



**WESTERN  
OREGON  
CONTROL  
LINE  
FLYERS**

# **THE WOLF CALL**

**June-July 2019**

**ACADEMY OF MODEL AERONAUTICS  
CHARTER CLUB #3464**

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## **Upcoming Area Events**

**Stunt-A-Thon 2019  
Auburn, Washington**

**Salem Summer Tune-Up**

**WOLF Lucky Hand Fun Fly**

*The "WOLF CALL" is the newsletter for the Western Oregon Control Line Flyers. WOLF members fly at the Bill Riegel Model Airpark facility at the Salem Airport.*

*WOLF membership is not required to utilize the facility, but fliers should be A.M.A. members. If you are not a WOLF club member, please consider joining us to help support control line model aviation activity in our area.*

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### **WOLF CLUB OFFICERS:**

**President: Craig Bartlett**

**Vice-President: Dean Singleton**

**Secretary-Treasurer: Mike Hazel**

**Safety Officer: John Thompson**

**Newsletter: Mike Hazel**

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For the latest Northwest Control Line news go to:  
[flyinglines.org](http://flyinglines.org)

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## *Miscellaneous Ramblings from Ye Olde Editor*

Greetings All! Plenty of flying action coming up, check out the enclosed flyers and review the calendar.

First up will be the Stunt-A-Thon meet put on by the NW Skyraiders club. They were fortunate to get use of the Auburn airport site which they had previously been booted from. Hope they can get back in there as a regular site again.

Next up is our local Salem Summer Tune-Up for Carrier, Racing, and Speed. A flyer for this was in the last newsletter issue. The addition of Carrier flying will be something new for our field. By the way, prez Craig has been hard at work getting a carrier deck refurbished. This deck was originally used by the Eugene Prop Spinners club from way back. It has been in storage for a long time and needed a bit of tender loving care. And here's a pitch asking for help: even if you do not usually participate in go-fast flying, please consider helping out at the contest. We can always use a hand with field setup, counting laps, or running a stopwatch. So don't be shy, volunteer today!

And next up is the ever-popular Lucky Hand Fun Fly. A flyer is enclosed with all the details. One idea we might try for this event is to block off the cul-de-sac for 1/2 A plane flying on the pavement. It's the perfect size area! That would give us three circles for plenty of flying!

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**Something to wonder about.....**

*If work is so terrific, why do they  
have to pay you to do it?*

## **CLUB DOIN'S**

In our first issue of the year we featured a schematic of Walter Musciano's "Stunt Rocket" from 1951. This is a really cool-looking old time plane. Anyhow, WOLF member Robin Mason checked in to let us know that he and Eric Rule of RSM Distribution own the rights to this plane. Check with Robin on how you can order a kit for this plane.

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### **Red-Faced Editor Department**

Our club's first flying event of the year was a fun fly on March 30th. This was the number three and final installment of the Oregon fun fly series for the year. The event featured great weather, a nice array of door prizes for the fliers and a record-breaking turnout of at least 20 pilots.

So what's the deal here you ask? Well, Ye Olde Editor forgot to report it in the last issue! Oops! Don't know how that was missed, but it was. How embarrassing!

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### **Eugene Prop Spinners Fun Fly May 4, 2019**

The EPS hosted a very nice fun fly at their club field, located at the "Can-Do Ranch" which is near Junction City. It was their first-ever organized event to include guests. Ye Olde Editor was planning to attend, but something got in the way. Non-Eugene area WOLF members Craig Bartlett and Gerald Schamp did attend to represent the mid-valley club members.

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### **2019 Northwest Control-Line Regionals Roseburg, Oregon May 24 - 26**

The big one was once again, the big one! Entry level was slightly up this year and each and every competition category had some good competition. There was a little bit of "wet stuff" on Saturday and early Sunday morning. But the action kept on for the most part.

As usual, several WOLF members were in attendance either officiating, working, flying, spectating, or a combination of these. It was a great contest!

Go to [flyinglines.org](http://flyinglines.org) for the full results and an excellent report with many photos.

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### **AMA District XI Jamboree Wenatchee, Washington June 7 - 9, 2019**

And now for something just a little bit different! Ye Olde Editor decided to venture up north to this inaugural event. Originally it was intended to be an all discipline inclusive flying shindig, but unfortunately the original location became unavailable. The event was then moved to the home field of the Wenatchee Red Apple Flyers, which is a nearly all RC club.

I will have to say that I have never seen such a nice flying facility that this group enjoys. Manicured lawn, paved parking area, a huge clubhouse, nicely paved runway, power to the pit stations, RV camping, etc. All that is missing is a dedicated control line circle, which would be hard to squeeze onto their property.

So while this was mainly a RC love fest, they did have some time scheduled for CL demo flying. Other activities included vendor booths, swap meet, AMA meetings, and a couple of great dinners.

It was disappointing to see so few CL folks show up to fly. Those included Orin Humphries, Ken Bugar (local), and myself. On Friday conditions were very windy and flying activity was somewhat light. For the CL demo I had only one plane that seemed suitable, a high power 1/2 A combat plane. The crowd there had obviously never seen anything maneuver that fast before. Come to think of it, neither have I! The 15 to 20+ mph winds really whipped that plane into a frenzy.

On Saturday, conditions were a bit better and we all got some flights in.

