



AMA #1256  
**2012 Club Officers**  
 President: Chet Thayer  
 VP: Ron Becker  
 Treasurer: John Gardiner  
 Secretary: Mike Hunter  
 Editor: Tim Mihalski  
 District IV AVP: John Kirchstein  
**Volume 39 Issue 5**



Official Newsletter of the  
**FIRST STATE R/C CLUB**  
 Established 1973 – An AMA Gold Leader Club  
<http://www.firststaterc.org>



**MAY 2012**

**UNOFFICIAL APRIL MEETING MINUTES**

**Members in Attendance:** John Gardiner, Joe Berry, Mike Hunter, Ron Becker, Charlie Hruska, Elliot Smith

**Visitors:** Bob Pigford

**Show and Tells:**

There were not show or tells.

**MINUTES:**

**Call to Order:**

- Vice-President Ron Becker called the meeting to order at 7:30 P.M.

**Reading of the Minutes:**

- Mike Hunter summarized the minutes from the March meeting. The minutes were then accepted as summarized.

**COMMITTEE Reports:**

**Treasury Report:** John Gardiner gave the following report

Cash Balances: See Treasurer for numbers.

Dues collected for 2012 total \$xx.00. The Club currently has 21 regular, 14 senior and 3 junior members. Membership for 2011 was 23 regular, 16 senior, and 4 junior members. The budget for 2012 was for 21 regular, 16 senior and 3 junior members. Receipts for the three months of 2012 total \$xx.xx. 97.8% of the receipts are from dues assessments. The receipts for the month of March were \$20.00 donation from a visitor using our field and interest of \$0.16.

Disbursements for the three months of 2012 total \$xx.xx. The only disbursement for March was \$29.46 for the purchase of gas for the mowers.

A transfer was made from the checking account to the savings account of \$xx.00 for the future purchase of a lawn mower as approved in the 2012 budget. The report was accepted as given.

- **Safety Report:** There was no safety report.
- **Field Report:** The following items were completed during the field day:
  - We serviced the lawn mowers
  - Purchased and install two new blades on the Craftsman mower
  - Cut the grass
  - Trimmed the pit area
  - Erected two new pit protection barriers

**MEETING MINUTES CONTINUED....**

- Filled in hole around the drain on the northern end of the field
- Cut up miscellaneous lumber to sizes that could be burned
- Moved the Port-a-john closer to the utility pole to free up a parking space

**OLD Business**

There was no old business.

**New Business**

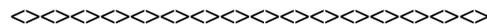
- **FOBA:**  
 Elliot Smith gave us an update of happenings at the friends of Blanca Airfield. He reported that some organizations used the hanger for meeting and that work in underway installing some plumbing. He also reported that two control line circles are being prepared outside the hanger. There are plans for a possible club of new Control Line flyers.
- **Building Projects:**  
 Mike Hunter brought up the situation about a possible building project to replace or do a major refurbishment of the Radio Impound and Pin Control board. He and John Gardiner will assess the current status of the current board and report back with a recommendation.

**Adjournment**

The meeting adjourned at 8:00 pm.



*Respectfully Submitted,*  
 Mike Hunter  
 Secretary  
 First State R/C Club





## Mitsubishi A6M Zero

From Wikipedia, the free encyclopedia

Role: Fighter

Manufacturer: Mitsubishi Heavy Industries, Ltd

First flight: 1 April 1939

Introduction: 1 July 1940

Retired: 1945 (Japan)

Primary users

Imperial Japanese Navy Air Service

Chinese Nationalist Air Force

Produced: 1940–1945

Number built: 10,939

Variants: Nakajima A6M2-N

The Mitsubishi A6M Zero was a long-range fighter aircraft operated by the Imperial Japanese Navy Air Service (IJNAS) from 1940 to 1945. The A6M was designated as the Mitsubishi Navy Type 0 Carrier Fighter (零式艦上戦闘機 *rei-shiki-kanjou-sentouki*?), and also designated as the Mitsubishi A6M *Rei-sen* and Mitsubishi Navy 12-shi Carrier Fighter. The A6M was usually referred to by the Allies as the "Zero", from the 'Navy Type 0 Carrier Fighter' designation. The official Allied reporting name was *Zeke*.

