



Experimental Aircraft Association

CHAPTER 393

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CHAPTER MEETING - WEDNESDAY EVENING, 6:00 P.M.
JULY 22, 1987

The program this month will be our Umpteenth Annual Pre-OSHKOSH Picnic!! Sasha has again agreed to fulfill her usual proficient role as Chairperson of the Festivities. She has all the arrangements made already. After a very brief business meeting and adjournment, the revelry will begin. John McCombs will provide the "non-alcoholic" beer and soft drinks. * Our good friends at Navajo Aviation will loan us their barbie again (no, not the doll, it's the thing Paul Hogan throws the shrimp onto in that commercial). Five people have volunteered to bring chili; and, while I do not have all their names, Kay advised the Board that she has all five names deeply etched in her memory, and if any of them show up without chili, they will be summarily stoned. In any

case, come one come all, it promises to be a fun event (except perhaps for the recipient(s) of the stoning). Please note the time, 6 PM, in front of the airport office - members, families, guests only.

NOTICE (obtained from Chapter 446): It has been revealed that several months ago, Shell Oil Co. distributed some containers (the new plastic ones from which people have been losing the under-cap seals into the crankcase), marked "Aeroshell W-100", that had been accidentally filled with glue. You comedians can deal with this any way you like. Me, I am just sticking to the newsletter.

To those of us who love aviation, it often seems as though "aviation bashing" is the favorite sport of the mass media. Sensational headlines seem to lead one to believe that death, doom and disaster are commonplace within the aviation community. For that reason, it was refreshing to read statistics recently published by the NTSB which indicate that aviation, overall, accounted for two percent of the 48,601 transportation fatalities in 1986. In fact, more Americans died in recreational boating accidents last year than in all segments of aviation combined. While NTSB counted 1,030 aviation fatalities in 1986, there were 1,066 deaths recorded on the nation's waterways. As usual, the carnage on our highways leads the way with a death toll of 45,840. (That's up from 43,795 in 1985).

Quent Durham reports that a good source of cardboard mailing tubes (for whacking workshop intruding cats, dogs, children & other pests), is an upholstery shop. A busy upholstery shop will get 2 or 3 new tubes every day that it has a delivery from UPS.

EAA

EXPERIMENTAL AIRCRAFT ASSOCIATION

CHAPTER 393

1987 CALENDAR

CHAPTER MEETINGS - The 4th Wednesday
of every month - 7:30 P.M. at
Buchanan Field Terminal Building
EVERYONE IS WELCOME! Bring Chairs!

BOARD MEETINGS - On the dates
listed below (usually the 2nd
Tuesday each month) - 7:30 P.M.
at Navajo Aviation. Chapter
members are welcome.

JULY

Board - July 8th

Chapter - July 22nd - Pre-OSHKOSH Picnic. 6 P.M. by the airport office.

