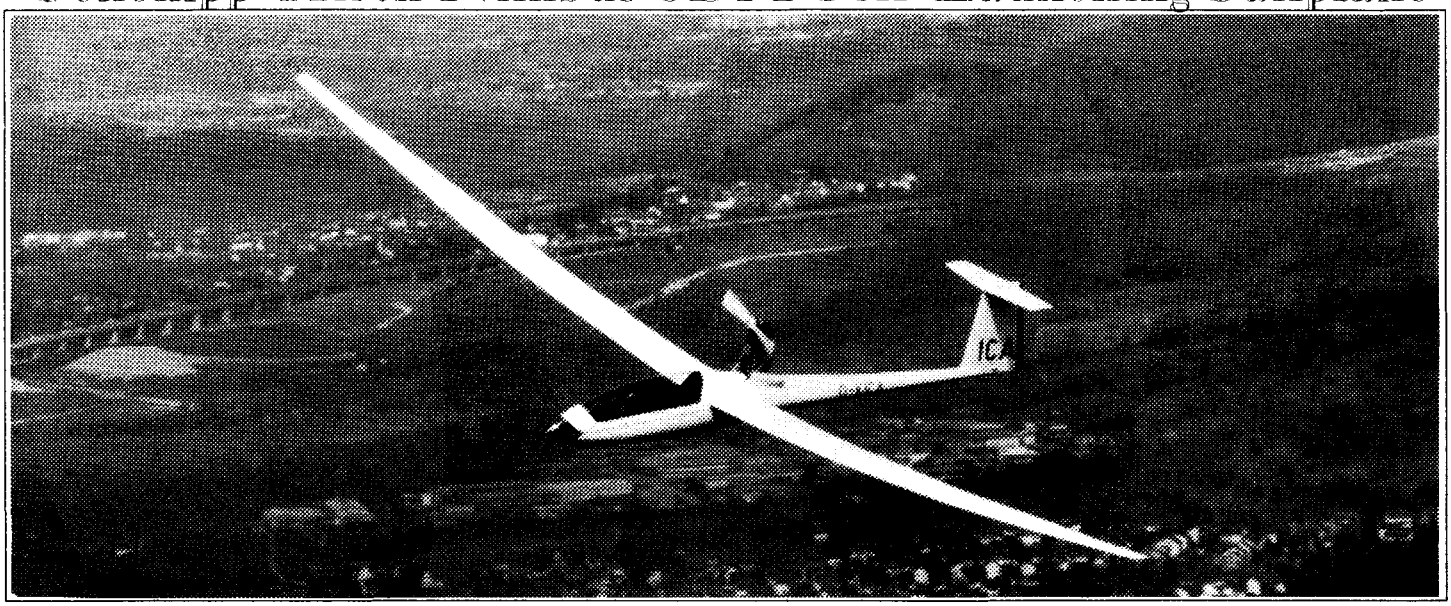
Schempp-Hirth Nimbus 3DM Self-Launching Sailplane



This open class 2-seater has a four piece wing with a span of 80.7 ft. Empty weight is 1,290 lb and Max TOW is 1,764 lb with a wing loading of 9.7 lb/sq ft. Maximum L/D at 59 KIAS is 57:1. It is powered by a 2-stroke, liquid cooled Rotax 535C engine producing 60hp at 7,200 rpm. Engine extraction/retraction is by electrical spindle drive. Power transmission to the propeller is via a tooth belt drive with a reduction ratio of 3:1. The spindle drive, starter and avionics are powered with a 12V system which is recharged with a generator when flying under power. Ground run on takeoff under standard conditions is 885 ft with a climb rate of 433 fpm. Ground movement requires assistance as there are no wing tip wheels or steerable tailwheel. Produced in the late 80s. this model has now been replaced with Schempp-Hirth's new 87 ft wing span Nimbus 4DM 2-place self-launcher.

Self-Launching Sailplane Pilot's Assn.

NEWSLETTER

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X-C Commuting in a Motorglider
Part 2

By Ken Seymour

Ed. Note: This completes Ken's account of "commuting" in his DG-800 with flights between Pullman, WA and Stead Airport Reno, NV. during 1994.

