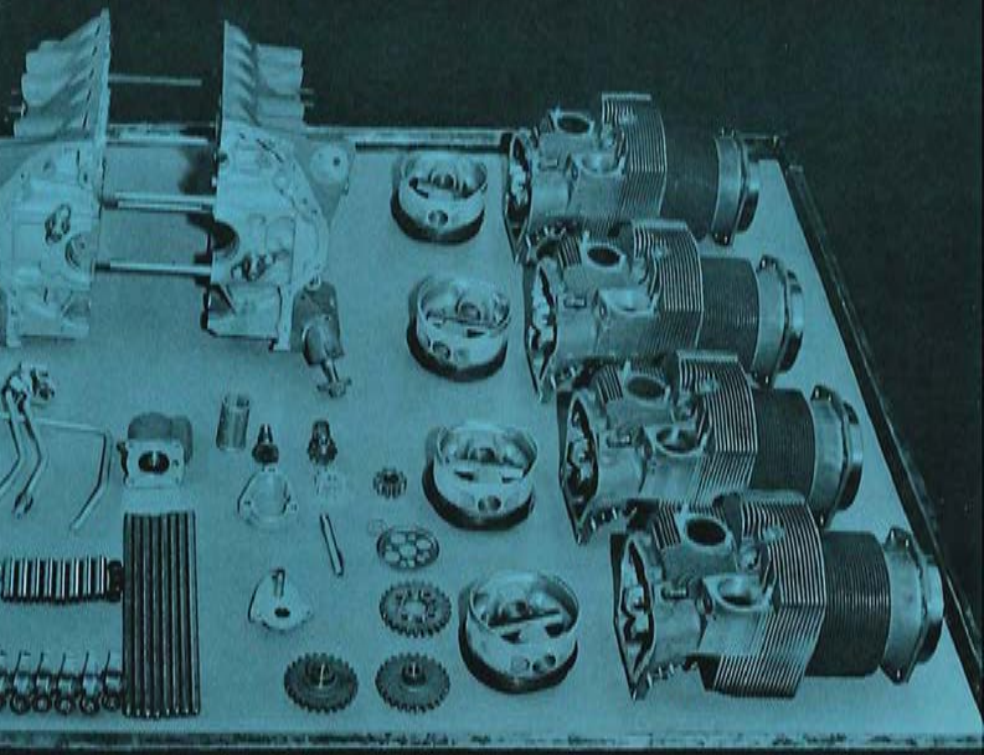
ARMY AVIATION
FEBRUARY-MARCH 1964



chinook PROGRESS

SUMMARY

March, 1964

CHINOOK COMPLETES COLD WEATHER TESTING AT FT. GREELEY, ALASKA

A U. S. Army CH-47A Chinook helicopter is shown during the final phases of arctic testing at Fort Greeley, Alaska. These tests, conducted by the U. S. Army's Arctic Test Board, included daily maintenance inspections and operations at temperatures down to –50°F. During these operations the Chinook carried all types of internal and external loads including a 2½ ton truck, shown at left, which was loaded to a weight of 14,000 pounds.

BOEING

VERTOL DIVISION

Merging man/machine/mission

U.S. ARMY

OH-5A

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Simple, rugged, two-bladed teetering rotor; selective growth options for increased power and gross weight.

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Exclusive Stability Augmentation System (SAS) results: "hands-off flight"; more hours daily availability due to night and marginal weather flight capability; ease and safety in nap-of-the-earth maneuvers; stability as a weapons platform; indifference to turbulence.

Engine deck is servicing platform for access to rotor head.

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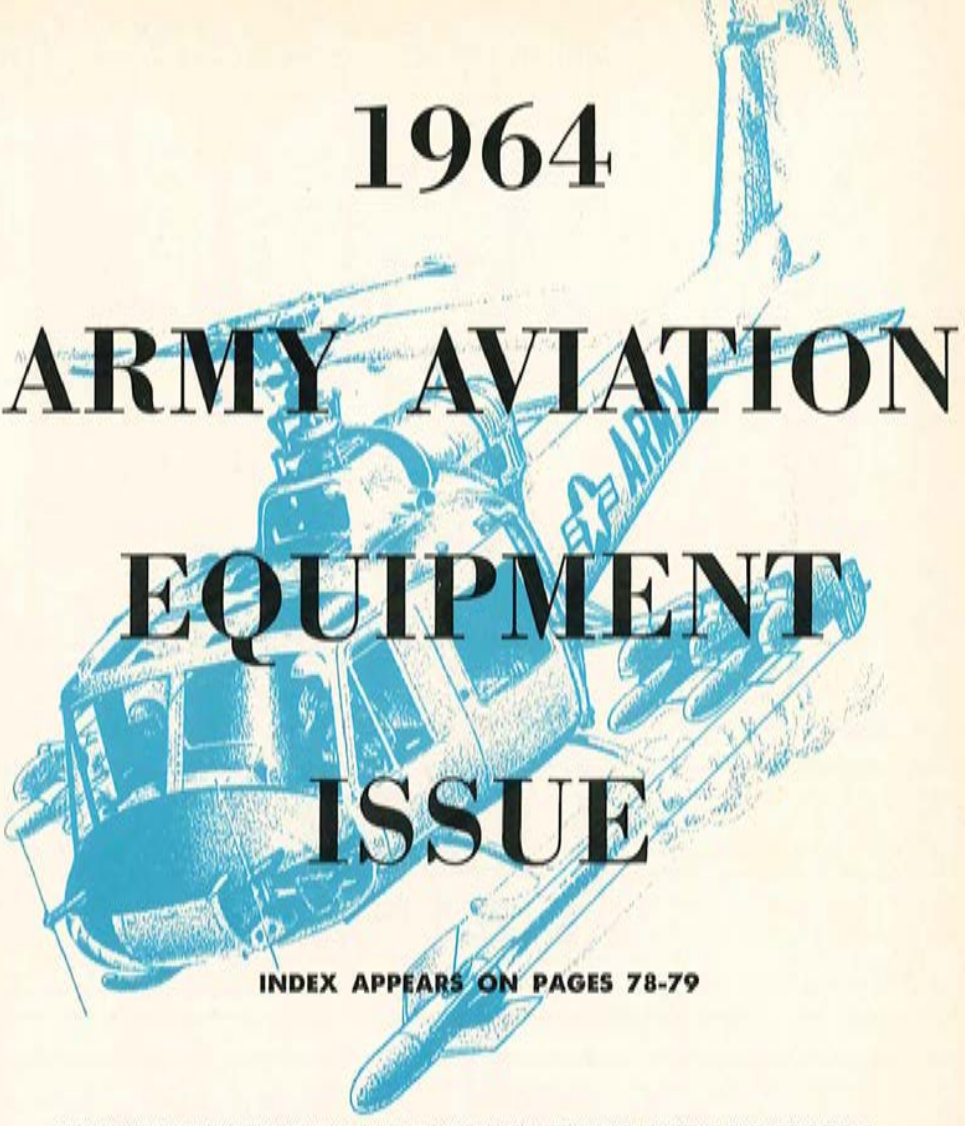
1964

ARMY AVIATION EQUIPMENT ISSUE



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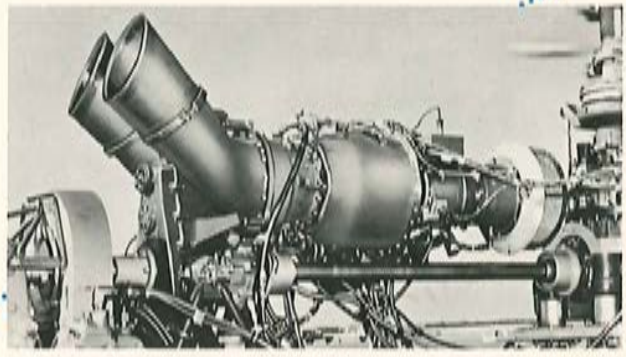

flashed from Fort Worth, Texas after the CAE Model YT65-T-1 shaft turbine engine completed its first rotary-wing flight in the UH-13R recently at Bell Helicopter Company . . . From the start of its brief (only 5-hour) ground test on through 1.7 hours of flight the first day, the Bell engineers and test pilots were impressed by the excellent performance characteristics of the CAE Model T65, and particularly by the complete absence of in-flight control-compatibility problems . . . For power requirements up to 335 SHP you will be justified in expecting a great future with the CAE Model T65 in long trouble-free life, minimum specific fuel consumption, rapid acceleration, and versatile application characteristics.

To obtain complete detailed information on the CAE Model T65 write or phone Mr. Seymour Genden at 12700 Kercheval Avenue, Detroit, Michigan 48215, Phone Area Code 313-822-1500.

CONTINENTAL AVIATION AND ENGINEERING CORPORATION

AIRCRAFT HARDWARE: AVIATION MILESTONES

By BRIG. GEN. JOHN J. TOLSON
DIRECTOR OF ARMY AVIATION, OACSFOR

THIS equipment issue of ARMY AVIATION MAGAZINE marks the first such compilation of information on Army aircraft since September 1960. It has been put together in response to many requests and should provide a valuable source of reference material on the hardware side of Army aviation, past and present.

It is hard to believe that, in such a few short years, so much progress has been made toward improving the capability of the Army through use of organic aviation. The many aircraft developments, from the Cub to the Caribou and from the early helicopters to the modern Iroquois, Chinook and LOH, are milestones testifying to the dedication and hard work of those who have participated in the Army Aviation Program over the past twenty-odd years.

More recent events and emphasis on Army aviation and air mobility have tended to obscure the fact that this program has not evolved overnight, but rather has been marked by continued progress over an extended period. The growing awareness of the contributions and capabilities of Army aviation has been the result of its continued successful employment on a global basis. During recent years, Army aviation has served notice that it has long since emerged from infancy and adolescence. Its contributions have been recognized throughout the world – from the European Continent to the jungles of Southeast Asia; from Alaska and Greenland to Antarctica; from Latin America to Africa and the Middle East – virtually everywhere outside the Bamboo and Iron Curtains.

I believe that an issue of this type helps to maintain the important historical and developmental aspects of Army aviation. At the same time, it serves to emphasize the present strong and continually improving posture of this important integral member of the Army team. I am sure that all of you will join me in thanking all of the many contributors who have made this issue possible. Our special vote of thanks should go to Art and Dotty Kesten whose initiative and diligence have sparked this effort.

L-1

PURPOSE Observation, Recon.

COMMON NAME Vigilant

AIRFRAME
- Manufacturer Vultee-Stinson
- Personnel Pilot and Observer

ENGINE
- Manufacturer Lycoming
- Designation R-680-9
- Take-Off Horsepower 295
- Description Radial, 9 cylinder, aircooled

PROPELLER

Hamilton-Standard 8'6" constant speed

PERFORMANCE
- Range 240 nautical miles
- Service Ceiling 14,000 feet
- Gross Weight 3,325 pounds
- Cruising Speed 99 knots

REMARKS

Originally designated the O-49. Was the winner of a competition with the Bellanca YO-50 and the Ryan YO-51 Dragonfly. All had extra flaps and slats. The procurement of the "A" through "F" models was handled by the Army Air Corps. 142 L-1 aircraft were bought "off-the-shelf." 182 A models were purchased. B,C,D, and F procurement was negligible.

