Photo AOPA

## Newsletter Highlights:

- Always Improving
- The Great Dilemma
- Great Lakes Update
- New directions in Paint
- ADS-B—Say What?
- Safety Notices
- MT Promotion
- Garmin GTN 650

## Show calendar:

**Sun-N-Fun** March 27—April 1
Lakeland, Fl
www.Sun-n-Fun.org

**AERO**, April 18-21 Friedrichshafen Germany www.Aero-Expo.com

**POPA Convention**
June 7-9, Sarasota, Fl
www.pilatusowners.com

**TBMOPA Convention**
www.tbmowners.org/

**Airventure** July 23—29
Oshkosh, WI
www.AirVenture.org

**We have a new Address:**
(we did not move, the road did)
**15955 South Airport Road**
**Battle Creek, MI 49015**
**269-565-1000**

# Always Improving the YMF— not your fathers WACO

The WACO YMF has been in a constant state of evolution from nearly its inception in 1933, as the model line started as the YMF-3, then evolved to the YMF-5 in 1935. There were, of course, large gaps in the time line, specifically between the end of production (what we refer to today as the A model in the 1930's) to when Classic Aircraft restarted production in 1985. Most recently we introduced the D model in 2010 that introduced several major updates; however, even today, each airplane is updated and improved from the prior. It's small things like moving an antenna from one location to another to improve reception. Other times it's a complete redesign of a system like the rudder pedal adjustments introduced earlier this year. The airplane is constantly evolving, always getting better and better. These updates are developed by our engineering team based on input from customers, mechanics and our own pilots here at the factory. Some recent updates include the new trim system, doors in the wheel pants for air access, new rudder pedal adjustments, revised front cockpit interior, revised antenna locations and many other great updates. This constant improvement is one of many reasons customers choose to move up to the new D model and choose a new production WACO.


Recently delivered D Model

Chronology of major updates
1933 YMF-3
1935 YMF-5 (A Model)
1985 YMF-5 (B Model)
1992 YMF-5C
2010 YMF-5D

# The Great Dilemma By Peter Bowers

Great Lakes is actually the name of the company that made the 2T-1A-2, also known as the Sport Trainer. So the dilemma is do we continue to call the company WACO Classic or consider a name change that would better assimilate the Great Lakes name and model? Should we call the 2T-1A-2 the "Great Lakes by WACO Classic" or is that getting too long and confusing? If we were Ford and bought the Corvette model, would it be called the: "Chevrolet Corvette by the Ford Motor Company"? Ideas currently under consideration include a name change back to "Classic Aircraft Corp", thereby allowing each model to reside under that name, dropping the Great Lakes and just calling the new airplane the 'Sport Trainer", dropping Classic from WACO, doing nothing. Your thoughts would be most welcome so please feel free to send me a note with your ideas and comments.

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# WACO First

There is something ironic in watching a technician here at WACO Classic diagnose a problem in a WACO YMF by plugging a computer into it. With numerous integrated systems, analyzers, satellite data links and other advance avionics, it's part of the program. Sometimes I find it funny that little old WACO Classic frequently is way ahead of other aircraft manufactures in introducing new technologies and ideas to the market place.

**Some recent examples:**

First OEM to deliver and offer as standard TOUCH SCREEN GPS units from Garmin (See page 7 for more information on the GTN series from Garmin)

First OEM to install the L-3 Trilogy all in one Back up instrument

First OEM to install the Garmin G600/500 System

First OEM to offer Garmin GTS-800 Traffic System

And early next year we expect to be the first single engine piston manufacturer to have a fully compliant ADS-B aircraft, that's ready for NextGen air traffic control systems (See Below).

