the pleasant odor of many plants, and above all we Florida this year. Flowers begin blooming, leaves sprout during the annual Sun 'N Fun Fly-In at Lakeland, according to where we live, Spring does come, sometimes early and sometimes late. Officially it begins during the annual Sun 'N Fun Fly-In at Lakeland, Florida this year.

When we talk about the weather conditions over a short period of time, say during past Sun 'N Fun Fly-Ins at Lakeland when they were held during the latter part of each January, most of us remember those cold, windy or rainy days which we expected would be bright and sunny. Well remembered was the Lakeland Fly-In a few years back that most of us jokingly called the "Snow ‘N Freeze" Fly-In! Waking up on that Wednesday morning to find 1 to 2 inches of snow on the ground did not fulfill the desire to be in the land of sunshine. Last year the wind blew and it was cold. How well we remember the wind blowing through the commercial exhibit tent, with the tent posts jumping up and down like pile drivers. Eventually, some of the tie-downs came out of the sandy ground, collapsing one side of the tent.

We apologize to the fine Sun 'N Fun people for talking about the inclement weather over which they had no control. They have worked hard to make the event the tremendous success it has become. Our experiences with the bad weather were definitely offset by the fantastic good times had by all at each of the previous Sun ‘N Fun Fly-Ins. Had we not enjoyed our past trips, we would not have returned each of the following years. By changing the date of the Fly-In from January to March, there will definitely be many good changes and advantages for both Sun ‘N Fun committees and those of us participating in the events.

The weather should be mild and pleasant for the Fly-In in March. We can take our summer clothes out of the moth balls and get them ready for use in the good Florida spring season. Most of us will have our show aircraft out of the hangars and ready for the coming fly-ins. At the past Sun ‘N Fun Fly-Ins held in January, it was practically impossible to fly open cockpit aircraft, especially from the middle and northern states. It was highly probable that we would get weathered in for several days on the trip to or from Lakeland, which made the thought of the trip an impossible dream from a practical point of view. Now with the new dates in March, most of us should have no problems getting to and from Lakeland.

The Sun ‘N Fun committees want us to come and participate exactly as the name suggests. The sun should be just right for the ladies to get that early tan and all of us can look forward to the functions of the Fly-In with the relaxed attitude we so enjoy. The site facilities have been improved with the addition of a new permanent commercial exhibit building, improvements in the camping area, taxi areas and the overall grounds. The fine members of Antique/Classic Chapter 1, better known as the Florida Sport Aviation Antique & Classic Association, will be our hosts. Plans are underway to have a facility available where Antique/Classic members and guests can meet and relax on the Sun ‘N Fun grounds. Nothing is more desirable than these courtesies being offered by Chapter 1. When you drop by this facility, let them know how much you appreciate their efforts.

Sightseeing while on your trip to Sun ‘N Fun this year should enable you to enjoy the many attractions available in the Lakeland area. Disney World still commands the largest attraction for many. Just off I-4 west of Orlando, one or two days can easily be spent here enjoying the varied attractions. In the immediate area of Disney World lies the marine-oriented attraction of Sea World. If you have not yet witnessed the performances of Shamu, the two-ton killer whale and the other marine shows and exhibits, your Florida trip is incomplete.

The Orlando area includes the well-known Wings and Wheels Museum, now open and operating at the Orlando International Jetport. A museum with exciting and intriguing aircraft and automobiles, it should be included in your itinerary. Many of the aircraft on exhibit are licensed and flyable and are rare examples of machines of early aviation.

Turning west on I-4 at Lakeland, you are headed toward the great historical city of Tampa. Here you can tour the Busch Gardens containing 278 acres of beautiful grounds with tropical trees, flowers and shrubs, see performances of trained birds in the amphitheatre, visit the Busch Brewery, and ride on the space-age monorail through an African scene where live African animals roam free and live in a natural setting.

In the Winter Haven area you can visit the famous Cyprus Gardens where tropical plants and flowers are featured along with a famous and thrilling water ski show of champions. Nearby are the Masterpiece Gardens, the Florida Citrus Showcase, and the Bok Tower, all within a short driving distance.

All in all, plan your trip to the 1980 Sun ‘N Fun Fly-In to include as many of the above attractions as can be scheduled. Primarily you will be attending a unique Fly-In, which in 1975, its first year, saw 1,980 registered participants representing 32 states. In 1979, there were 12,488 registered participants with an additional public attendance of 2,615. All 50 states were represented last year!

As with Oshkosh, when you have attended one Sun ‘N Fun Fly-In, there is no doubt in your mind that you will make plans to attend the next. We’ll see you in Lakeland during March 16-22!
This Arrow Sport was manufactured in 1929 in Lincoln, Nebraska and is now on display in the Terminal Building at the Lincoln Municipal Airport. The plane was flown to many fly-ins in the Midwest by its owner, Dr. Ray Cram of Burwell, Nebraska.

Associate Editors: H. Glenn Buffington, Edward D. Williams, Byron (Fred) Fredericksen, Lionel Salisbury

Readers are encouraged to submit stories and photographs. Associate Editorships are assigned to those writers who submit five or more articles which are published in THE VINTAGE AIRPLANE during the current year. Associate receive a bound volume of THE VINTAGE AIRPLANE and a free one-year membership in the Division for their efforts. POLICY: Opinions expressed in articles are solely those of the authors. Responsibility for accuracy in reporting rests entirely with the contributor.

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(On The Cover. . . . Seen at Oshkosh '79 was this handsome 1946 Taylorcraft BC-12-D, NC44101, s/n 9901 owned by George T. Buechle, of Pinconning, Michigan. Photo by Ted Kosten.)

(On The Back Cover . . . De Havilland Tiger Moth on display in its Canadian Navy colors and with right wing panels folded back. Fr J. MacGillivray donated this Moth in 1964 to the EAA Air Museum Foundation. At that time it carried Canadian registry CF-IVO. Photo by Gene Chase.)

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EAA ANTIQUE/CLASSIC DIVISION MEMBERSHIP

□ NON-EAA MEMBER — $22.00. Includes one year membership in the EAA Antique/Classic Division, 12 monthly issues of THE VINTAGE AIRPLANE, one year membership in the Experimental Aircraft Association and separate membership cards. SPORT AVIATION magazine not included.

□ EAA MEMBER — $14.00. Includes one year membership in the EAA Antique/Classic Division, 12 monthly issues of THE VINTAGE AIRPLANE AND MEMBERSHIP CARD. (Applicant must be current EAA member and must give EAA membership number.)
at EAA Headquarters from chapters, type clubs and flying clubs from all over the world. Although they vary greatly in appearance, they share a common mission which is communication among members of the group each represents.

In most cases the newsletter editors are writing only for the readers on his or her mailing list, but frequently these communications contain newsworthy items which would be of interest to a much greater audience.