L-2

PURPOSE Observation, Recon.
COMMON NAME Grasshopper

AIRFRAME
- Manufacturer Taylorcraft
- Personnel Pilot and Observer

ENGINE
- Manufacturer Continental
- Model Designation O-170-3
- Take-Off Horsepower 65
- Description 4 cylinder, direct drive, horizontally opposed, aircooled

PROPELLER

Sensenich two-bladed 6', fixed-pitch, wooden propeller

PROCUREMENT
- Delivered 1941-44 (1,942 procured)

PERFORMANCE
- Range 230 nautical miles
- Service Ceiling 10,050 feet
- Gross Weight 1,300 lbs
- Cruising Speed 83 knots

REMARKS

Metal-frame, fabric-covered aircraft. Originally designated as the O-57. Procured in the A through M models (74 L-2's in '42; 476 A's in '42; 490 B's in '43; 900 M's in '43). All were 65 hp, except the L model, which was 50 hp.

L-3

PURPOSE Observation, Recon.
COMMON NAME Grasshopper

AIRFRAME
Manufacturer Aeronca
Personnel Pilot and Observer

ENGINE
Manufacturer Continental
Model Designation O-170-3
Take-Off Horsepower 65
Description 4 cylinder, direct drive, horizontally opposed, aircooled

PROPELLER
L-3A had a Freedman-Burnham ground adjustable, two-bladed propeller with aluminum alloy hub. L-3B & C had a Sensenich fixed pitch, 6' two-bladed, wooden propeller.

PERFORMANCE
Range 165 nautical miles
Service Ceiling 7,750 feet
Gross Weight 1,300 lbs
Cruising Speed 76 knots

REMARKS
A fabric covered, metal frame aircraft originally designated as the O-58. A total of ten models were purchased, the F and G models were side by side seating. Largest procurement was in 1942 when 875 were purchased. The following year 490 aircraft entered the system with a total of 1,464 ultimately procured.

L-4

PURPOSE Observation, Recon.
COMMON NAME Cub

AIRFRAME
Manufacturer Piper
Personnel Pilot and Observer

ENGINE
Manufacturer Continental
Model Designation O-170-3
Take-Off Horsepower 65
Description 4 cylinder, direct drive, horizontally opposed, aircooled

PROPELLER
Sensenich fixed pitch, 6' two-bladed, wooden propeller.

PROCUREMENT DATA
9,404 were delivered between 1942 and 1945

PERFORMANCE
Range 165 nautical miles
Service Ceiling 9,300 feet
Gross Weight 1,220 lbs
Cruising Speed 66 knots

REMARKS
Metal-frame, fabric-covered aircraft. Originally designated as the O-59. Purchased in ten models. All were tandem, except for E model side-by-side aircraft, and F model, a three-place tandem with one seat in front and two behind. The Army procured 5,671 L-4's in all. While the L-2, L-3, and L-4 were all unofficially referred to as "Grasshoppers," the civilian nickname of "Cub" stuck to the L-4. The improved B model had a fixed-pitch propeller, and a 65 hp Lycoming engine (0-170-3).

L-5

PURPOSE Observation, Recon.
COMMON NAME Sentinel

AIRFRAME
Manufacturer Vultee-Stinson
Personnel Pilot and Observer, or Litter

ENGINE
Manufacturer Lycoming
Model Designation O-435-1
Take-Off Horsepower 185
Description 6 cylinder, direct drive, horizontally opposed, aircooled

PROPELLER
Sensenich, fixed pitch, 7'1" two-bladed, wooden propeller

PROCUREMENT DATA
3,975 were delivered between 1942-1945

PERFORMANCE
Range 365 nautical miles
Service Ceiling 15,800 feet
Gross Weight 2,020 lbs
Cruising Speed 87 knots

REMARKS
Metal-frame fuselage, wood and metal airfoil structure, fabric-covered aircraft. Originally used exclusively by the Army Air Corps and designated the O-62. Army Liaison pilots operated these from 1945 and during the first months of the Korean hostilities. All models, A though F, were 185 hp; the G was 190 hp. The "drop" rear seat permitted litter or cargo carrying capabilities. Initially utilized by the Army Air Corps and Navy in 1942. Army Ground Forces began using L-5s in 1943. Also used for medical evacuation.

L-6

PURPOSE Observation, Recon

AIRFRAME
- Manufacturer: Interstate
- Personnel: Pilot and Observer

ENGINE
- Manufacturer: Aircooled
- Model Designation: 0-200-5
- Take-Off Horsepower: 102
- Description: 4 clyinder horizontally opposed, direct drive, aircooled.

PROPELLER

U.S. Propeller, 6'4" fixed pitch, two-bladed propeller

PROCUREMENT

250 aircraft were delivered in 1943

PERFORMANCE
- Range: 515 nautical miles
- Service Ceiling: 12,100 feet
- Gross Weight: 1,650 lbs
- Cruising Speed: 76 knots

REMARKS

This fabric-covered aircraft was known commercially as the S-1B Cadet. Its original Army Air Corps military designation was O-63. The aircraft was manufactured in a high-wing, tandem-seat configuration.

The Beechcraft U-8F...

How this all-around military "work-horse" does big-plane jobs at small-plane cost:

Doing rugged jobs for the U. S. Army—jobs usually reserved for "big planes"—is the specialty of this Beechcraft U-8F. Yet it costs far *less* to buy and operate than the big ones. Military commanders say the U-8F is the most versatile plane ever assigned to them. It gives them reliable all-weather transportation to meet a wide variety of military needs.

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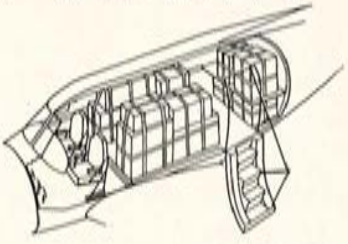
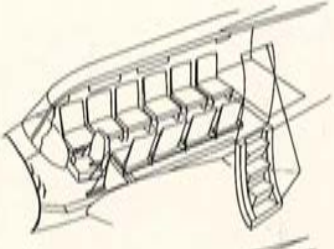
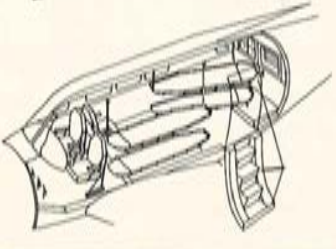
BEECH "IMAGINUITY" IN AIR MOBILITY



Passenger seats come out quickly for high-priority cargo shipments.



Conference room seating for 4-5; converts to high density seating for eleven persons.



This versatile "work-horse" converts easily into a roomy aerial ambulance.

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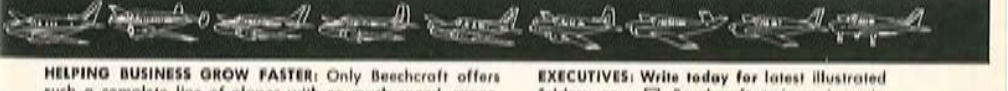

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L-13

PURPOSE Observation

AIRFRAME
- Manufacturer Consolidated-Vultee
- Personnel Pilot-2 passengers

PROPELLER
8'6" Controllable pitch

ENGINE
- Manufacturer Aircooled
- Model Designation XO-425-5
- Take-Off Horsepower 245
- Description 6 cylinder, horizontally opposed, direct drive

PERFORMANCE
- Range 425 nautical miles
- Service Ceiling 15,000 feet
- Gross Weight 2,900 lbs
- Cruising Speed 92 knots

REMARKS

Although the Army Ground Forces tested two of these aircraft in 1945, it did not accept them at the time. Later, the AGF did procure the L-13 and by June, 1951 there were 43 of this model in the Army inventory. In addition to the passenger alternative, the L-13 aircraft was capable of carrying a pilot and two litters.

LC-126

PURPOSE Utility

AIRFRAME
- Manufacturer Cessna
- Personnel Pilot-3 passengers

ENGINE
- Manufacturer Jacobs
- Model Designation R-755-11
- Take-Off Horsepower 300
- Description 7 cylinder, radial, direct drive

PROPELLER
Hamilton-Standard 7'9" constant-speed, metal propeller.

PROCUREMENT DATA
64 delivered 1951-1952

PERFORMANCE
- Range 782 nautical miles
- Service Ceiling 19,800 feet
- Gross Weight 3,350 lbs
- Cruising Speed 117 knots

REMARKS

These aircraft were originally purchased by the Air Force and were later turned over to the Army for use as instrument trainers until dropped from the Army inventory several years later.

L-15

PURPOSE Observation
COMMON NAME Scout

AIRFRAME
- Manufacturer Boeing
- Personnel Pilot and Observer

PROCUREMENT DATA
12 Delivered 1947-49

PROPELLER
Controllable pitch propeller

ENGINE
- Manufacturer Lycoming
- Model Designation O-290-7
- Take-Off Horsepower 125
- Description 4 cylinder, horizontally opposed, direct drive, aircooled

PERFORMANCE
- Range 189 nautical miles
- Service Ceiling 12,500 feet
- Gross Weight 2,216 lbs
- Cruising Speed 75 knots

REMARKS
This aircraft used spoilers instead of ailerons and full flaps. Observer was seated backwards.

L-16

PURPOSE Observation, Recon.

AIRFRAME
- Manufacturer Aeronca
- Personnel Pilot and Observer

ENGINE
- Manufacturer Continental
- Model Designation O-190-1
- Take-Off Horsepower 95
- Description 4 cylinder, horizontally opposed, direct drive, aircooled.

PROPELLER
McCauley 6'1" fixed pitch, metal blade

PERFORMANCE
- Range 219 nautical miles
- Service Ceiling 14,500 feet
- Gross Weight 1,300 lbs
- Cruising Speed 70 knots

REMARKS
The most inexpensive aircraft ever purchased by the Army. Used in the early days of the Korean War. A total of 609 were procured most of which were turned over to the ARNG and CAP.

L-17

PURPOSE Utility

COMMON NAME Navion

AIRFRAME
- Manufacturer: Ryan (North American)
- Personnel: Pilot-3 Passengers

ENGINE
- Manufacturer: Continental
- Model Designation: O-470-7
- Take-Off Horsepower: 205
- Description: 6 cylinder horizontally opposed, direct drive, aircooled.

PROPELLER

Hartzell 7' controllable pitch, metal or plastic two-bladed propeller

PROCUREMENT DATA

Six hundred and fifty-seven aircraft delivered, 1948-1949.

PERFORMANCE
- Range: 516 nautical miles
- Service Ceiling: 10,900 feet
- Gross Weight: 3,050 pounds
- Cruising Speed: 105 knots

REMARKS

Three versions of the L-17 were purchased. The "A" models (185 hp) were first purchased in 1947 with the high inventory point of 42 being reached in 1951. The B and C models (205 hp) were purchased in FY 1949 with 196 "B's" and 35 "C's" being inventory highs in 1949. These aircraft were later turned over to Army flying clubs on phase-out.

L-21

PURPOSE Observation, Recon
COMMON NAME Super Cub

AIRFRAME
Manufacturer Piper
Personnel Pilot and Observer

ENGINE
Manufacturer Lycoming
Model Designation O-290-D
Take-Off Horsepower 125
Description 4 cylinder, horizontally opposed, direct drive

PROPELLER
Sensenich 6'2" fixed pitch, metal propeller

PROCUREMENT
Delivered 1951 (150 procured)

PERFORMANCE
Range 260 nautical miles
Service Ceiling 16,000 feet
Gross Weight 1,500 lbs
Cruising Speed 95 knots

REMARKS
Phased out of the Army inventory in 1953, the L-21 was a fabric covered metal aircraft. The A model was utilized mostly as a trainer; the B model saw extensive service in the Far East. There were 150 A models inventoried in 1951 and 69 B's by the end of 1953. Both models were favored by flying clubs after they were phased out of the Army. The L-18C, purchased for MDAP, was the same as the L-21 except that it had a 90 ph Continental engine.

