LeMAY
AMERICA'S CAR MUSEUM®

Vehicle Specifications	
Year:	1932
Make:	Ford
Model:	Hot Rod
Style:	Roadster
AAG#:	1463
Engine:	Boeing 502-8 Turbine, 180 hp
Transmission:	Direct Drive
VIN/Serial #:	18205508

Quick Reference Guide

- Purchased by Len Williams from Preston Tucker's son
- Boeing surplused engine from an Army L-19 (Cessna 170) observation program that set a small airplane altitude record of 37,000 feet
- Top speed of 95 mph with direct drive (no transmission)
- See related Road Stories

Harold LeMay purchased this car at the National Auction in Scottsdale, Arizona in 1986. The car was brought to the auction by the auctioneer, McLeod, who had purchased it from Boeing engineer, Len Williams, who worked in the Boeing Turbine Division near Seattle. The flame paint job was added by McLeod. Harold LeMay outbid everyone else at the auction and brought the car back to the Northwest.

For many years, the car was started up at LeMay Annual Car Shows to thrill the crowd. In 2006, the turbine suffered a burned turbine wheel as a result of a hot start. It is not operable at the present time.

The car was originally purchased by Len Williams from Preston Tucker's (who created the Tucker automobile) son. Tucker's son had given up on this beat-up, rusted-out 1932 roadster and had obtained a cherry roadster that he was building. Len paid him fifty dollars for the vehicle in its dilapidated state. Shortly thereafter, Len made a good deal by purchasing a 1941 Ford. He transferred the engine, transmission, hydraulic brakes, wheels and tires to the roadster to build this "Hot Rod."

In 1950, Len towed the vehicle to Seattle where he went to work for the Boeing Airplane Company. In 1949, General Motors came out with the Olds ohv V8 and the flathead Ford was replaced with a 1950 330 cid ohv Olds. It was bored out an eighth of an inch. In 1951, 1952, and 1954, Len's street roadster was raced in the Southern California Timing Association Speed trials at Bonneville, Utah. In 1954, the vehicle turned a respectable 134 on gasoline and was driven back to Seattle.

Three trips to the Salt Flats resulted in the vehicle's slightly rusty condition, so Len took the car down to its frame and had the frame and body sandblasted and then gave it a red and white paint job. He was in the process of re-assembly when he heard about a Boeing 502-8 gas turbine engine for sale in a surplus lot in New York. He anticipated that this turbine engine would open up a whole new set of possibilities for his vehicle, so he had a friend in New York purchase the engine for approximately $600 and ship it to Seattle.

The turbine engine had been used in an Army L-19 observation airplane test program - a military version of the Cessna 170. At the conclusion of the program, it set a Class C small airplane altitude record of some 37,000 feet. After that, it was removed and put into storage until it was surplused.

There isn't a transmission in this vehicle for several reasons.

1. **The stall torque of the Boeing 502 is about two and a half times rated torque. Low gear in the stock 32 Ford was 2.5:1, so a transmission is not needed and can smoke the tires in direct drive.**
2. **With the rear wheels connected directly to the engine output shaft, there is little danger of turbine wheel over speed. With a transmission in neutral, it is possible that an inexperienced driver could step on the throttle and the resulting over speed condition could result in a burst turbine wheel.**

The operation is similar to a piston engine with an automatic transmission.

The engine is rated at 180 continuous hp at 37,000 gas producer rpm. Idle speed is 15,000 rpm. The car's rear end ratio is about 2.8:1, so the top speed is about 95 mph. With a different rear end ratio, the top speed would be about 115 mph. The car was strictly a street machine, sacrificing top speed for better acceleration.

In 1962, a variation of this turbine engine, the Boeing 502-10F turbine engine, was used in the first serious attempt to qualify a gas turbine-powered race car in the Indianapolis 500. The car was built by the John Zink Company in Tulsa Oklahoma. (See Indy 500 Turbine Story by Len Williams for more details.)

The car is "the first privately owned turbine vehicle in the world" [Car Life, January 1963]. It was on the road and used in daily transportation back in 1962 and was even used to commute Len to work at Boeing. It was also used on vacation trips to Eastern Washington and the Olympic peninsula. The only other turbine vehicles at the time were built by General Motors, Chrysler, and Rover of England.

It should also be noted that this car ran almost exclusively on "stove oil," a relatively inexpensive petroleum derivative - and that was nearly 45 years ago!

See related Road Stories recalled by Len Williams and Charlie Maxwell.

References:

- *Len Williams web site - http://www.lennybabe.net/roadster*
- *Len Williams 11/19/2007 Interview*