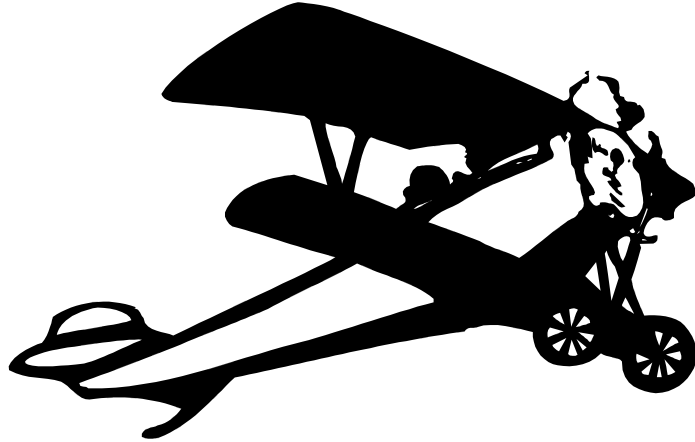


YOUNG EAGLES PROGRAMS IN PRACTICE

A GUIDE TO WHAT VARIOUS CHAPTERS ARE DOING



Charlie White
Young Eagles Coordinator
Chapter 1073

1. Free Flying movies are sponsored by the chapter the first Friday of each month excluding December and January (weather) permitting. This is modeled after the Flabob Airport Friday Night Flight Flicks. This serves as a community outreach.
2. Chapter sponsors a pancake breakfast the 2nd Saturday each month in coordination with the Young Eagles flight through October.

Bill Shaw
EAA # 491675
Zanesville, Ohio

1. The Chapter, with the help of a grant, was able to combine their Young Eagles program with the Ohio University Zanesville campus run summer camp. Students participate in a day camp which meets for three hours per day. One week of the camp is devoted to aviation. The highlights of the aviation week included:
 - They did a “Junkyard Wars” type program similar to the shows that have been on the Discovery Channel. **Lowes** and other home building materials stores donated all types of scrap materials from construction sites and damaged inventory. A junkyard was created and the build teams had to collect materials to **build a glider and a launching machine**. The designs were judged and then launched to see who could have the best flight. The local radio control airplane club donated some Styrofoam easy to assemble gliders as prizes.
 - At the end of that week, all the kids received their Young Eagles Ride. This included the standard walk around pre-flight talk along with the posters from **Sportys**, and the free learning to fly booklet provided by **Gleim** as reference materials.
2. Find out when the local schools are talking about the Wright Brothers in their history or science classes. Take the class out to the playground and one EAA person talks to the class and gives a brief introduction about the history of flight. Another EAA member would fly over the school and demonstrate how the airplane turns and climbs while talking to the kids by radio. The EAA member on the ground will have a hand-held radio for the kids to listen to the talk about the airplane and what is being done to make it turn, etc. The kids can then ask questions which are relayed to the EAA member in the air by radio to get the answer.

Tim Coltrin
Young Eagles Coordinator
EAA Chapter 101

1. Young Eagles Rallies are held the first Sunday of each month, April through December.
2. The presentation/organization of the Young Eagle Rally is as follows:
 - One room is set up for a table for registration purposes. The registration form has two parts. The first portion is the official EAA Young Eagles registration form. The second page has some general education information used by the instructor during the 10 minute “ground school”.
 - The ten minute “ground school” is presented to students while they wait for their flight. The ground school instructor uses the second page (describing the different parts of an airplane) to explain how the airplane "works" in the air. Our ground school instructor uses a model airplane to demonstrate flight and the effects of rudder, flaps, etc. and talk about safety. Also, we explain any rules, such as no parents allowed on the tarmac and that cameras are allowed and the escort can take a picture of the YE and the airplane and pilot if so desired.
 - In addition, a second table full of free handouts for students is provided. We include any donations we can get from Oshkosh, Sun-n-Fun or where-ever. Anything that is airplane or flying or weather related. We have a supply of donated Sport Aviation and other aviation related periodicals, for the YE to help themselves.
 - When the flight is completed, the YE is escorted back from the airplane, to the sign-up/ground school room to get their

Certificate. Along with the certificate we give them a wrist band and a cockpit poster.

John Stubbs
EAA #414532
Tullahoma/Staggerwing Museum Foundation

1. The Staggerwind Wind Museum Foundation and the EAA sponsor a three day “High Flight” day camp in the spring and fall each year. Young Air Force officers from nearby Arnold Airforce Base assist with the projects as a way to perform community service. The camp is made possible for students ages 10-14 due to the earnings from an endowment fund, earmarked by the Staggerwind Museum Foundation for this venture. This is a great way for the additional sponsorship of the Young Eagles program with accompanying rides to each during the camp.
2. The three day camp covers aviation history, basic theory of flight, aviation projects, rocketry, and a Young Eagle flight. Each camp involves approximately 20 students and is held in the museum....so there are plenty of flying machines.
3. Listed below is the standard three day schedule for this camp.