L-24

PURPOSE Observation, Recon.
COMMON NAME Courier

AIRFRAME
Manufacturer Helio
Personnel Pilot-3 passengers

PROCUREMENT DATA
1 procured in 1952

ENGINE
Manufacturer Lycoming
Model Designation 0-435-17
Take-Off Horsepower 255
Description Horiz. opposed

PERFORMANCE
Range 600 nautical miles
Cruising Speed 130 knots

REMARKS
The Helio Courier was a commercial model and was procured off-the-shelf for operational evaluation.

ADDITIONAL COPIES
Extra copies of this Equipment Issue may be secured by forwarding $0.50 in stamps or coin to the magazine editorial office.

T-37

PURPOSE Observation

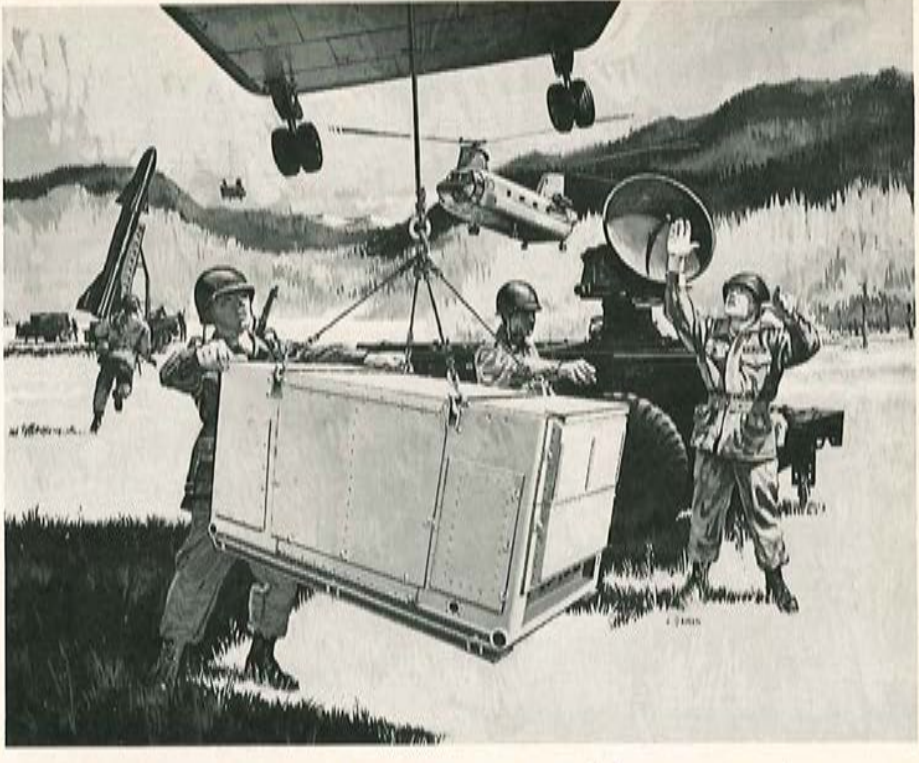
AIRFRAME
Manufacturer Cessna
Personnel Pilot and Observer

PROCUREMENT DATA
See Remarks

ENGINES (2)
Manufacturer Continental
Model Designation XJ-69-T-15
Take-Off H.P. 1,840 thrust
Description Turbo jet engine utilizing a steel axial inducer and an aluminum centrifugal compressor.

PERFORMANCE
Range 550 nautical miles
Service Ceiling 36,500 feet
Gross Weight 6,250 lbs
Cruising Speed 257 knots

REMARKS
This aircraft is a jet trainer procured by the Air Force. Three were loaned to the Army for evaluation as a long range artillery adjuster and for evaluation of low altitude high speed flight.



Solar portable 100 kw gas turbine generator set has advanced solid state frequency control

Solar has developed a new portable 100 kw gas turbine-driven generator set with the Army's Engineering Research and Development Laboratories. Steady state and transient frequency control is significantly better than conventional hydro-mechanical governors available.

Prime mover for the new set is Solar's 350 hp T-350 gas turbine engine. The T-350 is a light, compact, simple cycle gas turbine designed especially for rugged military and industrial applications. It will operate without vibration on any liquid fuel, including diesel fuel, kerosene and combat gasoline. The engine starts instantly and accepts full load without warmup.

The unit's solid state governor maintains frequency within very narrow limits despite wide variations in load, ambient temperature, altitude or engine temperature. The set will provide power for an advanced mobile battlefield radar system being developed by the Signal Corps. It is suitable for any application requiring a portable power supply with precise frequency control, such as missile ground support, checkout and launching equipment.

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Solar has developed a complete family of gas turbine-powered generator sets from 15 kw to 800 kw. All are efficient, lightweight, portable units that have earned a reputation for dependability in hundreds of applications. Gas turbine air transportable generator sets give the armed forces increased mobility for today's military strategy.

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Caribou country

Caribou serving the Indian Government have been operating in close support roles in the Himalayas carrying loads of 3½ tons (3178 kg) and using makeshift strips up to altitudes of 14,000 ft. (4270m) and as short as 900 ft. (274m).

DE HAVILLAND AIRCRAFT OF CANADA

Vancouver, B. C. — Edmonton, Alta. — **Downsview, Ont.** — Washington, D. C. — St. Louis, Mo.

O1-A

PURPOSE Observation, Recon.
COMMON NAME Bird Dog

AIRFRAME
Manufacturer Cessna
Personnel Pilot and Observer

PROCUREMENT
1,871 delivered 1951-59

PROPELLER
McCauley fixed pitch, two-bladed, metal propeller

ENGINE
Manufacturer Continental
Model Designation O-470-11
Take-Off Horsepower 213
Description cylinder, horizontally opposed, aircooled, direct drive.

PERFORMANCE
Range 515 nautical miles
Service Ceiling 20,000 feet
Gross Weight 2,100 lbs
Cruising Speed 87 knots

REMARKS
The TO-1D is the instrument trainer version of this aircraft and is stronger structurally. It has a panel in the rear which may be enclosed for hooded flight, and a constant speed propeller. The E model incorporates the redesigned structural changes in the instrument trainer. Since 1951 a total of 3,431 of all models of this aircraft have been produced for commercial and military use. It is still in production and deliveries are being made under the Military Aid Program.

U-6A

PURPOSE Utility
COMMON NAME Beaver

AIRFRAME
- Manufacturer De Havilland
- Personnel Pilot-5 passengers
- Cargo 1,000 lbs

PROCUREMENT DATA
- Delivered 1951-59 (654 in system)
- Procurement Status: Last procurement - FY58
- Manufacturer's Lead Time 12 Months

PROPELLER
Hamilton Standard constant speed, two-bladed metal propeller

ENGINE
- Manufacturer Pratt and Whitney
- Model Designation R-985 AN-1, 3, 39, 39A
- Take-Off Horsepower 450
- Description 9 cylinder, air-cooled, radial, with supercharger

PERFORMANCE
- Range 396 nautical miles (240 BHP at 5,000 feet)
- Service Ceiling 18,000 feet
- Gross Weight 4,820 lbs
- Cruising Speed 113 knots (240 BHP at 5,000 feet)

REMARKS
A rugged, all-purpose aircraft utilized for military and commercial operations by many countries. The aircraft's former designation was L-20. The Army inventory in January, 1962 totaled 641 Beavers.

U-1A

PURPOSE Cargo, Personnel, Evacuation, & Air Supply
COMMON NAME Otter

AIRFRAME
- Manufacturer: De Havilland
- Personnel: Pilot-10 troops
- Cargo: 2,000 lbs

PROCUREMENT
- 170 in system: 1955-60

PROPELLER
Hamilton Standard three-bladed, constant speed, hydromatic propeller

ENGINE
- Manufacturer: Pratt & Whitney
- Model Designation: R-1340-59
- Take-Off Horsepower: 600
- Description: 9 cylinder, aircooled, radial, gear drive, with supercharger

PERFORMANCE
- Range: (Combat 1 ton payload) 505 nautical miles
- Service Ceiling: 17,400 feet
- Gross Weight: 8,000 lbs
- Cruising Speed: 104 knots

REMARKS
The Canadian manufactured U-1A first entered the Army inventory in March 1955. The Otter is being phased out of service and being replaced by the Caribou. The commercial designation of the Otter is the DHC-3.

U-8

PURPOSE Utility, Transport
COMMON NAME Seminole

AIRFRAME
- Manufacturer: Beech
- Personnel: Pilot-4 to 5 passengers
- Cargo: 300 lbs aft compartment; 393 lbs rear compartment

PROCUREMENT DATA
328 were delivered between 1952 and 1962

PROPELLER
Hartzell 3-bladed, constant-speed propeller.

ENGINES (2)
- Manufacturer: Lycoming
- Model Designation: GSO-480-1
- Take-Off Horsepower: 680
- Description: 6 cylinder, horizontally opposed, aircooled, with geared supercharger

PERFORMANCE
- Range: 1,177 nautical miles (65 per cent pwr at 10,000 feet)
- Service Ceiling: 26,300 feet
- Gross Weight: 7,000 lbs
- Cruising Speed: 176 knots (65 per cent pwr at 10,000 feet)

REMARKS
Procured by the Army in models A through E, the U-8 (L-23) series was introduced into the system in 1952. The A's had 260 hp engines. Thirty one D models were equipped with radar and are currently in use. A single C model was obtained from the Air Force for a special project. Most Army U-8s are D models.

CV-2

PURPOSE Tactical Transport

AIRFRAME
- Manufacturer: De Havilland Aircraft of Canada, Ltd.
- Personnel: Pilot, Co-Pilot, or Crew Member, 32 Passengers, or 14 litters and 8 troops

ENGINE
- Manufacturer: Pratt & Whitney
- Model Designation: R-2000-13
- Take-off Horsepower: 1,450
- Description: 14 cylinder, radial

PROPELLERS
Hamilton Standard constant speed, hydromatic propellers.

PERFORMANCE
- Range, Combat, 1-1/2 ton+payload: 1,145 nautical miles
- Service Ceiling: 27,500 feet
- Gross Weight: 26,000 lbs
- Cruising Speed: 131 knots

REMARKS
First obtained in late 1959, the STOL Caribou aircraft have proven themselves to be excellent short-field performers. Ferried to Vietnam, the CV-2's have provided organic troop airlift within the combat zone. With a ferry range of 2,500 miles the Caribou is capable of world wide self-deployment and is used within the military of 8 nations.

U-9

PURPOSE Utility
COMMON NAME Aero Commander

AIRFRAME
Manufacturer Aero Design
Personnel Pilot, co-pilot and three passengers

PROCUREMENT
Twenty were obtained, 9 remain in the system

PROPELLER
Hartzell controllable-pitch, metal propeller.

ENGINES (2)
Manufacturer Lycoming
Model Designation GO-480-1
Take-Off Horsepower 550
Description 6 cylinder, horizontally opposed, gear drive

PERFORMANCE
Range 1,000 nautical miles
Service Ceiling 22,900 feet
Gross Weight 5,500 lbs
Cruising Speed 170 knots

REMARKS
The first U-9 (YL-26) was obtained by the Army in 1953. Since that time three later models - B, C and D - have been procured in addition to a conversion of the D model to carry special electronic gear. The original U-9s were delivered with 260 hp engines later boosted to 270 hp in the B models and 320 hp in the Ds. Nine U-9s of all models were carried in inventory in January 1962.

