bodies.

Harlow Curtice was acutely aware of the importance of converting America's factories for wartime production when he said, "This is a war not only of men in uniform but of men in work clothes, engineers in their shirt sleeves, executives at their desk. Every machine, every drawing board, every conference table where decisions are made concerning war goods — all these are battle stations where part of the work of forging victory goes on."

Everyone at Buick was proud of the way they fought the war on the home front. The problems to be solved were many, the workload was intensive, the hours were long and tedious, but the nation's freedom was at stake. Buick's wartime production record was a credit to the tenacity of Harlow Curtice and the ingenuity, hard work and patriotism of every person that worked at Buick Motor Division.♦

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1 *Chevrolet also built the R1830 Pratt aircraft engine.*

2 *Consolidated B-24 Liberator aircraft were built and assembled by four different manufacturers other than Buick, at four separate locations.*

3 *Later model Hellcats received a more powerful M1A2 76mm gun, identifiable by a muzzle brake at the end of the gun barrel. All Hellcats also were equipped with a ring-mounted Browning M2 .50 caliber heavy machine gun.*