

EAA CHAPTER 168 DALLAS

DEC
1986

HANGAR



SEASON'S GREETINGS

BIGGEST CHAPTER IN TEXAS
BEST IN THE WORLD

SPRUCE
*SPARS
*CAPSTRIPS

4130 STEEL
*TUBING
*SHEET

STITS
*FABRICS
*COATINGS

PLYWOOD
*MIL-P-6070
*METRIC

HARDWARE

AIRPLANE KITS
KR-1 AND KR-2
J-1B
Cozy

ADHESIVES
*T-88
*FAA APPROVED

FOAM & FIBERGLASS
*POLYURETHANE
*RESINS & CLOTH

SEND FOR OUR COMPLETE HOMEBUILDERS SUPPLY CATALOG
ALPHA AVIATION SUPPLY CO.
P. O. BOX 641 • GREENVILLE, TEXAS 75401
214-527-3817, 214-455-3593

\$3.00

FROM ONE HOMEBUILDER TO ANOTHER.
If you Need Insurance of Any Kind--
Auto, Plane, Home, Business. . . Let:

DELMO JOHNSON INSURANCE AGENCY

Find Answer to Your Particular Need.

Just Call: 458 - 7550 15790 DOOLEY ROAD
DALLAS, TEXAS 75234

Deimo (Pitts Special) Johnson

HANGAR 36
AERO-COUNTRY AIRPORT
The Dallas Area Sport Aviation Airport

ANTIQUE-CLASSIC-HOMEBUILT-EXPERIMENTAL
Hangar Space Available For E A A Members
MONTHLY RENTAL RATE (\$) = WINGSPAN (FT) X 2.5
CONTACT: Clair J. Batten (214)231-6070



Bud Judy

STITS DEALER

serving
Dallas/Ft. Worth Area

25% OFF

Rt. 4 Hidden Valley Airpark 71W Denton, TX 76205
817-497-5901



B and B
PLANES 'N PARTS

8701 Cardinal Road
Fort Worth, Texas 76180
(across from Mangham Airport)

Airplanes
Instruments
Used Parts
Engines
Radios

BUDDY BROWN
JIM BENSON

(817) 281-8468



HANGAR YOUR AIRCRAFT

with someone who appreciates
Sport Aircraft!

Space available in new 60' x 60'
hangar along runway at Aero Valley

Contact: Bud Judy

817-497-5901

TEX-AIR
PARTS, INC.

COMPLETE LINE OF
AIRCRAFT PARTS
AND ACCESSORIES

(817) 624-9882

- Piper Parts Dealer
- STITS Distributor
- CONCORDE BATTERIES Distributor
- RANDOLPH Distributor
- G. E. LAMPS Distributor
- AN, NAS, MS
- Cable Swaging
- Sheet Metal/Tubing
- Hoses/Tires

Meacham Field Loc. 2N
Fort Worth, Texas 76106

AQUACOVER MARINE PRODUCTS

SUN SCREENS
PLANE COVERS
TRUCK BED COVERS
WINDSOCKS
BOAT COVERS

GORDON HAILE
OWNER
FRANK HAILE
SALES

Your Place or Ours!

10% off to EAAers... (214) 358-3671

Next door to Omni Air on Century St.

CROOK
AVIATION
TRAINING

CAPT
J CUNNICK CROOK
DGP, CFII-ME

Specializing in
BFR, PINCH-HITTER,
FIGHTER PILOT
and RE-CURRENT
TRAINING

(214) 238-5750
(214) 727-1804

CAMERA / PROJECTOR REPAIRING—COLOR DEVELOPING IN ONE HOUR

DISCOUNT PHOTO

101 Farmers Branch Shopping Center
(Valley View at Josey Lane)
Farmers Branch, Texas 75234

Phone: 241-6214

Don G. Williams X Nancy H. Williams

INSTANT PASSPORT PHOTOS - PHOTO SUPPLIES - SLIDES AND MOVIE PROCESSING

CAPTAIN'S CORNER

DECEMBER 1986

"Tower, EAA 168, clear of the active for the Ramp. . . ."

First, let's welcome our new members; ROBERT H MILLER of Carrollton and ZACK AMICK of Dallas, who is working on a Rotoway Exec. Welcome aboard gents. It's always good to see new faces and they go so well with the not so new members to make this the best EAA Chapter in the world.