**STAGGERWING/EAA DAYCAMP SCHEDULE
MARCH 2007**

MONDAY 3-12

**YOUNG EAGLES WX PERMITTING
(AIRPLANE RIDES)**

8:30AM	REGISTER	
8:45	INTRO - MEET & GREET US ALL	
9:00	TOUR OF THE MUSEUM & STARSHIP	
9:45	HISTORY & PRINCIPLES OF FLIGHT	
10:30	<i>HOTAIR BALLOON</i>	<u>HELP - 2 OFFICERS</u>
11:30	LUNCH	“
12:15	BALLOON FLY-OFF	“
12:45	<i>SUPER DELTA DART</i>	“
2:45	CLEANUP	
3:00	DISMISSAL	

Judy Sterling
EAA Chapter 602
Hadley, New York

1. Young Eagles coordinators have developed various stations for kids to work through while awaiting their Young Eagles Flight. The “mini-ground school” contains the following stations
 - Weather station
 - Very basic navigation
 - Parts of a plane
 - Question and answer about careers in aviation, cost, entry into aviation
 - Making simple paper airplanes
 - Flight Simulator set-up
2. Refreshments are provided for sale at the Young Eagles rally, such as hot dogs, hamburgers, chips, and drinks.
3. Suggestion I: Kids love goody bags! Any aviation and aerospace related freebies, such as stickers, posters, etc., are outstanding.
4. Suggestion II: Try to run your event in conjunction with a “town” event. Hadley is in upstate New York, so the more things to draw a “family” the better.
5. New this year will be a tee shirt for Young Eagles participants with the chapter logo and something about the Young Eagles.

Bill Vawter
EAA Chapter 972 Young Eagles Coordinator
Tyler, Texas

The description of various programs for reaching out to kids and flying them is provided below.

1. Summer program at the Discovery Science Center in Tyler, Texas, which involves a five day, 3 hour per day program in which the history and theory of flight are covered. In addition, an aviation related project is assigned. On Friday, students are transported to Tyler Pounds Field where they tour the Historic Aviation Memorial Museum. Saturday morning finds the kids at the Gladewater airport where the Chapter 972 pilots fly the kids as part of the Young Eagles program. After the flight, the kids are presented their Young Eagles certificate and a goodie bag containing a copy of Sport Aviation as well as other freebies from AOPA. (An outline of the presentation Bill uses may be found at the end of this section.)
2. For the past four years, Chapter 972 has participated in the Christmas Magic Festival sponsored by the Hawkins/Holly Lake Chamber of Commerce on the first Saturday in December. This event, as well as, the planes rides are advertised. The format used is as follows:
 - The students must make a reservation for the plane ride, so a “rough” number may be obtained.
 - The students meet the Friday evening prior to the flight so a brief version of the “Summer Program” (see outline) is presented.
 - Saturday morning, students arrive at Holly Lake Airport (16TE) for their flights. This airport is located in the center of where the festival takes place.
3. Presentation of this program (and flying the kids) has been well accepted by local school systems.
4. The future involves the presentation of this program at a college in Hawkins, Texas, as part of a summer program for disadvantaged kids.

5. Bill has found that meeting with the group, be it either a school class, scouts or church groups, the kids seem to get a lot more out of the flight **because the plane with its instruments has been presented to them so they know what to expect. The main thing that Bill stresses to them is SAFETY, both on the ground and in the air.**

6. Bill prefers to work with the 11-13 student range, as he feels they more responsive to what Young Eagles is all about, as opposed to, high school age kids. Bill notes all of his handout material related to presentations may be obtained from AOPA. It is available free of charge to any member of AOPA and is available online. The AOPA also has a wonderful book titled **“Path to Aviation”**, that is set up for pilots and teachers. Bill presents copies of **“Path to Aviation”** to the teachers of those classes that he visits.

7. Bill also reminds coordinators that they should not go “too deep” into flight as they will lose kids interest if the presentation isn’t moving quickly enough. Experiment and see what goes well and what changes you need to make☺.

Young Eagles Program Outline

I. Brief History of Flight

Reference: *History of Flight*

II. Aircraft (What is the definition?)

- A. Anything that navigates through the air under control of a human being.
- B. Aircraft may be heavier or lighter than air

III. Uses of Aircraft

- C. Commercial Airlines
- D. Air Cargo Carriers
- E. Military Supply Transports
- F. Military Bombers and Fighters
- G. Helicopter Cranes
- H. Light Pleasure Flying

- I. Hot Air Balloons
- J. Balloons for Exploration of the Atmosphere
- K. Weather Balloons
- L. Seaplanes, Crop Dusting, and Firefighting
- M. Aerobatics

IV. Why Can An Airplane Fly?

A. Four Forces Which Act Upon The Airplane In Flight

1. Lift

- a) An upward acting force
- b) Bernoulli: 18th Century, found that the pressure of any fluid decreases at points where the speed of the fluid increases.
- c) Airfoil: A curved top surface and flat bottom surface that causes the air moving over the upper surface to travel faster than the air moving over the bottom surface. Faster moving air causes lower pressure on the top surface, producing lift.