Perhaps next year the event will take place at a field where more CL can take place. Despite the limited CL activity, I had a great time and the RC guys enjoyed watching it.

# The Northwest Skyraiders Presents **STUNT-A-THON - 2019**

**The 38th Annual NW Premier All-Stunt Contest**  
**June 22<sup>nd</sup> and 23<sup>rd</sup>, 2019**

**Auburn Municipal Airport, Auburn, WA**

For a map to the airport, use this website: <http://auburnmunicipalairport.com>

From 15<sup>th</sup> St. NW (Auburn), go north on D St. NE, to the airport south gate.

*Sponsored by the Northwest Skyraiders --- AMA Sanctioned*  
**Mufflers required for all events. NO Practice flying Friday!**

<b>SCHEDULE</b>			
<b>SATURDAY, June 22<sup>nd</sup>:</b>		<b>SUNDAY, June 23<sup>rd</sup>:</b>	
10:00 am	OLD TIME STUNT	9am-finish	PRECISION AEROBATICS:
Noon	CLASSIC STUNT		BEGINNER skill class
2 pm	Profile Stunt-Sportsman/Expert		INTERMEDIATE skill class
All Day	NW Sport 40 Carrier (2 <sup>nd</sup> circle)		ADVANCED skill class
			EXPERT skill class

**ALL EVENTS ARE JUNIOR - SENIOR - ADULT CLASS COMBINED**

**THERE WILL BE AWARDS FOR ALL JUNIORS IN ALL EVENTS**

**Classy Awards are supplied through 3<sup>rd</sup> Place, courtesy of the Skyraiders.**

1. Registration is from 8:00 am until start of event, or Noon, whichever is earlier.
2. Sr/Adult: \$20 FOR FIRST EVENT, \$5 EACH FOR ADDITIONAL EVENTS  
\$40 MAXIMUM (US Funds)---JUNIORS FREE!...SENIORS HALF PRICE!
3. AMA or MAAC Membership is required of all participants and mechanics
4. AMA membership is available at registration.
5. Events are per Current PAMPA, NW rules and AMA 2019-20 Rule Book!  
KNOW THE RULES !!! Profile and Classic Stunt will use 2018 rules. OTS will use new AMA pull test, PAMPA OTS rules with pattern points!
6. ALL SATURDAY EVENTS TO BE FINISHED BY 5 PM ON SATURDAY
7. SATURDAY EVENT AWARDS WILL BE PRESENTED SATURDAY BY 5:30 PM.
8. ALL SUNDAY STUNT EVENTS WILL BE FINISHED BY 3:30 PM ON SUNDAY.
9. AWARDS PRESENTATION WILL BEGIN AT 4:00 PM ON SUNDAY.