# ADS-B – Say What?

ADS-B is the acronym for **A**utomatic **D**ependent **S**urveillance - **B**roadcast—a new technology that allows pilots in the cockpit and air traffic controllers on the ground to "see" aircraft traffic with much more precision than has been possible before. ADS-B can make flying safer and can allow more efficient use of our airspace. ADS-B-equipped aircraft broadcast their precise position in space via a digital datalink along with other data, including airspeed, altitude, and whether the aircraft is turning, climbing, or descending. ADS-B receivers that are integrated into the air traffic control system or installed aboard other aircraft provide users with an accurate depiction of real-time aviation traffic, both in the air and on the ground. Unlike conventional radar, ADS-B works at low altitudes and on the ground so that it can be used to monitor traffic on the taxiways and runways of an airport. It's also effective in remote areas or in mountainous terrain where there is no radar coverage, or where radar coverage is limited. One of the greatest benefits of ADS-B is its ability to provide the same real-time information to both pilots in aircraft cockpits and ground controllers, so that for the first time, they can both "see" the same data.

**How does it work?**

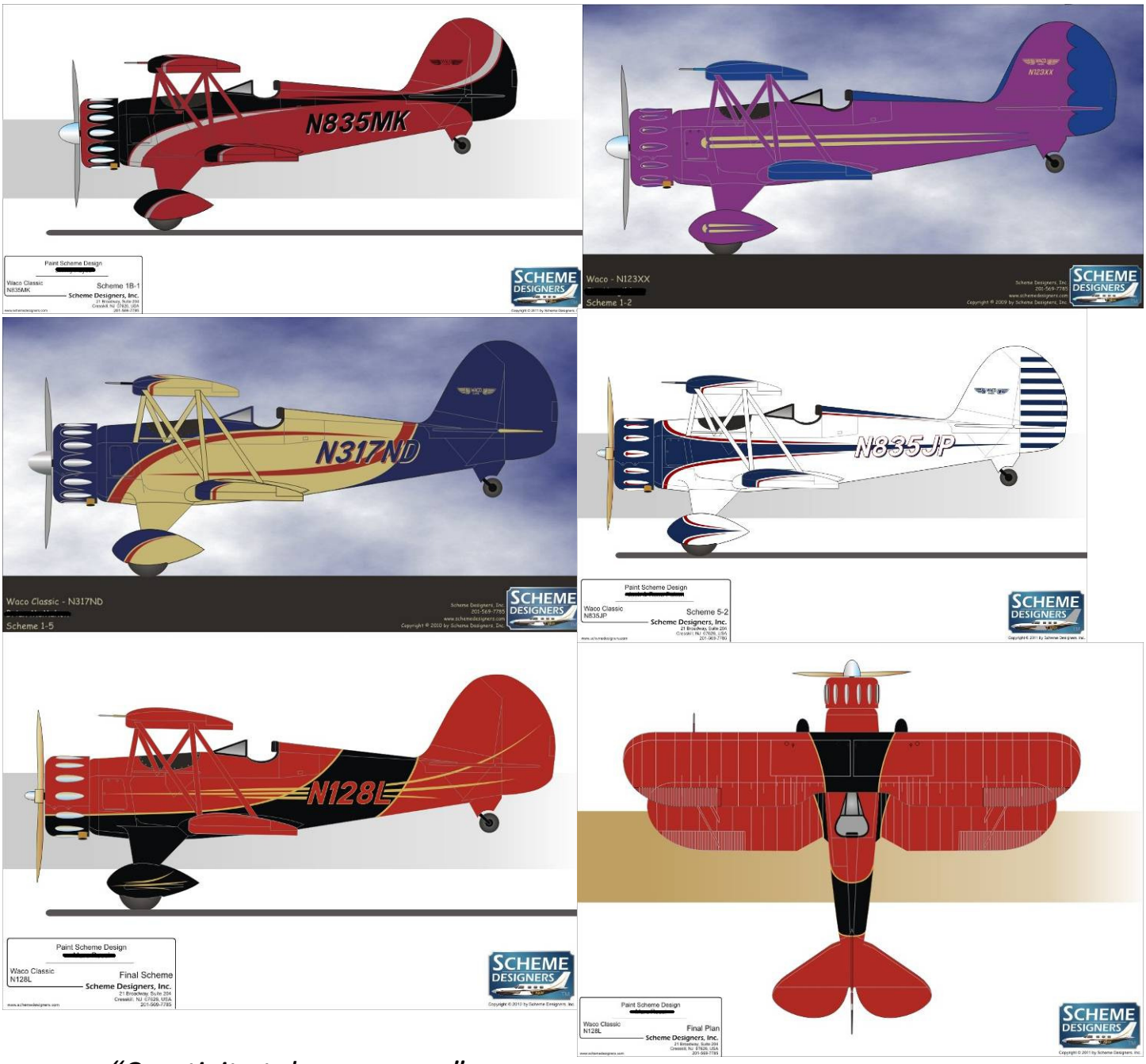
ADS-B relies on the satellite-based global positioning system to determine an aircraft's precise location in space. The system then converts the position into a digital code, which is combined with other information such as the type of aircraft, its speed, its flight number, and whether it's turning, climbing, or descending. The digital code, containing all of this information, is updated several times a second and broadcast from the aircraft on a discrete frequency, called a datalink. Other aircraft and ground stations within about 150 miles receive the datalink broadcasts and display the information in user-friendly format on a computer screen. Pilots in the cockpit see the traffic on a Cockpit Display of Traffic Information (CDTI). Controllers on the ground can see the ADS-B targets on their regular traffic display screen, along with other radar targets.