2. Weight

- a) A downward acting force
- b) You know from experience how gravity or weight works
- c) If you don't make an effort to stand up, you will fall down, because the force of gravity will pull you toward the ground.

3. Thrust

- a) A forward acting force
- b) Produced by a motor driven propeller, jet engine, turbine driven propeller, or rocket

4. Drag

- a) A backward acting force
- b) If you have ever tried to pedal a bicycle into a strong wind, you are familiar with how drag works. If you pedal with your body upright, you will have to work hard to keep the bike moving. If you pedal with your body down

on the handle bars, you will work less to keep the bike moving. This is a result of drag.

B. Thrust And Lift Forces Act Together To Counteract The Forces Of Weight And Drag

C. Angle Of Incidence Or Angle Of Attack

1. The Angle at which the wing meets the relative wind
2. The greater this angle, the more lift and drag is created....up to a certain point called the critical angle
3. At the critical angle (18-20 degrees) the air cannot flow smoothly over the airfoil's upper surface. The air flow separates from the surface of the airfoil and the flow immediately becomes turbulent. Lift ceases to exist at this point and the wing is said to have "stalled".

V. Flying A Plane

A. Pilot Controls The Plane By Increasing Or Decreasing The Power And By Movable Surfaces On The Plane's Five Airfoils

1. When these surfaces are moved, the flow of air over the airfoils is changed, and the resulting force changes the attitude of the airfoil to the relative wind.
2. The two ailerons and the elevators are connected to a wheel or stick in the cockpit. Foot pedals control the rudder and a throttle controls the power of the engine, which increases or decreases the thrust.
3. Control wheel or stick can be moved in all directions. As it is moved, it changes the position of the ailerons and elevators.
4. When the wheel is rotated or the stick is moved to the right, the left aileron goes down and the right aileron goes up. The plane rolls right.
5. When the control wheel or stick is moved forward, the elevators move downward, increasing the lift

of the tail and forces the tail upward and the nose of the aircraft downward.

B. Maneuvering The Plane

1. Takeoff: When flying speed is reached, pull back on the control wheel or stick to raise the nose
2. Straight Climb: Pulling back on the control wheel or stick to raise the nose.
3. Level Turn: Turn the control wheel or stick toward the direction you want to turn AND press the rudder on the same side as the direction you want to turn.
4. Climbing Turn: The control movements combine the movements necessary for a straight climb and a level turn.
5. Straight Descent: Push forward on the wheel or stick to lower the nose
6. Descending turn: The control movements combine the movements for a straight descent and a level turn.
7. Landing: Use a straight descent to the runway threshold. Then, pull back on the stick or control wheel until it is all the way back and the wing is stalled. The airplane will settle to the ground if you are not too high or too low. The airplane will collide with the ground if you do this too high or too low.

VI. Flying Instruments

A. Altimeter

1. Reads out the altitude above sea level.
2. Works by measuring barometric pressure

B. Airspeed Indicator

1. Reads out the plane's speed through the air.
2. Works by measuring air pressure

C. Compass

1. Reads out the magnetic direction the nose is pointing
2. Works by always pointing at magnetic south (Compass needle is a magnetic north pole)

D. Turn And Bank Indicator

1. Reads out the rate of the airplane's turn when it is in a bank
2. Works by using a gyroscope to tell it which way is up
3. Ball in liquid tells you whether the plane is slipping or skidding through the air in a turn

E. Tachometer

1. Tells you the power the engine is producing
2. Works by measuring engine revolutions per minute

F. Oil Pressure Gauge

1. Reads out the pressure the oil pump is producing inside the engine in pounds per square inch.
2. Works by measuring liquid pressure

G. Oil Temperature Gauge

1. Reads out the temperature of the oil circulating through the engine
2. Works by using a thermometer in the engine oil in the engine

VII Safety On The Ground Around The Airport

A. When You Visit An Airport, Don't Forget That You Are There As A Guest

B. Special Dangers Around Planes And Airports That You Must Watch Out For:

1. Keep well way from propellers
2. Always walk behind a propeller driven airplane and in front of a helicopter
3. Keep away from jet intakes and exhausts
4. Notice and heed all warning signs
5. Keep off taxiways and runways