- July 25 - Lincoln Airshow. Skydiving, aerobatics, fly-bys & more.
Admission \$5/car. Dorothy Vasion, 916+645-2035.
- July 25-26 - 3rd Annual West Coast Cub Fly-In, Lompoc. Bruce Fall,
805+733-1914.
- July 25-26 - Wings for Charity - Great Livermore Airshow. Many
attractions, just about everything, as always.
- July 25-26 - NAS Moffett, Moffett Field.
- July 30 - "Flight of Eagles" OSHKOSH airlift. Rooms still
available. 714+599-6879.
- Jul 31-Aug 7 - OSHKOSH!!! 35th Annual EAA Fly-In. 414+426-4800.
- Aug 2 - Seattle Sea Fair. Blue Angels perform.
- Aug 8-9 - Medford, OR National Airshow. 503+535-3333.
- Aug 14 - 16 - 16th Annual Gathering of Warbirds, Madera. Celebrating
40th anniv. of USAF. Call AF Ass'n., 209+255-5812.
- Aug 22-23 - North Bend Air Show, North Bend, Ore.
- Aug 22-23 - Nat'l Av. Days, Oxnard. Performers, booths. 805+485-
8833.
- Aug 22-23 - North Bend OR Airshow. Snowbirds. 503+756-1723.
- Sep 4-5 - 3rd Annual End O' Summer Fly-In, Madera. Camping,
dislpays, judging & awards. Leonard Troutman, 209+291-
4196. Chapter 376.
- Sep 4-7 - Delano Aerobatic Contest, Delano Airport. 805+481-1354.
- Sep 6 - Petaluma Air Fair. 707+762-6953.
- Sep 12 - 6th Annual Festival of Planes, Elko NV. Aerobatics,
WWII planes, flour bombing. 702+738-7135.
- Sep 13 - 15th Annual Airport Day & Airshow, Paso Robles Airport.
- Sep 17-20 - 24th Annual Reno Nat'l Champ. Air Races, Stead Airport.
- Sep 19-20 - Balloons Over the Valley Air Festival, Modesto. 60 hot
air balloons, antique planes. Write 2008 Bridger Drive,
Modesto, CA 95351.
- Sep 26-27 - Oakland International Airport. 415+577-4086.
- Sep 26-27 - Lake Mead Airshow, Las Vegas. 702+732-2115.
- Sep 27 - Santa Maria Air Fair, Santa Maria.
- Oct 3-4 - Oktoberfest, Benton Airpark, Redding. 916+243-3958.
- Oct 3-4 - California Int'l Airshow, Salinas. 408+754-1983.
- Oct 8-11 - 20th Annual Pacific Region Aerospace Education Conf.,
Santa Maria. Jule Zumwalt, USAF-CAP-PLR, Mather AFB,
95655-5000.
- Oct 8-11 - Confederate AF Show, Harlingen, TX. 512+425-1057.
- Oct 10-11 - Fleet Week, San Francisco. Blue Angels will perform.
- Oct 15-17 - AOPA Annual Convention, Bally's Grand Hotel, Las Vegas.
Ann Killian 301+695-2052.
- Oct 17-18 - NAS Pt. Mugu, Oxnard. Blue Angels will perform.

CALENDAR OF EVENTS (Cont'd)

Oct 25 - Norton AFB, San Bernardino. Thunderbirds will perform.
 Nov 7 - March AFB, Riverside. Thunderbirds will perform.
 Nov 8 - Edwards AFB. Thunderbirds will perform.
 Nov 13-15 - Comanche Fly-In, Concord. Pat Rowe, 805+934-2123.

CHAPTER 393 MINI-MART

For Sale: Glasair kit. \$10,750. Norm Alumbaugh, P.O. Box 200, Pope Valley, CA 94567. 707+965-2709. 6

For Sale: Glasair RG. Much work done. Price negotiable. Tom Pinckard, 415+933-0280. 6

Hangar Space: Half a 40' T hangar at Livermore Airport for sub-lease for 1 1/2 years at \$80/month. Call Lisle Knight, days: 415+524-8844, eves: 415+799-0600. 3

Hangar Space: Share a Port-A-Port Exec. III. Ideal for Vari-Eze or small bi-plane. \$150/mo. Pete Wiebens, 415+933-7517. 3

Service Offer: Precision welding (TIG), aluminum, stainless, 4130. Eric Schuldt, 1820 Baldwin Dr., Concord CA 94519, 415+827-0259 4

Wanted: Hangar needed at Buchanan for at least a year. Call Ron Robinson, 415+283-7365, or 283-1971. 3

For Sale: Quickie Kit, 18 H.P. engine. No construction started. \$1,900/offer. Jan Switalski, 415+228-6399/1336. 2

For Sale: Motorcycle, 1981 Yamaha Virago 750. Only 2K miles, excellent cond. Jan Switalski, 415+2286399/1336. 1

CLASSIFIEDS FROM AROUND AND ABOUT:

Chapter 512, Placerville

1946 Cessna 120, rec. rest., \$955/offer. Mangfred, 916+622-7308.
 1965 Cessna 182H, all the goodies. \$22,000. Hen-Min 916+677-9242.

Chapter 170, San Luis Obispo

1968 Cherokee 140. \$9,990. Mike 805+489-8155, Oscar 805+489-1752.
 Eagle aileron & bottom wing kits. \$2000. Roger 805+466-1217.
 1945 Luscombe. Fred Oakes 805+528-5718.
 1968 Cessna T210, needs work. Glenn Schroeder 818+345-7443.

