

### *Chapter Business Meeting Program July 15, 2018*

The weather for the Chapter meeting was perfect and we had a quorum, which permitted a brief but productive business meeting. Present were: Neal Koellish, Pal Kendrick, John Scarry, Jim Buenrostro, Dave Chivens, and Liz Dinan. Also attending were Tom Del Re and Harvey Brion. Thanks are forwarded to John Scarry who arrived early to open the hanger and set up chairs for the meeting and to Tom Del Re for hot dog preparation. Hot dogs were prepared during the business meeting and before the program began which was perhaps a good change from past scheduling.

The meeting opened with the treasurer reporting the Chapter's checking balance is \$2,518. A suggestion to consider nominations for 2019 Chapter officers and directors was considered premature and should be brought up in September. Neal Koellish will head the nomination committee.

Our frustration about advance scheduling Chapter meeting programs continues. Dave Chivens who is largely responsible for attracting Bob De Vries for the July meeting will attempt to attract Ben McCaul to speak about his Lake amphibian at the August Chapter meeting. Having as permanent program committee would be a worthy goal.

Thoughts about seeking an alternate meeting site were dismissed as Paul Kendrick indicated that his hanger was and would be available for future meetings. Puzzlement continues about how to identify current or future airplane building projects. The newsletter can be used to identify what's going on if builders volunteer to report their activities.

The possibility of Chapter Fly outs was mentioned and a suggestion made was to consider coordination with the 99ers.

The newsletter inquiry about possible shared space travel to Oshkosh yielded zero responses. That leads to a possible conclusion that no one was flying to Oshkosh with space to share and that no one was interested in going. Perhaps next year we can get an earlier start on notifications and perhaps make a connection. Anyhow, it would be a treat if those who did get to Oshkosh would share their impressions and experiences. Speaking of sharing, the topic of shared Chapter meetings was addressed. A concern was travel, but Paso seems as the most likely with the Warbird Museum an additional attraction.

Thoughts about a Young Eagle event were tabled since with the recent (April) event and the absence of SLO Airport Day, a future YE event is not likely in this Chapter year.

Having meeting refreshments prior to the scheduled program did a lot for congeniality and accommodated late comers to the meeting. Perhaps this should be repeated.

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Bob De Vries, former airline pilot and exceptional airplane restorer was the July program. He prepared a very good power point presentation, 'Restoring An Antique Airplane.' Furthermore, he was gracious in traveling to the Apple Store in order to get the correct cable connection so that we could see his visuals.

Bob clearly was a draw and a nice crowd was his audience, Attending were; Oscar Bayer, Chuck Bordon, Vance Breese, Harvey Brion, Jim Buenrostro, Dave Chivens, Tom Del Re, Liz Dinan, Will Harris, Paul Kendrick, Neal Koellish, Vince Rubatzky, John Salvini, John Scarry, and guests Greg Nishi, Chris Daman, Doug Ford, Jim Pichitino, and Kathy Dannecker.

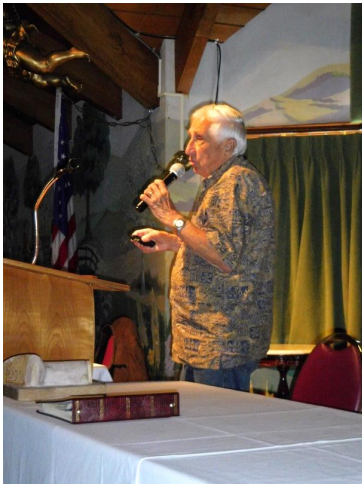
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Had we had a formal introduction of Bob De Vries is might have gone something like this. A native Californian, Bob joined the U S Navy in 1961 and entered flight training in Pensacola, FL. He became carrier qualified in single engine T28B Trojans and multi-engine S2F Trackers. He next transitioned to the Lockheed C-130 Hercules and also instructed C-130 pilots. In 1966 he was hired by Pan Am and also served as an instructor for B707 and B747's. Transferred to Berlin in 1981 he worked in various capacities as instructor and pilot and did extensive flying to Africa and the Middle East.

