NEWS & COMMENT

The NEWS and COMMENT section is open to all Members of the Society for statements on any aspect of aviation history or for expressions regarding the affairs of the Society. The chief purpose is to bring forth the facts, including the airing of controversies. It serves to present information in brief form which Members might not feel moved to contribute as complete articles. Opinions are welcomed but such opinions, and the accuracy of the information contained therein, are the responsibility solely of the contributor.

ERRATA

The photos of the DC-6 in J-AAHS, Summer 1972, p. 142/143, were credited wrongly. Dave Menard disclaimed immediately, and Nick Williams acknowledged same day. Seems these two correspondents exchange beaucoup pictures and negatives, so when the item was submitted for publication, Williams sent the negatives in some previously used glassine envelopes which had Menard's name on them. I pass. Edit.

THE WINGED GOAT

Col. Phillips Melville, Washington, D.C.

Reference to the Winged Goat insigne on Page 105 (Summer, 1972) is confusing, since the insigne does not show in the photograph on that page. The Goat was on the port side, roughly opposite where "Ca^3" is seen on the near side, and thus is not visible. The device on the fuselage (behind the wings) is a squadron insigne, depicting a winged shell venting smoke from its fuse as it flies through the air, and would indicate that the airplane had seen service at the Front.

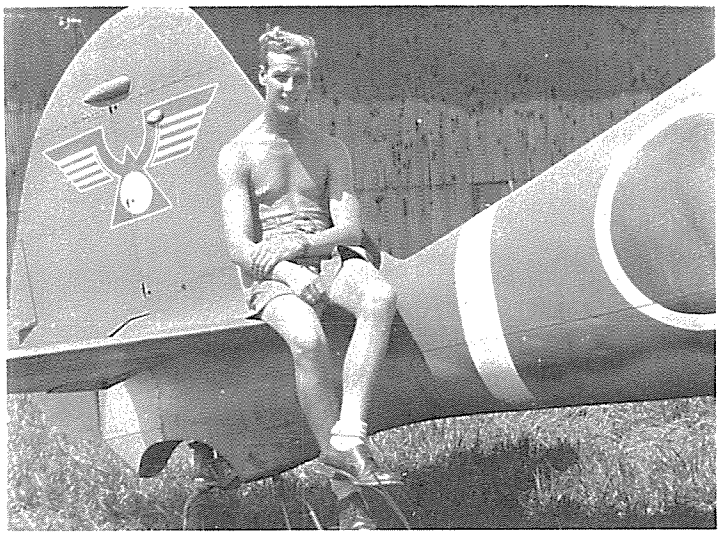
Re: Molson's introductory remarks, "Sena Cozzar Dirrco" should be "Sensa Cozzar Dirrco." And (on Page 106, left hand column below) "impedimenta" is intended, meaning the baggage of a soldier.

WHO AND WHY?

N. Franklin, Newark Air Museum, Newark, England

The enclosed unusual photograph came into my collection from an unidentified source. It is unusual because of being a Curtiss-Wright Falcon with what apparently is the Japanese national marking. A note on the reverse states "Curtiss Falcon" Singapore 1945." No other information is available.

Who and Why? (N. Franklin)

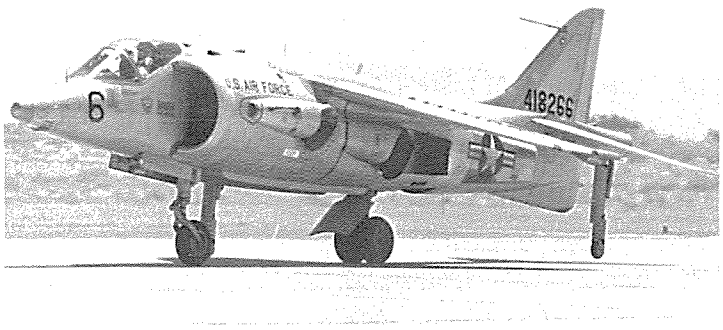


THE KESTREL WAS AN XV-6A

Warren M. Bodie, Thousand Oaks, California

Elaborating on the "Harrier/Kestrel" discussion, the enclosed photograph of the Hawker P.1127 cum XV-6A Kestrel was taken at Edwards AFB in May 1967, then identified as 64-18266. The notable fact of the Kestrel/Harrier program is the very long development period, beginning at least a decade ago.

