October 2003

President:	Gary Martin	(503) 452-9544	martinmodel@hotmail.com
Vice President	Bart Pond	(503) 640 5545	aldenb@teleport.com
Treasurer	Bud Statton	(503) 324 9514	BudStatton@worldnet.att.net
Membership	Dave Francisco	(503) 761 4446	frisco@hevanet.com
Photographer	Gary Hart	(360) 695 3740	hartmetal@msn.com
Photographer	Chuck Clark	(360) 253-2530	chuckc2@attbi.com
Photographer	Carl Petterson	(503) 245-8335	ctomten@easystreet.com
Editor	Bob Diffely	(503) 246 9206	blinda@saw.net
Webmaster	Greg Dermer	(503) 281 9238	depmco@easystreet.co
Member at large	Bill Miller	(503) 246 2175	bilau@gte.net

Last Meeting was at **Bud Statton's** house where Bud provided the most entertaining meeting we've had for some time. Thanks Bud and thanks to Mrs. Statton who made the club picnic such a success. The following pages highlight the meeting but Bud had some relevant reflections on the day which are stated in the next column. I hope a number of the members will take up his offer to soon try the foundry process again.

Next Meeting is scheduled for October 11th, 1pm at Alan Schurman's Iron Ranch, Ridgefield, WA (see enclosed directions). This ranch is one of the most interesting places to see steam and gas engines, antique bicycles, motorcycles, cars and toys, rusting iron of all kinds, etc. Please note a **Board Meeting** is scheduled at 11am that day at the Iron Ranch.

Many Future Meetings are scheduled. See Meeting Schedule box inside.

GEARS 2004 is moving along. Since last month's newsletter, the committee deciding the future of PRIME expositions has renamed the 2004 exposition to GEARS 2004. That stands for "Gas Engine & Antique Reproductions Show" which was suggested by **Randy Rockwell** of the Mid Valley Model Engineers club. The tentative aspects of the show are still September 25 & 26, 2004 at the Kliever Armory in Portland near 33rd and Marine drive.

Patternmaking Class. Gary Martin teaches patternmaking Thursday nights and woodworking Wednesday night through PCC at Wilson High School. Sign up for one and come either night or both nights to double your pleasure. Fall, Winter and Spring terms. Call him at 503-452-9544 or Email gary@martinmodel.com for more information.

For the Beginner # 8

I was asked to explain how to sharpen tools at the last meeting. I have been sharpening drill bits by hand for longer than I can remember. Some I got pretty good others not so good. There are several tools on the market to sharpen drills and some work OK others, well. If a drill is sharpened with one of the lips longer than the other you will not get the correct size hole. If you don't get back rake the cutting edge will not cut. If you want the hole really close, drill undersize and ream. There is a good write up in The Home Machinist, July August, on the Drill Doctor. I don't know if George Ingraham works for Drill Doctor but he has written well for this machine. If you want good sharp drills every time get a drill doctor. I used the least expensive one and could not get a good point. I changed to the bigger one and that was the end of my trouble.

When I break a tap that used to be the end of it. I have been grinding the end square and using it for a bottoming tap. If you think I can see well enough to grind a back rake, think again. Back to The Home Machinist, Sept. Oct. Glenn Wilson has a tool he says will sharpen " Threading Tools" I haven't tried it yet but it looks simple enough for me to try to make one. Great, just what I need another tool in my crowded shop.

Many other tools can be sharpened by hand. This was a week's lesson in my school shop, too much for just one column.

Wes Ramsey

A few reflective notes on the PME picnic and this year's operation of the cupola.

Well the first thing is that I hope everyone had as good a time as I did. This year's cupola operation went a lot better in that we actually had hot iron coming out, though all we had was a bread pan to put it in. (I still haven't gotten it out). In thinking about how it went that day, with an eye for next year, I think I know what went wrong.