If we may, now that the plane is complete and the flight has finished, let's review the past year.

Well let's see, it was a brand new program format in JAN of this year with a ROTOR-WAY and PL-4A video tape. The new patches were here and the first chances on the 1st RAFFLE RADIO were sold, that started the building fund. The ADDISON FLY-IN was a roaring success and the monthly club fly-ins were on schedule for the rest of the year.

Now, for FEB, the director nominees were announced and JOHN KIKER from NASA knocked our socks off with his slides and pictures. The joint fly in with Chapter 34 at ARLINGTON with its aircraft judging school, and fighter pilot chili will long be remembered.

MAR, the wind blew at the AERO-COUNTRY FLY-IN, but HOG WILD AVIATION (BOB CUTLER) and JOHN AUSTIN put on a good time. TOM SCOTT made the first flight of the SEAHAWK. The NEW CAPS arrived (blue only, red in APRIL) and the monthly meeting consisted of the FEDDERALLIES (FAA) and the talk on the new ARSA at LOVE and PLAN NITE with lots of BRAVO SIERRA.

Well what can you say, in APRIL, the new red hats arrived and wait was worth it to some. The BFR-IN at TERRELL was better than ever (if

CONTINUED ON PAGE 2

DISCLAIMER

We would like to make you aware that, as always, in past, present, and future, any communication issued by EXPERIMENTAL AIRCRAFT ASSOCIATION, CHAPTER ONE-SIXTY-EIGHT, INC., regardless of the form, format, and/or media used which includes, but is not limited to HANGAR ECHOES and audio/video recordings is presented only in the light of a clearing house of ideas, opinions, and personal experience accounts. Anyone using these ideas, opinions, information, etc., does so at their own discretion and risk. Therefore, no responsibility or liability is expressed or implied and you are without recourse against anyone. Any event announced and/or listed herein is done so as a matter of information only and does not constitute approval, sponsorship, involvement, control or direction of any event (this includes OSHKOSH). Please read, listen, enjoy, and be careful out-there.

PLANE PEOPLE PLACES

DECEMBER

18 - THURSDAY - 19:30
EAA 168 MONTHLY MEETING
WALNUT HILL REC CENTER

PRESENTATION OF 1ST FLIGHT
AND RECOGNITION AWARDS WITH
A REVIEW OF ALL THE AIRPORT
MEETING (FLY-INS) VIA VIDEO
FOLLOWED BY BRAVO SIERRA

20 - SATURDAY - 10:00
EAA 168 MONTHLY AIRPORT
MEETING: AERO COUNTRY
HOST THE CUTLER'S
LOOK FOR THE TRAILER

JANUARY

1 - THURSDAY - 19:30
DIRECTOR'S MEETING
ADDISON AIRPORT REST.

15 - THURSDAY - 19:30
EAA 168 MONTHLY MEETING
WALNUT HILL REC CENTER
CURRENT TOPIC OPEN

20 - SATURDAY - 10:00
EAA 168 MONTHLY AIRPORT
MEETING: ADDISON
HOST T W SCOTT
LOOK FOR THE TRAILER
* SPECIAL FIBERGLASS
WORKSHOP *

THIS MONTH RANDOM READER
WINNER IS ELO ZINKE. TO
CLAIM EITHER A CAP OR PATCH
YOU MUST BRING YOUR LABELED
NEWSLETTER TO THE NEXT
MEETING

FEBRUARY

ARLINGTON - CHAP 34 CHILI

MARCH

HICKS OR AIRDROME (MCK)

CONTINUED ON PAGE 3

CAPTAIN'S CORNER - CONTINUED FROM PAGE 1
you like wind and rain). The monthly meeting program, a special put on by NORMAN SEATON and MEL ASBERRY, covering Safety. WELDON YOKOCHI and JIM YOUNG had their 1st flights.

MAY started out with the purchase of the trailer later in the year. It was named the "EAA 168 TOWER". A film on Prescott Pusher and metal workshop for the meeting. The Fly-in was at AIRDROME at McKinney.

