



Light Sport Repair E-Flyer

Check out our new ULTRALIGHT SPORT STORE online
www.ultralightsportstore.com

Get Ready for the Flying Season

February 15 2010

NUMBER 17

16 HOUR REPAIRMAN INSPECTION CLASSES

Contact us if you are interested in obtaining your Repairman Inspection Rating for Powered Parachute or Airplane Light Sport Repair (C65) Plymouth, IN 46563

We will put your name on a contact list and advise you of future class dates.

PARACHUTE AIRWORTHY INSPECTION
\$125.00
PARACHUTE AND LINE REPAIRS ON SITE

We test & record the fabric porosity, line strength, fabric rip strength, attachment points, seams, & line trim.



Bing Ultralight Carburetors

(Article #4 in a series we are presenting on Bing Carburetors)

Exhaust System: Our exhaust system performs many functions that are useful to us and our engine. In addition to reducing exhaust noise to a comfortable level, its primary purpose is to remove the hot spent gases from the cylinder after combustion has taken place. The momentum of the spent gases exiting the exhaust port creates a low pressure that starts the next air/fuel charge moving into the cylinder even though the piston is still moving upwards. In this manner the incoming charge aids in removal (scavenging) of all spent gases thereby eliminating fresh charge dilution. Scavenging only occurs if we have an exhaust system that properly shapes and directs pressure waves that leave and return to the exhaust port precisely on time

Pressure Waves: The out rush of spent gas into the exhaust header creates a pressure wave that begins at the exhaust valve port and travels to the end of the pipe. At the open end of the pipe it is reflected back to the exhaust port, again turns and heads to the open end of the pipe. This process is repeated endlessly—back and forth, back and forth. When the pressure wave reaches the exhaust port, and turns around it literally draws spent gas from the cylinder and simultaneously aids in drawing into the cylinder a fresh air/fuel charge—that in turn acts to push more spent gases out through the exhaust port. It is the task of the exhaust system to insure the TIMING of the above PRESSURE WAVES, arrival at the exhaust port precisely on time and at an exact and predetermined pressure that enhances the scavenging process.

INTAKE TRACT: Your engine's total intake tract consists of: (1) the air box that contains the air filter, (2) air duct from the air box to carburetor, (3) the carburetor, (4) intake manifold from the carburetor to cylinder head (5) intake port, (6) the cylinder, (7) exhaust port, (8) total exhaust system.

ALL TOGETHER NOW: Let us follow all events that occur during the four complete cycles of engine operation. The air that is present throughout our engine, carburetor, and exhaust system is at rest. Without any piston movement, the pressure is equal throughout at one atmosphere (14.69 psi).

INTAKE STROKE: The piston moves downward in the cylinder creating an ever increasing empty space and low pressure behind it.

COMPRESSION STROKE: The in rushing air/fuel mixture momentum is sufficient to overcome the rising piston pressure for a predetermined amount of piston travel. The piston continues upward to compress the mixture. At a predetermined BEFORE the piston reaches TDC (Top Dead Center), the mixture is ignited by the spark. WHY before? Because complete combustion of the mixture requires TIME to BURN, and the maximum pressure created by the combustion process cannot be exerted on the piston until after it passes TDC and begins downward...**POWER STROKE:** As the piston passes through TDC, it is forced downward by the rapid expansion of the burning mixture. At yet another predetermined point before the piston reaches BDC (bottom dead center) the EXHAUST valve is opened while there still is pressure in the cylinder. In this manner, spent gasses get a head start for their exit from the cylinder during the...**SCAVENGING:** Also aiding this process is a pressure wave that was timed to arrive at the open exhaust port, then turn around and head back out the exhaust pipe, carrying with it the spent gas.

Stayed tuned for the continuation of the Bing carburetor in next month's newsletter.

EVENTS

Saturday, March 13,
2010 08:00 a.m.