In 1991 when Pan Am routes were bought by Delta, Bob transferred back to the states and finished his career flying from New York, Cincinnati, and LA. When Bob hit the then mandatory retirement age of 60 he held type rating for the following Boeings: 707, 727, 737, 747, 757, 767, as well as the Airbus 310 and the MD88. Overall he has accumulated a total of 22,000 hours of flight time.



With his power point program, Bob lead us through the long history of his restoration journey. First off he categorized the terminology used to identify airplanes.

For example:

Antique	are airplanes before 1936
Classic	are airplanes between 1936 and 1941
Warbirds	are airplanes from 1941 to 1945
Neo-classic	are airplanes from 1946 to 1957

He added that much of the present GA fleet would fit the neo-classic category.

The first airplane he built was a Ryan PT-22 that he put together from many parts found near Signal Hill. These were boxed up later assembly. Fortunately he had many extra parts and was able to put those together quickly. Although he had fun with the airplane he did sell it.

The Ryan Aeronautical Co. during the 1930' sensed a market for sports and aerobatic airplanes and built the Ryan STA. The firm produced quite a few; many of which were exported to various countries and a large number many to the Netherlands military. The airplane Bob restored (#494) was one of the last built.

*Pardon this internet background intrusion –*

*The Ryan Aeronautical Co. was a successor to the Ryan Co. that produced the airplane Lindbergh used to cross the Atlantic. The company benefited from the airplane boom that followed but succumbed to the Depression in 1931.*

*In 1934, the company was revived and began building the ST two-seat monoplane series. The Ryan ST's were two seat low-wing [monoplane](#) aircraft built in the U S by the [Ryan Aeronautical Co.](#) Most civil aircraft in the ST series were delivered in the United States, although a few were exported to South Africa, Australia and various countries in Latin America. They were used as sport aircraft, as well as [trainers](#) by flying schools and the*

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militaries of several countries, with the biggest customer being the military of the [Netherlands East Indies](#). The STM was chosen by the South American Air-forces because of the superior performance of the super-charged Menasco engine at high altitude airports.

There were three models: the ST with a 95-hp Menasco, the STA with a 125-hp Menasco, and the STA Special with a 150-hp Menasco. For military purposes, the STM1 was built with the 150-hp engine and sold to many Latin American countries. It was followed by the STM2, which embodied several modifications specified by the U.S. Army Air Corps and was designated the PT-20.

The U.S Army Air Corps used the Ryan STM as a trainer in limited numbers. They changed out the Menasco for 165HP Kinner engine and called it a PT-20. The Army wanted a more robust aircraft so Ryan built the PT-22 powered by the Kinner engine. This airplane was about 200 lbs heavier. The Kinner engine was slow turning at 1600 rpm and had a 86 inch prop. More than one thousand were built for the Air Corps.

Next Bob provided a chronological history of his restored STM-2 airplane.