EDNA WHITE spoke to the meeting in JUNE and the KITTY HAWK FLY-IN was great. FRANK HAILE took off for another around the world flight. ERNIE LUDWICK produced the first set of trailer/tower plans.

JULY, FRANK HAILE returned and JERRY ROUILLARD talked to us about Emergency chutes. EVELYN and BILL HILL had us up to JUSTIN TIME for the Fly-in. The rosters were issued and we all started thinking OSHKOSH!

O-S-H-K-O-S-H and AUGUST, I think the two are one and inseparable in my mind. The Lancaster Fly-in was great with hotdogs and Watermelon. A whole airforce took to the air for 1st flights BOB GEREN, LEON RAUSCH, and LES PALMER. TOM SCOTT won the Radio Raffle. The program was a rag and tube discussion by LES PALMER, GEORGE HUBER and DALE BROOKS.

SEPTEMBER, The OSHKOSH slides were shown at the meeting which featured plans nite. The Fly-ins were renamed Airport Meetings, and the usual hot dogs were forgone for a taste of the fare at HUDSON MESQUITE and K-E-R-R-V-I-L-L-E.

The last 1st flight for the year was flown in OCTOBER by GEORGE HUBER. HENRY ODLOZIL and family treated us to a grand Airport Meeting at the FLYING 'O'. AIRFEST was held at the OAK GROVE Airport FTW. JIM YOUNG and the wonderful world of Fiberglass was the program. All of the current officers were re-elected.

NOVEMBER, FRANK HAILE and friends showed slides of the around the world flight. The Airport Meeting and Trailer ventured up to TED THAYER's AERO VALLEY Estate. It didn't rain but there was a 100' ceiling.

The annual Christmas Party has just been completed. Thanks to ANN and CHRIS for all the hard work. DECEMBER is also the time we recognize all those who have worked so hard during the year. The new recognition plaques will be given out at the Dec meeting. The CUTLER's will host us again at AERO COUNTRY.

Hey, thanks for the good time. This year was

CONTINUED ON PAGE 3

PLANE PEOPLE PLACES

APRIL

SPECIAL EVENT
SPRING FLING
AERO COUNTRY

MAY

TERRELL - BFR-IN

JUNE

KITTY HAWK

JULY

JUSTIN TIME

AUGUST

OSHKOSH 87!

LANCASTER

SEPTEMBER

KERRVILLE

RENO - RACES

OCTOBER

HARLINGEN - CAF

AIRFEST FTW - OAK GROVE

ADDISON AIRSHO

NOVEMBER

FLYING 'O' - ENNIS

DECEMBER

AERO VALLEY

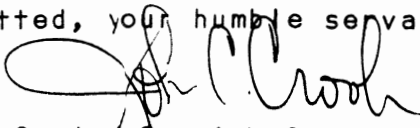
KR-2 PARTS

ED WHEELER 214/542-0575
HAS A KR-2 FUSELUGE
AND OTHER PARTS. A GREAT
WAY TO GET STARTED ON
A PROJECT ONLY \$450.

CAPTAIN'S CORNER - CONTINUED FROM PAGE 2

strictly a pay back for all the good times I have had in this chapter and EAA. Thanks for the opportunity to give a little back, to help others by service. I know all the officers hold the same philosophy dear, it's part of that old EAA tradition. And speaking of tradition the chapter needs just as much help as it did last year. So when you can lend a hand its almost as much fun as telling hangar lies and BRAVO SIERRAing.

