

THE ANTENNA

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IMPORTANT DATES

3/14 General Meeting – Airplane Contest – Prizes
4/7-9 Toledo Show
4/7-9 Boy Scouts @ Gateway
4/11 General Meeting

Dues Renewal Information

If you have not renewed your membership by April 1, 2006 you are considered a non-member, and all non-member rules apply. You are also removed from the club roster and mailing list.

Dues can be sent to;

Luther Farmer, Treasurer
145-48 182nd Street
Springfield Gardens, NY 11413
(718) 712-4276

Please include a valid copy of your AMA card.

Tips and Tricks

By Scott Schultz

Before you know it, it's time to go fly. But since we still have a little time on our hands, now would be a good time to check your equipment and for wear and tear.

Batteries – This is an inexpensive and expendable item. Yes, I said expendable. As a rule of thumb, I keep my batteries no more than 2 years in my helis. There's a tremendous amount of vibration that affects the battery cell itself. Regardless of how well the battery cycles out, it gets recycled every 2 years. As a guideline, if your battery cycles out more than 15% lower than the m/A rating, discard and recycle the battery. For example, if you had a 2400 m/A pack, and you were seeing 1800 m/A on the cyclor after several cycles, the battery has outlived its useful life.

Pushrods and Connections – Wear and tear, as well as vibration and dust can kill ball link connections. Whether checking a heli or airplane, look for worn ball links (although if you have metal balls, they would wear first.) The links should have no in or out play, but should be free to move back and forth. If you are using standard clevises, make sure to look at where the clevis attaches to the control and servo horns. Look for enlarged holes due to vibration and wear. Check the threaded rods for strippage as they screw into the clevises. A little thread-lock will work wonders. Use the blue type, as the red or green type will have you using a blowtorch to remove them.

Fuel Tubing – The higher the nitro, the faster the tubing wears. If you run more than 15% nitro, I would change the pick-up line in the tank yearly as well as any other fuel tubing. Under 15%, check for silicone breakdown and softness, and change accordingly.

The Presidents Corner

By: Scott Schultz

Last month the general membership approved the new board position of Field Maintenance Officer. The appointee was Howard Jackson. I am proud to report that Howie is doing an exemplary job at his new position. He has already repaired the vandalized impound cover as well as repaired the telephone line and ringers. If anyone has any questions, suggestions or problems at the field, please contact Howie.

On other news, I recently had a meeting with Pete McCarthy of Gateway. The meeting was very productive. Some of the topics discussed were the Bermuda Triangle, the 75th Anniversary of Floyd Bennett Field, and several field improvements. I will discuss all of the meeting highlights at the March meeting.

I will be holding a multimedia presentation at the March meeting that will have a 'name the airplane' contest. The winner of the contests will receive a prize. We are also looking for members to present their models and/or projects for model of the month. A feature we seem to neglect at our general meetings. We are going to make the 'model of the month' a feature at our meetings and schedule it before new business. That's what going to a meeting is all about. But on order to make this a success, we need your help. Use this as an opportunity to show off your accomplishments to the other members. Or, use the opportunity to educate our less experienced members. It's been stated that we have an inexhaustible amount of knowledge to rival any other club, hands down. Let's show our members what we can teach them to improve their knowledge of our hobby and make our flying field the elite field to fly!

We will be scheduling a work detail next month for various projects at the field. We look forward to your help at the field.

Safe Flying

Scott Schultz

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www.flyparcs.com

Field Phone (718) 951-8327

Product Review

RCV 58 Rotary Valve Engine

By: Jaeck Jezewski & Scott Schultz

The importer for RCV engines were distributing engines for testing purposes to the larger R/C clubs in the U.S. Our club was given a RCV 58 for testing purposes last spring. The terms were to run four test flights on the engine, documenting the engine's performance and submit the findings to RCV. We were then allowed to keep the engine, no strings attached. We tried in vain to give the engine away at several general meetings, with no takers. Jack Jecziskwy agreed to take the engine for a new plane he was building, a 40 sized edge 540 with a fiberglass fuse and wings. Here are the results of the flight tests;



