

Pulsar News

News, Updates, and Developments for Pulsar Builders and Owners

Issue No. 25

Published by the Pulsar Builders' Association

January, 1994

A belated Happy New Year to everyone. This edition of *Pulsar News* marks the 25th issue. I hope everyone has found the information helpful and enjoyable to read. We very much appreciate the notes and letters received from many of you who write just to say hi. It's always good to hear from each of you and I enjoy the progress updates. I am inadvertently being selfish since I have never thought to share the progress reports with the builder group. Starting in this issue, I will regularly print the status of your Pulsar project as I hear from you. Also, if you desire to hear from other Pulsar builders about a specific issue, just let me know and I will publish your question.

I hope that 1994 is a prosperous year for everyone and we all look forward to seeing many more Pulsars take to the air this year.

• Pulsars wanted --

Gary Polizzotto recently told me that he was looking for a Pulsar kit without the engine or even the wings (unless it has the composite spars). Some of you may recall that Gary's Pulsar was featured on the cover of *Kitplanes* magazine. Well, Gary wants to build another one. If anyone is interested in selling their kit, you can contact Gary at: 427 Moreland Avenue, N.E., Suite 300, Atlanta, GA 30307 (404) 523-1000

Roger Gouin (Les Rochers, 61 250 - Hesloup, France) also wrote asking if anyone had a Pulsar XP for sale. His letter did not include whether he was looking for a kit or completed aircraft (and I suspect he's interested in a European-based Pulsar). You can contact him at the address shown above.

• Question & Answer???

Tom Decker (Wallkill, New York) wants to know what ever happened to the newsletter Question and Answer section first proposed in a prior *Pulsar News*? He would like to see more builders share questions and answers. To that end, Tom would like to hear from Pulsar pilots and asks what types of fuel/oil combinations are they using, how much time do they have on their engines and whether they manually mix or use oil injection.

(Ed. Note: I welcome all questions offered by Pulsar builders and will gladly put them, and any answers received, in *Pulsar News*).

• **Builder List**

I have received several requests for an updated builders list for those of you who are interested in meeting up with other builders located near you. I will plan to include a listing with Issue #26. If any of you wish to be omitted from the list for privacy reasons, please let me know and I will gladly accommodate you.

• **Pulsar Fly-In**

In one of the early issues of *Pulsar News*, I talked about the fun of having a Pulsar Fly-In. Bob Kromer (see *From the Factory*) and I both think that the time will soon be here. I'd like to get input from all of you regarding the type of fly-in you'd be most interested in and suggestions about locations. Obviously, we'd like to locate it where the weather is likely to be good, within reasonable distance for a lot of builders/pilots, and during a time of year which is well suited for as many Pulsar enthusiasts as possible. Drop me a note or letter. I will keep you posted in upcoming newsletters as details become available.

CONSTRUCTION REPORTS

Greg Smith (Lawrence, Kansas) recently reported that his Pulsar has more trailer miles than most people have in flight time! Greg apparently trailers his "Pulsar under construction" a lot!

Bob Gere (Toledo, Ohio) reports that painting is now complete on his Pulsar (he hopes). Bob has targeted this spring for first flight.

Bob Bell (Meedham, MA) wrote that his Pulsar XP is about 50% complete at this time.

Michael Charles Manning (England):
"Please find the enclosed photo of my Pulsar 582. The kit (#211) was obtained back in July, 1991 and completed during July, 1993.

The worst part of the construction was getting it ready for the paint job. It's a back breaking, arm busting, dust covered, rotten job to give to my wife! Only kidding, she did help for about an hour (bless her) and then I was told a few choice words.



The first flight was on 10/28/93. I am pleased to say that all went well, in fact, I LOVE IT, IT'S GREAT!

FROM THE FACTORY

General Information

The list of Pulsar builders who have finished and are now flying continues to grow. We are aware of SIX more completions since the last newsletter! First flights have been accomplished by:

- Bill Jackson - Bill has completed a successful first flight on his Rotax 582 powered Pulsar in Marietta, Georgia;
- Mike Bosick - Mike has flown his Rotax 582 powered tailwheel Pulsar in Belleville, Illinois.
- Howard Macfarlane - Howard recently flew for the first time his 582 powered Pulsar in Zephyrhills, Florida.
- Mike Manning - Mike has flown successfully in his 582 powered Pulsar in England.
- Malcolm Whatley - Malcolm flew for the first time in his Rotax 912 powered Pulsar XP in England.
- Arne Knaale - Arne advised us on December 12 that he has been flying his Rotax 582 powered Pulsar in Norway. He said weather is a challenge, but he has really enjoyed his beautiful new airplane.

Congratulations to everyone! Including these latest first flights, we now have 55 flying Pulsars included in the General Aviation fleet! And 1994 should see a huge increase in this number - many builders are very close to finishing and flying their Pulsar projects. With this many Pulsars in the air, we should start thinking about having the **FIRST ANNUAL PULSAR FLY-IN!**

Incidentally, as soon as you successfully complete that first flight, please send us a photo of your airplane. We will proudly include it in our gallery of finished and flying Pulsars as a tribute to your hard work and dedication to seeing your project to completion. We only have 48 pictures in our display, so several are missing. Please, if you haven't yet submitted a photo of your Pulsar please do so.

Remembering Ken McWhinney

All of us at the factory were saddened to learn of the death of Ken McWhinney during the period since our last newsletter. Ken, one of our most enthusiastic builders in the United Kingdom, is reported to have suffered a heart attack in-flight while at the controls of his Pulsar. His Pulsar descended to the ground with Ken inside and was damaged when it hit the ground. However, we have learned that Ken's Pulsar is being repaired and will be restored by the University of Northern Ireland where he taught part time. The restored Pulsar will serve as a tribute to Ken and his love of flying.

Ken was a very positive influence for all of us at Aero Designs. We will miss his long, detailed faxes and telephone conversations full of helpful insights and opinions about building and flying the Pulsar. One of our employees, Rick Meyer, had just finished a visit to England and had spent a delightful day talking and flying with Ken. He was a true believer in the Pulsar and a true friend to the company. We are grateful for the time he spent with us.

Controllable Pitch Prop Option for the Pulsar XP

We recently finished flight testing a new propeller for use with the Rotax 912 powered Pulsar XP. The new prop, manufactured by GSC Systems, Ltd. of Canada, is an in-flight adjustable pitch design with a 62 inch diameter.

Talk about FAST! With the new prop turning a quiet 2150 RPM, the Pulsar XP now has a verified true cruise airspeed of 150 MPH at 75% power! Fuel burn at this speed is 4 gallons per hour! Without a doubt, the installation of the controllable pitch prop on the Pulsar XP makes it the fastest production kit aircraft available today using Rotax power.

Attention to weight and aerodynamic efficiency always results in a great performing airplane. With the installation of the controllable pitch prop, the Pulsar XP is now "knocking on the door" of other competitive kits costing three times as much.

Cost of the new controllable pitch prop is \$1500. This includes the prop and the vernier cockpit control. All mounting hardware for the controlling mechanism is supplied by us for an additional \$75. The standard Pulsar XP spinner will fit the new prop with some slight modifications. However, the controllable pitch prop can not be installed with a vacuum pump. Both share the same mounting location on the Rotax 912 engine.

The propeller and controlling mechanism must be ordered direct form GSC. Their telephone number in British Columbia, Canada is (604) 549-3772. To order the mounting hardware, call us at (210) 308-9332.

Remember, this new controllable pitch prop only fits Rotax 912 engines. It will not fit on the Rotax 582.

Baggage Compartment Windows

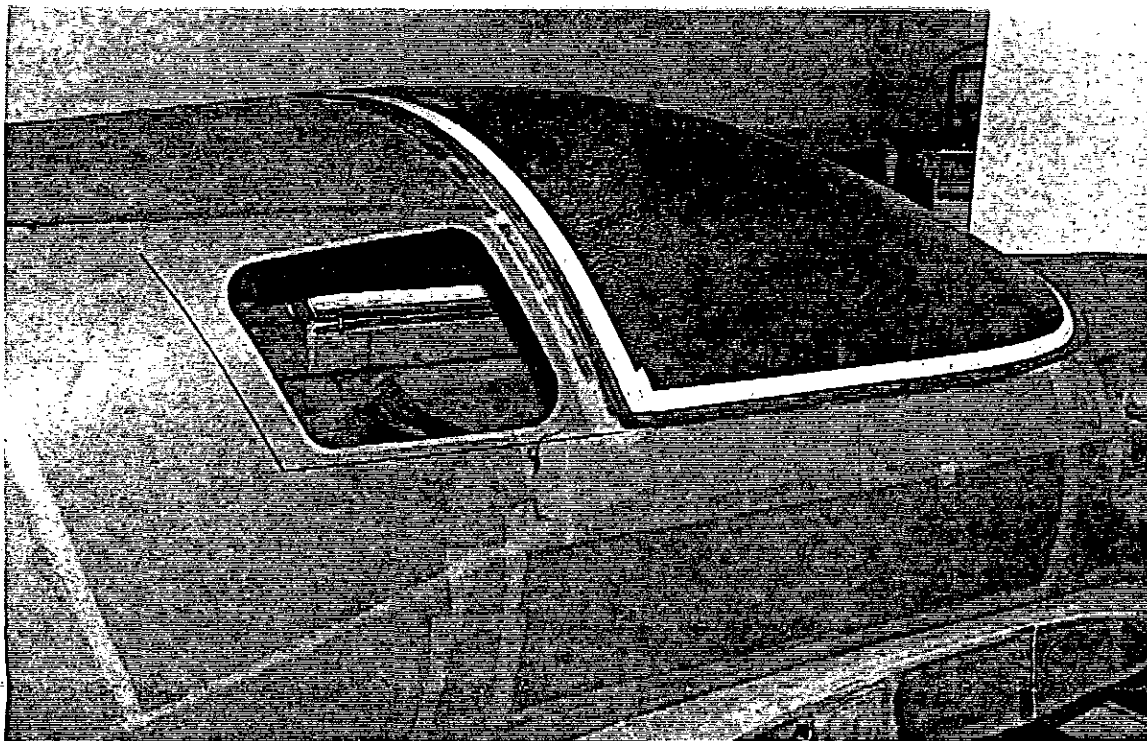
A popular modification done by several Pulsar builders is to install windows on both sides of the fuselage just behind the main canopy. These windows add light into the baggage compartment and give the Pulsar a different side appearance.

One of our builders, Dan Billings of Dothan, Alabama, has decided to share his side window design with other Pulsar builders who are interested. If Dan can get a minimum of 25 orders, he will then place a bulk order with the plexiglass manufacturer. With an order for 25 sets, the price of the pair of .125" thick windows will be \$95, including shipping and handling.

If you are interested, Dan can be reached at:

Dan Billings
102 Plymouth Lane
Dothan, AL 36301
Tel: (205) 793-1343

If you like this neat installation, Dan invites you to contact him.



Dan Billing's Pulsar Window Cut-outs

Operating and Building Tips

1. Proper Approach Speeds

One of the real advantages of the Pulsar is its ability to approach and land at speeds that are slow and safe. The very forgiving airfoil section used in the Pulsar is designed for excellent low speed control and docile stall characteristics. This, combined with the low weight of the Pulsar, results in an airplane that flies just as well slowly as it does fast.

However, to take advantage of this feature, pilots must learn to slow the Pulsar and use proper approach speeds. In our discussions with several pilots, we are finding that approach speeds are tending to be on the high side. Excessive approach speeds in the Pulsar, like in any other airplane, result in the airplane using excess runway length for landing and a premature wearing of the brakes. Taken to an extreme, approaching too fast and then trying to force the airplane onto the runway could result in a pilot induced pitch oscillation (PIO). This can result in a damaged nosegear if the pitch oscillation becomes severe enough to cause a hard impact with the runway.

What is a good approach speed in the Pulsar? Our experience shows that 65 MPH indicated airspeed is excellent for almost any approach in the Pulsar, even in gusty or crosswind conditions. 65 MPH gives plenty of margin above stall and results in very positive control authority throughout the landing flare and touchdown.

A safe place to develop a feel for the excellent slow speed flying qualities of the Pulsar is at altitude. Try flying a simulated approach and landing 2000 feet above the ground using various speeds. Work at maintaining 65 MPH on short final and into the landing flare of your simulated approach at altitude. We think you will be impressed with the control response and safety margins that you have in the Pulsar at 65 MPH.

Remember, on final approach - 65 MPH. To get the most out of the Pulsar's excellent slow speed characteristics, keep it safe but keep it slow. And remember, the best way to salvage any bad landing is always to add full power and go around for another try.

2. Nosegear Axle Inspections

Recently, we received a report of a loose nosewheel axle. This looseness was caused by the shearing of the two cotter pins used to secure the ends of the axle to the castor fork.

We suggest an inspection of nosegear axle cotter pin security and condition at least twice a year or every 20 hours of flight time. Checking the condition of the pins is not too difficult and is good insurance against developing a loose axle.

Incidentally, we do have an improved threaded nosegear axle available as a retrofit to the cotter pin design. The threaded axle eliminates the cotter pins completely and will fit all existing nosegear forks. If you would like this updated axle, just give us a call. Cost of this replacement axle is \$95.

3. Composite Wing Leading Edge Skin Installation

A few builders have had problems installing the composite leading edge wing skins in place over the underlying foam ribs. Using the procedure outlined in the composite wing skin construction supplement, problems developed when the skins were installed over ribs that were not yet cured in place. Installing the exterior skins shifted the underlying ribs, causing the leading edge of the wing to have unacceptable contours.

Based on this input, we are changing the procedure used to install the leading edge wing skins. We now recommend that the wing leading edge ribs be installed, visually aligned and allowed to cure in place BEFORE installing the composite leading edge skins. Here is what we recommend:

- a. First, tape all the leading edge ribs in place.
- b. Then, stand at the wing tip and sight down the leading edge of the wing. If a particular rib needs adjustment, move it no more than 1/16" up or down.
- c. Then, only after all leading edge ribs are visually aligned, bond them into place with micro epoxy.
- d. Allow for COMPLETE curing of the micro epoxy before attempting to install the composite leading edge skins.

