



**WESTERN
OREGON
CONTROL
LINE
FLYERS**

THE WOLF CALL

February / March 2020

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

Upcoming Area Events

**McMinnville Swap Meet
March 14**

**Oregon Flying Fun #3
Bill Riegel Model Airpark, Salem
March 28**

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.

WOLF CLUB OFFICERS:

President: Craig Bartlett

Vice-President: Dean Singleton

Secretary-Treasurer: Mike Hazel

Safety Officer: John Thompson

Newsletter: Mike Hazel

For the latest Northwest Control Line news go to:
flyinglines.org

Miscellaneous Ramblings from Ye Olde Editor

Greetings All! Looks like the weather is finally resembling something we can go flying in and not suffer doing so!

Earlier in the month the Roseburg gang hosted their fun fly. Ye olde editor was planning on going, but decided to stay warm and dry instead. WOLF members in attendance were Jim Corbett, John Thompson, Gene Pape, and Dave Royer came all the way from Portland. Thanks for standing up, guys!

The WOLF AGM held in January was a good event, although a bit crowded. It seems that the Flight Deck restaurant was in process of remodeling their downstairs area and the group area there has been reduced in size. Maybe we should try and find another venue for next year. A report on the meeting is elsewhere in this issue. By the way, the weather was pretty nice on that day. Fred and Jerry did not let it go to waste as they headed straight to the flying field after the meeting to put up some flights.

For those of you who like to look for deals, the swap meet in Mac is coming up soon. This is always a well attended event with plenty of vendor tables. The location has moved this year, going into a larger facility. The enclosed flyer has the directions.

At the end of March we are hosting the number three installment of the Oregon Flying Fun series. Hours are from 10 to 3 for the fun fly, where every flight earns a chance for a nifty prize. Bring a bunch of planes and fly them all! Don't be scared and don't be shy, please come on out and support this event!

Do you remember the days when you looked forward to your favorite modeling magazine showing up in the mail, or perhaps picking up the latest issue at the hobby shop? And then you quickly skimmed through it looking for the most interesting features. This was followed up by going thru the pages again, sometimes spending a couple of hours delving into the details.

So, how long does it now take to go cover to cover with Model Aviation, our A.M.A. mag? Sadly, with some issues it seems this can be done in just a few minutes. Even when going through a lot of RC-oriented articles looking for useful information it can be slim pickings.

Is this just me? Am I being too cynical or critical here? Would love to hear some thoughts from others on this topic.

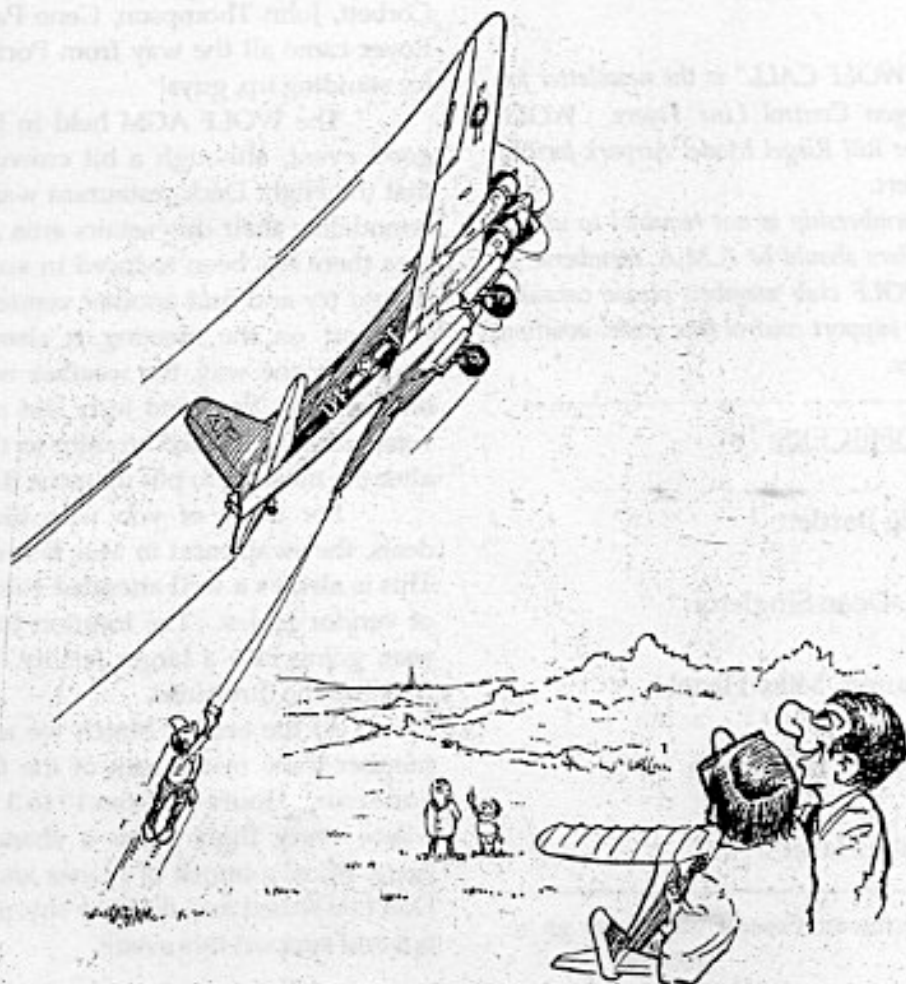
BE QUIET!

What could be a better introduction for an article regarding mufflers?

In the following few pages is a reprint of a great article from the MECA newsletter. (Model Engine Collectors Association).

Noise reduction of our wonderful little noisy power plants has been a goal and topic for a few decades now. The W.A.M. organization of northern California mandated mufflers in the very late 1960's. And mufflers became a requirement at most RC fields not long after that.

It was quite a surprise to see in this article just how far back muffler development actually began.



'He's lucky. One of the members bet him a fiver that it wouldn't fly.'

