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## UFO UpDates Mailing List

### Of Flying Wings & Hover Cars

From: Moderator, UFO UpDates - Toronto  
Date: Mon, 03 Aug 1998 13:34:54 -0400  
Fwd Date: Mon, 03 Aug 1998 13:34:54 -0400  
Subject: Of Flying Wings & Hover Cars

With the recent discussions regarding Nazi Saucer-shaped craft, the AVRO Aerocar and Triangular UFOs on many Lists, Sites and news.groups, the following written by Charles McGrew in 1992 and posted by John Stepkowski in '94 may provide more information.

Downloaded 04-27-94 from Dave Gullick's Sirius Rising BBS in Toronto.

ebk

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Date: 04-26-94 (23:16)  
To: ALL  
From: JOHN POWELL  
Subj: Flying Wing  
Conf: F-BAMA (955)

Courtesy of: John Stepkowski  
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By Charles McGrew  
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Known "Disk-shaped" ("Triangular"/"Flying-wing") aircraft

We all know about B-2's and F-117's, and could see how they might be described as "disk-shaped" if viewed from the appropriate angle. Here's some other information about some similar aircraft from the past. They are presented here merely to show that disk-shaped flying craft are not only possible, but have been built.

XB-35 - In response to the possibility of Britain falling in the early stages of WWII, the US Army Air Force began taking designs for extremely long-ranged, heavy-bomb-load aircraft that could fly from North America to Germany and back, carrying 10,000 pounds of bombs. Northrop proposed the XB-35. The XB-35 had 4 engines, each driving two counterrotating pusher propellers along the same shaft (!). Pictures of the XB-35 look like each shaft has a six-bladed propeller, but its actually two three-bladed propellers -- for a total of 8 propellers.

Jack Northrop had been experimenting with flying-wing designs

since the early 1920's. In Germany, the Horton brothers (see below) were working on a flying wing as well -- the final designs look surprisingly like the XB-35 (though it had only two propellers).

Northrop's first prototype was the N-1M (nicknamed "the Jeep"), which was tested in the Roseman Dry Lake in the Mohave Desert from July 1940-early 1942. It had two pusher propellers, and space for one pilot. Wingspan was 38 feet, and the plane weighed 4,000 pounds. First "public" flight made the newsreels. The wings were altered significantly as testing went on; for instance the "drooping wingtips" were discarded early on. The (only) N-1M still exists, and has been restored, it is now sitting in a Smithsonian storage hangar, painted its original brilliant yellow.

Northrop was contracted by the US Army Air Force Materiel Division to build one XB-35 (wingspan 172'). The N-9M was the first product from the contract, a 1/3 scale (working, though wood-structured, not metal) model with two engines with a 60' wingspan as a testbed/trainer. It first flew successfully on Dec. 27, 1942. Three other N-9M's were built, and the N-9M test program was completed in Oct. 1944. [The last surviving N-9M is being painstakingly rebuilt by the "Planes of Fame" Museum, in Chino, CA] One of the N-9M's crashed during testing.

On June 25th 1946, the XB-35 was at last ready to fly (after a number of difficulties with the propellers) at Hawthorne Field, CA -- the Northrop company field. The '35 was now in competition with what became the Consolidated B-36 as the postwar strategic bomber (interestingly, both planes were pushers.) Its first flight was from Hawthorne to Muroc Dry Lake (later named Edwards AFB) for additional testing.

Attempts to make the propeller system less complex were generally unsuccessful. Northrop decided to replace the props with 8 jet engines, and continue work on the plane, renamed the YB-49. Only 2 XB-35's were ever completed, the second one first flying on June 26, 1947. The Martin Corporation worked on the YB-35 (same basic plane, just built at Martin), and the only YB-35 first flew on May 15, 1948.

YB-49 - The power problems of the XB-35 completely disappeared with the jet engines, but unfortunately they reduced the range of the plane such that it could not be thought of as a strategic bomber (mid-air refueling not then being feasible).