4. Lower Wing Skin Inspection

One of the things we try to do with our prototype Pulsar is to accumulate a lot of high stress, high "G" flight hours. Our 582 powered prototype has certainly lead the most rigorous life of any Pulsar. We have now accumulated over 700 hours of hard test flying with this airplane.

Recently, during a routine inspection of our prototype, we found a crack about 2" long in the bottom wing skin surface of one wing where the skin splices on the main spar. We suspect this crack on our prototype is due to many hours of high "G" testing done in the past. However, we would like to know if there are any other flying Pulsars that have this condition.

On your next preflight inspection, look underneath both wings and inspect the surface of the skin over the inboard end of the main spar. If you find a crack, call us at the factory. We have a very simple fix.

1994 Sun N' Fun Airshow -- April 10-16, 1994

Now is the time to make plans to attend this year's event in Lakeland, Florida. Aero Designs will be in an expanded display space this year. This year we will include TWO airplanes in the static display area. We will also be conducting a Pulsar Builders' Forum on Monday, April 11 at 2:00pm.

GREAT NEWS - This year we will be having the First Annual Sun N' Fun Pulsar Builder's Banquet. Many of you have requested this and this year we are going to finally do it! It is planned for Monday, April 11 at 6:30pm at Quincy's Restaurant. Quincy's is relatively close to the airport, located at 5216 South Florida Avenue (813) 644-3758. A private room for dining together will be available and we will have an informal meeting and sharing of ideas afterwards. We will do "Dutch" - everyone will be responsible for their own tab.

If you would like to get together with the Pulsar Gang, please give Bob Kromer a call at (210) 308-9332 to confirm a spot. You can also let us know if you are going to attend by telling us at the show on Sunday or Monday. We hope to have a HUGE Pulsar crowd for this meeting! It should be **FUN!**

One thing we have learned in the past is that there is nothing like having actual builders and customers help us at major airshows. Potential customers really appreciate and enjoy the opportunity to talk to someone who is actually building a Pulsar.

If any of you would be willing to help part time at the Pulsar booth this year, please call Bob Kromer at (210) 308-9332. We will pay \$50 per day for your time spent helping us.

We also hope many of you who are finished and flying will be able to fly your Pulsars to the show this year. It would be fantastic to have several finished and flying Pulsars in the tiedown area. If you are willing to fly your airplane down to Lakeland for the Show, please let Bob Kromer know. We will pay \$250 to each Pulsar pilot who will fly in and keep his Pulsar on display for at least four days of the show.

April 10-16. Keep this dates in mind. Come join the fun!

That is all we have for now. Keep those projects going. If you need help or any support, never hesitate to give us a call. We are always here to help!

MISCELLANEOUS

• Pulsars for sale --

Pulsar 582 For Sale. Oshkosh '91 Outstanding Workmanship Award. 117 TTSN. Equipped with King KX99 radio, LCA 200 Loran, Nav and Strobe lights. \$24,000 OBO. Jim Devorak, 1014 Knight Avenue, Glencoe, MN 55336 (612)-864-5162

Pulsar 582 For Sale. Includes Flybuddy Loran, COM Radio and encoding transponder. 61 TTSN and painted in light cream. \$22,500. Bill Thomas 792 El Rancho Drive, Livermore, CA 94550 (510) 447-1995

• Coming in Issue #26--

Due to space limitations in this issue, I was unable to print Gary Polizzotto's flight experience update. Gary will give a detailed update on engine performance with his 582 powered Pulsar. He will also report on recent experiments with tires, carburetor fine tuning and his own design for nose gear shock absorbers.

Also coming in Issue #26 will be construction/installation tips for installing windows on your Pulsar.

Most importantly, I welcome your tips, suggestions and questions for publication. I will get them in the newsletter as soon as space permits. As always, thanks for your input.

All correspondence should be sent to:

Pulsar Builders Association
P.O. Box 13941
Scottsdale, Arizona 85267

Pulsar News is published 6 times per year. Subscriptions are available for \$10.00 per year (U.S.) and \$15.00 (foreign). All subscriptions should be sent to the above address. Complete back issue packages are available to interested persons for \$20.00 plus shipping (\$3 US, \$5 foreign).

All information contained in *Pulsar News* is approved by Aero Designs unless expressly stated otherwise. The reader assumes all liability and risk for using any of the information contained herein. Information provided by contributors may not have been verified and the reader assumes all risk for utilizing the information.

Pulsar News

News, Updates, and Developments for Pulsar Builders and Owners

Issue No. 26

Published by the Pulsar Builders' Association

March, 1994

Greetings to all. The majority of #26 is devoted to the updated builders list as promised in #25. Builders have been divided into U.S. and foreign. U.S. builders are sorted alphabetically by state. Foreign builders are sorted alphabetically by country. Since most people are looking for builders based on where they live, I felt that this type of listing would be most useful. Also, there are numerous builders who are not in the listing. I have not received an updated builder list from the factory since May, 1993, therefore any new builders since that time are likely to be missing. I would appreciate hearing from anyone who is not on the list or is listed incorrectly.

Sun N' Fun reminder

The factory has asked me to remind everyone of the Pulsar outdoor display at Sun N' Fun this year. It is located in spaces 026 & 027. Also, please don't forget the builders banquet at Quincy's on Monday evening at 6:30pm. Stop by the Pulsar booth if you have any questions.

BUILDER INPUT/TIPS

Gary Polizzotto (Atlanta, GA):

"I read Harry Jone's article with great interest and would like to share my experiences on the subject of engine wear. My 582 now has about 180 hours on it. The original plugs stayed in for 135 hours and although looking and functioning perfectly, were changed out for the 1,600 mile trip to Oshkosh. I've made a habit of pulling the "Y" manifold every 25 hours to check the rings and carbon deposits and, to date, everything is free and clean. The pistons have a very light layer of gray soot on them, but the crosshatching on the cylinder walls and pistons is clean and the rings move freely in the grooves. The engine has never been apart to date.

I have never dinked with the carbs until about a month ago when I moved the needle clip up one notch to raise my EGT at cruise. It is now about 1,150° at 5,700 rpm. Of note is that the needle had never been changed during temperature extremes of 40° to 100°+ and the engine seemed to run basically fine. I have used auto fuel almost exclusively, usually 87 octane. The only oil I use is -- are you ready -- Walmart!

The only other variable I can add to this combination is that during engine break-in, I used an aviation grade oil additive called Microlon. This is a metal treatment that the salesman said would help keep the rings clear and increase the mileage in my car. It appears to have done little, if anything, in my car, but it may explain the "good luck" I am having with the engine.

Now about tires, I've been experimenting with different sizes and have discovered that 500x5 on the mains at 12 lbs. and 3.40/3.00x5 on the nose will give you a 2g. reading on most grass strips. Regarding the nose gear, please note that twice I have had both retaining cotter pins shear off. This, of course, could allow the axle to drop out which would make for an extremely short landing roll. (Good for short fields). The only reason I didn't lose the axle was due to the wheel pant. The

pins will shear due to the steel axle "wobbling" ("waller" for the southern Pulsar builders) out the hole in the aluminum fork. This will happen faster if you utilize rough fields.

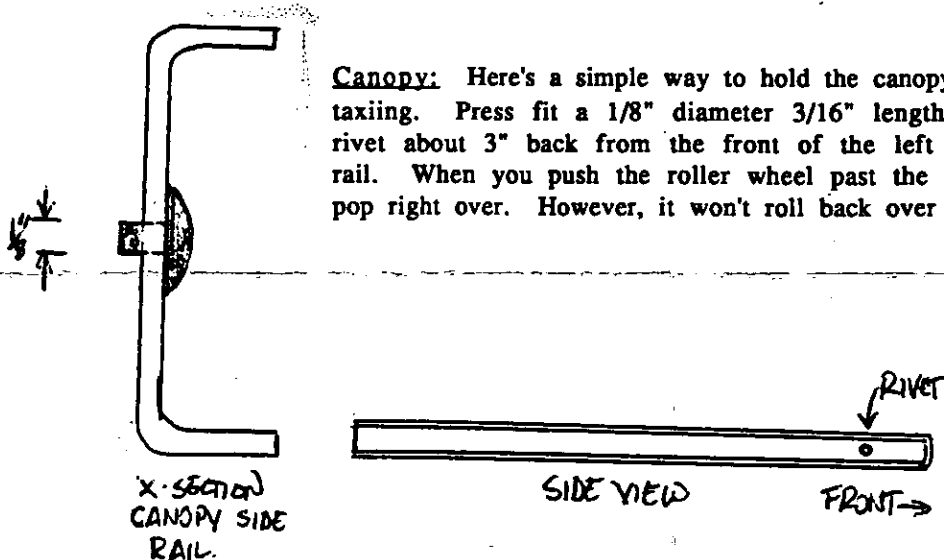
The solution to this is to install a bronze bushing in the 2 axle holes and pin them in with a 1 1/4 spring steel roll pin. This eliminates all the slop in the nose gear. To test for this play, push down on the tail and let the nose tire lightly bounce on the ground. Listen for a "chink" type of sound. If it's there, check for play.

Another thing to take note of is that if you have any electrical equipment running while in flight, your tach reading may be as much as 500 rpm higher than the engine really is turning. Important when checking out props! Check this by turning off all switches (not the master) when flying at 6,000 rpm. Turn each switch on one by one and note any indicated rpm increase.

One last item: This year Atlanta Airport (Hartsfield) was chosen as the best airport in the country for the fifth year in a row. This decided to celebrate! In doing so they invited 120 warplanes, classics, antiques and custom-builts (experimental) to the airport for display. Everything from a P-51, Super connie, F-15 and a MIG. There were Oshkosh champions, a slew of biplanes, Stinson Gull Wings and more. Anyway, you get the idea. Oh yes, there was just one more. A tiny little mosquito of a thing; my Pulsar. What a hoot! You see, I spend all my aviaten' time trying to AVOID Atlanta airspace, so to fly mid-field at 1,000' agl over 4 different 10,000' runways (without a transponder no less) and with "heavies" all around...well, it was an experience! The city gave us a black tie party by closing off a concourse, food and lodging at the Hilton for several nights plus fuel for our airplanes...I needed 2.5 gallons. The fuel truck driver couldn't maintain his decorum, especially after having just refueled a P-51. He said that the only Pulsar he knew about was the Pulsar watch strapped around his wrist!

This little airplane has certainly opened a lot of doors for me and has been as reliable and more fun to fly than my Glasair. It also gets used more -- 3 to 4 times a week. Keep the faith if you are still building, it will be worth every single hour of effort put forth. If you need a morale boost, treat yourself to the new Pulsar video. It's a first class effort.

More from Gary Polizzotto (Atlanta, GA):



Canopy: Here's a simple way to hold the canopy open while taxiing. Press fit a 1/8" diameter 3/16" length dome head rivet about 3" back from the front of the left side canopy rail. When you push the roller wheel past the rivet, it will pop right over. However, it won't roll back over the rivet.

I recently decided to try a jet change in my Bings and the enclosed notice was shipped with the new jets. Upon checking the needles in the carbs, I discovered that they were in need of correction (175 hours total time on engine).

Additionally of interest is the power increase I picked up with some easy changes. The jets I had been using were those supplied (#165). Even though this is for cold temperature/dense air use according to the jet charts, they seemed to be fine even in the Georgia summer heat. However, by going leaner to a #160, I brought my cruise EGT up to about 1,150° at 5,600-5,800 rpm. This change in turn, along with the removal of the conical air filters (replaced with a fine screen) gave me about 300 - 400 more rpm on the static and top-end. To say the least, that was a significant change! Even my 515 lb. bird now gets off the ground in less than 300' (measured).

Gary sent the following Bing notice he received with his new needles.

A while back, Bing, as in Bing Carburetors, issued a piece of service information which warned about the possibility of jet needle clips wearing thru jet needles or wearing out the lands between the grooves on the needles on Bing Carburetors. At about the same time, a new style needle clip was introduced which is a little beefier, and appears to hold tighter to the jet needles. It seems that even with the new clip, there is still a potential for similar problems.

Therefore, Bing requires an inspection of these components on a ten hour interval. Printed here, is the Service Info from Bing.



ATTENTION!

Check your 963-500 Needle Clip! Place your Jet Needle in the proper setting. If the needle spins freely, ACTION **MUST BE TAKEN!** Remove the clip, hold the needle up to the light. If the needle is reduced at clip position **REPLACE**. If not, offset sides of clip and use 240 emery paper or a fine file on each side til light shows between. **Carefully** squeeze clip together with pliers. Insert needle in clip and try to spin needle again. Repeat til needle does not spin freely. Needle must show a resistance to spinning.

CHECK EVERY 10 HOURS!

Any further questions call: (402) 727-5896

(Ed. note: Thanks to Gary for sending this important notice. If any of you receive information of this type, please send it in so we can share it with other Pulsar builders).

FROM THE FACTORY

Phil tells me there's nothing new to report for this issue. Stay tuned for more information.

WRAP UP

In #25 I promised to have window installation information in this issue. Unfortunately, that article was to be based on my experience. But I sit here today yet to install my windows. As a builder I should know better. The information will follow soon.

~~All correspondence should be sent to:~~

Pulsar Builders Association
P.O. Box 13941
Scottsdale, Arizona 85267

Pulsar News is published 6 times per year. Subscriptions are available for \$10.00 per year (U.S.) and \$15.00 (foreign). All subscriptions should be sent to the above address. Complete back issue packages are available to interested persons for \$20.00 plus shipping (\$3 US, \$5 foreign).

All information contained in *Pulsar News* is approved by Aero Designs unless expressly stated otherwise. The reader assumes all liability and risk for using any of the information contained herein. Information provided by contributors may not have been verified and the reader assumes all risk for utilizing the information.