1940	Built at San Diego by Ryan Aeronautical Co. as STM-2 to the order of the Netherlands Navy/Marine Luchtvaart. Completed as landplane, but with fittings for floats. MLD Serial S-58
Jan. 1941	Shipped to Netherlands East Indies (NEI) via Los Angeles on MS Kota Gedah
Feb. 1942	All available MLD Ryan's were prepared for shipment to Australia ahead of the Japanese advance through NEI
Feb. 17, 1942	Shipped to Australia from Sourabaya, NEI on board MS Tjnergara
July 1942	Brought on RAAF charge as ASO-3
July 13, 1942	Serviceable at 3CF
Aug. 1, 1942	Allotted to Australian National Airways Mascot
Aug. 28, 1942	Allotted to Butler Air Transport, Mascot
Dec. 1, 1942	Received 3CF ex BAT
Dec. 15, 1942	Received 24 Squadron ex 3CF
Jan. 20, 1943	Issued 7EFTS ex 24 Sqn.
Feb. 20, 1944	Included in Commonwealth Disposal Comm. aircraft disposal list No.1. Located at RAAF Evans Head.
Mar 8, 1945	Transfer voucher to purchase Brown & Dureau
Apr 16, 1945	Struck from RAAF charge.
1946	DCA assigned VH-AHG to Ryan nearing completion of civil overhaul by Brown & Dureau at Belmont Common airfield, Geelong, Victoria.
Dec. 1946	Sold to Eastern Flying Training School, Hong Kong
Dec 19, 1946	Australian C of A issued at Belmont Commons; aircraft painted as VR-HDK, shipped to Hong Kong.
Oct. 1917	Registered VR-HDK for Eastern Flying Training School Ltd., Hong Kong, Kai Tak airport.
1950	Kai Tak report; VR-HDK and HDM reported flying with FEFTS. VR-HDK was reported derelict. Sold to Major Meidr, Hong Kong.
Mar.14, 1951	Struck from Hong Kong register as sold to Philippines; registered as PI-C324
1955	Owner M.B. Gonzales, Manila. Unconfirmed report that Lycoming O-435 was installed.
Dec. 11, 1955	Crashed Manila Nichols field. Re-registered as PI-47L.
July, 1969	Sold to Robert De Vries
2016	Restored by Robert De Vries and friends.

During his Pan Am service Bob would spend some of his time wandering around airports and he noted parts of this airplane among the weeds. There was no firewall, and no instruments; thankfully he found relatively little corrosion. About 75% of the wing ribs were OK, most of the rest was rotten. Nevertheless, he arranged for the material to be boxed and shipped to Oakland, where most was stored until his retirement in 1998 when he could begin on the restoration. To begin he stripped the fuselage, and soon learned that finding parts was

difficult. The fuel tank and oil tank he needed as well as an engine mount were found in Melbourne, Australia.

Initially, the airplane was powered by a four cylinder in-line inverted Manesco engine. These engines were made as 90, 125 and 150 hp supercharged models. The engine Bob need he found in Manitoba, Canada. Interestingly, a large number of these engines were made in anticipation of their use for the British Tiger Moth. When that did not materialize the engines were surplus; some were used to power snowmobiles. It was in Santa Paula where Bob obtained his Manesco engine; which he had fully overhauled.



**Manesco engine**



**Bob admiring the engine**

New wing wood spars were made. Bob remarked that clear spruce wood for spars is hard to get. The spar is the only wood in the airplane. The two outer wing panels had wooden spars and alclad ribs, with diagonal rods bracing the wings internally. Alclad sheet was used to form the leading edges, and fabric covers the whole structure. When attached, the outer wings were braced with [flying wires](#) to the fixed [conventional landing gear](#) and landing wires to the upper fuselage. Some ribs needed repair and some were made new. The prop is laminated wood, first rough cut and then hand shaped.

While stationed in Germany Bob had a new cowling built from the form of the old one. All this was done by hand. The nose bowl made of three pieces was one of the most difficult parts. A expert metal man in Santa Inez CA formed the last four parts of the engine cowling. After completion he asked that we never ask him again to do aircraft parts, since this was the most difficult piece he ever made.

The wing was rebuilt twice, in order to correct for a discovered 3 degree variation. New stainless steel flying wire; the principle support were installed. In the past steel was used. Presently only one firm in Scotland makes that product. Covering is Poly fiber (Ceconite) fabric. Bob spoke about the process of taping surfaces, applying the fabric and subsequent ironing to get it smooth and taut. Effort was made to use original parts whenever possible, and to make the airplane resemble its military form.

The wind screen was a challenge. With help from Dave Chivens, a cardboard pattern was made, and with material used in military aircraft canopies they went to a powder coating facility. There they were permitted to use specific temperature equipment to warp the material into the desired shape. The procedure requires a specific temperature to work and it worked very well.



