

Newsletter for the Spring Area Radio Kontrol Society



Crosswinds

Due to the uncertainty of the field location issue several changes were proposed and unanimously approved by the membership at the April 2008 meeting. They included:

- Current officers will retain their positions until further notice. They all volunteered,
- Dues for the 2008 – 2009 Club year will be paid in two equal installments....
- The first due by July 2, 2008 which will cover the time span of July 2008 until January 31, 2009.
- The second equal installment will be payable by Feb. 1st 2009 and will cover from Feb. 1st 2009 until July 1, 2009.

The new member initiation fee will be waived until a new field is secured. Renewing members must pay by the due dates as listed above or they will be assessed the initiation fee when the new field is secured.

NO exceptions will be made this year.

Stickers for the members AMA cards will be given when the first installment due by July 2, 2008 is paid.

Please send your dues to the attention of Mike Meyer, Treasurer at the P.O.Box address on this page before the deadline or attend the July 2 meeting and pay in person.....

Editor's note: This is a tight month for my schedule having just returned from Virginia and I will be gone again until July 6th. This newsletter is a bit early and does not contain the President's message due to Wally's schedule.

Please attend the meeting on Wednesday, July 2,
at Valley Ranch Grill, 7 p.m.

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June Meeting Highlights

Meeting was called to order by President Wally Warren at 7:02 pm. Minutes were approved as read. In attendance was a former member, Wiley Crouch, who has rejoined recently. Also noted were two new members Mark Mendonca and his son, Adam.

Mike Meyer, Treasurer, reported there are currently 82 members including the 3 honorary ones. Thirty five members have not paid their dues for the 2008 – 2009 fiscal year. The payment is due by the end of the July 2, 2008 meeting.

Paul Johnson, Field Search Chairman, reported we have a verbal agreement with officials at Pct. 4 to lease a future Club site at Dyess Park near our current location. Mark Hunt and Jim Sheffield are in negotiations and hope to have a signed lease soon. More details will be discussed at that time.

The Kluge – Grant Rd. site, which we have also been discussing, is still under construction by the County and unavailable to us at this time. The Camp Anderson site, 32 miles north of FM 2920 and Hwy 249 is also available as a back up plan. There have been more newspaper articles recently and the committee is still actively researching any leads.

In appreciation to Valley Ranch Grill for their hospitality each month, Wally suggested we cover a plane and decorate it with Valley Ranch custom designed decals to hang in their dining room. Vic Baney volunteered to cover the plane donated by James Lord.

Jake Jacobsen recently discovered 3 old SPARKS's rosters from the late 80's. In 1987, there were 60 members, in 1988, 100 members of whom there are still 3 active and in 1990, 66 members of whom, 7 are still active members.

Model of the Month was won by Richard Lewis with his "Aries" pattern plane. Its custom designed theme painted by Jim Sheffield and using special graphics is dedicated to his Mom, Susie, an ovarian cancer survivor. Richard plans to compete at local contests as well as the Nationals next month. Please see the June Crosswinds for more photos and the specs.

Gift certificates to Randy's Hobbies were raffled to several lucky members. .



Around the field..... Some new faces and planes

Photo to right:

Congratulations to new members, **Mark Mendonca** and his son **Adam**. Both easily passed the FPE on May 31st.

Mark said, "I started flying model airplanes when I was about 8 or 9, introduced by my father in Trinidad. My first airplane was a Ranger 42 single channel.

I graduated to multi-channel and saw Norm Page fly his Mach1 1970's pattern airplane at a model show in Trinidad and got interested in pattern flying.

Over the years I have competed a bit in pattern and really enjoyed meeting some great people along the way.

RC flying went onto the back burner for a few years due to a variety of reasons.

The recent move into the Houston area and the fact that my 16 year old son, Adam is also very interested, has seen us join SPARKS and try to get started again."

Editor's note, Please read more about this flying duo on page 15 and 16 at the recent Pattern Contest at Jetero.



Photo to left. New member, **Derek Irish** with his new Ultra Stick after it's maiden flight on May 31st.. Derek is coming out of R/C retirement and looking forward to lots of flights and fun at SPARKS, Welcome Derek!

Photo below:

Ok, not a new face, but certainly a new plane, the Venus II maiden by **Rod Kuntz**. Please see article on page 14 for the details.

Photo below:

Bill Murad with his new sleek craft



INTRODUCTION to the Curtiss Jenny

Submitted by: Vic Baney

Before introducing you to Proctor Enterprises kit, which I am completing and anticipate showing at our July club meeting, I would like to introduce you to the ship itself. If your interested in biplanes and the evolution of aviation history, then enjoy!

Over the years, the Curtiss Jenny has been the subject of many books and articles. I have found none better than the accompanying two part article that first appeared in the October and November 1952 issues of Model Airplane News and published in the Proctor Instruction manual of there kit. I was so impressed with its content, that we have included it here for your reading enjoyment. We wish to thank Proctor Enterprises for allowing us to reprint it in its entirety.