Wisconsin Light Aviation Safety Seminar

**EAA AirVenture
Museum, Oshkosh, WI**

Speakers: John Dorcsey,
Joe Norris, Dennis
Demeter, Brian
Meyerhofer

This 1 day event.

- Registration is FREE.
- Same Day registration for the event begins at 8:00 am.
- All sessions will break for door prize drawings and a stretch.
- Lunch is available "on-site" at a modest cost.
- Wings Credit available

Sun 'n Fun Fly-In Lakeland Linder Regional Airport April 13-18, 2010

Start your aviation year at Sun 'n Fun, one of the world's premier events for recreational aviation enthusiasts. The focus is on education with more than 450 educational forums, seminars and "hands-on" workshops; plus more than 500 commercial exhibitors who offer aviation products and services including all the major aircraft manufacturers; daily air show plus additional night air show on Friday, April 16; more than 5,000 aircraft of every size and shape.

www.sun-n-fun.org

LIGHT SPORT REPAIR SERVICES IS NOW A DEALER FOR THE BUCKEYE DRAGONFLY

**Buckeye Dragonfly
3 Wheeler**



**Buckeye Dragonfly
4 Wheeler**



CONTACT US FOR DETAILS

The new 2010 Buckeye Dragonfly comes in two unique configurations with some exciting new features. This FAR Part 103 machine uses the Guardian 4 cycle engine by Generac that sips fuel at the rate of less than 1.5 gallons per hour. With this four cycle efficiency, we are working to help protect the environment by burning as little fuel as possible. Another major benefit of this power plant is that unlike the widely used two cycle engines, the Dragonfly does not use the two cycle oil that is typically inefficiently burned and adds to the pollution of our atmosphere.

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PRE-OWNED PPC'S http://www.lightsportrepair.com/for_sale.htm

**2001 Buckeye Skyhawk \$10,000
SPECIAL \$9500.**



**N Numbered -Hours 29.7 -Rotax 582 Bluehead with E gearbox
-Electric Start -Ceramic Coated Exhaust -10 Gallon Fuel Tank
-68" Ivo Prop -Apco 500 Parachute -Grand Rapids EFI
-Comfortable separate seating**



**BUCKEYE OWNERS
WE ARE GETTING
CLOSER TO BEING
ABLE TO MAKE
REPLACEMENT
PARTS FOR YOUR
BUCKEYE
POWERED
PARACHUTE.
PLEASE BEAR WITH
US AS WE
CONTINUE THIS
TRANSITION
STAGE.**

**PLEASE CONTACT
US WITH ANY
QUESTIONS**

**LIGHT SPORT
REPAIR SERVICE**

**301 B AIRPORT RD
PLYMOUTH, IN
46563**

**Phone (574)948-0065
Fax (574)948-0066**

Email:

services@lightsportrepair.com

www.lightsportrepair.com



**2001 BUCKEYE DREAM MACHINE WITH DUAL CONTROL AND TIMBERWOLF
TRAILER
\$13,000 FOR THE PACKAGE**



Rotax 582 Blue head with E-drive was just rebuilt April 2009 to 0 hours.

- Reason for rebuild was customer goes by Rotax Planned and Necessary Maintenance Procedures.
- Original hours 59.4 - Dual controls - 3 blade 62" Ivo Prop - Apco 500 parachute
- Chute bag and line socks - 10 gallon fuel tank - Unique Instrument panel.
- Comtronics helmets with dual comm II intercom - Garmin GPS - Icom A-6 Radio
- External antenna - 2 Sporty JD200 Radios - Frontal bars - Nylon Risers - N numbered
- Annual is up to date - Landing lights, parachute lights - 2000 Timberwolf trailer comes with large toolbox and metal and wood ramps, also includes 2 fuel cans and tie downs.

ULTRALIGHT SPORT STORE

VISIT OUR ONLINE STORE www.ultralightsportstore.com

**GET READY FOR THE FLYING SEASON WITH PARTS AND
ACCESSORIES FOR YOUR LIGHT SPORT AIRCRAFT**

