Duke

FLYERS ASSOCIATION NEWS

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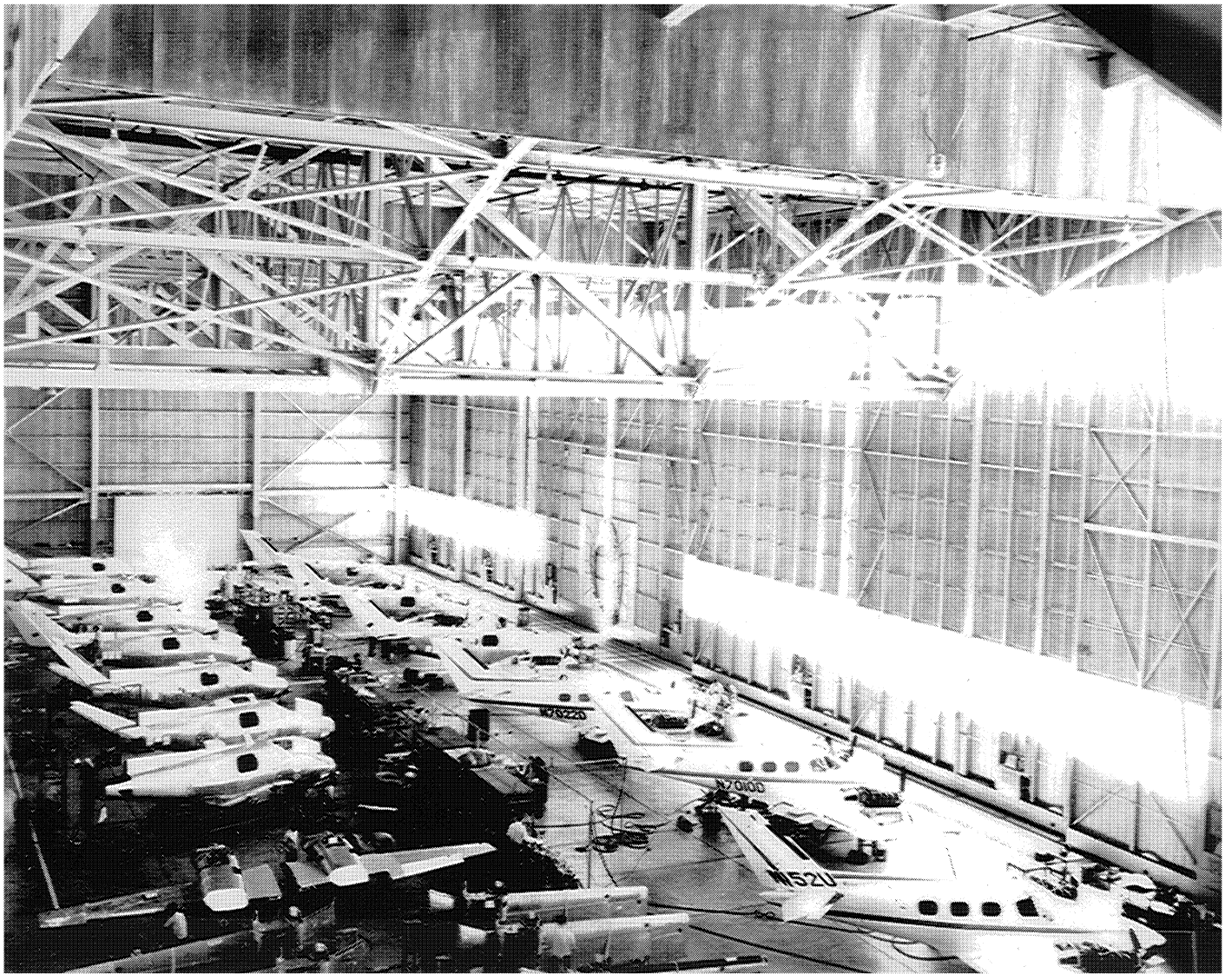

Early Dukes on assembly line at Salina. N152U is Serial Number P-14, N7022D is Serial # P13. Both airplanes still on FAA Register - Photo Courtesy of Barry David who paid a visit to Salina and came away with quite a few photos which we will share with you in future newsletters.

ENGINES - A subject we all must face sometime in the future.

There are several choices when TBO is reached.

Custom overhaul on a local basis by organizations such as:
(December 1989 Prices)

Overhauler	Price
Firewall Forward Loveland, Colorado 1-800-444-0556	$25,200
Suncoast Aviation 1-800-638-7159	$22,500
Precision Aire Pampa, Texas 1-800-545-4688	$21,500

Most overhaulers include 6 months and 300 hours 100% warranty then prorated to TBO. Engines are furnished with repaired cylinders if necessary. Another choice is a Lycoming remanufactured or overhauled engine.

