Gentlemen, start your airplanes

ne hot day last summer, Scott Muntean of Lynn Aviation in Severna Park, Maryland, a distributor of LoPresti Speed Merchants modifications, swung by AOPA's headquarters in Frederick to show us his latest project. It was a freshly painted 1976 Piper Lance with a major cowling modification designed by LoPresti. As I snooped, sniffed, and asked questions about the airplane, I stole a glance at AOPA's Beech A36 Bonanza parked just two tiedowns away. Jokingly, I

Can a trickedout Lance dethrone the Bonanza?

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PHOTOGRAPHY BY MIKE FIZER

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suggested a fly-off between the two airplanes. Very seriously, Muntean said, "Let's go."

Like a good 98-pound weakling, I said I couldn't go just then because the Bonanza had been signed out by another AOPA employee—it was, I swear. Last November, though, I received a letter challenging the A36 to a race against the Lance GTO. The duel was to take place over the Chesapeake Bay at 500 feet agl. We accepted the challenge. After all, a stock Lance's maximum speed at sea level is 165 knots, according to Piper, while the A36 is supposed to reach 184 knots. I had serious doubts that LoPresti could massage 19 knots out of the stocky Lance airframe.

According to LoPresti, Muntean's Lance had topped out at 162 knots when it was stock. After installing the cowl and other LoPresti mods, Muntean's Lance reached 184 knots. In LoPresti's world, everything is measured in miles per hour, and the Lance GTO conversion promises to give you 24 mph (nearly 21 knots).

Muntean's Lance has since added a set of new LoPresti wing tips, called Zip Tips, that contain navigation, strobe, and landing lights. According to LoPresti, they are supposed to increase the Lance's speed by 2 to 4 mph. Of course, the airplane has every other LoPresti mod available for the PA-32R: Flap-gap fairings (Speed Seals); ailerongap seals (named "Feel Seals" because they increase aileron effectiveness only at high angles of attack); lobes that fair in the main landing gear (Speed Spats); flap track fairings (Speed Splitters), and, of course, the new cowling (Howl Cowl).

The cowling is far more than a simple rework of the engine covering. On the top, LoPresti faired the cowling all the way back to the windshield; on the bottom, the cowling has a special fairing that smooths the airflow all the way to the belly. The stock cowl ushers the engine's cooling air in through the front and out through the rear of the wheel well around the nose tire. Roy LoPresti, the man who made the Mooney break the 200-mph mark in the 1970s, didn't like this setup. He decided to enclose the gear well completely with a third gear door and incorporate a single cowl flap to control airflow. In addition, doors are cut into the side for easier engine access and preflighting.

Viewed from the front, LoPresti's signature axisymmetric cowl inlets lend a modern flair to the chunky look of the





stock Lance. (Piper adopted a similar cowl-inlet design when it introduced the Saratoga II HP in 1993.) Overall, the airplane looks a lot better—but, does the sleek form actually function as promised?

We met at the Bay Bridge Airport in Stevensville, Maryland, on a windy December day and briefed this little sprint. Both airplanes, each with experienced formation pilots inside, would fly in a very loose formation at 500 feet agl,

The duel was to take place over the Chesapeake Bay at 500 feet agl, full throttle, and max rpm.

The new cowl fully encloses the nose gear (above). LoPresti's Zip Tips, good for a few mph, enclose nav, strobe, and recognition lights (left).

at full throttle and maximum rpm. You must fly at the lowest possible altitude to discover how fast a normally aspirated airplane is. That is where the engine can develop the most horsepower. Each airplane carried approximately 65 gallons of fuel and would be carrying two people.

We headed south over the middle of the Chesapeake at 1,000 feet agl, where the Lance formed up on the A36. After checking that everything was OK with





each airplane, we descended to 500 feet. In the Bonanza, Muntean's wife, Nancy Lynn, kept her eyes on the panel and me to make sure I didn't pull any tricks from up my sleeve. Likewise, Editor at Large Tom Horne kept his eyes on Muntean and the Lance's gauges.

The race was on. The Lance stayed right on the A36's tail for quite a while. But, ever so slowly, the A36 inched ahead. After about 5 minutes, the Bonanza gained no more than 150 to 200 feet on the Lance. A 100-foot-per minute gain in distance equals a 1-knot speed advantage. In other words, the Bonanza was only a fraction of a knot faster than the modified Lance. I was truly surprised and impressed.

Next, we climbed to the smooth air at 7,000 feet to battle it out up high. Again, the Bonanza pulled away, but not as quickly as it did down low. Surprisingly, the Lance indicated 24.5 inches of manifold pressure, compared



to the A36's reading of slightly less than 23 inches. Horne noted that the Lance's manifold pressure at 500 feet was 31 inches. According to LoPresti, the replumbing of the induction system allows for a manifold pressure that can be higher than ambient at low altitudes because of the velocity of the air being rammed into the induction. At higher altitudes, the Lance GTO can achieve manifold pressure as much as 1.5 inches higher than a standard Lance, explained LoPresti. Backing up the gain in power, Horne noted that the Lance was burning quite a bit more fuel than the Bonanza at all altitudes. On the deck, the GTO's Lycoming IO-540 gobbled up nearly 27 gallons per hour compared to the 25 gph used by the Continental IO-550 in the A36. Of course, variations in the engines and leaning practices could explain the difference, but we were both shooting for a mixture about 100 degrees rich of peak. What this all boils down to is that the Lance GTO can achieve a higher power than the stock airplane at any



given altitude, further complementing the speed gains achieved in cleaning up the airframe.

After landing, I confessed that I thought the A36 would be a solid 5 knots faster than the Lance. My justification comes from simply looking at the airframes from straight ahead. The Bonanza's narrow fuselage and slick wings contrast with the Lance's fat (read roomy) fuselage and Hershey-bar wing. Similarly, Muntean confessed that he and LoPresti thought that the GTO would win. Sure, Muntean picked what may be the heaviest and draggiest Bonanza in the country to race (air conditioning, radar pod, panel full of goodies and their accompanying antennas)—but still, it's a Bonanza, the longtime speed king of retractable singles. Muntean's Lance is IFR equipped but lacks such amenities as HSI, TCAD, weather radar, and GPS. It even lacks wingwalk compound, resulting in an

Bonanza owners beware: LoPresti's Lance GTO is less than a knot slower than the A36, an impressive feat given the size of the Lance.

extra slippery wing.

To make a big and roomy airplane like the Lance about as fast as a Bonanza on the same 300 horsepower is quite an impressive feat. But what price must a Lance owner pay to get this performance? All of the LoPresti mods on a Lance like Muntean's will cost \$24,075 installed, but that does not include paint. It will also add about 35 pounds to the airframe, says LoPresti, most of which is from the highly modified cowl. The average price of a 1976 Lance is \$76,000, according to the *Aircraft Bluebook–Price Digest*. Add the mods and an all-over paint job and the price will top \$100,000. However, when you compare that with the \$130,000 average retail price that a 1976 A36 will set you back, the Lance GTO may be a more economical way to get Bonanza speed and still enjoy a roomy cabin. But for all of you Bonanza owners who will be watching your tails, there's solace: LoPresti is working on some modifications for Bonanza owners.

For more information, contact LoPresti Speed Merchants, 2620 Airport North Drive, Vero Beach, Florida 32960; telephone 800/859-4757; e-mail 2gofast@ vero.com (www.vero.com/lopresti). Lynn Aviation is located at 100 Askewton Road, Severna Park, Maryland 21146; telephone 800/416-4757.