**Bob pointing out details**

**The show off**

**Admirers**

The landing gear was another challenge. The original had the wrong size wheels, and Bob chose to make his larger and stronger than the original. Hydraulic brakes were also installed. Making the fairing took extra time. The tail fairing had to be hand shaped and required a lot of mallet pounding and then sanding for finish. The process was similar for making gear fairings. Bob was generous with his often repeated praise and thanks for Dave Chivens' help during the project, as well as that of his brother and others. One fairing section was made using a lathe to form a bell-shape extrusion. It was cut in half and then hand riveted. The wheel pants were also hand made.

The final painting made to resemble its military appearance was done by Bob, and he added the Dutch East Indies Airforce insignia.

Bob topped off his story with a re-telling of his inspection checkout experience. To meet FAA requirements Bob needed a Field Engineer's Approval for the Ryan STA type. The LA representative asked for full expenses to cover two trips and a \$2,500 charge. Alternatively, Bob hired a Bay Area designated inspector who charged \$250 in order to read up the rules and \$2,000 for the inspection, which went rather easily and without a problem. Bob talked about the airplane's run up and first flight, which also went well. That's the short version of many hours of restoration effort.

Gratefully, Bob did answer all our many questions. Following that, Bob's audience traveled over to his hanger to gawk at his beautiful restored Ryan. The airplane is registered as Experimental Exhibition and has certain limitations. At this time it has a couple of flight hours. Perhaps when enough time is flown off some thoughts can be turned towards Oshkosh. Bob's audience traveled over to his hanger to gawk at his beautiful restored Ryan.

### *Manesco Side-bar Info*

The Menasco Manufacturing Company was founded in 1926 by Al Menasco in Los Angeles; with its first product being a conversion of Salmson water cooled radial engines to air-cooled types. Menasco later became one of the U.S. pioneers in the field of inverted, in-line, air-cooled engines, which improved pilot visibility and propeller clearance. Menasco's first engine of its own design was the early-1930 4-A Pirate.

In 1929 Menasco produced the Pirate A-4, an inverted, inline, 4 cylinder engine that provided 90 h.p. Later models had increased displacement and more power. The Model B-4, certificated



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in November 1930, was the forerunner of a succession of similar more powerful engines built by Menasco.

High-performance Menasco engines powered many successful 1930s racers such as the Ryan ST and Gee Bee Sportster aircraft. A six cylinder derivative, the Menasco Buccaneer, went on to become a legendary air-racing engine with outputs as high as 315 h.p. from a weight of only 415 pounds.

During the manufacture of the Tiger Moth Aircraft in Canada the engines were shipped from England and concern was felt about their continued availability under wartime conditions. Menasco, a California company, was contracted as an alternate supplier and produced 136 Pirate D-4's for Canadian built [Tiger Moths](#).

During World War II, the company became the largest manufacturer of aircraft landing gears, even supplying that component for the Space Shuttle, and that became its main product after the war. In 1999 the company became part of Goodrich, now merged with United Technologies.



Reciprocating 4 cylinder, inverted, in-line, air cooled  
125 hp @ 2175 rp,  
Bore and stroke: 4.5 in. x 5.125 in.  
Displacement: 363 cu. In.  
Weight: 296 pounds

### *Ryan STM-2 Side-Bar*



Generally agreed specification's for RYAN STM-2

Wing span	29' 11"	Performance	
Length	21'5"	Max. speed	141 mph
Height	6'11"	Cruise speed	128 mph
Wing area	124 sq.ft.	Stall speed	42 mph
Empty wt.	1,083 lbs.	Climb rate	1,200 ft./min.
Max. wt.	1,600 lbs.	Ceiling	17,500 ft.
Engine	125 hp Menasco C-4		
Fuel	24 gal.	Range	350 mi.