OV-IA

PURPOSE Combat Surveillance
COMMON NAME Mohawk

AIRFRAME
- Manufacturer Grumman
- Personnel Pilot-1 Observer

ENGINES (2)
- Manufacturer Lycoming
- Model Designation T-53-L-3 or L-7
- Take-Off Horsepower 960 (L-3) or 1,100 (L-7)
- Description Free Shaft, Turbo-Prop, Gas Turbine

PROPELLER

Hamilton Standard three-bladed hydromatic with full feathering and reversing features.

PERFORMANCE
- Range 1,500 nautical miles
- Service Ceiling 25,000 feet
- Gross Weight 12,500 lbs
- Cruising Speed 200 knots

REMARKS

Three basic configurations of the Mohawk are being produced - the OV-1A Visual Photographic; OV-1B Visual, Photographic, Side-Looking Radar and OV-1C Visual, Photographic, Infrared. The electronic equipment varies with each version, resulting in a change in gross weight, performance and cost. First Mohawk deliveries to the U.S. Army were made in 1960. The Mohawk is playing an important role in the war in Vietnam.

U-8F

PURPOSE Command Liaison
Transport
COMMON NAME Seminole

AIRFRAME
Manufacturer Beech
Personnel Pilot-5 passengers

ENGINES (2)
Manufacturer Lycoming
Model Designation IGSO-480-A1A6
Take-Off Horsepower 340 each
Description 6 cylinder, horizontally opposed, aircooled, supercharged with fuel injection.

PROPELLER
Hartzell 3-bladed, constant speed, hydraulically-controlled, full feathering propellers

PERFORMANCE
Range 1,180 nautical miles (65 per cent pwr at 10,000 feet)
Service Ceiling 25,000 feet
Gross Weight 7,368 lbs
Cruising Speed 177 knots (65 per cent pwr at 10,000 feet)

REMARKS
Basically, this is the U-8D with a redesigned fuselage with ground level loading and airliner type seats.

CV-7A

PURPOSE Transport
COMMON NAME Caribou

AIRFRAME
Manufacturer De Havilland
Personnel Pilot, co-pilot, 34 troops or 24 litters, 6 seats

ENGINES (2)
Manufacturer General Electric
Model Designation T-64
Take-Off Horsepower 2,850
Description Turbo-prop

PROPELLER
Hamilton Standard, 3 blade, 14.5 diameter, integrel oil system and reverse pitch.

PERFORMANCE
Range 1,000 nautical miles
Service Ceiling 28,000 feet
Gross Weight 34,000 lbs
Cruising Speed 220 knots

REMARKS
This aircraft, scheduled to make its first flight in 1964, is a turbo-prop version of the CV-2B. It is a joint development project of the United States Army, Canadian Defense Department and De Havilland.

OH-13

PURPOSE Training, Observation Reconnaissance, Evacuation
COMMON NAME Sioux

AIRFRAME
Manufacturer Bell
Personnel Pilot-2 passengers, or two litters

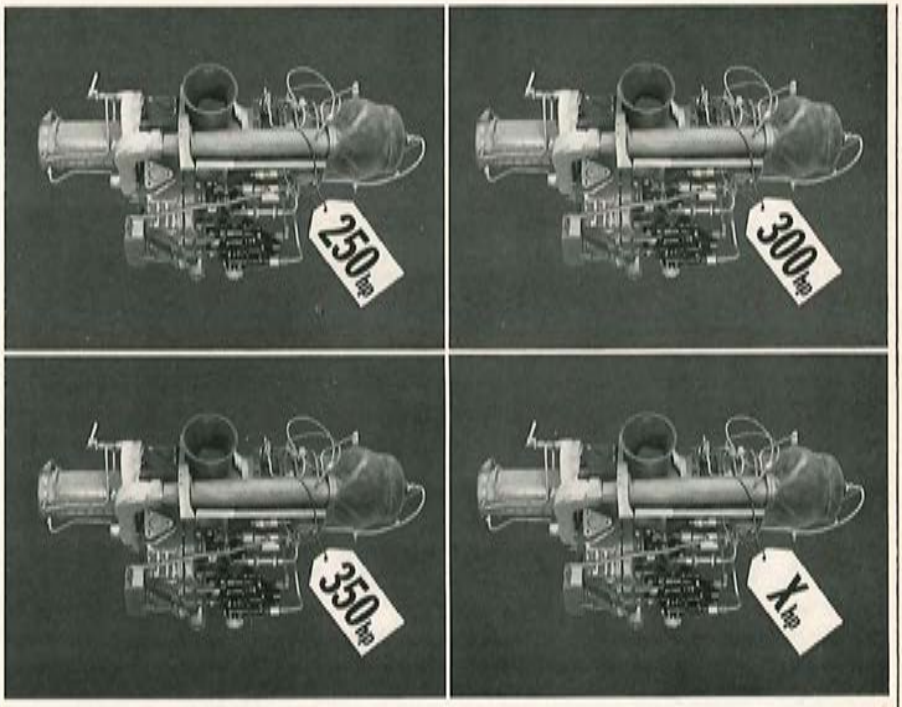
PROCUREMENT DATA
1159 delivered between 1948-62

ENGINE
Manufacturer Lycoming
Model Designation C-435-23
Take-Off Horsepower 250
Description 6 cylinder horizontally opposed, aircooled.

PERFORMANCE
Range 166 nautical miles
Service Ceiling 13,400 feet
Gross Weight 2,450 lbs
Cruising Speed 70 knots

REMARKS
The Army obtained its first YR-13 in Dec., 1946; later models running through A through K, excluding the F,I, and J. The Korea bellweather.

How powerful can the T63 LOH engine get?



It's rated at 250 shp. for the Light Observation Helicopter now going through Army airframe evaluation and flight tests.

But, *without any change in the engine whatsoever,* it can produce 300 shp. All that's needed is a 150-hour test to qualify the engine at the higher ram power rating.

Then, with only minor changes—a slight increase in airflow and turbine temperature—the T63 could produce 350 shaft horsepower. And for that 100 horsepower increase over the current version, neither the weight nor the dimensions will change.

Increasing turbine horsepower without paying penalties in engine size and weight is a long-established practice at Allison. We've been doing it for nearly twenty years... during which time we've built over 35,000 turbine engines which have accumulated more than 30,000,000 flight hours. The Allison engines serving our Armed Forces and the airlines today are some of the most reliable in the air... have a record of continual increases in TBO.

Even More Powerful Versions

And we're working on further increases in T63 power, too.

For instance, we've developed a new power turbine... run it for many hours in the T63... found it can make a significant contribution to increasing engine power.

Air-cooled turbine blades will also boost the engine's power significantly... have a very beneficial effect on engine fuel economy.

Turboshaft and Turboprop

The turboprop T63 is ready for flight, too. The only important difference between it and the shaft version is the addition of a gearbox.

As a turboprop engine, it can power both fixed-wing and tilt-wing aircraft. And two versions of one engine will vastly simplify military logistics. Personnel training will also be faster and easier.

All these versions of the T63 will be markedly simple and compact... and easy to maintain. For the engine has been designed that way in order to give it reliability of the highest order.

If you have any questions about growth versions of the T63, we'd be glad to answer them. Just write LOH, Allison Division of General Motors, Box 894AA Indianapolis, Indiana 46206.

ON TARGET WITH LOH POWER

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THE ENERGY CONVERSION DIVISION OF GENERAL MOTORS, INDIANAPOLIS, INDIANA

OH-23G

PURPOSE Training, Observation, Reconnaissance, Evacuation
COMMON NAME Raven

AIRFRAME
Manufacturer Hiller
Personnel Pilot-2 passengers

ENGINE
Manufacturer Lycoming
Model Designation VO-540
Take-Off Horsepower 305
Description 6 cylinder, horizontally opposed, aircooled

ROTOR
Hiller Rotormatic, 2-bladed with Parsons metal blades 35' diameter, single metal tail

PERFORMANCE

Range	195 nautical miles
Service Ceiling	15,200 feet
Gross Weight	2,800 lbs
Cruising Speed	73 knots

REMARKS
The Army purchased its first OH-23 models in FY 1951. There are approximately 1,100 of this series in the Army inventory. In 1963 production of D models was converted to OH-23G. All models except F are three place.

UH-19

PURPOSE Utility
COMMON NAME Chickasaw

AIRFRAME
Manufacturer Sikorsky
Personnel Crew of 2, plus 10 passengers, or 6 litter patients
Cargo 1,028 lbs

PROCUREMENT DATA
293 delivered between 1952-54

ENGINE
Manufacturer Curtiss-Wright (Lycoming)
Model Designation R-1300-3
Take-Off Horsepower 700
Description 9 cylinder, radial

ROTOR
3 Blade, 53' Diameter, Sikorsky Interchangeable Metal Blades (Main); 2 Blade, 8' Diameter, Sikorsky Interchangeable Metal Blades (Tail Rotor).

PERFORMANCE
Range 220 nautical miles
Service Ceiling 12,000 feet
Gross Weight 7,522 lbs (H-19D) 6,767 lbs (H-19C)
Cruising Speed 81 knots

REMARKS
From the first flight in November 1949 until production ended in March 1961, a total of 1,281 of this model was built for all services and commercial operators. The UH-19 was the world's first transport helicopter and the first to be utilized for scheduled passenger service.

H-17

PURPOSE	Heavy Lift
COMMON NAME	Flying Crane

AIRFRAME

Manufacturer	Hughes
Personnel	Crew of 2, 1 engr.

ENGINE

Manufacturer	General Electric
Model Designation	TG-180, (J-35) modified
Take-Off Horsepower	3,480
Description	Gas turbine, fixed shaft, gas producers for pressure jet (blade tip) operation

ROTOR

2 Blade, 130' Diameter, 68" Chord, Metal (Main).

PERFORMANCE

Gross Weight	46,000 lbs

REMARKS

This was the initial effort to produce a flying crane. The H-17 was a test vehicle procured by the Air Force in 1953. Evaluation data was supplied to the Army. This project was launched by the Kellett Co. and taken over by Hughes.

H-39

PURPOSE	Utility

AIRFRAME

Manufacturer	Sikorsky
Personnel	Pilot-3 passengers
Cargo	464 lbs

ENGINE

Manufacturer	Turbo Meca
Model Designation	Artouste 11-XT-51-T-3
Take-Off Horsepower	425
Description	Gas turbine

ROTOR

4 Bladed, all-metal, articulated rotor 35' Diameter (Main); 3 Bladed all-metal 6'4" Rotor (Tail).

PERFORMANCE

Range	230 nautical miles
Service Ceiling	16,500 feet
Gross Weight	3,361 lbs
Cruising Speed	120 knots

REMARKS

The H-39 was a modified H-18 with the Artouste 11 engine installed and utilized for engineering and operational evaluation. Army in 1954 obtained only one of these aircraft.

H-18A

PURPOSE — Utility

AIRFRAME
- Manufacturer — Sikorsky
- Personnel — Pilot-3 passengers
- Cargo — 800 lbs

PROCUREMENT
Four obtained in 1950.

ENGINE
- Manufacturer — Franklin
- Model Designation — O-425-1
- Take-Off Horsepower — 245
- Description — 6 cylinder, opposed

ROTOR
3 Bladed, all-metal main rotor 39' Diameter with 2 Bladed, all-metal Tail Rotor 5'5" Diameter.

PERFORMANCE
- Range — 400 nautical miles
- Service Ceiling — 13,800 feet
- Gross Weight — 2,400 lbs
- Cruising Speed — 90 knots

REMARKS
The YH-18 was utilized by the Army for operational and engineering evaluation.