Typical "Curtiss Jenny"

THE JENNY

By Robert C. Hare

PART ONE

The historical airplane to be discussed this month is the famous Curtiss Jenny. This airplane, perhaps to a greater extent than any other, represents the sum total of U.S. World War I aviation development. There may be disagreement with this statement in view of the U.S. developed Liberty engine - a marvelous piece of machinery in its day - and the engineers took the British DH-4, redesigned it for mass production as it never had been produced before.

Our industry and our engineers made many important contributions to the cause, but to the Jenny goes the honor of being the most numerous produced, purely American airplane design of W.W.I. More than 4500 Jennies were manufactured for U.S. forces by Curtiss and seven other manufacturers; add to his the hundreds built in this country and in Canada for England and the British Air Service.

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The Jenny had her shortcomings, by today's standards; flew best in the hands of a pilot who was wise to her peculiar habits. Yet Jenny would give a novice pilot more than an even break. "If you can fly a Jenny", an old saying went, "you can fly anything. The Jenny was designed to teach men to fly and nothing else was ever expected of her.

However clear-cut the Jenny's wartime purpose may have been, the greatest fame actually came in the post-war years of the 1920's. By sheer numbers she invaded and took over the initial phases of American commercial aviation. She flew the first regular airmail schedule and became the first readily available private plane. She continued to train hundreds of eager fledglings who were too young to join the Air Service during the war.

There is no pilot who has put in time on a Jenny in years past who will not admit: "Verily, there was an airplane". To those of us who teathed on a Jenny, there is something magical in recalling the feel of pressure on her elevators or rudder; of the throbbing of her OX-5 engine pulling her out of a dirt field; of every rib, strut and wire vibrating in unison; of the fabric dancing to the same beat as she bored her way through the air.

The age of the Jenny was the age of flying "by the seat of your pants". To those born too late to become initiated first-hand to the habits and romance of the Jenny, these articles are dedicated in the hope that they will bring to life an era of the past; perhaps a glimpse and feel of flying as it was when the Curtiss Jenny was queen of the air.

To fully understand the importance of the Curtiss Jenny in American aviation annals of W.W.I., we must go back to the early days of flying in this country. One of our earliest, and most successful pilots, was a young engine builder and motorcycle racer named Glenn H. Curtiss. His gasoline engines were efficient enough to attract air-minded inventors such as Captain Baldwin. He built an engine for the Captain's "California Arrow" dirigible in 1904. Other aviation power plant assignments followed. Curtiss' fame spread, and in 1907 he built a motor for the "Red

Wing", produced by Alexander Graham Bell's "Aerial Experiment Association". This project actually got Curtiss interested in airplanes as well as engines. By 1908 he had designed and flown the Association's third machine, the "June Bug". In this crude pusher biplane, Curtiss won the Scientific American trophy offered for the first public flight of one kilometer, about five eighths of a mile. The date was July 4, 1908.

The small factory where these early planes were designed and built was at Hammondsport, New York. This city and Curtiss were to become synonymous. Following a number of exhibition flights, including the New York "Albany flight of 152 miles to win the New York's World's \$10,000 prize, Curtiss turned to the more serious business of building airplanes for sale.

The first thing Curtiss required, however, was a market for his airplanes, and he set out to create one. In aviation, this meant that customers who knew how to fly had to be created. Curtiss began by opening a flying school and giving flying instructions. In the summer of 1909, he taught C.F. Willard, and a Mr. Williams. Soon afterward, J.A.D. McCurdy, first pilot to send and receive a wireless message in an airplane, became a student. Charles K. Hamilton, Eugene C. Ely, Lincoln Beachey and T.J. Ellison followed. The Navy sent Lts. T.J. Ellyson and J.H. Towers to learn about this flying business. Many other air-struck youngsters came along to the Curtiss school and went on to write their names in American aviation history.

Curtiss pioneered the dual control system of instruction. Most instruction

in those days consisted of the master shouting instructions to the pupil running around on the ground alone in a "grass cutter". But the young man from Hammondsport saw value in the master actually showing the student how to fly. His model "D" pusher biplane, of 1911 vintage and second plane supplied to the Signal Corps, was an open framework, dual control craft. Up to that time, he had not attempted to cover the fuselage or any part of it, to improve streamlining and afford protection against the wind. In the back of Glenn Curtiss' mind from

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the earliest days had been the idea of a flying boat. His model "F", in 1912, was such a craft, of necessity with an enclosed hull type of fuselage. Returning to land-based craft, the Curtiss plane suddenly appeared with a tractor engine, a covered fuselage, bearing the model designation "J". Model "F" had pointed the way.

The "J", brought out in 1913, carried ailerons in the upper wing only, had a wheel and skid landing gear and a racy appearance for its time. Shortly thereafter model "N" came to light, very similar, with ailerons mounted between the wings, as in the model "B" pusher.