C. If You Are Invited To Fly With A Pilot

1. Obey all instructions of the pilot
2. Fasten your seatbelt securely for takeoffs and landings

Bill Knotts
EAA Chapter 463
Northeast Oklahoma

1. Chapter 463 usually hosts a spring event and a fall event (in 2006, Young Eagles flights also took place in June, July, and August).
2. Planning for a Chapter 463 Young Eagles Rally (begins several months prior to rally)
 - Newspaper, radio, and television ads taken out
 - Creation of publicity flyers and pamphlets
 - Area Civil Air Patrol (CAP) units are invited and encouraged to participate
3. Typical Schedule for a 1:00 p.m to 5:00 p.m. Young Eagles Rally
 - Before 12:30 P. M. : EAA and CAP members arrive and set up tables in the FBO reception area for Young Eagles registration. Another table is set up in the hangar for CAP recruiters use (computer, video, etc.). A static display aircraft is located near the front of the hangar and tape (yellow caution do-not-pass) marks a boundary between the front of the FBO Young Eagle/parent waiting area and the tarmac.
 - 12:30 P.M.: Briefings. Pilots are briefed on SAFETY, patterns, procedures, SAFETY, communications, and SAFETY. CAP and support personnel are briefed on SAFETY, procedures, SAFETY, assignments, and SAFETY. Safety is stressed throughout the briefings. Later arrivals are welcome to participate, but first obtain a briefing from the appropriate Chapter Officer or CAP Officer. Usually before 12:30, the Young Eagles Candidates have already begun to arrive and register. Joetta Waid usually takes care of the registration.
 - 12:45 P. M. - or As Soon As Possible (ASAP), the first small (5 - 10) group of Young Eagle Candidates are escorted into the hangar. Using the static display aircraft, they are given a class on the parts of an aircraft and what makes a plane fly. The class is usually given by a CAP aircrew member(s) or by an EAA volunteer.

- 1:00 P.M.: An adult CAP or EAA member at the front of the hangar sorts the Young Eagle Candidates that have completed the class according to:
 - a. the capacity of the aircraft and/or
 - b. family members or close friends (brother/sisters or close friends like to fly together)
 - c. Initially (first set of flights) a CAP Cadet or EAA member escorts the Young Eagle Candidate to the aircraft and assists them to board the aircraft (where to step/not step, approach from BEHIND the wing, etc.) and fasten seat belts. Cadets are usually briefed that ONLY the PILOT closes the aircraft door. Once all are on board, the cadet returns to the hangar via the same route (as briefed, usually not diagonally, but direct to the grass/edge of tarmac behind aircraft, then direct to the hangar), and is assigned another group to escort.
 - d. After the initial flight, taking 20 plus minutes, upon the aircraft's return, TWO cadets escort the next group to the aircraft. One cadet keeps the new group behind the aircraft while the other cadet assists the just-flown Young Eagles to deplane (step here/don't step there!), helps with photos, then escorts them back to the hangar according to his briefed route. The other cadet then assists the new group to enplane, then returns to the hangar to wait another group.

- At times, because of other activities, CAP is unable to participate, or is unable to participate in strength. Then we simply make use of more EAA volunteers. However, the presence of uniformed CAP Cadets taking an active part in the Young Eagles Program forms a positive attitude with the younger youth. It has been observed that when the Cadets are able to participate, there is a noticeably lessened tendency toward "horseplay" while waiting or post-flight.

- 5:00 P. M.: Registration closes. Actually the support of Chapter 463 volunteer pilots, owners, and ground support personnel has been so great that, since I have been a member of the Chapter, all Young Eagle candidates have been flown before the registration closes. We have had to post-phone til the following weekend, but never has a Young Eagle Candidate been denied a flight because of a lack of aircraft or pilots.

- Post-flight photos are taken of the Young Eagles on the flight line, in or with the aircraft. The photos are available FREE to the Young Eagles or their parents at the FBO within the next few days.

In summary, significant points are:

1. For a successful event, plan and arrange well ahead of the event.
2. Advance publicity.
3. Use Civil Air Patrol volunteers, especially cadets. Perhaps if CAP is not available, other uniformed youth organizations might be used, such as Scouts/ROTC/Young Marines/etc.
4. Use a static aircraft with small groups for a basic aerodynamics class taught by CAP aircrew or EAA member.
5. Use CAP Cadets or EAA Volunteers for flight line escort for safety.
6. Take post-flight photos to encourage return to the FBO later.
7. If parents want to take flight line photos, they are encouraged to do so - with a flight line escort.
8. Encourage area newspapers/radio/T.V. stations to attend the event.
9. Maximize support by EAA members. Even those who to not yet have a flyable two+ place aircraft, can assist with ground school,

registration (spouses help also), flight line, briefings, etc. Also invite other local EAA members/chapters to participate.

10. Include thank you's and recognition at the next chapter meeting.

Jack Starn
Young Eagles Coordinator EAA Chapter 768

Jack describes the preparation and stations for the classes Chapter 768 gives on pop riveting.

