ROTAX 912 ULS
S/N 5649795
GEARBOX P/N 887 703 S/N 38094
PROPELLER- SENSENCIH EZ PITCH
Visual notes on aircraft and engine
- Starter stud broken (lower stud)
- Propeller was set to pitch 3.9 position
- The center throttle leaver was found in the retarded position while the pilot side was found in the full advanced position.
- Outlet of coolant radiator found broken from impact damage
-Propeller blade found broken from impact damage and has some indications of rotational marks. The other Propeller blade was found to be intact with some rotational marks found on trailing edge and on the painted forward surface.
- L/H Carburetor float bowl found detached from carburetor and a mud like substance was found inside the bowl.
- Slight needle slap on airspeed indicator possibly shows an airspeed of 55MPH on impact
- R/H wing impacted first
- Fuel was shut off after crash
-Fuel was pouring out of fuel tank after the impact?
- One of the two oil pressure sensor wires was found to have a red cap crimped onto it. The other wire was attached to the sensor
-The oil pressure sensor appears to be the incorrect type. The flydat requires a two terminal type sensor (p/n 956415) and the installed sensor appears to be a one-terminal sensor

INSPECTION OF ENGINE AND FINDINGS

- Removed all the spark plugs from the top and bottom of the four cylinders and noticed a yellow lead type substance consistent with using leaded fuel. The number one bottom spark plug was noted to being gummed up more then any other spark plug with a yellow lead type substance.
-Removed the air filter and it appeared to be in clean and good shape
-Removed fuel pump on gear box and operated the plunger by hand and a blue fuel like substance consistent with leaded fuel was pumped out. This indicating that there was fuel going to and going from the mechanical fuel pump.
- Pulled the magnetic plug and found small amounts of ferrous material.
-Propeller (crankshaft) would not move by hand. The gearbox was removed in an attempt to find the source of the blockage. No unusual finding with the gearbox.
- The starter was then removed to see if it was the cause of the binding. The starter was found slightly damaged due to impact but was not the cause of the binding. The flywheel cover was then removed to see if there was any indication of binding and small rocks and dirt was found wedged against the flywheel. The crankshaft was then freed with a wrench on the flywheel and was found to rotate freely except for one position where some type of blockage exists.

The intake manifolds were removed to view the top of the intake valves. Small rocks and dirt was found in the number 4 cylinder head intake.
A bore scope was then used to view the inside of the combustion chambers, no anomalies were found.
- Engine had experienced two Propeller strikes previously and LEAF (Leading Edge Air Foils) did the Gear box Check both times
-Gear set replaced on the first prop strike
- Propeller shaft replaced on the second propeller strike due to cracking
- Clutch break away???
- Was a dial degree check done on the crank shaft???
- Removed water pump housing it was in found to be in good condition
- Stator looks like it has been working hard (Lacquer is glazed and cracked)
- Oil and lead found in # 1 cylinder
- # 3 cylinder had lead like accumulation - this could have been the reason why we couldn't get full piston travel and rotation.
- # 1 piston has unusual burn pattern / colour and loos material on crown
- All EGT probes (except # 4) found broken
- Oil tank crushed on Aft side (found with 1/3 full of clean oil) (screen clean) (oil tank swabbed with magnet and no metal was found)
- L/H trigger coils may have contacted flywheel - Rub marks on magnets and dirt was rubbed off
-No problems with ignition other than impact damage to mounting flange
- Pistons normal with no sings of valves / spark plug strike
- oil pump found to be in normal condition
- All cylinders looked to be in normal condition
- lifters and Camshaft looked normal
- # 1 intake valve the crown was rusty should be consistent with post crash moisture (from sitting)
- # 1 valve spring looked in good shape
- crankshaft looks strait (can be further determined by using a dial indicator)
- Camshaft bearings in crank case half's black |(did not wipe off) (unusual)
- No contamination in crankcase
- Camshaft appears strait
- Bearings and journals normal with small amount of scoring