The following are extractions from the current crop of newsletters. See if you don't agree that there are some mighty interesting things going on in the world of antique/classic sport aviation.

** MASS FLIGHT OF ANTIQUE ULTRALIGHTS TO OSHKOSH '80 **

Plans for this event have been underway since November, 1978. This is the brainchild of Garth Elliott, A/C 2126, who is frantically working on his E-2 Cub restoration with which he plans to participate. Garth has been spreading the word through his “Uncommon Cub” Newsletter and originally the plans included only Taylor E-2 and J-2 Cubs with a limit of 40 hp.

Soon, interest began running very high in the venture and the Dacy’s of Harvard, Illinois offered the use of their airport and Dick and Jeannie Hill, also of Harvard, offered to host a fly-in on Friday and Saturday, August 1 and 2. This will be the assembly point for the grand flight to Oshkosh, early on August 3.

As word got around, Garth began receiving more and more requests for information about the flight. Many of these were from owners of ultralights other than Cubs, so Garth decided to open up the mass flight to other aircraft such as Aeronca C-2’s and C-3’s, American Eaglets, Taylorcrafts, Rose Parakeets, Curtiss Wright Juniors, etc., the criteria being 60 hp or less.

To have some control over “what” comes into the fly-in, the meet is to be invitational in nature. To be invited will simply require sending a letter to Richard C. Hill, P. O. Box 89, Harvard, IL 60033. To receive The Uncommon Cub Newsletter, contact Garth Elliott, Second Line West, Meadowvale, Ontario L0L 1K0, Canada.

** CESSNA 120/140 MIGRATION TO OSHKOSH '80 **

“Next summer groups of 120’s and 140’s will leave Northern California for a three week trip to the EAA Convention at Oshkosh, Wisconsin. This is the ultimate sharing experience as we move from town to town at a leisurely pace flying loose formation and enjoying the hospitality that can only be found in the small towns of our nation. Already 13 people at Santa Ynez, California have signed up to go. Keep the last week of July and the first 2 weeks of August open for the pilgrimage. We’re planning for 25 airplanes. There will be places along the route for the first few days where people leaving from different places can meet and join up with us.” For more information, contact Jim Barker, Vice President, West Coast Cessna 120/140 Club, 25636 Franklin #1, Hayward, CA 94544. Telephone 415/581-7083.

** BRAND NEW KEN ROYCE ENGINES **

Roy Good of Aircraft and Engine Enterprise, Box 70, Moore, Oklahoma 73060 is planning to manufacture Ken Royce 120 hp, 7-cylinder radial engines from original tooling, for sale to persons looking for such an engine for replicas of old-time aircraft. If interested, contact him as he wants to know how much demand there might be. This was the old LeBlond engine, later renamed Ken Royce.

** NEW STC FOR SWIFTS **

Congratulations to Chuck Lischer who has received the multiple-use type STC for his Swift stick conversion. Chuck wanted stick controls in his Swift so he designed, built and installed them. Next came flight testing, revising, refining, and then building the production model. In the meantime he was satisfying every whim of the FAA with the proverbial reams of paper work, flight test data, etc. Chuck is rapidly filling all orders on hand and accepting new orders for this conversion. The first 10 conversions will cost $1,500.00 and the second ten, $1,950.00. For details contact him at 1732 Ano Nuevo, Diamond Bar, CA 91765. Telephone 714/398-1369. This information was in a newsletter published by the International Swift Association, Inc., P. O. Box 644, Athens, TN 37303.

Also included in this particular issue of the “Swift” newsletter were two articles concerning the merits of stub wing tips versus stock tips, and correcting instability problems in some Swifts which seem to be “bears” to handle during slow flight and cross wind landings. All Swift owners should find this newsletter, now in its 12th year, to be well worth the cost of dues in the International Swift Association.

** AUTOMOTIVE GASOLINE IN AIRPLANES **

In spite of press reports to the contrary NASA will undertake a program to evaluate automotive gasoline for use in airplanes as a result of a recent meeting between FAA and NASA officials. NASA will probably let out contracts to private firms to make this study. Emphasis will be placed on methods of modifying existing fuel systems in production airplanes and especially those aircraft with engines that were certified for use of 80 octane fuel.
NEW CHAPTER FORMED AT ARLINGON FLY-IN

by Charles W. Lindenberg
214 Meadow Place, S.E.
Everett, WA 98204

The Tenth Annual EAA/AAA Fly-In at Arlington, Washington had special meaning for the local antique and classic owners. Al Kelch, of Cedarburg, Wisconsin, and on the Board of Directors of the Antique/Classic Division of the Experimental Aircraft Association presented Dave Tatam with the charter for the newly formed Chapter 9. Along with President Dave, other Chapter Officers are: Lou Wallback, Vice President; Harvey Brown, Secretary; and Gary Nelson, Treasurer.

The annual event, which started Friday, August 10, featured a "do-it-yourself" steak cook-out, barbecued over glowing coals. Saturday saw the biggest crowds, both spectators and airplanes, with aircraft parked almost the length of the runway. After a magnificent spaghetti feed that night, the Chapter was officially organized, the awards were presented, and the dancing . . . to a live band . . . took over.

Jack Lanning accepted the Vintage Class Award for his beautiful Travel Air 4000. The Antique Award went to Hal Wighton's Lincoln Page PTW . . . which he'd picked up at Oshkosh. Fred Ellsworth's restored PT-19 took the Warbird Award and the Classic Award went to Ted Brownell's Cessna 190.

The weather had been perfect and Sunday morning dawned clear and warm for the pancake and ham breakfast. Many departed for the Abbotsford Air Show, and by mid-afternoon, the fly-in had become history.

There had been 698 registrations for the event, with about 1800 attending the Saturday dinner, and an estimated 3000 people showed up in all. Many thanks to all those who put in long hours . . . and still managed to smile . . . to make this one of the most successful fly-ins in the Pacific Northwest.
Hal Wighton, a former Luscombe jockey, picked up the prize-winning Lincoln Page PTW at Oshkosh. It won the Antique Award.

Chapter 9 is born. Al Kelch presents the birth certificate to President Dave Tatton, while Jackie Baxter, Jack Lanning and Dick Baxter look on.

The chow line for the Friday night “you-cook-em” steak feed. The hangar also served for the meeting and dancing.
Phil and Judy Taylor make a low pass in their Travel Air 4000.

The Vintage Award winner. This dark blue and cream Travel Air 4000 with a Wright J-5 belongs to Jack Lanning.
The Laird is in the stage of construction where many details are being completed which really don't show as progress in a photo. The control system is complete, the instruments are being installed in the panel, the streamline aluminum fairings for the stabilizers, fin and headrest are made as are the fuselage formers and stringers.