The second YB-49 produced was the first to fly, flown by Maj. Robert Cardinas, the US Army Air Force test pilot assigned to the Northrop program (i.e. Northrop retained control, but had military test pilots mixed in with their own.) On April 26th 1948, the YB-49 flew 4,000 miles with a 10,000 pound payload, on circuitous route that took it as far east as Phoenix, and as far north as San Francisco.

In June, 1948 a YB-49 on a routine test flight crashed (Capt. Glen Edwards, for whom Edwards AFB is named, died in this crash, along with four others); specific cause of the crash was never determined; structural failure was the most likely reason.

The military had expressed an interest in a reconnaissance version (with two extra jets) of the YB-49, called the YRB-49, and placed an order for 30. In January 1949, though, this order was cancelled.

In Feb. 1949 the remaining YB-49 flew from (now) Edwards AFB to Andrews AFB in record time (just over 4 hours - the record was broken the next day by the XB-47, its medium-bomber competitor, which flew almost 100mph faster). The famous YB-49-over-the-Capitol photos are from this flight. President Truman toured the plane's interior on the ground, and then '49 headed back to Edwards. During the flight, 6 of the 8 engines failed due to an oil failure which has a slightly mysterious history (apparently the oil reservoir had not been filled properly before the flight -- there are hints of sabotage). The YB-49 made an emergency landing at Winslow AZ. Later on in 1949 the last flying YB-49 was destroyed during high-speed taxi tests, when the undercarriage collapsed.

In November 1949, the Air Force (the US Army Air Force became the US Air Force on July 26, 1947 -- it changed from the US Army

Air Corps to the US Army Air Force on June 29, 1941) cancelled the last part of the YB-49 contract, that of converting the remaining partially-completed XB-35's to jet power. The last 11 XB-35 hulls (in varying states of completeness) were rolled out onto the flight ramp outside of the factory, lined up, photographed (a very impressive aerial photograph of them lined up survives) and broken up for scrap. Northrop employees made a last-ditch request to finish the planes in their spare time, which Jack Northrop had to turn down, for fear of jeopardizing further military contracts (political shenanigans for government contracts were just as silly back then as they are now, and Northrop was concerned that Stuart Symington, secretary of the Air Force, would look unkindly on Northrop in general if the planes were not destroyed -- Symington was very specific that the YB-49 program not continue. Northrop partisans say that Symington wanted to force Northrop to merge with Convair, for reasons of his own, and was hoping to damage Northrop enough to force the merger. Others say that the expected costs of the YB-49 were sufficiently higher than the XB-57 to warrant the choice of the latter.)

(Other WWII-flying-wing ideas from Jack Northrop included the turbojet-powered XP-79 "Flying Ram", a rocket-powered interceptor that was designed to literally slice the tail off of enemy aircraft with its heavily-reinforced wing to knock them down. The XP-79 actually flew (once -- it crashed), along with at least one similar prototype, the (rocket powered) MX-324, which first flew (powered) on July 5, 1944. Another was the JB-1, an unmanned rocket-assisted, turbojet-propelled missile, and the XP-56, another pusher-flying-wing; this time a fighter, with two counter-rotating propellers along the same shaft, which also made several test flights, in 1943 and 1944 one of the two XP-56's crashed in a landing, the other wound up at the National Air and Space Museum.)

Jack Northrop resigned from the company he had built after the YB-49 was cancelled, and left the aircraft industry entirely. In the mid-1970's, NASA sent him a letter that they were re-examining the flying wing idea (also, the YB-49's small radar signature was being taken more seriously by then.) In April 1980, he (suffering now from Parkinson's disease) was given a security clearance, taken to Northrop, and shown a model of the B-2. Makes a nice ending to the story, eh? The B-2 has exactly the same wingspan as the YB-49 (172').

(An interesting sidelight: in the late 1940's Northrop had also made a slick promotional-film campaign to drum up support for the flying wing; this included a film describing a proposed 80 passenger flying-wing commercial jet.)

Also, here are some other (lesser-known) planes that appear "disk-shaped" when viewed from one angle or another. (Note that both these aircraft did \*not\* become operational, for technical reasons.)