When it was introduced early in World War II, the Zero was considered the most capable carrier-based fighter in the world, combining excellent maneuverability and very long range. In early combat operations, the Zero gained a legendary reputation as a "dogfighter", achieving the outstanding kill ratio of 12 to 1, but by mid-1942 a combination of new tactics and the introduction of better equipment enabled the Allied pilots to engage the Zero on more equal terms. The IJNAS also frequently used the type as a land-based fighter. By 1943, inherent design weaknesses and the increasing lack of more powerful aircraft engines meant that the Zero became less effective against newer enemy fighters that possessed greater firepower, armor, and speed, and approached the Zero's maneuverability. Although the Mitsubishi A6M was outdated by 1944, it was never totally supplanted by the newer Japanese aircraft types. During the final years of the War in the Pacific, the Zero was used in kamikaze operations. In the course of the war, more Zeros were built than any other Japanese aircraft.

Design and development

The Mitsubishi A5M fighter was just entering service in early 1937, when the Imperial Japanese Navy started looking for its eventual replacement. In May they issued specification 12-Shi for a new carrier-based fighter, sending it to Nakajima and Mitsubishi. Both firms started preliminary design work while they awaited more definitive requirements to be handed over in a few months.

Based on the experiences of the A5M in China, the Navy sent out updated requirements in October calling for a speed of 370 mph and a climb to 3,000 m (9,840 ft) in 3.5 min. With drop tanks, they wanted an endurance of two hours at normal power, or six to eight hours at economical cruising speed. Armament was to consist of two 20 mm cannons, two 7.7 mm (.303 in) machine guns and two 30 kg (70 lb) or 60 kg (130 lb) bombs. A complete radio set was to be mounted in all aircraft, along with a radio direction finder for long-range navigation. The maneuverability was to be at least equal to that of the A5M, while the wing span had to be less than 12 m (39 ft) to allow for use on aircraft carriers. All this was to be achieved with available engines, a significant design limitation. (The Zero's power plant seldom reached 1,000 horsepower (750 kW) in any of its variants).

Nakajima's team considered the new requirements unachievable and pulled out of the competition in January. Mitsubishi's chief designer, Jiro Horikoshi, felt that the requirements could be met, but only if the aircraft could be made as light as possible. Every possible weight-saving measure was incorporated into the design. Most of the aircraft was built of a new top-secret 7075 aluminum alloy developed by Sumitomo Metal Industries in 1936. Called Extra Super Duralumin (ESD), it was lighter and stronger than other alloys (e.g. 24S alloy) used at the time, but was more brittle and prone to corrosion (it was painted with an anti-corrosion lacquer as a countermeasure). No armor was provided for the pilot, engine or other critical points of the aircraft, and self-sealing fuel tanks, which were becoming common at the time, were not used. This made the Zero lighter and more agile than most other aircraft at the start of the war, but also made it prone to catching fire and exploding when struck by enemy rounds.

With its low-wing cantilever monoplane layout, retractable, wide-set landing gear and enclosed cockpit, the Zero was one of the most modern aircraft in the world at the time of its introduction. It had a fairly high-lift, low-speed wing with a very low wing loading. This, combined with its light weight, resulted in a very low stalling speed of well below 60 kn (110 km/h; 69 mph). This was the main reason for its phenomenal maneuverability, allowing it to out-turn any Allied fighter of the time. Early models were fitted with servo tabs on the ailerons after pilots complained control forces became too heavy at speeds above 300 km/hr. They were discontinued on later models after it was found that the lightened control forces were causing pilots to overstress the wings during vigorous maneuvers.

It has been claimed that the Zero's design showed clear influence from American fighter planes and components exported to Japan in the 1930s, and in particular the Vought V-143 fighter. Chance Vought had sold the prototype for this aircraft and its plans to Japan in 1937. Eugene Wilson, President of Vought, claimed that when shown a captured Zero in 1943, he found that "There on the floor was the Vought V 142 [sic] or just the spitting image of it, Japanese-made," while the "power-plant installation was distinctly Chance Vought, the wheel stowage into the wing roots came from Northrop, and the Japanese designers had even copied the Navy inspection stamp from Pratt & Whitney type parts."

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While the sale of the V-143 was fully legal, Wilson later acknowledged the conflicts of interest that can arise whenever military technology is exported. In fact, there was no significant relationship between the V-143 (which was an unsuccessful design that had been rejected by the US Army Air Corps and several export customers) and the Zero, with only a superficial similarity in layout. Allegations about the Zero being a copy have been mostly discredited.

