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PILOT**
ON THE
ROAD IN
CHRYSLER'S
AMAZING
TURBINE CAR

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AMG
THE
BARGAIN
SUPER
SEDANS
FROM
MERCEDES**



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<CAR No. 991230>

JET PILOT

OR
"HOW
I STOPPED
TRAFFIC AND
LEARNED TO LOVE THE
1964 CHRYSLER
TURBINE
CAR"

••• WORDS
TODD LASSA

••• PHOTOGRAPHS
DAVID FREERS



<1964 CHRYSLER TURBINE CAR> <DRIVE>

IT'S 1963

and the chill wind of the Cold War is cutting through the average Joe on the streets of America. It's the era of the Space Race and the Berlin Wall, "The Dick Van Dyke Show" nascent Beatlemania, and summer vacations at Disneyland. Terms like nuclear winter and mutually assured destruction are no longer abstractions in the aftermath of the Cuban missile crisis, but, hey, at least we seem to be winning: You have to be a high-ranking official in the Politburo just to get your hands on a 15-year-old Packard design in the USSR, but you need only be a responsible working- or middle-class citizen in this country if you want to drive a jet-powered Chrysler.

Former board chairman Lynn Townsend delivered the first Chrysler Turbine Car loaner to Mr. and Mrs. Richard E. Vlaho of Broadview, Illinois, on October 29, 1963. The Vlahas would drive the Firefrost bronze, Ghia-bodied coupe with black vinyl top and copper-orange leather interior for three months, and then turn it over to the second of four families chosen for an experiment that would include 50 cars delivered to 203 households over two years. Chrysler would display Turbines in shopping malls and hype a 47,000-mile world tour covering 23 cities in 21 countries. A white Turbine coupe would costar as James Darren's race car in the 1964 cheesecake film, "The Lively Set." But despite all the promise, the future never really made it out of the research lab and onto Middle America's driveways. So what went wrong?

Production commenced in mid-1963, with the experiment built on a midsize Chrysler two-door chassis, with 2+2 seating. It has front coil springs, leafs in the back, and scary drum brakes all around. Chrysler's fourth-generation turbine is under the hood, rated 130 horsepower and 425 pound-feet. Transmission is a



ASK THE MAN WHO DROVE ONE>>

MARK OLSON was 16 years old when his parents, Alden (a diesel truck mechanic) and Beulah, took possession of Turbine Car number 991232 in Duluth, Minnesota, on May 13, 1965 (he considers the cars 1963 models). He's now a computer systems

analyst and proprietor of the turbinecar.com Web site.

"My dad was generous," Olson says. "He let so many people drive it," including his son. The loan agreement required Alden Olson be in the car whenever anybody else, including Mark, drove it, so it saw no high school dates. The Olsons enthusiastically put 12,600 miles on it (plus an estimated 2000 more, as the speedometer was broken for a week) with Alden driving it to work in Superior, Wisconsin, every day.

Weekend drives included 320-mile round trips to visit Mark's brother in Minneapolis.

No. 991232 went back to the local Dodge dealer twice, first for the broken speedo, then for a brake job. The brakes could be done locally, but a service rep had to travel from Chicago for the speedo. A third time, it broke down in the middle of Nebraska and was diagnosed with a broken fuel-shutdown relay.

Mark Olson says his father used the recommended No. 1 Diesel fuel "almost all the time. We spent a lot of time in truck stops." The car averaged 14.5 mpg and could reach 18-19 mpg on highways, he says. Curious bystanders made travel difficult, though, even if the Olsons managed 4200 miles per month.

"You never got to drive the car. You'd start it and stop it for people." ♦



<DRIVE> <1964 CHRYSLER TURBINE CAR>



ASK THE MAN WHO FIXED THEM >>

BILL CARRY ran the service program for the 50 Chrysler Corporation Turbine Cars distributed to the public. More than 30,000 people applied for the chance to be among the 203 to drive the car for three months.

"The only restrictions: You can't take it out of the country, and no racing," Carry says. The first one had to come back immediately, when Mrs. Richard Vlaha (her first name isn't recorded) was hit from behind on the way home from its presentation. The driver behind her was too busy looking at it to notice it had stopped. Problem is, the body was handbuilt by Ghia of Torino, Italy. "The replacement decklid was about 3/8 inch too short."

Ghia "covered a lot of sins with lead," Carry says. "The cars came out much heavier than planned." They were about 4000 pounds, he says, with all the lead work offsetting the Turbine Car's aluminum hood and decklid.