H-30

PURPOSE — Training, Observation, Evacuation, Cargo

AIRFRAME
- Manufacturer — McCulloch Mtrs.
- Personnel — Pilot-1 passenger
- Cargo — 630 lbs

PROCUREMENT
(See Remarks)

ENGINE
- Manufacturer — Franklin
- Model Designation — 6A4-200-C6
- Take-Off Horsepower — 200
- Description — 6 cylinder, horizontally opposed, aircooled.

ROTOR
2 Rotors same Diameter, 3 Blade, 22'

PERFORMANCE
- Range — 172 nautical miles
- Service Ceiling — 12,000 feet
- Gross Weight — 2,000 lbs
- Cruising Speed — 78 knots

REMARKS
Two procured for engineering and operational evaluation in 1952.

H-32

PURPOSE Reconnaissance

AIRFRAME
- Manufacturer: Hiller
- Personnel: Pilot-1 passenger

ENGINE
- Manufacturer: Hiller
- Model Designation: HR J2B Ram Jet
- Take-Off Horsepower: 30 lbs
- Description: Ram Jet, Tip Mounted

ROTOR
2 Blade metal 23' Diameter Main Rotor; Single Blade-counter balance Wooden Tail Rotor 32" Diameter.

PERFORMANCE
- Range: 24 nautical miles
- Service Ceiling: 11,500 feet
- Gross Weight: 1,080 lbs
- Cruising Speed: 61 knots

REMARKS
Known as the "Hornet" the H-32 first flew in 1950 although the Army did not take delivery of the aircraft until 1956 when six were received.

H-24

PURPOSE Recon., Evacuation

AIRFRAME
- Manufacturer: Seibel Helicopter
- Personnel: Pilot-1 passenger

PROCUREMENT DATA
(See Remarks)

ENGINE
- Manufacturer: Lycoming
- Model Designation: 0-290-D1
- Take-Off Horsepower: 130
- Description: 4 cylinder, horizontally opposed, aircooled.

ROTOR
29' Diameter blade wood (Main); 74" 2 blade (Tail).

PERFORMANCE
- Range: 85 nautical miles
- Service Ceiling: 4,300 feet
- Gross Weight: 1,540 lbs
- Cruising Speed: 50 knots

REMARKS
Two procured for operational and engineering evaluation in 1951. Aircraft was also considered for medical evacuation.

H-31

PURPOSE: Utility

AIRFRAME
- Manufacturer: Doman
- Personnel: Pilot-3 to 7 pass.

PROCUREMENT DATA
(See Remarks)

ENGINE
- Manufacturer: Lycoming
- Model Designation: SO-580-D
- Take-Off Horsepower: 400
- Description: 8 cylinder

ROTOR
4 Wooden Blades (Main); 3 Wooden Blades (Tail).

PERFORMANCE
- Range: 390 nautical miles
- Service Ceiling: 5,700 feet
- Gross Weight: 5,200 lbs
- Cruising Speed: 68 knots

REMARKS
The Army procured two of these helicopters in 1952 for evaluation. The H-31 had a completely sealed, rigid, non-articulated rotor system and wooden blades.

H-41

PURPOSE: Observation
COMMON NAME: Seneca

AIRFRAME
- Manufacturer: Cessna
- Personnel: Pilot-3 passengers

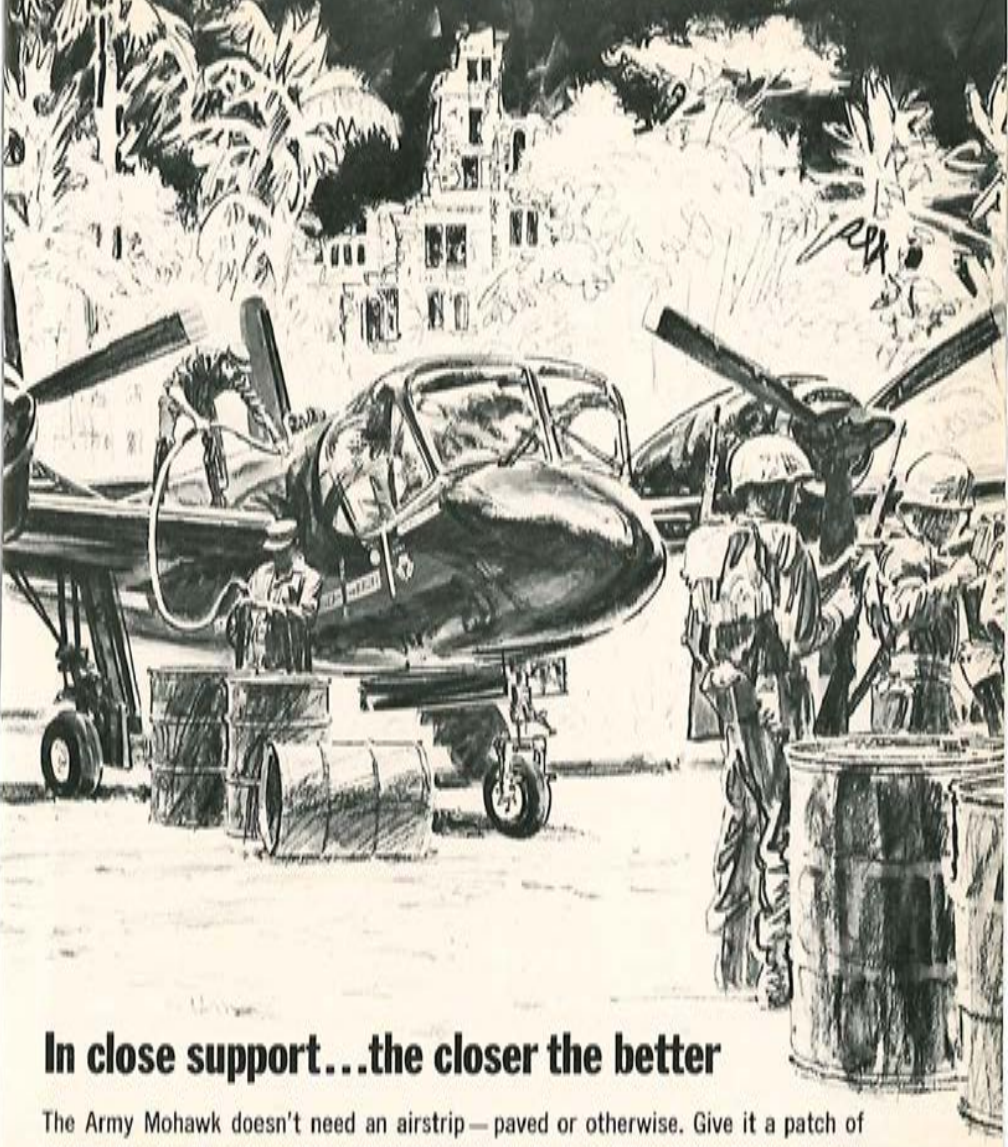
ENGINE
- Manufacturer: Continental
- Model Designation: FSO-526
- Take-Off Horsepower: 260
- Description: 6 cylinder, engine, horizontally opposed, mounted horizontal.

ROTOR
2 Bladed, 35' Diameter Metal (Main); 2 Bladed, 7' Diameter Metal (Tail).

PERFORMANCE
- Range: 270 nautical miles
- Service Ceiling: 12,200 feet
- Gross Weight: 3,000 lbs
- Cruising Speed: 82 knots

REMARKS
The Army procured ten of these helicopters in 1957 for high altitude operation and evaluation. No others were purchased.


Richell Hooks



In close support...the closer the better

The Army Mohawk doesn't need an airstrip — paved or otherwise. Give it a patch of open field and it'll land and take off in true STOL style. It goes where the troops go and, like the troops, in any kind of weather. The Mohawk is the "elevated eyes" of the Army — there when you need it, providing instantaneous response in any battle situation.

GRUMMAN AIRCRAFT ENGINEERING CORPORATION • Bethpage, Long Island, N.Y.

HO-1

PURPOSE Reconnaissance

AIRFRAME
Manufacturer Sud Djinn
Personnel Pilot-1 passenger

ENGINE
Manufacturer Palouste
Model Designation Palouste Air Generator Model 4
Description Compressed air generator consisting of a turbine compressor unit.

ROTOR
Three all metal Blades 35'5" in Diameter.

PERFORMANCE
Range 109 nautical miles
Gross Weight 1,671 lbs
Cruising Speed 46 knots

REMARKS
The Army procured three YHO-1s for engineering and operational evaluation as an observation-reconnaissance helicopter. The Sud Djinn was the first aircraft to receive the new observation designation.

H-26

PURPOSE Observation, Recon.

AIRFRAME
Manufacturer Amer. Helicopter
Personnel Pilot

ENGINE
Manufacturer Amer. Helicopter
Model Designation XPJ49-AH-3
Take-Off Horsepower 36 lbs
Description Tip-mounted, Pulse Jet

ROTOR
2 Bladed, teetering, with Prewitt blades

PERFORMANCE
Range 100 nautical miles
Service Ceiling 7,000 feet
Gross Weight 810 lbs
Cruising Speed 65 knots

REMARKS
The Army procured five YH-26s during the 1952-1954 period for engineering and operational evaluation. The single-place helicopter was powered by two 48 hp American Helicopter pulse jet engines.

HO-2

PURPOSE Observation, Training, Reconnaissance

AIRFRAME
- Manufacturer: Hughes
- Personnel: Pilot-1 passenger

PROCUREMENT DATA
5 purchased "off-the-shelf"

ENGINE
- Manufacturer: Lycoming
- Model Designation: 0-360
- Take-Off Horsepower: Derated to 160
- Description: 4 cylinder, aircooled

ROTOR
3 Blades, 25' Diameter (Main); 2 Blades, 39.8" Diameter (Tail).

PERFORMANCE
- Range: 130 nautical miles
- Service Ceiling: 11,000 feet
- Gross Weight: 1,550 lbs
- Cruising Speed: 65 knots

REMARKS
Off-the-shelf procurement for engineering & operational evaluation.

HO-3

PURPOSE Observation

AIRFRAME
- Manufacturer: Brantley
- Personnel: Pilot-1 passenger

PROCUREMENT DATA
(See Remarks)

ENGINE
- Manufacturer: Lycoming
- Model Designation: VO-360
- Take-Off Horsepower: 162
- Description: 4 cylinder, vertically mounted, opposed type, aircooled.

ROTOR
Brantley-designed two section, three bladed.

PERFORMANCE
- Range: 217 nautical miles
- Service Ceiling: 9,000 feet
- Gross Weight: 1,600 lbs
- Cruising Speed: 87 knots

REMARKS
5 purchased for evaluation. The aircraft had skid gear instead of wheels.

H-25

PURPOSE: Utility
COMMON NAME: Army Mule

AIRFRAME
- Manufacturer: Piasecki
- Personnel: Crew of 2, plus 3 to 6 passengers

ROTOR
- 3 Bladed Rotors, 35' in diameter

ENGINE
- Manufacturer: Continental
- Model Designation: R-975-42
- Take-Off Horsepower: 475
- Description: 9 cylinder radial

PERFORMANCE
- Range: 310 nautical miles
- Service Ceiling: 12,700 feet
- Gross Weight: 5,750 lbs
- Cruising Speed: 80 knots

REMARKS

The H-25 helicopter was developed for the Navy for rescue operations. With minor modifications, it met U.S. Army operational needs in land-cargo and rescue utility type missions. Fifty of the Piasecki H-25 aircraft were procured by the Army, but were later turned over to the Navy for use.

