



EVOLUTION *owner's*
newsletter

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**Information for the Evolution
Owner and Builder**

Redmond, OR; June 2, 2014

Landing Gear Upgrade Options

As highlighted in the last issue we will be offering packages built around the new RSLG (Rough Service Landing Gear) and a gross weight increase for re-

fit onto previously built Evolutions. There are three retrofit combinations possible as shown in the following chart. These are parts only kits. The installation may be done by your builder of choice, or Lancair will be glad to quote the job on an individual basis depending on what departures from the “book” design or non-standard interior features, if any, may exist. Man hours on a “by the book” flying aircraft are approximately 120-140. Due to the unknown number of these kits that will be immediately requested, and the scheduling of the work with Lancair or the various builders, there may be some part availability delays.

KIT	INCLUDES	PRICE
Complete RSLG + Gross Weight increase. New parts as indicated. Flight testing to amend aircraft limitations to 4550 pound GW not included.	Improved nose gear strut and actuator with improved geometry, strut tension frame, firewall mount housing, new nose gear door actuation mechanism, anodized black Grove nose wheel and tire, anodized black Grove brakes and wider main wheels, larger 12 ply Goodyear main tires. Requires modification of the firewall to accept additional mount structure. Wet layup carbon material included.	\$18,900
Gross Weight increase only , including new main wheels and brakes, std. size tires (no speed loss, conventional runways only). Flight testing to amend aircraft limitations to 4550 pound GW not included.	Improved nose gear strut and actuator with improved geometry, strut tension frame, firewall mount housing, new nose gear door actuation mechanism, new Grove nose wheel and tire, new std. size Grove wheels and brakes, new 10 ply Goodyear main tires. Requires modification of the firewall to accept additional mount structure. Wet layup carbon material included.	\$18,450
Gross Weight increase only , utilizing all existing wheels and brakes (no speed loss, conventional runways only). Flight testing to amend aircraft limitations to 4550 pound GW not included.	Improved nose gear strut and actuator with improved geometry, strut tension frame, firewall mount housing, new nose gear door actuation mechanism, new 10 ply Goodyear main tires. Requires modification of the firewall to accept additional mount structure. Wet layup carbon material included.	\$9,850
Main Wheel and Brake upgrade. NO GW INCREASE.	Std. width Grove main wheels and brakes, 10 Ply Goodyear main tires.	\$9,250
Main tire upgrade.	Goodyear 10 Ply Main Tires only.	\$1,330 (pair)

Landing Gear Upgrade Options (continued)

Elite Pilot Services can do the flight test to change your weight limitations for a fee of \$1500 (two days). This includes a stall series at the higher weights and, depending on your airplane, may include a new C/G limit.

NOTE: There will be an amendment to the POH indicating that, when operating above the original 4300 pound Gross Weight, the load factor will change to the Standard Category limit of 3.8+g rather than the currently observed Utility category limit of 4.4+g. With full fuel, after a max gross takeoff at 4550 pounds, you would need to burn off approximately 40 gallons before regaining the original 4300 pound load factor of 4.4+g.

New Main Tires

The new main tires referred to above and in the last newsletter are a big improvement over the original Michelins and are well worth the change. They are 10 ply, 4.4 inch wide Goodyear tires that start out molded with a chine on one side for jet-use. The chine is removed (a commonly done operation), making them symmetrical. The carcass is stiffer, the profile is flatter, there is a much larger contact patch, and they clearly provide more grip and stability on takeoff and landing. Wheel locking under braking is almost non-existent and, while unknown at this time, life should be significantly better, even without the lower incidence of flat-spotting.



Off-pavement Ops



New nose gear structure and geometry



New 10 Ply Main Tire



12 Ply RSLG
Tire & Wheel

HEY!!

What's up with you Evolution guys not coming to the Lancair 30th Anniversary Fly In here in Redmond? We have 50 aircraft and their owners attending and so far only 3 Evolutions signed up. As a specific attraction on Friday morning there will be a 45 minute forum by Pratt & Whitney's Ryan Densham to discuss any P&W questions that you may have. These events are always a great deal of fun for all pilots and spouses that attend.

Register [HERE](#):

http://lancair.com/?option=com_content&view=article&layout=edit&id=357

Or, please call Lisa Williams at (541)923-2244 X 149 with your questions (including lodging) and get signed up.



HERE'S THE SCHEDULE:	
Thursday: 28 August 14	Kick off BBQ at KRDM
Friday: 29 August 14	Flyin starts all events at Eagle Crest Resort
8:00am	Pratt Whitney Forum - 45 minutes - Eagle Crest Convention Center Plus forums through the day - TBA
3:00pm to 5:00pm	Open house at Lancair/Kit Components
6:00pm	Cocktail Reception - Eagle Crest Convention Center
Saturday: 30 August 14	Forums until 3:00pm – TBA
3:00pm to 5:00pm	Open house at Lancair/Kit Components
6:00pm	Dinner/Banquet

Autopilot Warnings

As you know, GFC700X autopilot has an auto trim feature and part of this are some warnings or annunciations that can appear on your PFD.

