
Autobiography of ROY L. CLOUGH, Jr.

Modeler, Author, Novelist, Magazine Contributor, Designer, Model Aviation Hall of Fame Life Member

Modeler since 1931 Birth Date: November 18, 1921 AMA: 3254

Written & Submitted by RLC; Updated 7/02,
with material from MA magazine (2000)

Transcribed by NR (5/97)

Edited by SS (2002), update by JS (09/06)

Career:

- Designed the Berkeley “Cloud Copters”
- Designed the first ground effect vehicle in late 1930s
- Built successful rubber powered helicopters and gas powered versions in the 1950's
- Built ducted fan delta in late 1940s
- Was an early builder of reso-jets
- Designed and built glow and diesel engines
- Built a steam-powered control liner
- Designed the original free flight version of the Martian Spaceship
- Have built and flown Flettner-type rotor planes as early as the late 1950's
- Originated the slotted flying saucer design made popular by Fran McElwee
- Built and flown several types of autogyro
- In 1948, built a liquid fuel rocket with compressed air oxidizer
- 22 years as Chief Eng. of high tech firm
- Four years as an Ind. Consultant
- Worked as reporter/writer/editor New Haven Journal-Courier, Eastern Pilot
- At present a freelance writer/designer, author of four books, including 1930s period novel: A Brief History of the Ashmont Town Team etc.
- Long time C&W musician, pedal steel, Dobro. Designer and builder of many instruments

Honors:

- 1999 – Model Aviation Hall of Fame
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Roy L. Clough, Jr. submitted the following autobiography.

I was about 10-years-old when I built my first flying model out of pine sticks, gray building paper and inner-tube rubber. It flew about 25 feet and I was hooked.

My first kit was a Guillow 10-cent Spad, given to me by a little girl who drew my name in a school Christmas party. The Spad wound up as a mid-wing that would not fly. Early inspiration to design my own sparked by Gordon Light's Wakefield winner. It proved a good pattern.

I have built models with all sorts of power including rubber, compressed air, steam, rocket, park ignition, glow engines and electric motors. One early model, best forgotten, even had a clock spring motor. . .

I developed an early interest in unusual, unorthodox, new types etc., and in early 1940's built successful rubber powered helicopters and gas powered versions in the 1950's. Both types were

widely copied.

I got into magazine projects by accident when Popular Science's Workshop Editor, the late Harry Walton, was told by his secretary, Ria Nichol, that during a visit to my wife and I in Now Haven she had seen me repeatedly fly a model helicopter from one table top to another. When I discovered I could get paid for this stuff I published a lot of it in MAN, FM, Pop Science, Air Trails, Science & Mechanics, Popular Mechanics and Mechanix Illustrated. I also designed the Berkely "Cloud Copters." My rotor system was widely copied, including by Cox Manufacturing who never acknowledged or paid for it. Considering the job they did on Jim Walker I figured I lacked the resources to buck them. Later involvement with Big John Elliot and Larry Renger was pleasant and productive, but they fared no better at the hands of Cox management.

I had a lot of firsts including perhaps the first ground effect vehicle. It was a small gas engine powered model about three feet long. It worked great, but all the dirt, grass and twigs it threw up convinced me the idea was practically useless. Talk about blowing it!! I could have had a basic patent. Later on I built a .049 powered model for Popular Mechanics, which they reprinted in one of their workshop books.

I built several early ducted fans, maybe the first to achieve worthwhile thrust. I was flying Free Flight versions when Bill Effinger and Don McGovern could not get their Control Liners off the ground, but what they told me was helpful to my later designs. Also I built two or three pressure Jets. Only one of these was published but I might get back to the idea. Jets published in Air Trails & Popular Science. I was an early builder of reso-jets; the smallest had 7/16 diameter and a tailpipe made from telescoping tubing sections from a golf club. I slid sections back and forth like a trombone to locate the proper resonant frequency. I designed and built glow and diesel engines. Little Dragon, published in Model Airplane News is the best known. I converted an OK C02 motor to run very poorly as a diesel. I also built a small steam boat and a steam race car for Popular Science. I built a steam-powered Control Liner that blew up on take-off.

