



North San Diego County

Vernon Payne Chapter 286

President: Bob Wilson Vice President :Mike Talmadge Secretary: Dave Leedom Treasure: George Pruitte

The meeting was called to order by President Bob Wilson at 19:00 hrs.

Old business:

Treasurer George Pruitt reported chapter reserves at \$ 1,233.57.

Olivier Brackett (O.B.), Assistant Airport Manager, gave an update on the state of airport development. Dec. 4 remains the target date for occupancy of the new facilities.

A discussion followed regarding the addition of taxiways to facilitate ground traffic and enhance safety. The development is within constraints of the original improvements in order to preclude environmental review. Specifically, 24,000 square feet of improvements have been torn down and 24,000 square feet of improvements shall be built. Professional airport designers are involved in the project.

Particular attention is being given to security. Over a million dollars will be invested in monitoring and detecting systems.

The subject of residential complaints came up. There have been 698 recent complaints, 80 % of them from one disgruntled person, located away from the immediate airport area.

O.B. alerted members that introductory rates (\$ 129.00) for flights from Palomar-McClellan Airport to resort destinations are now available. For further information, phone: 800-227-3849.

Minutes.

The minutes were corrected to acknowledge that the generous grant for the Young Eagles would be coming from the late Norman Miller's sister.

Dues:

Kermit Davis called attention to the dues coming due as of the next meeting (June) and reminded members to bring a check for \$ 12.00.

Tribute:

Mike Manion raised the issue of purchasing a plaque and a lunch to thank Lt. Colonel Joseph Craft for his generous hosting of EAA members at the Miramar Marine Air Station.

15' Before the Break

Greg Butler brought over the instrument panel that will be going into his plane. He described the instrumentation and discussed the merits of the instruments and their location. Greg also discussed the use of self-etching primers and paints to give the panel a very professional appearance.

Featured Speaker: John (Jack) Ballard

John Ballard took us to the marvelous arcane world of aircraft maintenance. Our lives are every bit as dependant on the skill of the mechanics who maintain our planes as they are on the skill of the pilots who fly them. This is a world governed by contradiction: the need to master highly specialized tasks and the need to understand how such tasks impinge on the operation of the system as a whole. It is a world of division, of engineers who devise the systems and teams who write manuals for the maintenance of these systems. It is a world where the innocent pursuit of an

economy of words in the manual may have fatal consequences for real world operations.

John Ballard learned his craft the hard way: by immersion. John began his career with the Marines in 1954 and was selected to participate in the aviation sector shortly thereafter. After perfunctory exposure to schooling in the fundamentals of aircraft and electrical systems, John was on his own. He learned to maintain and repair everything from altimeters, gyroscopes, autopilots to engine harnesses. He mastered the subtleties of fine tuning cable and bungee systems so essential to the maintenance of responsive control. John recognized the problems caused by faulty manuals and rewrote them as necessary.

John illustrated practical examples of his trade in the love of his life, the OB10 Bronco. He presented protocols for tuning the cable systems in this craft and discussed how deficiencies in the repair manuals led to difficulties in the operation of these versatile craft. Then John discussed how these very problems permeate the wider world of aviation maintenance and how we must be alert to their consequences in our daily lives.

In a fascinating aside, John described how the OB10 was cobbled together from off-the-shelf components while the Government was billed for component development.

John gave an equally fascinating description of the contribution of bureaucratic inertia to the preservation of serious maintenance problems. In this case the culprit was a battery terminal connector that had become established as an air industry standard. Failure to control contact specifications and inadequacies of design led to subsequent failure of relay and instrument components. Attempts by John to call attention to these problems were rebuffed by engineers

unwilling to accept advice from a non-engineer. When the problem was finally recognized by the engineers, the information was jealously suppressed as engineers sought to secure the redesigned contacts for their own pet projects.

Subsequent investigation revealed that the problem connector had become an industry standard without ever having been tested to military specifications. The flawed design, after decades of use, was finally quietly corrected while flawed connectors in place continued to fly.

Finally, John paid tribute to the OB10 Bronco, the versatile warrior that used to be a ubiquitous feature in our skies. It was retired, he said, because it was too inexpensive and simple and undercut the excuse to develop much more costly and profitable systems.

In the question and answer period that followed, additional absurdities were highlighted. Migration of systems from one service to another resulted in the printing of new manuals that, while conforming to the dictates of the new service, left out critical cautions and admonitions, leading to inevitable disasters. Engineers, while designing mechanically correct structures, neglected to consider chemical and physical interactions of dissimilar metals, leading to failures such as landing gear locks that eroded and caused nose-wheel collapse on landing. Computer aided design has ushered in a vast territory of systems that perform magnificently in virtual reality but are fatally flawed in real reality.

All in all, the presentation provided ample material to ponder as we gaze down upon the earth from on high.

The meeting was adjourned at 21:52 hrs.