



## MEMORANDUM FOR RECORD

**Heidi Kemner**  
**Air Safety Investigator**  
**Eastern Region Aviation**

**January 5, 2016**

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**Subject:** ERA16LA076  
**Who:** Inspector Rafael Gonzalez

In an email, Inspector Gonzalez stated the following:

On December 19, 2015, Aircraft N124LP encounter an engine failure 50 minutes into the flight that was originated from Humacao Airport (X63). Operator was flying at 1,800Ft with a 78 Knots indicated cruise speed and 5,800 RPM when the engine failed and shout down, Operator try to restart the engine 2 times before crash landed in a field in Guanica town, no injuries, airframe suffer substantial damage.

On December 21, 2015, ASI Eric Vallejo and I did a preliminary engine evaluation, this are the findings:

1. Aircraft Registration: N124LP  
Serial Number: 06061007  
Model: Rans S-12XL  
Engine: Rotax/582UL/6140712  
Propeller: GSC/65H10-66039
2. We remove one sparkplug from each cylinder (4 total) rotate the engine and check for thumb compression and continuity: compression ok, continuity, we felt and heard a banging sound coming from the gear box or the rotary valve shaft housing when we move the propeller.
3. Spark Plug running condition: lean.
4. We drained the Gear Box Oil: no metal residue were detected, color was dark. Supposedly Gear Box Oil was changed on September 26, 2015.

5. We drained the Engine Oil Reservoir: some metal particles were found, color was red. Also oil smell burned and viscosity was not normal.
6. Fuel used was Shell 91 octane no ethanol added (ethanol content not confirmed at this time).
7. Engine Oil: AMSOIL Synthetic 2 stroke oil.
8. Mix Ratio used by operator 80:1, Operator stated that for synthetic oils the mix ratio was 100:1, of course, we requested were he got that information, if you have the proper ratio for synthetic oils please share the info with us. The manual stated a ratio of 50:1.
9. We found fuel in the fuel tanks, in the Vacuum Fuel Pump diaphragm, in both carburetors, and in the fuel filter.