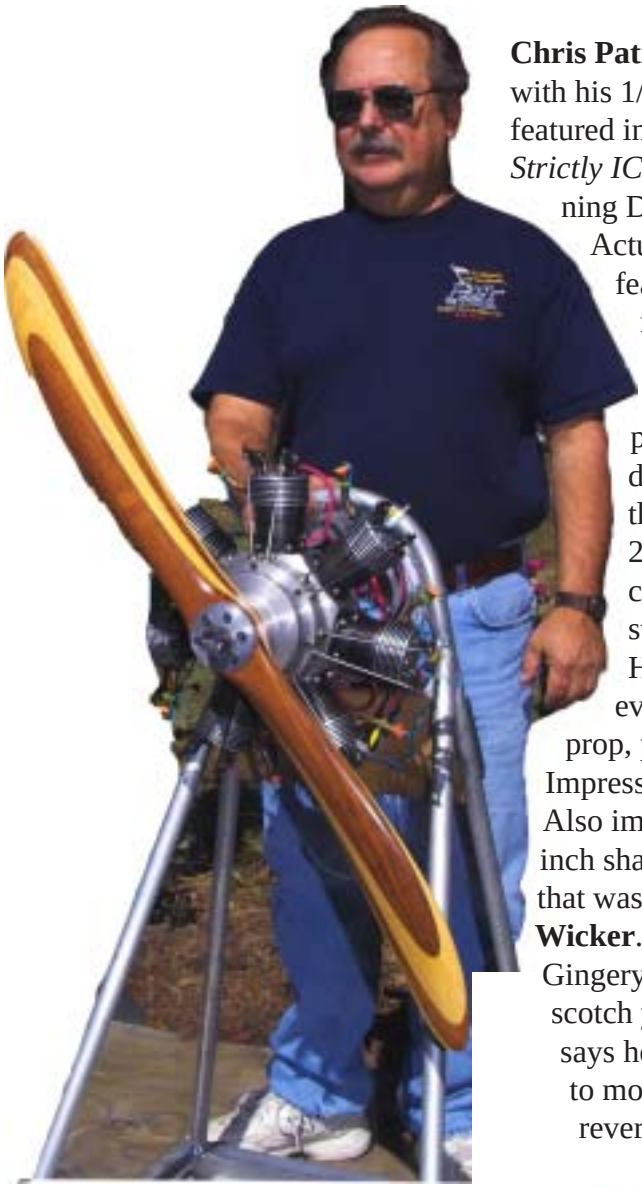
1st and biggest problem was the tap hole design. The current tap hole is fairly small and goes all the way through the lining at the same diameter. This makes getting a clay bot fully into the hole nearly impossible. Since the bot only went part way through the liner , it allowed a plug of molten iron to sit and cool behind the bot in the passage through the liner. I'm going to widen out the hole and before each heat make a tapered tap hole where the bot can easily be gotten all the way into the well

In addition, the tap hole was a bit to close to the bottom, thus not allowing a deep enough bed of sand to act as an insulator to help keep the iron in the well hot. When we pried out the iron plug in the bottom of the furnace , it was wedge shaped corresponding to the contour of the bottom sand bed and solid on the end with the thinnest sand bed. It also had a 1 ? inch projection that was frozen in the tap hole.