Other early loaner Turbine Cars had serious mechanical problems. "The turbine wheels were welded to the shaft with inertia welding. Stresses caused the wheels to break at wide-open throttle. We changed to electron-beam welding [on later cars]," Carry says. It wasn't the end of Carry's problems. "We changed a lot of engines. The electrical system wasn't idiot proof. People would drive them when the engine temperature got too high."

But, mostly, they ran well. "Some people put as much as 10,000 miles on in three months." ♦



three-speed TorqueFlite, minus the torque converter (the secondary turbine fan can stop with the engine running). Reverse is at the top of the floor shift, with idle/park next—you pull up on the lever to get it out of park—then drive, and low.

Our Chrysler-owned test car, number 991230, has fresh paint and cosmetics, and its bias-ply tires have been upgraded to P20575R14 radials. You can see a lot of 1961 "projectile" Thunderbird influence in the Turbine's postmodern styling. Lead designer was Elwood Engel, hired from Ford Motor Company to replace an ailing Virgil Exner as head of Chrysler design in 1961. Engel had designed the 1961 Lincoln Continental, a clean, elegant car penned at the height of chrome-and-fin-filled excess of which Exner was a pioneer. Engel's turbine theme continues inside, with the rounded transmission tunnel splitting the buckets front and back. Afterburner taillamps taper out at the edges and are accented with round backup lights inside them, surrounding the license-plate pocket. Most controls, including headlamps and heater/outside air fan control, are on the center hump, near the gearshift. The car has an AM radio and power windows, but no air-conditioning.

With no carburetor, you don't pump the throttle as you would for other cars of the era. Reduction gears lower the output speed to 5360 rpm, but the max speed of the second-stage turbine is 45,700 rpm. It winds up with the big vacuum-cleaner sound of a jet, idling at a McLaren Mercedes F1-worthy 15,000 rpm. Acceleration is progressive and oh-so-smooth, but it's not terribly quick, and passing requires you to move the lever into low for a downshift. It's what you'd expect of, say, a 318 V-8, not a Hemi or 440 Magnum. Drivers will marvel at the sound rather than the forward thrust. With 425 pound-feet at stall, torque-braking can produce a much quicker launch. But we're in polite, Chrysler-escorted company.

The car has an unusually tight turning circle, but it wallows on a cushy-soft suspension, tilting its nose at the hint of turn-in on the wide esses of Chrysler's Auburn Hills test track. At speed, it's quiet and comfortable.

The Turbine lacks the sporting cachet of its contemporary musclecars, but its styling and that whoosy engine note places you smack-dab in the middle of the 1960s. This was the future, the step you'd take short of moving up to George

SURVIVORS >>

FORTY-SIX of the 55 Chrysler Corporation Turbine Cars were destroyed to avoid import duties on the Italian-built bodies. Legend has it that one doomed to the crusher was "crash-tested" for the helluva! at the Chelsea Proving Grounds and that the whereabouts of the wreck are unknown. The survivors are:

NOS. 991230, 991242, AND 991247

Walter P. Chrysler Museum

Auburn Hills, Michigan

NO. 991211

National Museum of

Transportation

St. Louis, Missouri

NO. 991225

Detroit Historical Museum

NO. 991231

A private collector in Indiana,

and said to be running

NO. 991234

The Henry Ford (museum)

Greenfield Village, Michigan

NO. 991244

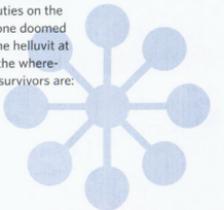
Petersen Automotive Museum

Los Angeles, California

NO. 991245

Smithsonian Institution

Washington, D.C. ♦





1964 CHRYSLER TURBINE CAR>>

SPECIFICATIONS: Engine Regenerative two-stage gas turbine, 25 in. long x 25.5 in. wide x 27.5 in. tall **Power and torque** 130 hp @ 3600-rpm output shaft speed, 425 lb-ft @ zero rpm output shaft speed **Drivetrain** three-speed TorqueFlite automatic, (minus torque converter), RWD **Brakes** front: drum; rear: drum **Suspension** front: unequal-length control arms, coil springs; rear: live axle, leaf springs **Dimensions** L: 201.6 in., W: 72.9 in., H: 53.5 in. **Weight** 3900 lb (Chrysler est) **Performance** N/A **Price** when new N/A



OUR TAKE>>

THEN: "Piston engines haven't reached the degree of development where engineers can begin looking for other powerplants. We predict that power sources available within the next 10 years will allow closed-circuit steam or mercury vapor turbines to be operated much more efficiently than current ones."—Editor-in-chief Charles Nerpel's monthly column in the August 1963 issue of *Motor Trend*

NOW: The Chrysler Turbine is the poster car for a time defined by the Cold War and the Space Age.





