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There is considerable misinformation about the Infinity Aerospace Retractable Main Landing Gear, and Infinity 1 development. Perhaps the following can replace
some of the rumors with fact. If you fail to consider the Infinity 1 when it is available, you are doing yourself a disservice. The RG system and stick grips are
equal to the best products on the sport aircraft market.

THE INCIDENT:
In June of `90, we agreed to install our prototype main retracts on a Long-EZ if we could use the aircraft for seven months, or 200 hours, for air show exhibits.
We knew this arrangement would promote our landing gear sales.
On our way to Oshkosh `90 in the Long-EZ-RG, the aircraft developed a massive fuel leak in the left fuel tank, resulting in a night dead-stick landing on a two lane state highway just west of Omaha. Just before touchdown, a car pulled out in front of us. The right main mount hit the center rear of her car causing
us to slide into a shallow ditch and hit a road side pole destroying the airplane and injuring my passenger, Patty.

The owner made an offer to compensate us. When we went to his house, at his invitation, to pick up the check he promised. He didn't give it to us. Reluctantly, we followed legal counsel and sued for breach of contract. Anyone would have under these circumstances.
The owner and his lawyer, said I ran out of gas. When confronted with photos and news videos of the aircraft in the ditch at the accident scene, from which it
could clearly see where the fuel leaked through the leading edge of the strake, and the testimony from the FAA that the owner told them it was a fuel leak,
he settled out of court.

INFINITY 1 DEVELOPMENT:
It has been way too long coming. It takes tremendous resources to get a new design and company off the ground. Look how long it takes most people to build their airplanes.

In 1982, I wanted a Long-EZ, but at 6' 6" and 245 pounds, I didn't fit very well. So, I became particularly interested in building upon Mr. Rutan's concept
and developing an original, fast, heavy hauler canard with tricycle oleo strut retracts that would fit people my size. My goal, is to cruise 250+ mph, carry two people
size, have tricycle oleo strut retracts with nose wheel steering, bring my golf clubs, fly three to four hours and get 20+ mpg. NASA says
(within one drag count) 285 MPH+ with a 210 HP, TIO-360 Lyc. at 85% power and 10,000' - so I think we are in there.
The Infinity 1, it is a new canard aircraft. The wings, winglets, and canard are totally changed, the fuselage has been enlarged, the gear is a totally retractable oleo strut tricycle gear with nose wheel steering and it is a quick build kit, along with many other features. The final prototype will fly soon.
The tooling for the kits is in work. The Flight Manual and Pilot Operating Handbook are nearing completion, and the Builders Manuals are well on their way.
We are now taking orders.

RETRACTABLE GEAR INSTALLATIONS:
David Orr wrote in the January CSA newsletter that, "Both E-Racer and Cozy designers have told their builders not to put the gear at the ends of the spar."
Neither Dickey nor Puffer have examined the retracts in my presence. The only aircraft designer and engineer outside of my company that have examined our retracts are Burt Rutan and Mike Melvill.
In May 1992, Nat Puffer, called up, very concerned about installing our gear on a Cozy. He had not seen the gear. After we had talked for a few minutes, he stated that our retracts would work fine on the Cosy III since it is just a widened front seat Long-EZ. He did say that it would not work on a Cozy -IV.
I told him I had examined the MK-IV plans and concluded that our retracts fit just fine. I sent him some photos of the installation and he stated in a return letter,
"It is very clever and you are to be commended!"

INSURANCE :
We had a builder not quite complete the installation of his retractable main landing gear per instructions and had the right main gear collapse on his third
landing. The wing, center section spar and strakes were not damaged, but we knew that would be the case.
We provided the investigator with a detailed engineering analysis, at their request, and the builder satisfied the investigator with his installation.
The investigator repeatedly stated that this is one of the best retractable gear systems he has seen on homebuilts. He kept saying how `substantial' the gear is and recommended to the insurance company to continue insuring our gear.
Now this builder's plane, with our gear, is insured and flying just fine after minor repair to the bottom right winglet, gear door and prop.
It has over 50 hours and 200+ landings in the last few months, and flying really fast! The builder is extremely happy. It will be at Sun `N Fun `96

and featured on the front cover of the May `96 issue of the AeroTrader.

