

STORM WARNING



KLOUDBUSTERS

November 2005

October "Special Edition" Available On-Line

In case you missed it, the October 2005 edition of Storm Warning was published on-line in order to be able to share it with the many A.I.R. Fest 11 attendees and to be able to include quite a few nice photos from A.I.R. Fest 11. The newsletter may be accessed for viewing and printing at <http://www.kloubusters.org/news/>. If you don't have Internet or can't access it, please contact Lance Lickteig via e-mail, lancel@cox.net or via phone, 316-686-2553 to obtain a copy via snail mail.

Distant Thunder 2005 Recap by Lance Lickteig

Distant Thunder 2005 could only be considered a success. Rain forecast for Saturday didn't materialize -- in fact; it was crystal clear all weekend! Saturday was 'breezy', but we've seen worse. It was truly a beautiful fall weekend. Too bad for you if you stayed home.

We were joined by 2 Boy Scout troops from Oklahoma for the weekend and those boys, plus other kids who came out with their parents flew A LOT of rockets. 167 flights on Saturday and 85 on Sunday for a two-day total of 252 flights really kept us hopping. We drew raffle tickets and gave away about 20 kits, so I'm sure many of these youth will be back. It was a treat to watch some of the Scouts fly ... and fly ... and fly ... their rockets until they barely held together.

On Sunday we had a "Closest to the Cone" contest for the kids. Several participants spent the entire day trying to beat Sarah Farmer's mark set the very first flight of the day. None did and Sarah took home first prize. Mary Bahl was second, and all the rest of the participating flyers were given Alphas, Wizards, or Vikings as third prize. A few of the older ones were able to fly and take home larger rockets and some D12 motors generously supplied by Larry Mills -- thanks Larry!

As for the high-power flights during the weekend; there were a number of good ones. Most notable were the numerous certification flights by a bunch of new TRA members. The following rocketeers attempted and accomplished their Level 1 certification: Amy Howell, Linn, KS; John Farmer, Clearwater, KS; Melvyn Cansell, Wichita, KS; William Pflug, Omaha, NE; Steven Tedeschi, Wichita, KS; Brandon Hull, Wamego, KS; Kodi Caster, Lawrence, KS; and Scott Postma, Parkville, MO.

Acquiring his Level 2 certification was Michael Hochman, Lawrence, KS. We sure hope these new high-power flyers join us frequently at Argonia. In addition to these HPR certifications, there was one other special certification. William Klausmeyer of Wichita achieved his Tripoli 'G' certification. William is the first-ever junior certified rocketeer to achieve this accomplishment at Argonia. Good job William! Chuck Pauler put the wraps on the weekend with his spectacular M520 flight in "Nutz and Bolts". Rising atop a 10,000' column of smoke from the 13-second burn, Chuck's rocket hit an altitude of 19,982'. I have only one word for that flight: Woof!

You see, if you sat home Distant Thunder weekend wishing it wasn't so windy, you missed a great launch.

Special thanks must be extended to those who came out to help set-up and who worked the range during the weekend. Dennis Blackburn, Jim Cooper, Bob Block, Bob Brown, Kent Burnett, David Hull, John Farmer, Steve Klausmeyer, Mark Logan and I all pitched-in on Saturday. On Sunday, Kent Burnett, Charlie Meitl, and Bob Block came down just for teardown, while Bob Brown, Mark Logan, Dana Morris, John Farmer, Steve Klausmeyer and I all stayed for teardown with some also worked the range during the weekend. This is a pretty short list of workers, so if you fly rockets at Argonia you should take the time to thank these people for their hard work at the expense of their own flying time. I made this list from memory, so if I missed anyone who helped with set-up, tear-down or range duty during the weekend, please accept our thanks.

KLOUDBusters Christmas Party 2005

Only a few days until the KLOUDBusters Christmas party! Our annual Christmas Party is always a great way for everyone to get together in a relaxed atmosphere to reminisce about the past year's activity and even "the good old days." You can even take one of the old pros aside and bounce your new project ideas around if you like. The event is scheduled as follows:

WHEN: Saturday December 10, 2005
6:00PM to 10:00PM

WHERE: Kiwanis Park Shelter
5101 W. 2nd in Wichita
Between West St. and Hoover Rd.

This is the same place we've had the party for the past two years.