1. At Chapter #768 we have held six to eight "Riveting classes" for Young Eagle age students over the past 5 years. Based on my teaching background we keep it simple & use a three step, I Do, We Do, You Do method.
2. We start with a 4" piece of 1/8 X 1" angle and a piece of .032 cut to fit one side of the angle.
3. We mark, punch & drill three 3/32 holes in the matched set.
4. We buff all the edges & deburr the holes, number them to match & cleco them together with two 3/32 silver clecos. We do all this before going to the students.
5. Using a compressor, electric (120V) drill motor, battery powered drill motor, air rivet gun, manual pop rivet gun, hand squeezer, cleco pliers, "C" frame to dimple, adjustable countersink bit (in the battery drill), de-burring tools, lots of "C" clamps and eye protection for everyone.
6. We explain how the "parts" they will be working on and taking home arrived at their present state. Every part is clamped into position before being "worked" upon.
 - Station #1: Operating at least one on one each student re-drills out the third hole. Installs a 1/8 cleco (bronze). Then removes #2 cleco, re-drills. Clecos & re-drills #3.
 - Station #2: Removes the two clecos & deburrs the holes.
 - Station #3: Countersinks the center hole in the angle and dimples the center hole in the strip. Re-assembles with the two clecos, one in the middle.
 - Station #4: Inserts pop rivet in one of the end holes after removing the

- cleco. Sets same with a manual pop rivet gun.
- Station #5: Removes center cleco & inserts a flush rivet. Using a hand squeezer, sets the center rivet.

 - Station #6: Student is then shown how to make a test hole in a 2X4 with an airpowered rivet gun. Then with instructor on a bucking bar they set a round head rivet.

Every class so far we have had teachers or parents ask if they can also go thru the line too!!!

Laura Millon
Young Eagles Coordinator Chapter 32

Chapter 32 has “kite kits” prepared and laid out on tables with scissors, tape, and hole punches at their Young Eagle events to work on while kids are waiting for their Young Eagle flights. They are inexpensive and easy to prepare ahead of time, such that, each kit can be handed out to the waiting kids to assemble and fly.



Jim Brown
EAA Chapter 1114
PreFlight Program President

1. The EAA Chapter 1114 Pre-Flight gathers once a month at Cox Airport in Apex, North Carolina. This is an active chapter and airport, so the kids have wonderful opportunities to fly and talk with pilots based at the field. Some of the events are educational and some are just fun.
 - Visit Pope Air Force Base for open house for airshow and static demonstrations
 - Visit aviation museum in Asheboro, North Carolina
 - Visit airshow in Richmond, VA
 - Held a navigation/pilot day, where kids and EAA member pilots
 - ❑ Chart a course
 - ❑ Talk with flight service for weather and NOTAMs
 - ❑ Pre-flight the plane
 - ❑ Fly the route
 - Visit pilot/builder projects to see
 - ❑ Rvs
 - ❑ Pietenpol Air Camper
 - ❑ Dyke Delta in various stages of assembly
 - Pilot/Builders have also taught students simple welding and assisted with the building of a wooden prop.

Brett Herrick
Chapter 729
Columbus, Indiana

1. With some financial assistance from the Columbus Airport and Chapter 729, Brett has utilized some of his own funds to conduct aviation oriented classes at the Foundation of Youth in Columbus. The aviation programs were developed to compliment the Young Eagle Flight Program.
2. The program utilizes an original “Flight Site” that was at a local school, but has expanded to include the following activities:
 - Build a Fantastic Flyer balsa glider
 - Build a Foundation For Youth balsa glider
 - Build a Delta Dart balsa/tissue rubber band powered plane
 - Build two liter bottle rockets
 - Build sled kites
 - Make wooden airplane ribs
 - Fly a remote control model airplane
 - Fly Microsoft Flight Simulator
 - Participate in a Young Eagle Flight Rally
3. Brett has several suggestions for successful implementation of such a program.
 - Classes need to be adapted to where they are offered. Some sites may offer two story balconies or large atriums for launching gliders. Other sites may be better suited to activities which require large, outdoor, open spaces.
 - Try to allow each student to have their own set of tools that they use. This allows each student to focus on his/her own project. Every attempt should be made to use tools that are low cost and may be purchased locally (this gives students an idea of what they could use if they want to be making models at home). The cost of the contents of these kits is approximately \$30 each.
 - In making model airplanes, we want students to learn how to build the models correctly and safely. The tools that the students use have been

selected to be as safe as possible. Rather than using a single edge razor blades, try to use razor blade holders to keep fingers further away from the sharp edge. The modeling knife that students use can not roll off of the table. Students should be directed to keep knives retracted or covered when not in use. The glues that the students use should be washable. When CA glue is to be used, have one of the adults apply it.

- Make sure that each student gets a chance to see their project fly and fly well before taking them home. We don't let students take their project home until they have flown it with us. This allows one to show the students how to adjust their projects to make them fly well. Further, there is no chance for the accidental destruction of the project at home or in a backpack.

- Try to have the group view the video created by the EAA titled "Young Eagle". This video is fairly old (10-15 years), but contains an excellent message on setting and achieving goals.

Robert L. (Bud) Wall
EAA# 0276424
Bouse, Arizona

Bud has some suggestions for airborne experiments that demonstrate/teach some simple physical principles about the physics of flight. These ideas provide some possibilities for continuing the Young Eagles Program beyond the First Flight.

Bud has used some of these demonstrations on adult student pilots, with many responding with a greater insight into the physical principles of aviating.

1. The Balloon

- Materials:
 - ❑ Small block of Styrofoam
 - ❑ Balloon
 - ❑ String

- Procedure:
 - ❑ Attach a tied off, half inflated balloon to the block of Styrofoam with the string.