Combining the most desirable features of the two planes resulted in the Model "JN". Modified, and with ailerons in both wings, it became the JN-2. JN-3 followed quickly and finally, with further improvements, the first Jenny, model JN-4 made its appearance.

Although the JN-4 was developed as a standard training machine for use in

The several Curtiss flying schools, by then established along the East Coast and in San Diego, California, the war in Europe soon put the Jenny in great demand as a military trainer. At the outbreak of W.W.I., a British purchasing commission arrived at Hammondsport, saw the JN-4 demonstrated by the Curtiss pilots, looked over the blueprints, then sat down to talk business. That business was for about three quarters of a million dollars worth of Jennies.

A month after Germany began her drive on France, JN-4's were coming off the line for the R.F.C. Other orders came in from Spain and other small countries. Domestic business increased as air minded young Americans paid for their own flight training in the hope of enlisting in foreign armies.

Curtiss had to expand his production facilities, set up a production unit at Buffalo. Curtiss engine building facilities also were enlarged. The OX-5 series power plants were standard equipment for the JN-4's.

The JN-4 supplied in 1915 was first of a long series of Jenny models. It was an uneven span biplane 26" 10-1/2" long. The upper wing was 43" 7-3/8" Tip-to-tip; lower was 33' 11-1/4". Chord of both was 59-1/2". Wings were braced by two bays of Spruce struts and steel wires, which

weighed, together with turnbuckles and other hardware, exactly 78 lbs. Upper and lower wings, alone, weighed only 232 lbs.!

The 90 hp engine, cowled in sheet aluminum was set at zero degrees thrust. An innovation at the time was the "car" type radiator located in the nose and equipped with a hole through which the propeller shaft projected. Tandem cockpits for pilot and passenger were located toward the rear of the lower wing, providing excellent visibility. The tail assembly consisted of unbalanced rudder and elevator, the latter with a trailing edge chord which narrowed toward the center, a small triangular vertical fin fixed above the fuselage and a rounded horizontal stabilizer.

Landing gear on the JN-4 also was something new in its day. It was a simple two-wheeled affair with full axle, four legs or struts and wire braced. Rubber shock cord provided springing action. The tailskid was externally sprung, hinged on a projection of the sternpost several inches below the fuselage.

Although the basic JN-4 was a good training craft, Curtiss continued its development, and in 1916 brought out the JN-4A. This Jenny differed from the basic JN-4 in four particular respects.

First, dihedral was four degrees, compared to one degree in the JN-4. This change was made in order to give the JN-4A a little more stability and to improve its spin recovery. Second, ailerons were introduced into the lower wing which, combined with those in the upper, improved lateral control. Third, the engine was installed at six degrees down thrust in an attempt to further improve handling characteristics. Fourth, was a redesign of the entire empennage to increase fin area, raise the rudder, simplify the horizontal surfaces by using straight leading and trailing edges. Another change was the enclosure of the tail skid springing mechanism within the fuselage.

Less apparent were an increase in lower wing span to 34' 5-1/2", and an increase in stagger to 16", as against 10-3/8" on the basic JN-4. Lower span was increased by giving that wing the same pointed trailing edge tip configuration as the upper wing. The basic JN-4 lower tip was well rounded at the trailing edge. Empennage redes-

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ign resulted in a five inch increase in JN-4A over all length to 27' 3-1/2".

A word should be said about control systems on the early Jennies. From the start, Glenn Curtiss developed and used his own wheel and shoulder-yoke arrangement which became standard equipment on a11 Curtiss aircraft. The Curtiss system was designed to avoid infringing on other control patents. Over in Europe, the Deperdussin system was widely used, and in England, a modified Deperdussin arrangement was used which replaced the lateral control wheel with the familiar "stick". Rudder control was by foot bar.

While Jennies were originally equipped with the Curtiss system, export models were fitted with a variety of combinations, depending on who was in the cockpit. Thus we find Curtiss-Deperdussin, Deperdussin-Curtiss, or double Deperdussin dual controls regularly installed. The instructor would have one set, his student another. It was only in later models that the conventional stick and rudder bar type of control was made standard.

In view of the may Jenny models produced, it is remarkable that the structure of the airplane remained generally constant throughout. Wings were made in right and left hand panels, the upper attached to a center section, the lower attached directly to fittings on the lower fuselage longerons. Front and rear wing spars were of solid Spruce, milled to an "I" cross section, and connected by steel wire and heaved up compression ribs, in addition to regular airfoil ribs. The latter were made in front, center and rear plywood segments with cut-outs to lighten them, and tied together with Birch cap strips. Leading edge was Spruce and trailing edge was flattened steel tubing.

The fuselage consisted of four main longerons connected by struts and bracing wires. Longerons were 1-1/4" x 1-1/2" sec tioned Ash in the forward part, spliced to Spruce members 1-1/2" square in the rear fuselage section.

