

The Polite 800 was conceived in 1994, built over the following 2 years, and initially flown in 1996. It was derived from Norm Poti's Niblite 585 a B-ship of outstanding performance, and therefore bears much resemblance to it. The name "Po" in Polite is in appreciation of Norm's influence in this design while keeping the "lite" in the name for it's light weight construction. Compared to it's origin, the Polite 800 is much larger, employs a K&B 6.5, a bunt mechanism (Norm's Niblite 585 was not a bunter!), and an Oliver aluminum / carbon fuselage system. At 33 oz with a K&B 6.5 (which weighs 12 oz itself), this airplane is very fast. At its initial test flying session Dick Covalt commented that this was nice model, and that I would have much fun with it. Now after it's first full year of flying, I can certainly say that Dick's prediction of being a fun airplane has certainly come true!

In 1996, it was flown in only 2 contests, taking a 2nd place in its first appearance while still being trimmed. Then it blew apart at the '96 Nationals on its 6th flight after a timer malfunction. This crash was rather spectacular as the engine did not shut off, but the remainder of the functions worked as programmed. The airplane did a ¾ outside loop during the bunt, then went into glide pulling many g's while accelerating toward the ground. Many people were amazed it held together as long as it did, finally the wing exploding into many pieces in a spectacular crash. The Oliver fuselage held on impact, even though the motor was still running when it hit the ground. Also no appreciable damage was done to the stab. Bob Johanus commented that the wing was well designed as it did not "fold" do to having a weak spot, rather it came apart evenly (and quite completely), which later made the rebuilding job quite an adventure.

The wing was rebuilt over the Christmas holiday of '96-97 at Phil Sullivan's during a friendly building session with members of the Central Indiana Aeromodelers (CIA). Most of the guys were either building new planes, or finishing up ones that were started. But when the Polite 800 wing arrived in a box, many thought it would never fly again. After 5 days of careful splicing the carbon reinforced balsa structure back together it looked like a wing again.

At the first contest of 1996, the plane was carefully test flown. Much to my surprise, no trim adjustments were needed at all. Not even a 1/8 turn of rudder or elevator! After 2 test flights, and a field modification to increase the spring tension on the glide hammer to help it move out of the way to allow the DT to function consistently, an attempt at breaking Ed Keck's long standing category III C-gas record began around noon. The record stood at 39 min, 38 sec (just shy of 17 maxes) since June of 1989. After 6 maxes, the wind came up around 2:00 P.M., and was blowing right for the cemetery woods at Muncie. So it was decided to put the model away until the evening in hopes of improved conditions, as thermal help did not appear to be needed. After taking a nap, the wind had slacked off some, so I got the plane back out. The remainder of the 17 maxes were put in after 6:00 in nearly ideal conditions with light drift. Max number 13 flew into the cemetery woods, during a brief increase in the drift conditions. At this point, most of the local modelers who had stayed to watch decided it time to leave for home when I came back for the chain saw! Norm Poti and Steve Fraizer remained however, and Norm and I were able to poke the plane out of the tree with minor damage, without use of the chain saw. From this point on, with sunset approaching, it was a rush to get the required flights in, sometimes not even wiping the plane down. With 2 minutes to spare the record breaking max number 17 was launched. After that, three additional "no count" maxes were put up in case the official sunset time was in error. If time had not run out, the record might have been run up much higher.

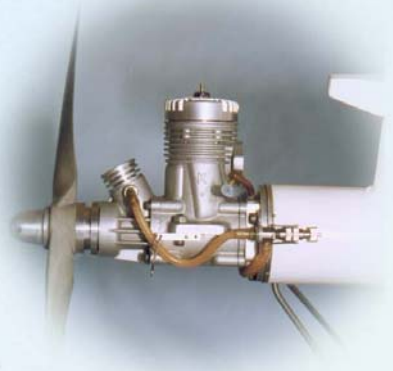
In the remainder of 1997, Polite 800 was entered in 4 contests in addition to the successful record attempt. It won 3 of the contests, with good scores in various conditions, from good to very windy with rain, missing perfect flights on the 6th, 7th, and 12th maxes. At the Nationals, I made the mistake of flying the model in the initial thermal part of the day for the first 4 sec / 2.5 min flight. Marginal lift conditions combined with an erroneous left launch caused the model to land a few seconds short of the max. The time was good enough for a tie for 5th with Marvin Mace, and was later flown off on Friday morning during non-thermal conditions. The Polite 800 won the flyoff against Marvin's fine locked down surfaces C-ship, despite a short 3.2 sec engine run, which was believed to have been caused by increasing the nitro content of the fuel to 55%. With the hotter fuel, the rpm increased by about 2000 to 21,000. It is believed that this caused the timer to run faster causing the short engine run. Most of the time the K&B 6.5 is run on 30% nitro.