Chapter 167, Napa-Solano

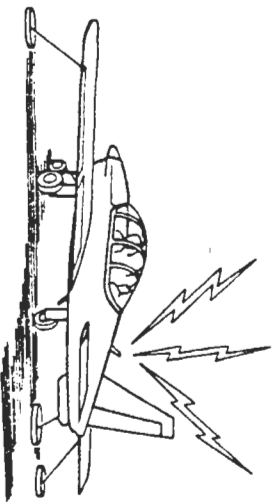
Several T and 50X40 hangars for rent, Nut Tree. Bob 707+422-3473.
 2 T hangars, Sonoma Skypark. 707+996-2100.
 Want 1834 or 2100 VW for KR-2. 1300 for sale. Jerry 707+447-4349.



U.S. Department of Transportation

Federal Aviation Administration

ATTENTION TO ELT'S INSURANCE TO LIFE



We Can Reduce False Alarms: A Real Problem to the Aviation Community

JUNE 1987

“Safety is no accident”

EMERGENCY LOCATOR TRANSMITTER (ELT)

FALSE ALARM PROBLEM

Federal Aviation Administration (FAA) Requirements

Federal Aviation Regulation (FAR) 91.52 requires the carriage of ELT's on most general aviation airplanes.

SEARCH AND RESCUE

The primary search and rescue (SAR) responsibility for downed aircraft lies with the U.S. Coast Guard and the U.S. Air Force.

The false alarm rate of the current generation ELT continues to plague the national SAR system. Calendar year 1986 resulted in a banner year for the Search and Rescue Satellite Aided Tracking (SARSAT) system with 46,062 possible distress positions being reported within the 48 contiguous States. After evaluation by the Air Force Rescue Coordination Center (AFRCC), located at Scott Air Force Base, Illinois, responsive action was needed in 5,268 situations. Of these, **94% were false alarms coming from ELT's located on airports.** An additional 3% came from random places such as trash receptacles, autos, private residences, and shipping containers.

COSTS

- \$ 1.4 million--Federal Resources
- .8 million--State Resources
- 1.3 million--Indirect Cost of Lost Wages to Civil Air Patrol Volunteers
- \$ 3.5 million--Total

THE SAFETY PROBLEM

Any accidental or unauthorized activation of an ELT will generate an emergency signal that cannot be distinguished from that of an actual emergency signal and could lead to loss of life. These unwanted signals tie up emergency frequencies so that genuine emergency transmissions cannot be completed.

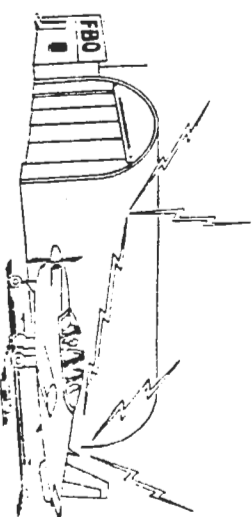
RESPONSIBILITY FOR ACTIVATIONS

The pilot in command of an aircraft equipped with an ELT is responsible for its operation and, prior to engine shutdown at the end of each flight, should tune the VHF receiver to 121.5 MHz and listen for ELT activations. Such activations have been known to occur after hard landings, battery corrosion, and mishandling. If the ELT has been activated, it should be immediately shut off and the nearest FAA tower or flight service facility should be notified. Maintenance may be required before the ELT is returned to the "armed" condition.

WHAT WE CAN DO

It would be extremely helpful if all pilots, Fixed Based Operators (FBO), and their personnel help in silencing ELT false alarms at airports.

1. Monitor the emergency frequency 121.5 MHz.
2. Locate the ELT.
3. Shut off the ELT.
4. Notify an FAA tower or flight service with all known information.



The 121.5 MHz VHF frequency should be monitored as much as practical. This is an additional workload; however, monitoring provides a vital service to the entire aviation community as well as taking the first step toward silencing ELT's that have inadvertently been activated. If you cannot locate the ELT, call the nearest FAA Air Traffic or Flight Standards facility.

An ELT signal will result in SAR forces being dispatched if: 1) after 2 hours, the ELT has not been located, or 2) sooner when there is other evidence of distress, such as overdue aircraft or citizen reports.

5
The problem of locating an ELT is at times complex because radio waves can be reflected, scattered and polarized. As an analogy, it could be like finding a candle in a hall of mirrors. On the other hand, it may be as simple as walking out the door, taking a single direction finding (DF) bearing, and walking to the offending airplane.

Ideally, an FBO should also have a portable receiver configured with DF capability (directional antenna, indicating device, and/or signal strength meter) but even a less sophisticated unit can provide reasonable results.