CH-21

PURPOSE Cargo, Personnel
COMMON NAME Shawnee

AIRFRAME
- Manufacturer Vertol
- Personnel Crew of 2, plus 20 troops or crew of 3 and 12 litters
- Cargo Approx. 3,200 lbs

ENGINE
- Manufacturer Curtiss-Wright
- Model Designation R-1820-103
- Take-Off Horsepower 1,425
- Description 9 cylinder, radial

ROTOR
3-Blade, 44' Diameter, 16.5" Chord Tandem Rotors

PERFORMANCE
- Range 220 nautical miles
- Service Ceiling 18,600 feet
- Gross Weight 13,300 lbs (Max. T.O. 15,060 lbs)
- Cruising Speed 85 knots

REMARKS

The initial order of H-21s were delivered to the Army in August 1954. In December of 1958, the Army inventory of H-21s reached a peak-308. In addition, the Army acquired sixteen H-21Bs from the Air Force. Early in 1962 the Army inventory listed sixteen H-21Bs and 283 H-21 C models. The H-21 Shawnee model has been employed extensively in troop transport in Vietnam.

How soon can a 225-knot combat/support helicopter be built?

Just give us 18 months.

Recent military developments have shown that troop-carrying helicopters need the protection of a high-speed combat/support helicopter.

This high-speed helicopter should be able to cruise comfortably at 200 knots plus. Current operational helicopters are limited to a maximum speed of 150 knots. The "state of the art" now indicates designs of 225 knots and up are technically feasible.

Sikorsky Aircraft, whose helicopters have been setting world speed records since 1946, has the personnel, facilities and management capability to do so.

All we need to build a flight article is 18 months, and the go-ahead.

Sikorsky Aircraft DIVISION OF UNITED AIRCRAFT CORP.
STRATFORD, CONNECTICUT

CH-34C

PURPOSE Light Tactical Trans.
COMMON NAME Choctaw

AIRFRAME
Manufacturer Sikorsky
Personnel Crew of 2, plus 18 troops, or 8 litters
Cargo Approx. 3,200 lbs

PROCUREMENT
Inventory January 1962, 179 A's and 190 C's.

ENGINE
Manufacturer Curtiss-Wright
Model Designation R-1820-84
Take-Off Horsepower 1,425
Description 9 cylinder, radial

ROTOR
4 Blade, 56' Diameter, Sikorsky Metal Interchangeable Blades (Main); 4 Blade, 9'4" Diameter, Sikorsky Metal Interchangeable Blades (Tail)

PERFORMANCE
Range 238 nautical miles
Service Ceiling 10,400 feet
Gross Weight Design: 12,068 lbs; Max. T.O.: 13,000
Cruising Speed 94 knots

REMARKS
All of the Army's H-34s are being converted to C models. The Navy Designation is HSS-1, Marine HUS-1. The Air Force does not use this helicopter. H-34A is equipped to carry external sling loads, and selected helicopters are equipped for rescue missions.

CH-37

PURPOSE Medium Cargo
COMMON NAME Mojave

AIRFRAME
- Manufacturer Sikorsky
- Personnel Crew of 3, 23 troops, or 24 litters
- Cargo 6,000 lbs

PROCUREMENT DATA
91 delivered between 1956-60

ENGINE
- Manufacturer Pratt & Whitney
- Model Designation R-2800-54
- Take-Off Horsepower 2,100
- Description 18 cylinder, twin row, radial

ROTOR
5 Blade, 72' Diameter, 21.5" Chord, Sikorsky Metal Interchangeable Blades (Main); 4 Blade, 15' Diameter, Sikorsky Metal Interchangeable Blades (Tail).

PERFORMANCE
- Range 125 nautical miles
- Service Ceiling 9,650 feet
- Gross Weight Design 30,342 lbs, Max. T.O. 31.000 lbs
- Cruising Speed 100 knots

REMARKS
One of the largest Army helicopters, the CH-37 is used in CONUS, USAREUR, and Southeast Asia.

UH-1B

PURPOSE Utility Tactical Hel.
COMMON NAME Iroquois

AIRFRAME
- Manufacturer Bell
- Personnel Pilot-8 troops, or Pilot and attendant and 3 litters
- External Cargo 4,000 lbs

ENGINE
- Manufacturer Lycoming
- Model Designation T-53-L-11
- Take-Off Horsepower 1,100
- Description Gas turbine, free shaft

ROTOR
2-Blade, 44' diameter Bell Metal Interchangeable (Main); 2-Blade, 8'5" diameter Bell Metal Interchangeable (Tail).

PERFORMANCE
- Range 235 nautical miles
- Hovering Ceiling 16,800 feet
- Max. Operating Wt. 8,500 lbs
- Max. Cruising Speed 113 knots

REMARKS
The UH-1Bs are being used extensively in combat in Vietnam. Armed with rockets and machine guns, UH-1Bs provide close fire support for Allied field troops. These ships also fly armed tactical escort missions for other heavier, less maneuverable troop-carrying aircraft.

Lean and mean, that's what they say about the 11th. This tough air assault division of *sky soldiers*, depends on Bell UH-1B's and UH-1D's for their mobile, hard-hitting tactics. Heavily armed UH-1B's, sweeping in at tree-top level, provide enroute column protection for troop-carrying "Deltas" . . provide *shock action* during troop assaults . . execute combat support missions during the engagement. ■ Bell, with the Army, designed the Iroquois to take front-line punishment, yet retain in-the-field maintenance ease. Combat experience in Vietnam is proving every day that the UH-1 Iroquois is the fighting man's choice.

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In Action With the 11th..Bell's Armed Iroquois

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OH-13S

PURPOSE Trng., Obsn., Recon.
COMMON NAME Sioux

AIRFRAME
- Manufacturer Bell
- Personnel Pilot-2 troops

ENGINE
- Manufacturer Lycoming
- Model Designation TVO-435
- Take-Off Horsepower 260
- Description Aircooled, turbo-supercharged

ROTOR
2-Bladed Bell teetering rotor with Bell Metal blades.

PERFORMANCE
- Range 167 nautical miles
- Service Ceiling 18,000 feet
- Hovering Ceiling 18,000 feet
- Maximum Cruise 75 knots
- Maximum Speed 91 knots
- Rate of Climb 820 ft per minute

REMARKS
The OH-13S is the latest of the Army's OH-13 Series. More than 10,000 flight hours have been accumulated operationally on this engine under varying climatic conditions. The S model is more effective for altitude performance, and has greater reliability.

CH-46

PURPOSE — Medium Cargo

AIRFRAME
- Manufacturer — Boeing/Vertol
- Personnel — Crew of 3 and 20 troops, or 15 litters
- Cargo — 3,778 lbs

PROCUREMENT DATA
3 procured in 1959

ENGINE
- Manufacturer — General Electric
- Model Designation — T-58-GE-6
- MIL Power (each) — 1,050 SHP

ROTOR
3 Blade Rotors, 48' 4" in diameter

PERFORMANCE
- Range — 100 nautical miles
- Service Ceiling — 13,000 feet
- Gross Weight — 15,550 lbs
- Cruising Speed — 135 knots

REMARKS
This was the predecessor of the CH-47A. Valuable engineering and operational data derived from this aircraft was later incorporated in the CH-47A.

OH-23F

PURPOSE Light Utility
COMMON NAME Raven

AIRFRAME
- Manufacturer: Hiller
- Personnel: Pilot-3 passengers

ENGINE
- Manufacturer: Lycoming
- Model Designation: VO-540
- Take-Off Horsepower: 305
- Description: 6 cylinder, horizontally opposed, aircooled

ROTOR

Hiller Rotormatic, 2-bladed with Parsons metal blades, 35' diameter; single metal tail

PROCUREMENT DATA

Initial quantity of 17 delivered

PERFORMANCE
- Range: 195 nautical miles
- Service Ceiling: 15,200 feet
- Gross Weight: 2,800 lbs
- Cruising Speed: 79 knots

REMARKS

Purchased by the Army as a specialized high performance vehicle to support the Army Engineers' Inter-American Geodetic Survey operation in Latin America, history's largest mapping operation. In commerical use since 1960, this helicopter entered Army inventory in 1962.

CH-47A

PURPOSE — Transport
COMMON NAME — Chinook

AIRFRAME
- Manufacturer — Boeing/Vertol
- Personnel — Crew of 3 and 33 troops, or 24 litters
- Cargo — More than 14,000 lbs

ENGINE
- Manufacturer — Lycoming
- Model Designation — T-55-L-7
- Take-Off Horsepower — 2,650 SHP

ROTOR
Two 3 blade rotors, 59' diameter

PERFORMANCE
- Range — 100 nautical miles
- Service Ceiling — 19,400 feet
- Gross Weight — 27,921 lbs
- Cruising Speed — 150 mph
- Top Speed — 185 mph

REMARKS

In October 1963, CH-47A was type classified "Standard A," making it the official Army medium transport helicopter. Chinook has been designed to be compatable with any component of the Pershing Missile System. Aircraft has been in the Army system since October 1961.

UH-1D

PURPOSE Tactical Trans. Hel.
COMMON NAME Iroquois

AIRFRAME
- Manufacturer Bell
- Personnel Pilot-12 troops, or Pilot and attendant and six internal litters
- External Cargo 4,000 lbs

ENGINE
- Manufacturer Lycoming
- Model Designation T-53-L-11
- Take-Off Horsepower 1,100
- Description Gas turbine, free shaft

ROTOR

2-Blade, 44' and 48' diameter Bell Metal Interchangeable (Main); 2-Blade, 8'5" diameter Bell Metal Interchangeable (Tail).

PERFORMANCE (48' Rotor:)
- Range 331 nautical miles
- Hovering Ceiling 14,000 feet
- Max. Operating Wt. 9,500 lbs
- Max. Cruising Speed 108 knots

REMARKS

The UH-1D can be equipped with a wide variety of external stores, including twin NATO M-60 machine gun mounts, six SS-11 wire-guided missiles, 48 2.75" folding-fin aerial rockets, a 40mm grenade launcher, 20mm Gatling gun and a variety of auxiliary fuel tanks. The 220 cubic feet of internal cargo space affords tactical flexibility for seating of troops and accommodating litters. The HU-1D has improved seating arrangements and larger windows, providing better visibility.

CH-54A

PURPOSE — Heavy Lift
COMMON NAME — Skycrane

AIRFRAME
- Manufacturer — Sikorsky
- Personnel — Crew of 2, plus 68 troops or 53 litters
- Cargo — Approx. 10 tons

PROCUREMENT
Six ordered for 1964 delivery.

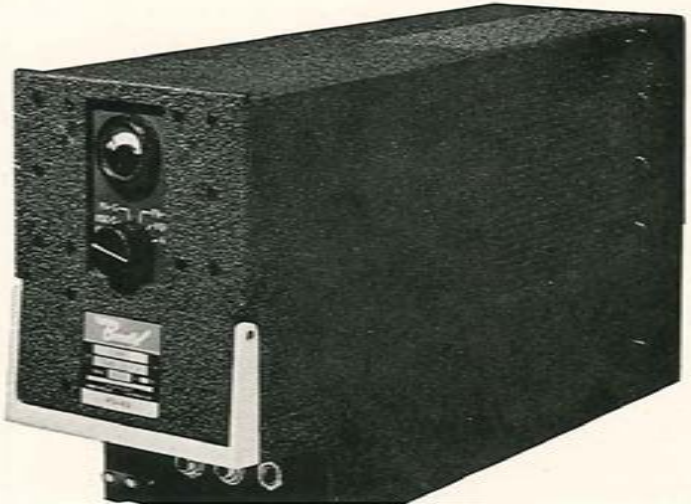
ENGINES (2)
- Manufacturer — Pratt & Whitney
- Model Designation — JFTD-12A
- Take-Off Horsepower — 4,050

ROTOR
5-Blade, 72' diameter, Metal (Main); 4-Blade, 15'8" diameter, (Tail).