STATE:	NAME:	STREET:	CITY:	ZIP:
AL	DAN BILLINGS	102 PLYMOUTH LANE	DOTHAN	36301
AZ	WOLFGANG THIERSCH	P.O. BOX 6111 UNIT #63	CAREFREE	85377
AZ	ALAN KLOOS	5953 East Trailridge Street	Mesa	85205
AZ	WERNER BECKER	622 WEST ST. MORITZ DRIVE	PAYSON	85541
AZ	MIKE MCCANN	17437 NORTH 58TH WAY	Scottsdale	85254
AZ	EVERETT COLLIER	300 East Strada Parania	Tuscon	85737
CA	CHUCK COODEY	7905 WESTWOLD DRIVE	BAKERSFIELD	93309
CA	LEE KLAUS	2156 Estela Drive	El Cajon	92020
CA	SCOTT GILZEAN	531 MAIN STREET	EL SEGUNDO	90245
CA	ALEX KOZLOFF	29 Whitewood Way	Irvine	92715
CA	STEVE THORNTON	P.O. BOX 139	LANCASTER	93584
CA	GERALD BRUECKNER	9854 East Avenue S-6	Littlerock	93543
CA	BILLY THOMAS	792 El Rancho Drive	Livermore	94550
CA	MARC COOK	175 ARGONNE AVENUE	LONG BEACH	90803
CA	RICHARD HERR	2424 PAYNE AVENUE	MODESTO	95351
CA	ROBERT SMITH	322 NILE	NEVADA CITY	95959
CA	GEORGE GENNUSO	3119 Lennox Court	Palmdale	93551
CA	GEORGE HANSON	P.O. BOX 907	PEARBLOSSOM	93553
CA	ROBERT VAUGHN	13265 Roadrunner Loop	Red Bluff	96080
CA	PHIL GREEN	12848 VIA CABALLO ROJO	SAN DIEGO	92129
CA	HARRY JONES	595 SYCAMORE VISTA ROAD	SANTA BARBARA	93108
CA	JAMES KING	8753 WHEATLAND AVENUE	SUN VALLEY	91352
CA	A. HARTWELL JEWELL	8 BURRELL COURT	TIBURON	94920
CA	MICHAEL CARLSON	620 1/2 WEST KNOLL DRIVE	WEST HOLLYWOOD	90069
CO	BOYSE WILTROUT	201 CYPRESS LANE	COLORADO SPRINGS	80906
CT	BOB TAYLOR	8 Harmony Lane	Ivoryton	06442
CT	TOM HINE	48 Jerico Hill Drive	Old Lyme	06371
FL	DAVE KRANZ	336 DIVISION STREET	CLERMONT	34711
FL	LLOYD COATSWORTH	1913 SPRUCEWOOD WAY	DAYTONA BEACH	32124
FL	TERRY ARMSTRONG	1512 WEST MARIAH WAY	FT. WALTON BEACH	32547
FL	CRAIG MUTH	5922 BAYVIEW CIRCLE SOUTH	GULFPORT	33707
FL	DAVID J. KIRKLAND	RD. 2 BOX 1014	KEYSTONE HEIGHTS	32656
FL	VES PRUITT	14181 NW 14 Drive	Miami	33167
FL	JAMES CURRAN	398 OLD OAK CIRCLE	PALM HARBOR	34683
FL	ENRIQUE READ	1751 N.E. 31ST STREET #1	POMPANO BEACH	33064
FL	WES HENNIS	6687 Cape Hatteras Way NE Unit #3	St. Petersburg	33702
FL	HOWARD MACFARLANE	7122 West Drive	Zephyrhills	33544
GA	GARY POLIZZOTTO	582 Williree Drive	Decatur	30033
GA	DALE SCHONMEYER	2268 INGRAM ROAD	DULUTH	30136
GA	RAGNER JOHANSEN	5510 Rivoli Drive	Macon	31210
GA	BILL JACKSON	2690 Robin Way Court	Marietta	30064
GA	CHARLES CHILDS, JR.	3806 INVERNESS WAY	MARTINEZ	30907
GA	DON KOVACS	306 BROKEN BIT WAY	PEACHTREE CITY	30269
GA	JOHN BRYAN	1449 GOLF LINK DRIVE	STONE MOUNTAIN	30088
IA	DAVID BAILIE	7183 ASPEN DRIVE	WEST DES MOINES	50266
ID	JOHN O. BENTLEY	5390 N. MCDERMOTT ROAD	MERIDIAN	83642
ID	DANIEL DANIELS	556 W. 2000 South	Preston	83263
IL	BON HARTLINE	Rt. 1	Anna	62906
IL	EVAN CHILIGIRIS	932 79TH PLACE	DOWNERS GROVE	60516
IL	DERRELL DEGENHARDT	750 NORTH LAKE DRIVE	DUQUIN	62832
IL	JAMES SAXSMA	245 NORTH WORTH AVENUE	ELGIN	60123
IL	DEAN RAUSCH	12N160 MUIRHEAD ROAD	ELGIN	60123

STATE:	NAME:	STREET:	CITY:	ZIP:
IL	DENNIS COOK	1008 Porter Lane	Normal	61761
IL	MICHAEL BOSICK	38 Diane Drive	Pelleville	62220
IL	DONALD RAYFIELD	R.R. 4 Box 141	Princeton	61356
IN	BILL RIDER	1153 SHEFFIELD COURT	DANVILLE	46122
IN	JIM SCHMITT	2308 EAST EICHEL AVENUE	EVANSVILLE	47711
IN	THOMAS WOLFE	4530 Lincoln Road	Indianapolis	46208
KS	GLENN HUFF	738 South 78th	Kansas City	66111
KS	GREGORY SMITH	4208 TRAIL DRIVE	LAWRENCE	66049
KS	LARRY EUBANKS	961 EAST 1338 ROAD	LAWRENCE	66046
KY	DALE FRONDAL	460 Upper Salt River Road	Danville	40422
KY	ALLAN BELT	2404 Calumet Terrace	Lexington	40504
LA	DOUG HOLDEN	2634 HIGHWAY 67	Slaughter	70777
MA	BOB BELL	14 MAPLE PLACE	NEEDHAM	02192
MI	ROLAND JONES	7958 N. BAYSHORE DRIVE	ELK RAPIDS	49629
MI	WILLIAM OLSON	3842 ERDMANN ROAD	LAKE CITY	49651
MI	JAMES KLEINE	135 EAST BUFFALO	NEW BUFFALO	49117
MI	ROBERT ST. JOHN	330 Mayflower Drive	Saginaw	48603
MN	JAMES DEVORAK	940 11th Street East	Glencoe	55336
MN	TOM DENISON	6040 Pinewood Lane	Minnnetonka	55345
MN	THOMAS J. GIBBONS	2319 Hallmark Avenue North	Oakdale	55128
MN	SIG LARSEN	6729 THOMAS AVENUE SOUTH	RICHFIELD	55423
MO	MARK BURROW	19107 E. 28th Terr. Ct.	Independence	64057
MS	EUGENE CLEMENTS	199 Bermuda Drive	Greenville	38701
NC	KEN FERNALD	Rt. One Box 310C	Fuquay-Varina	27526
NC	ROBERT LESTER	312 ANGLIN MILL ROAD	STONEVILLE	27048
NC	DONALD BOYLE	BOX 186	Winterville	28590
NC	JOHN BUTLER	380 Lamplighter Road	Zirconia	28790
NJ	ALFONSO MURCIA	46 Bechstein Drive	Matawan	07747
NJ	WILLIAM CONRAD	123 Sitting Bull Trail	Medford Lakes	08055
NV	GARY S. ALLEN	4161 S. EASTERN #A-3	LAS VEGAS	89119
NV	GREGORY SHARP	4357 EAST POWELL	LAS VEGAS	89121
NV	WARREN FIELDS	567 STAFFANIE WAY	SPARKS	89431
NY	JOHN SONDGEROTH	P.O. BOX 1160	CUTCHOGUE	11935
NY	ARNOLD LATHROP	RD #7 Box 88	Fulton	13069
NY	TOM MARKUNAS	103 WEST 69TH STREET APT. 3A	NEW YORK	10023
NY	GEORGE WRIGHT	3 Coronet Ct.	Schenectady	12309
NY	TOM DECKER	158 Mill Street	Wallkill	12589
OH	WILLIAM BUFFE	361 Nob Hill Drive	Akron	44303
OH	RICHARD KENNY II	131 LINCOLN AVENUE	CAYAHOGA FALLS	44221
OH	DAVID ROBERTSON	2442 Royal View Court	Cincinnati	45244
OH	JOE URISH	4467 ZURMEHLY ROAD	LIMA	45806
OH	JOSEPH KNEIPP	5542 Betty Lane	Milford	45150
OH	TIM RHODENBAUGH	212 Country Club Drive	Oxford	45056
OH	WILLIAM BALTES	709 Cedar Point Rd.	Sandusky	44870
OH	BOB GERE	9 Melody Lane	Toledo	43615
OK	SONDRA ROMERO	3639 East 142 Street	Bixby	74008
OK	GRIFFIN CROUCH	1308 Reformatory Drive	El Reno	73036
OK	LAVERN LAWRENCE	HIGHWAY 53 BOX 4	Loco	73442
OK	NED THOMAS	1605 HOLLY CIRCLE	NORMAN	73072
OK	CHUCK STROH	8309 NW 110th Terrace	Okiahoma City	73162
OR	PAUL SHARP	17600 GARDNER ROAD	DALLAS	97338
OR	JIM MARTIN	14320 South Union Hill Road	Mulino	97042

STATE:	NAME:	STREET:	CITY:	ZIP:
PA	WAYNE JOHNSON	971 LITTLE LEHIGH DRIVE	EMMAUS	18049
PA	BOB MURAWSKI	968 Fredericka Drive	Pittsburgh	15236
RI	LLOYD RANDOLPH	114 SOUTH BAY DRIVE	NARRAGANSETT	02882
RI	KEN BLISS	117 Cliff Avenue	Portsmouth	02871
RI	DEREK FERRIS	26 Castle Way	Westerly	02891
TN	RICK THOMASON	2692 COBBS HALL COVE	COLLIERVILLE	38017
TN	JOHN SCHUSSLER	8128 KIMROOK STREET	GERMANTOWN	38138
TX	DON SURRATT	3605 RIVERHEAD	ARLINGTON	76015
TX	RUSSELL COLLINS	3702 INDIAN POINT DRIVE	AUSTIN	78739
TX	CASEY KING	8107 PAMPAS COVE	AUSTIN	78750
TX	EWELL MATHERNE	1800 James Bowie Drive #21	Baytown	77520
TX	CHET TIMS	P.O. Box 72265	Corpus Christi	78472
TX	DONALD BOCKBRADER	3245 Amherst	Dallas	75225
TX	DOUG WITKOWSKI	100 VICTORIAN OAKS	DRIPPING SPRINGS	78620
TX	ERNEST DIVINEY	1112 FAIR AVENUE	GAINSVILLE	76240
TX	GORDON REYNOLDS	2305 LONE OAK TRAIL	GARLAND	75044
TX	JAMES DABNEY	1003 Valley Acres	Houston	77062
TX	CHUCK PRICE	4819 HAZELTON	HOUSTON	77035
TX	JON ENGELKE	7005 EDEN TAP ROAD	KENNEDALE	76060
TX	LEE BAHR	914 GOLDEN BEAR LANE	KINGWOOD	77339
TX	CHARLES BROWN	128 RUSHTON CIRCLE	LEAGUE CITY	77573
TX	RICK MEYER	Rt. 6 Box 622-M-27	New Braunfels	78132
TX	CHARLES PRILL	7537 JEAN ANN DRIVE	NORTH RICHLAND HILLS	76180
TX	PHIL DURIEUX	11910 RADIUM STREET	San Antonio	78216
TX	NILEY CHURCH	2206 Cooke Avenue	Wichita Falls	76308
VA	JOHN ARCHIBALD	328 MASTERS DRIVE	CROSS JUNCTION	22625
VA	LAWRENCE R. GAGLIO	313 BERWICKSHIRE DRIVE	RICHMOND	23229
VA	GLENN PEARCE	130 COOLEY ROAD	WILLIAMSBURG	23188
VA	DALE ROSS	12309 HARBOR DRIVE	WOODBIDGE	22192
WI	PAT KEESLER	1112 BREEZEWOOD LANE	NEENAK	54956
WV	DAN DRAKE	1104 APPLE CROSS ROAD	HARPERS FERRY	25425