SHIRL DICKEY:
In February 1993, Shirlan Dickey slandered my company and our retracts with totally unfounded and untrue statements in his company newsletter.
He did so without any firsthand knowledge, or even having ever seen the Infinity 1 or the Retractable Main Landing Gear System.
We do not market our retracts for the E-Racer, never have, because the center section spar is half the width of the Long-EZ spar and not long enough to accommodate our retracts. We, also, do not market the retracts for the Velocity or the Berkut because of their spar designs.

A RESPECTABLE OPINION AND SOME HELP:
In March of `94, at Burt Rutan's invitation, one of my retract customers flew his Long-EZ-RG to Mojave to meet with Burt and me so Burt could look over the retract installation before Oshkosh. Burt and Mike said they really liked the retracts and the installation.
I must make this perfectly clear, just because Burt and Mike examined our retracts and the installation, DOESN'T MEAN THEY CAN, OR WILL, OFFICIALLY APPROVE THIS INSTALLATION, OR ANY OTHER MODIFICATION.
In January `95, Burt made a very nice gesture and contacted us by letter, offering to mediate the dispute we had with Dickey. Dickey agreed to send a full apology and retraction to those who received his newsletter #17. The letter sent in the Spring of `95 mailing by Burt concluded:
"... It was wrong of me [Shirlan K. Dickey] to speculate or imply that this product is dangerous or improperly engineered. I am using this newsletter to retract my comments and to publicly apologize to Mr. Newman and INFINITY Aerospace."

DEVELOPMENT OF THE INFINITY 1 RETRACTABLE MAIN LANDING GEAR:
In 1982 between Navy cruises, I began looking at ways to retract the main gear of the Infinity 1, and make it retrofitable to canard aircraft as an after market item. The analysis concluded that a hydraulically operated, oleo strut mounted on the spar, was the answer. Our retracts will fit canards that are derivatives of the Long-EZ quite nicely, especially the Cosy, Cozy MK-IV and AeroCanard.
The struts are mounted through the forward face of the reinforced spar and are cantilevered through to pick up the two wing bolts. The center section box spar is one of the major structures of the aircraft. It handles all bending and most of the torquing loads of the wings in flight. The strakes pick up
the rest.
Even though the wings have been load tested to 50.03% more torque to the center section spar than the landing gear ever would impose, the center section spar is strengthened in the gear installation by putting another `C' spar and a crush plate in from the end of the center section spar.
Pre-molded drop-in wheel wells act as a `C' spar through the strake. To finish off the installation, a bulkhead is put into the end of the strakes which makes the strakes a `D' spar. So the strakes and center section spar are stronger than original design and construction.
By design, the gear sees a near vertical landing - no torquing. If the aircraft flares a little, the raked forward struts may torque forward somewhat on touchdown but the spin-up loads of the tire, the oleo strut

compression and the torque of the swept wing from lift, negate the slight forward torque of the struts during a level landing nose wheel clear, or even a worst case scenario of a nose high/tail down landing. Bottom line - little or no torque. The design and analysis has been verified by three independent companies.
To prove the analysis and the strength of the installation, the gear, the center section spar and the strakes, we conducted a worst case scenario drop test of a 2200 pound canard aircraft, among other tests. The test aircraft was drop-tested many times, increasing height an inch at a time until reaching the maximum height per FAR Part 23. This height simulates approximately a 600 foot per minute, extremely hard carrier-type landing, and exceeded 150 degree angle of attack! No damage occurred.

CONCLUSIONS:
People are entitled to their opinions but they can be destructive if based on false assumptions and published as fact. Builders should talk to the manufacturers and find out the facts. Ask for their customer's phone numbers. My customers love to talk about their retracts, stick grips and other products.
This bickering amongst ourselves just provides ammo to regulate us and, God forbid, to shut General Aviation down! We have to support each other.
If anyone of your readers have any questions, please feel free to call us. Much more detailed information on our system is included in our information pack and video which can be obtained from: INFINITY Aerospace, P.O. Box 12275, El Cajon, California 92022.
Phone/Fax (619) 448-5103 or E-mail 72124.347@CompuServe.com. Information package is available for $15US/$20 overseas;
VHS video (NTSC or PAL) is $15US/$20 overseas; order both for $25US/$40 overseas.

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