Listed below are some of the companies which have been known to produce low-cost devices for locating ELT's:

- L-Tronics
Santa Barbara, Calif. Bohemia, New York
Phone: (805) 967-4859 Phone: (516) 585-4000
- Leigh Instruments Ltd.
Ontario, Canada
Phone: (613) 257-3883

This is not intended to be a complete listing of all possible sources or an endorsement of any particular manufacturer's product.

The FAA procured 660 of the L-Tronics units in 1977 for use by Airway Facilities maintenance technicians to help locate alarming ELT's. FBO's may check with their local area Airway Facilities Sector office for support.

General Search Methods

The following general points are the basis for most ground searches. Instructions from the manufacturers normally provide more detailed information:

1. Get to a point where the signal can be heard and a direction to the target can be established.
2. Try to identify the target from high points on the airport before attempting a detailed search.
3. Make multiple DF readings along a line at right angles to the received signal. Average the results.
4. Listen while traveling around the airport. Stop and take additional bearings as the signal is heard.

5. If needed, request assistance (FAA, CAP, law enforcement, forestry, and private individuals).
6. Use multiple teams with radio communications between them for triangulation.

"Build and Fade" Using a Simple Hand-Held

VHF Receiver

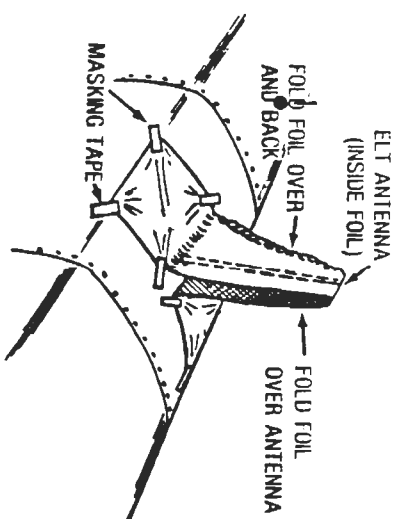
Although it takes longer, this method works in many situations. The trick is to adjust the receiver so that the ELT signal is audible but weak and/or noisy. Direction to the target can then be detected by signal strength. One technique is to retract the antenna and tune the receiver away from 121.5 until the desired noisy reception is obtained. By holding the receiver close and using your body as a shield, a bearing can be obtained (signal will be loudest when facing the ELT). Another technique is to use metal screens or loops to enhance directivity. For example, put the receiver inside of a steel trash can and point the open end around the airport to get a bearing.

The signal strength gets stronger as the offending aircraft is approached. Stronger signals make it possible to further tune the receiver away from 121.5 MHz. When standing next to the offending aircraft, most simple receivers will receive the ELT signal from one end of the dial to the other.

After Finding the ELT

The primary job is to shut off the beacon or to reduce its transmission range so that it no longer interferes with the emergency frequency. In an actual accident, this would be secondary to care of survivors but should be accomplished before leaving the site. Locate the owner or otherwise gain access to the beacon. Neither the FAA, FCC, CAP, or other search organizations have special entry authority in nondistress situations. If access cannot be gained into an aircraft having an external antenna, the signal can be reduced by wrapping the antenna with aluminum foil.

ELT's have a variety of switch mechanisms. Most are plainly labeled. If the switch cannot be found or does not work, the unit can be disabled by removing the batteries. This often requires hand tools, but is a positive method to disarm the ELT.



Anytime an aircraft or ELT is worked on, be sure to leave a warning note in a prominent place for the owner. Also, notify the nearest FAA facility of: *the time the beacon was shut off, the aircraft type, number, and if available, the beacon make, model, and serial number, owner's name, and circumstances causing the activation.*

MAINTENANCE TESTING OF ELT's

Maintenance of ELT's is subject to FAR Part 43 (Maintenance, Preventive Maintenance, Rebuilding, and Alteration) and should be included in the required inspections. Since the ELT is a passive device, the status of which is unknown until called upon to perform, it is essential that at least the *impact switch operation and the transmitter output be checked* during these inspections. Manufacturers' instructions should be followed.