Respectfully submitted, your humble servant,

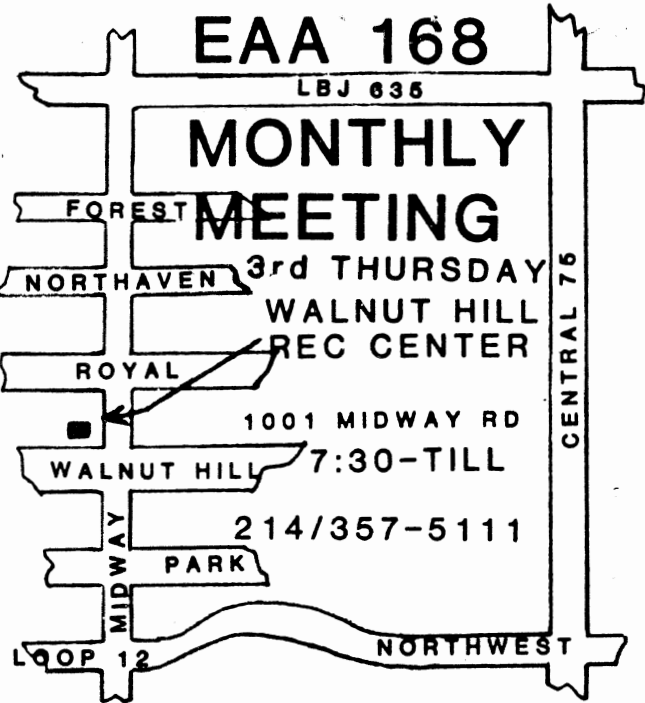


Capt. John C. Crook, DGP

OFFICERS	PRES	JOHN C. CROOK	214/879-5245
	V-P	DON CHRISTANSEN	214/727-1804
	SEC	TED THAYER	214/298-6531
	TREAS	AL ASBERRY	214/247-4696
			214/422-2326

PS - THE GREAT AIRPORT ROBBERY IS DISCUSSED IN THE ARTICLE ON PAGE 4. IN JANUARY WE WILL START WRITING LETTERS TO CONGRESS. PLEASE READ AND WILL DISCUSS AT THE DECEMBER AND JANUARY MEETINGS.

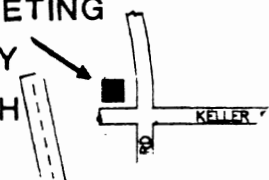
PAST PRESIDENT	DEBBIE DART	214 298-4464
TECHNICAL COUNSELORS	BOB DICKSON	214 357-4504
	W. B. ...	214 298-6531
	JOHN ...	214 247-4696
	WEL ...	214 422-2326
HANGAR EDITOR PUBLISHER	DAVE ...	214/879-5245
	JAMES ...	214/879-5245
FLY-IN CO-ORDINATORS	FRANK ...	214/879-5245
	ALDEN ...	214/879-5245
DATA PROCESSING SAFETY OFFICER	CLAY ...	214/879-5245
	BOB ...	214/879-5245



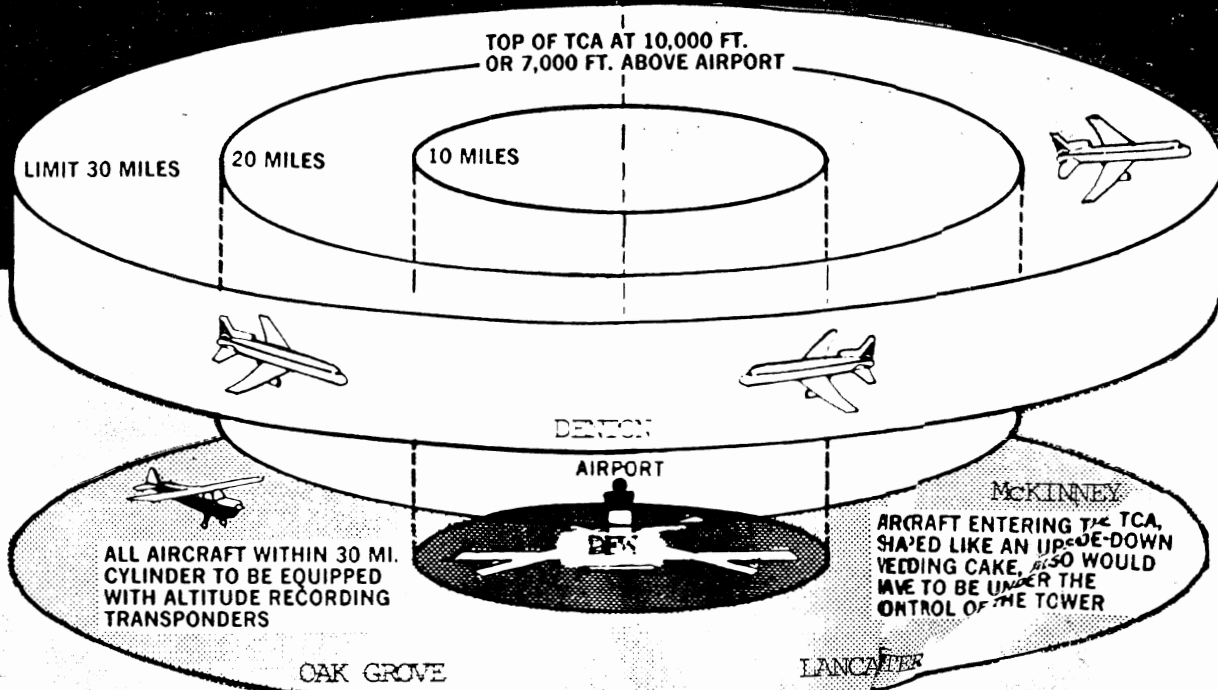
PRESENTATION OF 1ST FLIGHT AND RECOGNITION AWARDS WITH A REVIEW OF ALL THE AIRPORT MEETING (FLY-INS) VIA VIDEO FOLLOWED BY BRAVO SIERRA