Name



The A6M is universally known as the Zero from its Japanese Navy type designation, Type 0 Carrier Fighter (Rei shiki Kanjō sentōki, 零式艦上戦闘機), taken from the last digit of the Imperial year 2600 (1940), when it entered service. In Japan it was unofficially referred to as both Rei-sen and Zero-sen; Japanese pilots most commonly called it, Zero-sen.[N 1]

In the official designation "A6M" the "A" signified a carrier-based fighter, "6" meant it was sixth such model built for the Imperial Navy, and "M" indicated the manufacturer, Mitsubishi.

The official Allied code name was "Zeke", in keeping with the practice of giving male names to Japanese fighters, female names to bombers, bird names to gliders, and tree names to trainers. "Zeke" was part of the first batch of "hillbilly" code names assigned by Captain Frank T. McCoy of Tennessee, who wanted quick, distinctive, easy to remember names. When in 1942 the Allied code for Japanese aircraft was introduced, he logically chose "Zeke" for the "Zero." Later, two variants of the fighter received their own code names: the A6M2-N (floatplane version of the Zero) was called Rufe and the A6M3-32 variant was initially called Hap. After objections from General "Hap" Arnold, commander of the USAAF, the name was changed to Hamp.

Operational history

The first Zeros (pre-series A6M2) went into operation in July 1940.[12] On 13 September 1940, the Zeros scored their first air-to-air victories when 13 A6M2s led by Lieutenant Saburo Shindo attacked 27 Soviet-built Polikarpov I-15s and I-16s of the Chinese Nationalist Air Force, shooting down all the fighters without loss to themselves. By the time they were redeployed a year later, the Zeros had shot down 99 Chinese aircraft[13] (266 according to other sources).

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At the time of the attack on Pearl Harbor 420 Zeros were active in the Pacific. The carrier-borne Model 21 was the type encountered by the Americans. Its tremendous range of over 2,600 km (1,600 mi) allowed it to range farther from its carrier than expected, appearing over distant battlefronts and giving Allied commanders the impression that there were several times as many Zeros as actually existed.

The Zero quickly gained a fearsome reputation. Thanks to a combination of excellent maneuverability and firepower, it easily disposed of the motley collection of Allied aircraft sent against it in the Pacific in 1941. It proved a difficult opponent even for the Supermarine Spitfire. Although not as fast as the British fighter, the Mitsubishi fighter could out-turn the Spitfire with ease, could sustain a climb at a very steep angle, and could stay in the air for three times as long.

Soon, however, Allied pilots developed tactics to cope with the Zero. Due to its extreme agility, engaging in a traditional, turning dogfight with a Zero was likely to be fatal. It was better to roar down from above in a high-speed pass, fire a quick burst, then zoom back up to altitude. (A short burst of fire from heavy machine guns or cannon was often enough to bring down the fragile Zero.) Such "boom-and-zoom" tactics were used successfully in the China Burma India Theater (CBI) by the "Flying Tigers" of the American Volunteer Group (AVG) against similarly maneuverable Japanese Army aircraft such as the Nakajima Ki-27 and Ki-43. AVG pilots were trained to exploit the advantages of their P-40s, which were very sturdy, heavily armed, generally faster in a dive and level flight at low altitude, with a good rate of roll.

Another important maneuver was Lieutenant Commander John S. "Jimmy" Thach's "Thach Weave", in which two fighters would fly about 60 m (200 ft) apart. If a Zero latched onto the tail of one of the fighters, the two aircraft would turn toward each other. If the Zero followed his original target through the turn, he would come into a position to be fired on by the target's wingman. This tactic was first used to good effect during the Battle of Midway, and later over the Solomon Islands. Many highly experienced Japanese aviators were lost in combat, resulting in a progressive decline in the quality of the opponents faced by Allied pilots, which became a significant factor in Allied successes. Unexpected heavy losses of these irreplaceable pilots at the battles of the Coral Sea and Midway dealt the Japanese carrier air force a blow from which it never fully recovered[citation needed].