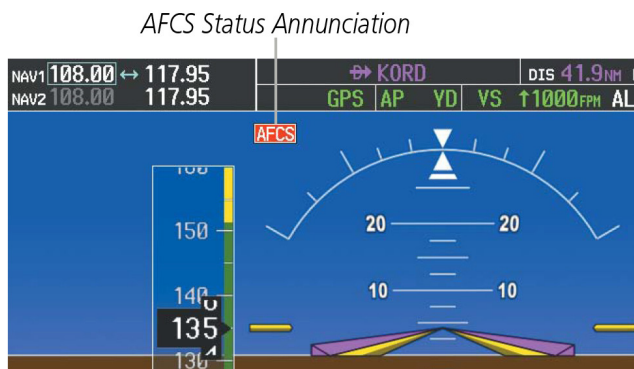


Figure 7-40 AFCS Status Annunciation

Generally speaking, when you see one of these in yellow it is an advisory that your aircraft is out of trim and that some manual trim may be required. This can happen if the electric trim cannot keep up with a configuration change. Fuel mismatch is a common cause of a yellow “AIL” box with an arrow telling you which way to trim. A moment of Control Wheel Steering (CWS) and a trim input will often cure the issue. Likewise, an “ELE” with an up or down arrow (which can happen if the trim is not keeping up with a configuration change). This will usually resolve on its’ own. If you see RED PTRM it is essentially a Pitch Trim failure or a failure of the trim to operate as fast as it should. Anticipate a possible out of trim situation, disconnect the A/P immediately, and



DO NOT continue use of the autopilot. A trim failure or slow trim can be very serious and needs to be researched at the first opportunity.

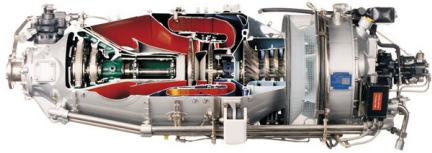


Keep it happy in the air

In my days as a race car mechanic, we had a phrase when a car was trimmed out and handling perfectly. We said it was “Happy”. I try and keep the airplane happy in cruise by periodically depressing the CWS and verify that the airplane is properly trimmed. Ideally, when you push CWS there should be no movement of the aircraft. But, sometimes the system can be a bit behind in trimming out a balance issue and you feel a slight unloading of the A/P when you CWS. When this happens, make a small adjustment to the trim manually and re-engage. I try and do this at least as often as I switch tanks and this ensures you are always in a minimum drag configuration.

Noise Survey

The topic of cabin noise level comes up from time to time and we’d like to have a bit more real data. In this age of phone apps for everything it’s easy to download a free decibel meter app onto your phone and gather some real data. There are 135 different ones in the iPhone App store from free to \$20. I am using a free one called (appropriately) dB Meter. My personal experience is that the noisiest point in any normal flight is during a max power 140-150 kt. climb going through 16,500 ft. This seems to me to be the point maximum aerodynamic noise from prop and prop blast against the windscreen and fuselage, coupled with the engine still making good power and maximum intake and exhaust noise. Give it a try and email us your numbers along with whether you have any supplemental noise reduction material installed.



Pratt & Whitney Training Benefits

Evolution customers who have purchased a New Pratt & Whitney engine from Lancair are entitled to tuition-free engine training. This training is hosted by Flight Safety International (FSI) and is valid for 5 years from aircraft delivery (which for Lancair is your date of Air Airworthiness). Currently, the training for the 135A is available only in Wichita, KS.

FSI will track entitlement by aircraft serial number and FSI will ask customers for the required documentation supporting their ownership and delivery date (A/W date).

South African Evolution Dealer

We are very pleased to let the Evo community know that we now have an official dealer in South Africa, to be known as SA Lancair. Patrick Hanley has been a Mooney distributor (SA Mooney) for many years and more recently, a very successful dealer for the Gipps Airvan line of SE utility/cargo aircraft. Frikkie Greeff will own their demo aircraft, Evo S/N #61. Their two techs, Brendan Samuels and David Smith recently finished their Builder Assist and David spent two additional weeks with Brian Harris before boxing up their aircraft and shipping it to South Africa for completion on site. Dave is a life-long aluminum airframe mechanic and fabricator without composite experience. Let's say he found the carbon composite airframe "interesting" and lots of questions!

Send us your photos

If you have any particularly good photos of your Evolution (especially in flight) we would like to add them to our web Gallery. Please email them to dougmlancair.com. Doing so implies that we may reprint them publicly.



Back Issues of these newsletters

If this is your first Evolution Newsletter or if you would just like to review the past issues, you can download them at: [Click here](#)

Comments and responses please email:
dougmlancair.com