SV-6A Kestrel, USAF 64-18266 at Edwards AFB, May 1967. (W.M. Bodie)



CURTISS DESIGNATION SYSTEM, 1912-1916

Robert Casari, 6 Applewood Dr., Chillicothe, OH 45601

Unraveling the history of early aircraft must be based on accurate identification of the models involved and, if the designations are not correctly established, it is possible to be misled in just how some types evolved. In the case of the Curtiss aircraft company between 1912 and about 1916, military files seem to indicate a definite pattern to the assignment of designations to both its aircraft and engines that could materially help in tracing what took place.

During this period, Curtiss initiated development of at least four series of aircraft and three engines that show a similarity in the designation system used. If the following interpretation is correct, the company did not use a "-1" to indicate the first model of any series, but instead assigned a letter (or letters) to a new design and added a "-2" to the next progressive modification. Further, there seems no indication anywhere that the "-1" was *retroactively* assigned to the first model of a series.

The following list is based almost entirely on contemporary military files and is believed to be a reasonably complete list of basic models actually built in each series, though it seems certain that others could be added to fill a few gaps. Note the lack of any "-1" models.

AIRCRAFT:

R, R-2, R-3, R-4, R-6, R-8, R-9.
J, JN-2, JN-3, JN-4, JN-5, JN-6.
N, N-8, N-9.
(H?), H-4, H-7, H-10, H-12, H-14, H-16.

ENGINES:

OX, OX-2, OX-5,
OXX, OXX-2, OXX-3, OXX-6
V, V-2, V-3, V-4.

While we have no record of the first designation used in the H-series, there is little question the company used plain letter designations first on all the other series. In the case of the JN-2, the Army's contract for this type specified it as a "Modified J," implying that the JN-2 delivered on the order evolved directly from the J without even an intermediate JN model.

In the case of the OX and OXX engines, there seems some basis for believing that, after assignment of the similar first two designations in each series, a common suffix numbering series was used. In other words, there was no OX-3, there was either an OX-4 *or* an OXX-4 (but not both), there was no OXX-5 and no OX-6.

Since published accounts of the past 20 years do contain references to such models as a JN-1, the author would be interested in hearing from anyone who can document, from contemporary 1912-1916 records, the use by the Curtiss company of the "-1" designation in any of the above series or use of the numbered engine models listed in the paragraph above.

It appears that in 1916 the company did begin usage of the "-1" with both the S-1 and L-1 aircraft.

THE JOHNSON TWIN-60 ACCIDENT

Kenneth M. Sumney, Pittsburgh, Pennsylvania

Test Pilot Clyde Emrick and E.R. Gerber landed at Bettis Field (near Pittsburgh) on Friday afternoon, 24 June 1927 in the Johnson Twin-60 after a much interrupted flight from Dayton. Cause of the interruptions – the starboard "Cherub" engine had failed several times, causing forced landings. Perhaps it was being delivered to a buyer, but others have stated it was on a test flight. Mechanics could find nothing wrong with the engine and the next morning Emrick made several short test flights and all went well.

The gas tanks were filled and Gerber climbed aboard with Emrick for the return flight to Dayton. The next takeoff, with the extra weight on board, was quite different. The "60" appeared quite sluggish and took an extra long run to get off the ground. It had climbed only 100 feet and was over the western edge of the field. There that cranky right engine quit.

The airplane went into a flat spin and pancaked into a wooded area beyond the edge of the field. Neither occupant was injured and damage to the airplane was slight; the landing gear torn off and the lower wing broken in several places. For some unknown reason Emrick did not 'cut' the left engine, and when he stepped onto the left wing he either slipped or tripped and fell backward into the propeller.