In contrast, Allied fighters were designed with ruggedness and pilot protection in mind. The Japanese ace Saburo Sakai described how the resilience of early Grumman aircraft was a factor in preventing the Zero from attaining total domination:

I had full confidence in my ability to destroy the Grumman and decided to finish off the enemy fighter with only my 7.7 mm machine guns. I turned the 20mm. cannon switch to the 'off' position, and closed in. For some strange reason, even after I had poured about five or six hundred rounds of ammunition directly into the Grumman, the airplane did not fall, but kept on flying! I thought this very odd—it had never happened before—and closed the distance between the two airplanes until I could almost reach out and touch the

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Grumman. To my surprise, the Grumman's rudder and tail were torn to shreds, looking like an old torn piece of rag. With his plane in such condition, no wonder the pilot was unable to continue fighting! A Zero which had taken that many bullets would have been a ball of fire by now.

When the powerful Lockheed P-38 Lightning, Grumman F6F Hellcat, and Vought F4U Corsair appeared in the Pacific theater, the A6M, with its low-powered engine, was hard-pressed to remain competitive. In combat with an F6F or F4U, the only positive thing that could be said of the Zero at this stage of the war was that in the hands of a skillful pilot it could maneuver as well as most of its opponents. Nonetheless, in competent hands the Zero could still be deadly.

Due to shortages of high-powered aviation engines and problems with planned successor models, the Zero remained in production until 1945, with over 11,000 of all variants produced. It is said that Zeros destroyed at least 1,550 American aircraft during the course of the war.[citation needed]



### **Allied opinions**

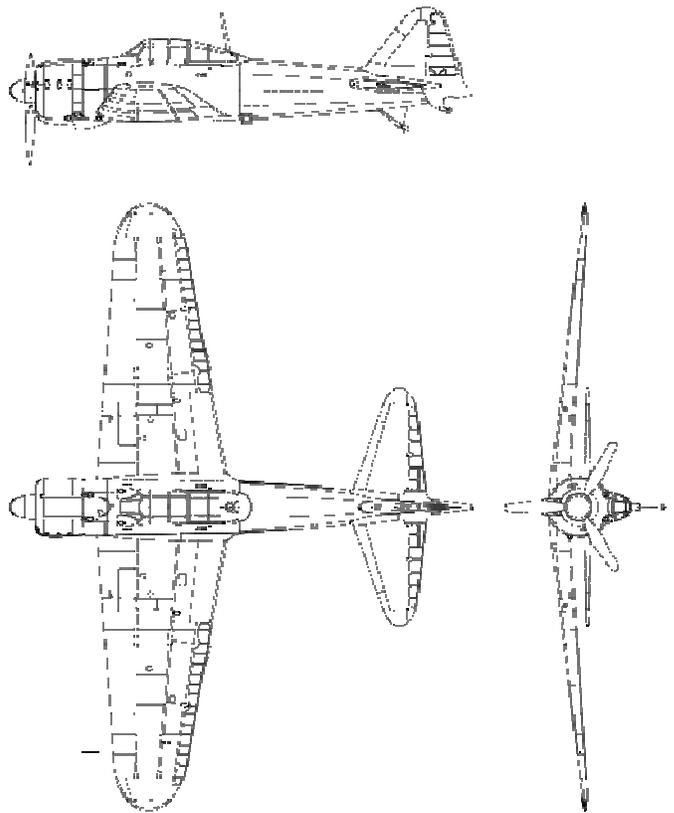
The American military discovered many of the A6M's unique attributes when they recovered a largely intact specimen on Akutan Island in the Aleutians (which was called the Akutan Zero). During an air raid over Dutch Harbor on 4 June 1942, one A6M fighter was hit by ground fire. Losing oil, Flight Petty Officer Tadayoshi Koga attempted an emergency landing on Akutan Island about 20 miles northeast of Dutch Harbor, but his Zero flipped over in soft ground in a sudden crash landing. Koga died instantly of head injuries, but the relatively undamaged fighter was found over a month later by an American salvage team and shipped to Naval Air Station North Island where testing flights of the repaired A6M revealed not only its strengths, but also its deficiencies in design and performance.

The experts who evaluated the captured Zero found that the plane weighed 5,200 pounds fully loaded, half the weight of the standard United States Navy fighter. It was "built like a fine watch"; the Zero was constructed with flush rivets, and even the guns were flush with the wings. The instrument panel was a "marvel of simplicity ... with no superfluities to distract [the pilot]." What most impressed the experts was that the Zero's fuselage and wings were constructed in one piece, unlike the American method that built them separately and joined the two parts together. The Japanese method was much

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slower, but resulted in a very strong structure and improved close maneuverability.