This is a potluck, so make a big batch of your favorite holiday dish, munchies, snack or dessert to share with everyone. Paper goods will be provided and someone has already volunteered to bring soda pop and ice. There will be a general all-member business meeting and the ever-fragrant Gherkinbaum!

If you have photos or video of launches from this past year, please contact Lance Lickteig at lancel@cox.net to make arrangements for copying and displaying your multimedia items. Some of the certification flights, drag races and "bloopers" from A.I.R. Fest 11 would be fun, along with other great projects we've seen over the last several months.

We especially encourage new members or infrequent flyers to come. Putting names and faces together at an event like this is a big part of the fun. If you didn't come last year, PLEASE JOIN US! It's free! It's fun! Just bring a food item to share with the group. If you are NOT coming, please post it to the Yahoo group. If you know someone who is not on the group, please invite them. Questions or problems, contact Terry Smemo at tsmemo@kc.rr.com. Thanks! The party will be a blast!

KLOUDBusters Logo Decals and Stickers

Would you like to display your KLOUDBusters pride on your vehicle, on a rocket, on your range box/toolbox, or anywhere you choose for that matter? There are two options available: a decal or a sticker. "What's the difference?" you might ask. Well, the decal transfers only the KLOUDBusters "Rocket through the Cloud" logo directly to the window or other surface. The sticker has the logo imprinted on a clear sticker backing. If you're interested in one or the other or both, look up Gary McKnight at the next launch or e-mail him at gfmcknight@cox.net and he can get you fixed-up with the logo of your choice. The decal cost is \$6.00 and the sticker cost is \$3.00. A portion of the proceeds goes directly to KLOUDBusters.



Photo Credit: Lance Lickteig

KLOUDBusters logo decal displayed proudly on the back window of Lance Lickteig's Rocket Van.

Check Your Renewal Date

Printed right below the return address of this and most other KLOUDBusters mailings is your KLOUDBusters membership renewal date. If you received this mailing in an envelope with the ballot for the Prefect election, your membership is still active. If you received only the newsletter, then your membership has lapsed. Club expenses related to our state-of-the-art launch system

electronics, sound system, launch pads, cabling, utilities, land use fees, newsletter printing, postage, web-site hosting fees, and myriad other items are supported in part by member dues. Please take a moment to check the date to help you remember your renewal date and to help us continue the great tradition of KLOUDBusters nearly fifteen years in the making.

2006 Flying Schedule

We' have scheduled another full slate of KLOUDBusters launches at Argonia for 2006 plus a nearby LDRS. It should be a great year of flying – check it out ...

| Event | Date |
|----------------------|---|
| January Fun Fly | Saturday, January 7, 2006 EX Sunday January 8, 2006 |
| February Fun Fly | Sunday, February 12, 2006 EX Saturday February 11, 2006 |
| March Fun Fly | Saturday, March 11, 2006 EX Sunday March 12, 2006 |
| KLOUDBurst 16 | Saturday-Sunday, April 8-9, 2006 |
| EX-only Fun Fly | Sunday, April 23, 2006 |
| | -----Break for Wheat----- |
| LDRS 25 Amarillo | Thurs.-Tues. June 29 thru July 4, 2006 -No local fun fly-- |
| August Fun Fly | Sunday, August 6, 2006 EX Saturday August 5, 2006 |
| A.I.R. Fest 12 | Friday-Monday, Sept. 1-Sept. 4, 2006 9/4/2006 is EX only. |
| October Fun Fly | Saturday, October 7, 2006 EX Sunday October 8, 2006 |
| Distant Thunder 2006 | Saturday-Sunday, November 11-12, 2006 |
| EX-only Fun Fly | Sunday, November 19, 2006 |
| December Fun Fly | Sunday, December 10, 2006 EX Saturday December 9, 2006 |
| Christmas Party | Saturday, December 9, 2006 |

Always call KloudLine or check the KLOUDBusters web site prior to going to the launch site just in case there is schedule change due to weather or field conditions.

Prefect Election - 2006

Enclosed you will find your ballot for voting for Prefect for 2006. Please mark your ballot and drop it in the mail no later than December 10, 2005. From Bob:

I'm Bob Brown and I am a candidate for Prefect for KLOUDBusters (Tripoli Kansas, Prefecture #34). I have been involved with high-powered rocketry since 1998 and am the current Prefect seeking re-election. If you don't know me as the Prefect, you probably know me as the frequent LCO at our launches. Thank you in advance for your vote.