OTHER INFORMATION

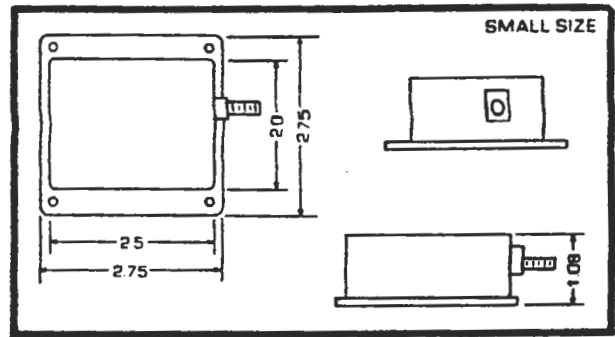
FAA Advisory Circular 91-44A dated December 12, 1980, provides recommended operational, maintenance, and homing practices for ELT's.

The FAA issued a new Technical Standard Order (TSO) C91a for ELT's in April 1985. This TSO includes provisions for a cockpit monitor and a much improved specification for the g switch; however, FAA requirements for this TSO are voluntary. Currently, there is one manufacturer who has obtained TSO-C91a approval and is producing this much improved ELT: ARNAV Systems, Inc., P.O. Box 23939, Portland, Oregon 97223, telephone (503) 684-1600.

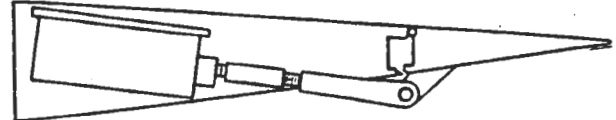
NEW PRODUCTS

To the right are specifications for a servo designed for trim applications in homebuilt aircraft. The complete kit comes with servo, trim indicator (a 3 light LED which shows limits of travel plus center) and a rocker switch/necessary wire and sells for \$89.95. They are available from:

Menzimer Aircraft Components
1537 Foothill Dr.
Vista, CA 92084
(619)724-7557.



- Rugged mineral and fiber-filled nylon construction.
- Lightweight: 4 oz. (MAC S1)
- Over 40 pounds of thrust
- Average current: 150 mA.
- Power: 12-14 VDC.

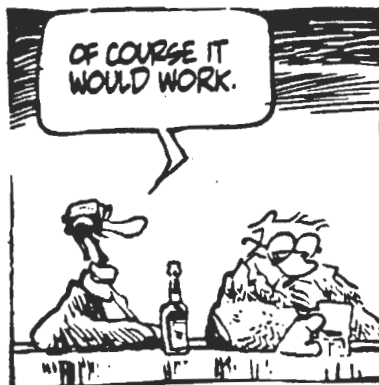


*Custom MAC servos made to your specifications. Call for information.