Irish linen was used as the covering material, treated with five to seven coats of dope and one to three coats of varnish, depending on specifications. The engine section was covered by aluminum sheet cowls. Cockpit coamings also were aluminum sheet, padded around the cockpit cutouts. Top fuselage decking from the cockpits to the tail

was built up of formers and stringers, cloth covered. It was attached by four hinges on each side, and by removing hinge pins from either side, could be swung open for interior inspection.

Although instrumentation varied on many Jenny models, standard instruments consisted of a tachometer, ball level, compass, oil gauge, gasoline gauge, and in addition; instrument board lights, fuel and ignition switches, a fire extinguisher and 17 "Lbs. of special rigging and assembly tools.

Empennage members were largely of wood construction with steel tube used for rudder and elevator hinge line spars and for trailing edges.

Main landing gear of the JN-4A consisted of four Spruce struts, which were bound at intervals with linen twine to prevent splitting. Arranged in right and left hand pairs, they were joined by saddle fittings incorporating the axle guides. Tail skid was made of Ash, metal shod, and sprung from shock cord within the fuselage. Wingtip skids, located underneath the outer wing strut fittings, were made of rattan and considered part of the landing equipment. Their fittings were formed of steel with built-in tie down rings.

Top speed of the JN-4A at sea level was officially quoted as 73 mph. Minimum speed was 43 mph - the slowest speed at which the ship could fly in level position and still maintain altitude. Stalling and landing speeds were about five mph below this figure. Climb was between 2,500 and 3,000 ft. in 10 min., depending on load and condition of the plane. Power loading of 21 Lbs./hp and wing loading of about 5 Lbs./sq. ft. were rather precarious and accounted for Jennie's limited performance. The JN-4A, however, incorporated design features that were to set definite patterns for model variations to follow. The Jenny that American W.W.I. student pilots and post-war barnstormers knew so well, and its several variations, will be discussed next month.

PART TWO

European orders for the JN-4 in 1915 and 1916, together with examples of the type built for private fliers and the

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U.S. Signal Corps aviation branch, permitted Curtiss to work most of the "bugs" out of the Jenny design. Further experience with the JN-4A, a variant of the basic JN-4, taught new lessons Jenny designers.

Perhaps the most important lesson was that the Jenny's handling characteristics could be drastically altered merely by changing dihedral and engine thrust. With a lot of dihedral, she became stable as a rock and somewhat difficult to maneuver in the aerobatic sense. Thus the high dihedral JN-4A carried ailerons in both wings to provide satisfactory lateral control. Directional stability was improved by a larger rudder and fixed vertical fin.

By flattening out the dihedral, Jenny became a spirited steed that took a lot of flying to keep in tow. Ailerons in the upper wing were sufficient for lateral control. Improved directional stability brought about by the vertical and horizontal tail surfaces redesign in the JN-4A, however, was retained in all future domestic models of the series.

With the JN-4A contracts for England and other nations well under way, the Curtiss engineering department brought out the model JN-4B. This aircraft was practically a basic JN-4, but with the new tail surfaces introduced in the JN-4A and other minor changes, wings were dimensionally the same as in the JN-4, but the stagger increased to 12-5/16", and gap increased to 62-3/16". Dihedral normally was one degree, although records show that an angle of 2-1/2 degrees was incorporated in some versions. The original yoke and wheel control system was retained, but many systems were later modified.

Although the Signal Corps procured only five examples of the JN-4B, scores were built for private fliers and private flying schools which trained Army pilots under contract. As a result of its availability and popularity, we have rather detailed specifications for the JN-4B. Wing loading was 5.3 Lbs., power loading 21.16 Lbs., empty weight was given at 13201bs. and gross weight, 1905 lbs. Top speed was 75 mph at sea level, with a minimum of 43

mph, according to Curtiss flight test reports. It was credited with a 3,000 ft. climb in ten minutes.

The Jenny that carried the "C" letter change had a very interesting origin. It was the Canadian Jenny, commonly called the Canuck. The fact that it was so named, and so produced in Canada, had nothing to do with the "C" designation.

Canadian production was accomplished by creating Canadian Airplanes, Ltd., in Toronto. The Canuck was built of Canadian materials, although Curtiss supplied the design and the OX-5 engines. In all, this efficient Canadian organization produced some 2900 Jennies in the 22 months before the end of W.W.I. That was 14 million dollars worth of Canadian Jennies.

The JN-4C was very little different from the basic JM-4 dimensionally. Lower wingspan was increased to 34' 8-5/16". Overall length was 27' 2-1/2". Many unapparent changes were made in the Canadian production types against the original Curtiss JN-4C design. The prototype, however, anticipated Canadian requirements by incorporating ailerons in both upper and lower wings. The added surface coupled with a dihedral of only one degree, gave the JN-4C an unusually sensitive lateral control. The greatest change was in the airfoil. The JN-4 series, except for isolated cases - and model JN-4C - used the Eiffel 36 airfoil section. In the JN-4C, the British favorite for training planes, the R.A.F.6 airfoil section, was incorporated. This section was a little more favorable for what was required of the JN-4C; a primary trainer with more of the characteristics of an advanced trainer. Many Canadian Jennies were fitted with Curtiss OXX-3 engines as well as the OX-5.