Captain Eric Brown, the Chief Naval Test Pilot of the Royal Navy, recalled being impressed by the Zero during tests of captured aircraft. "I don't think I have ever flown a fighter that could match the rate of turn of the Zero. The Zero had ruled the roost totally and was the finest fighter in the world until mid-1943." [2] American test pilots found that the Zero's controls were "very light" at 200 miles per hour, but stiffened at faster speeds (above 216 MPH) to prevent against wing failure. [20] The Zero could not keep up with Allied aircraft in high speed maneuvers, and its low "never exceed speed" made it vulnerable in a dive. While stable on the ground despite its light weight, the aircraft was designed purely for the attack role, emphasizing long range, maneuverability, and firepower at the expense of protection of its pilot. Most had neither self-sealing tanks nor armor plating.



### **Specifications (A6M2 Type 0 Model 21)**

#### General characteristics

Crew: 1  
Length: 9.06 m (29 ft 9 in)  
Wingspan: 12.0 m (39 ft 4 in)  
Height: 3.05 m (10 ft 0 in)  
Wing area: 22.44 m<sup>2</sup> (241.5 ft<sup>2</sup>)  
Empty weight: 1,680 kg (3,704 lb)  
Loaded weight: 2,410 kg (5,313 lb)  
Powerplant: 1 × Nakajima Sakae 12 radial engine, 709 kW (950 hp)  
Aspect ratio: 6.4

#### Performance

Never exceed speed: 660 km/h (356 kn, 410 mph)  
Maximum speed: 533 km/h (287 kn, 331 mph) at 4,550 m (14,930 ft)

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Range: 3,105 km (1,675 nmi, 1,929 mi)  
Service ceiling: 10,000 m (33,000 ft)  
Rate of climb: 15.7 m/s (3,100 ft/min)  
Wing loading: 107.4 kg/m<sup>2</sup> (22.0 lb/ft<sup>2</sup>)  
Power/mass: 294 W/kg (0.18 hp/lb)

## Armament

Guns:  
Divergence of trajectories between 7.7 mm and 20mm ammunition  
2x 7.7 mm (0.303 in) Type 97 machine guns in the engine cowling, with 500 rounds per gun.  
2x 20 mm Type 99 cannon in the wings, with 60 rounds per gun.  
Bombs:  
2x 60 kg (132 lb) bombs or  
1x fixed 250 kg (551 lb) bomb for kamikaze attacks

## AREA EVENTS



The events listed, as well as others, can be found at your AMA's Contest Calendar Site on the WWW: go to URL: <http://www.modelaircraft.org/events/calendar.aspx> or the IMAA site at <http://www.fly-ima.org/ima/events/index.html>  
Others listed are from club newsletters or flyers

5/26/2012 - 5/27/2012 -- Imlaystown, NJ (C-Restricted)  
MCRCS JUMBO JAMBOREE. Site: Warren Kruse Field.  
Keith Zimmerly CD PH: 609.587.5347 Email: [warbirds@mercs.com](mailto:warbirds@mercs.com). Visit: [mercs.com](http://mercs.com). Follow signs from exit 11 of I-95. IMAA membership required. All models must be IMAA legal. Sound limit enforced. AMA open membership required. Food available.  
Sponsor: MERCER COUNTY R C SOCIETY

6/9/2012 -- Bear, DE (A) LUMS POND IMAC CHALLENGE. Site: Club Field. Mark McQuaide CD PH: 610-255-3983 Email: [markmcquaide@verizon.net](mailto:markmcquaide@verizon.net). Visit: [www.delawarerc.org](http://www.delawarerc.org). Events 411-414(JSO).  
Sponsor: DELAWARE RC CLUB

6/9/2012 - 6/10/2012 -- Newark, DE (A) ESL-SKSS SOARING CLASSIC. Site: White Clay Creek State Park. Anthony Guide CD PH: 717-870-9684 Email: [tonyg66@yahoo.com](mailto:tonyg66@yahoo.com). Visit: [www.skss.org](http://www.skss.org). Event 444(O). SKSS field, White Clay Creek Park, Paper Mill/Smith Mill Rd.  
Sponsor: SILENT KNIGHTS SOARING SOCIETY

6/29/2012 - 7/1/2012 -- Newark, DE (C) SKSS WOOD WINGS AEROTOW. Site: Big Pond Field. William Groft CD PH: 610-255-4844 Email: [bill@eft-inc.com](mailto:bill@eft-inc.com). Event is exclusively for vintage sailplane of wooden construction. Wood wings only - fiberglass fuselages where applicable are okay.  
Sponsor: SILENT KNIGHTS SOARING SOCIETY