From: Raymond Leone
435 Delnor Glen Drive, St. Charles, IL 60174
Phone: (630) 762-1593

The Mart-Lee Muffler

After World War II, the need for model engine mufflers was recognized to avoid the loss of model race car tracks and model airplane flying sites. The March 1949 Model Race Cars magazine contained an editorial titled "Are You Marking Time?" It stated that many race car tracks never get beyond the planning stages and many tracks had to be abandoned primarily because of noise. Further, it said this objection could easily be overcome by the use of mufflers. While race cars equipped with mufflers could lose three to five miles per hour, if all cars were so equipped then no car would be at a disadvantage. In fact, many places in the United States and England have ordinances that prohibit running model cars or boats unless they have mufflers.

Johnny Davis and Phil Babcock wrote an article on mufflers in the July 1948 Model Airplane News (MAN) titled "Keep Your Motor Quiet!" The authors state "...the muffler may be the saving grace for a swell hobby and sport that was fast running out of places to fly all over the country." They predicted "Mufflers will probably become standard equipment on your engines just as they are on your cars."

Practical theory of exhaust noise is covered in their article. "The trick is to delay the (exhaust) gasses long enough to allow them to cool slightly. The sound waves will then be delayed also, and when they are released will have lost their intensity." The authors claim that a certain amount of back pressure caused by the muffler will increase the efficiency of a two cycle engine, but too much back pressure will overheat the engine.

The article lists four design features of an effective muffler.

1. A good size expansion chamber.
2. A baffle, with drilled holes, in the expansion chamber to delay the exhaust gasses and sound waves.

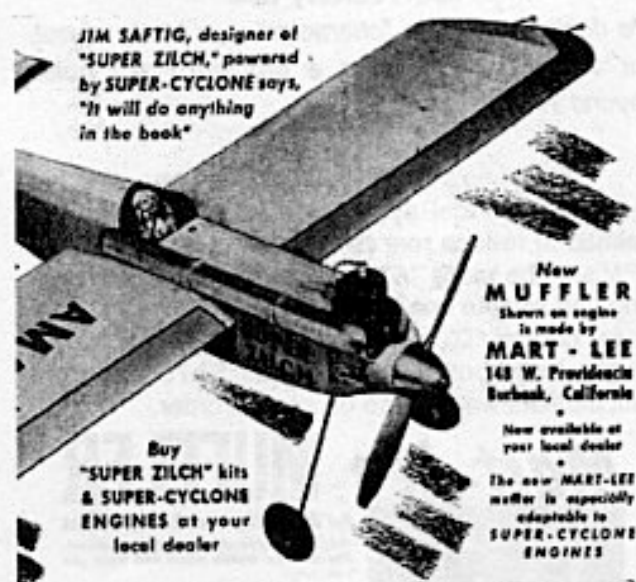
3. Heavy, coarse steel wool in the expansion chamber to diffuse the sound waves.

4. Small holes in the expansion chamber for the exhaust gasses to exit.

Several designs for mufflers are explained and illustrated that can easily be fabricated by the modeler. The authors conclude by saying they feel that "mufflers are closely tied into the advancement and scientific progress of model aviation."

The Mart-Lee Mfg. Co., Burbank, California, was one of the earliest manufacturers of model engine mufflers, as their muffler instructions are dated 1947.

In the January 1948 MAN, Super-Cyclone, Inc. ran an ad for their engines and showed Jim Saftig's contest winning "Super Zilch" stunt control-liner powered by a Super-Cyclone engine fitted with the Mart-Lee muffler. It stated "The new Mart-Lee muffler is especially adaptable to Super-Cyclone engines." Notice in the illustration how the long muffler extends rearward to the canopy of the aircraft, and how two brackets secure the muffler to the model's fuselage.



Mart-Lee on Super Cyc in January 1948 MAN

Editor Addition: In the February 1948 MAN in the "West Coast Tips" column Davis described an interesting incident:

You see, the reason we had to drive almost 40 miles to fly is because some character who designed a muffler went to the City of Los Angeles and convinced the Park Department that only ships with mufflers should be allowed to fly in the park at Crystal Springs.

And then, on the next page:



● Marty Johannes, Burbank, Calif., with engine muffler he developed. Beyond 100 feet noise of engine is eliminated entirely.

MAN February 1948

We don't know if the "character" was Marty or not, but obviously noise was a problem. No noise beyond 100 feet; wow!

Mart-Lee's April 1948 MAN ad was directed to users of model airplanes, cars, and boats. It claimed to reduce roar to a powerful hum and gain RPM's. The class "A" and "B" muffler is 5 inches long and weighs one ounce. Price was \$2.95. The class "C" and "D" muffler is 13 1/4 inches long and weighs three ounces. Price was \$3.75. Custom built mufflers were made on special order.

Mart-Lee MUFFLER



REDUCE ROAR TO A POWERFUL HUM



YOUR CAR NEEDS THE MART-LEE MUFFLER. GET YOUR MART-LEE MUFFLER TODAY! SPECIAL ORDER. DELIVERY IN 10 DAYS. \$3.75.

For Model Airplanes, Cars and Boats. Neighbors, nationwide, voice their approval. Operate your models where and when you want too.

REDUCE EXHAUST ROAR and GAIN R. P. M's. Remotely your model and silence complaints.

For Class "G" and "H" For Class "A" and "B" engines having exhaust manifolds. \$3.75 \$2.95

If your dealer cannot supply you, order direct—add 25c for postage.

DEALERS & JOBBERS write for literature. BAKERS STREET 100, BOSTON, MASS.

MART-LEE MFG. CO.

1331 North Maple St. Burbank, California

Instructions for the Mart-Lee muffler say that the oblong hole in the muffler is made slightly smaller than the engine's exhaust manifold so that it can be fitted tightly to the manifold by carefully enlarging the hole with small files. A tight fit will give maximum silencing.