*For Information, contact:*

*Mike Haverly*

*253-797-8089*

*e-mail: [moneypit2k@comcast.net](mailto:moneypit2k@comcast.net)*

Mackintosh HD/Users/John Thompson/Desktop/2019\_Stuntathon Flyer.docx

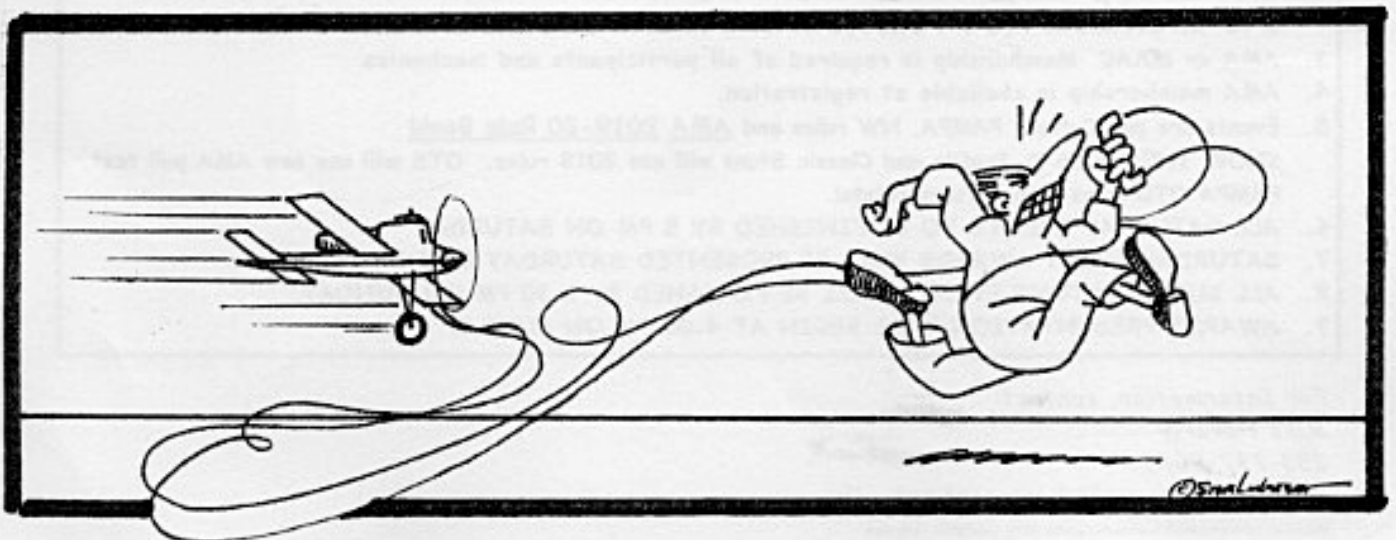


## WOLF / Northwest Control Line Calendar 2019

- |                 |   |
|-----------------|---|
| June 22 & 23    | Skyraiders Stuntathon, Auburn, Washington             |
| June 28 - 30    | Salem Summer Tune-Up                                  |
| July 13         | Lucky Hand Fun Fly, Salem                             |
| July 27         | Skyraiders Summer Swap Meet, Kent, Washington         |
| July 27         | A Day at the Races, Portland                          |
| August 9 - 11   | Bladder Grabber Combat. Snohomish, Washington         |
| August 24       | Zoot Ranch Picnic & Fun Fly (Mike's place)            |
| September 7 & 8 | R.F. Stevenson Memorial Raider Roundup, Auburn, Wash. |
| Sept. 28 - 29   | NW CL Speed Championships, Salem                      |
| October 4       | Ringmaster Fun Fly                                    |
| October 5 - 6   | Fall Follies, Salem                                   |

As always, go to the "where the action is" section on the flyinglines website for further details.

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## Miscellaneous Bits....

As you can see, this is a larger than usual issue of WOLF CALL. Hey, have you ever wondered why Ye Olde Editor is still sending out a paper newsletter? Yes, most of the world is now digital. But I remain true to being a luddite!

The cartoon with the pilot hot-footing it away from the racing plane is a Steve Lindstedt original. It was originally published way back in the 80's or so. Many of Steve's great cartoons have been circulated around the world over the years.

Hey, what about a caption for it? Maybe something like: "A little light on the tip weight?"

Hope the tech article regarding bearing replacement was worthwhile. Will try and get more items like this in the pages, especially when it is easy to rob them from other sources.

Just another little note regarding my attendance at the District Jamboree event. I had opportunity to sit in on a meeting chaired by the AMA president in regards to the current hoopla about FAA regulations and how they might impact model aviation. As you know this is mostly a concern for the radio control guys, but the waters here are still somewhat murky. This is especially so if you are flying at or near an airport.

If you have been following this subject on the Stunthanger forum you can see that this is a subject not everyone agrees on. As our AMA prez said, there is a lot of bad and conflicting information floating around. Part of the problem he cited was that the FAA is constantly changing on how they view the situation.

But what I came away with was that we are OK with control line activity at our airport. Lots more could be said on the subject, but it makes my head hurt!

## SALEM SUMMER TUNE-UP!

OK, just a quick review: June 28, 29, & 30.

On Friday official flying for Carrier opens at noon on the grass circle. The paved circle is open for other flying.

On Saturday, Carrier flying continues on the grass circle, and we do some racing on the paved circle in the morning. At noon we will start official Speed flying on the paved circle.

On Sunday it will be official flying for Speed only, but the Carrier deck will still be in place for those wanting to practice on that. See you then!

## Tips for student pilots at the Brad McMurray school of flying!

1. Takeoffs are optional. Landings are mandatory.
2. If you push the stick forward, the houses get bigger. If you pull the stick back, they get smaller.
3. Flying isn't dangerous. Crashing is dangerous.
4. It's always better to be down here wishing you were up there than up there wishing you were down here.
5. The only time you have too much fuel is when you're on fire.
6. The propeller is just a big fan in front of the plane used to keep the pilot cool. When it stops, you can actually watch the pilot start sweating.
7. When in doubt, hold on to your altitude. No one has ever collided with the sky.
8. A "good" landing is one from which you can walk away. A "great" landing is one after which they can use the plane again.
9. Learn from the mistakes of others. You won't live long enough to make all of them yourself.
10. You know you've landed with the wheels up if it takes full power to taxi to the ramp.
11. The probability of survival is inversely proportional to the angle of arrival. Large angle of arrival equals a small probability of survival --and vice versa.
12. Never let an airplane take you somewhere your brain didn't get to five minutes earlier.
13. Stay out of clouds. The silver lining everyone keeps talking about might be another airplane going in the opposite direction.
14. Reliable sources also report that mountains have been known to hide out in clouds.
15. There are three simple rules for making a smooth landing. Unfortunately, no one knows what they are.
16. You start with a bag full of luck and an empty bag of experience. The trick is to fill the bag of experience before you empty the bag of luck.
17. Keep looking around. There's always something you've missed.
18. If all you can see out of the windscreen is ground that's going round and round and all you can hear is commotion coming from the passenger compartment, things are not at all as they should be.
19. In the ongoing battle between objects made of aluminum going hundreds of miles per hour and the ground going zero miles per hour, the ground has yet to lose.
20. Good judgment comes from experience. Unfortunately, experience usually comes from bad judgment.
21. It's always a good idea to keep the pointy end going forward as much as possible.
22. There are old pilots and there are bold pilots. There are, however, no old, bold pilots.
23. Remember, gravity is not just a good idea. It's the law. And it's not subject to repeal.
24. Always try to keep the number of landings you make equal to the number of takeoffs you've made.
25. The three most useless things to a pilot are altitude above you, runway behind you, and a tenth of a second ago.