PULSAR BUILDERS -- FOREIGN -- 3/94

COUNTRY:	NAME:	ADDRESS:	
AUSTRALIA	ROWAN PATON	222 Rouse Street	VICTORIA 3207
AUSTRALIA	BRIAN HOWARD	LOT 19 WHITTINGS ROAD	GUANABA, QUEENSLAND
BRUNEI	ALLAN TWEEDIE	C/O ROYAL BRUNEI AIRLINES	P.O. BOX 737 ENG. DEPT.
CANADA	PAUL ARCHER	BOX 2715	NIPAWIN
DENMARK	PETER LINDHOLM	VOLLUNDSVEJ 9	DK 3650 OLSTYKKE
DENMARK	MOGENS GERLACH JANSEN	Kirkepolden 18	GJERRILD
DENMARK	KURT NIELSEN	Moelledalen 48	DK 3500 Varloese
ENGLAND	ROY TWIGG	19 CHAPEL CLOSE	NEEDINGWORTH, HUNTINGDON
ENGLAND	Y NANT	LLANARMON - YN - IAL	MOLD, CLWYD CH7 5TD
ENGLAND	ROB BLAMIRE	31 FORESTSIDE	ROWLANDS CASTLE
ENGLAND	TONY BROWN	33 Norwood Drive	Benfleet
ENGLAND	ALAN THORNE	51 LIGHTWATER MEADOW	LIGHTWATER, SURREY
ENGLAND	RUSS WOODLAND	BROOK COTTEGE	5, CUXHAM ROAD
ENGLAND	BRIAN SMITH	10 ESMONDE DRIVE	ILCHESTER
ENGLAND	F.R. DONALDSON	POPULAR FLYING ASSOCIATION	TERMINAL BLDG, SHORHAM ARPRT
ENGLAND	RON OLIVER	22 CHEWTER LANE	WINDLESHAM
ENGLAND	JOE PRIDAL	81 SATCHELL LANE	HAMBLE
ENGLAND	MARTIN FARO	The New Bungalow,	42A Victoria Close
ENGLAND	ALAN PIRIE	25 RIVER GREEN	HAMBLE
ENGLAND	NEVILLE WARRENER	10 CHIPPENHAM AVENUE	OFFERTON
ENGLAND	IAN HARRISON	BULL HILL COTTAGE, WOOD LANE	PENRICH
ENGLAND	D.A. CAMPBELL	CAMROSE HALL, HORTON LANE	RUDYARD
ENGLAND	ROBIN HUGHES	99 Uphill Road	Ilford Essex
ENGLAND	BARRY EDWARDS	CONNISBEARE COTTAGE	SNAPPER
ENGLAND	STEVE BATEMAN	15 LEYWOOD CLOSE	AMERSHAM
ENGLAND	JOHN NURSE	Barrein Engineers Limited	69 Millford Avenue, Wick
ENGLAND	TONY FENN	5 ORDNANCE CLOSE	MORETON-ON-LUGG
ENGLAND	JOHN WEBB	16 VAGA STREET	HUNDERTON, HEREFORD
ENGLAND	MARTIN BOARD	20 WOODBERRY WAY	CHINGFORD
ENGLAND	GEOFF WEBB	GW Associates---Eastland Court	St. Peters Road
ENGLAND	PAUL CROSBY	14 ARUNDEL CLOSE	PEVENSEY BAY
ENGLAND	ALAN GILL	16 Hearn's Drive, Holyport	Maidenhear, Berkshire.
ENGLAND	PETE MAGUIRE	1 NORBURY CLOSE	HOUGH, NR CREWE
ENGLAND	KEVIN WIDDOWSON	40 GURTH AVENUE	EDENTHORPE
ENGLAND	JERRY KNIGHT	202A FRIMLEY ROAD	CAMBERLEY
ENGLAND	JOHN LYNCH	23 Garden Road	Dunstable, Bedfordshire
			BANDAR SERI BEGAWAN
			SASK S0E 1E0
			8500 GRENAA
			CAMBS PE17 2SH
			HANTS, P09 6ED
			Essex. SS7 1LJ
			SURREY, GU18 5XH
			WATLINGTON, OXON, OX9 5JW
			YEOVIL, SOMERSET BA22 8JW
			SHOREHAM-BY-SEA
			SURREY, GU20 6JP
			SOUTHAMPTON SO3 5HH
			Corfe Mullen, Dorset, BH21 3XT
			SOUTHAMPTON SO3 5JA
			STOCKPORT SK2 5QG
			DERBY, DES 3RE
			STAFFORDSHIRE, ST13 8RL
			IG1 2JJ
			BARNSTAPLE, DEVON EX32 7JY
			BUCKINGHAMSHIRE, HP7 9EG
			Nr. Bristol, BS15 5PP
			HEREFORD, HR4 8DA
			HR2 7AT
			LONDON, E4 7DX
			Rugby, Warwickshire
			EAST SUSSEX
			CHESHIRE
			DORCHESTER, SOUTH YORKS
			SURREY

PULSAR BUILDERS -- FOREIGN -- 3/94

COUNTRY:	NAME:	ADDRESS:	RUSKINGTON	SLEAFORD, LINCOLNSHIRE
ENGLAND NG34 9AX	P.B. HUTCHINSON	95 WESTCLIFFE ROAD	STANION	KETTERING, NORTHANTS
ENGLAND NN14 1DJ	TERRY BAKER	21 LITTLE LANE	Corby, Northants	
ENGLAND NN18 ONY	MICHAEL CHARLES MANNING	27 York Road	BURGESS HILL WEST SUSSEX	
ENGLAND RH15 0HF	PHIL LAYCOCK	30 THE VINERIES	LITTLE MARLOW	BUCKS
ENGLAND SL7 3SD	MALCOLM WHATLEY	"HEDGELEY", FERN LANE	MR. Minehead, Somerset	
ENGLAND TA24 7UH	DESMOND GAUGHAN	Bench Cottage, Timberscombe	HASTINGS, E. Sussex	
ENGLAND TN34 2NN	COLIN SMITH	30 Criers Avenue	BEXHILL ON SEA, E. Sussex	
ENGLAND TN39 4QE	STANLEY FREESTONE	93a Barnhorn Road		24260 SALO
FINLAND	STEVE HANNULA	KUUSELANKATU 22		
FRANCE	ROGER GOIN	LES ROUCHERS	61 250 HESLOUP	
FRANCE	MIKE GREENE	28, RUE DE VILLANCY	78640 NEAUPHLE LE CHATEAU	
FRANCE	DOMINQUE DEVRED	56, AVENUE PAUL DOUMER	92500 RUEIL - MALMAISON	
FRANCE	JEAN-LUC BOUDARD	PULS'AIR	VALAILLES	27300 BERNAY
FRANCE	ALAIN RECHOU	ANGEAC, CHAMPAGNE	16130	
FRANCE	GUY REBOURS	12, RUE DU CREUX DES METS	63430 LES MARTRES D'ARTIERE	
GERMANY	BURKHARD BAUMGARTNER	LOCHNERSTR. 18	50674 KOELN	
GREAT BRITAIN	WILLIAM STEWART	"CARSAIG", NORTH CAMPBELL ROAD	INNELLAN, DUNOON	ARGULLSHIRE PA23 7QT
GREECE	MICHAEL POULIKAKOS	28 Parnithos Street	Nea Kifissia 14564	
INDONESIA	HERTRIONO KARTOWISASTRO	JL. Yado II / D-4 (Radio Dalam)	Jakarta, 12140	
ITALY	GIUGNO A. TANCHIS	PIAZZA PRINCIPALE N 10	I-39021 LACES	
ITALY	CIAK	ATTN: ANDREA MINARI	VIA EMILIA OVEST, 237	43010 FRAORE DE S. PANCAZIO (PR)
NEW ZEALAND	JOHN DOLAN	10 HIGH STREET	HAWERA	SOUTH TARANAKI
NORWAY	ARNE KVAALE	Parallellen 11		1430 AS
SOUTH AFRICA	ROB JONKERS	P.O. BOX 13	GARSFONTEIN	PRETORIA 0042
SWITZERLAND	PAPIOREK JIRI	BERGERIE 60	2603 PERY	
SWITZERLAND	DANIEL STEINER	ZELLMATTE 5	6214 SCHENKON, LUZERN	
UNITED ARAB EMIRATES	HUSSAIN AL MOALLA	P.O. BOX 7787	ABU DHABI	
WALES, U.K.	GWYNNNE GRIFFITH	RED LION HOTEL, TYN-Y-GROES	LLANRUST ROAD, NR CONWAY	GWYNEDD, LL33 8TJ
WEST AUSTRALIA	J.M. COHOE	82 Regency Drive	Thorlie 6108,	
WEST GERMANY	KARL SCHMADERER	BeinhoferSTR. 1	8000 Munchen 60	
WEST INDIES	BILL DAVIS SMITH	28 GREENVALE AVENUE	VALSAYN PARK NORTH	TRINIDAD
WESTERN AUSTRALIA	JOHN ANDERSON	97 Spencer Street	Bunbury, 6230	

Pulsar News

News, Updates, and Developments for Pulsar Builders and Owners

Issue No. 27

Published by the Pulsar Builders' Association

May, 1994

Pulsar options

I have learned from a fellow builder of a rudder mass-balancing kit available for the Pulsar. A call to Phil at the factory confirmed this and the cost is \$75.00. Phil told me the kit was originally created for the Pulsar XP but the kit can be retro-fitted to any existing Pulsar. You can call the factory for further details and thanks to those of you bringing this to my attention.

Builder Input

Wingskin surface finishing: For anyone working with the wood wing skins, I've found a couple of suggestions helpful in the finishing process:

After the wood skins are installed you will want to start the filling and sanding process to create a smooth surface prior to applying the final layer of 1.4 oz. fiberglass cloth. No matter what type of filler product you use, a smooth and even application of filler will make sanding easier. I've used the 3"- 6" steel and plastic blades sold in auto body stores with acceptable results. But during a recent trip to Home Depot (building supply store), I found a much better (and cheaper) steel blade for applying fillers. Drywall taping knives are made of heavy steel and range from 8"-12" in width. I've found using the wider blades can apply filler faster and will avoid uneven layers of filler. And the cost is very nice (less than \$5).

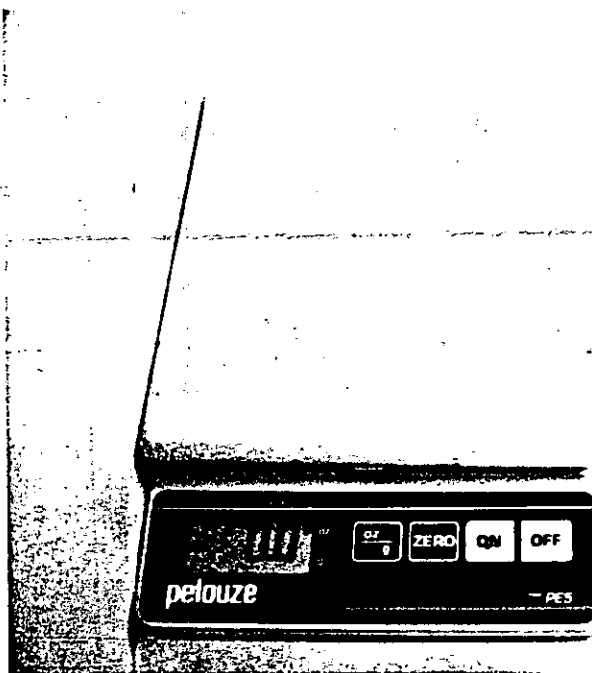
Filling & Sanding Wingskins: I recently visited with a Velocity builder who demonstrated his technique for filling and sanding the foam/fiberglass Velocity wings. My own technique on the Pulsar was to search out dips in the wings and fill just those areas, all the while trying to obtain an even surface across the wing. My Velocity friend recommended another technique:

- 1) Pick a small section of wing and apply a thin layer of filler across the entire section.
- 2) After the filler dries, spray a thin coat of "Guide Coat Black" over the filler. This product is a type of black paint made to act as a visual guide for surface finishing. (You can find this product in auto body stores. Cost is around \$4 per can. Regular black spray paint may work equally well but I haven't tried it).
- 3) Once the black spray has dried, use a long sanding board (preferably 14") and begin to sand across the filler at +/-45 degrees offset from parallel with the ribs. Sand across the area once at -45 degrees and then again at +45 degrees. Continue this process until you begin to see the wood skin appear. At this point stop sanding.
- 4) The low spots will stand out as black spots on the skin. Now repeat steps 1-3 applying thin coats of filler across the entire section you are working on. Each time you apply a thin layer of

filler and sand it down, fewer low spots will appear. After a few applications, you will get to the point where all the paint will be sanded off the filler (since all the low spots are now filled). At this point, simply continue sanding the section until the wood wing skin appears at some point in this section. You now have evenly filled and sanded the section as low as you can without sanding into the wood wingskin.

I have spent a lot of time chasing low spots and trying to even the wing surface (but always creating more bumps and valleys in the process). Having tried the method used by Velocity builders, I have found the process much faster and with better results. Although I worried that this method would add more filler than necessary, I found this not to be the case. Overall, I much prefer the Velocity method.

Measuring Epoxy: I have been using an electronic scale for the past year to measure epoxy with very good results. I found this scale at an office supply store for \$50.00. Accuracy is reported by the manufacturer to be within 2%. First, I made a little chart which shows the proper ratio of resin/hardener (in grams) for various amounts of epoxy. To use the scale, you simply place the cup on the scale and press the Zero button (which removes the weight of the cup from the scale display). Then pour the correct amount of resin and hardener by watching the digital display. I've found this scale to be much easier to use than balance scales. And the 2% accuracy (if true) is probably better than found on most balance scales.



BUILDER UPDATE:

(Don Surratt Arlington, TX): I'm about 600 hours into my kit (2.5 years) I have completed most of the fabrication on the entire structure with the exception of installing the seat bottom. Some of the modifications I have made or plan to make are as follows:

1. I faired in my horizontal stabilizers where they join the fuselage. This looks more aesthetically pleasing and should help keep airflow separation at the joint to a minimum. And yes they are still removable.
2. Baggage compartment windows. I obtained a set that was contoured, pre-cut and lightly tinted. I won't install them until after painting.
3. I have installed the factory nose gear spring strut.
4. I laid out my instrument panel on Autocad so I could be sure all my planned avionics would fit. I have not finalized this yet. I hope to be able to download the Autocad data and have my panel N/C cut.
5. I installed longer brake cables so mine could go down the main gear trailing edge. I then routed a groove in a balsa wood leading edge strip to create an airfoil shaped cover for the brake cable. Then this was faired in I glassed over it and primed the gear. Now the brake cable is practically invisible.

If all goes well I hope to be able to start painting in the fall. If not, I will wait until spring when the temps are more favorable.

ENGLAND'S PULSAR FLY-IN:

(Alan Gill, England): On Saturday, March 26th, an historical event happened. I arranged for all Pulsars to arrive at an airfield that was central to all the builders. Of the 8 flying examples, 7 arrived. The 8th owner is an instructor, so had to work. We had the most glorious weather, sunny, calm wind and visibility for as far as you wanted to see. At one time, 4 of us (including myself) arriving from various directions were calling the tower asking for landing instructions. Not even in the USA has there been a "Pulsar Meet" of this type.

FROM THE FACTORY:

We have more exciting news from England. Joe Pridal and Alan Pirie built a beautiful Pulsar that just started flying this month. That makes twelve Pulsars flying in England and there are still 25 Pulsars under construction! Now that's an "aviating" country. These accomplishments are especially impressive considering the demanding standards required by the Aviation authorities.

We are now making our plans for Oshkosh and would like to encourage the Pulsar builders to participate. We've found that people interested in the Pulsar would much rather talk to an actual builder than a factory employee. To help defray some of your expenses, we would be happy to reimburse you \$50 per day for each day that you work. The best help is if you can fly your Pulsar to the show and work at your airplane. Next, we need a few builders to help us at the Pulsar exhibit tent. We could really appreciate the help, so let us know as soon as you can if you can work with us at Oshkosh.

A good friend and Pulsar expert who I'm sure you all know, Rick Meyer, has made the decision to leave Aero Designs to finish his Master's degree in nutrition. We will all really miss Rick. He's really a good friend and we'll remain in close contact.