PERFORMANCE
- Range — 172 miles
- Service Ceiling — 10,500 feet
- Gross Weight — 38,000 lbs
- Cruising Speed — 110 mph

REMARKS
The first flight of the twin-turbine-powered CH-54A took place May 9, 1962. The CH-54A carries a 10-ton payload and is designed to carry its cargoes externally. It has a rear-facing pilot's seat to provide a clear view of the cargo during pick-ups and deliveries. By means of a hoist it can pick up or deposit loads without landing. Passengers are carried in a removable van section. It may be equipped with firepower systems that range from the most basic to highly complex.

We left the gears and shafts out of our new solid state transceiver, and what does it get you besides lighter weight and smaller size?



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We developed this unit for second-generation jet aircraft. Several airlines have specified it already. Its size, weight and price qualify the RTA-41 for business aircraft, too. We'll answer all your questions if you'll write us at Bendix Radio, Avionic Products, Baltimore, Md. 21204.

Bendix Radio Division

THE Bendix CORPORATION

SCOUT

PURPOSE Experimental
COMMON NAME Sioux Scout

AIRFRAME
Manufacturer Bell
Personnel Pilot and Gunner

ENGINE
Manufacturer Lycoming
Model Designation TVO-435
Take-Off Horsepower 260
Description Engine and rotor system are the same as those on the OH-13S Sioux.

REMARKS

An experimental helicopter demonstrated publicly for the first time in September 1963, the Sioux Scout is a new configuration concept vehicle aimed at advancing state-of-the-art in armed rotary-wing aircraft design and tactical use. It is an extensively modified OH-13 Series helicopter, or flying mockup, of an attack-class helicopter embodying advanced engineering concepts. Prime features of the Sioux Scout include aerodynamic refinement for minimum drag, a nose-mounted machine gun turrent, and stub wings, which increase the rate-of-climb and maneuverability and provide space for internal fuel tanks and mounting points for external armament.

XH-51A

This aircraft was developed by Lockheed under joint Army-Navy sponsorship to investigate three major areas of a new rigid-rotor system design; the stability, control and handling qualities of the system which is striving to achieve a speed of 202 miles per hour; the vibration characteristics of the system over the speed range and the stresses and loads on all dynamic components, measured and analyzed over the speed range and for all normal flying operations.

The jointly shared Army-Navy research contract ($1,793,000) covers the XH-51A from basic analysis through flight test. Preliminary tests demonstrated speeds up to 160 miles per hour on the two aircraft delivered in 1963.

The XH-51A is in the 3,500 pound weight class and is powered by a single Canadian Pratt & Whitney PT6A turboshaft engine rated at 500 shp which drives a three-bladed rigid-rotor system with a 35 foot diameter and 13.5 inch blade chord. Tail rotor diameter is 5.5 feet and is two-bladed. Main blades are fabricated of stainless steel and aluminum bonded-honeycomb construction. Tail rotor blades are made entirely of stainless steel.

OH-4A

PURPOSE — Light Observation

AIRFRAME
- Manufacturer — Bell
- Personnel — Pilot, co-pilot and two troops

ENGINE
- Manufacturer — Allison
- Model Designation — T-63
- Take-Off Horsepower — 250
- Description — Gas Turbine, free shaft

ROTOR

2-Blade, 32' diameter Bell Metal Interchangeable (Main); 2-Blade, 5'2" diameter Bell Metal Interchangeable (Tail).

REMARKS

No performance information is available on this helicopter. Of three companies competing for an Army LOH contract, Bell in December 1962, was the first to fly its LOH model, the OH-4A. First of these aircraft were delivered to the Army for official evaluation in January 1964. Production of the LOH the Army selects is expected to begin in 1965.

OH-5A

PURPOSE Light Obsn. Helicopter

AIRFRAME
- Manufacturer: Hiller
- Personnel: Pilot-3 passengers

ENGINE
- Manufacturer: Allison
- Designation: T63-A-5
- Take-Off Horsepower: 250
- Description: Gas Turbine

ROTOR

Hiller "L" rotor; Only LOH with SAS (Stability Augmentation System). Two bladed rotor by Parsons. 35.5' diameter; single metal tail.

PERFORMANCE

Not officially released.

REMARKS

The first OH-5A was turned over to the Army in December 1963. This aircraft is one of three contenders for the Army's Light Observation Helicopter (LOH) evaluation competition. In initial tests the OH-5A was flown to 22,400 feet. Speeds in excess of 140 mph were attained.

OH-6A

PURPOSE — Light Observation

AIRFRAME
- Manufacturer — Hughes
- Personnel — Pilot, co-pilot and two troops

ENGINE
- Manufacturer — Allison
- Model Designation — T-63
- Take-Off Horsepower — 250
- Description — Gas Turbine, free shaft

ROTOR

4-blade, 26'3" diameter; Hughes hollow aluminum blades (Main).

REMARKS

Guaranteed continuous cruise speed is at least 145 mph although the OH-6A has flown at 165 mph with less than maximum power. Normal cruise of 155 mph is claimed. The design gross weight is 2,075 pounds. A pay load of 1,000 pounds in addition to the pilot may be carried with a fuel load of 385 pounds, approximately 60 gallons. This aircraft incorporates features being used in the Hughes Model 269 certificated commercial helicopter. OH-6As delivered to Ft. Rucker and Vandenberg AFB for Army testing in January, 1964.

HZ-1DE

One of several approaches to the flying platform, this research vehicle by DeLackner provided data on the unducted propeller concept for an individual lift device. A later version used metal skids as landing gear instead of the outriggers and inflated rubber bags. Power was supplied by a 40 hp Kiekhaefer Mercury Mark 55 engine.

XV-1

The Army procured two of these aircraft from McDonnell for state-of-the-art development. Gross weight of the XV-1, which carries a crew of one, is 5,505 pounds, empty weight is 4,277 pounds. The aircraft has a Continental R-975-19 engine and is capable of a maximum speed of 170 knots at sea level.

VZ-5FA

A research aircraft built by Fairchild that achieved VTOL capability by deflecting the slipstream downward by means of a high-flapped wing. The four interconnected propellers were powered by a single T-58 turbine engine. NASA conducted wind tunnel and flight tests.

VZ-1E

Greater mobility for the individual soldier on scouting and reconnaissance missions was the object of this research vehicle by Hiller Aircraft. The flying platform was kinesthetically controlled. A ducted fan, powered by three 40 hp Nelson H-59 engines, provided propulsion and lift. The VZ-1, known as the Pawnee, weighed approximately 465 lbs.

VZ-2PH

A research tilt-wing aircraft built by Boeing/Vertol that operated both as a vertical take-off and landing aircraft and as a conventional plane. The VZ-2PH aircraft completed full transition from vertical take-off to cruise and back to vertical landing in July, 1958. The interconnected propellers were powered by one T-53 gas turbine engine.

VZ-3RY

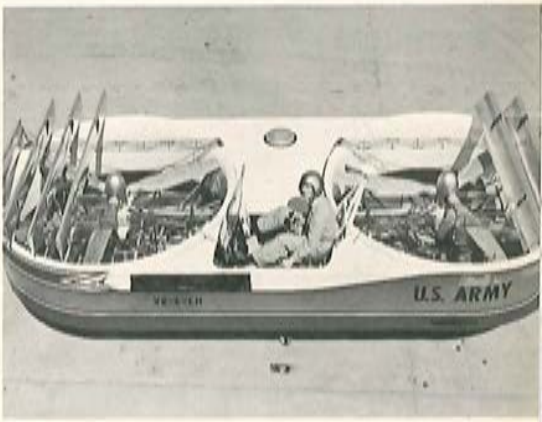
A research aircraft built by Ryan employing two propeller deflected slipstreams. Vertical flight is achieved by deflecting the slipstreams downward by means of a high-flapped wing. The propellers are interconnected and powered by a single T-53 turbine engine mounted in the fuselage.

VZ-4DA

This VTOL aircraft was built by Doak with ducted propellers on the wing tips that rotate through 90 degrees to convert the plane in flight. To land, the propellers are again turned to the vertical position. The entire plane maintained the conventional horizontal attitude at all times. One T-53 turbine engine powered the interconnected ducted propellers.

VZ-6CH

A single place research aircraft designed by Chrysler to explore the aerial jeep concept. Shafting from a single 380 hp reciprocating engine transmitted power to the two ducted propellers. Propulsion was obtained from a combination of vehicle nose down attitude and the rearward propeller slipstream deflection accomplished by duct exit vanes.



VZ-7AP

This aerial jeep research vehicle was originally designed and constructed by Curtiss-Wright utilizing four ducted fans. Finally the ducts were removed. The vehicle was powered by a single Artouste II turbine.

XV-3

The Bell XV-3 Convertiplane achieved 100 per cent in-flight conversion of its tilting rotors on December 18, 1958. The full conversion was the world's first by a tilting-rotor, fixed-wing aircraft. Since then, test flights have put the XV-3 through more than 100 full conversions.

VZ-8PB

An aerial jeep research vehicle powered by two Artouste II turbine engines. Developed by Piasecki, the VZ-8PB derives lift from two 3-bladed rotors. An earlier version, utilizing a single turbine, made its first flight in 1958. The craft's low silhouette enables it to hug the ground, fly under low bridges, between buildings or other obstacles.

H-20

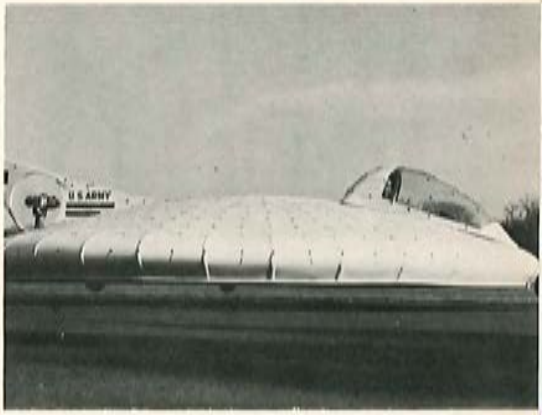
Two of these "Little Henry" ram jet powered one-place observation and reconnaissance aircraft were obtained from McDonnell in 1952 for evaluation. The XH-20 had 30 pounds of thrust for take-off horsepower.

CW AIRCAR

A 4-place Ground Effects Machine (GEM), designed by Curtiss-Wright to skim 6 to 12 inches off the ground at speeds up to 35 miles per hour. Two of these machines were bought "off-the-shelf" to obtain research information on basic operating principles.

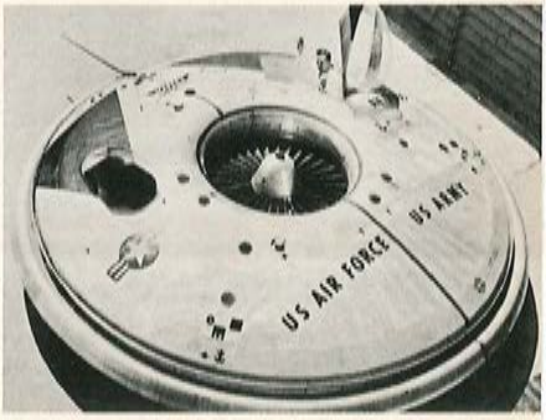
PRINCETON GEM

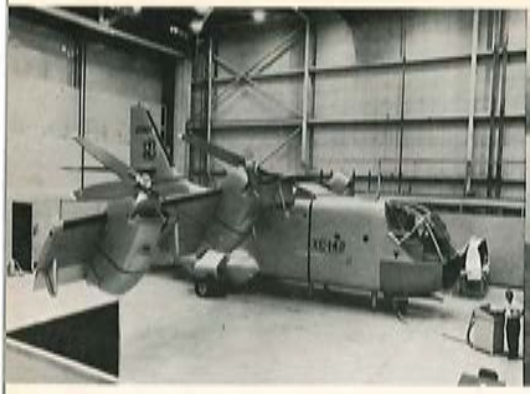
This Ground Effects Machine (GEM) was designed and built by Princeton University under Army contract to study the GEM phenomenon and particularly the problems of stability and control.



