

# 1961 Lincoln X100 presidential car

*\$1-million limo steeped in tragedy and technology*

By Duane Carling

The story of modern presidential transportation is largely the story of Ford Advanced Vehicles, the Secret Service Garage and Henry Ford's camping trips. In 1921 Henry Ford loaned the Garage his new Lincoln "kitchen car" which, along with several other Ford support vehicles, allowed the Secret Service to take President Harding and his friends (Ford, Thomas Edison, Harvey Firestone, John Burroughs and Ford's personal chef) on a camping trip. Those outings started a tradition of Lincoln automobiles and Firestone tires in the Garage lasting to the present day.

In 1961, the Secret Service was commissioned to help build a parade car, codenamed "X100." The new Lincoln Continental convertible—the only four-door drop-top made at the time—was deemed ideal for the task as it offered the ultimate in visibility of its occupants. This presidential car was to be a symbol of national prestige. Unfortunately, it was also to become one of national tragedy.

The X100 began life as a stock 1961 Lincoln convertible weighing 5215 pounds and retailing for \$7,347. Ford Advanced Vehicles, the Service and Hess & Eisenhardt hand-crafted the magnificent 21-foot limo, lengthened slightly more than three feet on a 156-inch wheelbase. It featured a hydraulically operated rear seat that could be raised 10.5 inches for increased visibility. A series of six removable steel and transparent plastic roof panels could be used in various combinations to provide security, or be stored in the trunk for complete visibility. Other equipment included a Targa-style top with hand rail, four retractable steps along the sides of the car for agents, two steps on the rear bumper for additional agents, two radio telephones and interior floodlights to illuminate the president at night.

A continental kit was necessary for the spare because there was no room for the tire in the trunk when the top panels were stored (although the need to change any of the custom-made Firestone truck-type bullet-resistant tires was remote at best).

Built at a cost of \$200,000 (in '61 dollars), the X100 was leased for \$500 a year to

the Kennedy White House, and made its debut in mid-June weighing in at more than 7800 pounds. According to agents who drove it, it "accelerated, stopped, and handled remarkably well."

In spite of the Service's best intentions and the car's capabilities, neither was effective in Dallas on Nov. 22, 1963, when Kennedy opted to leave all the top panels off and not have agents stand on the back and side steps.



Unforgettable Kennedy parade car retired to museum after Nixon years

JIM FRENK PHOTO

Almost immediately after Kennedy's assassination, a group of 30 experts was assembled to consider how to prevent such a tragedy. After several days, six people representing the Service, the Army Materials Research Center, Pittsburgh Plate & Glass (PPG) and Hess & Eisenhardt met to distill all the ideas. They concluded the best solution was a thorough rebuild of X100, a project to be known as "The Quick Fix."

Begun in mid-December, the first priority was a permanent, non-removable top of transparent and opaque armor. Production of the bullet-resistant glass by PPG was a major engineering feat and cost a rumored \$125,000. Very expensive "water white" glass that provided a minimum of distortion was sandwiched with polycarbonate and vinyl in up to five layers. There were 13 pieces altogether (including the windshield), ranging from 1 inch to 1 13/16 inches thick. The 1500-pound rear roof section was the largest piece of bullet-resistant cast curved glass produced up to that time.

The principal opaque armor was a 3/8-inch sandwich of titanium and steel. Made in very small quantities and "limited to federal release only," it is found in the back of the car's rear seat, the rear doors, rear quarter-panels, front roof panel and the roof side rails. HY-100 steel armor that protects against blasts (as opposed

to projectiles) was used in the car's floor, rear-seat base and rear-seat riser.

Also used to good advantage in places within the car that required oddly shaped, lightweight ballistic protection was a flexible armor about an inch thick made of 12-ply nylon fabric. It was installed in the back of the front seat, the rear doors, center body pillar and rear quarter-panels.

The original 300 hp 430-cid engine was replaced with a higher-compression hand-built unit that made 50 more horsepower.

Lyndon B. Johnson took delivery of the revamped car in 1964. At his insistence in 1967, the right-rear door window was converted to a movable pane, with the addition of a heavy duty power regulator.

As a concession to Richard Nixon, a hinged roof panel was added in 1969 to allow him to stand in the rear compartment. A microphone also was provided so outside noises could be heard through the thick armor.

Communications technology used in presidential cars is a closely guarded secret. Agents on board the president's and follow-up cars may be from a wide variety of governmental agencies. They must communicate between cars as well as with agents along the route, stationed on rooftops, at intersections and even in sewers. When the president is ready to leave the White House, he notifies his military aide, who calls the White House usher, who calls the Secret Service Garage, which brings the car to the door. The "black box" containing the codes necessary to launch a nuclear strike is then brought on board.

Once POTUS (codename for President of the United States) gets in the car, a precise "trip message" is flashed to every agency involved in the journey as well as those that require constant knowledge of the president's whereabouts. Among these are the Joint Chiefs of Staff, Strategic Air Command, CIA and the National Security Council. Presidential communications use restricted radio frequencies as well as voice and data scramblers to maintain security for on-board radios, phones and computer/fax machines. There's so much electronic gear that a trickle charger is kept hooked up when the car is not in use to avoid draining the battery.

More than \$1 million was spent on X100. From a technical and historical point of view it is one of the most interesting cars ever built. Certainly it embodies an enormous expenditure of time, talent and technology and, more than any other motorcar, the political sensitivities of our nation. The X100 is retired and on display at the Henry Ford Museum and Greenfield Village in Dearborn, Mich. ■