DIRECTOR'S MEETING
1st THURSDAY
OF EACH MONTH

7:30 PM



THE GREAT AIRSPACE ROBBERY II



SOURCE: Federal Aviation Administration ** CAN YOU AFFORD AN ENCODING TRANSPONDER (\$1000 to \$3000) **

FAA Task Force Proposes New Airspace Restriction

A proposal to tighten control of restricted areas around 23 of the country's busiest airports...

be used by light planes... Under the proposal...

Engen said he also has approved a proposal to set up standard procedures to track a violating plane from one traffic control area to another until it can be identified and the pilot cited. The task force recommended additional enforcement staff for FAA air traffic facilities and district flight standards offices to handle the violations. At present, many overworked air traffic controllers simply shoo away violating planes because they do not have time to identify and track them down. However, other officials said that Engen must find the money in the FAA budget to hire the personnel.

Overhaul of airport terminal... be launched...

OCTANE REQUIREMENT AND YOUR EXPERIMENTAL AIRPLANE

By BOB YEAKEY

Your airplane needs the octane number fuel that you see on your engine data plate - Right? - Wrong! The first and lower number on the Lycoming 180 hp. is based on 100 LL because that's the only suitable av gas available. 91 Octane is the correct and actual requirement for this particular engine. Because of unavailability, 91-96 is not on the engine plate.

Several years ago, I was a Technical Service Engineer for Humble Oil and Refining Co.. A considerable part of my duties was associated with the problems created by the trend toward ever higher compression ratios. The hi Octane to satisfy these hi temperature and pressure operations resulted in Golden Esso Xtra and Gulf Crest. The research octane number of these two fuels was above 100. It might be useful and revealing to dig into this often used word, octane. There are actually four (4) different numbers for any particular fuel. The motor method octane (lowest) rating applies equally to most all poppet valved gasoline engines.

OCTANE DETERMINATION FOR GASOLINE

How do you measure the octane of a gasoline sample? There is an accepted test which is spelled out by ASTM (American Society for Testing Materials) and which is used throughout the world. A standard ASTM one cylinder CFR (cooperating fuel research) engine is run on iso octane/heptane blends of various number gasoline samples. The resulting determination gives a base line to compare against the fuel being tested. At Southwest Research Institute, we ran test fuel in a "flat head" Ford V8. At 70 octane blend it had incipient knock. So a gasoline of 70 octane would take care of this car's needs.

The CFR standard engine above, has adjustable compression ratio and an indicating knock meter. This engine runs 300°F. intake air and 900 rpm. for motor octane method determinations. The research method octane is done at 600 rpm. and 120°F. intake air. The compression ratio is adjusted by cranking the cylinder head up or down, thus changing the combustion chamber size

The 91 octane requirement for your Lycoming 180 is required all of the time according to your engine manual. No, not true! Only once in a great while is it needed. - - Al Hundote, Alcor Instrumentation President tried to make a Lycoming 180 knock burning auto leaded regular at California Research (Oil Company) - It just refused.

In Dallas we are above sea level; that means reduced air density and Octane need. We have humidity that cuts the amount of air-fuel charge thus reducing the requirement; The OAT (outside air temperature) is usually above 60°F. which cuts the weight of air-fuel/cu.ft. taken into the cylinder. At wide open throttle, standard operating procedure is to use full rich. This cuts the requirement as it cools the engine. It is really quite unusual for the Lycoming to need fuel of 91 octane motor method.