**Advantages of ADS-B**

- ADS-B technology, the cornerstone of future air traffic control systems, will improve aviation safety by giving pilots in the cockpit and controllers on the ground reliable, accurate, real-time information about aviation traffic.
- By using existing, proven, digital communications technology, ADS-B can be implemented rapidly for a relatively low cost.
- ADS-B provides traffic information to pilots that is currently unavailable to them. Because the system has an effective range of more than 100 miles, ADS-B provides a much greater margin in which to implement conflict detection and resolution than is available with any other system.
- Pilots and controllers using ADS-B data will be able to determine not only the position of conflicting traffic, but will clearly see the traffic's direction, speed, and relative altitude. As the conflicting traffic turns, accelerates, climbs, or descends, ADS-B will indicate the changes clearly and immediately.
- ADS-B systems can further enhance aviation safety through features such as automatic traffic call-outs or warnings of imminent runway incursion.
- In addition to increasing safety in the airline environment, ADS-B technology can be scaled and adapted for use in general aviation and in ground vehicles. This will provide affordable, effective surveillance of all air and ground traffic, even on airport taxiways and runways, and in airspace where radar is ineffective or unavailable.

General aviation aircraft can use ADS-B datalinks to receive flight information services such as graphical weather depiction and textual flight advisories. In the past, these services have been unavailable or too expensive for widespread use in general aviation.


**WOW Paint Schemes** Customers continue to push the edge of paint design and concepts, frequently working with Craig and his team at Scheme Designers to develop their own unique paint scheme, a few also work with Kathy in house. Below are some great concepts that customers have worked on that refreshingly depart from the historical norm.



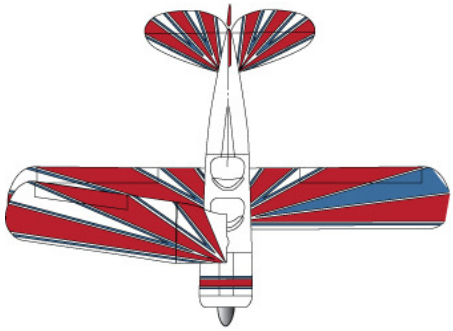

*"Creativity takes courage"*
***Henri Matisse***


# The Great Lakes by WACO—The coolest thing

New Great Lakes by WACO Logo

The 2T-1A-2 is the greatest project that WACO Classic has undertaken since Dick Kettles and Mike Dow restarted production of the YMF in 1985. Not only are we going to make an incredible airplane, it's also a great fit for our team of craftsman.