I designed a gas helicopter with 48" self-powered rotor that flew well on Cox .02. Pop Science.

Originated the slotted flying saucer design, (Air Trails,) but it was made popular by Fran McElwee who carried the design forward. Much later I published a couple of versions in Model Builder.

While I designed the original Free Flight version of the Martian Spaceship, (Air Trails,) Skip Ruff should get the lion's share of the credit for the bigger radio control versions that have made such a hit on the West Coast.

I built and flew Flettner-type rotor planes as early as the late 1950's. Model Aviation News, Popular Science, latest "Rotorplane!" in MAN. (*)See bibliography

Built and flown several types of autogiro. MAN. Autogyro kites for PS and S~&M. Built early but not greatly successful electric in the 50's.

In 1948 I built a liquid fuel rocket with compressed air oxidizer that blew up with a very satisfactory bang.

Despite early AMA membership have, until recently usually been a loner. Now, in the springtime of my senility have joined up with the Winnepesaukee Radio Controllers, and acquired a great bunch of flying buddies.

I'm likely to try any construct that gets my interest. As a result of this I know more things that won't work than anybody.

Background includes:

22 years as Chief Eng. of high tech firm,

Four years as an Ind. Consult.

Worked as reporter/writer/editor New Haven Journal-Courier & Eastern Pilot.

Co-authored a McGraw-Hill text on Industrial Psych.

At present a freelance writer/designer, novelist and semi-pro C&W musician: pedal steel/ Dobro/ keyboards. Have worked with Paul Main, Hank Thompson, Dick Curless, and ran my own "Stateliners" for a few years, but enforcement of tough driving and drinking laws has wreaked havoc on the cabaret scene.

Although I believe I am widely known as a designer of "weirdos," I wonder what these same readers would think if they had seen some of the stuff I tried but did not publish. Reason? It has always been my policy to publish only those things that were easy to build, were not dangerous and would work on the first try for anybody. This ruled out my regen engine that developed so much ungovernable power it kept blowing up; my fuelless flying machine that would have to dump energy continuously to avoid melt-down, and a new system of propulsion that pilot and passengers probably could not live with. Fun stuff, but practically just curiosities.

Currently I have a couple of dozen hot model projects in the works, which, now being retired, I'll finish doing whenever so will not interfere with goofing-off.

Bibilography:

MAN= Model Airplane News

AM= American Modeler

PM= Popular Mechanics

AST= Astounding Science Fiction

SM= Science & Mechanics

MODAV= AMA'S Model Aviation Magazine

CL= Car Life

MI= Mechanix Illustrated

PMA= PM Shop Man

AT= Air Trails

FM= Flying Model

PS= Popular Science

AZ= Amazing Stories

BL= Boy's Life

AP= Airports Magazine

MN= Merchandising News

RTV= S&M's RAD.TV.EXP.