- Instructional Suggestions:
 - ❑ Ask the student what he/she thinks the balloon will do when flown up into the air.
 - ❑ Load the students, belt them in, and take off.
 - ❑ Have the students make observations of the balloon while the plane ascends, levels off, and descends.
 - ❑ Ask students what happened and why? Discuss their answers and reasoning.

- Applications:
 - ❑ You can discuss altitude limits, superchargers, air density, airplane performance changes at various altitudes, and fuel mixtures.

2. The Gyro

➤ Materials:

- ❑ Small, 5" x 6" piece of ½" plywood
- ❑ ½" drill bit
- ❑ toy gyroscope (Edmund Scientific or a toy store)

➤ Procedure:

- ❑ Just start the drill bit into the surface of the plywood, to make a small conical indentation.
- ❑ "Wind up" the small gyroscope and place the base in the indentation. This will be done again while in flight.

➤ Instructional Suggestions:

- ❑ Ask the student what he/she thinks the gyroscope will do when in flight.
- ❑ Load the students, belt them in, and take off.
- ❑ Have the students spin up the gyroscope and set it upright in the indentation on the plywood. Now, roll, pitch, and turn.
- ❑ Ask students what happened and why? Discuss their answers and reasoning.

➤ Applications:

- ❑ You can explain about coordinated turns, attitude (the plane not the pilot!), and some of the navigational instruments in the plane.

3. The Water Jar

➤ Materials:

- ❑ Small piece of thin plywood
- ❑ Small glass jar
- ❑ Glue "Gorilla Glue" or similar
- ❑ Marker pen that will mark on glass

➤ Procedure:

- Glue the small glass jar to the small piece of thin plywood. Fill it about 1/3 full of water.
- Instructional Suggestions:
 - Ask the student what he/she thinks the water in the jar will do when flown up into the air.
 - Load the students, belt them in, and take off.
 - Have the students mark the water level when flying straight and level.
 - Now, accelerate, decelerate, roll, pitch, turn, and skid. Have the students mark the water surface locations on each maneuver.
 - Ask students what happened and why? Discuss their answers and reasoning.
- Applications:
 - You can discuss attitude, maneuvers, aileron and rudder coordination, elevator induced reactions, acceleration/deceleration, as well as, lack of changes when using less than enough power to maintain altitude (or more to climb without elevator input).

4. The Rubber Band “G” Meter

- Materials:
 - Small vertical stick
 - Small piece of plywood
 - Thread
 - Paper clip
 - Rubber band
 - Lead sinker (laquer covered)
- Procedure:
 - Glue the vertical stick into the small piece of plywood.
 - Bend the paper clip, such that, it may be attached to the vertical stick using thread and glue and serves as a vertical hook for the rubber band.

- Fasten the sinker to the rubber. Ideally, the sinker must be heavy enough to just start extending the rubber band.
 - Mark the stick with several, evenly spaced, tick marks. Indicate which mark corresponds to “at rest”.
- Instructional Suggestions:
 - Ask the student what he/she thinks the rubber band/sinker will do while in flight.
 - Load the students, belt them in, and take off.
 - Have the students make observations of the sinker during a pitch, a roll, a turn, a skid, and a coordinate turn.
 - Ask students what happened and why? Discuss their answers and reasoning.
- Applications:
 - You can explain attitude, coordination, “G” forces.

5. The Pendulum

- Materials:
 - Two small sticks
 - Small, straight, hard wire
 - Plywood base
 - Small stick or wire
 - Glue
 - Single edge razor blade
- Procedure:
 - Glue the two sticks upright into holes drilled into the plywood.
 - Drill two tiny holes through the top ends of the two vertical sticks.
 - Put the wire through the two hole you just drilled. The wire should be oriented horizontally between the tops of the two sticks.
 - Glue the small stick or wire to near the center of a single edge razor blade.

- Glue a small laquered lead weight to the bottom of the small stick or wire (this should hang down below the razor blade support).
 - Try the pendulum. You may need to nick the blade edge to keep the blade from migrating off of the cross wire.
- Instructional Suggestions:
- Ask the student what he/she thinks the pendulum will do when flown up into the air.
 - Load the students, belt them in, and take off.
 - Have the students start the pendulum swinging and measure a time for several oscillations. They should record this.
 - Now, pitch up to about 2 “g’s” and have the students measure the time for several oscillations. Now pitch down to about 0 “g’s” and have the students time several swings (actually it should stop, and it won’t start again without another push).
 - Ask students what happened and why? Discuss their answers and reasoning.
- Applications:
- You can “g” forces, wing loading, and structural engineering in an aircraft. You might mention this principle is the original basis for measuring gravitational field strength.

Earl Bolton
EAA Chapter 648

I have been teaching an aviation program for sixteen years to fifth graders and now to middle school students. This is a ten hour course in fundamentals and physics of flying. Students must write a report on aviation, take a test and score make at least seventy percent. After completion, EAA Chapter 648 gives each student a Young Eagles flight.

