

# FUTURE

WHY ARE POLICE CARS STILL STANDARD SALOONS? ONE OFFICER ASKED THE QUESTION – THEN CAME UP WITH HIS OWN ANSWER. **BY DANIEL WEISS**



PHOTO: CARBON MOTORS CORPORATION

# COPS



**“IT’S SAFER INSIDE  
... BECAUSE OF  
HOW EVERYTHING  
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LOOK.” A. KEITH  
MORTON, CHIEF OF  
FOUNTAIN INN PO-  
LICE DEPT, NORTH  
CAROLINA, US**

**T**here were so many things wrong with officer Stacy Stephens’ police car that he started keeping a list. His gun dug painfully into his kidneys as he patrolled the streets of Coppell, Texas, in the United States. Pieces of equipment such as radios, computers and spotlights were attached wherever there was room, making it difficult to access while driving and an accident waiting to happen. Whenever he secured a prisoner in the back seat, he had to reach over the detainee to buckle the seatbelt, opening himself up to attack. “I was bitten, spat on, head butted,” he recalls.

All these little problems stemmed from one big problem: no one had ever designed a police car from scratch. Instead, like almost all police forces, Stephens’ department purchased standard cars and then retro-fitted them for police work.

“Why is it that fire departments have fire trucks, emergency medical departments have ambulances, even garbage is picked up with purpose-built vehicles,” Stephens asks, “but police patrol our neighbourhoods in vehicles that were never designed to do police work?”

Nobody gave the frustrated officer a convincing answer, so, in 2003, Stephens teamed up with William



PHOTO: CARBON MOTORS CORPORATION

Santana Li, a former Ford Motor Company executive, to found Carbon Motors. The company dedicated itself to producing the first ever purpose-built police car. After almost six years of work and input from over 3,000 law enforcement officers around the world, they unveiled a prototype, the E7, in October 2008. Police departments throughout North America have expressed an interest in purchasing the car, and it is set to hit the streets in 2012.

#### DESIGN TO ENFORCE

The first order of business was to rethink the officer's "office": the front seat. Standard front seats press up

## CARBON MOTORS E7 STATISTICS

**Horsepower:** >250 bhp  
**Torque:** >400 lb-ft  
**Lateral acceleration:** 0.85 g  
**Turning circle:** 12.2 m  
**Fuel capacity:** 68.1 litres  
**Fuel efficiency:** 12.75+ km/litre  
**Useful range (approximate):** 800+ km



The back doors open to the rear of the car, allowing cuffed prisoners to enter the vehicle more gracefully.



against officers' guns, making the weapons difficult to access when seated, and the seat fabrics rapidly rip to shreds with heavy use. In contrast, the E7's seats have had their cushioning removed at waist level to provide plenty of room for officers' gun belts. They are also constructed of ballistic Kevlar, a material used to make bullet-proof vests and tough enough to hold its own against cop-level wear and tear. "Every single officer who has sat in the car says, 'It's like I'm not wearing any equipment, this is amazing!'" says Stephens.

As well as standard-issue radios, spotlights and radar detectors, a range of other optional technological goodies can be seamlessly built into the cockpit, with controls at the officer's fingertips via buttons

on the steering wheel and a 15-inch touch screen. Standard and infrared night-vision cameras offer a 360-degree view outside the vehicle, while an internal camera allows the officer to keep an eye on prisoners inside the car. A weapons of mass destruction sensor alerts cops when it detects traces of radiation or chemical or biological weapons. "Basically it tells them either get out of town or you need to look into this," smiles Stephens.