Securely fasten the muffler brackets to hardwood mounts in the fuselage with wood screws. The muffler should have at least one half inch clearance from the fuselage and one inch clearance from the wing. It is important that everything is properly aligned before tightening the mounting screws.

Do not touch the muffler while the engine is running, and give the muffler time to cool off after the engine is stopped before handling it. Special hot fuels are not recommended for use with the muffler. The instructions claim the muffler reduces power less than two percent.

Eventually, Mart-Lee offered additional models of its muffler for a total of five. Also, it appears that hot fuels were now acceptable for use with the mufflers. Later literature from the company claimed "Hot Glow Plug fuels will not burn out the Mart-Lee Muffler tube."

Get Your Flying Fields Back

PUT A MUFFLER ON YOUR MODEL AIRPLANE ENGINE OFF THE SENSATIONAL

Mart-Lee MUFFLER

Now! FOR ALL CLASSES INCLUDING 3 NEW POPULAR SIZES

NEW — Class "A"	\$1.95
(Weight 1 oz., length 4 inches)	
NEW — Class "C" & "D"	\$2.95
(Weight 3 oz., length 13 inches)	
NEW — Class "B", "C", "D"	\$2.95
(Weight 1 1/2 oz., length 13 inches)	
(Used when using standard size regular size muffler)	
STANDARD Class "A" & "B"	\$2.95
(Weight 1 oz., length 5 inches)	
MART-LEE Deluxe Class "C", "D"	\$3.75
(Weight 3 oz., length 13 inches)	
(Ideal for Model Boats, when breaking in or (Demonstrating Engines))	



NOTE THESE FEATURES

1. Engine performance not changed.
2. No more vibrations.
3. Exhaust noise is reduced to a powerful hum.
4. Power loss is negligible.
5. Easy to fit. No need to buy special bearing exhaust manifold.
6. Hot Glow-Plug fuels will not burn out the Mart-Lee Muffler tube.
7. Aluminum used in the Mart-Lee Muffler will withstand high temperatures.
8. Noise level can be changed in half by adding or removing metal packing.

The Mart-Lee Muffler is made by a new alloy, so the noise is reduced 10% from all engines. If your dealer cannot supply, send money order. Please state size and engine make.

WHOLESALE AND RETAIL DISCOUNTS

ORDER NOW FOR IMMEDIATE DELIVERY

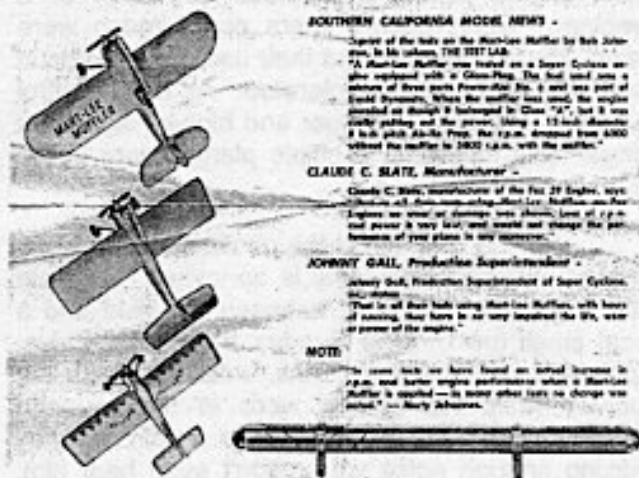
NEW MAILING ADDRESS Mart-Lee Mfg. Co.

832 114th, BAKERSFIELD, CALIFORNIA

THE ORIGINAL MART-LEE MUFFLER — PATENT PENDING — COPYRIGHT 1948 BY MART-LEE MFG. CO.

Early 1949 Mart-Lee flier showing 5 versions

What they say about MART-LEE MUFFLERS



SOUTHERN CALIFORNIA MODEL NEWS

Editor of the July 1949 Mart-Lee Muffler to Bob Johnson, in his column THE TEST LAB:

"A Mart-Lee Muffler was tested on a Super Colossus engine equipped with a Glass-Plug. The test was a matter of three parts: First, the engine was run at 1000 r.p.m. with the muffler installed. The engine sounded as though it belonged to Class 'A', but it was really pulling out the power, using a 13-inch diameter 8 hole glass Glass-Plug. The r.p.m. dropped from 1000 to 800 with the muffler."

CLAUDE C. SLATE, Manufacturer

Claude C. Slate, manufacturer of the Fast 20 engine, says: "I have an all-time record for my 20 engine. The engine was run at 1000 r.p.m. with the muffler installed. The engine sounded as though it belonged to Class 'A', but it was really pulling out the power, using a 13-inch diameter 8 hole glass Glass-Plug. The r.p.m. dropped from 1000 to 800 with the muffler."

JOHN W. GAIL, Production Superintendent

John W. Gail, Production Superintendent of Super Cyclone, says:

"I have an all-time record for my 20 engine. The engine was run at 1000 r.p.m. with the muffler installed. The engine sounded as though it belonged to Class 'A', but it was really pulling out the power, using a 13-inch diameter 8 hole glass Glass-Plug. The r.p.m. dropped from 1000 to 800 with the muffler."

NOTE:

"In some tests we have found an actual increase in r.p.m. and better engine performance when a Mart-Lee Muffler is installed—in many other tests no change was noted." — Marty Joannes.

Reverse side of flyer

Model Engine MUFFLERS

Reduce your MODEL ENGINE NOISE to a HUM—No loss of Power Installed in a Minute

Send for FREE Bulletin—NOW

MART-LEE MFG. CO.
Dept. N, P. O. Box 1142, Magnolia Park Station, Berkeley, Calif.