A Journey to Level 3

by Lance Lickteig

The Vital Statistics

On Saturday September 3, 2005 at around 4:10pm I was able to successfully complete my journey to TRA Level 3 certification with a rocket I built called **Go! Shocker**. **Go! Shocker** is a 7 ½" diameter by 118" long rocket built from parts obtained from a number of vendors. The airframe is made from mostly LOC Precision parts, including LOC cardboard tubes laid-up with 2 layers of 6 oz. fiberglass and Mr. Fiberglass epoxy. The fins are made from 0.125" thick G-10 fiberglass sheet. The nosecone is a standard LOC Precision 7 ½" nosecone. The altimeter bay is a combination of LOC couplers and stiffy tubes, custom ½" thick 9-ply centering rings and off-the-shelf hardware items. Other miscellaneous parts from PML, Giant Leap Rocketry, Rocketman Enterprises and the local home center were also used in construction. Other than the Mr. Fiberglass epoxy used for the airframe tube fiberglassing, West Systems epoxy products were used throughout the build for bonding, laminating, and filling.

On board **Go! Shocker** for the certification flight were a PerfectFlite MAWD altimeter and a MissileWords RRC2 altimeter. The RRC2 was set for redundant firing of both pyro charges at apogee (the RRC2 default set-up fires the channel two charge 1 second after channel one fires at apogee – a nice feature). The MAWD was set to fire the drogue at apogee and the main at 900' as backup just in case the charge on the RRC2 didn't get the laundry out as planned. Also on board were custom 33' foot Rocketman recovery harnesses on each end (thanks to Jody Michaelson), a Rocketman R3C Pro Exp for a drogue, and a Rocketman R18C

main chute. The power plant was an Aerotech M1297W motor; which is a 76/5120 white lightning motor with plenty of kick to provide about a 10:1 thrust-to-weight ratio off the rail. According to the simulations, the M1297W's 4.17



Photo Credit: Tom Jenkins

Lance Lickteig and his Level 3 project
Go! Shocker – ready to rumble.

second burn would take **Go! Shocker** and its 38# of mass to an expected altitude of about 4965'.

Long-term Thinking

I had purchased almost all the parts for the rocket around the time of LDRS XXII (July 2003) in the form of a LOC Bruiser kit. Heart bypass surgery and the ensuing rehab followed by back problems and disk fusion surgery prevented me from even considering building this behemoth for quite some time. I started actively building the rocket on July 2nd, 2005. I had most recently been delaying the start of construction because the first big task was to fiberglass the 3 large sections of LOC 7 ½" diameter body tubes; a task I was really dreading. With the long July 4th weekend ahead and nothing on the schedule, I decided to tackle the tube 'glassing'. That process went far easier than I thought it would and I was off and running with my Level 3 project. After my 'glassing success, I began thinking about the possibility of finishing the rocket for AIRFest 11, KLOUDBuster's annual Labor Day weekend regional launch. For most of July and August, I attacked the project like I do most of my rocket building: an hour or two a couple evenings a week and a few hours on the weekends. I had written down a pretty detailed list of construction steps for the major component assemblies of the project, that is, the fin can, the airframe sections, and the altimeter bay. Those detailed notes allowed me to attack the major assemblies concurrently. I could epoxy and clamp something on one assembly, epoxy and clamp something on another assembly, etc. and walk away to allow the epoxy to set-up. This helped me utilize my short build sessions most efficiently. The build progressed slowly but steadily. I continued to think ahead to AIRFest 11 for my certification flight.

During July, I had met with Level 3 TAP Darrin Plumer to go over my design and construction techniques. After providing a few helpful suggestions, Darrin said, "Looks good!" and sent me on my way to go forth and finish the rocket. I also sent my plans and specifications to Level 3 TAP Larry Mills who would be my second TAP sign-off on the project. Both Darrin and Larry were very helpful and supportive and a word of appreciation goes out to those guys for being involved as TAPs. Thanks, fellas, your advice and knowledge made the whole experience more enjoyable and rewarding for me!

