AVIATION Digest

The Pilot's Buying Guide to Aircraft & Services

August 2002 / Volume 21 • Issue 1 $2.95

Spotlight — Greenville, ME
Lake LA-250 Renegade
International Seaplane Fly-in
Helicopter / Hank Miller
Safety / Tom Oneto

LAKE LA-250 RENEGADE

It seems I could make a good living renting myself out as a rainmaker. All I need to do is go off to some drought stricken area and set up an appointment for a test flight and as sure as God made little green apples the ceiling will drop and the rain will set in. The Northeast is not now considered a drought area, although it was in early Spring before I made a number of flight bookings, but it did once again rain when the appointed day came around to go out and test fly a Lake 250 Renegade with Bruce Rivard, head of Team Lake, the only factory authorized dealer for Lake Aircraft. This time we managed to fool the weather Gods and by keeping a low profile inside the terminal building Bruce and I did finally manage to get out and put the venerable Lake through its paces.

Lake Aircraft Inc. traces it's beginnings back to the line of great amphibians that where produced under the control of the Grumman Corporation. Names like the Widgeon, Goose and Albatross all predated the first Lake but from that technology and reputation the line of Lake aircraft evolved. The Lake line started with the Colonial Skimmer a two place 90 mph aircraft that used the top mounted engine/ push prop layout that is still in use today. The Skimmer was popular but to capture the larger market a four place aircraft was needed. In 1959 the last Skimmer was built and the Lake LA4-180 entered the market. A four place airplane that had 180 hp, increased useful load and faster cruise speed the 180 was well received and was the standard bearer for nearly 10 years ending its production run in 1969. In 1970 the Lake history took another jump forward as the LA4-200 was introduced into the marketplace. With the additional 20 hp and another increase in cruise speed and useful load the 200 was and still is a much sought after airplane that combined both exceptional water handling with improved ground handling. During the production run of the LA4-200 the Rivard family led by Armand Rivard, Bruce's' father, entered the picture when they purchased Lake Aircraft and the manufacturing arm Aero Fab from then owner Herb Linblad. Armand had owned a Lake since 1970 and was impressed by the aircraft and having been a successful real estate developer was certain he could also steer Lake into a bright future. Under the Rivard family guidance the Lake evolved into a much larger and more powerful aircraft than its' predecessors and in doing so became a real multi mission aircraft.

The first major change under the Rivards came in 1983 when the proven 200 series was modified to what became the LA4-200 EP. The EP, which stood for extended prop but through marketing is generally thought to mean extra power, really began the process of cleaning up the airframe for better cruise and adding the "bat wings" for better water and land performance. The engine cowl was also brought around to cover the full engine adding to the streamline effect and also make the prop more efficient. The EP was produced until 1985 when the Rivards made the big step of increasing the size of the airframe and really bolting on some serious horses to the roof. The result was the LA-250 Renegade and gone was the old standard Buccaneer. Adding four feet to the overall length of the old model, 22 inches of additional cabin length and another 50 HP the 250 (the subject of our test flight) proved to be the most versatile and performance oriented Lake produced to that point. Not satisfied to rest on their laurels for long in 1987 the Turbo Renegade 270 was introduced into the market and put Lake into the position of having a true amphibian that could also cruise in the rarified air up to 20,000 feet. The 270 series still holds many altitude records for highest cruise altitude and other such honors

Today Lake is manufacturing the Seafury and the military version the Seawolf, both refined and "beefed up" versions of the 270. From the Asian market to military operations and right into the consumer market

Lake continues to offer a truly unique and proven product that is the only FAA approved single engine amphibious aircraft made in the world today. With 1400 aircraft in the world wide fleet Lakes are familiar airplanes to anyone that lives in areas with abundant water or where their owners missions may take them to such a spot.