Emrick managed to walk to the small shed used as the administration building. Barr Peat was there, and he and the secretary at the field (who later became Mrs. Clifford Ball) rushed Emrick to the McKeesport Hospital. There the doctors, after one look, advised Peat to "notify the next of kin." Emrick died in the hospital a few days later, on July 4th. Tuesday after the accident a crew arrived at Bettis Field from Dayton and dismantled the airplane and took it back to the Johnson factory, where it was presumably burned.

Recently we learned that Barr Peat, who was later the manager of Bettis Field, a founder of the OX-5 Club of America, and a Member of A.A.H.S., died on May 1st, 1972 at his home.

LITTLE-KNOWN LOOK-ALIKES

Joseph W. Justin, Los Alamitos, California.

In the middle 1930's a "look-alike" in transport aircraft was outstanding. The Ford and Fokker Tri-Motor airplane similarities were well known but many have not seen the Bloch 220 and 221 or the Fiat G.18 and B.18V, both quite similar to the Douglas DC-2/DC-3.

The Bloch 220 was a twin-engine 16 passenger, low-wing monoplane designed for operation on Air France's European routes. The first flight of the prototype, F-AOHA, was made in December 1935, powered by 915/985 hp Gnome Rhone 14N fourteen-cylinder radial engines. The cowlings were of the low-drag type much like the DC-2 and DC-3; the engines were fitted with Ratier three-blade controllable pitch propellers. The center section of the wing was not tapered and did not have dihedral, but there was considerable dihedral outboard of the engine nacelles; also, there was sweepback on the leading edge of the wings. The fuselage had rectangular section with rounded corners and was a semi-monocoque structure. The main wheels retracted up and forward into the nacelles. There were 17 of these aircraft constructed including the prototype, resembling the DC-3 in many respects.

In 1935 with the increasing success of the airlines throughout the world, Fiat devoted some of its efforts toward the design and production of a high-quality, efficient transport airplane. The first was the G18 which was to become, after further development the G18V. It was designed by Professor Ing. Giuseppe Gabrielli and made its first flight on 18 March 1935.

The G18 was originally fitted with Pratt and Whitney Hornet S1Eg engines that produced 770 hp, but later Fiat A59R engines were used. This engine was actually a "Hornet" produced under license in Italy. The propellers were Hamilton Standard three-blade controllable pitch. The G18 carried a crew of three, two pilots and a radio operator and there were accommodations for 18 passengers.

The G18V version was constructed in 1937. It was fitted with Fiat A80RC41 engines. A total of nine G18 and G18V aircraft were produced and were used extensively. It was reported that several were still in service in 1949.

The Fiat A80RC41 engine was an 18 cylinder radial equipped with Fiat dual body down-pitch propeller. This engine produced 885 hp at sea level and 1000 hp at 4100 meters (13,452 feet).

ALI was one of the group of Italian airlines to remain independent of Mussolini's control, probably with the help of the Fiat company, which had the controlling interest in ALI. Passenger service to Munich started in May 1928. In June 1938 London was added to the route network, and their fleet consisted of Savoia Marchetti 73's, Fiat G18's, and a DC-2. No details are available concerning the actual fate of the DC-2 in Italy.

LOOKED FOR HAWK, FOUND DUCK INSTEAD

Gerry Beauchamp, Ottawa, Ontario, Canada

In search of photographs of the Curtiss Hawk 75 supposed to be on display somewhere in Peru, the picture of the Grumman Duck is one of several sent, apparently due to confusion of the authorities between Hawk and Duck. This airplane was acquired

Grumman Duck at Parque Leyendas, Lima, Peru. **(Brian Watson)**

by Peru for the Verano Linguistic Institute and, name AMAUTA, was presented at a ceremony at Limatambo Airport on 20 July 1946. Amauta was an early Inca ruler.