MISCELLANEOUS:

WANTED: Pulsar XP with flying time on it. Also would like to have a trailer with it. Please contact Robert Stone 4214 Lakecliffe Drive Harker Heights, TX 76542 (817) 698-1517

All correspondence should be sent to:

Pulsar Builders Association
P.O. Box 13941
Scottsdale, Arizona 85267

Pulsar News is published 6 times per year. Subscriptions are available for \$10.00 per year (U.S.) and \$15.00 (foreign). All subscriptions should be sent to the above address. Complete back issue packages are available to interested persons for \$20.00 plus shipping (\$3 US, \$5 foreign).

All information contained in *Pulsar News* is approved by Aero Designs unless expressly stated otherwise. The reader assumes all liability and risk for using any of the information contained herein. Information provided by contributors may not have been verified and the reader assumes all risk for utilizing the information.



THE STATE OF TEXAS, COUNTY OF DALLAS, ss. I, the undersigned, a Notary Public in and for the State of Texas, do hereby certify that the foregoing is a true and correct copy of the original as the same appears in the records of the County of Dallas, State of Texas.

Notary Public in and for the State of Texas

My Commission Expires _____

Notary Public in and for the State of Texas

My Commission Expires _____

Notary Public in and for the State of Texas

My Commission Expires _____

Notary Public in and for the State of Texas

My Commission Expires _____

Notary Public in and for the State of Texas

My Commission Expires _____

Notary Public in and for the State of Texas

My Commission Expires _____

Notary Public in and for the State of Texas

My Commission Expires _____

Notary Public in and for the State of Texas

My Commission Expires _____



Pulsar News

News, Updates, and Developments for Pulsar Builders and Owners

Published by Aero Designs Inc.

Issue No.28

July, 1994

PULSAR OF THE MONTH N912XP OWNER: AERO DESIGNS INC.



This is the first of what we hope will be a regular feature in all future Pulsar Newsletters -The Pulsar of the Month. Our idea is to feature in each issue a particular Pulsar that has been finished and is currently flying. Since we did not have time to include a customers' aircraft in this first factory prepared newsletter, we have included our own factory demonstrator, N912XP. In the future, we hope that those of you who are flying will submit a nice color photo and a written description of your airplane and how you use it. Hopefully, we can then include your pride and joy in a future newsletter. In the meantime, here is the history of N912XP, our factory demonstrator.

N912XP started life as a 582 Pulsar, kit serial number 114. This was the 14th Pulsar delivered, since Pulsar serial numbers start at unit 100. The kit was sold to Rick Meyer in New Braunfels, Texas on February 10, 1989. Early in the construction phase, Mark Brown asked Rick if he would be willing to convert the airplane into the first Rotax 912 powered Pulsar XP. Rick agreed. As you can imagine, a lot of extra time and engineering design work went into this conversion. Finally, after approximately 1400

hours of construction, N912XP first took to the air on August 30, 1990. Since that first flight, N912XP has accumulated 468 hours of trouble free flying. This is probably the highest time Pulsar XP flying today.

The airplane was recently purchased by Aero Designs from Rick Meyer and is currently being used as the factory sales demonstrator. Many recent customers have experienced their first flight in a Pulsar while at the controls of N912XP.

The airplane is moderately equipped for VFR flying with a Bendix King avionics package consisting of a new KLX I35 COMM/GPS, A KT76A transponder and an intercom. N912XP is also equipped for night VFR operations with the installation of Pat Keesler's NAV light lenses, a NAV light system and wing tip mounted Whelen strobes. There is no landing light installed.

N912XP is the first Pulsar XP to use the in-flight adjustable pitch propeller from GSC in Canada. This prop has added a solid 10 MPH to the cruise speed. We flight plan 150 MPH TAS at 75% pwr. Fuel burn

at this speed varies from 3.5 to 4.0 GPH. We use premium unleaded auto fuel (Chevron, 93 octane, \$127.9/gal. in Texas) for most operations. When flying cross country, we burn 100 LL avgas (\$2.27/gal. in Texas), since auto fuel is difficult to find at most airports. The Rotax 912 doesn't seem to care which type fuel is used.

Flying N912XP proves the excellent versatility of the design. Most of our flying is for local demonstration flights, but we also use the airplane for extended cross country travel. Our trips to Florida (1000NM) and Oshkosh (1200NM) are annual affairs. For these trips, we like to cruise between 5500 -9500 feet. With full fuel, two on board and 60 pounds of baggage, true airspeeds average 150 MPH. We can fly for 4 hours with 45 minutes reserve with the standard 19 gallon fuel capacity. This is basically the speed, range and endurance of a Cessna 182 but with 1/3 the fuel burn.

NOT A BAD WAY TO FLY!

MARKETING AND SALES NEWS

Again, we want to thank each and every one of you who take the time to help us sell Pulsars. Many prospective customers like to ask questions about the experience of building and flying a Pulsar. Your truthful and honest appraisal of the kit and of our support is extremely important to someone who is trying to decide what to buy. To those of you who spend your valuable time on the phone with a potential prospect-THANK YOU!

OSHKOSH 1994 (JULY 28 THRU AUGUST 5)

We will be there again in our standard location at the intersection of Stone Road and Aviation Alley. We will have our Pulsar XP on static display and Pat Keesler will have his fuselage under the tent (Pat is building his second Pulsar—a Pulsar XP).

Due to recent surgery in the family, Mark Brown's presence at this year's show is questionable. However, Bob Kromer, Terrill Walker and Rick Meyer will be there to represent Aero Designs.

The Pulsar Forum (Sales Oriented) will be held on Monday morning, August 1, from 8:30 AM to 9:45 AM in Tent 3.

Additionally, be looking around our display for an announcement of an informal get together for all Pulsar builders sometime during the show.

CURRENT SALES RATE

Many of you might like to know that we are doing quite well in the Sales Department. We are currently producing one kit per week. At this production rate, we are sold out thru the month of September. We hope to produce and sell 52 kits this year.

The big difference we have noted this year is that the Pulsar is now on everyone's "shopping list". Prospective customers are definitely looking at the Pulsar and we are being carefully compared with the competition. We love this - the Pulsar really does shine when compared to other kits in our price range.

Currently there are over 60 Pulsars flying all over the world and 255 kits have been shipped.

CONSTRUCTION MANUALS REVISIONS

We have just completed a rewrite and revision of the four construction manuals. Each construction manual for the fuselage, the wing, engine installation and the operation of the airplane has been improved and redone for added clarity. Many builder hints and ideas are also included in this revision.

If your kit was shipped from San Antonio after January 1, 1994, you will be receiving at no cost a new set of revised manuals within 30 days.

If your kit was shipped prior to January 1, 1994, you can purchase the new manuals at \$10 each. But keep in mind that the new manuals only include instructions for the composite wing skins. If your kit has wood skins, there will be no information about installing them in the new manuals.

Call or send us a note to let us know which manuals you want shipped and we will send them out. We can be reached at (210) 308-5915. Send a check or cash for the amount since we do not have the ability to accept credit cards.

THANKS TO MIKE McCANN

As you know from the May newsletter, Mike McCann has decided to spend more time building his Pulsar instead of writing and publishing the newsletter. We just don't know how to ever thank Mike and his wife Kim enough for their diligent work over the last 4

SERVICE INFORMATION

plus years. They so generously gave hundreds and hundreds of hours of their time to provide a means of communication for us all. We'll just have to think of some way to show our appreciation. In the meantime, we want to publicly express our deep and sincere gratitude from everyone here at the factory. We know all Pulsar builders feel the same. Thank You Mike and Kim !

As for the future of the newsletter, beginning with this issue we are going to publish it direct from the factory. We want to encourage all of you to send us your input just as you did to Mike. If you find a problem in the kit or the manuals, don't hesitate to let us know. If you find a simpler way to construct some part of the airplane, please share your idea with us. If you come up with some modification or addition to the airplane, we will study it carefully for safety and include it in the newsletter if we can. What you say can and will be used to help others. Remember, the newsletter will be much more valuable if you will send us your input. Your perspective is what really matters because you're the one building an airplane. We're just building parts. Also, don't forget to send us progress reports on your Pulsar. Many builders need that kind of encouragement.

MCCREARY TIRES AND MATCO HYDRAULIC BRAKES

If your kit has the large tire option using McCreary tires in combination with Matco hydraulic brakes, you will need to use the McCreary tire in a tubeless configuration. Do not install the tubes supplied in the kit. We have discovered that the valve stem in the tube will not line up with the hole on the wheel.

To make the tire and wheel airtight, you will need to install an o-ring kit on each wheel when you don't use the tubes. Call or write us for the o-ring kit. We will send it to you at no cost.

NEW OPTION

We now have a "Quick Build" option available with new Pulsar kit sales. The cost is \$1995 until we determine more precisely how much time we spend in the construction of the quick build option. For this option, we assemble the primary wing structure (except the lower aft wing skin) and we bond the two fuselage shells together. We don't install any controls or any of the control system in the wings. The quick build option should save 250 hours off the standard kit.

We've learned of a couple of incidents that we can all learn from. A builder was "swinging" his compass on the apron and forgot to position the nose wheel in trail before he started the engine. The prop hit the wheel pant and damaged both the pant and the prop.

A builder modified the main wheel pants to include very sleek fairings between the gear legs and the wheel pants. They looked really good and no doubt reduced the interference drag. However, the fairings effectively sealed off any ventilation to the brakes. During some extended high speed taxi practice with considerable brake usage, the brakes built up so much heat that the main gear overheated, softened and collapsed. We remember asking a friend one time why he had such large vents on the wheel pants of his Veri-eze. He said that several people had "melted" their gear legs during extended braking. The Pulsar is considerably lighter than a Veri-eze and the speeds are much lower, so we don't believe the risk of "melt down" is very serious. However, at least one Pulsar flier would say that his gear repair is very serious. We suggest that you either don't seal your wheel pants or if you do, vent them adequately. Also, don't drag the brakes for extended periods of time.

We have heard of two cases of nose gear damage that we believe were caused by inadequate elevator travel. You should have at least 25 degrees of up elevator available or you will not be able to properly hold the nose off the runway during landing. Depending how hard the landing is, you could overload the nose gear, especially in a forward c.g. case.

If you experience a problem with your Pulsar, whatever the cause, please let us know. You could save many other Pulsar pilots and builders from experiencing the same problem and maybe even prevent something serious. We won't even publish your name unless you say it's ok. Don't let a little embarrassment stifle some valuable information. Remember, we've all made mistakes at least as embarrassing as yours.

CHANGES IN THE KIT

We have discontinued the plywood wing skin and now send composite skins with all new kits. The reason for this change is to simplify the kit as well as the construction manuals. We agree with the opinion of all the builders at the Sun-N-Fun Pulsar banquet that we have too many supplements to the manuals. Also, the kit plane market is clearly shifting in favor of faster construction times. The composite wing skin will save at least 100 hours of build time.

FIRST FLIGHTS

Congratulations to Luc Lallemand in Paris, France. He recently completed his 582 taildragger and employed a test pilot to perform the first flights. His only problem seems to be an excessive rpm drop on take-off. We're working with him to isolate the problem. So far, our best lead is a slightly high coolant temperature of 167 degrees during climb out.

Congratulations also to Tony Fenn in England on the completion of his 582 taildragger. He also found a test pilot to do the first flights. He reported that "the test flight went just great, only needs some aileron trimming".

BUILDING TIPS:

When sealing the wing fuel tanks, make sure you totally cover the nutplates inside the tank with fuel sealant before you install the end plate. One builder had a fuel leak that was difficult to find. It turned out to be an unsealed nutplate.

ACCESSORIES

Temper Foam for seat cushions:
Chestnut Ridg Foam Products-1-800-234-2734 (Jack)
"CR Safe Flight II"

1" x 24" x 60" \$31
1/2" x 24" x 60" \$16

Pulsar T-Shirts:

The design is based on the 3-view drawing of the airplane. Color of the shirt is birch gray with black lettering. The drawing, (the Pulsar) is red, with black outline, the shirt is a high quality 50/50 blend.

Sizes available are medium (40-42), large (44-46), x-large (48). The price is \$12 delivered in the US, \$15 outside the US. Order from:

Tom Decker
158 Mill St.
Wallkill, New York 12589

BUILDER INPUT

From Malcolm Whatley, England.

My Pulsar took to the air last October with minimal fuss, and much delight of its builder. Since then, it has flown 25 hrs restricted by our filthy climate and some serious rough running on the Rotax 912. Without boring you with the details of all the investigations I did, the problem was tracked down to the Bing carbs. At any time the float chambers were drained, it was possible for either of the floats to jam to the bottom of the float chamber. On my engine I had one float to jam that caused assymetric lift on the shut off fork/valve. This caused the stbd carb to flood, usually on high demand. Thank goodness you did your sums right on that engine mounting because when that engine runs rough it sure shakes.

Rotax has introduced a mod which in effect is a pop rivet with the stem removed slid over the vertical pin that the float slides on, to limit its downward travel, (ie. stop it jamming).

I have fitted an electric elevator trim. This is made from 1 inch square section steel tube, with a solid Paxolin or Tufnol slider bored to take a threaded brass insert and a matching threaded brass screw which is driven by a geared 12 volt motor supplied by Radio Spares-- a company in this country. I used a 5/16" UNF threaded rod which makes the trim movement a bit slow, but it will pull twice the load that it needs.

A steel plate brazed on each end of the tube carries the bearings for the threaded rod and one end doubles as the motor mount. A steel plate is bolted to the end of the paxolin slider and projects through a slot cut in the upper surface of the steel tube to connect with the forward elevator trim spring. The whole unit is mounted forward of the control column and bolted to the horizontal part of the seat.

My flap mechanism is simply a 10 gauge aluminum quadrant with two side plates welded onto an aluminum base which is bonded to the floor of the aircraft. I used the existing flap lever. This has a lever mounted on the end which connects to a bowden cable running inside the tube and operating a spring loaded transverse rod which sticks out each side of the flap lever and engages in the slots that you have cut in the aluminum flap quadrant. It works fine. However, I wish I could work out how to get a bit more mechanical advantage. It takes a lot of strength to pull full flap.

