



GEORGE J. HUEBNER, JR. RECEIVES AWARD FOR GAS TURBINE LEADERSHIP

As a result, on February 14, 1962, Chrysler Corporation announced that it would build 50 to 75 turbine-powered passenger cars which would be made available to selected users by the end of 1963. Typical motorists would be offered an opportunity to evaluate turbine cars under a variety of driving conditions.

On February 14, 1962, in Chicago, Chrysler Corporation exhibited another gas turbine vehicle -- the Dodge Turbo Truck. This medium-duty truck (also equipped with the third generation experimental engine) had just completed a 290-mile (465 km) test run from Detroit to Chicago.

From February 17 through 25, three gas turbine-powered vehicles (the Plymouth, Dodge, and Dodge Truck) were exhibited at the Chicago Automobile Show.

On March 7, 1962, George J. Huebner, Jr., then Executive Engineer of Research for Chrysler Corporation, received an award from the Power Division of the American Society of Mechanical Engineers "for his leadership in the development of the first automotive gas turbine suitable for mass-produced passenger automobiles." It was the first such award ever given to an automotive engineer.



A COMPLETELY NEW CAR

THE FOURTH GENERATION TURBINE ENGINE

May 14, 1963, was an eventful day in the history of automotive design -- the Chrysler Corporation Turbine Car was unveiled to newsmen at the Essex House in New York City. On the same day, a ride-drive program for the press was held on a 2-1/2 mile (4 km) course at the Roosevelt Raceway on Long Island. On May 15, the car was viewed at the Waldorf-Astoria Hotel in New York City by Chrysler's Metropolitan New York dealers.

These events signaled the public launching of Chrysler Corporation's program of building 50 turbine-powered test cars and placing them in the hands of typical drivers for evaluation in everyday use.

This program was an outstanding point in the history of turbine vehicles for two reasons: it was the first time any company had committed itself to build a substantial number of gas turbine automobiles; and it was the first time turbine-powered automobiles would be driven and evaluated by private individuals outside the Corporation.

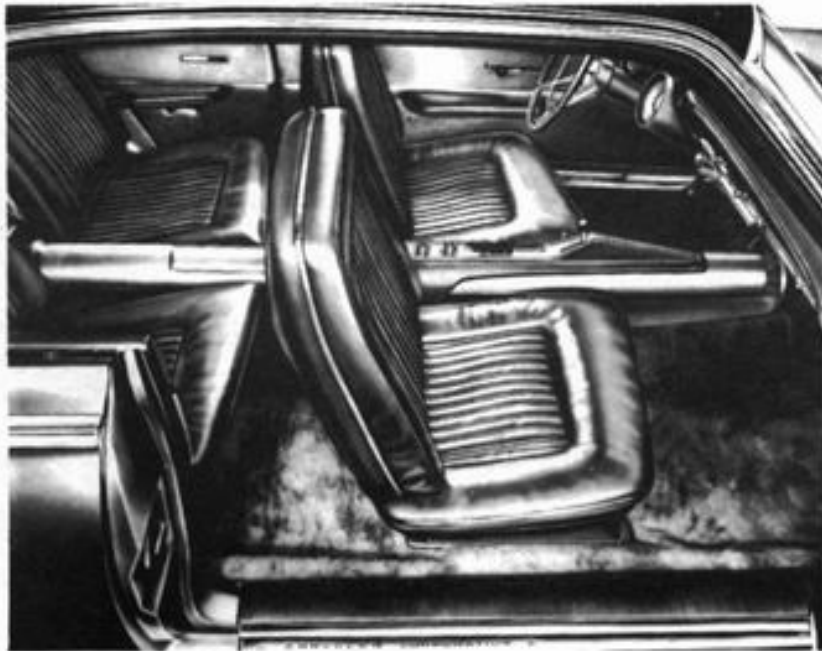
The Turbine Car was a completely new automobile. Since the sole purpose was to determine the reaction of typical American drivers to turbine-powered vehicles, the engine was placed in a family-type car designed for everyday use. This formed a familiar evaluation background for the driver. The styling theme provided an exciting setting for the vehicle itself, creating an over-all impression of fresh styling appeal with strong emphasis on a contemporary and luxurious appearance. Ornamentation was based on the bladed turbine motif which is characteristic of the engine. The interior featured a full-length center console and extensive use of leather.