OCTANE REQUIREMENT - ENGINES

The engine sometimes reads the requirement differently than the CFR test engine. It usually falls between the motor method and the research method. This difference is called the spread and is normally 6 to 8 numbers. Prior to the pump octane that you see on service station pumps, the oil companies talked only of research octane numbers. The pump octane is an average of the motor and the research engine octane numbers but is not necessarily the same as the road octane (number read by comparison with the test fuel blend in cars from 20 to 80 mph with open throttle). So to get motor method octane subtract 3 or 4 points from the pump reading. If the requirement is met, there will be no audible knock at any speed under full throttle conditions.

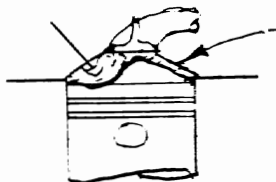
KNOCK MECHANISM

The actual detonation is an instantaneous combustion of the last portion of the air/fuel charge. When the spark plug ignites the mixture, the first 80 to 90% burns smoothly and the cylinder pressure rises in a nice pressure versus crank angle curve, but as the flame front approaches the furthestmost side of the combustion chamber, the high temperature finishes off the remaining mixture with a bang. The result is like a little man inside with a big hammer hitting the piston. It is quite audible on most engines except the ones in aircraft. As you know, a water cooled engine will tolerate some detonation so long as it is slight. In general the air cooled aircraft engine will not. Overheating dents in piston tops and holes quickly develop which greatly and quickly benefits the engine rebuilders and part manufacturers.

ENGINE DESIGN AND OCTANE REQUIREMENT

The engine design itself influences the octane requirement. All of the following factors are of importance:

1. Distance from the spark plug to the most distant part of the combustion chamber. Cylinder diameter has a substantial affect.
2. Cylinder and exhaust valve temperature (particularly at full throttle).
3. Size of the combustion chamber quench area. The General Motors cars have long used good combustion chamber design for minimum octane requirement.



Quench area tends to cool last portion of charge to reduce knocking tendencies.

4. Ignition timing - The fixed timing of a magneto makes a higher octane specification necessary. Electronic with knock sensor will retard timing temporarily to prevent damaging knock.
5. Type cooling:
 - Best - Straight water with rust inhibitor.
 - 2nd. - Water/Prestone mixture. 50/50
 - Worst - Air cooling (Poorly cooled cylinder heads).

6. Compression ratio also affects the requirement, but certainly, contrary to FAA's preachments, is only one factor and not necessarily the most important.

ENGINE REQUIREMENTS

<u>ENGINE</u>	<u>HP</u>	<u>RPM</u>	<u>OCTANE(MON)</u>	<u>C.RATIO</u>	<u>HP/CU.IN.</u>
Lycoming - 360 cu.in.	180	2750	91	8.5:1	.5
Lycoming - 320 cu.in.	160	2750	91	8.5:1	.5
Lycoming - 320 cu.in.	150	2750	80	7.0:1	.468
VW Quantum 110 cu.in.	88	5500	83	9.0:1	.8
Nissan Maxima in line 6 146 cu.in.	120	5200	83	8.9:1	.822
V6 Nissan 180 cu.in.	152	5200	83	8.9:1	.844
V6 Buick 225 cu.in.	160	4400	85	8.5:1	.71

DISCUSSION

There are two design features that cause many aircraft engines to demand gasoline of higher than normal octane:

Almost from the beginning, the aircraft engine was air cooled. In small general aviation aircraft proper engine speed for sustantial power output was ignored to accomodate the .8 mach max. propeller tip speed. This kept the rpm slow to get by without the use of expensive and weight increasing reduction gearing. Looking at the engine comparisons table, the result of the design direction was a much larger engine with high octane requirement. Basically this octane was required - worst condition basis because of marginal air-cooling and the large piston diameter. For example, the Lycoming 150 and 160 hp engines have 5-1/8" diameter pistons. The efficient car engines - last four in the table - have water cooling and pistons less than 3½" in diameter.