The fabric envelopes for the wing panels have been sewn up by Audrey Poberezny and are ready to go. Dick Wagner, of Wag-Aero, has taken the wheel pant molds to his shop and has volunteered to make the wheel pants. Bill Chomo is making up and installing the airspeed pitot system.

The project is definitely on target for being on display at Oshkosh '80 in flying condition.
CLARENCE PREST AND

"THE PREST BABY PURSUIT"

by Ray Cocking

Editor's Note: After the following story was set in print, we received the following additional information from author Ray Cocking about Clarence Prest. Quoting from "Who's Who in Aviation" published in 1942: Clarence Oliver Prest. Born in Clinton, Iowa, October 24, 1896. Learned to fly at Domingez Field, California in 1911. Logged hours, 5000. Established World's speed record for Class C planes, San Bernadino, California in 1930. Exhibition pilot, 1911 to 1915. Chief Instructor, Riverside Aircraft Company, 1916 to 1917. Pilot, Manufacturer, and aviation salesman, 1918 to 1932. Developed Electrolytic template process for Lockheed Aircraft Corporation, used on the Boeing Flying Fortress for Boeing, Douglas, and Vega Companies. Member of the Early Birds and Professional Pilots Association.

Clarence Prest lived in San Bernadino, California, just a few doors from where Leland S. "Lee" Miles, the famous race pilot, lived. Clarence and Lee were long time friends.

Shortly after World War One, Prest opened an aircraft plant in Arlington, California, near Riverside. He retailed large quantities of surplus aircraft parts which he purchased from the government as did so many at that time.

I remember as a thirteen year old boy, going to Prest's, and seeing all the rows of Gnome, Le Rhone, OX5, Hisso, and other engines, plus rows of fuselages for Jennys and Orioles.

Clarence had a brilliant mind and was always experimenting with high lift wings for his Oriole and Jenny. His OX5 Oriole with a high lift wing attained an altitude of 14,000 feet.

Prest also built a high lift, parasol wing for an Oriole that moved out at 140 mph with a 165 hp Gnome rotary engine.

The story I heard concerning the origin of the Baby Pursuit was Prest's idea to build and sell them to the Chinese Government. I know of two that were built, one with an Anzani 60 hp, and one with the 45 hp Szekely SR-3 engine. Otto Graser, a close friend of Prest, said six were built, so maybe a few did get
to China. The planes had a lot of performance, and were very aerobatic.

The last Baby Pursuit belonged to Ernie Fillinger of Lancaster, California before its untimely demise. It had a 65 hp engine mounted in it, which they say gave it exceptional performance.

Clarence flew his Szekely-powered Baby Pursuit to a World Speed Record of 100.8 mph in the category for single place aircraft under 440 pounds empty.

Specifications were:
- Span: 24 feet
- Chord: 49 inches
- Wing Area: 92 square feet
- Length: 17 feet, 11 inches
- Empty Weight: 475 pounds
- Useful Load: 225 pounds
- Gross Weight: 700 pounds
- High Speed: 90 mph
- Stall: 40 mph
- Climb - First Minute: 700 fpm

Clarence Prest in his record-setting, Szekely-powered Baby Pursuit.
The photos accompanying this article are of Prest's Anzani-powered Baby Pursuit and were taken at Eddie Martin's Airport, Santa Ana, California (except where indicated).

From AERO DIGEST, April, 1930 —

"The design of the Prest Baby Pursuit, a semi-cantilever monoplane produced in Arlington, California by Prest Airplane and Motors, incorporates an unusual arrangement of the fuselage. To permit fastening the wing directly to the top corner of the fuselage just above the level of the pilot's eyes, resulting in the minimum obstruction to vision, the fuselage is turned up on edge. The pilot has normal vision forward, downward, and above. In the construction of the fuselage, major stresses are distributed to the entire structure directly from the attach fittings. The plane is powered with a Szekely SR-3 45 hp engine.

The wing is semi-cantilever, with solid and laminated spruce beams of full length pieces, with no splices in the one piece wing. The wing was covered with Flightex.

Internal drag struts are of chrome-molybdenum steel tubing, welded into a truss and bolted to the beams. The drag bracing is double and is of round Macwhyre tie rods with safe lock fittings. Chrome-molybdenum is used throughout in the construction, including sheet fittings and tubing. The fuel tanks are of aluminum, pickled and vibration tested according to Navy specifications. The landing gear is fitted with Gruss Air Struts. A Consolidated instrument panel is provided.

The ailerons are controlled by means of cables within the wing and a push-pull tube to the wing from the torque tube. The wing may be removed without loosening the cables or pulleys, one pin being pulled to disconnect the ailerons. The wing is designed to be removed by two men in approximately ten minutes.

The ailerons extend to full length of the trailing edge and have a chord of 4¼ inches, their total area being 6.5 square feet.

The entire ship is constructed on a jig, and all of the parts are interchangeable with equivalent parts. The construction of the fuselage facilitates manufacture in jigs, and it is designed to come from the jig in alignment so that the landing gear, wings and other parts may be fastened without fitting or facing.

During World War Two, Prest developed and patented a cheap, fast and accurate method of copying templates and patterns by what he called the electrolytic reproduction system. It was estimated that Prest's system saved Lockheed, Douglas, and Vega Aircraft Companies over 150,000 manhours during their production of the famous B-17 bomber during the early part of World War Two, and advancing the bomber production schedule by three months.

From that period on, Prest gave up active flying, and devoted all of his time to engineering activities for Lockheed.

The only known parts of an original Baby Pursuit now belong to Glenn Beets in Kingman, Arizona.
Dear Mr. Thomas:

Some years ago, while working for an aircraft sales company in Southern California, I had the opportunity of reconstructing an engine of some historical significance. The origin and technical data of its manufacture or date was not known by any of us at the time, but it appeared to be built for aircraft use and not a modified engine of some other function.

When I was asked if the recently acquired boxes of rusty, broken parts could be made to look like an engine and mounted on a stand, I had some misgivings. This included a propeller with one blade broken off at the hub. I looked intently at the boss to see if it was all a joke but he only smiled and said "do what you can", then walked off. It proved to be a very interesting project!

At a time when most engines were liquid cooled, this one had cylinders that had cooling fins totally machined from what may have been tubular steel stock. The crankshaft appeared to be cut from a heavy plate to the shape of crank-throws and then the journals machined round. The crankcase was cast aluminum. An external camshaft made from a length of tubing with cast iron lobes, which were slid on the tubing and pinned to the proper degrees, was driven by external gears and no lubrication was provided.

The valve arrangement was quite unique. One massive exhaust valve operated by the camshaft through push rods and rocker arms had a small poppet type intake valve within itself. The intake valve opened only as the piston, on its downward stroke, created a vacuum and sucked the intake mixture into the cylinder. As the piston entered the compression stroke the valve closed with an assist from a small coil spring on the valve stem, and it all worked!