The airplane was used by the Ministries of Health, Education and Culture, in conjunction with the University of Oklahoma, to provide services to remote area inhabitants in the Amazon forests, the sole mode of communication with these populations being by air. It had been used by pilots of the American Air Mission. In December 1946 it was the machine used by the first woman to fly across the Andes mountains, and in October 1961, after many humanitarian flights, it was turned over to the Peruvian Air Force at Las Palmas Air Base and remained in service until 1964.

In 1965 the Duck, registered OB-164, was displayed in Lima's Parque Leyendas (Part of Legends). Mr. Brian Watson, of the Canadian Embassy, Lima, secured the photographs and forwarded them with the information. (The author is, however, still without photographs of the elusive Hawk. Edit.)

CANNIBALS and CADAVERS

Allan G. Blue, Bethesda, Maryland

As the eventful year of 1942 drew to a close, the AAF Material Center at Wright Field was actively considering a novel solution to the problem of supplying spare parts to the growing number of Army Air Force combat squadrons deployed in overseas theaters. Known as the Cadaver Plan, the approach was simple in concept yet represented a bold departure from conventional practice.

Briefly, under the Cadaver Plan a complete set of spare parts for, say, a B-24, instead of being crated, warehoused, shipped by sea to a series of overseas depots and eventually distributed to the ultimate user, would be assembled into a completed Liberator at the factory and flown directly overseas to the Squadron in need. Upon arrival, it would immediately be dis-assembled and broken down into spare parts again. Voila! – a full parts bin and not even any packing residue to dispose of.

Of course one drawback immediately comes to mind – i.e., what Squadron Commander, being pressed to deliver any kind of maximum effort, would stand by and watch a brand new ship disappear before his eyes? Remember, this was proposed in 1942. It is indeed hard to imagine the incoming "cadaver" actually being dismembered while standing amidst a dozen of its kind already past their prime of operational life. Possibly the Material Center plan had an answer for this, but if so it is not known.

On 7 January 1943, Mr. Frank Watson, Chief of Contract Administration for Consolidated Aircraft Corporation, submitted his comments on the Cadaver Plan to Wright Field.[1] Although not citing the argument given above, Mr. Watson provided several others in opposition to the plan and in the course of his letter brought out some interesting aspects of the entire spare parts problem. He also proposed another system for overseas resupply which becomes equally interesting in retrospect. Mr. Watson's letter read, in part, as follows.

"... The problem of spare parts provisioning in the actual theaters of combat does not resolve itself purely into one of the most economic uses of available man-hours. Man-hours at point of combat and man-hours in terms of shipping space may well carry an extremely high premium in comparison with man-hours at the factory. Thus ... the abandonment of a complete airplane at the theater of operations, after it has served the limited purpose of supplying critical spares to an operating squadron, may be an efficient use of the man-hours at factory which it took to assemble the parts making up the airplane into a flying unit.

"We would, however, suggest a variation in the "Cadaver" plan. We are impressed from the reports of our own representatives abroad with the fact a "Cadaver" airplane would supply but a limited amount of the very critical items of spares required by an operating squadron. It would furnish four engines, one left and one right outer wing panel, one tail assembly, one complete landing gear, etc. This might well be an over-supply of certain items but would prove to be a serious under-supply of others. Consideration has been given to the additional spares which could be carried aboard such an airplane to the point of combat. However, even with these the "Cadaver" plan would not appear to be a completely adequate substitute for the tremendous spare parts program now in operation.

"On the other hand, this larger spare parts program has as many doubtful aspects as far as efficiency is concerned. The only spares to be counted from the standpoint of the war effort are those which actually arrive at the point of ultimate use. All of these spare parts in storage in bases in the United States, in transit to foreign theaters, at central distribution points and enroute to actual point of combat have no direct utility in meeting the problem. They are equivalent to the water in the hose in a garden irrigation process ...