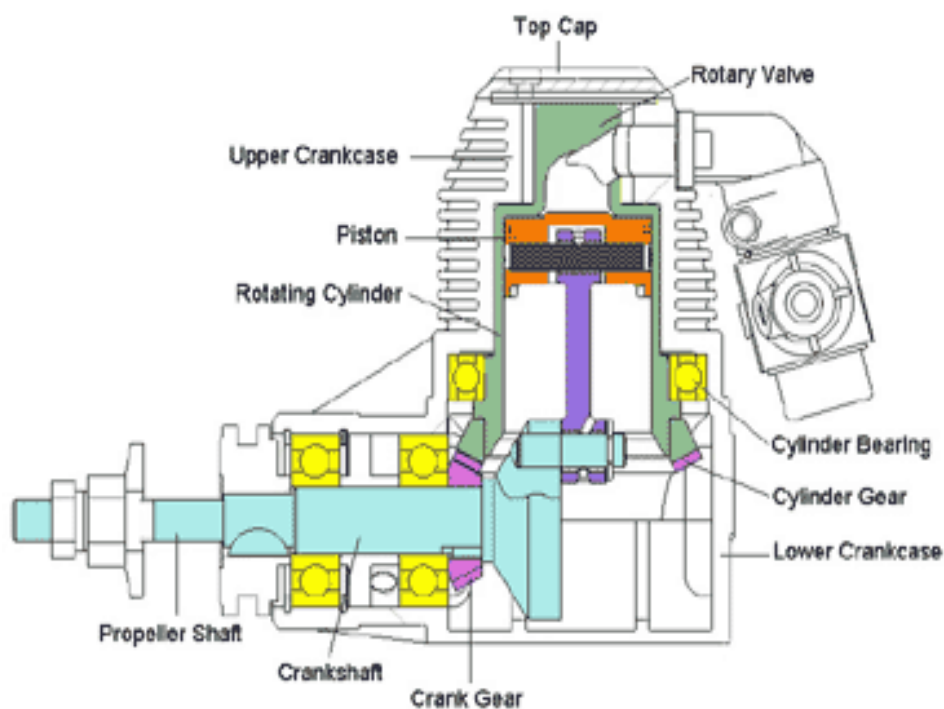
Test #1 – July 24, 2005 – Using a OS #8 F plug and 10% omega fuel, we ran our 1st tankful breaking in the engine using an 11x7 apc prop. The engine started on the seventh crank, but we had a tough time keeping the low idle steady. After a 2 minute fast idle, we advanced the throttle and set the high end needle valve. We found this relatively simple to do as the high end needle valve easy to set. We then let the engine run out the tank at ¼ throttle, making sure there was a significant amount of oil on the bottom of the fuse. The instructions do state that it takes a minimum of one hour's run-in time for a reliable idle.

Test #2 – We had difficulty starting the engine. After a brief inspection, we found that the carburetor barrel retaining screw was loose, causing the engine not to start. We tightened the set screw, as well as checked all the remaining screws on the carb and engine before proceeding. After the adjustment, the engine did start w/o hesitation. We again, had difficulty holding a decent idle. We proceeded to taxi and with a smooth advance of the throttle, we were airborne. The engine, although heavy in comparison to a normal 40 sized 2 stroke engine, was impressive. The full throttle power was decent taking into consideration that we were running the engine rich. I can't report about the throttle transition as I didn't want to risk the engine stalling out. Landing was a little interesting, as I had to land at a fast idle. After realizing that a fast idle was way too fast, I set the idle to a normal position, and, as I guessed, the engine stalled. Luckily, I was lined up for approach and made an uneventful landing. I was not happy that the engine did not idle. I know that my OS AX46 did right out of the box.

Test #3 – I had noticed that when I removed the glow driver at idle, the engine stalled. I tried to adjust the low end needle, but it was set correctly. I then tried a hotter plug, an Enya #3. That too, did not help. I also noticed that the gear noise from the engine was quite loud. I was hoping that this would pass as the engine would break in. We took another flight and it was the same as the flight before. This time, I tried to throttle down the engine and the transition was decent, with a little hesitation. The vertical climb rate was decent as was the speed. The engine pulled the plane w/o hesitation. Again, I tried to land at idle, and the engine stalled again. I landed w/o incident.

Final Test – The gear noise and idle problem were still apparent. I tweaked the low end needle valve for better transition as well as leaned out the high end needle valve. This flight was better than the previous flights, as I had considerably more power. After a few minutes, the engine started to lag and sounded a little lean. I throttled back and brought the plane around for a landing pass. As I made my downwind leg, the engine stalled at high idle. Since I had no engine and a decent headwind, the plane stalled when I tried to make an upwind turn. The plane pancaked and damaged the engine. Specifically, the threads to the exhaust port. This ended my day and concluded my testing.

Conclusion – I found that the engine was heavy for its size, sue to the beefy crankshaft and gearing. The engine, when it ran, was decent. We did find that there was considerable gear noise from the engine and that the engine was very tight and hard to start when new. In my opinion, there are better choices on the market, such as the Saito 56, or the OS 52. I prefer the Saito; it runs like a clock right out of the box and can tolerate high nitro w/o shiming the head. Unless you require a 4-stroke engine that has a low head height, I would look to other, more proven engines.



How Does A Rotary Valve 4-Stroke Work?

The RCV 4-cycle engine has only one more moving component than a 2-cycle engine -the **rotating cylinder** itself. The cylinder is suspended between two bearings which allow it to rotate freely around the **piston**; the **piston**, and **crank** are entirely conventional. A **gear** formed around the base of the cylinder meshes with a gear on the crank. As the piston reciprocates and the crank turns, the cylinder rotates around the piston.

At the top end of the rotating cylinder there is a single port leading to the combustion chamber. This is surrounded by a fixed timing ring with three radially arranged ports; inlet, ignition and exhaust. This simple valve arrangement serves the combustion chamber as the engine cycles through the conventional 4-cycles: induction, compression, power and exhaust. Ignition is achieved through a standard 4-cycle glow plug exposed once only during each complete cycle.

The rotating cylinder is effectively combined with the rotary valve in a single component hence - **RCV - Rotating Cylinder Valve**.

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