The connecting rods were a bronze alloy with poured babbit bearings reamed to size. Not unlike the old "T" model Ford. Pistons and rings were cast iron and very heavy.

In the box of parts I found a carburetor and a single magneto. They both seemed to be original with the exception of a mounting plate for the magneto. I finally fabricated an assembly for it incorporating a vernier coupling from a Ranger mag drive. (The only non-standard part.)

Also found in the box were four steel bands which it was determined were some sort of control of exhaust gasses that were allowed to escape through ports drilled in the cylinders immediately below the lowest fin. Scavenging of the cylinders was not only through the exhaust valves but also through these ports. One can imagine the smoke, oil and noise from this system!

The propeller was carved from very soft wood with oak plates glued front and rear in the hub area. The
blades were covered with fabric secured with casein glue and painted silver.

A few days after completion of this project the boss had a wild idea that it just might run. At this point I feared he had “lost some marbles” but to pacify him I adapted a tachometer, throttle, switch, and a one gallon can of gasoline. A good deal of priming, a deep sigh, and a frisky snap of the propeller was all that was needed to get this thing shuddering to life. Not thinking it might run, I had not provided it with any kind of retention so we all spent the next moment or two trying to stop it from colliding with everything in the shop. Well, I guess the boss wasn’t nuts after all! All in all, it was a rewarding as well as an interesting time for me.

As I understand, this engine is now on static display at the Kemp Foundry & Machine Works (address unknown) and has created a lot of curiosity and interest in that area. It is also listed in Jane’s All The World’s Aircraft. Use the photos and story as you wish.

Very truly yours,
Morton E. Clark
EAA 19947, A/C 693

In 1905, George Kemp founded the Kemp Machine Works in Muncie, Indiana to perform general machine work for the industry in the area. He took great interest in the flying which the Wrights were doing in nearby Dayton, around 1910 and he became involved in the formation of a Muncie Aero Club. Several flying machines were constructed by this group, and “hopped” in straight away runs. Apparently further enthused by this activity, Mr. Kemp decided to build an engine of his own design, but unlike most of its contemporaries, it was to be “air-cooled”:

The Kemp Machine Works’ first engine was built in April, 1911, and sold to D. E. Dennis, of Franklin, Indiana. It was a four-cylinder in-line configuration producing 240 pounds of thrust at 1400 rpm swinging a propeller 6'-6" long with a 4'-6" pitch.

Production of engines continued through the year, including several variations and improvements. Six Model B engines followed the first engine, with 17 Model Cs, and one Model D produced before the year was out. In 1912, production continued with ten more Model D’s and four Model E’s. Also, a new six-cylinder engine, known as the F-6 was introduced, and three were sold.

Most of the early Kemps were used on Bleriot or Curtiss machines, as well as other “homebuilt” aircraft.

The Kemp engine as it looks today on display at the B. K. Machine Company in Muncie, Indiana.

Sales records of the company reveal some interesting names that would reoccur in later aviation history, including engine #58, built in 1914, sold to W. B. Kinner, who later produced his own radials common to many thirties and forties vintage aircraft, including Fleets and Rans. In 1916, Harold F. Pitcairn, of Byrn Athon, Pennsylvania, purchased two 2-cylinder G-2’s; engine #73 with right hand rotation, and engine #75 with left hand rotation. Pitcairn biplanes would later be used to haul mail for the start of Eastern Airlines, and still later Pitcairn would build autogiros.

The motor “Made in Muncie for Particular People Everywhere” saw service all over the world. Customers included people from Buenos Aires, Singapo-
movable head. The intake valve was spring loaded closed, being sucked open by the vacuum created by the downward piston on the intake stroke. In a most unusual manner, the exhaust valve was fitted concentrically around the intake, taking an "inverted cup shape" in the process. It was opened by a conventional overhead rocker arm and side mounted cam. Intake gasses were admitted to the underside of the exhaust valve's cup, and then entered the cylinder through the concentrically positioned intake valve. The exhaust gasses escaped around the outer periphery of the exhaust valve, and exited through the four ports evident in the photographs.

A further unique feature of the engine is a series of 8 ports at the lower end of the sweep of the piston stroke, effectively venting the cylinder at the end of each intake and exhaust stroke. These ports are visible in the photographs. Their main function was to discharge exhaust gasses, thus improving the scavenging of the engine. For starting, these ports are covered with a hose clamp affair, and then after the engine is running the hose clamp is lowered, exposing the ports. A noticeable power increase is apparent. One might surmise that the concentrically fitted valves are probably very effective at cooling the hot exhaust valve, but somewhat marginal at providing a good mixture during the intake stroke, due to the presence of excess burnt gas around the intake valve region.

Engine design called for a crankshaft speed of 1150 to 1200 rpm to maintain a high prop efficiency. Paragon and Hotrop propellers were the most commonly used props. Idling speed was determined by the minimum speed at which the engine did not "gallop".

Much of the emphasis of the Kemp Machine Works' advertising stressed the advantages of the air-cooled engine. Reduced weight and cooling drag were foremost advantages; Kemp claimed that an air-cooled motor could provide 20-25% more power from its fuel than a water cooled engine, or about twice the aircraft range for an equal horsepower.

In case any EAAers run into a newfound Kemp, the starting procedure is rather simple. First a "recharge" of the permanent magnets in the magneto is recommended. Then actual starting is accomplished by priming through the exhaust valve, directly into the cylinder. The spark advance is then "retired" (retarded). Then the needle valve on the top of the Stromberg carburetor is pressed until the bowl fills. Finally the engine is propped to start it. Indications are that most Kemps always start on the first blade.

Although very different from the two-, four-, and six-cylinder engines, the V-8 was a well advanced en-

The arguments of water cooling versus air cooling were never really settled even as late as World War II, with manufacturers like Allison, Rolls, and Packard lined up against Pratt and Whitney, Wright, Warner, Kinner, Ranger, et. al. Kemp may have begun the discussion in this country, but the debate was never settled.

It should be mentioned in passing that the Paragon propeller had a very wide chord and scimitar shape to their blades. Consequently, they were shipped to the customers in long and wide wooden boxes. These shipping crates, used in combination with old newspapers, served well as "airport bunks" for many of the young aspiring people of this era, including E. M. "Matty" Laird and the other "kids" at Cicero Field in Chicago.
engine. Unlike Kemp's other engines, it featured a more conventional cam-driven intake and exhaust valve. But really unique for this period in aviation, it was pressure cooled.

Fitted to the crankshaft was an impeller which provided positive forced draft through equal length ducting to both banks of cylinders. Fitted around each cylinder was a pair of baffles which insured passage of the cooling air through the fins, and then inward, towards the centerline of the "V". According to Kemp literature, this insured "uniform expansion", and permitted the engine to be "entirely enclosed as the hull of a flying boat or aeroplane". It also permitted "armoring" if so desired (perhaps as a bid to the Air Service's requirements for war machines?). This cooling technique, especially around the cylinder fins would not come into common practice until the late 20's, along with the evolution of the NACA pressure cowling. Very sadly, only one of these engines was produced.

