

TB Volume 15
June 2014

Fellow Twirly Birds:

Gian Blower, Twirly Bird Life Member, former HAI President and a renowned member of the helicopter community sent me an e-mail stating "I have undergone cancer surgery and that I am under recovery". Best wishes for a full recovery Gian.

Twirly Bird, Roy Morgan, founder of Air Methods, was recently honored at the 11th Annual "Living Legends of Aviation" Awards presented by Bell Helicopter and Embry-Riddle Aeronautical University on January 17th at the Beverly Hilton in California.

Partial excerpt from May 1995 AG-PILOT INTERNATIONAL; MY HELICOPTER FIASCO by Cal Butler.
"In the spring of 1961 I began flying the idiot machines (my personal term), learning from my old friend Wes Lematta. I had my first ride with Dean Johnson, then took several rides or lessons from Arlo Livingston. All of these people were well grounded in the operation of helicopters and were willing to give me the thrill of my life every time I went near one of them. They all insisted that in order to be a finished pilot, a good fixed-wing pilot must master the helicopter.

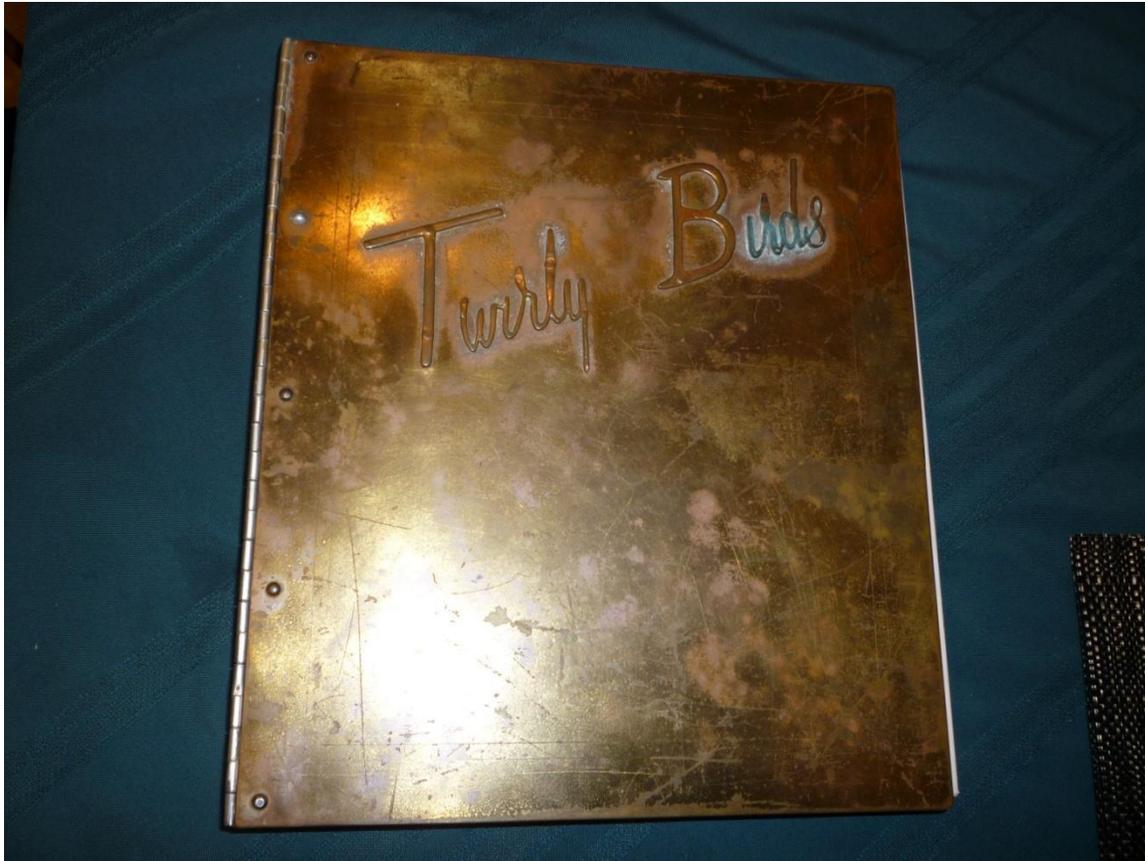
One thing I became curious about immediately was the seeming fact that every time we landed something was broken and had to be fixed before we hit the blue again. Remember, of course, that all three of the above were flying the Hiller 12A or B models. The B was new at the time, but seemed to break as often as the A Model.