April 1949 MAN ad, note new address as on flyer



Mart-Lee MUFFLERS

Send for ALL CLASSES INCLUDING A NEW

1. Class A - 4" - \$1.00
2. Class B - 5" - \$1.50
3. Class C - 5 1/2" - \$2.00
4. Class D - 6" - \$2.50
5. Class E - 6 1/2" - \$3.00
6. Class F - 7" - \$3.50
7. Class G - 7 1/2" - \$4.00
8. Class H - 8" - \$4.50
9. Class I - 8 1/2" - \$5.00
10. Class J - 9" - \$5.50
11. Class K - 9 1/2" - \$6.00
12. Class L - 10" - \$6.50
13. Class M - 10 1/2" - \$7.00
14. Class N - 11" - \$7.50
15. Class O - 11 1/2" - \$8.00
16. Class P - 12" - \$8.50
17. Class Q - 12 1/2" - \$9.00
18. Class R - 13" - \$9.50
19. Class S - 13 1/2" - \$10.00
20. Class T - 14" - \$10.50
21. Class U - 14 1/2" - \$11.00
22. Class V - 15" - \$11.50
23. Class W - 15 1/2" - \$12.00
24. Class X - 16" - \$12.50
25. Class Y - 16 1/2" - \$13.00
26. Class Z - 17" - \$13.50
27. Class AA - 17 1/2" - \$14.00
28. Class AB - 18" - \$14.50
29. Class AC - 18 1/2" - \$15.00
30. Class AD - 19" - \$15.50
31. Class AE - 19 1/2" - \$16.00
32. Class AF - 20" - \$16.50
33. Class AG - 20 1/2" - \$17.00
34. Class AH - 21" - \$17.50
35. Class AI - 21 1/2" - \$18.00
36. Class AJ - 22" - \$18.50
37. Class AK - 22 1/2" - \$19.00
38. Class AL - 23" - \$19.50
39. Class AM - 23 1/2" - \$20.00
40. Class AN - 24" - \$20.50
41. Class AO - 24 1/2" - \$21.00
42. Class AP - 25" - \$21.50
43. Class AQ - 25 1/2" - \$22.00
44. Class AR - 26" - \$22.50
45. Class AS - 26 1/2" - \$23.00
46. Class AT - 27" - \$23.50
47. Class AU - 27 1/2" - \$24.00
48. Class AV - 28" - \$24.50
49. Class AW - 28 1/2" - \$25.00
50. Class AX - 29" - \$25.50
51. Class AY - 29 1/2" - \$26.00
52. Class AZ - 30" - \$26.50
53. Class BA - 30 1/2" - \$27.00
54. Class BB - 31" - \$27.50
55. Class BC - 31 1/2" - \$28.00
56. Class BD - 32" - \$28.50
57. Class BE - 32 1/2" - \$29.00
58. Class BF - 33" - \$29.50
59. Class BG - 33 1/2" - \$30.00
60. Class BH - 34" - \$30.50
61. Class BI - 34 1/2" - \$31.00
62. Class BJ - 35" - \$31.50
63. Class BK - 35 1/2" - \$32.00
64. Class BL - 36" - \$32.50
65. Class BM - 36 1/2" - \$33.00
66. Class BN - 37" - \$33.50
67. Class BO - 37 1/2" - \$34.00
68. Class BP - 38" - \$34.50
69. Class BQ - 38 1/2" - \$35.00
70. Class BR - 39" - \$35.50
71. Class BS - 39 1/2" - \$36.00
72. Class BT - 40" - \$36.50
73. Class BU - 40 1/2" - \$37.00
74. Class BV - 41" - \$37.50
75. Class BW - 41 1/2" - \$38.00
76. Class BX - 42" - \$38.50
77. Class BY - 42 1/2" - \$39.00
78. Class BZ - 43" - \$39.50
79. Class CA - 43 1/2" - \$40.00
80. Class CB - 44" - \$40.50
81. Class CC - 44 1/2" - \$41.00
82. Class CD - 45" - \$41.50
83. Class CE - 45 1/2" - \$42.00
84. Class CF - 46" - \$42.50
85. Class CG - 46 1/2" - \$43.00
86. Class CH - 47" - \$43.50
87. Class CI - 47 1/2" - \$44.00
88. Class CJ - 48" - \$44.50
89. Class CK - 48 1/2" - \$45.00
90. Class CL - 49" - \$45.50
91. Class CM - 49 1/2" - \$46.00
92. Class CN - 50" - \$46.50
93. Class CO - 50 1/2" - \$47.00
94. Class CP - 51" - \$47.50
95. Class CQ - 51 1/2" - \$48.00
96. Class CR - 52" - \$48.50
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98. Class CT - 53" - \$49.50
99. Class CU - 53 1/2" - \$50.00
100. Class CV - 54" - \$50.50
101. Class CW - 54 1/2" - \$51.00
102. Class CX - 55" - \$51.50
103. Class CY - 55 1/2" - \$52.00
104. Class CZ - 56" - \$52.50
105. Class DA - 56 1/2" - \$53.00
106. Class DB - 57" - \$53.50
107. Class DC - 57 1/2" - \$54.00
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109. Class DE - 58 1/2" - \$55.00
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111. Class DG - 59 1/2" - \$56.00
112. Class DH - 60" - \$56.50
113. Class DI - 60 1/2" - \$57.00
114. Class DJ - 61" - \$57.50
115. Class DK - 61 1/2" - \$58.00
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117. Class DM - 62 1/2" - \$59.00
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208. Class GZ - 108" - \$104.50
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212. Class HD - 110" - \$106.50
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224. Class HP - 116" - \$112.50
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247. Class IM - 127 1/2" - \$124.00
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251. Class IQ - 129 1/2" - \$126.00
252. Class IR - 130" - \$126.50
253. Class IS - 130 1/2" - \$127.00
254. Class IT - 131" - \$127.50
255. Class IU - 131 1/2" - \$128.00
256. Class IV - 132" - \$128.50
257. Class IW - 132 1/2" - \$129.00
258. Class IX - 133" - \$129.50
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261. Class JA - 134 1/2" - \$131.00
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264. Class JD - 136" - \$132.50
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266. Class JF - 137" - \$133.50
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276. Class JP - 142" - \$138.50
277. Class JQ - 142 1/2" - \$139.00
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279. Class JS - 143 1/2" - \$140.00
280. Class JT - 144" - \$140.50
281. Class JU - 144 1/2" - \$141.00
282. Class JV - 145" - \$141.50
283. Class JW - 145 1/2" - \$142.00
284. Class JX - 146" - \$142.50
285. Class JY - 146 1/2" - \$143.00
286. Class JZ - 147" - \$143.50
287. Class KA - 147 1/2" - \$144.00
288. Class KB - 148" - \$144.50
289. Class KC - 148 1/2" - \$145.00
290. Class KD - 149" - \$145.50
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292. Class KF - 150" - \$146.50
293. Class KG - 150 1/2" - \$147.00
294. Class KH - 151" - \$147.50
295. Class KI - 151 1/2" - \$148.00
296. Class KJ - 152" - \$148.50
297. Class KK - 152 1/2" - \$149.00
298. Class KL - 153" - \$149.50
299. Class KM - 153 1/2" - \$150.00
300. Class KN - 154" - \$150.50