Lycoming has published new list prices for the T10-541-E1C4 engines effective 4 Dec 1989.

New Outright	$78,500
New Exchange	$64,000
Remanufactured Exchange	$47,500
Overhauled, Exchange	$31,480

Remanufactured Engine is a zero timed engine. Any reusable parts are inspected for conformity with **new part tolerances** and limits.

Overhauled Engine is "o" since major overhaul but total engine time continues to accumulate. Exisiting engine parts that meet ***service allowable limits*** are reused where appropriate.

New Cylinder heads and barrels, new pistons, rings; new valve guides and seats, new exhaust valves, automatic replacement of stress-cracked crankcase, all new oil hoses and seals, bearing inserts, counterweight bushings are used in either remanufactured or overhauled Lycoming engines.

This sounds as if we were pushing Lycoming remanufactured or overhauled engines and this is probably true because we have had quite a few complaints on some overhaulers. Just remember to compare apples to apples at overhaul time. You may find a Lycoming remanufactured or overhauled engine is not that much more.

We recently needed an engine and received a very good deal from Lycoming distributor:

Edgecumbe - G & N Inc.
2160 Airport Road
Owensboro, KY 42301
1-800-621-1319
Jim McCoy

TIP OF THE MONTH

Ever have a Phillips screw that will not break loose and you end up having to drill it out? Next time try a drop of valve grinding compound on your screwdriver. Seems to work everytime. Just be sure to discard the worn screw and wipe compound off screwdriver.

UPDATED LIST OF POSSIBLE PARTS SOURCES

Dodson International 800/255-0034	A-60	SVA 916/279-2111	60
OK Aircraft Parts 408/848-3377	60, B-60	Steves Aircraft Parts 214/358-3528	60
White Industries 800/821-7733	60, A60, B60	Dodson International 913/242-4000	A-60
National Aircraft Parts Sales 213/426-8309	B-60	Aero Decals 813/644-2451	Decals
Air Salvage of Dallas 800/336-6399	A-60		

Our President, Ellett Lawrence and Karl Edmark have jumped ship to other airplanes. Ellet to a C-90 King Air and Karl to 501SP Citation. We know they will enjoy the new airplanes but hate to lose them as Duke owners.

One of our newest members is Don Grandin of PIK-West Insurance Agency. Don tells us he insures quite a few Dukes on the west coast and would welcome a chance to quote on yours 805/522-3428 or 800/634-0101 (CA Only).

If you ever lose an engine, plan to do it at DeKalb - Peachtree Airport in Atlanta. Jeff Gorman did last November. Ralph Cohen who bases P-412 there went out of his way to help. He supervised, almost on a daily basis, removal of the bad engine (#5 piston let go) installation of the new one and then test flew P-596 for several hours. Talk about helping another Duke owner!!!!

Ralph's maintenance comments for the month:

Our Dukes are equipped with a Woodward Electronic Synchronizer of the "type 1" variety. This means that there is a master engine, the right; as well as a slave engine, the left. The slave engine will follow the master engine over a range of about plus or minus 50 RPM.

The synchronizing system consists of a control box iside the cabin, two engine mounted governors, a speed setting actuator in the left nacelle, an interconnect shaft between the actuator and the left governor, and the associated wiring.

Alternating current generated in each governor is fed to the control box. Any difference in speed results in a difference in frequency, which is detected by the control box. A signal sent from the control box to the actuator corrects the left engine speed to match the right. The synchronizer continuously monitors the engine speeds and resets the slave engine as required. The actuator trims the left governor through the flexible shaft.

The synchronizer should be in the off position for take off and landing. When the synchronizer is turned off, the actuator is run to the center of its range before stopping. After making the first power reduction after take off, synchronize the engines manually and turn the system on. In making subsequent power adjustments, adjust both engines to the desire RPM settings by moving both levers together. This should keep both engine speeds close enough together to allow the synchronizer to make the final adjustments. If the system is unable to match the slave engine speed, the actuator has reached the end of its travel. Turn the synchronizer off, which will recenter the actuator, synchronize the propellers manually, and turn the system back on.

To test the synchronizer in flight, manually synchronize the propellers, and turn the system on. Slowly adjust the right engine within the limits of the actuator and see that the left engine will remain synchronized. Then with the actuator near the limit, turn the system off. As the actuator drives toward center, an out of synch condition should develop.

A common problem is that the slave engine runs off (in either direction) as soon as the system is turned on. This is typically a missing or intermittent speed signal, usually from a failed or failing pick up in the governor. Another common failure is a mechanical problem with the actuator or flexshaft and trimmer. Exchange components are generally available from the manufacturer.