The Horten Brothers' Wings - in the 1930's and 1940's in Germany, the Horten Brothers, Walter and Reimar, built a succession of flying wing designs which were quite advanced, and on the cutting edge for their day. Their "Ho" series is as follows:

Ho I - 1931 - a flying-wing sailplane.

Ho II - 1934 - initially a glider, it fitted with a pusher propeller in 1935. Looked very like Northrop's flying wings.

Ho III - 1938 - a metal-frame glider, later fitted with a folding-blade (folded while gliding) propeller for powered flight.

Ho IV - 1941 - a high-aspect-ratio glider (looking very like a modern sailplane, but without a long tail or nose).

Ho V - 1937-42 - first Horten plane designed to be powered, built partially from plastics, and powered by two pusher propellers.

Ho VI "flying parabola" - an extremely-high-aspect-ratio

test-only glider. (After the war, the Ho VI was shipped to Northrop for analysis.)

Ho VII - 1945 - considered the most flyable of the powered Ho series by the Horten Brothers, it was built as a flying-wing trainer. (Only one was built and tested, and 18 more were ordered, but the war ended before more than one additional Ho VII could be even partially completed.)

Ho VIII - 1945 - a 158-foot wingspan, 6-engine plane built as a transport. Never built. However, this design was "reborn" in the 1950's when Reimar Horten built a flying-wing plane for Argentina's Instituto Aerotecnico, which flew on December 9, 1960 -- the project was shelved thereafter due to technical problems.

Ho IX - 1944 - the first combat-intended Horten design, it was jet powered (Junkers Jumo 004B's), with metal frame and plywood exterior (due to wartime shortages). First flew in January 1945, but never in combat. When the Allies overran the factory, the almost-completed Ho IX V3 (third in the series - this plane was also known as the "Gotha Go 229") was shipped back to the Air and Space Museum.

[Interestingly, the Horten brothers were helped in their bid for German government support when Northrop patents for the N-1M appeared in US Patent Office's "Official Gazette" on May 13, 1941, and then in the International Aeronautical journal "Interavia" on November 18, 1941.]

[Of course, one other "Flying-Wing-type" plane existed in the German Luftwaffe - Alexander Lippisch's-inspired Me-163 rocket-powered interceptor, and its intended successor, the Messerschmitt P.1111, a turbojet-powered fighter. At the end of the war, Lippisch was engaged in supersonic-fighter research, models of his "P12" were shipped back to the US for analysis.]

The "Zimmer Skimmer" (aka "The Flying Pancake") - in an attempt to develop a high-speed interceptor (fast enough to overtake diving enemy planes) to deal with Japanese kamikaze attacks, the Navy asked for bids for such an aircraft in early 1944. (The Chance-Vought F4U Corsair - and the Grumman F4F and F6F - eventually filled this bill more or less, but were hard to land on carriers, for weight and pilot-visibility reasons). Minimum speed desired was 450mph, then-available planes would do only about 400mph.

Charles Zimmerman, a research engineer for NACA, had come up with a disk-shaped, two-propeller aircraft idea before the war, which promised to be fast, and have short-take-off-and-landing ability (which included the ability to hover), which would be useful on aircraft carriers. (Imagine an oblong disk, with a canopy on top near the front, twin rudders and two small aerolons in the rear, and twin booms extending forward from the left and right sides of the disk with a huge counterrotating propeller on each. The undercarriage was a spindly-looking tricycle arrangement that had the "Skimmer" taxiing at about a 40 degree angle. The fuselage was the "wing", but was much thinner and wider than later "lifting body" experiments. Hovering was accomplished by going nose-verticle and, well, just hanging there - such was the power of the propellers. Wingspan approximately 30-40 feet [by my eye].)