301. Class KO - 154 1/2" - \$151.00
302. Class KP - 155" - \$151.50
303. Class KQ - 155 1/2" - \$152.00
304. Class KR - 156" - \$152.50
305. Class KS - 156 1/2" - \$153.00
306. Class KT - 157" - \$153.50
307. Class KU - 157 1/2" - \$154.00
308. Class KV - 158" - \$154.50
309. Class KW - 158 1/2" - \$155.00
310. Class KX - 159" - \$155.50
311. Class KY - 159 1/2" - \$156.00
312. Class KZ - 160" - \$156.50
313. Class LA - 160 1/2" - \$157.00
314. Class LB - 161" - \$157.50
315. Class LC - 161 1/2" - \$158.00
316. Class LD - 162" - \$158.50
317. Class LE - 162 1/2" - \$159.00
318. Class LF - 163" - \$159.50
319. Class LG - 163 1/2" - \$160.00
320. Class LH - 164" - \$160.50
321. Class LI - 164 1/2" - \$161.00
322. Class LJ - 165" - \$161.50
323. Class LK - 165 1/2" - \$162.00
324. Class LL - 166" - \$162.50
325. Class LM - 166 1/2" - \$163.00
326. Class LN - 167" - \$163.50
327. Class LO - 167 1/2" - \$164.00
328. Class LP - 168" - \$164.50
329. Class LQ - 168 1/2" - \$165.00
330. Class LR - 169" - \$165.50
331. Class LS - 169 1/2" - \$166.00
332. Class LT - 170" - \$166.50
333. Class LU - 170 1/2" - \$167.00
334. Class LV - 171" - \$167.50
335. Class LW - 171 1/2" - \$168.00
336. Class LX - 172" - \$168.50
337. Class LY - 172 1/2" - \$169.00
338. Class LZ - 173" - \$169.50
339. Class MA - 173 1/2" - \$170.00
340. Class MB - 174" - \$170.50
341. Class MC - 174 1/2" - \$171.00
342. Class MD - 175" - \$171.50
343. Class ME - 175 1/2" - \$172.00
344. Class MF - 176" - \$172.50
345. Class MG - 176 1/2" - \$173.00
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347. Class MI - 177 1/2" - \$174.00
348. Class MJ - 178" - \$174.50
349. Class MK - 178 1/2" - \$175.00
350. Class ML - 179" - \$175.50
351. Class MM - 179 1/2" - \$176.00
352. Class MN - 180" - \$176.50
353. Class MO - 180 1/2" - \$177.00
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355. Class MQ - 181 1/2" - \$178.00
356. Class MR - 182" - \$178.50
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359. Class MU - 183 1/2" - \$180.00
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362. Class MX - 185" - \$181.50
363. Class MY - 185 1/2" - \$182.00
364. Class MZ - 186" - \$182.50
365. Class NA - 186 1/2" - \$183.00
366. Class NB - 187" - \$183.50
367. Class NC - 187 1/2" - \$184.00
368. Class ND - 188" - \$184.50
369. Class NE - 188 1/2" - \$185.00
370. Class NF - 189" - \$185.50
371. Class NG - 189 1/2" - \$186.00
372. Class NH - 190" - \$186.50
373. Class NI - 190 1/2" - \$187.00
374. Class NJ - 191" - \$187.50
375. Class NK - 191 1/2" - \$188.00
376. Class NL - 192" - \$188.50
377. Class NM - 192 1/2" - \$189.00
378. Class NN - 193" - \$189.50
379. Class NO - 193 1/2" - \$190.00
380. Class NP - 194" - \$190.50
381. Class NQ - 194 1/2" - \$191.00
382. Class NR - 195" - \$191.50
383. Class NS - 195 1/2" - \$192.00
384. Class NT - 196" - \$192.50
385. Class NU - 196 1/2" - \$193.00
386. Class NV - 197" - \$193.50
387. Class NW - 197 1/2" - \$194.00
388. Class NX - 198" - \$194.50
389. Class NY - 198 1/2" - \$195.00
390. Class NZ - 199" - \$195.50
391. Class OA - 199 1/2" - \$196.00
392. Class OB - 200" - \$196.50
393. Class OC - 200 1/2" - \$197.00
394. Class OD - 201" - \$197.50
395. Class OE - 201 1/2" - \$198.00
396. Class OF - 202" - \$198.50
397. Class OG - 202 1/2" - \$199.00
398. Class OH - 203" - \$199.50
399. Class OI - 203 1/2" - \$200.00
400. Class OJ - 204" - \$200.50
401. Class OK - 204 1/2" - \$201.00
402. Class OL - 205" - \$201.50
403. Class OM - 205 1/2" - \$202.00
404. Class ON - 206" - \$202.50
405. Class OO - 206 1/2" - \$203.00
406. Class OP - 207" - \$203.50
407. Class OQ - 207 1/2" - \$204.00
408. Class OR - 208" - \$204.50
409. Class OS - 208 1/2" - \$205.00
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412. Class OV - 210" - \$206.50
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415. Class OY - 211 1/2" - \$208.00
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446. Class QD - 227" - \$223.50
447. Class QE - 227 1/2" - \$224.00
448. Class QF - 228" - \$224.50
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451. Class QI - 229 1/2" - \$226.00
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453. Class QK - 230 1/2" - \$227.00
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458. Class QP - 233" - \$229.50
459. Class QQ - 233 1/2" - \$230.00
460. Class QR - 234" - \$230.50
461. Class QS - 234 1/2" - \$231.00
462. Class QT - 235" - \$231.50
463. Class QU - 235 1/2" - \$232.00
464. Class QV - 236" - \$232.50
465. Class QW - 236 1/2" - \$233.00
466. Class QX - 237" - \$233.50
467. Class QY - 237 1/2" - \$234.00
468. Class QZ - 238" - \$234.50
469. Class RA - 238 1/2" - \$235.00
470. Class RB - 239" - \$235.50
471. Class RC - 239 1/2" - \$236.00
472. Class RD - 240" - \$236.50
473. Class RE - 240 1/2" - \$237.00
474. Class RF - 241" - \$237.50
475. Class RG - 241 1/2" - \$238.00
476. Class RH - 242" - \$238.50
477. Class RI - 242 1/2" - \$239.00
478. Class RJ - 243" - \$239.50
479. Class RK - 243 1/2" - \$240.00
480. Class RL - 244" - \$240.50
481. Class RM - 244 1/2" - \$241.00
482. Class RN - 245" - \$241.50
483. Class RO - 245 1/2" - \$242.00
484. Class RP - 246" - \$242.50
485. Class RQ - 246 1/2" - \$243.00
486. Class RR - 247" - \$243.50
487. Class RS - 247 1/2" - \$244.00
488. Class RT - 248" - \$244.50
489. Class RU - 248 1/2" - \$245.00
490. Class RV - 249" - \$245.50
491. Class RW - 249 1/2" - \$246.00
492. Class RX - 250" - \$246.50
493. Class RY - 250 1/2" - \$247.00
494. Class RZ - 251" - \$247.50
495. Class SA - 251 1/2" - \$248.00
496. Class SB - 252" - \$248.50
497. Class SC - 252 1/2"