One other factor working against performance is the magneto. The certified magneto ignition system causes a higher specified octane requirement. A system employing a knock sensor would give a far more economical solution.

The use of a more sophisticated and up-to-date ignition together with lower octane number than the current ultra conservative one that you now use on the data plate would achieve a real reduction in fuel cost and overall operating expense.

There is no reason why super unleaded car fuel should not fully satisfy the current lycoming 160 and 180 hp engines.

It would seem that design progress is made only when E.A.A. lights a fire under the two aircraft engine manufacturers. Recently, Continental Teledyne brought out a water cooled version of the old O-200 and O-300 engines. It would never have happened without Dave Blanton's work. His V-6 Ford powered C-175 flies on 6.8 G.P.H. @ cruise on superunleaded car gas!! This V6 has a simple belt reduction propeller drive that additionally damps engine torsional vibration - what little there is. The cost, says Dave, from the firewall forward was under \$3,000..

CONCLUSIONS

A. Regular auto gas blended 66% with 33% 100LL will perfectly satisfy the current existing Lycoming 160 and 180 hp engine versions. With this ratio you also cut the lead concentration to the optimum value, about .65 cc/gallon, thus beneficial valve lubrication is maintained with reduced lead fouling problems.

B. Auto gas will work beautifully in any 7.00:1 compression ratio aircraft engine. These are the most numerous in the general aviation fleet.

C. The change to electronic ignition is legal for experimental aircraft and will reduce octane requirement enough to permit auto gas in most any experimental airplane.

PROPOSAL AND VISION FOR FUTURE

"I have a dream" said Martin Luther King, only my dream is about a small, sporty 2 place aircraft with an engine that uses car gas - regular grade. This visionary machine has 3 exhaust stacks on each side of the cowling which connect up with a 3 liter Nissan V6 engine. The propeller will be 3 blade with electrically controlled pitch. The blades might be wood or composite with "Q" tips. The radiator is located 5 or 6 inches in front of the firewall and the belt reduction will allow 1.85 turns of the engine for each revolution of the propeller. The fuel consumption will be no more than 6 gallons per hour at cruise. In the T18 airframe with standard fuel tank, the cruise range would be 650 to 680 miles

The cost will be less than \$3500 for the propulsion package. The proposed power plant has fuel injection (which I believe will compensate automatically for altitude), overhead camshafts, hydraulic lifters and an overall long service life. Modifications will be limited to a revised exhaust system, an addition of a backup ignition module and change of spark plug cables to Beldon wire type (recommended by Dale Blanton). The torque curve (167 lb.ft. @ 3600 rpm) is suitable for aircraft operation as is. A salvage yard engine (1985 first V6, well broken in would work fine. An interesting additional feature of this engine is the hydraulic shock mounts. Tension rods back to the engine tubular mount would take care of propeller thrust. Fuel injection eliminates problems like carburetor ice and vapor lock. As you will recall, carburetor ice got Chris Beachner!!

That's my dream and if I can get the electronic modification underway, then the car engine installation will be the next goal.

FOR SALE - KR-2 plans, boat, with spars, most wood, some metal --
Asking \$250. - - Call Ed Wheeler 214-542-0575

DID YOU KNOW? - WILL YOU HELP? - Almost all members, except for those joining in the last year, have their dues expiration date falling in December. This produces a high peak work load on the Treasurer and Data Processor during the busy holiday season. You can help! Get a check for a partial year (\$1.00/ month to our Treasurer so that your dues expiration date falls on other months. (Sending in an additional year's dues at the same time is acceptable .

**BELA'S AIRCRAFT
ENGINE & ACCESSORY SHOP**

2711 BROOKFIELD, DALLAS, TEXAS 75235
(OFF DENTON DRIVE LOVE FIELD AREA)

(214) 351-1172

FAA CERTIFIED REPAIR STATION #202-148
BELA AMBRUS: RESIDENCE (214) 352-8149

ENGINE OVERHAUL PARTS EXCHANGE

AERO COUNTRY ESTATES WEST

Airport Residential Lots and Hanger sites.