"The fundamental premise of all spares supply is to have the right part at the right place at the right time. To be able to supply this right part from any given point calls for a range of parts at that point. Out of such a range, certain parts will be called for more frequently than others. The total supply of parts at the given point must therefore be multiplied in certain items by a frequency factor which is a function of the number of days' time which must elapse to cover shipment from point of origin (production of the spares).

"Thus, if a base in India is 67 days from dockside New York which is 10 days from the factory, the minimum stock of spares to be tied up at the India base is one full range plus a 77-day factor for all parts in the range having average demand of more than once in 77 days. Since the demands of war are not closely calculable as to parts needs, this quantity of parts in storage in India must more probably take into account maximum possible demand of each item. This further increased necessary stocks. Add to this again the ability to rapidly shift squadrons of long range aircraft, and an additional multiplication of all parts must be made to meet the contingency of a concentration to be cared for out of the particular base.

"Take this one base and multiply it by the number needed to cover the world under an orthodox peacetime distribution of depots and sub-depots and it becomes immediately obvious that such a program cannot work. Add again the further fact that even concurrent delivery of spares and airplanes at the factory must create a lag of as much as 3 months in the two joining each other again abroad, and it becomes foolish to even attempt the operation of such a system.

"The obvious answer hardly needs to be stated. First, we must cut the number of days from source of parts to point of final use. This will shrink the frequency factor and decrease the quantity of parts in float in the system. Second, we must cut the number of points of supply to decrease the quantity of full ranges of spares required.

"All of this points to specialized air transport .... One form of [which] is the "Cadaver" plan under which the spares would be moved direct from the factory to the operating squadron both in the form of cargo in an airplane and in the form of the parts which make up the airplane itself. While this gets a full range of spares to the point of need in the absolute minimum of time under any conservative plan, it does not permit more than a limited frequency factor on particular items which can be carried aboard the airplane. However, it is felt that the "Cadaver" airplane can furnish a greater use by returning immediately to the source of spares (the factory) with a list of critical items with which to replenish the operating squadron's stock.

"Under such a plan, let us assume that 20 B-24 airplanes are to be assigned as a squadron to operations in North Africa. Nineteen of these airplanes depart the United States operationally complete for the required missions. As such but without bomb load, each is

able to carry to its base approximately a thousand pounds of the most critical spares. These will probably consist of essential handling equipment such as wing jacks, etc., plus hydraulics, electrical, radio and engine assessories which experience has proven are critical items. The twentieth airplane is converted to a cargo carrier and is capable of departing with its squadron with an additional 7,000 pounds of spares of the same type. In all, therefore, 26,000 pounds of spares arrive at the base of operations with the squadron.

"Immediately on arrival, the converted cargo carrier starts back for an additonal load of spares bringing with it such a list of urgent items as the original ferry trip has revealed necessary. In 8 days this airplane should be back with an additional 7,000 pounds of spares consisting of items of an immediately known need plus such additional items as are felt necessary to add to the original stocks. This process is repeated with each trip caring for aircraft on the ground and building up the squadron's quota of additional spares. During all of this time the squadron has been able to carry on operations and has received a minimum of spares which it will not need.

"It is felt that it can be proven that the total quantity of spare parts saved by this air transport process as against the orthodox method of spares distribution could be made up into whole airplanes without reducing the quantity of operational bombers and still leave a far more extensive supply of spares actually available for use.

"For an example, let us start with 1000 B-24 type airplanes – two months' production. Spares for these, at a 25% ratio, will equal 250 equivalent airplanes. Under the surface transport and depot system . . . this calls for a movement of 10,000,000 pounds of cargo over distances as far as three-quarters of the way around the world, and delays of as much as 3 months with possibly a 10% loss from shipping.