Well that's all for now. If anyone is interested in the electric trim system, tell them to contact me and I will try to draw it.

Must go now as someone has got me to build a Pietenpol. Talk about the sublime to the ridiculous.

Pulsar News

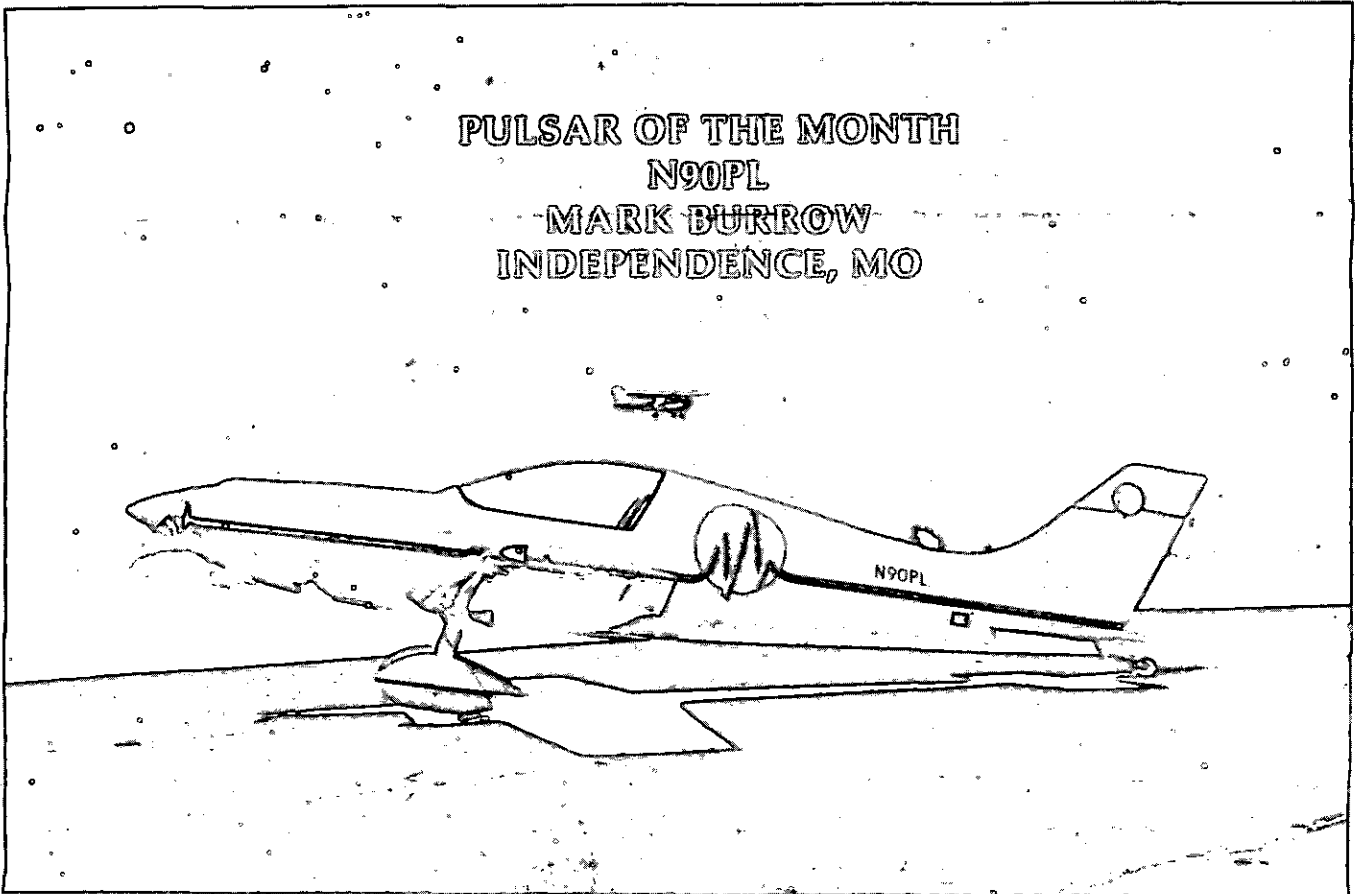
News, Updates, and Developments for Pulsar Builders and Owners

Published by Aero Designs Inc.

Issue No.29

SEPTEMBER, 1994

PULSAR OF THE MONTH N90PL MARK BURROW INDEPENDENCE, MO



Kit #129 was delivered to Independence, MO, on July 9, 1989. It was uncrated, inventoried and the fuselage halves were joined prior to leaving for Oshkosh where I and many others oogled Laverne Lawrence's Pulsar. I wanted my airplane to be as attractive as hers.

At year #1, (July, 1990) The kit was structurally complete with lighting installed. At this point, I was certain the plane would fly to Oshkosh in 1991. However, everyone hits a point in a project when things do not go as planned. For me, it was finish paint that caused my problems. The filling and base coats went free, but my learning curve with these new materials and equipment delayed the first flight until April, 1992 with test pilot Jim Garrison at the controls. It was the 3rd taildragger to fly, and it has flown flawlessly ever since. No external trim tabs were required.

My transition as a Cessna and ultralight driver to a Pulsar TD was uneventful. Local pilots' assessment of the Pulsar as being "short coupled" proved without merit. In fact, I feel the TD steers better on the ground than the tricycle version because of its steerable tail-wheel. It has never come close to a ground loop.

This design was chosen because of its simplicity, economy, styling and price. Mark's reputation helped also. The Pulsar utilized a Rotax engine of which I was familiar. I had no interest in Lycomings or Continentals.

I was in love with the flying characteristics from the very first demonstration flight in Mark's 582 powered prototype. Later, in November of 1990, Rick Meyer treated me to 3 hours in the XP. He must have bit his lip off as I bounced his airplane all over the runways at New Braunfels.

CONTINUE PAGE 2

The airplane is a true sportplane. Handling is crisp and smooth. Solo takeoff performance leaves many pilots envious. Performance specs have been as advertised, except in cruise, which is a little better probably due to the TD gear and additional gear fairings.

N90PL is moderately equipped with a Terra package including comm, nav, and encoding transponder. The Garmin GPS makes cross country work a breeze. An EBC ELT rounds out the electronics. All antennas are hidden.

For me, building and flying a Pulsar has been a tremendous source of personal satisfaction and pride. Only another builder can truly appreciate the time and perseverance that goes into a project such as this.

N90PL has been a hit locally as well as nationally. It currently is the most decorated Pulsar built to date, although I expect that will change soon. There are some real craftsmen out there with Pulsar projects.

In spite of its awards, the greatest gift N90PL has given me (besides many hours of safe flying) is that it has provided the means to meet so many interesting people from all over the world, be it enthusiasts of Pulsars or other makes. I consider many Pulsar builders, along with the staff at Aero Designs, as personal friends who share a common dream - personal sportplane building and flying. Thanks to all who helped me realize my dream, but most of all, thank you Rick Meyer, for it was your encouragement and support that helped N90PL become the airplane it is.

N90PL AWARDS

- April, 1992, EAA #91 Completion Award
- July, 1992, Oshkosh Kitbuilt Outstanding Workmanship Award
- July, 1993, Oshkosh Kitbuilt Champion, Bronze Lindy
- June, 1994, East Kansas City Airshow, Browett Memorial Trophy, Grand Champion
- July, 1994, Wichita area fly-in, Best Monoplane
- July, 1994, Dayton, Ohio, Wright Brothers Memorial Award

MARKETING AND SALES NEWS **OSHKOSH 1994**

What a wonderful and successful show we had this year! Our display again attracted a tremendous amount of attention from prospective customers. We continue to be very happy with our display's location at the Intersection of Stone Road and Aviation Alley. Because it is at the intersection of two major streets, our display and airplane always attract a tremendous amount of walk-thru traffic.

We want to express our sincere thanks to all of Pulsar builders who helped us at the display this year. Pat Keesler worked every day. He also supplied his partially completed Pulsar XP fuselage (his second Pulsar project, by the way) for display under the tent. THANK YOU PAT!

Also providing much needed help in answering prospective builders' questions on several days of the show were Dan Daniels, Russ Collins, Casey King, Lee Bahr, Chuck Stroh and Scott Gilzean. Mark Burrow helped with the Pulsar Forum. Thanks, guys, for all the hard work and effort in answering all those thousands and thousands of questions from the visitors at the booth.

We want to encourage all of you to give us a hand at any of the major airshows you may be attending. We pay \$50 for each day you work. You can apply this to your account or receive payment by check.

Everyone who has helped us in the past has really enjoyed the experience. It is a lot of fun to visit with prospective customers who enjoy hearing what you think of your Pulsar kit and the real world of building one.

If you are interested in helping us, let Bob Kromer know at (210) 308-9332. Here is a list of airshows that we will be attending during the next year:

1. Kerrville Fly-In Kerrville, Texas October 14-16, 1994
2. Sun 'N Fun Lakeland, Florida April 9-15, 1995
3. Oshkosh Oshkosh, Wisconsin July 27 - Aug 2, 1995

CURRENT SALES RATE

Sales right now are the best they have been in many years. Currently, we are accepting orders for the last half of February 1995. This is at a production rate of 1 kit per week. 43% of these new orders are from international customers (primarily from Germany and Switzerland). 57% are destined for the USA.

The best-selling airplane continues to be the Rotax 912 powered Pulsar XP with a nose gear type landing gear with large tires and fairings. The new quick build option is doing quite well. Approximately 40% of our new customers are ordering it.

To all of you who have helped us achieve this excellent new sales record - THANK YOU. The success of the Pulsar is a result of two things: (1) a great design by Mark Brown, and (2) a wonderful group of Pulsar builders and pilots. Without all of you we would be nothing.

THANK YOU FOR BEING OUR CUSTOMERS!

FIRST FLIGHTS

The list of finished and flying Pulsars continues to grow. Since the last newsletter, the following builders have put air under their Pulsars' wings for the first time:

1. Dennis Simo - Milton, Ontario, Canada. Dennis finished and flew his Pulsar XP during this period. Dennis is the Pulsar distributor for Canada. He and his company, Aircraftsmen, constructed a beautiful Pulsar XP. Dennis flew the airplane to Oshkosh 1994 and placed it on the show line. It was a real show stopper!

2. Ron Oliver - England. Ron recently finished and flew his lovely Rotax 582 powered Pulsar - G-BUDI. First flight was made by Alan Gill, the Pulsar distributor for the UK. Alan reports that the airplane flew hands off on its first flight - no retrimming after the flight was required. Alan has now finished the test flights and the airplane is now awaiting a full permit to fly in the UK.

62 PULSARS ARE NOW FLYING ALL OVER THE WORLD!

CONGRATULATIONS TO EVERYONE ON A JOB WELL DONE!

PULSAR APPROVED IN FRANCE

Our French Distributor, Jean-Luc Boudard, has accomplished a significant Pulsar milestone. Through his efforts, the Pulsar is now approved as an experimental built airplane in the country of France. Jean-Luc has received a "permit to fly" from the French Authorities for his Pulsar - F-WRXF. This now paves the way for other builders in France for easier approval of their Pulsar projects.

CONGRATULATIONS, JEAN-LUC!

INTERESTING VISITORS TO AERO DESIGNS

Recently, we had two very interesting visitors at Aero Designs in San Antonio. We received a call from Utah from two guys who said they "work for NASA". They asked if they could stop by and visit our shop and fly the Pulsar XP demonstrator. We said, "Fine when would you like to visit?" The answer was, "In 4 hours" We couldn't believe this - not even American

Airlines is that fast. They said they were flying their own airplane and asked if we could meet them at the United Beechcraft FBO here in San Antonio. We said yes and asked what type of airplane we should be looking for. Their answer was a NASA T-38! By this time we knew these were no ordinary visitors. It turns out that our visitors were the pilot and mission specialist for the last space shuttle mission (STS-65) - Jim Halsell and Leroy Chiao.

What a pleasure to meet and fly with Jim and LeRoy. Jim Halsell is a very experienced test pilot and former SR-71 pilot. Even with his experience, he thoroughly enjoyed flying the Pulsar. He performed some basic stability and handling quality tests in-flight and pronounced the Pulsar a very nice flying, well engineered airplane. Nice compliment from a NASA space shuttle pilot and astronaut!

Hopefully, this demo flight will result in a sale. Leroy Chiao is the one wanting to build a Pulsar. He is also a pilot and is looking for something a little less complicated and more fuel efficient than the T-38 NASA loans him to fly around in. He may just buy a Pulsar XP.

We hope so. Perhaps in the future we will see a Pulsar strapped onto the back of the shuttle as it is blasted into orbit! The Pulsar could make a good, low cost commuter between space stations!

FIRST ANNUAL PULSAR FLY-IN

We have been talking about this for a long time, but now we are getting serious. We are now in the process of choosing a good place for the First Pulsar Fly-In and Builders' Conference. The location will be centrally located in the US and have a good airport for Pulsar operations. The location will also be relatively close to a major airport with airline service, since many builders may decide to fly the airlines to come to the meeting. Finally, there will be some outside activities nearby for family members to enjoy.

Mark Burrow has given us a location near Kansas City and Larry Eubanks has provided a recommendation of Lawrence, Kansas. We are currently looking into these two locations. If any of you have any further suggestions for this meeting, please let Bob Kromer know at (210) 308-9332.

We are all looking forward to this first get together.

PULSAR INSTRUMENT PANELS

At Oshkosh 1994, we announced a new service now being offered by Gulf Coast Avionics in Tampa, Florida. Gulf Coast Avionics is offering pre-built and pre-wired instrument panels for the Pulsar. These panels are beautiful. You can specify and customize what type of instruments and avionics you want. The panels are then assembled, wired and made ready for installation.

Prices depend on how much and what type of instrumentation you desire in your Pulsar. Certainly, you can spec out a \$15,000 panel if you want, but lower cost panels are available with less equipment.

Deciding what to do with your instrument panel can sometimes be difficult. This new instrument panel service may be an answer and it is available through Gulf Coast Avionics in Tampa, Florida, Pacific Coast Avionics in Auburn, Washington or Southwest Coast Avionics in Van Nuys, California.