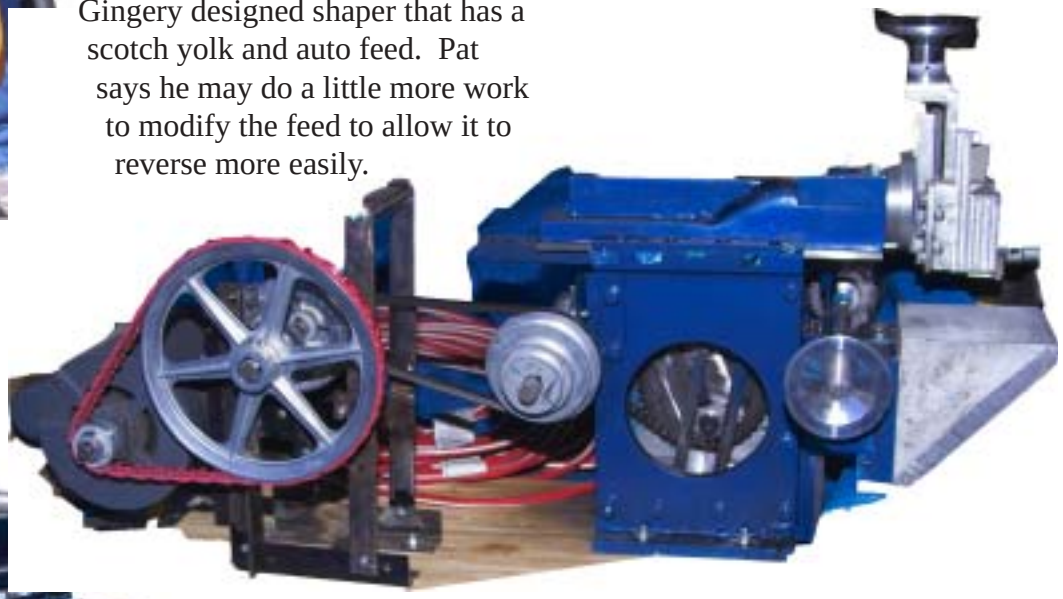
I also let it sit too long at one point and that let iron cool in the well. The sitting and soaking up the heat is supposed to be done before you have molten metal. Once you have molten metal you have to keep tapping at about 5 minute intervals for this size cupola or else the iron will freeze in the well…as it did. The other thing that would have helped a great deal would be a pre heated ladle to catch the iron instead of trying to get it to flow into a mold directly or not tapping on time while waiting for a mold.

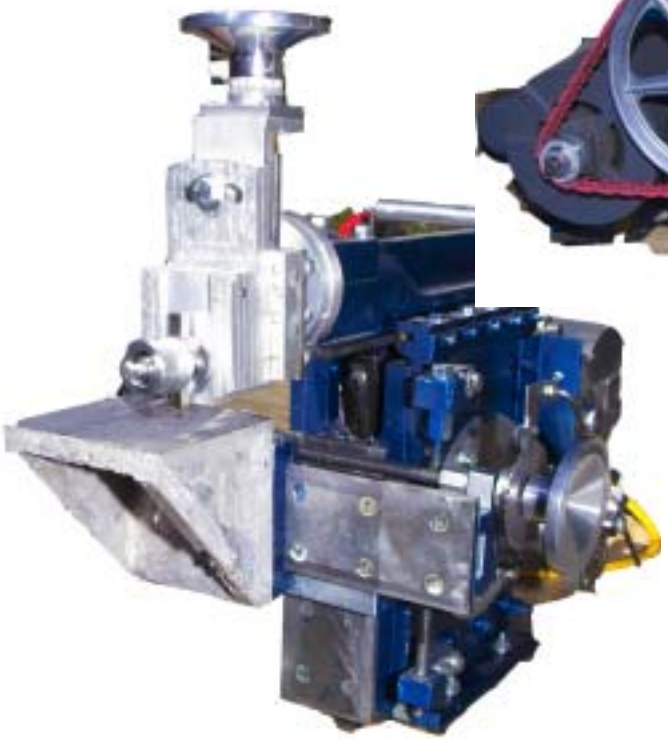
If any of you are interested in coming out some Sat to try it again I'm up for it. Just let me know and it would give us a chance to try out some of the ideas.

Bud Statton



Chris Patrick (left) is shown with his 1/3 scale Jemma as featured in five issues of *Strictly IC* magazine beginning December 1999. Actually the magazine featured a 1/6 scale model but Chris found the parts too small for his preference and doubled its size to that shown.He spent 2.5 years on this 7 cylinder radial made strictly from stock. He constructed everything but the prop, plugs and hardware. Impressive job Chris. Also impressive is the 7 inch shaper shown below that was constructed by **Pat Wicker**. This is, of course, a Gingery designed shaper that has a scotch yolk and auto feed. Pat says he may do a little more work to modify the feed to allow it to reverse more easily.