Restricted

Municipal Water

2900 ft. Paved & Lighted Runway

contact John Austin 1-347-2030

TEXAS' GREATEST SPORT AIRPORT

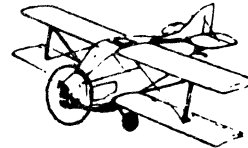
Southwest SeaHawk Inc



THOMAS W SCOTT

SEA HAWK AMPHIBIAN KITS

9002 Summer Glen (214) 349-0462
Dallas Texas 75243 (214) 490-3993



B-K AVIATION

SORRELL HIPERLIGHT

MICROLOGIC LORAN C

ICOM TRANSCEIVERS

DALE BROOKS AND CHRIS KOSAN

(214) 386-4026

2100 Via Balboa
Carrollton, Texas 75006

GEM AIRCRAFT SUPPLY, INC.

8122 DENTON DR. DALLAS, TX. 75235
(214) 350-7066 DOYLE ADAMS

SEE US FOR PAINT, AIRCRAFT TOOLS,
HARDWARE, SAFETY WIRE, BATTERIES,
MOST AIRCRAFT PARTS & SUPPLIES.

WE ARE OPEN 9:00-5:00 MON.-FRI.
AND 9:00-1:00 SATURDAY

George Carroll

(214) 637-3598

AIRCRAFT SUPPLY COMPANY

7204 PARWELK

(ANSON & HINES Near Boy Scout Bldg.)

DALLAS, TEXAS 75235

AN • MS • NAS HARDWARE & ACCESSORIES

J. HOWARD FITCH

AIRCRAFT INSURANCE



6060 N. CENTRAL EXPY.

SUITE 140

DALLAS, TX 75206

(214) 750-1985

MICHAEL H. CISCO, P.E.

Helicopter Sales

1909 DUKE DRIVE • RICHARDSON, TEXAS, 75081 • 214/690-9744

214/705-3234



RotorCraft Inc.

Representing **RotorWay**
AIRCRAFT INC



Dallas North Balloonport, Inc.

*Hot Air Balloon
Champagne
Rides*

(214) 596-2468

SALES • RIDES • PROMOTIONS • TRAINING

Operating from Dallas North Airport

Aircraft Retrieval
Damaged Aircraft Storage

Used Parts
Buy & Sell Problem Aircraft



**Air
Salvage
Of
Dallas**

Lancaster Airport

Paul Camp
Lucky Louque
Craig McGough

P. O. Box 1
Lancaster, Tx 75146
(214) 223-1111 or 223-7733

Phillips Flying Ranch

Rt. 1, Box 183 B
Rockwall, Texas 75087

Metro 226-7610
(214) 563-3765



SUMMER CAMP - Boys and Girls, age 7 - 17
LODGE AND FACILITIES - Parties, Retreats
AIRPORT - Fuel, Instruction, Hangers
Luxury Guest House

"When you need it, call us!"

OMNI AIR



PARTS • ACCESSORIES • HARDWARE

(214) 350-5531 Toll-free in Texas 1 (800) 442-3058

2818 CENTURY (Off Denton Drive)
DALLAS, TEXAS 75220

WEST SANDERS EAA 134636 WB3152

COWTOWN CAP COMPANY, INC.



ADVERTISING AND SALES PROMOTION ITEMS
CALENDARS, CAPS, COFFEE CUPS, DECALS
EMBLEMS, JACKETS, KEY TAGS, MATCHES,
PENS, PLAQUES, RULERS, SCRATCH PADS,
T-SHIRTS, GOLF SHIRTS, ETC.

2205 W. Division #A1 817-275-3324
Arlington, Texas 76012 Metro 265-3877



Airplanes
Instruments
Engines
Radios

BOBBY'S PLANES 'N PARTS INC.

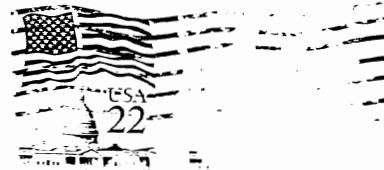
320 F.M. 1885 E.
Weatherford, TX 76086

BOBBY OSBORN

817-682-4220

EAA CHAPTER 168 DALLAS
POST OFFICE BOX 168
ADDISON, TEXAS 75001-0168

FIRST CLASS



YOUR DUES ARE DUE THIS DATE 1992



EAA CHAPTER 168 DALLAS

HANGAR

NEWSLETTER