And a bonus tip:

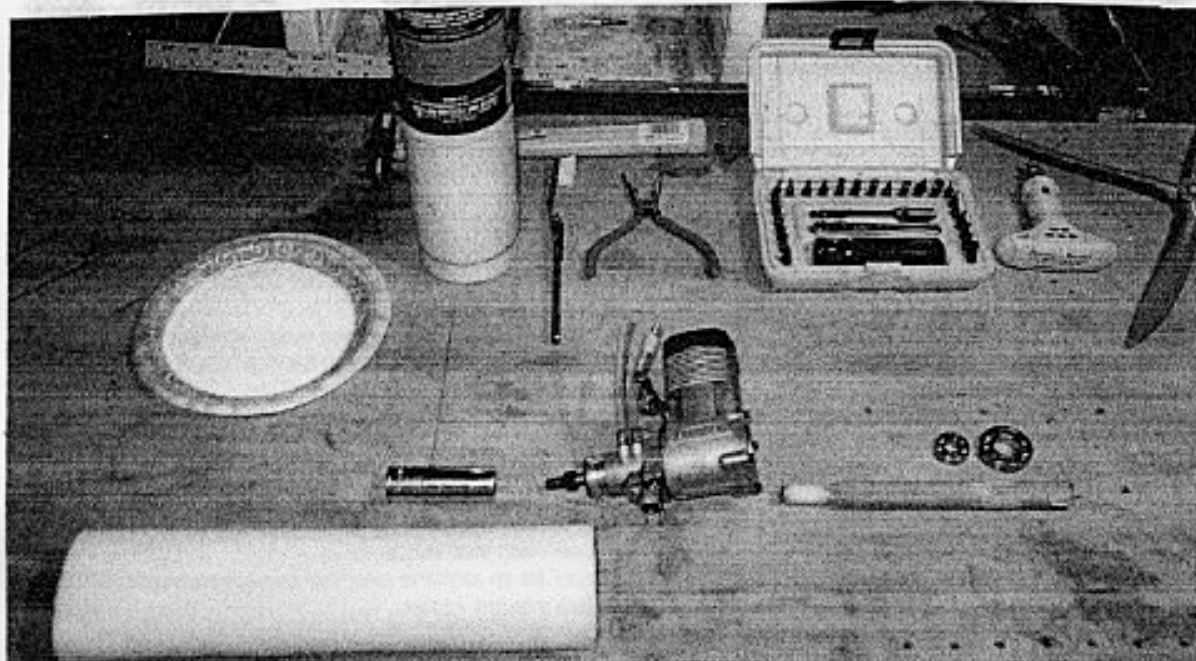
Helicopters can't fly; they're just so ugly the earth repels them.

# How to Change Crankshaft Bearings

*How to Change Crankshaft Bearings*

*by Dean Pappas*

*As seen in "If It Flies ..." in the February 2010 issue of Model Aviation*



Bearing maintenance requires standard shop tools and homemade and make-do types. Add bowls or paper plates to keep parts safe and handy, alcohol, an old toothbrush, and paper towels for cleaning parts, and you're ready.

Last time we got together, I described what happened after the well-worn, and somewhat corroded, crankshaft bearing let go in the YS61 engine that powered my Tiger 60. It's a dandy airplane, and I love to shoot tankfuls of touch-and-gos with it.

When a few bits of rust flaked off of the bearing and scratched the piston and cylinder liner, the first thing that went away was—no, not the horsepower—the reliable idle. A loss of idle reliability is often the first sign that something is wrong with an engine.

The rebuild will require new crankshaft bearings to go along with the new piston/liner I obtained from YS Parts and Service.

Let's do a how-to about changing crankshaft bearings. If you are smart (as I wasn't), you'll heed the warning signs that the crankshaft bearings are in the beginning stages of failure and replace them before they damage other, more expensive engine parts.

Those signs are:

1. A rumble or gravelly feel and sound as you turn the propeller back and forth.
2. A turbinelike whine.
3. A loss of idle reliability (which happens for several reasons).
4. Visible rust when you remove the crankcase backplate.