There are currently five GREY EAGLES known in existence. One is at the Thompson Products Museum in Cleveland, and one is at the Oregon State Museum in Salem, Oregon. The National Air and Space Museum has one. One, originally purchased by George Weddel, appeared at an OX-5 gathering in Wichita in 1962. Finally, B. K. Machine Company of Muncie, which is the successor company to Kemp Machine Works, has the L-4 shown in these photos. They run it from time to time at fly-ins and other EAA events. This particular engine was purchased in running form by Mr. Stewart, of B. K. from John Nagel of Torrance, California.

Most commonly produced Kemp Engines:

<table>
<thead>
<tr>
<th>Model</th>
<th>No.</th>
<th>HP</th>
<th>Bore</th>
<th>Stroke</th>
<th>Consumption</th>
<th>Dry Wt.</th>
<th>Catalog Price</th>
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<tbody>
<tr>
<td>G-2</td>
<td>16</td>
<td>16&quot;</td>
<td>4&quot;</td>
<td>1.1 GPH</td>
<td>64 lbs.</td>
<td>$200.00</td>
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<tr>
<td>I-4</td>
<td>35</td>
<td>4½&quot;</td>
<td>4½&quot;</td>
<td>2.3 GPH</td>
<td>192 lbs.</td>
<td>$450.00</td>
<td></td>
</tr>
<tr>
<td>H-6</td>
<td>55</td>
<td>4½&quot;</td>
<td>4½&quot;</td>
<td>3.5 GPH</td>
<td>272 lbs.</td>
<td>$600.00</td>
<td></td>
</tr>
<tr>
<td>I-8 (V-8)</td>
<td>80</td>
<td>4½&quot;</td>
<td>4½&quot;</td>
<td>4.4 GPH</td>
<td>380 lbs.</td>
<td>$1,250.00</td>
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"Airdrives" including:

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<th>Model</th>
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<td>K-2</td>
<td>14</td>
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<td>M-2</td>
<td>10</td>
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As a footnote, I moved to Muncie, Indiana from Cape Canaveral, Florida about two years ago. Having immensely enjoyed the friendship, stories and insights of many first generation pioneers who are retired in Florida, I wondered what aviation history might present itself in Indiana. I wasn't long in learning of Kemp, as Matty Laird had mentioned it during one of our subsequent visits, indicating it had been an excellent early aero engine. What a surprise it was to learn that the B. K. Machine Company, the successor to Kemp Machine Works, not only had maintained the Kemp records, but actually had a runnable example of a Kemp engine. A great deal of credit is due Tom and Phil Steward for realizing the importance of their company's heritage and preserving it in this manner! This article is long overdue in coming to The VINTAGE AIRPLANE, and most recently was prompted by Gene Chase's telling me of the letter received at Headquarters from Mr. Morton E. Clark.

Ed Escallon
A few years ago, Charles D. Klessig, EAA 40563, of Galesburg, North Dakota, was making up the internal drag and anti-drag wires for his first Standard J-1. One of the Tucson Chapter EAAers was watching him methodically splicing the wire ends by the old method of wire winding and soldering. He asked Charlie why he wasn't using Nicopress sleeves on the wires since they would be inside and hidden.

"Well," Charlie answered, "maybe fifty years from now some guy might take the cover off this wing and see the Nicopresses inside and maybe he might know they didn't have Nicopresses in 1918. I wouldn't want that to happen."

This kind of thinking is behind the craftsmanship that has gone into all of Charlie Klessig's restorations and now into his Swallow. The Swallow is the latest in a line of aircraft that has included a Stinson SM8A, J-3 Cub, Pratt-Reed glider, and the two magnificent Standard J-1's, one OX-6 powered and one Hisso powered. Also he has built a Pitts S-1, Baby Lakes, and a Bricgieb BG-12 sailplane, and, believe-it-or-not, some violins in his spare time!

Charlie's love for airplanes goes back a long way. He learned to fly in 1930 in a Waco 9. Since then he has taught engine mechanics, operated a flying school, and served as a ferry pilot in WWII, flying almost all types of Allied combat aircraft. From 1952 to 1964 he dusted and sprayed for locusts in the Middle East and in Africa, as far south as Ethiopia and the Sudan.

The Swallow came into Charlie's life when in 1977, a friend, Charles Kennedy of Safford, Arizona, spotted an old fuselage in a field near Oracle, Arizona. The
fabric and wood were all gone. The metal appeared to be totally rusted. The engine had been removed, but there was a name-plate reading, "Swallow Airplane Company, OX-5, Serial #963". Kennedy found who the owner was and Charlie Klessig bought the remains by mail without even seeing them. The airplane was delivered to Ryan Field, Tucson, Arizona, by Kennedy in late 1977. By April, 1978, Charlie was ready to start on the project.

First, the "rust" on the steel parts turned out to be mainly red-oxide primer, commonly used at the time the aircraft was built. The tubes were opened at their lowest points to see if rust had thinned the walls. Only one longeron needed to be replaced and then only partially. The "N" struts were useless because of rust and dents. The entire structure was straightened, welded where necessary, sandblasted and primed.

The summer of 1978 saw Charlie at home in Galesburg. During this time he acquired a set of drawings for the wings from Ed McConnel of Seneca, Illinois. Ed had worked on Buck Hilbert's Swallow. Also this summer, Charlie dug up all the information he could on the history of Swallow #963. The airplane had been registered to Shoblaska and Williams, Inc., Manitowoc Municipal Airport, Manitowoc, Wisconsin, on August 20, 1928. It had last flown on June 19, 1929, and the file cancelled due to an accident. The wreck had been moved to Idaho where Dennis Abble had acquired it as payment for a bad debt. Abble had brought it to Oracle, Arizona, about forty miles north of Tucson. The airplane had been out of service since before Charlie had learned to fly.

In the fall of 1978, it was back to Tucson for Charlie. He worked full time on the wings, new struts and controls. By February 22, 1979 the airplane was assembled for pre-cover inspection. The covering, all Stits process, was complete by summer and Charlie went home to North Dakota to escape the heat.

By October, 1979, Charlie was back in Tucson with an engine in the back of his station wagon. It was a big Lycoming R-680-13 which he had bought from a duster friend, Warren Walkenshaw of Argusville, North Dakota.

By Christmas, 1979, the Swallow was complete. After half a century on the ground the airplane was ready to fly again except for paper work which would delay the first flight. Charlie had saved the old DeHaviland wheels by welding ½" diameter tube rings onto the rolled rims to accommodate 550 x 20 inch tires, an available size. The R-680 was de-rated to 220 hp. A wooden, brass-tipped U. S. Propeller Company prop was installed. A tailwheel replaced the tailskid. The color is the original black fuselage with international orange wings and tail feathers.