To illustrate the situation, I submitted a photo of myself wearing hearing protectors while running an engine on a test stand. In case you were wondering, the engine on my test stand is a 1956 Fox .29R (Bathtub) with the dual glow plug head. I was breaking in the engine for use in a combat airplane.



Ray breaking in a Fox .29R, wisely using hearing protection

I concluded my article by recommending hearing protection and that engines be operated with a muffler whenever possible. A few months prior to publication of my article, the editor of AAM sent me a letter saying my article would be published, and made a statement that he was "trying to get some engineers interested in developing totally quiet mufflers."

Marty Joannes' predictions in 1949 about the future of mufflers was correct. Eventually many engine manufacturers supplied their engines with a muffler. Unfortunately, his Mart-Lee muffler was too far ahead of its time.

I want to thank Bob Edelstein for his help in this project. Please send any comments in regard to my article to the Editor.



And a Little More on Early Mufflers From the Editor

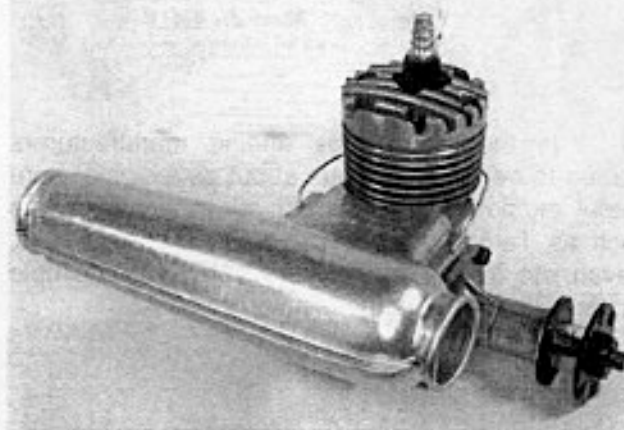
There is no doubt engine noise resulted in the loss of fields and tracks over the years. Unfortunately it has also resulted in untold cases of hearing damage. Noise was accepted by fliers as a

necessary evil for many years. Free fliers with short engine runs didn't have so much of a problem. Sport control liners pretty much were using .35s and smaller, but their use of ball fields in town was less and less tolerated. As radio control evolved, engines got bigger and bigger, flights got longer, and frequently multiple planes were in the air at once.

A huge problem is the perception of what is loud or more properly what is annoying. Our field has a mainline RR track between the field and a local small town. One Sunday a gent from town appeared, crossing the tracks, walking across our runway while RC planes were in the air, and launching into a tirade. About then a train came by making enough noise we couldn't even hear him. To him the train wasn't loud or annoying!

Another issue was the lack of affordable sound level meters. Pre solid state such instruments were quite expensive and large; I doubt any hobbyists even had any. So how could you determine what made an improvement in the noise level?

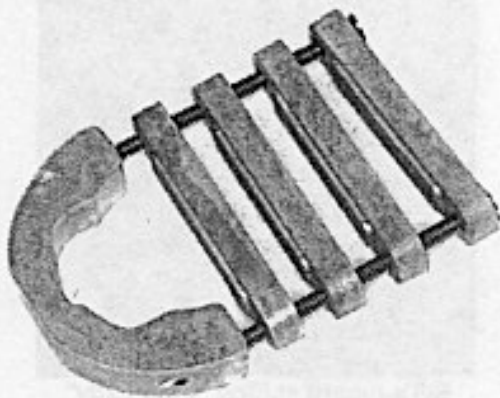
Mart-Lee recognized the problem early on. Later on Froom, known for its fuel tanks and spinners had a muffler out, but it was never popular. McCoy (Duro-matic) had a couple of mufflers in the early 50s, but they didn't catch on. Interestingly, they were a flow through type, whose design was resurrected in the 70's.