The 250 Renegade

As I mentioned earlier, the ceiling was dropping and rain drops splattered my windshield as I pulled into Laconia Airport in Central New Hampshire to meet Bruce and take a look at his Renegade 250. Bruce as the head of Team Lake keeps an inventory of "exceptionally clean" used Lake aircraft for resale and currently has 11 aircraft in his inventory. The 250 Renegade we had planned on taking out was a 1989 model that is truly a "10" with only 650 hours TT and a beautiful interior and paint job. As the ceilings continued to lower we hunkered down in his office and discussed the aircraft and how it differed from the former Buccaneer. "We really redesigned the entire airframe when we moved into the Renegade class. The airframe is four feet longer than its' predecessor and the cockpit has an additional 22 inches of length. Elbow room was also enhanced as this series has 44 inches at its' widest point." Bruce continued " We really wanted to bring up the cruise speed and turn our line of aircraft into a real all condition 4 passenger aircraft with still enough left over to carry luggage and get off the water." Spreading out the spec sheets in front of me with the various

dimensions and performance specifications the Renegade is indeed a considerably larger aircraft than the Buccaneer but still, in profile, the Lake still retains its' unique looks. The pylon mounted engine, huge tail section and outboard sponsons are all still there and the boat like hull that is Lakes trade mark is as recognizable as before.

After several looks out the windows and checking the building puddles for rain drops we finally got a break and headed out to the tie down area to take an up close look at the 250. On paper, the 250 is larger than the older Buccaneer's but in real life side by side the 250 is a lot bigger than its' Buccaneer brothers. A200 EP parked one spot over made the comparison an easy task. The stretch in the hull area that makes up the 22 inches of increased cabin length makes the 250 look cavernous compared to the 200. Where a small adult or children found the 200 to be comfortable in the back seat the 250 can easily accommodate six footers with room to spare. In fact the 250 can be adopted to a six place aircraft with a 200 Lb limit in the rear two seats. Behind the rear seats is a 39 inch long 30 inch wide by 13 inch high storage area that can handle 200 LBS of additional luggage if the 5th and 6th seat are not installed.

There is no better way to look over an aircraft than to have an expert like Bruce lead you through a complete pre flight inspection, so with the rain fading away and VFR again returning we got busy. About 10 seconds into your first pre flight of a Lake and you suddenly realize that this is not anything like every other airplane parked on the tarmac. Opening up the cockpit is more akin to getting into a classic Mercedes Gull Wing than any other airplane you have entered. The two windshield/doors actually hinge in the center point of the passenger compartment to allow access to the interior. Cockpit open and Bruce retrieves various tools of the trade for a Lake owner, among them a calibrated fuel stick, a large allen wrench and protection for the wing when we climb up to look at the engine. Handing me the allen wrench Bruce brought me around to the front of the Lake and with one hand lifted the nose about two feet off the ground and let go. The Lake sat there like a family pet begging for a snack. "It's a lot easier to inspect the nose wheel with it up like this" Bruce casually commented. The nose wheel is free castering as to have a steerable nose wheel would require cables or rods to come out through the water tight

hull. "Make sure the switches are good for the landing gear indicator and check to see there is enough pressure in the oleo strut. Also give the cavity a good look around to make sure there is nothing that will stop the wheel from retracting or extending later on"Bruce advised. Assured that the nose wheel was in good condition Bruce then lowered the nose back to terra firma. "Now you can start checking the 2 front water tight compartments for any water, that's where the allen wrench comes in" Bruce continued. "The Lake has 6 water tight compartments and seven drain plugs to check before we take off." Pulling the plugs and everything was good and tight. Walking around to the right wing Bruce then pointed out the sponsons that are also auxiliary fuel tanks. "We need to check them as well and check the fuel levels. They pump into the main tanks when we want to transfer fuel." Several belly plugs later and checking the skin for wrinkles or other deformities we arrive at the tail section. "The entire airplane is controlled by push rods" Bruce advised, "and in the rear there is one that comes out through a rubber boot. We need to check the boot and also an inspection plate on the side". That complete, we then turned the corner and headed to the left wing and pulled a few more plugs, checked another sponson, flaps, ailerons, and VG's. Yes this 250 has VG's on the leading edge of the wings and also on the flaps. "These VG's are the greatest thing I have run into in years" Bruce commented " They slow down the stall by 6-8 knots and really help out on take off as well. For some strange reason they don't seem to have much effect on the old Buccaneer's but on the Renegades they make a huge difference."Nearly finished with the pre-flight it is now time to climb up on the wing and check the engine. The front of the engine cowl is hinged for easy access to check the oil and do a general check of all the systems. That complete and it is time to get into the Lake and try out this famed amphib.