The airplane at this time is in an experimental exhibition category with the installation of the Lycoming radial. Later Charlie intends to install an OX-5 engine and to replace the tailwheel with the original type wood skid. The OX-5 engine and skid will be used for flying exhibitions while the Lycoming and tailwheel will be used for touring and general flying. There is a King 90 radio installed, but no starter (nostalgia, don't you know).

With the Swallow completed one might think Charlie Klessig would rest on his accomplishments for awhile. Instead, he is heading for Phoenix to restore another Swallow, a Bird Biplane, two OX-5 engines and to build a Curtiss Jenny, all for a flying antique museum.
Galesburg, Illinois again was the scene of the National Stearman Fly-In during September 5-9, 1979, which saw another fine attendance of Stearmans and Stearman enthusiasts. A total of 55 Stearmans attended, slightly down from the previous year, but combined with the other antiques, homebuilts, and modern airplanes there was no lack of activity. This was the second year the Fly-In had been extended into a five day event and each day was filled with its own special activity.

The first arrival was Don Holton and Bryon Trent in Don’s Stearman PT-17, N444TM, from Ormond Beach, Florida. Each year Bryon is one of the earliest to arrive and this year he and Don descended on Monday to get in a full week of Stearman flying at Galesburg after having spent the previous week at the EAA Fly-In at Blakesburg, Iowa. There were no scheduled activities on Wednesday, the first official day of the Fly-In, and the Stearman Aerobatic Contest, originally scheduled for Thursday afternoon, was postponed until Friday because of the small number of Stearmans that had arrived at that time. The Stearmans that were there were kept busy with local flights, buddy rides, practice formation flights and their pilots in re-acquainting themselves with friends not seen since the previous year. Thursday evening most of the Stearman group attended a complimentary cocktail party at Tootie’s Steeplechase, a local watering spot, and all reports indicated that a fantastic time was had by all.

Friday saw another beautiful day dawn and the Stearmans began arriving in droves from all points of the compass, singularly, in pairs, and in groups. Early in the afternoon most of the pilots flew the short distance westward to Monmouth where the Stearman
Aerobatic Contest was held. This is a fun affair where the pilot chooses any five aerobatic maneuvers that he wishes and then flies them for a casually chosen group of amateur judges, most of whom were “too chicken” to fly their own Stearmans in the event. This year only true amateur aerobatic pilots were judged. Any of the air show types who wanted to fly were allowed to, but they were not scored for the contest. In all, nine pilots flew and all did a fine job in showing the various skills required to “rassle” a Stearman through aerobatics. Eventually, the winners chosen were Rex Kohr in Harry Thomas’ Stearman, Don Buck and John McCormick. After the competition of the Contest, aerobatic exhibitions were given by Jim Leahy in his stock N2S-3 and Dave Dacy in his newly restored pale blue 450 custom Stearman. The day’s events were capped by the usual fine catfish and chicken dinner prepared by the Galesburg American Legion.

As the sun slowly peeked above the horizon at dawn on Saturday morning, precisely at 6:30 A.M., 34 Stearmans began their take-off rolls to launch the traditional dawn patrol over Galesburg. The Saturday dawn patrol has become the highlight of the Fly-In and almost all of the pilots participate every year. The juggling for position by prospective passengers for any empty seat is a never-ending struggle and the pilots are inundated with requests for rides on this flight almost from the time they first arrived. Over Galesburg the Stearmans formed up into formations of various sizes and after several circuits over town headed to Monmouth for a free breakfast sponsored by the Monmouth Pilot’s Association. The Saturday morning odyssey to Monmouth usually has been the Fly-Ins’ nemesis as something disastrous always seemed to happen whenever 30 to 50 Stearmans tried to get in and out of a small airport at the same time. Groundloops, hard landings, damaged wingtips, smashed VASI lights, Stearmans in adjoining cornfields, blown engines, and near misses all have occurred. But this year everyone got in and out with nary a close call. Unbelievable! After the Stearmans returned to Galesburg they were all lined up on the taxiway and a photo session was held with 50 Stearmans posing in a row with their pilots atop the center section.

Saturday afternoon the flying contest were conducted and hotly contested by most of the Stearman pilots. Their skills in short field take-offs, accuracy landings, salvo bombing and formation flying were clearly evident. Late in the afternoon the field was closed for a Stearman only “mini air show”. Precision
Some of the "Tullahoma Bunch" that attends the National Stearman Fly-In every year.

74 year old Deed Levy was the Special Guest during the Fly-In. He served as the Chief Experimental Test Pilot for the Stearman Co. for almost all of its existence.

John McCormick and ex-Stearman Chief Experimental Test Pilot, Deed Levy, in flight over Galesburg in John's 1942 Stearman N2S-2, N60562.

Stearman aerobatics were demonstrated by Dave Dacy, and Bob Heuer in their air show modified 450 hp Stearmans and Jim Leahy, who is just amazing in his stock 220 hp N2S-3. That evening the banquet and awards presentation was held at the Howard Johnsons in downtown Galesburg.

On of the highlights of this year's fly-in was the presence of 74-year-old Deed Levy who had served as the Chief Experimental Test Pilot for the Stearman Company for almost all its corporate existence and had made the initial test flights of almost every type Stearman built. He was the 1979 recipient of the Stearman Restorers Association's Lloyd Stearman Memorial Award for his contributions in the development of Stearman airplanes and his current effort to have Lloyd Stearman enshrined in the Aviation Hall of Fame. Deed was constantly surrounded by Stearman enthusiasts wanting to hear stories on his flying experiences and also to gain from his technical knowledge with the different airplane, engine and propeller configurations. He helped several pilots with specific technical problems and even demonstrated that he could still fly a Stearman, including some aerobatics. Undoubtedly, he was the most popular special guest the National Stearman Fly-In has ever had.

Another bright spot this year was Paul Duetsch, a Stearman lover, who flew his Polish built Wilga STOL aircraft from La Habra, California to the Fly-In where he adamantly claimed that it was a "Polish Stearman". He barnstormed rides in his ungainly looking airplane throughout the Fly-In and was in the air almost constantly. Before he departed for home many Stearman pilots as well as the general public had flown in his unique airplane and he donated several hundred dollars towards the expenses of the Fly-In.

Sunday's dawn patrol was a mere shadow of the previous day's as only five Stearmans could coax their pilot into the cool early morning air two days in a row. By noon most of the Stearmans had departed for home bringing the Fly-In to another close except for the public air show that afternoon. The air show was by far the best one ever presented at the Stearman Fly-In and featured Stearman aerobatics by Bob Heuer, Jim Leahy, and Dave Dacy; Bob Lyjack in his 1929 Waco Taperwing; a Luscombe act by Jack Lane; Pete Myers; Rick Cunningham in his first professional air show in his Bucker Jungmann; John Gardner in a Pitts, and parachute jumper J. T. Hill. The air show proved to be spectacular and everyone was well pleased with its presentation.