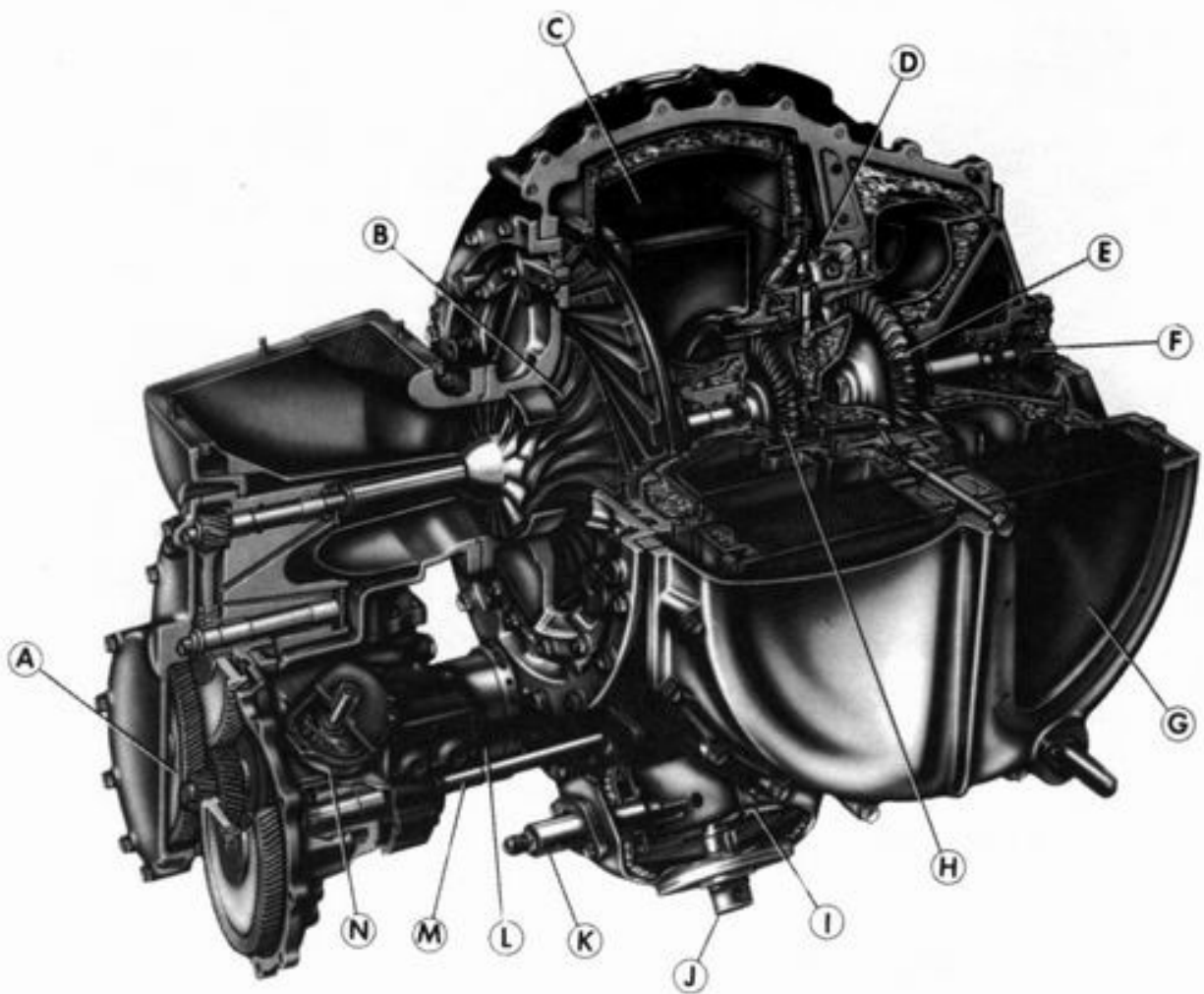
REAR VIEW EMPHASIZES AERODYNAMIC STYLING

This limited-production Turbine Car was built in one body style only -- a 4-passenger, 2-door hardtop. The exterior and interior color was "turbine bronze." Power steering, power brakes, power window lifts, automatic transmission, and all other available equipment were standard.

The turbine power plant for the car was an entirely new design, more advanced in concept than the previous Chrysler turbines, and more adaptable to production techniques. It was Chrysler Corporation's fourth generation turbine power plant design. Its most obvious feature was a new configuration with two regenerators rotating in vertical planes (one on each side) and a centrally located burner. Compared with the previous model CR2A, the new engine was more lively, lighter, more compact, and quieter.



LUXURIOUS INTERIOR APPOINTMENTS OF THE TURBINE CAR



MAIN COMPONENTS OF THE FOURTH GENERATION GAS TURBINE ENGINE

(A) accessory drive; (B) compressor; (C) right regenerator; (D) variable nozzle unit; (E) power turbine; (F) reduction gear; (G) left regenerator; (H) compressor turbine; (I) burner; (J) fuel nozzle; (K) igniter; (L) starter-generator; (M) regenerator drive shaft; (N) ignition unit.

SPECIFICATIONS OF CHRYSLER CORPORATION'S FOURTH GENERATION GAS TURBINE ENGINE

GENERAL

Type: Regenerative gas turbine

Rated Output: Power - 130 bhp (97 kW) @3,600 rpm output shaft speed
Torque - 425 lb-ft (576 N·m) @zero rpm output shaft speed

Weight: 410 lb (186 kg)

Basic Engine Dimensions (without accessories): Length - 25 in. (635 mm)
Width - 25.5 in. (648 mm)
Height - 27.5 in. (699 mm)

With current accessories in place, the over-all length is: 35 in. (889 mm)

Fuels: Unleaded gasoline, diesel fuel, kerosene, JP-4, etc.

COMPONENTS

Compressor Section

- Single stage
- Centrifugal; 4:1 pressure ratio
- 28 channel diffuser
- Plenum collector

Turbine Section

First Stage

- Single stage axial
- Fixed nozzle vanes

Second Stage

- Single stage axial
- Variable nozzle vanes

Regenerator: Type: - Two rotating disks
Effectiveness - 90%+

Burner: Type: - Single can, reverse flow
Effectiveness - 99%

*DESIGN POINT CHARACTERISTICS

Maximum Gas Generator Speed - 44,600 rpm
Maximum Second Stage Turbine Speed - 45,700 rpm
Maximum Output Speed (after reduction gears) - 4,680 rpm
Maximum Regenerator Speed - 22 rpm
Compressor Air Flow - 2.2 lb/s (1.0 kg/s)
First Stage Turbine Inlet Temperature - 1,700° F (927° C)
Exhaust Temperature (full power) - 525° F (274° C)
Exhaust Temperature (idle) - 180° F (82° C)

* Ambient conditions: Temperature - 85° F (29.5° C)
Barometric Pressure - 29.92 in. Hg
(101.3 kPa)