After spending a lot of sweaty hours with Wes in the Franklin-powered 12A, I got in with Miles Ruggenburg (FAA) and got my license to legally operate the machine. I remember well –I was a chain smoker, yet it took me 40 –plus hours before I learned to light a cigarette while in flight."

Unfortunately we have not had a lot of communication from or about Twirly Birds in recent months; however Twirly Bird Historian, Bill Yarber sent two interesting, if not fascinating bits of Twirly Bird history to include in the newsletter.

THE TWIRLY BIRDS BRASS BOOK

The fabled Twirly Birds Brass Book, some call it the Doomsday Book, was delivered to me for inclusion in the Twirly Bird Archives at The University of Texas at Dallas (UTD). Sometime in the last millennium, John Slattery acquired the book and then passed it on to Jim Hamilton. Jim passed the book on to me last month. The front and back covers are made from sheets of Brass. Including the multiple pages of pictures and Bio's, it weighs 13 pounds. The front cover has Twirly Birds written with copper wire that has been brazed and riveted to the brass plate.



On the inside front cover is a list dated May 1975 of 34 TB's who have pulled pitch for the last time.

“THIS ALBUM OF MEMOIRS WAS DEDICATED BY “TWIRLY BIRD’ PRESIDENT DENNIS FOLEY AND SECRETARY TREASURER STEWART R. GRAHAM DURING THEIR TERMS OF OFFICE, APRIL 1954 – APRIL 1955 AS A MARK OF APPRECIATION TO THOSE INDIVIDUALS WHO HELPED IN THE PIONEERING AND DEVELOPMENT OF ROTARY WING AIRCRAFT.

The following is a list of those individuals plus pictures and Biographies included in the Brass Book.

Cdr. Frank A. Erickson USCG
Lt. Phil Fillingham RN
Cdr. Dennis I. Foley RCN
Michael E. Gluhareff
Cdr. Stewart R. Graham USCG
Capt. William V. Gough Jr. USN
E. Stuart Gregg Jr.
BGen. Hollingsworth Franklin Gregory AAC/USAF
Stanley Hiller Jr.

C. Boyd Kesselring
Capt. James Klopp USN
Lou Leavitt
MGen. Frank E. Lowe USA
Joe Mashman
George H. Miller
Charles Lester Morris
Col. Bryce Moore USAF
William Murray
Frank MacMahon
Owen Niehaus
F.L. Doblhoff
Robert L. Nields
Frank N. Piasecki
R. Allen Price
Maurice L. Ramme
John P. Reeder
James Ricklefs
Charles Thomas Dennehy Hosegood
Donald R. Robel
Jim Ryan
Capt. Charles E. Sharp USCG
Igor I. Sikorsky
Sergei I. Sikorsky
George Townson
Steve Tremper
Moulton B. Taylor
Capt. Woodrow W. Vennel USCG
Dimitry (Jimmy) Viner
Charles O. Weir
Col. Benjamin F. Witsell USAF
Lee C. Gatewood Jr.
Pete Young
Lynn Probst
William E. Zins

Many of these early Pioneers are not well known to the current generation of TB's, but they and many others started an industry that is far beyond their wildest speculation.

THE FIRST HELICOPTER FLIGHT MANUAL

Teaching the first helicopter pilots how to operate and fly the aircraft was provided by oral instruction and hands on demonstration. There was very limited written material available for the students. The U.S. Army awarded Sikorsky a contract for the XR-4 that required a pilot's flight manual with the delivered aircraft. As the Chief Test Pilot for Sikorsky, the task of writing a manual was assigned to Les Morris in 1942. No one told Les that the manual should be prepared in standard military format. He chose his own format which was accepted by Col. Frank Gregory the project officer at Wright Field.

This small document is possibly the first Flight Manual prepared for a helicopter. The following are excerpts from the manual.

FOREWORD

"The subject matter herein is only that which directly pertinent to pilotage of the XR-4 helicopter. Detailed information on the aircraft in general, and on structure and installations, may be found in the maintenance manual which is furnished with the aircraft.