"Now take 100 of these equivalent airplanes in spare parts and have them made up at the factory into transport planes of the C-87 type capable of flying the longest jump on any route and carrying 7000 pounds of cargo. All base points [are less than] an 8-day round trip from the production plant. Considering the quantity of spares to be taken out with the original squadron, a full range of spares for any point (figured conservatively at 40,000 pounds) is, therefore, only 24 days away from – not 18 depots and sub-depots – but 100 or even 200 individual operating squadrons. Taking the original assumed quota of 1000 B-24 type airplanes, this sytem requires the keeping of less than 350,000 pounds of spares in float between the factory and the point of use, as against the 10,000,000 pounds of spares required under the old system or about 3.5% of the stock otherwise needed just to fill the system.

"There are, of course, many unknown factors in this picture but the majority of them add to the weight in favor of air transport with small stocks as against surface shipment and large stocks. . . If landing gear demands exceed expectation and stabilizer needs fall far short of expectation, the character of production requirements can be shifted when only eight days of stock are accumulated rather than 81 days of stock. This should save lots of wasted manufacturing effort. Again, small stocks near actual theaters of war present less risk from enemy action than large stocks. Having stocks as mobile as the fighting airplanes themselves enables rapid concentration to meet equivalent concentration of such fighting airplanes.

"The program is so obvious that it may seem oversimple. However, there are many important factors in its execution. First and foremost, it must fail miserably if the attempt is made to tie it into a large transport system. Decentralization is vital. Transport planes for spare parts supply can be a reserve asset for emergency movement of other cargo on rare occasions; they can serve as ambulance planes on return trips, but they must be regularly and definitely assigned for their main job alone, to a particular squadron. No spare item can psychologically be elevated to a position of first priority until an airplane is on the ground waiting for it. That time is too late. Spares, therefore, cannot fight for their proper place in a huge central airline. Anything short of definite assignment of transport planes to individual squadrons will create a necessity for coordination and an inflexibility of operation which will destroy the main virtue of the idea, direct contact between an operating squadron and the central source of supply.

"The whole problem has certain similarities to urban store delivery. Large department stores can run deliveries once or twice weekly and oft-times use centralized parcel delivery services. But the local drug store, which must cater to emergency needs, cannot stay in business without its own boy on a bicycle . . ."

Neither the Cadaver Plan nor the "Squadron Messenger" alternative was ever implemented.[2] Worse luck for us button-collectors and aviation history buffs! Think of all the additional serial numbers that would have been produced for us to keep track of – and of a special "cadaver" class at that. And then there are all those unexperienced, globe-spanning adventures that can never be told of the boys on the bicycles built for (World War) Two.

REFERENCES:

1. **This letter is reproduced as Exhibit No. 40 in "Construction and Production Analysis –San Diego," prepared by the Air Technical Service Command and published in 1947.**

2. **Actually not quite true. A few B-24's, less combat equipment, were dispatched from San Diego to Cairo to provide emergency spares for Brereton's weary North African Liberators. Known AAF serials of these aircraft, which were dispatched overseas under the name of "HALPRO Cannibals," include 41-11848, 41-11855 (which crashed en route), 41-11927 (which returned to the ZI after reaching Trinidad), and 41-11934.**

Author Kenn Rust described the making of "Mongrel" from some already cannibalized hulks in a delightful anecdote quoted from a letter by Lt. Col. John Kane, the "Killer" Kane who was C.O. of the 98th B.G.* This action, however, took place in mid-1942, and was a cause, rather than a result of the Cadaver Plan. In a letter to this author (written 1970) Lt. General K.B. Wolfe described the genesis of the HALPRO Cannibal operations as follows:

> **"When Brereton arrived in Cairo he badly needed replacement engines and other parts. I was at this time in charge of the production division at Wright Field. General Arnold ordered me to use C-87 transports to get engines to Brereton, but the first C-87 was still undergoing its first flight tests. However, we did have some B-24's at the plant in San Diego which were short combat equipment. I proposed to General Arnold that we fly these so-called "Hulks" to Cairo and remove the engines and other parts for Brereton's combat B-24's. This was done."**

***Rust, K.C., *The Ninth Air Force In World War II*. Fallbrook, Cal: Aero Publishers, 1967.**