As the sun faded below the horizon, five days dedicated to the Stearman concluded perhaps the best Stearman Fly-In yet, and everyone expressed the desire for an even better one the following year. Anyone with an interest in Stearmans is cordially invited to the 9th National Stearman Fly-In at Galesburg, Illinois, September 3-7, 1980.
MARCH 16-22 - LAKELAND, FLORIDA - Sun 'N Fun 1980. For further information, please contact: Betty Jones, 4195 Forrest Drive, Mulberry, FL 33860.

APRIL 25-27 - BAY CITY, TEXAS - Houston Sport Aviation "Spring Fling" Fly-In, sponsored by Antique/Classic Chapter 2. For further information, please contact: Rocky Howard, 5262 Huckleberry, Houston, TX 77056. Telephone: 713/621-2510.

APRIL 27 - BARKSDALE, LOUISIANA - Barksdale AFB is hosting an Open House and Air Show. For further information, please contact: Lt. Col. Larry L. Schuler, or Major Thomas F. Flandstrom, FIf-In Project Officers, 2 CSG/OT, Barksdale, AFB, LA 71110. Telephone: Lt. Col. Schuler 318/456-4204, or Major Flandstrom 318/456-3484.

MAY 2-4 - BURLINGTON, NORTH CAROLINA - Fly-In. For further information, please contact: Genevieve McKenzie, 5301 Finsbury Place, Charlotte, NC 28211.

MAY 16-19 - WILLIAMSBURG, VIRGINIA - Eastern Cessna 190/195 Club Meeting. For further information, please contact: Glen Crabb, 25575 Butternut Ridge Road, North Olmsted, OH 44070.

MAY 31 - HOLLAND, MICHIGAN - Antique/Classic Chapter 8 is sponsoring a "Spring Happening" at the Park Township Airport. For further information, please contact: Gary Van Farowe, 1460 Ottawa Beach Road, Holland, MI 49423. Telephone: 616/399-4623.

JUNE 1 - DEKALB, ILLINOIS - DeKalb County Corn EAA Chapter 241 and MST Aviation co-sponsor the Annual EAA Fly-In, Drive-In, Breakfast at the Municipal Airport, about 30 miles SE of Rockford. For further information, please contact: Marlin Crown, 159 Thomas, Sycamore, IL 60178. Telephone: 815/875-6856.

JUNE 1 - OCEAN CITY, MARYLAND - Chapter 532 is sponsoring the annual Ocean City Fly-In and Antique Car Show. Ocean City Airport. For further information, please contact: Bill Mackey, Chapter 532 President, 2301 Meadow Drive, Salisbury, MD 21801.

JUNE 7-8 - FLANDERS, NEW JERSEY - 2nd Annual Antique/Classic Chapter 7 Fly-In. Flanders Valley Airport. For further information, please contact: Walt Ahlers, A/C Chapter 7 President, 60 Main Street, Flanders, NJ 07836. Telephone: 201/584-7983.

JUNE 7-14 - FORT WAYNE, INDIANA - 3rd Annual "70 Knotters" Fly-Out and Goodwill Tour sponsored by EAA Chapter 2. For further information, please contact: Joe Dickey, 511 Terrance Lk. Road, Columbus, IN 47201. Telephone: 812/342-6678.

JUNE 13-15 - DENTON, TEXAS - Texas Chapter AAA Southwest Regional Fly-In, at the Municipal Air-
When the first World War broke out in August, 1914, Glenn Curtiss suddenly realized that his Hammondsport plant could not possibly handle the flood of orders coming in for his aircraft. So he rented a building in Buffalo to manufacture airplanes, meanwhile expanding facilities at Hammondsport to concentrate on engine production. In the Spring of 1915, he expanded further by building a new factory on Churchill Street in Buffalo. By December he had included an engine factory on Elmwood Avenue. A flying field on Niagara Falls Boulevard was acquired and named the Curtiss Aviation Field.

Indicative of the tremendous demands placed on the Curtiss Company at this time was an incident which occurred when the British government placed a large order. Curtiss cabled that he could not possibly complete the order without a costly plane expansion. The British asked how much advance payment he needed. Curtiss replied "at least 75,000", meaning dollars. The British assumed he meant pounds and forwarded $600,000 as payment.

Late in 1914, J. A. D. McCurdy, a Canadian who had been an original member of the Aerial Experiment Association in 1907, proposed to his government that a facility be established to produce aircraft in Canada. Accordingly, Curtiss Aeroplanes and Motors, Ltd. was formed in April, 1915, and a factory acquired in Toronto. McCurdy was made Secretary-Treasurer and Managing Director of the company.
The first product of the new company was a bomber version of the "America" flying boat. Named the "Canada", wings and tail surfaces of the flying boat were combined with a landplane fuselage. The two tractor engines were to be the new Curtiss VX of 160 hp. Design work was started in May and the airplane was ready for flight by the end of July.

After a series of tests, the prototype was shipped to England for evaluation. An additional 11 of the type incorporating design improvements were constructed for the British government. However, technical advances in aircraft armament, etc., made the design obsolete and a further order of 25 was cancelled.
BORDEN’S AEROPLANE POSTERS FROM THE 1930’S

As regular readers of *The VINTAGE AIRPLANE* magazine may recall, this series on the Borden Posters started almost a year ago, after my oldest son, David, came home with 18 posters that had been given to him by Mr. Glenn Inch of Brampton. Glenn had collected them as a young man in 1936. The first poster appeared in the February, 1979 issue of *The VINTAGE AIRPLANE* and we have presented one each month since that time.

One of the most satisfying aspects of presenting the posters has been the response from various EAA members. The issue of last July featured the Borden Poster on the Ford Tri-Motor, and in that article I inquired if anyone could identify the airport in the background. Glenn Buffington of Seattle, Washington and Frank Abar of Livonia, Michigan both wrote to identify it as the old Ford Airport in Dearborn, Michigan, and they supplied some interesting information on that location.

In the very first article in the series, I had explained that we had been given 18 posters out of a total of 19 that had been issued in Canada. I neglected to mention the name of the poster that was missing.

Mr. Cedric Galloway of Hesperia, California responded to that article by checking his personal collection that he still had after forty years. Since he didn’t know which one was missing, he listed the posters that he did have. Alas, he did not have the one I needed, which was entitled “The New Martin Bomber - Mystery Ship for the Army”. Surprisingly, his list did include three that I did not know even existed. He also advised that he had dated his posters when they were received, and that they were dated 1933 and 1934. That was some three years before they were issued in Canada. The promotional material and lists on the backs of the posters yielded the answer to the mystery.