This manual is prepared on the basis of very limited knowledge of helicopter flight technique. Total flight experience on helicopters in this country is practically negligible – and on the XR-4 model, it is less than 20 hours at the time this manual is written. Obviously, therefore, experience may alter or invalidate many statements herein, and this manual must be considered very fluid to accommodate such experience. The pilot of the XR-4 must use his own best judgment and skill in piloting the craft, and will doubtless discover many factors and techniques that have not yet been brought to light. The manufacturer anticipates extending his own knowledge by receiving detailed information on such discoveries."

TABLE OF CHARACTERISTICS

Empty Weight	1900 lbs.
Fuel Capacity (no reserve) with crew of one	25 gal.
Fuel Capacity (no reserve) with crew of two	14 gal.
C. G. Travel	7"

GENERAL

Helicopter flying is totally novel, and anyone who has flown conventional aircraft or even autogyros, must prepare to discard many reactions, prejudices and written or unwritten laws which have previously governed his actions. Three new attitudes may be listed generally as follows:

- (a) Low flying is safe and reasonable.
- (b) Slow flying, and hovering flight, will at first seem unnatural to fixed-wing pilots.
- (c) Sideways flying in a helicopter is more reasonable and natural than slipping a fixed-wing craft.

CONTROLS

The fundamental controls in the XR-4 helicopter are as follows:

1. Conventional control stick.
2. Conventional rudder control pedals.
3. Main rotor pitch control lever.
4. Motorcycle type throttle
5. Engine de-clutching and rotor brake.

(Note: The controls on the experimental XR-4 have intentionally been made quite sensitive. Over-control, particularly laterally is, therefore, likely during preliminary instruction flights. However, the craft is quite stable and does not need control for each deviation from level. In this respect, flight in the XR-4 may be likened some what to flight in a dirigible, in that it sways under side loads but returns to normal attitude through pendular stability).

SUMMARY OF RULES FOR FLYING THE xr-4 HELICOPTER

1. Do not over control. The XR-4 controls are quite sensitive, especially laterally. But the craft has considerable pendular stability. Therefore, unless you are quite close to the ground, let it sway – it will generally come back itself.
2. When flying sideways, be careful not to “stub your toe”.
3. Maintain moderate airspeed at all times when practicable, to remove need for maximum power.
4. Clear ground promptly on take-off.
5. Reduce pitch promptly on landing.
6. Do not “hover” with wheels on the ground
7. Avoid hovering with the craft heading cross-wind or down-wind.
8. A very little translational speed will add considerably to lift when operating with a high load under unfavorable conditions.
9. Keep rotor r.p.m. well above the safe minimum. (absolute minimum, 180 r.p.m.).
10. Never exceed 290 rotor r.p.m.
11. As general rule, fly with at least 1 degree reserve pitch.
12. Remember that it is the tail of the helicopter which is most dangerous to ground personnel – not the nose as in conventional aircraft.

13. Start and stop rotor blades with caution.
14. Do not hover between 50' and 300' altitude unless necessary.
15. If engine fails, decrease pitch at once.
16. Remember: The XR-4 is the first of its type. It can do a multitude of jobs that the conventional airplane cannot do. Therefore, don't expect it to do everything that the airplane does, as well.

Flight Manuals have changed dramatically from the early years and the first helicopters. From small few-page documents to what we see today that requires many hours of study to learn the systems, avionics, performance and flight safety items. From the XR-4 to the S-92, the rules of flying a helicopter Les Morris wrote about in 1942 remain the same. *"(DON'T STUB YOUR TOE)!"*

Please remember that the Twirly Birds have endowed a chair at the University of Texas. Any documents, log books, flight manuals or other memorabilia will be cataloged and stored for future generations. Don't leave these items for your kids to throw away.

Twirly Bird Archive Contact: Paul A. Oelkrug
Coordinator for Special Collections
The University of Texas at Dallas
800 West Campbell Road MC33
Richardson, Texas 75080-3021

Please send me your news, and updates for this newsletter. Your fellow pioneer helicopter pilots would appreciate hearing from you.

Yes, we are exploring a means to supply all Twirly Birds with a membership directory. There are still too many privacy concerns to put a directory on the Twirly Bird web site.

KEEP YOUR ROTOR IN THE GREEN!

Steve Sullivan

If you receive this newsletter by postal service and have an e-mail address please send me your e-mail address: srs@jma.com