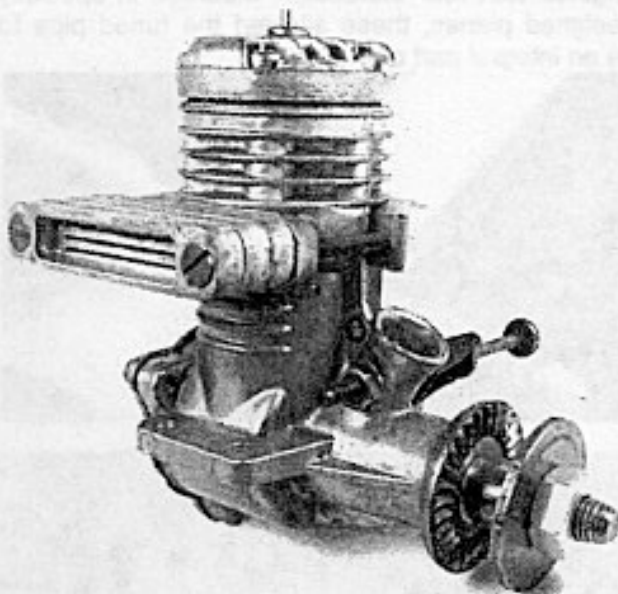
McCoy .19 with early Duro-Matic Silencer

In 1962 Fox actually had an accessory muffler for its Stunt 29 and 35. It consisted of 4 plates, each with a series of horizontal slots. One could install the muffler with one to four of these plates. Each plate restricted the exhaust, quieting the engine, the more plates the quieter. I tried this out and found it really cooked an engine. And as it clamped around the very thin Stunt 35 case, the case could easily be distorted,

introducing a bind and even more loss of power and more heat!



1962 Fox Stunt 29 - 35 muffler



In the late 1960s engine manufacturers started to get more serious about developing more useful mufflers. And so did accessory suppliers such as Tatone with their "Peace Pipes", Dubro, Kavan, etc. These first mufflers were usually simple expansion chambers, usually too small.



Tatone "Calumet" on my Fox .59

Enya used a larger expansion chamber and several others manufacturers started using a large expansion chamber with an internal baffle.



1971 Enya 45RC with large expansion chamber



HP 61 with large chamber and internal baffle

These systems actually started to reduce noise, then someone must have discovered the old McCoy flow-through design. Soon manufacturers were selling two designs, a closed front and a flow through. The flow-through had little power loss, but was significantly louder than the closed front.

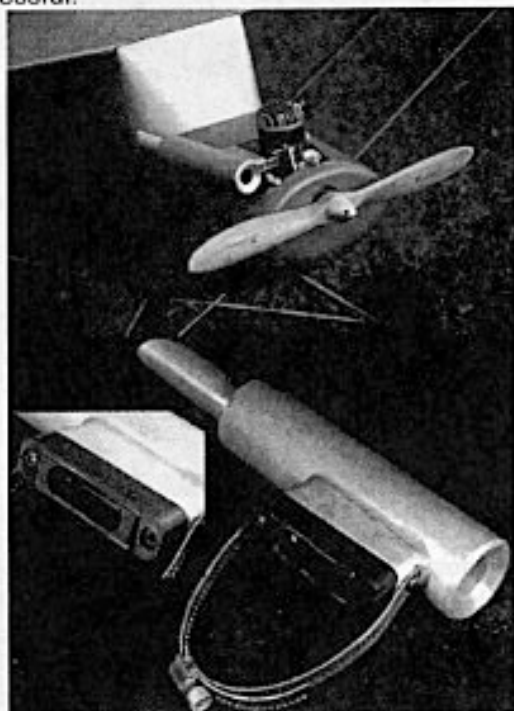


Fox flow through muffler on Fox Eagle .60



Baffle tubes from early 1970s Fox flow-through (l) and closed front (r) mufflers. Note the intensive machining!

As mentioned previously, accessory makers were making better and better mufflers. Finding a way to fit a muffler to various engine designs was a challenge. SEMCO made several basic sizes of flow through and closed front mufflers. Then they made adapters that matched the muffler to the engines exhaust stack. A hose clamp secured the assembly to the engine. These were quite successful.



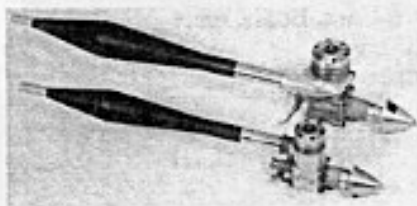
SEMCO muffler mounted to Fox .59 RC. The black piece is the adapter bolted to the muffler.

Soon the engine manufacturers were really concentrating on effective mufflers for their engines. As their engines became more powerful, louder, and larger they realized effective silencers were a must.

In 1980/81 The FAI (international governing body for model aviation competitions) came up with a noise limit of 105 dB 1 meter from the airplane (later to become 92 dB A at 3 meters downwind from the right side of the model with the engine at full throttle. That pretty much sealed the case.

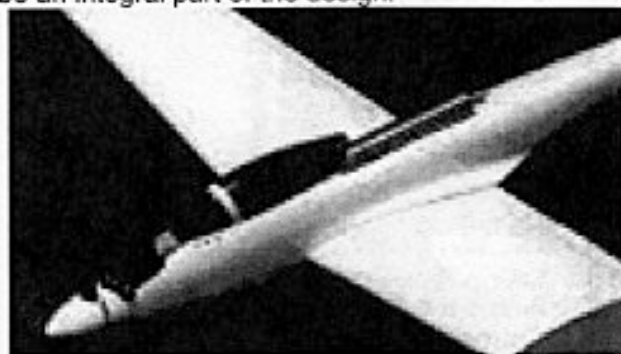
Tuned exhaust pipes, first used on model engines by expert CL speed flier, Bill Wisniewski to win the FAI World Champs in England in 1966, found

their way onto RC engines. The pipes increased power, while reducing noise.