Final distinguishing features were components of the empennage. Horizontal surfaces returned to the configuration used in the basic JN-4. Vertical fin was triangular as in previous models, but of smaller area. The rudder was more rounded than in previous models, setting the ship off unmistakably.

The greatest Jenny of them all, and the model produced in the greatest numbers, was the JN-4D. This

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was the ship seen winging over the many American air fields set up to train our pilots in late 1917 and throughout 1913. It was the ship that could be bought out of surplus in 1919 at a fraction of its original cost, and became America's most popular private plane of the early 1920's.

Of the previous JN-4 types, the JN-4R appeared outwardly more like the JN-4B than any other, yet it carried some of the identifying features of each, together with a few of its very own. For instance, the upper wing only carried ailerons, as did the "S", the down thrust engine and tail assembly of the "A" was retained. Stagger was returned to 16", as in the "A".

It would be difficult for anyone to distinguish a JN-4D model from an "A" model if it were not for the wings. There lay the greatest difference. The "D" wings were set at one-degree dihedral angle. More noticeable, however, was the center section cutout at the trailing edge which improved passenger or pilot access to the front cockpit. A similar cutout was employed in the lower wings where they met with fuselage, primarily to improve downward vision.

While span and cord of both wings remained the same as the JN-4B, gap was reduced to 60", and wing area to 352.56 sq./ft., due to the upper and lower panel cutouts. Overall length was 27' 4". wing loading came to 5.45 lbs., power loading to 21.35 lbs., gross weight was 1920 lbs., and empty weight, 1430 lbs. The Curtiss OX-5 engine was standard in the JN-4D.

Curtiss flight test reports indicate a sea level top speed of 75 mph for the JN-4D. Climb, because of greater weight and other factors was only 2000 ft. in ten min. Considering all the wires, struts and square corners the OX-5 hauled through the air, these performances were not out of line in a 1917 primary trainer.

Although the JN-4D, by virtue of its wide production, apparently satisfied trainer requirements, one additional modification was made experimentally, the JN-4D2. Only one airplane of this designation was built for the U.S. Air

Services, and that was a standard JN-4D with modifications.

As the performance of service type aircraft improved and training techniques became more sound, it became apparent that an advanced trainer was needed to span this primary-service gap. The Jenny was chosen for this job because of her fine record and because she was available in quantities.

Fitted with a Hispano-Suiza model "A" 150 hp. engine, she became the JN-4H. The "H" letter change referred only to the Hispano engine and was not an alphabetical letter change as on previous models.

JN-4H outwardly was identical to the JN-4D except for the nose radiator shape, engine thrust line set and engine cowl pattern. Radiator was approximately symmetrical from top to bottom and the flat under engine aluminum cowl of the JN-4D was replaced by a faired cowl on the Hisso job. The main difference between the two ships can be boiled down to an engine change and alterations resulting there from.

Weights increased with the larger engine. Empty, the JN-4H tipped the scale at 1595 lbs. and loaded, was 2145 Lbs. in her original design form. Wing loading became 6.1 Lbs.; power loading was 14.3 Lbs. These figures indicated an improved performance. Top speed at sea level was 93 mph; ceiling became 12,800 ft., and rate of climb about 750 fpm. Landing speed remained in the 45-50 mph class.

Some Hisso Jennies grossed as much as 2300 Lbs. as they became "jacks of all trades". And with modifications that followed, the job of designation pointed to our present day system of letter identification. Thus the J.N-4HB was a day bombardment trainer; the JN-4HG was an aerial gunnery trainer. As seems to be the historical case with all military aircraft, the additional equipment and weights imposed on the Hisso Jennies began to reduce performance. All these Hisso Jennies were fitted with wings dimensionally identical with those of the JN-4D, and with ailerons only in the upper wing.

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JN-4H models of this type were used to carry the first regular mail between New York and Washington D.C., on May 15, 1918. Front cockpits were covered to form the baggage compartment.

Further exploitation of the design brought back ailerons in both wings in the series designated JN-6H. This airplane was, except for ailerons, a 4H type. Additionally, however, a large aerodynamically balanced rudder was fitted giving the tail of the ship a distinguishing appearance. Model JN-6H3 was a day bombardment trainer; with model JN-6HG-1, the Jenny became armed right from the design stage. Previous models were armed for training purposes from time to time, but only as modifications of an unarmed type. JN-6H-2 carried two guns; JN-6HO was an observation trainer, and JN-6HP was a pursuit trainer. Speed of JN-6H models was reduced to around 80-85 mph class and gross weights increased to as much as 2700 Lbs. because of additional equipment imposed by the various training categories.