I have had three girls go through the Air Force Academy, other students complete their aviation career, and many more students go on to study engineering, both girls and boys.

Chuck Hoisington
Young Eagles Coordinator
EAA Chapter 9

EAA9 Inc. provides its Young Eagles with, in addition to the wristband and certificate, an 8 ½ X 11 photo of their plane with the other riders and pilot. We are able to hold the cost down by finding photo printers, in our case Canon iP6000D that work well with aftermarket ink and testing several types of photo paper until we found one at about 7 cents per sheet that works well. I estimate the cost for disposables at not more than 12 cents per photo. We are using 2 of the same model printer and will be adding a third to keep up with the numbers we sometimes have. The photos are well received!

Joel Godston
EAA Young Eagles Coordinator
N. Haverhill, New Hampshire

11th Annual DEAN AIRPORT AWARENESS

DAY- June 2, 2007

(Rain date: June 3, 2007)

Tasks & People to MAKE the Event HAPPEN

Co-Chairpersons: Jerry Lyons/Joel Godston

Equip., Signs/Posters, etc.: Jerry; Nancy Thomas, Betsy Uline

'Chat Table': Jerry/Joel; Bill Fletcher, Russ & Judy Kelsea, Richard Sherman?, Jack Terrill, Joe McQueeney,

Ken Mills?, Edward Eilertsen, Brochures for "Girls with Wings" models N2S-2/3/4 Yellow Peril, F-9F Blue Angels,

F-9F Wildcat, spd-5 Dauntless Douglas, Piper J3 Cub, & T-6/SNJ Navy...all flown by Anon. Schl. Donor

Haverhill Police Training Table: Ron Fournier; Jeff Williams

CAP Table & Helpers(Auto Parking, DART Entrance Guide, etc.):

Joel: David Wheeler, Capt. Rangi Keen plus RJ Farley & Mike Balog

Hangar "Open" House: Joel; 2 info signs to post on Hangars #4 & #5

Aircraft Fly-by: Joel; LtCol. Ed Summers to lead ft. of 4 A-10's Mass. ANG @ 1200+/- 10, Major 'Mat' Peltier to lead ft. of 2 F-16(s) VT ANG @ 1250+/- 15/, received FAA approval, signed DD FORM 2535

Aircraft Static Display: Jim Fortier/Winston Currier; Dick Guy-Ultralight; Troy Perry- C 182, etc.; Bob Huminski- C152; Ken Mills/Evan Karpf -Grumman Tiger; Sean O'Donnell-- 1946 Aircoupe; Lynn Perry-Callair;

Ed Richards-Helicopter; Scebili- 2 seat Gyrocopter?

Radio Publicity: Dick Guy; NH Agway-Dana Huntington; Wells River Pharmacy & TJ's Lunch Counter- Dennis & Terry Straight; Woodsville Guarantee Bank- Jan Carver; Black Mount Equipment-Marie Bigelow; Patten's Gas- Ed Patten; WYKR- Steven John- to attend event and do Radio Interviews

Newspaper Publicity: Debbie Upton/Betsy; JO & Bridge Weekly/Sho-Case...purchase ad for 2 weeks, NCNI, Littleton Courier, Caledonian (Debbie); Upper Valley Parents' Paper (Joel), Valley News (Joel); AOPA Online, Aviation Digest, Quechee Times, Rivendell School District, Lyme-Piermont-Thetford Elementary, & Thetford Academy (Betsy)

Photography: Debbie/Nancy Thomas/Nancy Guy; JO-Connie Sanville, Publisher. Kelly White?, Joe McQueeney, ?,

Area School Briefings: Winston; Betsy, Bob, Everett, Jim, Ron, Harry, Joel, Luke Teschner

Airport "Setup", Teardown, etc.: Jim, Joel, Annemarie, Betsy, Jerry (16 Tables & 38 chairs from Middle School); Winston; Harry, Tyler LeClerc

Food (hotdogs/hamburgers, coffee/hot chocolate, & soup):

Lynn & Tracy Perry; Troy Perry, Marguerite Currier?, ?, ?, ? **Note: People with Name Tags get Food & Drink FREE**

Adult & Scenic Rides: Jerry; Joel Dupuis- Sign In, etc.; Pilots- Jerry, Winston

Airport Master Plan & “..’03 Development Plan for NH Airports”: Arnie Stymset/Armand Dufresne

Flight Training, New Avionics & Aircraft: Jerry; Signal Aviation Services- Greg Soho/ Jim Beard with one or two aircraft

Young Eagles Rally: Joel/Jerry; et all

Registration Table: Jim DeHaven; Bev & Bob Elsworth, Nancy Feldvary, Carol Lippman

Entrance/Dispatch Table: Steve Keen; Mike Bonanno, Anne Ballam

Exit/Certificate Table: Betsy; Pauline Bonanno, Michele Avery

Pilots: Joel; Rich Starr, Lou Feldvary, Steve Christy, Alan Scott, Stan Spencer, Bob Lippman, Bruce Dexter?, Art Tighe?; EAA Chap. 613- Ron York, Bill Yendzieski, Chuck Robitaille, Bill Hanf **Note:** limit of 10 aircraft w Pilot’s

Pilot’s Briefings: Stan Spencer/Phil Cobbin **Note:** briefing to include people from Aircraft Parking ‘Ramp’ Security and ‘Mobile Airport Control Tower’)

‘Mobile Airport Control Tower’: Joel/Stan, Braxton Freeman, Charlie Zue

Aircraft Parking ‘Ramp’ Security & ‘Escorter’: Tom Williamson; John Cobb, Harry, Ron...