Bill's record setting "Pink Lady"

The RC and CL fliers often used purpose designed engines with rear exhausts. Mounted in specially designed planes, these allowed the tuned pipe to be an integral part of the design.



RC Pattern installation



Control line Precision Aerobatics installation

As you would expect, Duke Fox was in the muffler fray trying many designs. See the picture on the bottom right of the inside front cover.

In 1986 all Fox RC engines were sold with mufflers and in 1988 all control engines were sold with them. Most every manufacturer was doing the same thing. Most RC fields instituted muffler requirements.

And so while it took some time, as Raymond said, Marty Joannes was right.

WOLF / Northwest Control Line Calendar 2020

- March 14 McMinnville Aircraft Modelers Swap Meet
- March 28 Oregon Flying Fun #3, Salem**
- April 17-19 Jim Walker Memorial, Delta Park in Portland
- May 2 Oregon Flying Fun #4, Junction City
- May 22-24 Northwest Control Line Regionals, Roseburg
- June 5 - 7 AMA District XI Jamboree, Wenatchee, Washington
- June 26 - 28 Salem Summer Tune-up (details tentative)**
- July 18 WOLF Lucky Hand Fun Fly**
- July 13-18 AMA Control Line Nationals, Muncie, Indiana
- August 1 NW Skyraiders Summer Swap Meet
- August 7-9 Bladder Grabber Combat Contest, Snohomish, Washington
- Aug 22 & 23 Northwest Skyraiders Stunt-a-thon (details tentative)
- Sept 12 & 13 Northwest Skyraiders Raider Roundup (details tentative)
- Sept 19&20 Northwest CL Speed Championships, Salem (details tentative)**
- Oct 2 Ringmaster Fun Fly**
- Oct 3 & 4 Fall Follies, Salem (details tentative)**
- Nov 28 Northwest Fireballs Racing Contest (Portland) (tentative)
- Dec 5 NW Skyraiders Winter Swap Meet

For additional details, go to flyinglines.org "where the action is" section

WOLF AGM 2020

The meeting was held at the Flight Deck restaurant. There were 12 members present. Following lunch, president Craig Bartlett opened the meeting at 12:30. The minutes from the 2019 meeting were read and approved. The treasurers report was then made and approved. There were a couple of questions regarding the report and those were addressed.

Craig gave a reminder of Ron Bennett's generosity with a donation of \$700 to help offset the expense of the paved circle crack repairs. Members signed a thank-you card which was then sent to Ron.

There was then some discussion about the circle repair. Fred Underwood stated a concern that some small remaining gaps could be a future problem with weed growth. Craig said that he would followup with some research for a suitable product that we could apply to completely seal the those small gaps.

All the current club officers were willing to serve again in the following year. Fred made a motion which was seconded by Mike Denlis that we retain the current roster of club officers. The motion passed unanimously.

The club event calendar was then discussed. It was agreed to repeat the Summer Tune-up contest at the end of June, subject to any other date conflicts. Gene Pape requested that some Combat flying be added to the schedule on Sunday. This could be accomplished so long as removing the Carrier deck would be completed on Saturday afternoon following the competition. Craig indicated that he will run the lucky hand fun fly.

In other business, Steve Lindstedt volunteered to dress up the sign on the shed. Craig also indicated that we should paint the shed this year.

Next door prizes were given out. Then Lynette Lickley showed her newly built profile stunt plane.

Meeting was adjourned at 1:15 PM.

WOLF 2019 TREASURY REPORT

Beginning Balance	\$1766.68
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Income

Dues	435.00
Donations	730.00
Entry Fees	910.00

<u>Income Total</u>	<u>2075.00</u>
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Expenses

Paved Circle Repair	1450.00
WOLF Call newsletter	140.02
Field Lease	12.00
AMA club charter	120.00
AMA contest sanction fees	75.00
State corporation renewal	50.00
Fall Follies Trophies	62.75
Fall Follies BBQ	76.00
Misc Event Prizes	55.00
Toilet rental	248.00
Banking fees	59.76

<u>Expenses Total</u>	<u>2348.73</u>
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Ending Balance	\$1492.95
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McMinnville Aircraft Modelers

Swap Meet 2020



March 14th 2020

Yamhill Valley Heritage Museum

11275 SW Durham Ln.

McMinnville , Or 97128

Off Hwy 18 just West of McMinnville

Vendor set up Friday March 13th 4pm to 7pm

Vendor set up Saturday March 14th 8am to 9am

Swap Meet open March 14th 9am to 2pm Entry is \$3.00 per person at the door

Wall Tables are \$30.00 ea. Floor Tables are \$20.00 ea.

Food will be available on site by Cindy Lou's food cart from 10am to 2pm

Contact :

+Jeff Jones 503-367-4784

joneses460@msn.co

Butch Jurhs 971-237-1737

butch@jurhs.com

www.mcminnvilleaircraftmodelers.com

Directions

From Portland and points north:

Take 99W South through the City of Dundee to Highway 18 West.

Turn left (West) onto Highway 18 which will allow you to bypass the cities of Lafayette and McMinnville.

Continue on Highway 18 for approximately 9.5 miles.

Turn left onto SW Durham Lane. The Heritage Center is to the right.

From Salem and points south:

Take 99W North toward McMinnville.

After leaving Amity and passing the Bayou Country Club (on your left), turn left on Durham Lane about 1 mile past the Country Club.

Continue on SW Durham Lane to the Heritage Center on your left just before the intersection with Highway 18.

WOLF MEMBER CONTACT LIST 2020

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Gary Harris	Banks	503-324-3450	harisgaris@comcast.net
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Please notify the editor of any changes!