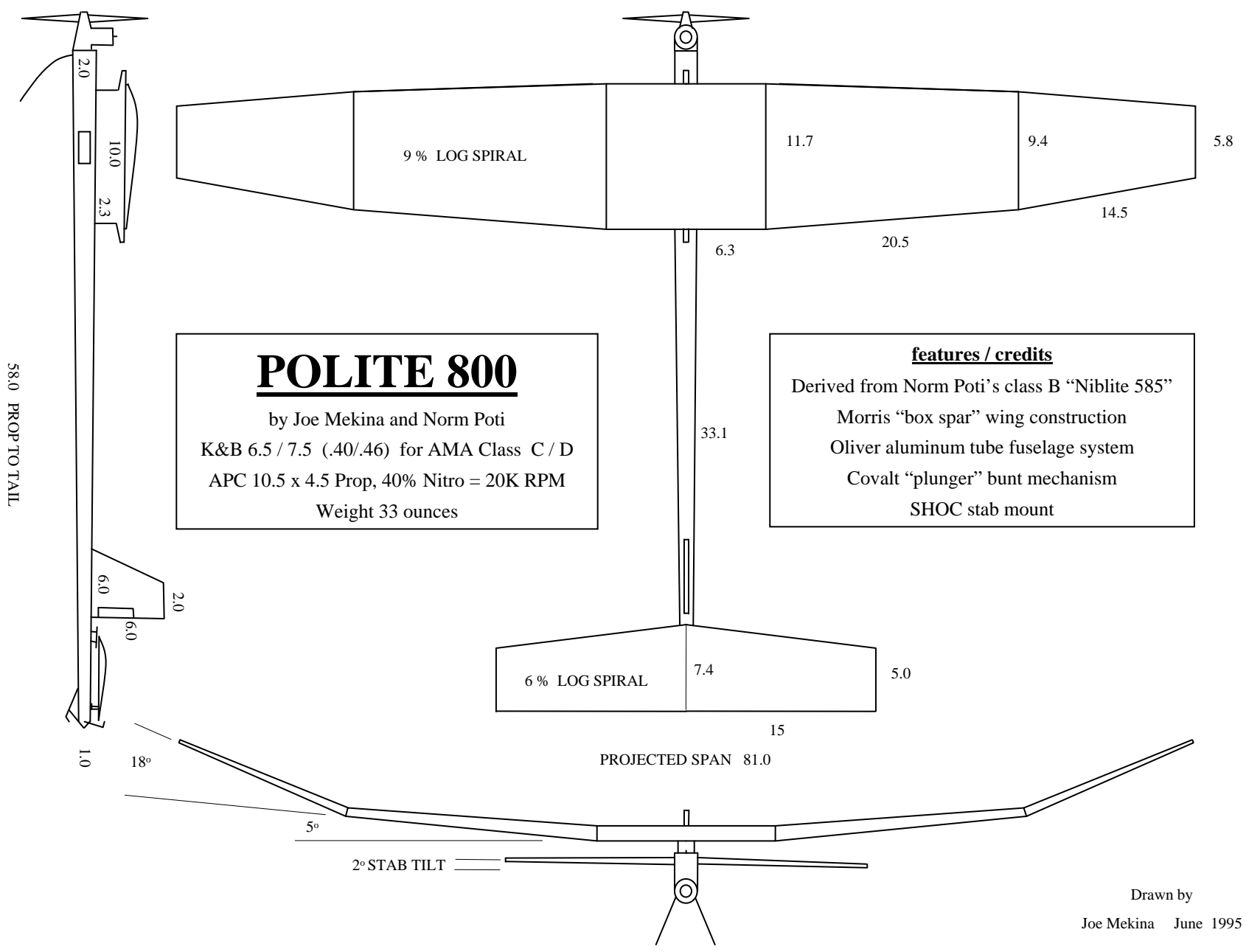
Over the course of '97, I learned that unlike the majority of the record attempt flights flown during non-thermal conditions, most contests are flown in thermal conditions, and one has to be careful to not put the airplane into a downer. This sharpened my air picking and cumulated with "a come from behind" win at the CIA annual with 11 plus maxes.

The Polite 800 incorporates a Dick Covalt "plunger" bunt mechanism which is a very simple, positive system involving an aluminum cement anchor purchased at the local hardware store, plunging into an ¼ inch ID aluminum tube on bunt. The mechanism is held up during power with by a piece of 1/16th inch music wire held into a half round horizontal slot in the plunger. A unique "pulley" turn around is used for the critical main hold down line to minimize wear on the line. A standard hammer provides the glide setting.

The K&B 6.5 is mounted on an upside down U-shaped back plate mount. The fuel line plumbing comes out of the open end of the U-shaped mount, then goes through several T fittings for the main needle valve, flood off and fueling (via a one-way valve). This one way valve is a very practical solution to fueling a pacifier based fuel system. A remote needle valve makes the tuning easy, although the K&B 6.5 rarely required changes to the initial days setting.

The Polite 800 has been a fun airplane to fly and has lived up to its expectations very well in during its first full year of flying. I plan to fly the Polite 800 with a K&B 7.5 in class D during the '98 flying season. Surely, Ed Keck's other long standing category III class D record of 44 min, 44 sec (19 + maxes) will fall this coming flying season, if not by this airplane, but by one of the other truly fine flying machines that have surfaced over the past several years.





POLITE 800
 by Joe Mekina and Norm Poti
 K&B 6.5 / 7.5 (.40/.46) for AMA Class C / D
 APC 10.5 x 4.5 Prop, 40% Nitro = 20K RPM
 Weight 33 ounces

features / credits
 Derived from Norm Poti's class B "Niblite 585"
 Morris "box spar" wing construction
 Oliver aluminum tube fuselage system
 Covalt "plunger" bunt mechanism
 SHOC stab mount

Drawn by
 Joe Mekina June 1995