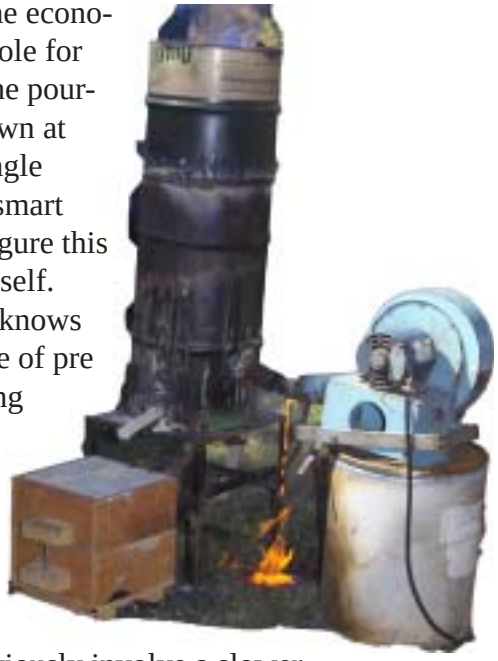


Meeting Schedule

October 11 meeting: Alan Schurmans Iron Ranch, Ridgefield, WA (see enclosed directions). All Following Subject to Change: **November 8**: R Plastics-vaccuum forming, NE Portland, **December 13**: Paul Lawsons hanger at Pearson Airpark, Vancouver, WA, 2004: **January 10**: Paul Pierce Antique computer collection, NE Portland, **February 14**, Mesher Tool, NW Portland, **March 13**, ???, **April 10**: Bill Mitchells Orchid Farm and Steam Train in Yamhill.

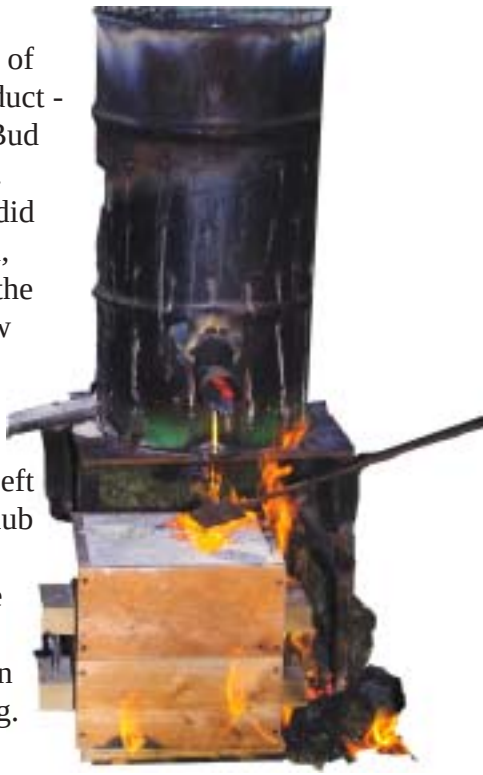
Wow what a project. **Bud Statton** (right) invited the club to his home for a day of foundry work, entertainment and our annual picnic. He succeeded on all counts - mostly. This picture shows him loading the cupola with fuel. Bud was kind enough to share his knowledge of foundry work with the members.

For example, he showed us the economies of using a single hole for both air feed and the pouring spout (as shown at right) Not a single member was smart enough to figure this out by himself.