Cessation of hostilities in November 1918, brought wholesale cancellation of contracts for thousands of airplanes of all types. Included were contracts for nearly 5000 Jennies of various JN-4 and JN-6H designations. From 1919 to 1925, many Jennies of all types were built and modernized with Air Service maintenance funds. These ships were modified with new steel tube fuselages, both standard and beefed up wings and with standard and reworked Curtiss and Hispano engines. The steel tube fuselage Jennies were redesignated JNS-1, and in some instances JNS-H or I, to indicate the particular Hispano engine model.

Much of the Jenny's poor reputation came from the fact that as the standard training ship for the Air Service, she was involved in a lot of crashes. This was understandable, considering the vast amount of flying done, short training periods, and none too reliable equipment by modern day standards. The science of maintenance, to say nothing of aerodynamics, was pitifully primitive.

Shortly after the Armistice, large government stocks of Jennies were cleared out. Warehouses full were sold singly and in lots to the highest bidders, or for a price the market would bear. Many of the larger training fields were established as disposal centers for still crated JN-4's. Hundreds of brand new Jennies then were sold for anything from \$50 and up on the auction market. It was no wonder that Jennies began appearing by the hundreds in the air over America.

Lot purchases of surplus Jennies also bought OX engines and parts by the carloads. There was no civil aircraft industry at the time, and although a few enterprising men tried to bring out purely civil designs, few succeeded. The ready availability of the Jenny was too much for them. Some firms, including Curtiss, bought Jennies back from the government just to get them off the market!

By 1923, these surplus Jenny dealers were advertising their wares with vigor. For example. Deluxe Air Service, Inc. of Asbury Park, N.J., listed Jennies, practically new: "overhauled OX-5 engines, new wings", for \$500. Used, "A-1" Jennies were \$350.

If a man owned a Jenny, it was worth his while to rebuild it as parts wore out. The same company listed such things as: New covered wings \$30.; new covered aileron, rudder or elevator, \$2.50 each; uncovered wings, \$15.; new copper tipped propellers, \$15.; complete, overhauled OX-5, \$75. The list is too long to mention, but you can see why there was little private plane manufacturing.

Companies like Sperry, Sokorsky, Martin and others developed "high lift" monoplane wings for Jenny owners. These improved performance by eliminating drag and introducing more efficient airfoils. The Sperry wing Jenny was 10 mph faster than its biplane counterpart and landed at 35 mph.

Engine modification kits also appeared on the market. "Millerized" OX-5 engines put a few more horses in the old power plant. "Toothpick" props, which allowed a few more rpm's, came on the market. Blue prints and drawings were for sale showing how to install Hall-Scott,

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Duesenberg, Thomas and other engines in place of the OX-5.

Clipped wing Jennies also were in vogue for a time until a few pilots killed themselves. Before long, Jennies all over the nation became "combination" Jennies; ships made up of parts of almost all JN-4 models, in all conceivable combinations.

Loops, rolls or Immelmans could be performed on a Jenny, but only under her own terms. Maneuvers became "Jenny rolls", "Jenny Immelmans", etc. The Jenny had to be dived to give her sufficient speed to carry through - just the right amount of speed. Too much, and she'd slide all over the sky; not enough and she'd groan to a halt in mid-air. Many a pilot ended his career in a heap of rubbish by not following Jenny's stunting whims, yet many early barnstormers became so proficient, that they could make Jenny perform her maneuvers with dead stick!

In 1927, the Department of Commerce regulations put a stop to the JN-4 as an legal airplane. Jennies were junked by the hundreds, making way for safer ships. A few "bootleg" pilots still operated Jennies in out-of-the-way places after that.

As late as June 1950, three were listed in a C.A.A. study on civil aircraft as being registered. One JN-4D, powered with a Continental 220 hp radial engine, at this writing is tied down at Whitman Airport, near Los Angeles. Other Jennies are being rebuilt to exhibit, some hoping to fly, by historical enthusiasts here and there.



Photo above:
Lillian Boyer hanging from a JN-4, notice ladder under the fuselage.

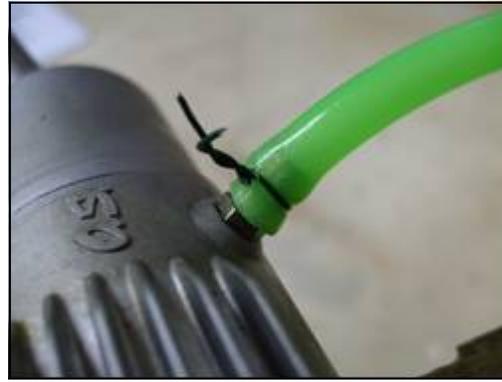
Photo below:
Curtiss Jenny JN-4 landing in a tree



Building Tip by Rod Kuntz

What is the best way to secure tubing to the connection, whether it is on the fuel tank, or fueling port, pressure nipple on muffler, etc. etc.? This is one idea that probably most of you already know or use, but thought I would offer it up to some of the newer builders.