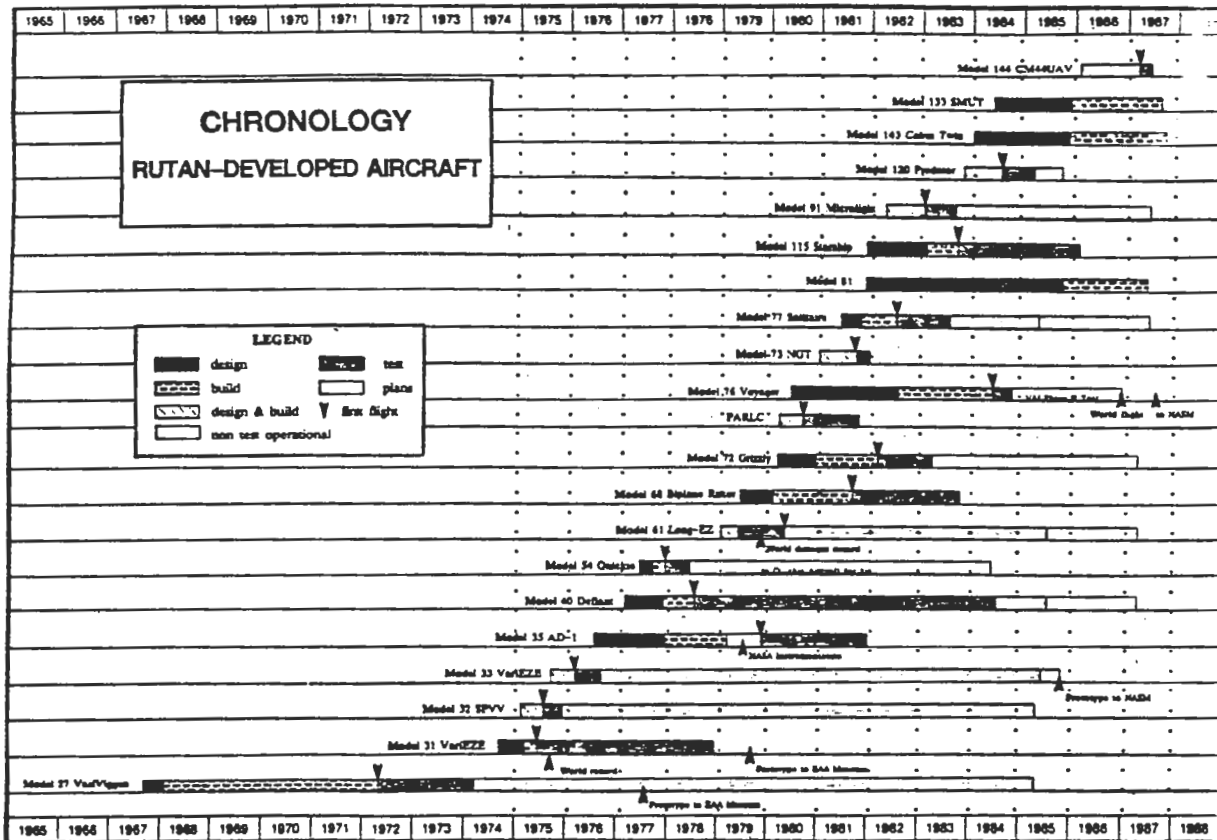
CHAP. 167



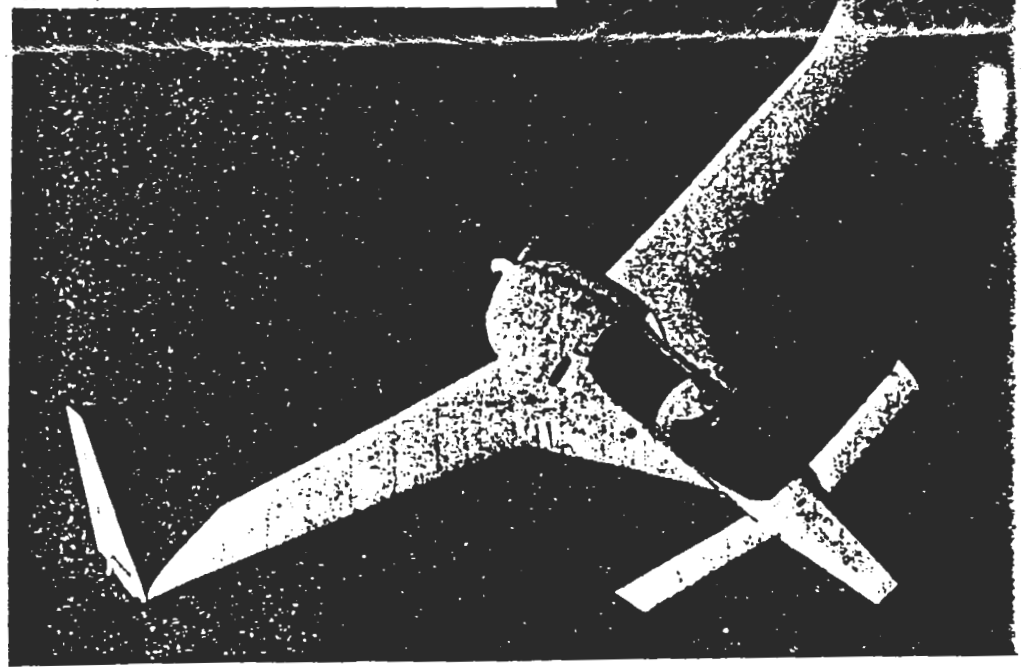
'IF ONLY THERE HAD BEEN A PRIVATE LIGHT AIRCRAFT INVOLVED WHICH WE COULD BLAME FOR ALL THIS ... BUT THIS TIME, GOD FORBID, THERE'S NO-ONE TO BLAME BUT US!'



FROM CHAP. 663



Burt's latest design, Model 144 (CM44UAV) was built in what used to be RAF, and made its first flight on February 27, 1987 with Mike Melvill at the controls. The aircraft is currently in flight test and will be delivered to the customer, California Microwave, in the next few weeks.



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