A free information package on pre-wired panels can be obtained by contacting Gulf Coast Avionics at (813) 879-9714 or fax (813) 875-4514. Ask for Brad Miller and make sure to say you are a Pulsar builder.

CONTROLLABLE PITCH PROPELLER UPDATE

As most of you know, we have approved an in-flight adjustable pitch propeller for use on the Pulsar XP with the Rotax 912 engine. The propeller is a two blade, wood laminate design from GSC Systems in Canada. It is controlled mechanically in-flight through the use of a vernier type cockpit control. Cost of the propeller is \$1500 and is ordered direct from GSC. The installation hardware is \$95 and is ordered from Aero Designs.

Recently, we flight tested an improved design of the propeller. This propeller is reshaped to reduce the forces required in-flight to change the prop pitch. The new propeller is also larger in diameter - 64 inches compared to the original in-flight adjustable prop at 62 inches.

Results of these tests were positive. The new shape of the propeller results in reduced operating forces in flight. Additionally, the increased diameter of 2 inches significantly increases climb performance - at least 200 feet per minute better than the 62 inch prop. With the 64 inch prop, we believe that the Pulsar XP will give consistent 1400 FPM climb rates in standard day conditions. NOT BAD FOR 80 HORSEPOWER!

The only negative of the 64 inch prop is that it is slightly slower in cruise. Expect a 2-3 MPH reduction in cruise speeds with the bigger prop. However, you should still be able to obtain 150 MPH true airspeeds.

Based on these tests, you have our approval to order either the 62 inch diameter or the 64 inch diameter controllable pitch prop for your Pulsar XP. If you don't mind sacrificing a little speed, the 64 inch prop will make your Pulsar XP climb like a little P-51!

GSC can be contacted in British Columbia, Canada at Tel: (604) 549-3772 or Fax: (604) 549-7111. Ask for Brent Holomis.

BUILDING TIPS ALTERNATIVE RECOMMENDATION FOR SURFACE FILLER

With any composite airplane kit, one of the most tedious jobs is filling exterior surface imperfections and "pinholes" prior to painting. The application a surface filler and then the sanding of it takes patience, especially since this is usually one of the last jobs prior to flying.

For several years, our recommendation on the Pulsar has been to use two different types of filler material to do this job. Our suggestion has been to use Rage automotive filler for larger surface voids and another material called K36 made by PPG for filling the "pinholes" found in the exterior fiberglass weave. Two coatings of each material are generally required with wet sanding between coats.

For the past several months, we have been experimenting with a new filler material that we think is a good alternative to the K36 and Rage for the surface filling job on the Pulsar. The material is called SUPERLITE EPOXY FILLER. It is manufactured by Polyfiber Aircraft Coatings of Riverside, CA. This new filler material is available through Alexander Aeroplane Supply.

SUPERLITE EPOXY FILLER comes as two parts - part A is the resin and part B is the hardener. It mixes as 2 parts of resin to 1 part of hardener. The resulting mixture is smooth and creamy. It is very spreadable with a squeegee or putty knife yet firm enough to hold shape when filling in larger voids. This filler is good for both large surface voids and for filling pinholes. Two coats of SUPERLITE are still required with wet sanding needed after each coat.

The only drawback we have found with the SUPERLITE is curing time required before sanding. SUPERLITE requires about 12 hours of curing before ready for wet sanding. This compares to about one hour for the K36 and Rage.

If you are interested in trying the SUPERLITE filler, call Alexander Aeroplane at (800) 831-2949.

WET SANDING TECHNIQUE

While on the subject of surface finishing, we thought it might be a good idea to give you our technique of wet sanding the surface fillers used on the Pulsar. This technique comes from many hours of experimenting, testing and learning the hard way.

The materials and equipment needed are: (1) a 5 gallon bucket full of water with a large sponge in it, (2) a spray/misting type water bottle, (3) a pneumatic random orbital sander (we use a palm type sander make by ARO, model ~8446-B5V and (4) a lot of 350-400 grit sandpaper that is designed for both WET AND DRY sanding. The technique we have found that works best is to:

1. Lightly mist down the area to be sanded with the spray bottle. You should limit size the area to be sanded to about 2 feet X 2 feet.
2. Sand the area in circular motions with the sander.
3. After a dust/water mixture has built up, rinse it off with the sponge soaked in water.
4. Repeat with another 2 foot X 2 foot area.

We know this sounds basic, but we have found this is the most effective way to sand the filler material yet keep the dust and dirt to a minimum.

MECHANICAL EPOXY PUMPS

Recently, we began shipping a mechanical epoxy pump (as a \$180 option) with most kits. The pump is used to dispense the Epolite 2410 resin and the Epolite 2183 hardener that is mixed together to form the Saf T Poxxy used in most of the construction of the Pulsar.

The epoxy pump replaces the mechanical balance beam made from directions included in our fuselage manual. THE PUMP IS EXCELLENT - it saves the need to build the balance beam, it saves epoxy and is very accurate at measuring the proper amounts of hardener and resin.

However, for those of you who use the pump, it is very important that you occasionally check it for proper operation. This check is especially important as you unpack the pump and use it for the first time.

To check for proper dispensing, look and verify that the flow of hardener and resin from the dispensing spouts START AND STOP AT THE SAME TIME. If there is a delay in the dispensing of either the hardener or resin, YOU ARE NOT GETTING THE PROPER RATIO OF HARDENER AND RESIN FOR PROPER BONDING STRENGTH. Obviously, this is important.

Remember, the flow of hardener and resin should start and stop at the same time. If the flow of hardener and resin do not match THE MIXTURE IS WRONG.

Call us if you have a question or any problems with your mechanical epoxy dispensers.

SERVICE TIPS

ROTAX 912 CARBURETOR FLOAT BOWL VENT LINES

Rotax has stated that during normal operations, there is the possibility that a very small amount of fuel can drip from the float bowl vent lines from both carburetors of the Rotax 912 engine. Therefore, to eliminate any dripping of this fuel into the engine compartment, Rotax recommends routing vent tubes from each float bowl to some harmless dump zone outside the cowling.

With the Pulsar, a problem could develop if this isn't done properly. In the Pulsar cowling, the carburetors (and the float bowls) operate in an area of static pressure that is higher than the pressure outside of the cowl. Therefore, if a vent line is simply routed from the float bowls to outside the cowling, the fuel flow from the float bowls to the carburetors can be adversely affected due to this difference in pressure.

Dennis Simo, our Pulsar dealer in Canada, experienced this firsthand. During the initial flight of his new Pulsar XP, he found that his Rotax 912 engine ran smooth at idle and full power but was rough at any power setting in between. Removing the fuel vent tubes that were routed to the outside of the cowling eliminated the problem.

We have a solution. We have been operating our Pulsar XP almost 500 hours with no problems. Our vent tubes from the carburetors are joined together into a common tube that is routed into a safe zone in the lower cowling. However, to equalize pressure in this common tube, we installed VENT HOLES LOCATED IN THE UPPER SURFACE OF THE COMMON TUBE NEAR WHERE THEY JOIN TOGETHER. These holes allow for a balancing of pressure in the tube between the upper compartment of the cowling where the float bowls are located and the lower part of the cowling where the opening of the vent line is located. Balancing the pressure inside the common vent line keeps the carburetors happy and results in normal fuel flows and smooth engine operation.

So, vent the carburetor together into a common vent tube which has holes in it to balance the pressure.

CHANGING SPARK PLUGS IN THE ROTAX 912/PULSAR XP

We always get a lot of questions on when and how to change the spark plugs in the Pulsar XP with the Rotax 912 engine. Everyone seems to dread this job since the bottom plugs appear difficult to reach. However, this is not a tough job. There is a simple solution.

During a thorough annual checkup is generally the best time to change the spark plugs in the Rotax 912. We have flown our demonstrator Pulsar XP over 200 hours without changing the plugs and the engine was running well. 200 hours is a lot of flying - so changing your plugs once a year should be fine.

To get to the lower plugs, simply remove the two rear mounted mufflers (you should do this anyway to inspect the oil cooler and radiator). Then, reach under the engine and remove the four engine mount bolts securing the engine to the engine mount. Next, **WITHOUT DISCONNECTING ANYTHING ELSE FROM THE ENGINE**, raise or hoist the engine up about four inches. This is easy to do since all of the connections to the engine are flexible enough to allow the engine to be moved. With the engine raised, it is then a simple matter of reaching the lower plugs to change or clean them. After taking care of the plugs, the engine is then lowered back into place on the engine mount and the four mounting bolts are reinstalled.

Raising the engine to get to the lower plugs takes less time than it takes to remove the cowling from most other certified airplanes - ever tried to remove the cowling of an older Mooney? It is the secret to quicker and easier spark plug changes in the Pulsar XP.

ERROR IN EARLY ENGINE INSTALLATION MANUAL

Several builders have called in the past to report an error in a very early version of the engine installation manual. If you still have an early version of the engine installation manual, look on page 13. If the illustration on page 13 in your manual shows an 8" dimension on the aft end of the uni-glass strips, ignore that dimension. It is in error and not significant to the construction of your Pulsar.

THAT IS ALL FOR THIS ISSUE.

KEEP BUILDING AND KEEP FLYING!

MOST OF ALL - BE SAFE!

**All correspondence should be sent to:
Aero Designs Inc.
11910 Radium St.
San Antonio, TX 78216**

Pulsar News is published 6 times per year. Subscriptions are available for \$10.00 per year (U.S.) and \$15.00 (foreign). All subscription requests should be sent to the above address. Complete back issues packages are available to interested persons for \$25.00 plus shipping (\$3 U.S., \$5 foreign).

Pulsar News

News, Updates, and Developments for Pulsar Builders and Owners

Published by Aero Designs Inc.

Issue No.30

NOVEMBER, 1994



The Pulsar of the Month for November is one of the very first kits delivered. Harry and Ginger Jones of Santa Barbara, California are the proud owners of the beautiful Rotax 582 Pulsar pictured above, N776J. The kit (serial number 5) was delivered to Harry in October 1988. One year later, N776J was ready to fly. N776J was the second customer built Pulsar to be finished and flown.

Here is Harry's story in his own words:

"After reviewing many kits, I finally chose the Pulsar for several reasons. First, I liked the simplicity of the design. Efficiency and economy of operation were also high on my list, and the Pulsar certainly seemed to fit those requirements. I was also looking for an airplane that was easy to fly and was simple enough to be maintained by the builder. Based upon these requirements, the Pulsar was the perfect choice.

__On my birthday in October, 1988, my kit arrived at the front door of our home at the time in Martha's Vineyard Island, MA. I couldn't wait! I immediately unpacked the contents of the shipping crate into my shop and began building. By 10:00PM of the evening of the second day, the fuselage was already bonded together! I was able to devote full time working on the project and exactly one year later, N776J was ready to fly.

I had been a Marine fighter pilot in World War II and flew F4U Corsairs in the South Pacific in Joe Foss' squadron - VMF 115. However, after the war, I did not fly again for almost 43 years. In 1988, in preparation for flying my Pulsar, I finally restretched my wings and got current again in a Cessna 152. Then the real flying began - in my new Pulsar!

CONTINUE PAGE 2

For the first several flights, I contracted an experienced test pilot to fly my airplane. He then checked me out and together we finished the first 40 hours of required flyoff time. The airplane flew beautifully and had the performance and handling qualities promised by the factory. What a feeling to be at the controls of an airplane I had built myself! After finishing the required 40 hours of test flying, my Pulsar and I were ready for some serious cross country traveling.

And have we ever traveled! In 302 hours of flying, N776J has flown all over New England and has made two trips from Martha's Vineyard to the Sun 'N Fun airshow in Lakeland, Florida (2200NM round trip). We also flew a trip from Martha's Vineyard all the way to Santa Ynez, California, a distance of 2400NM. Currently, we are flying from our new base in California. Our flying now includes trips to Arizona, Nevada and Oregon. My Pulsar has been in 28 states in all kinds of wind and weather without experiencing any condition which it could not handle. Especially impressive is the Pulsar's ability to handle crosswinds - the tapered wing design, responsive ailerons and lots of rudder authority keep me flying in conditions that would have been too much for many heavier aircraft!

For cross country flying, I like to fly at 60% power. At this power setting, I use approximately 3.0 GPH while indicating 120 MPH. That's 40 miles per gallon! Add to that the comfortable seat angle and precise handling qualities and you have an outstanding cross country airplane.

For avionics, I decided to install a Bendix/King KY 97 comm, a KT 76A transponder with a Transcal encoder, an Apollo Flybuddy Loran and a Sigtronics intercom system. With this basic package, I find I can handle all of my VFR flight requirements with ease. In the busy airspace of central and southern California, the 10 channel memory of the KY 97 is invaluable.

The panel of N776J includes the standard instruments supplied by Aero Designs plus turn and bank and vertical speed instruments. I also installed a Hamilton vertical compass card with a special compensator that allows the compass to track turns like a gyro. With this package, I can at least fly "partial panel" in case of an emergency encounter with a cloud.

I did a little bit of customizing in the details of my airplane. I decided to revise the pitch trim control and I installed an aileron trim system. I installed a throttle quadrant on the left hand side of the cockpit alongside a customized flap control handle. I also have a cockpit heater in my airplane. The seat fabric I chose for N776J

is FAA approved fireproof material and the sides of the cockpit are covered with saddle leather. My baggage compartment will hold a 20" folding bicycle.

In summary, the building and flying of my Pulsar has been very rewarding and enjoyable. The key point I try to get across to potential customers is that the Pulsar really is a capable cross country airplane as well as a local fun flyer. Flying N776J is delightful - whether for a local fun flight of just one hour or for a long cross country flight. And it won't break the bank doing either."

MARKETING AND SALES NEWS

1995 SUN 'N FUN AIRSHOW APRIL 9 - 15

Now is the time to mark your calendar for the annual Sun 'N Fun airshow in Lakeland, Florida. We plan to have space this year for two display airplanes and a tent. We finally are going to be located on the main street near the flight line! We will not be hard to find this year!

We are looking for volunteers to help us at the display. We had a highly successful Oshkosh this year - due primarily to the fact that many of you were able to help us at the display and answer questions from prospective customers. There is no better salesman for the Pulsar than someone who is building one. Prospective customers would much rather talk to someone who is actually building a Pulsar than to someone from the factory.