For the return trip to Reno/Stead I selected April 13, hoping to get an early start taking advantage of strong westerlies for wave. The "Wawawai Wave" generated by the Snake River canyon West of Pullman was working well just after departure at 8a.m., but I had little success gaining much ground for most of the rest of the journey, as the altitude I could gain in broken thermal and wave was quickly lost in searching and penetration upwind. Mid-trip I chose to fly around the lee side of Little Juniper Mountain (a 1500' AGL butte six miles downwind from Alkali State Airstrip) hoping to catch some wave, instead encountering 12 knot sink for several miles. My supposedly comfortable glide to the strip vanished, and my only option was to streak just above the sagebrush at 110 knots, then pulling up sharply once I cleared the butte, restarting in better air.

Some north/south ridges in the Wallowas (northeast Oregon) and one near Lake Albert (southeast Oregon) did provide 1-2 knots of lift for 10 mile stretches, but one area southwest of Goose Lake offered up only six knot sink for 15 miles, even though no wave-generating terrain was visible for 50 miles upwind! With barely enough gas to reach Reno, I opted for a stopover at Alturas, CA figuring on a short walk to a hotel from the downtown airport. As luck would have it, I was able to fuel up in 10 minutes, and after a hair-raising crosswind departure from the 50' wide runway, I was able to make Reno/Stead at sunset climbing at 60 kts (by throttling back) and gliding at 90. I ended up using the engine for 1/4 of my 10 hours in the air, burning about 50L, nearly twice what I needed for the trip north. By the time I had disassembled the bird (alone in the dark) I was so burned out that I reserved a commercial flight for the trip home.

Three weeks is too long to wait when the sky beckons, and I soared from Stead to Baker on May 2 following a more direct route under scattered cumulus at 11K, using the motor to cover the last leg to Pullman. I might have had a shot at soaring the full distance had I remembered to put the gear up before 2p.m., and had I launched earlier; there was strong lift available right at takeoff at noon. The tree covered foothills northeast of Burns provided the best lift of the day (8 kts around 5p.m.). The TE probe worked this time, but the vario responses were much too fast. Trip stats: one engine hour, 8:15 aloft. 21L gas.

One week later, after installing a gust filter for the varios, I tried the journey south again, skirting showers over the Strawberry and Steens Mountains. The 800 performed admirably covering vast stretches of blue on the flats to reach cumulus in the foothills, although my gust

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filter had converted both varios into 30 second averages. Again I ended up using an hour of engine run to start and finish the voyage; the wing tanks allowed me to complete the 1000 mile round trip plus one local flight without refueling!

My last jaunt to Pullman and back started on June 12 at 11:15 with what appeared to be perfect conditions: a cold front was lined up from Susanville to Boise marked by a cloud street. To my dismay the lift was negligible under the street, and broken up by high winds behind it. Near Cedarville, lennie teasers would appear just long enough to divert my path; the only assistance I got from wave was the boost that it gave to the thermals below. Again the best lift was had northeast of Burns late in the day.

Rain forced me down at La Grande at 6:30, and a series of storm lines approaching from the west left a grim outlook for crossing the Blue Mountains to reach Washington for several days. At 7:30 the next morning I took off under partially clearing skies, hoping to beat developing cells, counting on returning to La Grande if the Blues were blocked. Within three minutes I was climbing at four kts in wave generated by Mount Emily, which took me to 11K alongside the top of thick cu covering the Blues to the west. Based on Walla Walla's recommendation to head their way to avoid major cells to the north, I tried to weave westward between the cumulus, slowly getting boxed in. The motor took me back on top, where I observed that the route was fairly clear towards Lewistion, with overdevelopment to the west, not the north; I should have stayed in the better weather to the east, with wave potential. Flightwatch was very appreciative of my reports, with some aircraft stuck in the soup.

Once more I had left my gear down in the excitement; I'm glad I have a gear up warning in case I'm equally forgetful during landing. I took advantage of the Wawawai Wave on the way in to Pullman, but also got caught in a shower with the motor running (with no ill effects).