## AREA EVENTS



6/9/2012 - 6/10/2012 -- Quakertown, PA (C-Restricted)  
HAROLD WEIL MEMORIAL GIANT SCALE FLY IN. Site: Club Field. Travis Moyer CD PH: 267-374-3255 Email: [tsmdmm@comcast.net](mailto:tsmdmm@comcast.net). Visit: [www.buc-le.org](http://www.buc-le.org). Field is 1000x250' smooth grass runway. Primitive RV parking, food concession. Hotel lodging nearby. No landing fee.  
Registration 8AM, flying 9AM to 5PM Sat, 9AM to 3PM Sun. After 12 noon Sunday any size airplane allowed. Vendors welcome. Sponsor: BUC-LE AERO SPORTSMEN

6/16/2012 -- Oxford, PA (C) BUY AND FLY FUN FLY. Site: West Field. Mike Denest CD PH: 610-316-3570 Email: [mjd12k@yahoo.com](mailto:mjd12k@yahoo.com). Visit: [www.cloudkingsrc.org](http://www.cloudkingsrc.org). General RC fun fl and tailgate swap meet at the Cloud Kings West field flying site. Pilots and vendors are welcome to spend a day at the field to "buy it here or fly it here". Free pilot registration, vendor slots \$5. Lunch available at the field for a donation. All AMA members are welcome to fly, buy or just come out and enjoy the day.  
Sponsor: CLOUD KINGS RC CLUB

# MAY'S MYSTERY AIRCRAFT



## First State RC Fun Fly May 19, 2012

There were 3 individual events and 2 team events. We had seven entries. For the individual events you earned points for each event after which the points were summarized. The person with the most points got first place, and so on down the line.

The events were:  
Fly around a course and shoot as many touch and goes as you can within 3 minutes.

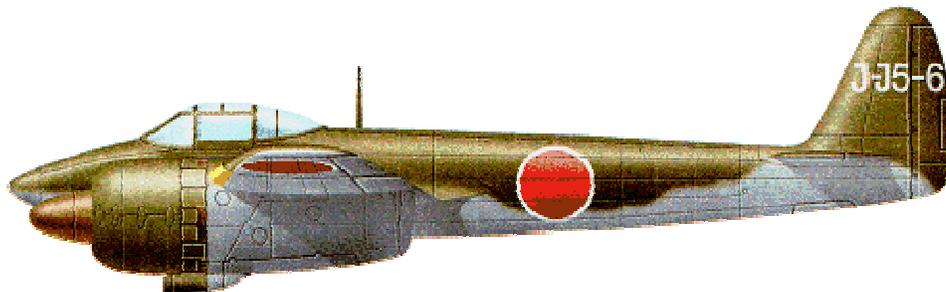
Move 3 rings from one peg to another. You move a ring by taking off, flying one circuit around the field, land, taxi into a square painted on the field and come to a complete stop in the square. Then move the ring. Take off and repeat these steps until all 3 rings have been moved. This was a timed event.

Take off, do three loops, three rolls land and break a balloon. This was a timed event.





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A mystery aircraft for you to ponder... you can read all about this mystery ship in the June issue of *Contact...*

### IMPORTANT REMINDERS...

Saturday 10:00 A.M. 05/19/12 Fuel/Electric Fun Fly at Field.-Contact: Frank Donnelly  
Monday 07:30 P.M. 05/21/12 Club Meeting @ Stahl American Legion Post  
Saturday 11:00A.M. 05/26/12 Friends of Bellanca (FOB ) Open House – First State Indoor Flying  
Saturday 10:00 A.M. 05/26/12 Fuel/Electric Fun Fly at Field. (Raindate)-Contact: Frank Donnelly

Saturday 11:00A.M. 06/9/12 Friends of Bellanca (FOB ) Open House – First State Indoor Flying  
Monday 07:30 P.M. 06/18/12 Club Meeting @ Stahl American Legion Post  
Monday 07:30 P.M. 06/23/12 Friends of Bellanca (FOB ) Open House – First State Indoor Flying

No Club Meeting in July  
Saturday 11:00A.M. 07/14/12 Friends of Bellanca (FOB ) Open House – First State Indoor Flying  
Saturday 11:00A.M. 07/28/12 Friends of Bellanca (FOB ) Open House – First State Indoor Flying



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