Date	Magazine	Title, Subject or Content
June 1945	Hunt. Fish	Several Hum. Verses anent H&F
Sept. 1945	Bas. Des.	Problems of Model Helis
Oct. 1945	AP	Dear Mr. Small Operator
Oct. 1945	Sky Raiders	Is German.Sec. Weapon a Rocket Plane?
Oct. 1945	PS	Skyhook Coax Helicopter
Jan. 1946	PS	Air Freighter of the Future?
Jan. 1946	MAN	SOS to Model Manufacturer
March 1946	MAN	Unorthodox Design
April 1946	PS	“Naclio” Steamboat Model
Summer 1946 ?	PS	Roadable Plane Model
Sept. 1946	PS	Triad (Radial Wing FF Model)
Sept. 1946	MAN	Speed Made Easy
Oct. 1946	AT	Cage Drive Rubber Co-Ax Helicopter
March 1947	PS	Steam Powered Model Race Car
May 1947	MAN	More About Model Helicopters
May 1947	PS	Stressed Paper U-Control (Atom .05) Car and Plane in Home Workshop Annual for 1950
Aug. 1947	AT	Evolution of the Model Plane
Sept. 1947	MAN	Hoverbug Rubber Powered Helicopter
Feb. 1948	MAN	Improving CO2 Performance – Wat. Jack.
Jan. 1948	MAN	Autogiro Theory
March 1948	MAN	Autogiro Free Flight Rubber Job
April 1948	PS	WHIZZER CO2 Racing Boat Model
June 1948	MAN	Experiments with Expansion Engines
Aug. 1948	MAN	English Gyro to Clough Specs
Nov. 1948	AT	Beginners’ Goat (Still Flying, March 1990)
May 1949	MAN	Theory of Rotor Planes
Aug. & Sept. 1949	MAN	Reworking Old Engines
April 1950	MAN	WhirliCO2pter
Mo.? 1950	AZ	Social Obligation – STF
Mo.? 1950	AZ	How the Saucers Fly
Sept. 1950	MAN	Flying Saucer Design
Oct. 1950	MAN	Little Dragon Glow Engine
Nov. 1950	MAN	Part 2
Mo.? 1950	AZ	Micrometer in Your Brain
April 1951	PS	Why Shacks Come Apart (Foundations)
June 1951	AST	Bait (Picked up for Anth. Space Police)
Aug. 1951	FM	Try a Helicopter
Aug. 1951	MAN	Why Models Land in Trees (Prof. Tate)
Mo.? 1951	MAN	Flying Barrel – Description and pictures only
July 1952	MN	Small Dealers on the Carpet
Aug. 1952	AT	Build Flying Saucer (Famous slot job)

Sept. & Oct. 1952	AT	What's the Score on Helicopters?
Dec. 1952	PS	Fly a Plane in the Living Room
Feb. 1953	FM	Sikorsky S51 TR Helicopter
July 1953	AT	Turbine (Duct. Fan.) Jets for Models
Aug. 1953	AT	Below Bug Pressure Jet Model
Sept/ 1953	PS	Jetex Driven Turbie – FF Model
Nov. 1953	AT	Two-Part Helicopter Design Dope
Aug. 1954	PS	Hydrojet Powers Tiny Boat
June 1954	SM	TR Helicopter .049
Mo. ? 1954	?	Reprinted Model Craft V3, 1954
Not. Pub.	PS to BERK	Oil Can Reso-Jet
Pub. 54-55	AT	Doggerel Verse Fillers
April 1954	AT	Martian Spaceship
July 1954	AT	Typhoon Expansion Engine
Nov. 1954	AST	It Didn't Come From Mars
Aug. 1954	FM	Stunt Goat CL Model
Annual 1955	AT	Sikorsky R-6 Helicopter TR
Mo. ? 1954	PS	Co-axial Autogiro Kite
Mo.? 1954	PS	More Fillers per Request
July 1954	PS	Fourth of July Noisemakers
July 1954	AT	Channel Wing Control Line Plane
Mo.? 1954	AT	Tri-Yi Rubber Model
Sept. 1954	AT	January Alouette' .049 Duct Fan – Ukie
Oct. 1954	AT	Wind Wagon Air Drive Race Car
JORA 1954 S	BL	Mille Diesel Endurance – Ukie
Dec. 1954	PS	Ceiling Repair Fillers
Dec. 1954	PS	Uses for umbrella ribs
Jan. 1955	PS	Electric Shop Heater from Oil Can
Mo.? 1954-55	PS	Things to do with Coffee Cans
Mo.? 1954-55	PS	Turbine Jet Race Car Model
Feb. 1955	PS	Model Submarine Baitulus
March 1955	AT	Venusian Scout
Aug. 1955	AT	Saturanian Space Skimmer
Aug. 1955	PM	Slat Wing Control Line Trainer
Sept.1955	AT	TanGiro Twin – CL Autogiro
Oct. 1955	AT	Teenie Genie
Oct. 1955	AT	Tri-Yil
Dec. 1955	PS	Aerial Tramway
Dec. 1955	AT (YM)	TEE JAY'Super Delta Ducted Fan
Mo.? 1955	CL	Phantom of the Turnpike
Dec. 1955	SM	Rebec Medieval Three String Violin
March 1956	AT	Sheet Metal Susie
June 1956	MAN	Lil' Dragon Used as School Project