Stable conditions stymied my return attempt; I spent most of the day working my way down Hells Canyon, finding the best lift just before landing for the night at McDermitt on the Nevada border. Since I had to be in Reno by 10a.m. the next day, I needed to buy a Jerry can and walk several times to town and back to get enough fuel for ferrying upwind. The morning flight was relatively relaxing, and as I approached Reno around 9:30 the thermals started kicking, making me wish I could have soared the rest of the day.

I haven't repeated the commute since moving to Reno. but have ventured on several O&Rs to the south of Bishop, and have found it easy to tap into and travel X-C in wave.

Engine Retraction System Failure - PIK 20E...

This incident occurred on 18 December, 1994 and was submitted by Chuck Rausch. Suggest all PIK-20E owners inspect this strap prior to next flight.

INCIDENT: After climb to 7500' ASL over 6000' mountain near Santa Barbara, accomplished normal shut down and during retract heard unusual noise when engine almost in — engine would not retract fully. Two or three attempts to retract fully after partial extension yielded no better results. Position 10 miles from Santa Ynez Airport/Gliderport decided to get over head Santa Ynez before put engine out for restart in case failure would also prevent full extension start. Day with no lift due to marine high meant that overhead Santa Ynez at ~ 4000'. Full extension and start was normal. Powered landing at Santa Ynez.

FAILURE: Strap (spring steel) on left side of support for lower end of retract air-spring failed. Asymmetric loading on air-spring caused piston rod to bend 5 inches from end of rod through ~9 degree bend. Lucky did not try to force retraction as air-spring jam could have prevented full extension.

ANALYSIS: Spring failed at top end below bolt hole and at point corresponding to edge of circular washer used as shim in slot that mounts spring to structure. Failure was of flexural fatigue type. Though both spring and washer plated, flexural movement of spring at edge of washer caused wear through spring plating so that there was light pitting from rust in spring surface. Right hand spring showed similar wear of plating and rust pitting. No crack visible with magnifying glass on right hand spring.

These were original pieces and aircraft had 132 hrs. Hobbs time at failure. At worst case assumption of 5-10 retract/extend cycles per Hobbs hour, this means failure of spring in 650 to 1300 flex cycles.

Suggest following improvements to lengthen life of spring:

a) Use square washer as shim so that edge of washer in contact with full width of spring (there was an obvious concentration of stresses at edge of circular washer). Radius edge of washer that makes contact with spring surface.

b) Use fiber or plastic (nylon) washer as described above to protect surface of spring from damage.

EPILOGUE: After determination that mechanism was safe for flight with engine extended, aircraft flown 30 miles from Santa Ynez back to home base. Question, what is the manufacturers attitude for "normal" flight with extend/retract cycles with air-spring removed?

SLSPA Activities at SSA Reno '95 Convention...

Scheduled for 2-4 March, 1995 at Reno Hilton Hotel, this convention has a lot to offer. SLSPA members are invited to the SLSPA Breakfast at 0715AM Thursday morning 2 March. Bob Moore will be the speaker. His subject will be "The First Modern Motorglider", an informative view of Ted Nelson's Hummingbird motorglider which Bob recently purchased.

SLSPA Membership applications, copies of Pilot and Aircraft Safety Surveys, FAA AC on motorgliding checkout procedures and Rotax engine Repair and Parts Manuals will be available at this breakfast.

After the speaker we will have a Membership Meeting and a Board of Directors Meeting.

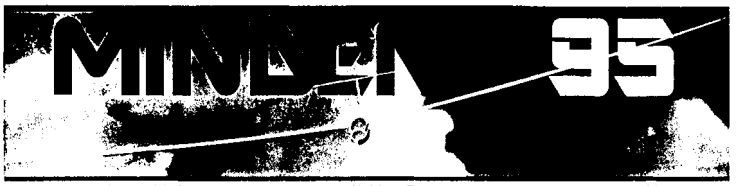
Stan Nelson and John Schmidt are holding a Motorglider Safety Seminar which will be separate or part of the SSA Safety Seminar to be presented on Wed. March 1 1330-1530. Please check the convention schedule of events.

Minden Soaring Club Hosts 1995 Open Class and Auxiliary-Powered Nationals

Scheduled for 11-22 June 1995 at Douglas County Airport, Minden Nevada, competitors will be gathering to fly the 10th National Soaring Championship held at this historic site.