Two other cameras are dedicated to a license-plate recognition system, which can read up to 1,500 number plates per minute and check for stolen vehicles and outstanding warrants. It also captures an image of each car along with its location, which can be searched when alerts come through

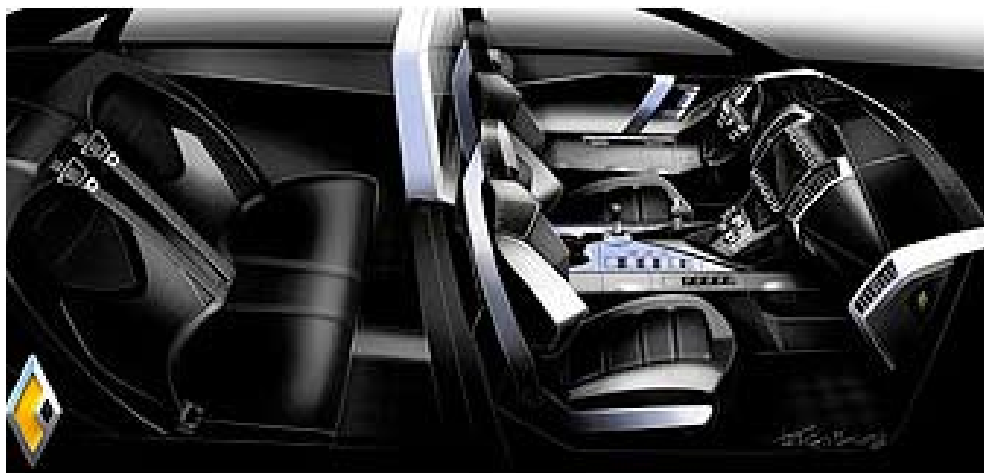




The E7's ergonomically designed cockpit, 180° interior rear compartment surveillance capability and biological threat detection system make it a force to be reckoned with.

for cars involved in major crimes such as bank robbery or kidnapping. "If you passed that car earlier in your shift, it will instantaneously give you an alert," says Stephens. "It will show a picture of the car, a picture of the license plate and exactly where you were when you saw it."

To further aid officers, the E7 is designed to help secure prisoners with minimal struggle. When cops rush out of the car in hot pursuit, the car's doors lock automatically and open when the officers return with prisoners. Uncooperative prisoners have less opportunity to escape; with the



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front doors open as well as the back, the prisoner is trapped on three sides and funnelled into the car. Once the prisoner is seated, the officer pulls down the seatbelt and buckles it from the door side - no more biting, spitting or head butting.

The rear compartment is specially designed to handle uncooperative, handcuffed prisoners. The seat is made of a single piece of moulded plastic, with indentations to accommodate prisoners' arms behind their backs. The compartment is hermetically sealed from the front, protecting officers from attack as well as noxious substances. "People urinate, defecate, they throw up," says Stephens. "You know what, I don't want to share that with them." There are even two drains built into the floor to facilitate easy cleaning.

When it comes to performance, the E7 is built to go long and hard - and save departments money. The car is designed to last a distance of 400,000 kilometres, two to three times longer than current police vehicles. Its turbo-diesel, six-cylinder, 3.0-litre engine with six-speed automatic transmission powers it from 0 to 96 kilometres per hour in just 6.5 seconds and up to a top speed of over 240 kilometres per hour. The E7 is outfitted with an anti-lock braking system and brake assist and can come

to a full stop from 96 kilometres per hour in just 38 metres. For added stability, it has a vehicle dynamic control system, including an all-speed traction control system.

The car's lightweight aluminum frame with composite panels and its aerodynamic body design, with emergency lights built into rather than bolted onto the frame, help it get 12.75 kilometres per litre, 40 percent better than a typical police car. Using diesel rather than standard fuel also increases efficiency - and reduces the risk of fire in a crash. Optional bullet-resistant front doors and dash panel are available for those desiring added protection.

#### SEAL OF APPROVAL

Many of the car's potential users eagerly await its arrival. "This could be one of the best things that's happened for law enforcement since I've been in it, three and a half decades," says A. Keith Morton, chief of the Fountain Inn Police Department in North Carolina in the United States. "I just hope it doesn't cost too much."

But Steven Casstevens, assistant chief of the Hoffman Estates Police Department in the US state of Illinois, was convinced as soon as he saw it. "I looked at the E7 and was in amazement," he says. "It made me want to be a rookie cop again." ■