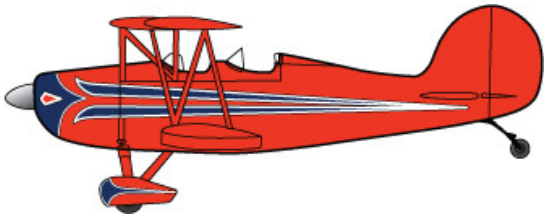
The Great Lakes by WACO has been met with a very positive reception, with 10 deposits in hand for deliveries in 2012 and 2013. With the changes that we have in mind, the New Great Lakes will be a thrilling and appealing airplane. The new airplane will feature a larger cockpit, improved avionics, structural enhancements and other modern updates.



We have been actively preparing the shop for the new project. This involves moving machines, re-organizing the layout and adding tooling and infrastructure. By this time next year we plan on producing more airplanes with less square feet than any aircraft manufacturer in the world. We are doing this by using modern lean manufacturing tools and techniques.

We have faced a few challenges in the project thus far and are overcoming all. One of our first hurdles was discovering that the main streamline tube used at the forward base of the frame weldment is no longer available, period, having not been produced for over 40 years. The mill was also unwilling to make tube as the tooling was discarded long ago and our demand would be too low to justify the costs. Each frame uses just under 5 feet of the tube and the minimum run is 5000 feet. We have optimistic sales expectations, but 1000 airplanes may be a stretch. So the solution is to design a suitable replacement using currently available sizes. This work should be done within a few weeks.

We will be posting frequent updates on our Blog at:
http://wacoclassic.blogspot.com/



Prototype Instrument Panel for New Great Lakes


Photo AOPA

## WACO Classic Safety Notice Program

As you may know, WACO Classic has recently initiated a safety communication program to notify owners and pilots alike of possible accident scenarios in hopes that knowledge of these scenarios will help avoid future accidents.

These notices along with others can be found at the WACO Classic website by clicking the "support" button at the bottom of the main page. The web address is: http://wacoclassic.com/support.html

Owners and Pilots should read each Safety Notice and include copies in an owner added amendment to the AFM for the aircraft. **Please verify that your email address is registered with WACO Classic to ensure immediate communication of service and safety information.** New Safety Notices will be immediately emailed to registered owners and sent via US mail to all registered aircraft. **Additionally, WACO requests that owners and pilots forward to WACO Classic any ideas for additional safety notices.**

Safe Flying,

Peter Bowers

EXAMPLE SAFETY NOTICE

WACO CLASSIC

Safety Notice SN-032

**PROPER TIRE PRESSURE CRITICAL**

Issued April 11, 2011

Accidents have occurred in aircraft when tires fail or control is lost due to low pressure. Loss of control accidents can result in injuries or fatalities.

Recommended tire pressure for Waco YMF-5 aircraft tires:

Main Wheels (using 7.50 x 10 Air Trac): 30 psi
Tail Wheel: 60 psi

Tire pressure should be checked prior to each flight.


## Employee Focus—Bob Wagner

Bob Wagner, a recipient of the Wright Brothers Award, has been flying for 54 years and has logged so many hours that he can't even give you a total anymore. He bought his first WACO at age 18, and has flown almost every tail dragger ever built. He ran his own flight school, and performed in air shows all over the US and in several countries, from 1962 to 2005. 30 years of that was a wingwalk act with his wife, Pat. Bob began working with us at WACO in the early 90's, and now is our pilot and instructor. When asked what is favorite airplane is, he answered, "The one I'm in on that day!" We are very pleased to count Bob among our WACO family **(and wish him a Happy milestone Birthday on November 16!)**


## SPECIAL Promotion—MT Propeller for WACO YMF Aircraft —FREE TIP PAINTING To Match your WACO

Standard equipment on all new production aircraft, this new elliptical tipped, modern computer designed wood propeller is rated for up to 300 hp. The propeller offers performance improvements in all phases of flight, and offers the following additional features:

- Stainless steel leading edge minimizes rain erosion.
- Black painted back side, thus minimizing white out phenomena when flying with the sun at your back.
- Balanced at factory in Germany with NEW Stell hub.
- Approved for all 275 and 300 HP WACO YMF aircraft.
- Tips painted to match your aircraft.