The Flight

As you have probably gathered by now the Lake is not your Dad's Cessna and even getting into a Lake the first time requires a little instruction. "Grab the handle at the center of the windshield,put your foot on the foot hold and stand into the cockpit and then settle into position" is how Bruce advised. Having followed his instructions we where ready to fire up and taxi to he active. If you are transitioning from anything other than another Lake or had military time flying a flying boat the cockpit engine controls will not be in a position most pilots are used to. Overhead , furthest to the front is the throttle control, a little aft is the prop control and still a bit further aft is the mixture control. As this was a "hot start' as the Lake had been taxied over from the hanger earlier , Bruce ran me through the proper procedure. "No fuel pump boost, mixture at idle cut off and the throttle open about a quarter inch. When the engine catches move the throttle to idle and bring up the mixture". With that the engine fired to life and we where checking the other instruments for oil pressure, hydraulic pressure and the other flight instruments that are found in other aircraft. As everything that matters in the Lake is driven by Hydraulics the system pressure is a definite must before moving the Lake. The landing gear and flaps are both driven by hydraulics as is the pitch trim and while the airplane will perform without the pitch trim and flaps it sure is nice to be able to get the gear back down if you intend to arrive back at an airport. A back up manual system is also in the cockpit that allows the pilot to extend a handle for leverage and with a few pumps the system can be manually activated.

Runup complete, prop at full forward, mixture rich and the take off roll is underway. This day Bruce and I where carrying full fuel, various cameras and other contraband and the two of us. We where still about 500 LBS under gross but loaded well enough to see how the 250 performed. In about 700 feet the 250 broke ground and soon we where climbing out over the Lakes Region for some water landings and takeoffs. Like all the Lakes the 250 is not light on the controls but is a very solid airplane on all three axis. The rudder inputs are by far the most rigorous as the lake has a huge tail section and the rudder is right in the prop wash from the pusher prop. After a few minutes to get used to the inputs everything feels quite normal. Pulling out of Laconia the VSI was showing just under 1000 feet/minute, right about what the book said we would do on a hot day with the weight we where carrying. Leveling off about 1500 feet above the water I began to do some turns to get a feel for the Lake. After bobbing around a little bit and losing some altitude one way and gaining the other Bruce came over the headsets " The Lakes all have a different sight plain from what pilots are used to in other airplanes. The nose seems very low when you make a right turn and high when you make a left turn. It just takes a little getting used to." Sure enough after a couple of more turns and my references came around. The first thing you notice when you fly a Lake is the excellent visibility from the cockpit. Unlike a high wing where you can't see up and a low wing where you can't see down the Lake has the wing set back behind the cockpit and nearly full glass all around you. From land or water the Lake is the best airplane for pilot visibility I have ever been in-hands down. Having flown the 250 around enough to get the feel Bruce suggested we make some water landings to show off the Lakes performance. Now, I will stop right here and advise anyone that has float time that the Lake amphib is NOT LIKE YOUR FLOAT PLANE! If you try any of the maneuvers in a float plane that a Lake can do I will guarantee you that your airplane will end up upside down in the water.

With Bruce taking over the controls his voice came over the headsets "This is a water landing, gear is up, flaps are down" This is the mantra for Lake pilots. You are taught from the start that you verbally declare what type of landing you are about to make and check the systems to make sure the gear is all set for your particular application. With gear down light OFF and a visual check by looking at the sponson mounted mirrors, hydraulic system pressure in the green arc we where ready to give our 250 a bath. Coming in with about 15" of manifold pressure and 70 knots on the airspeed indicator Bruce leveled off a few feet off the water and soon the Lake settled in smooth as could be. But, to my surprise right at touchdown he let go of the controls. Just to see if I was paying attention he then gave full forward on the column. Where other airplanes on floats would be making the headlines on the six o'clock news the Lake 250 just settled right into a displacement mode and kept on tracking straight. Flying floats you are taught not to "stub your toes" or the consequenses are dire as the airplane will come over forward and then float inverted hanging from the floats. Not a good thing to have a trout in the radio compartment!!

