

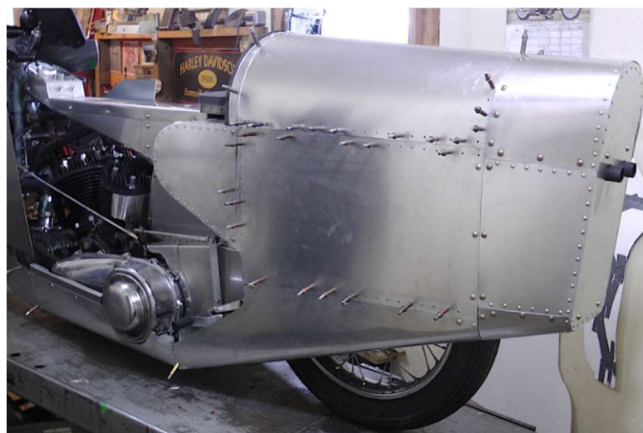
Blown '42 UL Harley Update #2

By Gary MacDonald

The first pic shows our progress up to the last week of November. The rider framework is complete. Ted fabricated a square fuel tank and mounted it under the seat (out of the way of the rider). With the supercharger we expect pretty high fuel demand, so we are using two Yamaha Road Star fuel pumps to feed the carbs. The belly pan is shaped somewhat like an upside-down wing and should generate enough downforce to reduce rear-wheel slippage at speed.



By early December we had completed much of the rear bodywork behind the rider's seat. These slowly receding surfaces will help keep the air flowing around Ted attached and laminar and reduce the size of the turbulent wake at the back of the bike. The area at the rear end of the bodywork (still in cardboard) is only 0.7 square feet.



This next photo shows the completion of much of the rear bodywork. Once the front fairing sides are done, Ted's legs will fit into "leg wells" in each side of the bike. This view also shows the new exhaust piping and outlet stubs mentioned in the previous update. The kick starter will be visible outside of the bodywork (with a streamlined "pocket" for the pedal to fit into). It will be a "rocket ship with a kick starter", Hah!



Here's Ted on the WL45 at speed in 2009. Note the gap between his belly and the seat. He would get an extra 4-5 mph. With his legs trailing behind and his feet up by the top of the rear wheel, he found that if he could get his back more horizontal by lifting himself way off the seat (about 12"), is essentially doing a push-up... at 118 mph! (Yikes!)



Ted starting a return run at Bonneville in 2011. This photo clearly shows the seating position and foot peg location on the WL. You can see how much he would have to lift to get his back horizontal. His feet and legs are pretty much stuck out in the airflow.



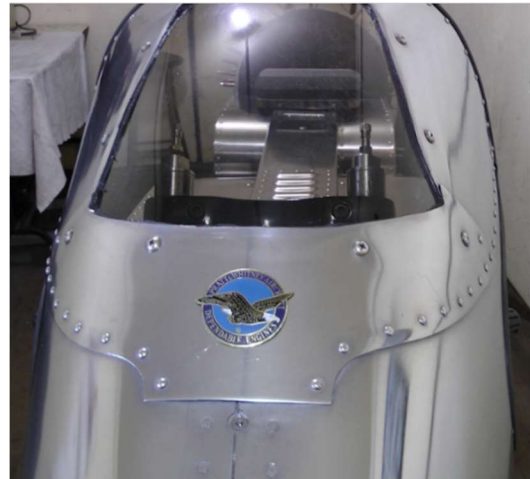
Here's Ted at speed on the big flathead UL in 2017. While the fairing is providing decent streamlining in front of him, his back is too angled for attached laminar airflow. The fuel tank is forcing his body upright. And there are no airflow-controlling surfaces behind him. He's punching a big hole in the air and leaving a large turbulent wake. In spite of this, his speed was around 128 mph, on pump gas! No nitrous, no supercharger! Just a big 1942 1360cc Harley side-valve engine with gobs of torque to hang tall gearing on.



With the gas tank out of the way, Ted's back is now almost perfectly horizontal while he remains on the seat (such as it is). The extra 7" added to the front of the frame (necessary to accommodate the supercharger) provides the added benefit of allowing him to lay down along the top rails without face-planting the steering head. His legs are beneath him in a position of greater control, in the "leg wells" and out of the airstream. He looks a lot like a jockey on a race horse!



The shape of things to come. This is a partial mock-up of the front fairing incorporating some of the design features currently under consideration. Kind of a mix between a bumper car and a jet fighter! (Hah!)



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