If any of you are planning to attend Sun 'N Fun in 1995 and would like to help us at our display, please give Bob Kromer a call at (210) 308-9332. We can use your help on a full time or a part time basis. We will pay you \$50 for each day's work or will credit this amount to your account.

Again, If you plan to be at Sun 'N Fun this year and have some time to spare, give Bob Kromer a call at (210) 308-9332. If you are able to work at the Pulsar booth, we know you will find it a very enjoyable experience.

CURRENT SALES RATE

Sales of the Pulsar continue on an extremely fast pace. As of October 31, we have sold out production into the month of June, 1995! The Pulsar continues to be doing extremely well in the marketplace. We are finally being considered by customers who before would only look at the Kitfox and the Avid Flyer. For the same money, prospective customers are now aware that an all composite kit is available that will fly circles around the competition - the Pulsar.

We always repeat ourselves but we will do it again - THANK YOU to all of you who are currently building a Pulsar. Your decision to be our customer is really appreciated. People who build their own airplanes are special people with special attitudes. Thank each and every one of you for helping us be successful.

FIRST FLIGHTS

The fleet of flying Pulsars continues to get larger and larger. Of the 270 kits delivered, 64 are now flying. Since the last newsletter in September, five more Pulsars have headed skyward:

1. Wes Hennis - St. Petersburg, Florida. Wes completed and flew his Rotax 582 powered Pulsar, kit (serial number 169), on October 18, 1994. Wes first received his kit in May of 1990 and finished in September 1994. First flight was very successful. Four flights have now been made. Only a slight left wing heavy condition in cruise has been discovered that will be corrected with the installation of a small trim tab. He also will balance his prop for a little more smoothness between 4500 and 5500 engine RPM. Wes says he hopes he enjoys flying his Pulsar as much as he enjoyed building it and that his airplane always draws attention wherever he goes.

2. Lloyd Randolph - Narragansett, Rhode Island. Lloyd finished and flew his tailwheel configured Rotax 582 powered Pulsar (kit serial number 249) after 30 months of part time work and 850 total hours of labor. Lloyd performed his own first flight on October 10, 1994 and has accumulated 3 hours of total flight time. He has had a perfect 3 hours of flying in his new Pulsar so far. The airplane is in trim and performs as advertised.

3. Bob Gere - Toledo, Ohio. Bob completed his Rotax 582 powered Pulsar on the October 1, 1994. First flight was 1 week later. He received his kit in January of 1991. Bob's kit is serial number 191.

4. Dale Schonomeyer - Clayton, Georgia. Dale received his Rotax 582 Pulsar kit (serial number 282) on November 13, 1992. He finished the airplane on August 28, 1994. First flight was successfully flown by Dale on October 5, 1994. Two flights have now been accomplished. The only discrepancy noted during the flights so far has been a slight left wing heavy condition. Dale's only adjustment to flying in his Pulsar has been getting slow enough to land! He finds the Pulsar doesn't like to slow down!

5. William Westrink - Holland. William has made his first flight in his Rotax 582 powered Pulsar taildragger. This is the first Pulsar to be finished and flown in Holland.

CONGRATULATIONS TO EVERYONE!
KEEP FLYING! SAFELY!

FIRST 582 PULSAR TO CROSS THE ENGLISH CHANNEL

One of our builders in the United Kingdom, Ron Oliver, reported that he recently made the first Rotax 582 powered Pulsar crossing of the English Channel. The 40NM crossing has been made many times before in Rotax 912 powered Pulsars, but Ron's was the first trip in a 582 Pulsar. Ron's airplane, G-BUDI, had been flying for 21 hours when Ron decided to leap the small ocean in a single bound. From a former Spitfire base in the town of Lydd, England to Le Touquet in France took Ron only 20 minutes to fly in his Pulsar. Maximum altitude reached during the flight was 5500 feet. Groundspeed averaged 120 KTS during the crossing.

After landing in France, Ron and his passenger then turned around and retraced the same route back over the Channel. Again, only 20 minutes were required over water.

Congratulations to Ron for a successful Rotax 582 Pulsar Channel crossing!

LANDING LIGHT, BAGGAGE COMPARTMENT WINDOWS & LARGE WINGTIP LENSES

Dan Billings, a Pulsar XP builder in Dothan, Alabama, has developed three customized items for his airplane that we think you might be interested in.

First is a very nice landing light installation. The light fits in a flush mounted housing in the lower forward cowling. This location offers superior lighting of the runway/taxiway environment without so much of the reflection you get with a wing mounted light. This installation is for the Pulsar XP only, it will not fit in the cowling of the Rotax 582 powered Pulsar. Price of the landing light kit for the Pulsar XP is \$69.95 including shipping in the USA (outside the USA extra) ordered directly from Dan.

Also available from Dan are baggage compartment side windows. Dan has had these available for some time (see the January, 1994 newsletter). The side windows add light to the aft cabin of the Pulsar and make

it seem larger and roomier inside. They also give the airplane a sleeker look on the outside. The left and right baggage compartment windows sell for \$99.95 for the set of two.

Finally, Dan has developed a very nice set of wing tip nav/strobe light lens covers for the wing tips of the Pulsar. The advantage of these lens covers is that they are large and clear. This allows for the flush installation of the Whelen 650-PG (right wing) and 650-PR (left wing) combination nav/strobe light unit in each wing tip. When combined with the Whelen A500 tail nav/strobe unit in the tail, this gives the Pulsar a complete set of navigation and anti-collision strobe lights that are all flush mounted. Dan will sell the clear wing tip lens covers for \$79.95 for the set of two.

To contact Dan, he can be reached at:

Dan Billings
102 Plymouth Lane
Dothan, AL 36301
(205) 793-6818

EXTENDED WARRANTY POLICY FOR ROTAX ENGINES

Questions have always existed on what happens to engine warranty when you purchase a Rotax engine for your Pulsar and then it either sets in the shop or in the airplane for a long time before it is operated. Depending on the delay, it appeared that the warranty on a new engine could expire before it was ever operated!

Rotax has realized this and has initiated a new warranty initiation policy that considers the usual delay with a kitplane between time of a new engine purchase and the time the engine actually begins operating in service. Here is that new policy:

ROTAX 582

1. After purchasing the engine, you have an 18 month "grace period" before initiating the warranty. This means that you can purchase a Rotax 582 engine and have it set for 18 months before starting the warranty.
2. The best time to initiate the warranty during this 18 month period is just before beginning taxi tests on the airplane. To initiate the warranty, send Rotax a copy of the Special Airworthiness Certificate (form # 8130) you obtain from the FAA inspector at the final inspection. Send the copy of the form with the engine serial number written on it. **RECORDING THE ENGINE SERIAL NUMBER ON THE COPY OF FORM 8130 BEFORE MAILING IT TO ROTAX IS VERY IMPORTANT.**

3. Once initiated, the warranty for the Rotax 582 is 6 months or 100 hours, whichever occurs first.

ROTAX 912

1. The "grace period" for the Rotax 912 is slightly longer - 24 months.
2. Initiation of the warranty is the same as for the Rotax 582. Just send Rotax a copy of form # 8130 with the serial number of the engine written on it.
3. Once initiated, the warranty for the Rotax 912 is 6 months or 300 hours, whichever occurs first.

All warranty correspondence or questions should be sent to:

Kodiak Research Canada Ltd.
913 Kal Lake Road
VERNON, B.C., CANADA V1T 6V4
Attn: Don Butterworth
Tel: (604) 542-4151
Fax: (604) 549-7111

PULSAR T-SHIRTS

Tom Decker, one of our builders in New York, has come up with an excellent Pulsar T-shirt design. We use the shirts at the factory for all our employees and as gifts for visitors. The shirts are birch gray with a large black and red design of the Pulsar on the front. The design shows the Pulsar in a three view drawing with company and aircraft names printed alongside. The shirts are really comfortable and look sharp. Sizes are Medium, Large and Extra Large (the bigger the better!). Prices are very good - \$12 each shipped anywhere in the USA and \$15 each shipped outside the USA. The shirts can be ordered from:

Tom Decker
158 Mill Street
Wallkill, New York 12589

BUILDING TIPS

CUTTING THE LOWER SEAT BACK BULKHEAD

One of the early tasks in the construction of the fuselage is the installation of the lower seat back bulkhead. This is the bulkhead that forms the lower seat back and contains the two aluminum gear attach inserts.

Several of our builders have found that the installation of this relatively tall bulkhead makes access difficult later on when completing the landing gear installation and aft wing spar attach fittings - all of which are located in the lower fuselage area.

To help with access later on when working in the lower fuselage area, we approve and suggest that you cut the lower seat bulkhead in two pieces HORIZONTALLY on a line 2"-3" above the aluminum gear attach inserts BEFORE INSTALLING IT. Once cut in two pieces, you can then install the lower portion of the bulk head (the one with the gear attach inserts). Leave the upper portion of the bulkhead out until after you have finished with the all your work in the lower fuselage (including the installation of the aft wing spar fittings). This makes all of the work in the lower fuselage much more visible and easy to reach.

When you do finally install the upper portion of the lower aft seat back bulkhead, you will have a microed butt joint between the upper piece and the lower piece. Cover this butt joint with one layer of 2" glass tape on each side. This joint will be as strong or stronger than a solid bulkhead.

MATCO BRAKES - SEALED BEARINGS

Lee Bahr, a Texas builder, called to point out a confusing statement in the Matco hydraulic brake installation instructions.

Item #2 in the document titled "MATCO Mfg. ASSEMBLY INFORMATION" states that all bearings in the wheels should be packed with grease before using them. THIS IS NOT NECESSARY FOR THE WHEELS USED IN THE PULSAR. All our bearings are already greased and sealed.

TAILWHEEL - MOD FOR BETTER GROUND HANDLING

One of our tailwheel builders and pilots, Lloyd Randolph, called with a landing gear modification that he incorporated on his taildragger 582 Pulsar. After reviewing his mod, we believe it is an improvement worth mentioning. It should definitely improve the ground handling characteristics of the TAILWHEEL version of either the standard Pulsar or the Pulsar XP.

Basically, the modification MOVES FORWARD the axle locations of the left and right main gear wheels 1³/₄". The result of this relocation FORWARD of the main gear axles is to put slightly more weight on the tailwheel. More weight on the tailwheel results in reduced nose over tendency when braking.

For those of you who are building a tailwheel version but have not yet installed the main landing gear, here is the procedure for "swinging forward" the main landing gear:

Refer to page T5 of the Taildragger Supplement. This page contains the illustration of the inverted fuselage with the straight edge mounted to the firewall. Note the dimension given of 28³/₄" measured from the straight edge to the center of the wire between the gear legs. To modify the main gear to swing forward an additional 1³/₄", change the 28³/₄" dimension to 27". This new 27" dimension results in the additional 1³/₄" forward swing of the main gear axle locations.

For those of you who have already installed your main landing gear, there is still a mod you can incorporate that results in the same 1³/₄" forward movement of the main gear axles. Here is that procedure:

An axle pad extension plate is manufactured and installed on the left and right main gear legs that moves the hole pattern for the 4 axle plate attach bolts forward 1³/₄". One end of the plate bolts to the existing hole ~~pattern on the landing gear.~~ The axle is then installed in the new hole pattern on the other end of the plate that is 1³/₄" forward of the previous hole pattern. To make the modified plate, call us for detail dimensions. We will send you the plate drawing.

Our thanks to Lloyd Randolph for this suggestion and improvement. REMEMBER, THIS MOD IS FOR THE TAILWHEEL LANDING GEAR ONLY.

SERVICE AND OPERATIONAL TIPS

RADIATOR CAPS & PROPER ENGINE COOLING

We have been aware of several instances where Pulsars have experienced excessive coolant operating temperatures during normal flight operations. This is not normal - cooling for both models of the Pulsar should be very good. In each case, a lot of effort and time were spent trying to figure why the coolant temperatures were so high.

After trying many different fixes, the problem was finally found to be a MALFUNCTIONING RADIATOR CAP. If the radiator cap is leaking, it will not allow the coolant system to operate at peak/optimum pressure. A coolant system at low pressure is not efficient. Thus, the engine runs hot.

If you have experienced high coolant temperatures and have spent a lot of time troubleshooting without any results, don't forget the cap. If it is leaking, it can be the source of the problem.

SURFACE CRACKS AT THE BASE OF THE VERTICAL FIN - PULSAR XP

Our demonstrator Pulsar XP (N912XP) has one of the toughest missions of any Pulsar around. It is flown by a variety of pilots in lots of different conditions. The flights it makes are always short - demonstrations normally last only 15-20 minutes. It also acts as a test-bed for various modifications and improvements we incorporate in the design. As a result, N912XP experiences many engine starts and stops between flights. With 510 hours on the airframe and engine, we estimate that N912XP has been subjected to at least 2000 engine starts and stops over the past four years.

When starting the Rotax 912 engine in N912XP, we have noticed that the empennage can experience some relatively high shock or twisting loads when the engine first fires. This is especially true during that period as the engine begins to settle down from initial start to smooth idle.

As a result of these engine start shock loads, N912XP is starting to develop some slight surface cracks in the exterior skins in the aft tailcone/vertical fin juncture. The cracks are small. However, if they develop, they should be repaired.

For all of you Pulsar XP flyers, begin to inspect the area where the vertical fin attaches to the aft fuselage as a normal preflight item. You have to look closely to find a crack, so inspect this area carefully. If you notice a small crack in area of the fuselage/vertical fin juncture, give us a call. We will give you instructions on how to repair it.

THAT IS ALL FOR THIS ISSUE.

WE LOOK FORWARD TO
SEEING YOU AT
SUN'N FUN -
APRIL 9-15, 1995!

FLY SAFELY!

All correspondence should be sent to:
Aero Designs Inc.
11910 Radium St.
San Antonio, TX 78216

Pulsar News is published 6 times per year. Subscriptions are available for \$10.00 per year (U.S.) and \$15.00 (foreign). All subscription requests should be sent to the above address. Complete back issues packages are available to interested persons for \$25.00 plus shipping (\$3 U.S., \$5 foreign).