Minden Soaring Club President and Contest Director, Rick Walters, is looking forward to a safe and challenging contest. This event is limited to a total of 65 attendees with a preferential cutoff date of April 3, 1995. Entry Fees are $450 for towed ships and $250 for self-launchers. A $100 deposit is required with application. Barographs will be required and arrangements have been made for calibration. An altitude limit of 17,500' msl has been established. EW Baros are acceptable. Contestants are requested to bring at least ten foils or paper. Turnout promises to be good with many pilots expressing interest from as far away as Florida.

Publicity and Special Events is headed up by Marion Barritt with assistance from Max Skovgaard and Pete Williams. The Minden Soaring Club (MSC) is also coordinating with local merchants and civic groups to provide a memorable occasion. A new paved parking mat will provide adequate room for sailplane tiedowns. The new on-airport "D.C. Cafe" is now open for business serving a wide variety of foods including breakfast and lunch. It is located in the terminal building.



62ND US NATIONAL OPEN CLASS CHAMPIONSHIP
8TH US NATIONAL AUX-POWERED CHAMPIONSHIP
SANCTIONED BY THE SOARING SOCIETY OF AMERICA
SPONSORED BY THE MINDEN SOARING CLUB

JUNE 11–22, 1995

For Information Contact:
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P.O. BOX 361
MINDEN, NEVADA 89423
USA

There is plenty to do and see in the beautiful Carson Valley with the spectacular scenery and Casinos of Lake Tahoe only 15 miles away. In the Minden-Gardnerville area, old timers will be surprised at all of the new restaurants including Denny's, Dairy Queen, Arby's, Wendy's, Two Guys from Italy, Burger King and more. We also now have four large food and drug outlets including Raley's, Scolari's, Smith's and Gorman's. Two urgent care medical centers are close by. Yes, this valley is growing but the friendly small town atmosphere still remains.

Pilots are invited to join the Minden Soaring Club (MSC) and become partners in preserving Douglas County Airport as a national treasure for soaring activities. Annual dues are $10 sent to the address below. See you at MINDEN '95!

Call or write Rick Walters, President MSC at 702-267-4497, P.O. Box 361, Minden, NV 89423.

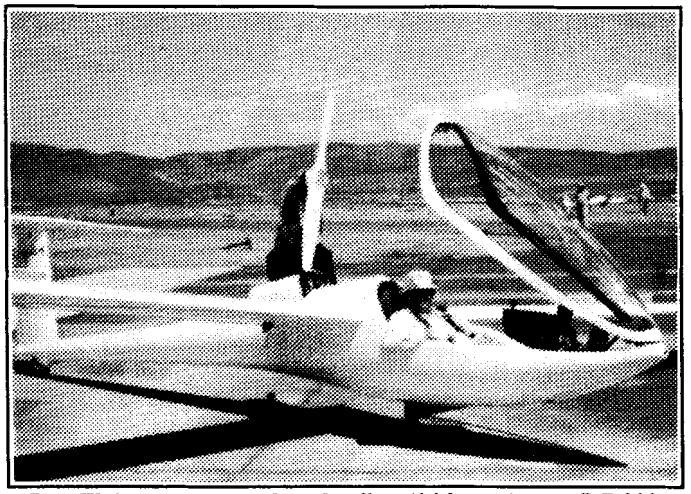
Nimbus 3DM Cockpit Instrumentation...

Layout of Jerry Wenger's 3DM front cockpit shows the compact 3 1/8" diameter ILEC engine display and control instrument (left) which displays RPM, coolant temperature, engine hrs., battery voltage, fuel level, prop brake applied, fuel valve open/closed and other engine functions. The engine is raised and lowered using switches with position displayed by LEDs on this instrument.

Glasser-Dirks Sailplane Prices for 1995...

Glaser-Dirks USA advises the following ex-factory base prices are effective January 1, 1995:

DG-800	18 meter version	151,800 DM
DG-800	15/18 meter version	155,100 DM
DG-800B	18 meter version	157,850 DM
DG-800B	15/18 meter version	161,150 DM
Winglets for the above		3,016 DM
Deposit required to secure a production position		$6,800



Pete Williams prepares for takeoff in Al Martini's new DG-800 at Douglas County Airport, Minden, NV.