June 1956	AT (YM)	Cement Drives Crazy Water Gadgets
Pub. 1956	AT Ann	Special Case of TR Helicopters
March 1957	AM	Tumblewing CL Flettner Rotor Plane
Dec. 1957	AM	Famous Firsts (Yet to be Made)
July 1960	PS	Rebuild of Cecil Peoli Twin Pusher
Sept. 1960	AM	Typhoon's Expansion Engine
Feb. 1961	SM	Two String Splinter Bass
June 1961	SM	Triple Neck Steel Guitar
June 1961	PS	Tethered Ducted Fan Jet Plane
Sept. 1961	PS	Boat that Flips to Go (Porp. Tail Dr)
Nov. 1961	SM	Reader Report on Guitar Projects
Jan. 1962	PM	Ground Effect Vehicle Air Car
Annual 1963	PMSHOP	Reprint GEV
Sept. 1962	PS	Platter Plane-Non-Slot Saucer
Sept. 1962	PM	Old Mill Waterwheel Table Centerpiece
Mo.? 1961-62	MAN	Model Helicopter Dynamics
Feb. 1962	A.E. Esty Machine and Tool Employees Manual	
March 1962	MAN	Nervous Nellie .05 Stunt Job
May 1962	PS	Self-Powered Rotor Helicopter
July 1962	PM	Remember the Spinning Wing Autogiro?
Aug. 1962	AM	Spinning Disk Model Ven. Scout
Sold Aug. 1962	PM	Control Line Kite
Nov. 1962	SM	Whirlybird Co-Axial Autogiro Kite
Nov. 1962	AM	Snapper .49 FF Speed Job
1962	Crestwood	Please Shake Carefully (Humor)
Sold Dec. 1962	PM (Pub?)	Tetra Four Radial Wings Ukie (X-Wing)
Dec. 1962	MI	String Phones Deluxe
Dec. 1962	AM	Peter O'Dactyl
Mo.? 1962	SM	Homemade Vernier Dials
Mo.? 1962	PM	Vapor Pressure Drivers Model Boat
Pub. 1962-63	Sam Bierman	How to Open Anything (Humor)
Jan. - Feb. 1963	AM	Yankee Flea Tandem
March 1963	MI	Darkroom Light Box
March 1963	PM	Mystery Moving Box and Kite, p. 164
March 1963	PS	Styrofoam Model Oos on Cox .010
April 1963	PM	Hoopskirt Annular Wing FF
June 1963	AM	Turkey Buzzard Flying Plank Type
June 1963	PM	Water Skating Model Boat
Aug. 1963	PM	Wind Rotor Drives Boat Propeller
Fall 1963	SMRTVEXP	Speaker Box Does Everything
Fall 1963	SMRTVEXP	Electric Amp for Banjo
Nov. 1963	SM	Moon Scout

Nov. 1963	PM	Electric Centrifugal Cannon
Mo.? 1963	PM	Harlequin Stressed Paper Glider
Mo.? 1963	PM	Control Line Stunt Kite

As a result of being bugged by Skip Ruff and Bill Northrop in 1990. First published was in MAN, July 1992 a review of "Modelcad." Then "Multiwiz" in August 1992 in MAN. More articles are due in MAN, FM and MB.