There are a couple of common ways to do this, most obvious being cable tie wraps and fine wire twists, which I have shown below in the photos



I have some issues with both these methods (although I have used both). Both can be a bit challenging to install in some places; and the wire method can possibly pinch the tubing and could cause a leak. To me the biggest drawbacks are that they look a bit messy (although most of the time they are out of sight inside the plane); and most of all they are not intended to be removed. In the example photos I used a muffler pressure nipple as an example. Most people would want to pull this free while refueling so you don't fill the muffler up when the tank is full.

Following is a great alternative, and uses the same tubing as you have already on the plane. You simply cut off a piece of the same size tubing as you are installing, approximately 1/8" long. (In my example I have used a contrasting color so it shows up better in the photos). Install the piece of tubing onto the tubing you will be using by spreading it with a small needle nose pliers.

Then install the tubing on the intended nipple, pipe, etc. (Photo 2) Finally slide the short piece of tubing over the nipple/pipe, etc. and you have a rubber tubing keeper that looks nice and neat, is easily removable and is reusable. (Photo 3)

Photo 2: Tubing installed with
Keeper piece
above nipple.

Photo 3: Keeper tubing
Slid down over nipple
End onto the groove.



This works great, and it provides about twice the security as tubing without anything. That is, you can pull it off, but you will have to pull twice as hard as you would with just the tubing alone. This should provide more than enough security for most applications. After it has been on/off a number of times, simply replace it with a new piece to restore the original holding force.

Kaos Reborn... by Rod Kuntz

Back in July/05 in the Sparks Newsletter there was an article about my maiden flight of my "old fashioned" Kaos pattern plane. Back then I didn't know what pattern flying was, but I did know that the Kaos was a solid flyer, that stayed on line and went where you pointed it. It has since become my normal daily flyer, and still survives (although I have thoroughly scared the you-know-what out of it a few times).



I had originally powered it with a Magnum .52 2-stroke. That lasted only about 10 flights and I was really unhappy about continually adjusting it to make it run. So I took it off and replaced it with an OS .50 SX. Now that is a HOT engine. Puts out 1.8 hp and I originally had a 12x8 prop on it...bad idea with that engine. I had to put a 12x4 prop on it so it would slow down enough to land...used to have to start the approach somewhere in Montgomery County at idle just to get it down.



After almost 3 years of flying it I decided to try something else and convert it to 4-stroke (never satisfied). So I bought a Saito .72 4-stroke and pulled off the old OS workhorse. The Saito is exactly 10 grams heavier than the OS, so rebalancing the plane was not a big problem. It also fit right into the motor



mount (my research ensured that) as the space inside the cowl area is not too generous. The only engineering I had to do was pull the fuel tank and re-route the throttle cable (no big deal).

The performance with the .50 2-stroke was great; especially flat-out high speed passes. That engine really put out at the top end, but where it lacked was coming out of a maneuver like a loop at low rpm and then hitting the throttle to pull up. The 2-stroke needed time to get up to rpm, and with the 12x4 prop there was not a lot of low end pull, so vertical maneuvers were somewhat "blah".

I have now got about 40 minutes on the Saito, and have leaned it out just a bit more, and it is turning a 12x7 APC at about 10,500 rpm. I would like to prop it up a bit more but don't have the ground clearance with the tricycle gear. Maybe I'll try a 12x7 3-blade.

With the Saito, the Kaos now climbs like a scalded cat, and last Saturday I pulled it vertical from about 20 feet, gave it full throttle and watched as it approached the bottom of the cloud deck. I quit first.

The plane is a totally different plane with this engine. Not as fast on full throttle, but much better response in the low-mid rpm range, and much more responsive on pattern-type maneuvers because of that.

All in all, a good engine swap. (By the way, the wire you see from the muffler bolt is a retaining wire in case the muffler vibrates loose so I don't have to buy a new one).

New Airplane...Venus II

by Rod Kuntz

A few weeks my daughter's fiancée asked me if I would be interested in a Venus II that he decided he did not want to complete and fly. I had a look at it and decided it would be a great plane to have so I grabbed it. Spent the next week surfing eBay and found a Saito 1.25 4-stroke new for a super deal.

I ran in the Saito on the test stand for about 30 minutes, then one more tank to get the high end set on it. It is turning a 16x7 APC at about 8500 rpm right now, but seems to be getting stronger as I run it.

I installed Spectrum DS821 digital servos (70 oz-in) on the split elevators, and ailerons. The rudder got a Hitec HS615MG (130 oz-in), and there is a standard JR537 on the throttle. All control linkage is 4-40 carbon fiber rods with titanium ends, attached with JB weld and heavy duty clevises. Power is from a 2300 mAh battery, and I installed a remote fuel probe. I am flying it on a Spectrum DX7.

The Venus II has 66" wingspan and is designed as a pattern plane, but it will do anything you want including 3D stuff. Final weight was only 8 lb. 11 oz.