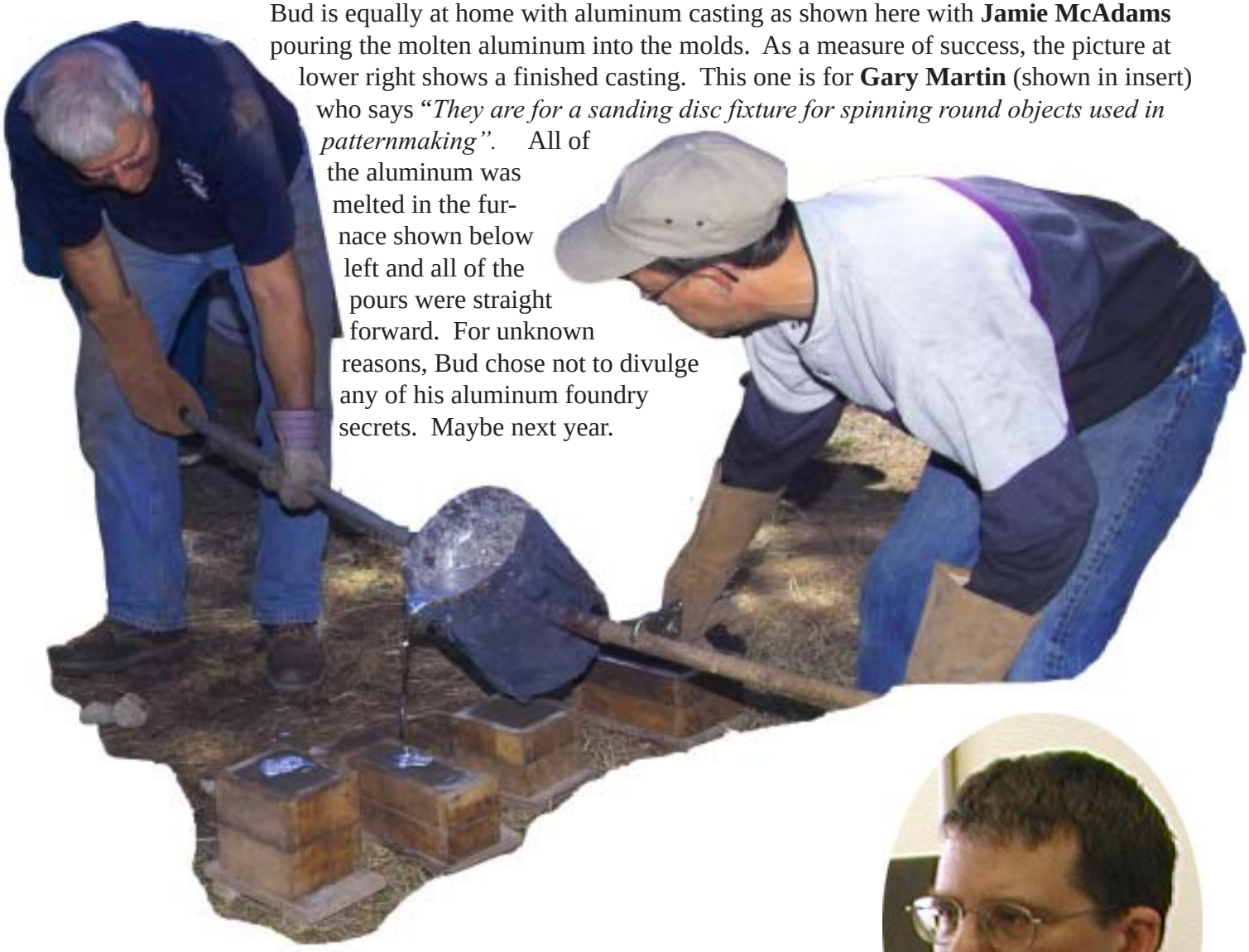


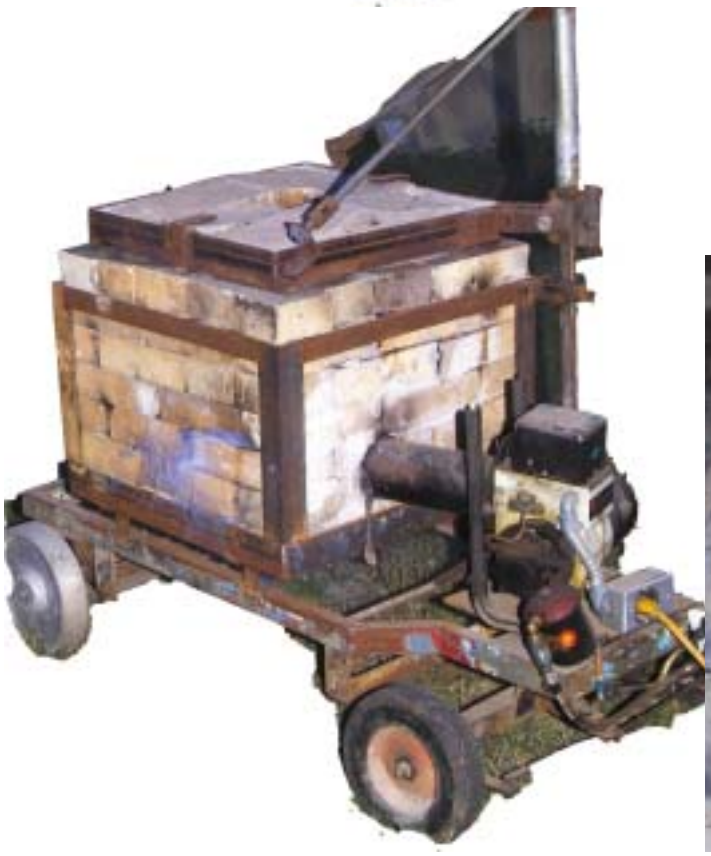
Bud also knows the value of pre warming the pattern boxes as shown below right. The benefits obviously involve a slower cooling of the iron thereby providing greater definition of the finished product - another secret Bud shared with us.

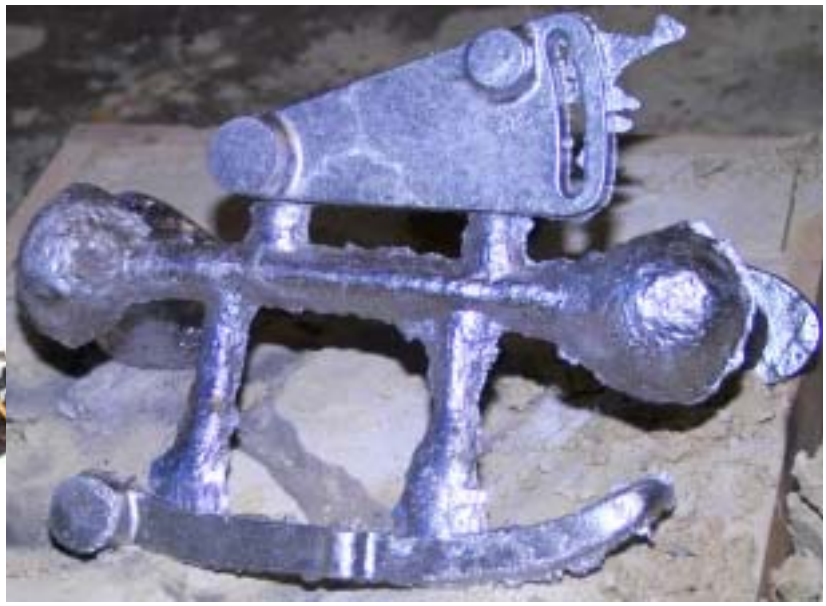
Bud's efforts did take their toll, however as the photo below shows him passed out from exhaustion. Below left shows two club members tamping the mold in preparation for casting.



Bud is equally at home with aluminum casting as shown here with **Jamie McAdams** pouring the molten aluminum into the molds. As a measure of success, the picture at lower right shows a finished casting. This one is for **Gary Martin** (shown in insert) who says "*They are for a sanding disc fixture for spinning round objects used in patternmaking".* All of the aluminum was melted in the furnace shown below left and all of the pours were straight forward. For unknown reasons, Bud chose not to divulge any of his aluminum foundry secrets. Maybe next year.







Directions to Alan Shurman's Iron Ranch

1. From the point of merger of I-5 with I-205 north of Vancouver:
2. Take the WA-502 E/ NE 179TH ST exit- exit number 9- toward BATTLE GROUND. 0.32 miles
3. Stay straight to go onto WA-502/ NE 10TH AVE. Continue to follow NE 10TH AVE. 2.67 miles
4. Look for and turn **left** at the steam engine frame holding the mailbox. For reference, there is an old lathe holding a mailbox on the **right** hand side of the road for his machine shop business.

(The ranch is about 3/4 mile past the second traffic light from the freeway.)

The ariel view below is for those of you who will be flying.