Notes: 1) signs for pilots flying YE’s and Transient Aircraft & verify everyone has proper parking signals. 2) need portable Radio for contact with pilots

N. Haverhill Fire Truck: Ron; ?, ?

EMT’s/Woodsville Ambulance: Dick; ?, ?

Auto Parking, etc.: Dick; Ed Ballam, Luke, Tyler, Rangi w RJ Farley and Mike Balog

Gov’t Officials & Honored Guests: Joel; Carol Niewola, Sr. Aviation Planner, NHDOT Bureau of Aeronautics; Lisa Lesperance, FAA Aviation Planner: Ray Burton; NH Legislature members. ?; Anonymous Scholarship Donor; Haverhill Selectboard members, etc.

6/1/07rev

11th Annual
DEAN MEMORIAL AIRPORT

AWARENESS DAY

Saturday- June 2, 2007...10am till 3pm

Rain Date: Sunday- June 3rd

Dean Memorial Airport-Airport Road, N. Haverhill, NH

- o **Visit the Airport, view Aircraft and New Hangars, etc.**
- o **Find out about Civil Air Patrol(CAP)**
- o **Chat with People involved in Aviation, some over 60 years**
- o **Adult Scenic Airplane Rides...Modest cost of 25 cents per pound**
- o **Visit the Haverhill Police Training/Safety Table**
- o **While you stroll around, get something to eat and drink**
- o **Participate in Young Eagles Flight Rally**
- Free airplane Rides for Youngsters –

Registered youngsters 8 -17 years of age will experience the thrill and excitement of taking a FREE Flight with a licensed pilot. After the flight you will receive a Certificate signed by your pilot and Harrison Ford(best known as an actor in more than three-dozen films; also an active Young Eagle pilot who is sharing his passion for aviation with others, and has already flown over 300 Young Eagles), and your name entered into the "World's Largest Logbook" located at the EAA Air museum and on the Internet. There is no cost or obligation.

The Young Eagles program surpassed the goal to fly 1 million youngsters by December 17, 2003, the 100th anniversary of the Wright Brothers first flight. More than 1.25 million Young Eagles have been flown in 90 different countries since the program began in

1992 The on-going annual goal is to fly 100,000 youngsters to become Young Eagles. In 1992, when the program was initiated, 1,802 volunteer pilots flew 7,458 youngsters. To-date over 40,000 EAA member pilots and an estimated 55,000 ground volunteers have introduced youngsters to the magic of flight; **well over 700 at Dean Memorial Airport.**

**Register anytime during ‘the day’ up to 2:30pm to
receive the flight**

A parent or guardian MUST attend

For more information call or e-mail:

Joel or Annemarie Godston (603)787-6771 or godston@charter.net

Dean Memorial Airport Awareness Day is sponsored by:

Experimental Aircraft Association (EAA)

Haverhill Airport Commission

Town of Haverhill

Doug Evans
EAA Chapter 1279
Murrieta, California

EAA Chapter 1279 Conducts a Builders Workshop each Saturday, 8:00 to 12:00 at Building 95, Hangar 15, French Valley Airport. Workshop is conducted in conjunction with a Pietenpol project and is open to Young Eagles, ages 8 thru 17.

Jim Belcher
Young Eagles Coordinator
EAA Chapter 463

On the first of April 2007 EAA Chapter 463 introduced 76 Young Eagles to the joy of flight. The free flights were preceded by a short basic ground school, after which, a volunteer pilot flew the Young Eagle on a local area flight for approximately 20 minutes. The Young Eagle program is part of an international program which has flown over 1.3 million young people to date.

While most of the pilots volunteer their valuable aircraft, fuel and flight time were from EAA Chapter 463, two members from the NW Arkansas EAA Chapter also flew in to participate. Also supporting the event were Civil Air Patrol members from OK, KS, and MO. Especially valuable was the ground support provided by Civil Air Patrol Cadets from Pittsburg KS who escorted the Young Eagle Candidates on the flight line between the hangar and the aircraft.

EAA Chapter 463 normally hosts two scheduled Young Eagle events during the year, during the Spring and again during the Fall. However, it has also been requested to organize special Young Eagle flights to support other youth organizations such as schools, scouts, or youth clubs.

Most EAA Chapters support the program. For more information or to organize a local Young Eagles event, contact your nearest EAA Chapter (youngeagles@eaa.org) at least two months in advance to allow for planning, organization, insurance, and the ever present paperwork.