Maiden flight was May 31, 2008. Took off at about $\frac{3}{4}$ throttle, and there was literally just a couple of clicks on the trim tabs. This is a wonderful plane to fly...really seems to be a point and fly plane. I have about 6 flights on it now (June 1) and enjoy it more and more.

The motor is a real horse and is getting stronger with every flight.



Photo 2: Carbon fiber rods on back end



Photo 3: front end, engine installation

HOW TO HIDE AN AIRPLANE FACTORYFrom Dean Nistetter

Lockheed During W.W.II (unbelievable 1940s pictures) This is pretty neat--special effects during the 1940's:
I have never seen these pictures or knew that we had gone this far to protect us.

During World War II the Army Corps of Engineers needed to hide the Lockheed Burbank Aircraft Plant to protect it from Japanese air attack.

They covered it with camouflage netting and painted canvas to make it look like a rural subdivision from the air.

Please visit this website to view all the photos and see the painted canvas "scene". You will be amazed!!

<http://www.eatliver.com/i.php?n=2350>

The first photo shows the actual plant with parking lots, air strip and large buildings.



This after shot looks like a small village among pasture land.



Many thanks to the following members for their contributions to this jam packed newsletter...

Vic Baney, Lee Dillenbeck, Rod Kuntz, Nick Marson
Dean Nistetter and Mike Rose

Please continue to send your interesting articles, photos, websites, building tips etc. to dgmarson@earthlink.net

Thank you, Diane Marson

JETERO R/C CLUB HOSTS PATTERN CONTEST ON JUNE 7 AND 8TH.

Submitted by Nick Marson

Of the 30 contestants in attendance, ten are SPARKS members.

- Sportsman's Class - Adam Mendonca
- Intermediate - Nick Marson
- Advanced - Charlie Barrera, Richard Lewis, Mark Mendonca, Luis Rodriguez and Jim Sheffield
- Masters - Mark Hunt, Don Ramsey and Glen Watson

Winds of at least 20 mph with gusts to 25 made it a bit more difficult than usual. Of course, with the temperatures in the high 90's, the wind was welcomed, even if it did blow several pilots caps off while competing. There are some awesome planes at these meets and here are some photos of the event to enjoy. For more continuing coverage this year and to catch up on the news, visit

<http://pages.suddenlink.net:80/donramsey/>

I found this informative website for those wanting to learn some of the pattern maneuvers...I wish I had found it before the contest...guess I need to enter another one now. <http://home.comcast.net/~scottcov/>



Photo to left:
This pilot has twin
"Partners"...
Just one would be a
treasure, but a pair!
WOW



We were amazed at the size of the field and the "wide open" over fly area (see above) . Look at the wind billowing the canopy cover in the photo below.



Crop duster - R/C craft

Photos to left: A crop duster was doing his thing very near the field. Sometimes it was hard to know which on to watch.



Photo to left: A farmer was bailing hay on the adjacent field on Sunday.

AND SPARKS MEMBERS DID WELL IN THE TROPHY DEPARTMENT TOO.....

Contest Director John Forestieri is presenting the well deserved plaques...Thanks John and the folks at Jetero for a great time!!!!



Photo to left:
Adam Mendonca,
Sportsman, 1st place



Photo to right:
Nick Marson,
Intermediate,
2nd. place



First photo on left:
Luis Rodriguez,
Advanced, 2nd place



Second photo:
Richard Lewis,
Advanced, 3rd place



Photo, upper left:
Glen Watson, Masters, 1st place



Photo, upper right:
Mark Hunt, Masters, 2nd Place



Photo to left:
Don Ramsey, Masters, 3rd Place

Well done Guys....SPARKS is proud!!

A Pilot's Story - SR71 Blackbird by Billy J. Foster (Beale AFB - Marysville)

Submitted by Mike Rose

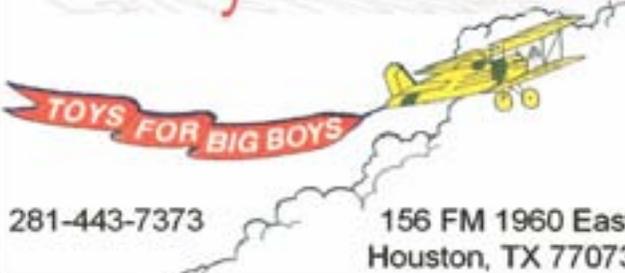
" In April 1986, following an attack on American soldiers in a Berlin disco, President Reagan ordered the bombing of Muammar Qaddafi's terrorist camps in Libya. My duty was to fly over Libya and take photos recording the damage our F-111's had inflicted. Qaddafi had established a 'line of death,' a territorial marking across the Gulf of Sidra, swearing to shoot down any intruder that crossed the boundary. On the morning of April 15, I rocketed past the line at 2,125 mph " read the complete article at

<http://www.whatsitlike.net/2008/06/be-an-sr-71-blackbird-pilot/>



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