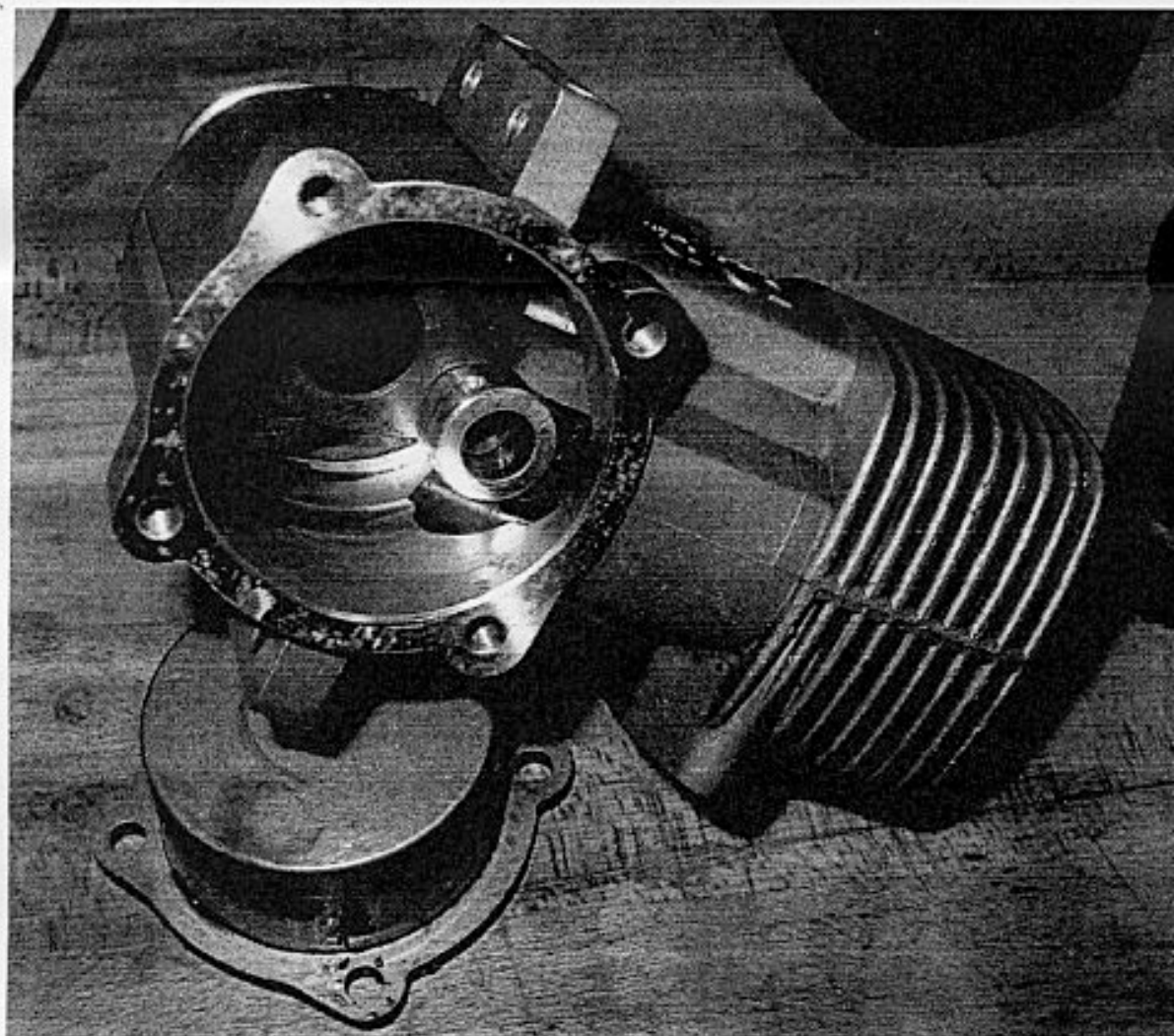


The rear bearing typically fails first, although it is good practice to replace both of them at the same time. The front bearing rarely rusts like the rear one does, as a result of being exposed to fuel. I prefer to replace the OEM (original equipment manufacturer) rear bearings with stainless steel, because corrosion is the biggest enemy.

To begin, disassemble the engine. Take care to remove all gaskets, O-rings, and plastic parts from the crankcase, because the process of bearing removal involves heat that can destroy them.

At this point, I prefer to clean the entire engine using denatured alcohol. Not only is it helpful when taking apart the power plant, but the heat used in the bearing-removal process will bake any crud onto the engine's innards, and that can complicate the reassembly.

Removing the piston and connecting rod from most engines requires that the cylinder liner be lifted up out of the crankcase after the cylinder head is removed. With the piston at Top Dead Center, there is room to slide the connecting rod aft and slide it off of the crankpin.