It appears that the posters had originated, not with the Borden Company, but with an organization called the Thompson Malted Milk Company of Waukesha, Wisconsin. They had initiated the series, apparently in 1933, and had issued 18 posters which you could get by returning coupons wedged into the lids of their cans of Malted Milk Powder. It seems this company was then absorbed by the Borden Company of 350 Madison Avenue, New York, New York, likely in 1934. Borden’s must have liked the posters because they brought out a second series, dropping a few from the first group, and adding a few new ones. They then made the posters available in Canada in 1936 through their Canadian subsidiary. By comparing the various lists printed on the backs of the posters the grand total issued comes to 30 different posters.

Mr. Galloway very kindly sent the three posters, which we will add to those now appearing in *The VINTAGE AIRPLANE*, and they will appear as articles 19, 20, and 21. Then to my great delight, Mr. Marion McClure of Bloomington, Illinois not only dug out the posters he had, but he sent in his entire collection!!

That last poster appeared only in the original Thompson Malted Milk series, and may be difficult to come up with, since as Marion McClure explained, some collectors didn’t bother to send in for that one. It wasn’t “airplane”.

I would greatly appreciate hearing from anyone who may have any of the missing posters, in their collection of airplane memorabilia. If you are able to loan any of the three, I would ask you to advise me by mail to my home address. Please ship the posters under separate cover, rolled and wrapped, and by registered mail, also to my home address. Inserting the poster into a cardboard tube is even better. I will then prepare some appropriate notes to go with it, and will forward it to Hales Corners for processing. It will then be returned to you, again by registered mail. I think it would be great fun if we were able to come up with what will probably be the only collection of the thirty Thompson/Borden Posters from the 1930’s. (Next month, the Douglas Sleeper.)
SIKORSKY S-42A
DESCRIPTION

Type: Four-engined commercial flying boat. 
Wings: High wing externally braced monoplane. Wing structure is of two spar construction, with compression struts and stressed metal skin covering. The metal skin covers both sides of the wing forward of the rear spar. Rearward of the rear spar, ribs and fabric covering is used. Spars, compression struts and ribs are trusses built of extruded duralum in shapes and bent sheet duralumin sections, fastened with steel bolts and duralumin rivets. The wing is constructed in one piece, and attaches to the hull by a faired super-structure on the hull and two diagonal struts on each side. Differentially controlled balanced ailerons extend the full length of the tapered tips of the wing. A hydraulically controlled flap extends across the full straight portion of the wing. Wing is flush riveted all over.

Hull: Two step type with long stern. Nine watertight compartments. Structure consists of deep keel, widely spaced transverse frames, and heavy stringers. Keel and frames are of plate girder type. Duralumin shapes and sheet used throughout. All seams sealed with fabric and marino glue. Flush riveting all over.

Tail Unit: Monoplane type. Horizontal surfaces and twin fins and rudder supported by hull and side struts. Elevator and rudders balanced. All tail planes are of metal construction fabric covered. Patented unsymmetrical self-compensating rudders and fins are used to offset unsymmetrical engine thrust.

Powerplants: Four 750 bhp Pratt and Whitney S1EG "Hornet" geared, air-cooled, radial engines rated at 7,000 feet altitude, in four nacelles faired into the leading edge of the wing. Eight fuel tanks arranged so that two supply each engine and four oil tanks, one for each engine, are installed in the wing. All tanks are of riveted duralumin construction. Direct drive electric starters with hand cranking provision provided. Starters controlled from pilot's compartment.

Accommodations: In the bow of the hull is the anchor compartment. Next compartment aft is the pilot's compartment with complete provision for the mechanic and radio operator. The third compartment is equipped for baggage and/or express and also may be arranged for passengers for short flights. The fourth, fifth, sixth and seventh compartments are equipped for eight passengers each. Rearward of the last passenger compartment are two toilets and water fountain. The eighth compartment contains the main entrance and accommodations for the steward. The tail compartment is available for additional baggage or express matter. The forward baggage compartment is in the plane of rotation of the propellers.

Dimensions: Span 118' ; Length 67' 8"; Height 17' 4"; Wing Area 1340 sq. ft.

Weights and Loadings: Weight Empty 20,924 lbs.; Weight of Fuel and Oil 7,955 lbs.; Weight of Equipment 2,181 lbs.; Payload 8,060 lbs.; Licensed Gross Weight 40,000 lbs.; Wing Loading 29.9 lbs. per sq. ft.; Power Loading 13.33 lbs. per bhp.
For Sale
ACRO II PLANS

The new 2-place aerobatic trainer and sport bi-plane. 20 pages of easy to follow, detailed plans. Complete with isometric drawings, photos, exploded views. Plans — $85.00. Info Pack — $4.00. Send check or money order to: ACRO SPORT, INC., Box 462, Hales Corners, WI 53130. 414/425-4860.

For Sale
PROPELLER

Ground adjustable propeller for Lambert R-266. $2,000.00. Please contact: John Buehler, 371 La Plata, N.W., Albuquerque, NM 87107. 505/345-3261.

Dear Mr. Cox:

On the occasion of the 50th anniversary of my former airplane, Junkers “Junior” A 50, HB-UX1, I am sending you herewith three photographs, at your free disposal.

With best regards,
BERGER-HELI-COPTER
Hans Berger, EAA 59482
CH-6515 Geido TI
Ticino Switzerland

LETTERS

Dear Sir:

SZP has declared itself the Howard capitol of the world and we are working on reviving the Howard Club. At this writing we have five flying Howards on our little airport with another inbound and a seventh within a few weeks of flight. We would like to hear from anyone with an interest in Benny and his offspring. As you can imagine, any and all information on parts is of interest as is any historic information/war stories. We hope to produce a newsletter at regular intervals as well as act as an information and parts exchange. The only way this grand scheme will work is with input from the Howard fans out there; so please let us hear from you.

Sincerely,
Jack Hogan
Howard Club
P. O. Box 291
Santa Paula, CA 93060
Scale model aircraft play an important role in aviation museums throughout the world. They are used to portray full size aircraft when it would be impossible or infeasible to display the actual machines. The models shown above are on display in the Paul H. Poberezny Air Museum. The two top shelves contain models of WW I or earlier vintage and were built by Gordon Lacombe of Kenosha, WI. On the bottom shelf are models built by Gordon Nelson of Manitowoc, WI consisting of Johnny Livingston’s Monocoupe 110 (modified) racer, Kinner Sportwing B-2, Doug Davis’ Travelair Mystery Ship racer and Art Chester’s Goon racer. Also on the bottom shelf is a Morton M-5, five cylinder model aircraft gas engine loaned by Stan Gomoll of Minneapolis, MN.