Near-term Second Thoughts

In the week or two leading up to AIRFest 11 with all the preparation for the launch weekend I was involved with, I thought a few times of suspending the project until after AIRFest and saving the flight for the KLOUDBusters' October Fun Fly or Distant Thunder where the whole thing could take place with a more relaxed approach. My thoughts, however, kept coming back to being in favor of trying to make my Level 3 attempt at AIRFest since many of my out-of-town rocket buddies would be at Argonia and my whole family would be able to come out for the launch.

Even my daughter who attends college in Lincoln, NE would be in town and would be able to come to Argonia to witness the launch. Another AIRFest 11 bonus was if the weekend weather conditions were iffy, the option of picking from one of 3 possible days appealed to me.

It turned out that everything came together pretty well, and all of the “construction” steps were completed with well over a week to spare. Let the marathon painting sessions begin! I had been thinking during the final two weeks or so of the build and on our 12-day family vacation to Yellowstone National Park (lots of driving=many hours of thought) about how I would paint the rocket. Can-after-can of gray primer, white primer, white topcoat, black topcoat, yellow topcoat and clear coat were popped opened, sprayed and discarded. *News flash: never paint a 7 ½” X 118” rocket with rattle can spray paint!* The final result, however, was a classy yellow and black paint job, generously adorned with symbols, lettering, and logos of my alma mater Wichita State University. Thus, **Go! Shocker.**

The painting was done and the rocket looked great, however, my altimeter layout and wiring was still in the design phase and had not progressed to the implementation phase. In other words: *It wasn't done.* I worked on the electronics bay a little during the afternoon on AIRFest Friday and pulled an all-nighter Friday night at the Wellington Motor Lodge where I worked through all the electronics assembly and mounting into the rocket which sealed the deal – she would fly on AIRFest Saturday!



Photo Credit: Tom Jenkins

TAP Darrin Plumer peruses the project one final time as Steve and William Klausmeyer look on. Terry Smemo also lends a helping hand.

Inner Peace

On Saturday there were a lot of distractions to which I had to attend to ensure that AIRFest 11 was running smoothly. My plan was to fly late in the day when my family could be there to watch, so I didn't panic or even get overly nervous. As the day went on, I seemed to become more and more relaxed. One person might call it relaxed while another person might just call it a sleep-

deprived induced stupor. By the time my wife called me at 2:30pm and said the family was just leaving home in Wichita I had the entire rocket prepped and ready for launch except for assembling the motor and installing it in the rocket. An hour and a half to get that done was a piece of cake and my relaxation ratcheted down to a whole new level. About this time, my friend and professional photographer Tom Jenkins and his wife Debbie showed-up unexpectedly. About the only detail I hadn't addressed with the rocket or the launch was capturing the event in pictures. With Tom on site I knew that everything would be immortalized – Tom is the best of the best. Let's do it!

Mounting Anticipation

As I took the rocket out and put it up on the pad, it hit me rather abruptly and consciously as I stood back studying the black and yellow beast standing there ready to take flight: all the thought, planning, work, late nights, sweat, epoxy-encrusted fingers, sanding dust covered hair and clothes, painting woes, etc. that I had undertaken over the past 2 months was now coming down to a very thrilling 4.17 seconds. That's about \$60 per second for the M1297 reload, not to mention the cost of materials and time invested in the rocket. I thought about what was about to happen during the entire flight in its various stages; whether it would be 4+ seconds of mental anguish punctuated by an ecstatic moment, followed by 3-4 minutes of uneasy uncertainty as the rocket descended gently under 'chute, followed by 15 or so minutes of eager anticipation as I walked out to the recover it -- that was all if the flight looked nominal from my ground-based vantage point. If something went awry, the old “agony of defeat” emotion would play into it, too, but I did not sense that anything would go wrong. As I surveyed the situation and mentally checked-off items on my checklist, Tom Jenkins and Bob Brown walked out to the pad area and provided a few minutes of comic relief.