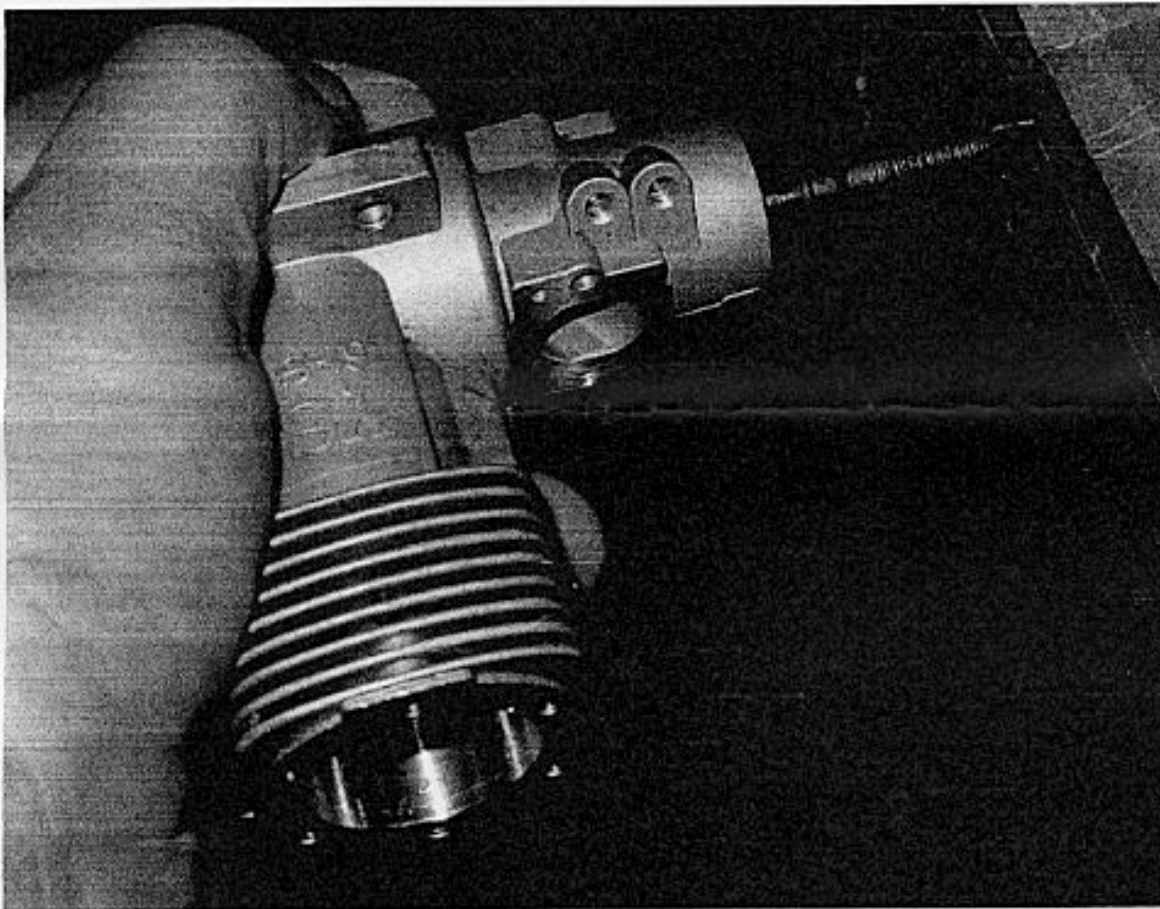


Sometimes it takes persuasion to remove the crankshaft from both bearings. Protect threads with the prop nut, and smack the front of the crank into a table edge or hit it with a large block of wood.

There is usually wiggling involved, and gummed-up oil and rust under the piston can make this difficult. Four-strokes require a bit of extra care and attention because of the camshaft. Take note of any timing marks on the camshaft with the power plant at Top Dead Center. If in doubt, consult the instructions that came with the engine or the Internet!

It's time to remove the bearings. You need special tools. Make one from a piece of 1/2-inch-diameter wooden dowel, similar to the one in the pictures. Taper it so that it fits snugly into the central passage on the crankshaft, like a lollipop.

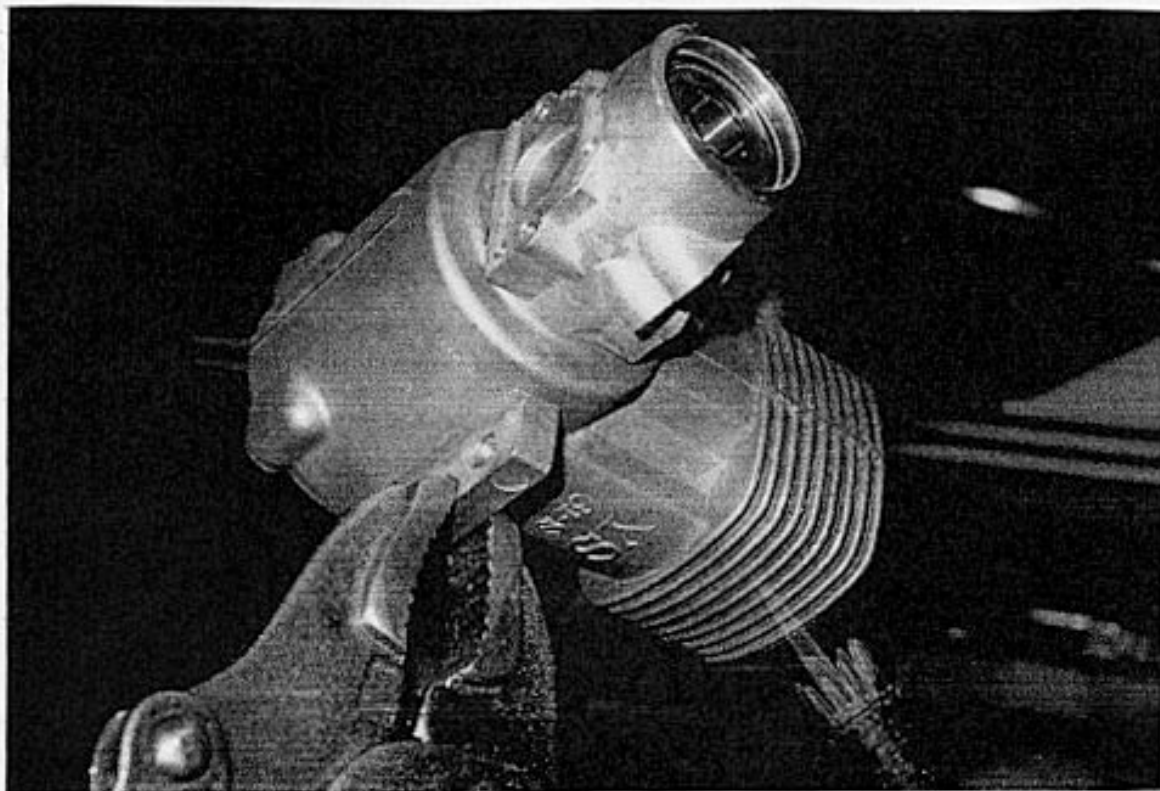
Remove the crankshaft from the engine. If it requires a bit of persuasion, remove the drive washer and collet or keyway, and put the prop nut back on the shaft so it protects the last thread.