Bruce pulled back the power to idle and we opened the cockpit to enjoy the view. "There has never been a recorded accident of a Lake flipping over and there has never been any in flight breakup in all the years this has been out." Bruce continued, "We build one of the toughest airplanes out there and it is so well built you can even land it gear up on a runway and have no damage. Our landing gear is tough, the airframe is tough and the airplane will do what no other airplane in the world can do." Just in case the landing wasn't enough to convince me, Bruce then asked "Ever been in a high performance speed boat?' Before the word "Yes" had reached his headsets we where off for a boat ride- Lake style. Unlike floats where you wait for the second lift of the nose to come over and get on step, the Lake goes up just once and then over on step you go. With the airspeed rising to just below lift off speed Bruce proclaimed "Watch this". Touching the right sponson just on to the water Bruce put the Lake into a sharp right turn that would have had float equipped airplanes cart wheeling down the lake. Coming around the other way and into a left turn and the G force pushing me to the outside the Lake 250 just kept on tracking. "Best speed boat ever built" came Bruce over the headsets. Pulling back to idle with the cockpit again open Bruce and I began talking about beaching requirements and how the 250 measured up. "Let's go see" came the reply. Pulling into a sandy beach Bruce edged the nose of the Lake onto the sand. "We could hop out and not get our feet wet or is we wanted to spend some time I could have dropped the gear and powered right up. The real treat is how you get a Lake off the beach." Starting the engine again Bruce said " Lakes pivot at their center point and the rudder is effective at all times from the prop wash. We'll just kick in full rudder and add a little power and the Lake will swing right away from shore." Like a windsock pivoting on a ball bearing the 250 swung itself from a nose in to a nose out position ready for takeoff. Unbelievable!

With the landings and flight behind us it was time to head back to Laconia for land operations. Putting full power to the 250 and we where right on step and 14 seconds from the time the throttle was put forward we were airborne and flying again. Just like before the water landing Bruce came back over the headsets and started the Lake owners Mantra "This is a land landing the gear is down, hydraulic pressure is in the green and the flaps are set" With that we turned to base. The Lake is a solid airplane and in my opinion would make an excellent IFR platform. Coming down final the 250 is solid, easy to control the speed and the high center of thrust does not give any real adverse effects to the pitch. Unlike other aircraft the Lake will tend to pitch down when power is added and pitch up when power is pulled off but you know it's

coming and the controls react just fine to keep the Lake on its' intend flight path. With 70 knots on the airspeed indicator we came over the nunbers and settled in for a soft landing. The trailing link main gear has good shock absorption characteristics and after a little speed bleeds off the free castering nose wheel sets down. Although different to taxi than an airplane with a steerable nose wheel the Lake handles well on the ground and with proper instruction becomes second nature in little time.

Summation

The Lake 250 is a much bigger and more powerful aircraft than the Buccaneer line it replaced and because of the increased size can handle heavier water conditions and with more power the useful load puts this airplane in the real world four seat category in all conditions. The Lake 250 is an exceptional airplane and is not a specialized airplane that should be lightly considered by anyone looking for a truly versatile airplane. Although float equipped aircraft are still the planes of choice for bush pilots as they can strap canoes onto the floats and can get into most docks, the Lake is an excellent choice for someone looking to have the versatility of a true amphib. The design is tried and true and Lake is a committed manufacturer that does go the extra mile for their customers. In all honesty I would have to say the Lake is probably the best buy out there right now for someone looking for an amphib. It is a great boat that flys and a great plane that floats. What more could you ask for?

The Lake is not a hard aircraft to fly but it is different from other airplanes so a 25 hour training course is highly suggested and it will save you insurance money as well. From pre flight to water handling to land handling the Lake requires a different technique than you may be used to and to get the full use form the airplane. Lake has certified instructors available to guide you into your new ownership of this magnificent machine.

Bruce Rivard and Team Lake can be reached at www.TeamLake.com or at 603-293-8200. This Lake 250 renegade is currently available from Bruce and Team Lake and can be seen on page 14.

Useful load -1200lbs
Speed -132kts
Stall Speed- 49kts
Rate of climb - 850fpm(max gross)
Engine - Lycomimg IO-540/250hp
Fuel Cap - 90gal
Wing Span - 38ft
Length - 28ft - 2in
Height - 10ft