Date	Magazine	Title, Subject or Content
July 1992	MAN	CAD for Your Model Designs
Aug. 1992	MAN	Multiwiz Model 2-Channel From 1 Servo
June 1993	MB	Pushcart .049 RC Pusher
July 1993	MAN	Rotorplane! Flettner Wing-Rotor
Oct. 1993	MB	Saucer Mania Two Slot Saucers
Feb. 1994	MB	Ment. RLC Award Winner
May 1994	FM	Morles 1915 .049 FMBD RC
May 1994	MB	Pix Reader Built Zoomslot
July 1994	MB	Ment. Adv. For Martian SS
July 1994	FM	Ment. FM Helic. Of August 1951
Aug. 1994	MB	Mention
Nov. 1994	MB	Traysvite
May 1995	FM	Ment. Page 7 and Class, Gas and Jazz
June 1995	MAN	Ment. Page 28 and 57 Martian Spaceship
July 1995	MAN	Ment. Hal DeBolt's Col. On Early RC
Aug. 1995	MAN	Stringer Wing-Warp Control 02 RC
Oct. 1995	MAN	Designed 2D 6.0 Critique
Nov. 1995	MB	R.K. Hicks FF Electric
Dec. 1995	MAN	Air Age RC Book Chapter "Mindset"
Dec. 1996	MAN	Ringer Annular Wing .049 RC
Dec. 1996	FM	Faux Fighter FMBD 'Pilchard'
Dec. 1996	MODAV	Aileron Trainer
Dec. 1996	FM	Materia Aeronautica Modela

The following list of articles are missing from my files and have incomplete information.

Date	Magazine	Title, Subject or Content
Early 1960s	AT or MAN	Flying Barrel
Early 1960s	PS	Gyro Glider Kite
Sold April 1967	PM	Foilplane, Flying Body Aircraft
Early 1960s	Lost by AT	Maple Seed Jetex Powered One-Bladed Helicopter

Other Projects

- Constructed the steam-powered race car model made for Minimax importer

- Cloud Copters Designed for Berkley Models
- Hummingbird Helicopter Design for Hamp. Research Foundation]
- Helicopter engine design with K & B
- Helicopter blade system for Sikorsky Aircraft Patent Inter.
- Co-authored text on Ind. Psych. With Dr. Brian Kay, McGraw-Hill
- Wrote novel: “A Brief History of the Ashmont Town Team vs. Equestrian Statue.”
(Amazon.com Barnesandnoble.com)

(signed) Roy Clough, Jr.
Updated July 15, 2002

The following biography was printed in the February 2000 issue of Model Aviation magazine.

Roy Clough, 77, has devoted 66 years to a seemingly unending array of experimentation. Over the years, his articles have appeared in virtually every model publication, including the early *Air Trails*. In addition, he is published in *Popular Mechanics*, *Popular Science*, *Science and Mechanics*, *Boys' Life*, *Mechanics Illustrated* and many others. With well more than a hundred specific subjects listed, his writings encompass the time from 1945 to the present.

The subjects of his experimentation cover a very wide range of interest from specific conventional model designs to more esoteric types such as slotted flying saucers and flying barrels. Roy has done much work with autogyros and helicopters, especially with blade design. He developed the coaxial cage drive for rubber model helicopters and the use of tip weights on feathering rotor blades to produce automatic cyclic and collective pitch. He also developed the use of gyro procession of blade-mounted motors to control collective pitch of self-propelled rotors.

Roy also developed a torque-reaction helicopter and a single-bladed Jetex helicopter. Recent articles pursued such subjects as CAD for model designs, multi-wing two-channel models from one servo, Free Flight, Electric, and an aileron trainer.

Roy's articles were not limited to technical information and designs. Titles such as “Why Models Land in Trees” suggest a sense of humor, as does his personal comment regarding experimental engine projects, including a “liquid rocket engine which blew up with (a) very satisfying bang!”

Besides model design, Roy provided technical information for the aircraft industry and administrative information such as industrial psychology and marketing.