MT Prop: $4,270.00, New Stell Hub (made in Germany) $2,050.00, Shipping box charge:USD $150.00 Typical FedEx air freight within the continental United States is USD $300- to USD $380, depending on location, and will be billed at time of shipment.
**Total prop package: $6445 plus freight**.

## What makes the new WACO D model one of the safest airplanes flying?

Today's new WACO D model is the safest airplane ever produced by WACO Classic and may be one of the safest airplanes flying in general aviation today. The reasons are simple - advanced technology that's clearly presented to the pilot in an easy to operate method. A few of the many features include:

- 4 - LED Landing and Taxi lights – Super bright with an integrated wig-wag feature and nearly unlimited life – many customers leave them on all of the time for traffic avoidance. Most general aviation aircraft have 1 landing light.
- New LED strobes, beacon and Nav lights- a tower controller recently described the airplane as a flying Christmas tree – from 5 miles away! The new LED lights are dramatically brighter during the day when compared to older technology.
- The new JPI engine instrumentation immediately alerts the pilot to any out of range condition – both on the main display and on the dedicated alert screen.
- Terrain alerting system standard on all aircraft – alerts pilot to obstacles (towers, building) and terrain, optionally available Garmin 696 adds audio alerts to the system.
- Traffic Systems – Garmin's GTS-800 or L-3's SkyWatch traffic system displays on the standard Garmin GTN-650 and features a 12 mile ring of active traffic alerting with audio call outs such as: "TRAFFIC – 2 o'clock, 3 miles, high"
- Standard 460 MHz ELT with GPS interface
- Well balanced handling characteristics combined with aerobatic performance when needed.
- 5 point Hooker seatbelts with optional parachutes.
- Easy ground handling and landing characteristics.
- **Incredibly strong modern structure and systems combined with a time proven design.**

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## The NEW Garmin GTN 650 Touchseceen - standard on all new D model WACO's

Combining the latest in multi-function display (MFD) features with touchscreen data entry and integrated radio tuning – as well as optional remote transponder and audio panel control – the GTN series offers amazing, yet simple-to-use, technology that once again promises to redirect the course of General Aviation electronics. A new graphical user interface with icon-identified onscreen touchkeys makes functions easy to locate and access on the units' large, high-resolution TFT displays. Page navigation is more intuitive than ever, with a "shallower" menu structure that greatly simplifies operational sequences. In fact, you're rarely more than two taps away from all primary pages and functions. You can quickly pan across the map display by simply swiping your finger across the screen. And integration capability for a wide array of avionics and sensors not only simplifies tuning and mode selection – but, in effect, lets pilots utilize the GTN touchscreen as a virtual flight management system.

The new GTN multi-capability units are offered in two sizes and a variety of configurations. All GTN 650 series products are contained in a 2.64-inch tall package that replicates the in-stack form factor of our popular GNS 430W design. (Note: the glass area on the GTN 650 series is over 50 percent larger than its GNS 430W series predecessor – while the optional GTN 750 series screen is nearly 100 percent larger than that of the GNS 530W.) The larger GTN 750 series bezel stands 6 inches tall (compared to 4.6 inches for the similar GNS 530); however, to save space in your avionics stack, both the GTN 650 and 750 systems can provide onscreen code selection and ident for optional remote-mount Garmin transponders (sold separately). In addition, the larger-format GTN 750 screen can optionally be used as your control panel for a new Garmin remote-mount audio processing unit. The ability to remotely tune both audio/intercom system and transponder functions from the 750 series means you can position those products behind your panel – and thus accommodate the larger screen in less total stack height. The optional GMA 35 remote audio control unit (sold separately) works with the

GTN 750 series to streamline cockpit communications. Its work-saving features include a new high-precision automatic squelch function, as well as record/ playback capability for help in copying clearances and verifying ATC instructions. Future software upgrades will enable the GMA 35 to incorporate even higher levels of automation, including digital voice activation and other auto-adjustment features (requires pre-wired push-to-command button, sold separately). Simplicity is paramount in every aspect of the GTN cockpit interface.

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