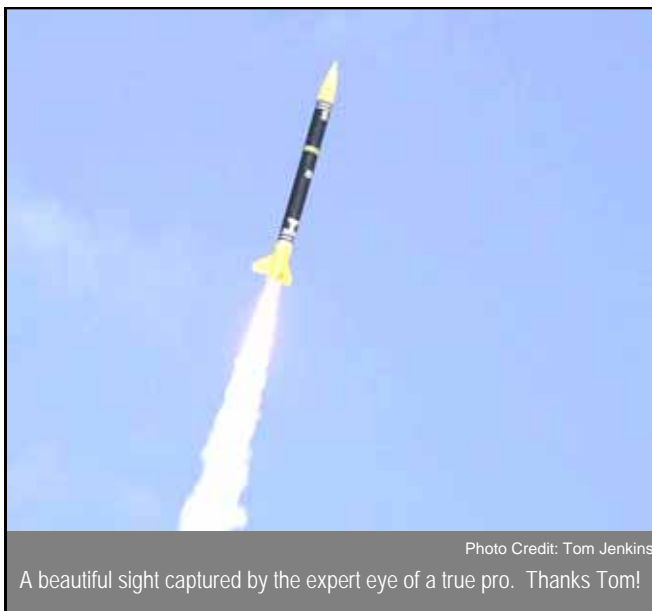
Photo Credit: Tom Jenkins

The M1297 roars to life and *Go! Shocker* heads toward the heavens.

The obligatory "A Man and His Rocket" photos were snapped and it was time to retreat to a safe distance. My good friend Steve Klausmeyer and I rode back in his pickup together after racking the rocket and talked about the culmination of our efforts. Steve and I had sort of parallel-built our Level 3 projects and had bounced ideas and techniques off each other and goaded and prodded each other for months toward this day. Steve had successfully accomplished his Level 3 certification earlier in the day, and I was sure I could be just as successful. On the way back to the range head I contemplated how much I had learned in my 5+ years of high-powered rocketry and that I had accumulated much of my knowledge from some really great rocket people and applied it to building the best rocket I could. The rocket was ready, the electronics were ready, the motor was ready and I was ready. I decided: whatever happens, happens.

Excitement At Hand

The anticipation intensified as Pat Gordzelik's countdown commenced and the rocket paused a couple seconds after his "liftoff" command to actually ... well ... lift off. The rocket paused and weather-cocked just a little as it cleared the rail and I thought for just a moment, "Go **UP!** Go **UP!**" Deployment with any horizontal velocity can be really hard on big rockets. Although I had built the thing to avoid and withstand a zipper; I had hoped not to tempt that fate. She did straighten out, however, and roared upward - vertically. My heart was pounding!



I lost sight of the rocket for just a moment a little prior to apogee, which was scary. I saw the smoke puffs from the apogee ejection events, and by the time I found it again, the big 'chute was out and everything looked good from almost a mile below. She was coming down slowly on the slightly oversized 'chute, so I was pretty sure everything had deployed nominally with no deadly tangles.

The Rocketman R18 is rated for 45#-65# loads, so with the propellant all gone from the motor, the now 32# rocket hung almost motionless in mid-air. The descent was very slow, another positive factor, I mused, toward accomplishing a successful certification. **Go! Shocker** settled softly on to the black Kansas soil in the plowed field about 1/2 mile due north from the launch pad. Whew!

A Sense of Pride

I felt a sense of pride more than any other emotion while I was walking through the grass and across the plowed dirt to retrieve **Go! Shocker**. I had learned enough and had been able to apply it to launch an M motor in a rocket that weighed almost 40 pounds. That was cool. When I got to the rocket and scanned all the yellow and black parts stretched out a hundred feet across the dark Kansas earth many emotions -- relief, joy, satisfaction, and elation -- all sort of bubbled to the surface and back down again. *Yeah baby! Everything looks good!* My kids went out for recovery with me and that was a source of pride, too. They all had a chance to be excited for me, as I am for them in each of their various accomplishments. Rocket pal Terry Smemo from Kansas City also went along for recovery and was positive and encouraging as he had been throughout the building process with a phone call or an e-mail of support. Everyone got a chance to carry a part of the rocket back to the van, so in a way the whole family shared in my accomplishment, and I was happy to share the moment. After disabling one of the altimeters so only one set of beep sequences could be heard, I was able to decode the actual recorded flight altitude of 5052'.

I will remember for a long time the moment when we got back to the launch site with the rocket. What a great feeling to be congratulated and to receive pats on the back from peers and pals who strive for the same type of success, and who shared their ideas and experience along the way toward my successful flight and recovery. Thanks collectively to KLOUDBusters! The assistance I received along the way was invaluable and made my journey to Level 3 Certification a successful one. *I'm there - Level 3!*



Find out more about Lance's Level 3 Project **Go! Shocker** at the following web page:
<http://members.cox.net/rocketry/l3shocker/>.

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|------------------|---|
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