After removing the head and cylinder, you should be able to disengage the connecting rod from the crankpin. This requires rotating the crankshaft to top dead center and that fore and aft play in the upper connecting rod be used to help get the rod off the crank.

Gently smack the engine head-on into the edge of your wooden building tabletop (no hammers, please!) and be prepared to catch the crank. Next, make sure that the back end of that wooden dowel is the right size for pushing the front bearing out of the crankcase later. Now we are ready.





With the crankcase held firmly in vise-grip pliers' jaws, warm the front of the crankcase with a propane torch for close to a minute. Then tap the case against the tabletop so the rear bearing falls out. Immediately turn the case over and push the front bearing out with the dowel while the aluminum is still hot.

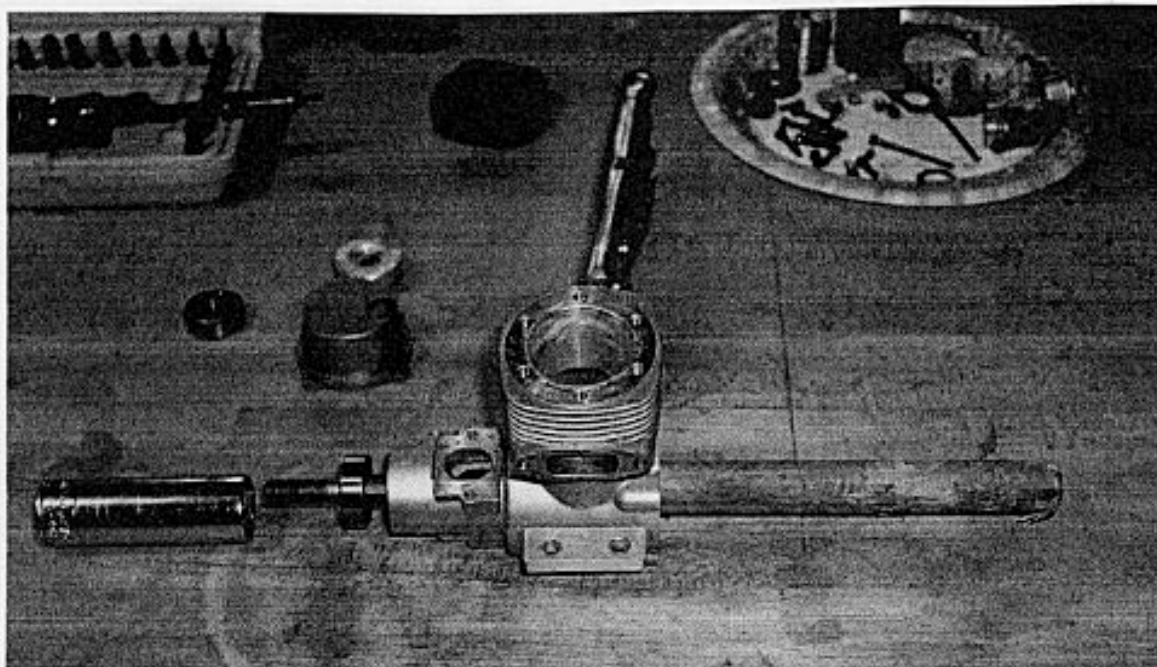
With the engine thoroughly cleaned, grab it with a pair of vise-grip pliers by the mounting lug. Light your propane torch and gently warm the bottom of the case, all around, for roughly one minute. Hold the case nose-up and never park the flame on one spot, because a lot of heat should not be necessary.

Sometimes the rear bearing will fall out on its own, but a sharp rap against the tabletop, or wooden cutting block, will do the trick. Quickly (before the aluminum cools) push the front bearing out with the dowel and let everything cool completely before touching it!

Some of us prefer to use the oven for heating the crankcase, but care must be taken not to set it higher than 300°. Temperatures near 350° can distort the case and ruin it. Place the engine nose-up on an old cookie sheet and listen for the "tink" as the rear bearing drops.

Reclean the crankcase with alcohol and an old toothbrush, paying special attention to the bearing seats.

Assemble the lollipop as shown, with the rear bearing firmly in place against the crank disk. Have the front bearing ready, as well as the deep socket wrench that you will use to press the front bearing into place.



The dowel and crankshaft lollipop with rear bearing pressed onto it and the deep socket are ready for the next step: pressing the new bearings into the reheated crankcase. Heat the case with the torch for the same length of time as for the removal, and move quickly.

Moving quickly from the last step, grab the entire assembly and thump it gently but firmly onto the table so that the bearings are firmly pressed against their seats. You can even tap the top of the socket with a block of wood to be sure. Hammers are unacceptable!

Warm the case with the torch, taking care to warm the front end as much as the rest and, moving quickly, push the lollipop home and place the front bearing onto the shaft. Push the whole mess together using the socket against the outer race of the front bearing. Your goal is to get both fully seated. Replace the drive washer and any washers or keys associated with it, and tighten a propeller onto the engine so it is snug but not tight.

The power plant might start to bind as it cools; do not panic. Turn a hammer the wrong way around; using the wooden part, "ring" the crankcase like a bell. The bearings will move a tiny fraction of a thousandth of an inch and all will free up. Retighten the propeller and repeat until the engine is cool, the propeller is tight, and everything rotates freely.