<1964 CHRYSLER TURBINE CAR> <DRIVE>

Jetson's flying car. American automakers had been evoking jet aircraft with projectile hood ornaments, swept fenderlines, and afterburner taillamps since the Truman administration. This car earns its red-lens afterburners, especially when you shut off the engine and hear it whirr down like a jet pulling up to the gate. Chrysler could've sold thousands just to wannabe air-line pilots.

The future, the promise of the jet age right there in your garage, didn't come to pass. A handful of lucky people were able to borrow the future, but no one could buy it. Plans to market 500 1966 Dodge Chargers with turbine engines were scrapped, as impending smog regulations would've made it tough for the turbine to meet nitrogen oxide emissions. Chrysler built three more generations of turbine engines, installed in production cars and not displayed to the public, through the end of the 1970s, when it concluded turbines/turbine engines didn't have the emissions and fuel-economy advantages to overcome the costs of materials and production. Some automakers continued research into the early 1990s, after which hydrogen fuel-cell development began to take over as the next internal combustion engine alternative. Which raises this question: Is the future of the hydrogen fuel-cell engine any brighter? ♦

HOW A TURBINE WORKS>>

CHRYSLER CLAIMED these "real" advantages in literature for the Turbine Car: reduced maintenance, longer engine-life expectancy, development potential, 80-percent parts reduction, virtual elimination of tuneups, no low-temperature starting problems, no warmup period, no antifreeze, instant interior heat in the winter, no stalling because of sudden overloading, negligible oil consumption, low engine weight, no engine vibration, and "cool and clean" exhaust gases. It ran on unleaded gas, diesel fuel, kerosene, JP-4, and other fuels.

A turbine engine is simple. Intake air is compressed and preheated, then burned in an open chamber, out of which the rapidly expanding gases are directed onto two turbine wheels: one to run the compressor and accessories, and one to drive the car. ♦



OTHER NOTABLE GAS TURBINES>>

0.1 > 1950 ROVER JET I

This car reaches 90 mph (at 50,000-rpm engine speed) and sprints from 0-to-60 mph in a mere 14 seconds at the Silverstone circuit in England. Rover says, "The company hopes production models will be ready in another three or four years."

0.2 > 1954 PLYMOUTH SPORT COUPE

Chrysler develops a "regenerator" for its first driveable gas turbine, an exchanger that extracts heat from exhaust gases, transferring the energy to the intake air and relieving the turbine burner's job of raising gas temperature. It mitigates two problems: low fuel economy and high exhaust temperatures.

0.3 > 1954 GM FIREBIRD I

General Motors' first gas-turbine dream car features a jet-shaped body with a driver's cockpit. Also for this year, GM introduces its Turbo cruiser gas-turbine bus.

0.4 > 1959 GM FIREBIRD III

This two-passenger dream car, with a joystick for steering (which replaced the conventional steering wheel, brake pedal, and accelerator), features a two-cylinder 10-horsepower gasoline engine to run the accessories.

0.5 > 1956 PLYMOUTH TURBINE SPECIAL

Quotidian Plymouth sedan becomes the first gas turbine to make a transcontinental journey, traveling the 3020 miles from New York City's Chrysler Building to Los Angeles City Hall, averaging 13 mpg in four days.

0.6 > 1961 CHRYSLER TURBOFLITE

Dream car marks the debut of the Model CR2A Turbine, rated 140 horsepower at 4750 rpm/output shaft speed, with 375 pound-feet at zero rpm output shaft speed. The CR2A is tested in a 1960 Plymouth and a 1960 Dodge 2 1/2-ton truck.

0.7 > 1963 ROVER/BRM

Rover and the Formula 1 team combine to develop a gas-turbine coupe driven in the 24 Hours of Le Mans by Graham Hill and Richie Ginther. It averages 107.8 mph, with a top speed of 142 mph.

0.8 > 1967 ST TURBINE INDY CAR

Parnelli Jones leads the Indy 500 for 198 laps, but DNFs with two laps to go when the Andy Granatelli-built car's transmission fails. ♦