The V173 (the first prototype version) was built by Chance-Vought. Boon T. Guiten was its first test pilot. Its first flight (November 23, 1942) lasted only 13 minutes, but was entirely successful, and testing continued. One of the later-on test pilots was Charles Lindberg, who was an enthusiastic supporter. In July 1944, the Navy ordered two more "Skimmers" built for further testing, each equipped with significantly more powerful engines (1350hp Pratt and Whitneys -- the V173 was judged underpowered, since its top speed was not up-to-spec). The two new planes were built from "metalite", a composite material made from sandwiching layers of aluminum and balsa wood. These planes were designated F5U's.

The F5U's were actually overpowered, and had a clutched gearing system to vary propeller speed in flight. In addition, a geared propeller-synchronizer was also installed. The first F5U

was ready for flight in August, 1945 (but was delayed by a lengthy redesign of the propellers). By 1948, an F5U was finally ready to fly, but technology had passed the plane by (jets were already doing 600mph). The F5U taxi'd up and down the runway a couple of times, but never flew. Total pricetag on the project was about \$9M. Both 5FUs were scrapped. (The F5U's were intended to be sent to Edwards AFB for testing -- shipped via the Panama Canal; apparently the skimmer's unusual shape would have made ground transport difficult.) [In the mid-1930's the Arup S1, S2, S3 and S4 - looking very like what became the Zimmer Skimmer, but with a single centerline "puller" propeller - were flown as flying billboards and test aircraft.]

The Avro (Canada) "Avrocar" was an outright flying saucer. It used three Continental turbojets, turning a central impeller ("turbo rotor") to keep it airborne with downward thrust, with a vane/shutter system to propel the craft in pretty much any direction by venting thrust in any direction desired. It was built to hold two human crewmen in separate cockpits on either side, facing front - total width of the Avrocar was 18 feet, with tricycle landing pads or wheels for undercarriage. It was first proposed in the early 1950's by the Avro company to the Canadian government.

The maximum expected airspeed was originally about 700mph. As Avro worked on the design, expected airspeed dropped to 300mph. By the mid-50's, a very-secret project (unknown to even most Avro employees) was in full swing to build the Avrocar. The blades of the Avrocar turbo-rotor were hollow with internal re-enforcing, and brazed to cement the parts. The first turbo-rotor was tested for 150 hours without mishap.

By 1955, the costs of the project had escalated beyond the resources of the Canadian government. The project after that was underwritten by the US DoD (the USAF and Army were both interested.) The Avrocar first flew with a pilot on Dec. 5, 1959 (prior to that, it was tested unmanned). Two were built - one Avrocar was tested out at the Ames research center in California, the other remained with Avro for testing. Although the aircraft did fly, its ability to rise and top speed was extremely disappointing, mostly due to thrust dissipation in the impeller. The Avrocar was able to clear (small) obstacles without difficulty, but maximum altitude was never more than about 6 feet! The project was quietly closed down.

Both Avrocars are still intact, and survive in US museums (not sure which, though).

... curiously, the Avrocar's technology was within a hair's breadth of being successful. Using almost exactly the same propulsion setup, the British developed hovercraft (the first being the British SRN-1) in the early 1960's -- basically an Avrocar propulsion system with a rubber skirt, which greatly improved the use of downward thrust.

... in recent years, a one-person "homebrew" version of an Avrocar has appeared (alas, I cannot remember the fellow who built it's name, but he has built a lot of neat flying vehicles, and I've seen film of the avrocar-like vehicle flying).

Edmund Doak also was contracted by the USAF to develop disk-shaped airfoil aircraft in the 1950's and 1960's. His last and most promising, the Doak-16, was canceled by the USAF.

[Sources: Documentary "The Wing will Fly", a 'Wings' documentary on "Strange Planes", and "Winged Wonders", by E.T. Wooldridge, published by the National Air and Space Museum, 1983, "In Search Of" episode "UFO Coverups".]

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--- Blue Wave/QBBS v2.12 OS/2 [NR]  
\* Origin: Absence of Evidence is not Evidence of Absence BBS (1:2617/408.0)

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For more information on Nazi UFOs see Jeff Rense's article at:

<http://www.sightings.com/ufo/hova.htm>

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