Some engines use sealed greased bearings. For those without seals (not metal shields), I like to wash the grease out of them with mineral spirits, so that the crankshaft binding test, described in the preceding, is nice and sensitive.

Afterward I relube the bearings with Mobil 1 synthetic oil and replace the rubber seals, if any. The oil in the fuel will replace it under running conditions.

All that remains is to reassemble the engine. Take care to correctly orient the piston and connecting rod. If there is any question, the hole in the connecting rod normally has a bigger chamfer on the front edge. If the piston has a ring, take care to orient it so that the ring collapses properly into its groove, and carefully slide the bottom edge of the cylinder liner over it.

When reassembling, take extra care to make sure that the carburetor is fully seated and that all gaskets and screws are properly tightened. Nothing ruins the way a two-stroke runs as does an air leak to the crankcase. For those of you with four-strokes, take the time to check the camshaft alignment twice before you put on the cover.



As the crankcase cools and shrinks in length, a few thousandths of an inch, the shaft and bearings may bind. Fix the drive washer, mount the propeller, and tighten the prop nut so it is snug but not very tight. Ring the case like an aluminum bell with the wooden hammer handle; a few will do the trick.



# ASSEMBLY ALIGNMENT INFORMATION

In order for your new model to fly straight and perform both inside and outside type maneuvers consistently and accurately with the same trim settings there are a few critical alignment procedures that must be followed as you assemble this model.

These procedures are in addition to any other alignment details described in our instruction book.

Unless otherwise noted on the individual kit plans, the incidence angles of the wing and stabilizer should always be set at  $0^\circ$  in relationship to the motor thrust line.

The following procedure should be used to verify these settings.

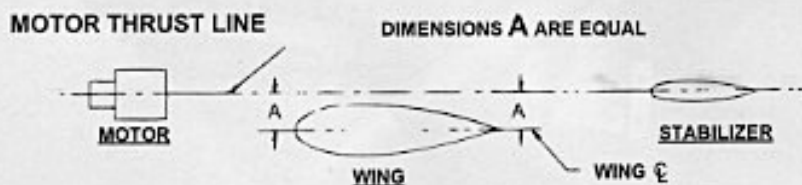
First a thrust reference line that is parallel with the motor mounts should be drawn the length of the fuselage using a felt pen. In lieu of a felt pen line, a straight edge along the top or bottom of the fuselage could be used as this reference line. This line will now become your reference point in verifying that the wing and stabilizer are set at  $0^\circ$  incidence or in other words parallel with the motor thrust line. Methods will vary depending upon the particular model you are building.

This incidence angle is determined from an imaginary line drawn horizontally thru the center of the wing and stabilizer airfoil sections and then measuring back to the motor thrust line on the fuselage at the leading and trailing edges. (See examples). When the dimensions at the leading and trailing edges are equal, it is assumed that the component is set at a  $0^\circ$  incidence angle in relationship to the motor thrust line.

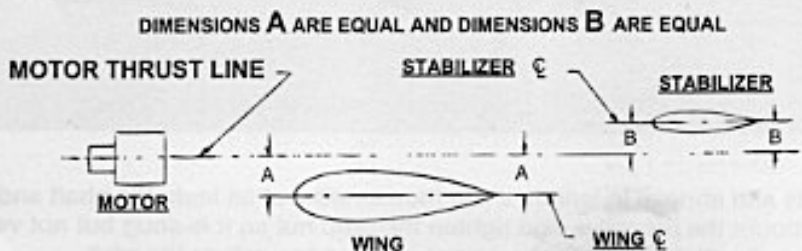
Many wing and stabilizer locations are possible although the method of verifying the incidence angles would remain consistent with the examples shown. Model aircraft of bi-plane and canard configurations may require incidence angle settings that are unique to their particular designs and will have that information furnished in any appropriate kit.



**EXAMPLE #1 •** MOTOR, WING AND STABILIZER ALL ALIGNED ALONG SAME THRUST REFERENCE LINE



**EXAMPLE #2 •** WING MOUNTED BELOW THRUST REFERENCE LINE



**EXAMPLE #3 •** WING MOUNTED BELOW THRUST REFERENCE LINE AND STABILIZER MOUNTED ABOVE THRUST REFERENCE LINE

**the WESTERN OREGON CONTROL LINE FLYERS present...**

# LUCKY HAND



**JULY 13**

SALEM,  
OREGON

# FUN FLY

[illegible]

**If you fly Control Line Model Planes, you already have a lucky hand!**

Now try your hand at our fun fly with a flying poker draw!

Site is the Bill Riegel Model Airpark at the Salem Airport

### The Details:

The cost to participate is ten dollars. You are dealt one card for each flight, for a maximum of five cards. Cards will be displayed face up by your name at the dealers table. Best hand at closing wins half of the pot. Second and third best hands will be awarded merchandise prizes.

There will be two circles to fly on, one paved and one grass surface.

Bring any kind of CL plane, stunt, scale, trainer, combat, etc.

Fun Fly hours are 10 AM to 3 PM (you do not have to be present for your hand to win)

For more information contact: Mike Hazel, [zzclspeed@aol.com](mailto:zzclspeed@aol.com) or 503-871-1057

## COME FLY WITH THE WOLF!