AVROCAR

Designed to explore vertical take-off and landing techniques, this vehicle operated in ground effect only. Developed by AVRO Aircraft of Canada under U.S. Army and Air Force sponsorship.





XC-142

PURPOSE — Experimental VTOL

AIRFRAME
- Manufacturers — Vought, Hiller and Ryan
- Personnel — 32 combat ready troops or 8,000 lbs. cargo

ENGINES (4)
- Manufacturer — General Electric
- Model Designation — T64-GE-2
- Horsepower — 2,850 each
- Description — Turboprop

PROPELLER
15.5' diameter blades by Hamilton Standard. Cross-shafted for normal flight with engine-out.

PERFORMANCE
- Range — 600 nautical miles
- Cruising Speed — 300 knots
- Gross Weight — 37,000 lbs

REMARKS
XC-142 under contract by all three military services. Five aircraft will be delivered for military evaluation in 1965. First contractor flight scheduled for late 1964.

X-22A

PURPOSE — Experimental VTOL

AIRFRAME
- Manufacturer — Bell Aerospace
- Personnel — Crew of 2, 6 passengers or 1,200 lbs of cargo

ENGINES (4)
- Manufacturer — General Electric
- Model Designation — T-58
- Horsepower — 1,250 each
- Description — Turboshaft

PROPELLER
Dual-tandem, ducted

REMARKS
Span of the aircraft will be 39.2 feet. It will be 36.3 feet long and 16.3 feet high. Weight will be in the 15,000-pound range and it is expected that the aircraft will be capable of flying at speeds up to 350 miles per hour. The aircraft is designed to take off vertically, transition to normal horizontal flight and hover and land vertically while maintaining the conventional horizontal position. The X-22A is a Navy managed tri-service program.

X-19

PURPOSE Experimental VTOL

AIRFRAME

Manufacturer	Curtiss-Wright
Useful Load	(VTOL) 3,910 lbs, (Air Run) 5,000 lbs

ENGINES (2)

Manufacturer	Lycoming
Model Designation	T-55-L-7
Take-Off Horsepower	2,650

PROPELLERS (4)

CW 3 blade, hydro-mechanical 13' dia. fiberglas reinforced plastic

PERFORMANCE

Range	450 nautical miles
Gross Weight	13,660 lbs
Cruising Speed	350 knots
Maximum Speed	400 knots
Rate of Climb	3,930 fpm

REMARKS

Two aircraft procured via Tri-Service contract under the management of the USAF.

XV-8A

The Flex Wing Utility Vehicle, or Fleep, is a light "aircraft" with short field operational capability designed as a simple flying truck to operate out of rugged, unimproved areas where conventional airstrips are not available. The present vehicle bears the military designation XV-8A. It is being used to demonstrate logistic support of combat troops and for general utility missions.

Currently powered by a 180 hp Lycoming engine, consideration is being given to utilizing turbine or rocket engines.

The Flex Wing uses wings of flexible material attached to a keel and leading edge members which form a V-shaped kite-like surface supporting the fuselage suspended below the wing.

Built by Ryan, the Flex Wing is flown by a pilot using a simple control system based on shifting the center of gravity. In some applications, the vehicle is unmanned and remotely controlled.

XV-5A

Two of these lift fan research aircraft are being built by Ryan under subcontract for the development of the propulsion systems, General Electric.

For vertical flight, turbojet exhaust is directed to tip turbines, driving the lift fans at conventional propeller speeds.

Two lift fans are mounted in the wings. A smaller fan in the nose provides lift and pitch control. All three fans are powered by J-85 turbojet engines which supply power for both vertical takeoff and landing and straight and level flight. Transition to forward flight is accomplished by vectoring control vanes (louvers) mounted under back wing fan.

Basic thrust of the engines is 5,316 pounds, augmented nearly 300 per cent by the fans for vertical takeoff and landing.

The VTOL takeoff gross weight of 12,326 pounds includes 5,000 pounds of useful load.

This airplane is designed for fast response and high speeds at tree top level in order to present a hard-to-hit target. It has single engine capability.

XV-6A

Now being considered by the Army as a strike reconnaissance aircraft, the XV-6A has exceeded the speed of sound in forward flight; flown 60 knots sideways and 24 knots backwards.

A single seat, single engine V/STOL aircraft, it utilizes a two-spool vectored thrust turbofan engine. The XV-6A has four swivelling nozzles - interconnected by shafts and chains - that rotate downwards or horizontally aft, or to any intermediate position.

The XV-6A is forty feet long, ten feet 3 inches high and has a wing span of twenty-two feet. When the aircraft is at rest the top of the rudder is eleven feet from the ground.

The nosewheel is steerable and the tires are low pressure to enable the aircraft to operate from unprepared grass fields. The main undercarriage door performs the secondary function of a speed brake.

The aircraft was developed by the Hawker Siddeley Co. of London, England and is being offered to the Army by Northrop. The designation of the aircraft in England is the P-1127.

XV-4A

Like its namesake, the Army's XV-4A Hummingbird built by the Lockheed-Georgia Company will fly straight up, down, forward, back-backward, or sideways. A twin jet airplane that utilizes the Lockheed jet ejector system, the Hummingbird works on the principle of thrust augmentation, converting the engine thrust under 6,000 pounds to over 8,000 pounds of vertical thrust, using only outside air through its jet ejector system to effect this increase.

In November of '63, the XV-4A completed a series of tests in the transition mode. It took off vertically, hovered, and then transitioned into full forward flight. The transition flight having been made, the research craft has entered an Army flight test program - the first ever conducted by the U.S. military in the VTOL augmented jet field.

An operational version of the aircraft would fly "on the deck" at more than 500 knots or climb at more than 18,000 feet per minute.

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Δ Piasecki 16H V/STOL, '63

Δ Kaman HOK-1, '57

Δ Fairchil

Δ EWR-Sud VJ-101 VTOL

Δ Piper L-14, '47

Δ Bell Aero

Δ Jet Commander, 1963

Δ Bell Aerosystems X-14, '59

Δ Goody

Bell Hi-Perf. UH-1B, '63

Δ Fairchild VZ-7AP, '59

Δ

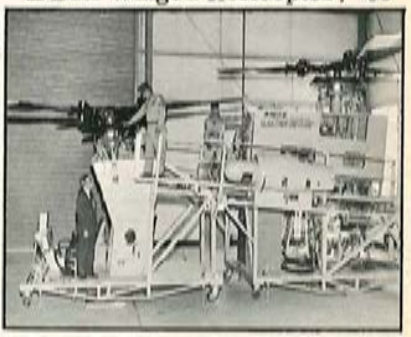
Porter, '64

Δ Vertol V/STOL, '59

Δ Bell Winged Helicopter, '63

Caribao, '63

Δ Piasecki Turbine H-16, '56



Δ CH-47 Composite Trainer, '63

toplane

Δ Alfa-Snafeo, '62

Δ Cessna YAT-37D (USAF), '64

62

Δ Cessna L-27 (USAF), '64

Δ Skyshark, '62

NUMERICAL AIRCRAFT LISTING

FIXED WING AIRCRAFT

CV-2 (De Havilland).....See page 27.
CV-7 (De Havilland).....See page 31.
L-1 (Stinson).....See page 8.
L-2 (Taylorcraft).....See page 9.
L-3 (Aeronca).....See page 10.
L-4 (Piper).....See page 11.
L-5 (Vultee-Stinson).....See page 12.
L-6 (Interstate).....See page 13.
L-7 (Universal).....Commercial 90-AF Monocoupe. Franklin O-200-5, 90 hp engine. 19 were purchased and sent to France.
L-8 (Interstate) ..... Commercial S-1A Cadet. Continental O-170-3, 65 hp engine. 8 purchased for Bolivia.
L-9 (Stinson) ..... Commercial Stinson Voyager. Franklin O-200-1, 90 hp engine. 20 purchased by the Royal Navy.
L-10 (Ryan) ..... Only one aircraft with this designation. Warner 50-499, 145 gp engine. Leased by the military.
L-11 (Bellanca) .... Built as Bellanca 31-50. Only one carried this designation. P&W R-1340-41, 600 hp engine. Built in '34; leased by military.
L-12 (Stinson) .... 4 built between '30 and '35 as Reliants; used by Air Corps. Designated SR-5A and SM-7B. P&W R-60-9, 300 hp engine.
L-13 (Convair, Vultee).....See page 16.
L-14 (Piper) ..... AGF procured 5 and cancelled order for 845 on VJ Day. Long landing gear, litter configuration. Lycoming O-290-3, 130 hp. See p. 76.
L-15 (Boeing).....See page 17.
L-16 (Aeronca).....See page 17.
L-17 (N. Amer., Ryan).....See page 18.
L-18 (Piper) ..... Commercial Piper Cub 95's purchased for Turkey. 105 new aircraft; 400 L-4J's overhauled. Continental O-205-1, 90 hp engine.
L-19 (Cessna) ..... Redesignated as O-1.
L-20 (De Havilland) ..... Redesignated as U-6.
L-21 (Piper).....See page 19.
L-22 (Ryan) ..... 3 "Super Navion's" were the only aircraft to carry this designation. They were later redesignated as XL-17D's.
L-23 (Beech) ..... Redesignated as U-8.
L-24 (Helio) ..... See page 20.
L-25 (McDonnell).....See page 65. Only aircraft to carry three designations. Also known as XV-1 and XH-35.
L-26 (Aero Commander) ..... Aircraft redesignated as U-9.
L-27 (Cessna) ..... Cessna commercial Model 310 twin purchased by USAF. No Army procurement.
LC-126 (Cessna).....See page 16.
O-1 (Cessna).....See page 23.
OV-1 (Grumman) ..... See page 29.
T-37 (Cessna) ..... See page 20.
U-1 (De Havilland) ..... See page 25.
U-6 (De Havilland) ..... See page 24.
U-8 (Beech) ..... See page 26.
U-8F (Beech) ..... See page 30.
U-9 (Aero Commander) .... See page 28.

ROTARY WING AIRCRAFT

CH-21 (Boeing-Vertol) ..... See page 45.
CH-34 (Sikorsky) ..... See page 48.
CH-37 (Sikorsky) ..... See page 49.
CH-46 (Boeing-Vertol) .... See page 53.
CH-47 (Boeing-Vertol) .... See page 55.
CH-54 (Sikorsky) ..... See page 57.
H-13 (Bell) ..... See page 32. First model to carry "H" designator.
H-15 (Bell) ..... See page 77.
H-16 (Piasecki) ..... See page 77. Two built to carry crew of 3, plus 47 troops. Gross weight, 46,700 lbs. This project was terminated in 1956.
H-17 (Hughes) ..... See page 36.
H-18 (Sikorsky) ..... See page 37.
H-19 (Sikorsky) ..... See page 35.
H-20 (McDonnell) ..... See page 68.
H-21 (Boeing-Vertol) .... Redesignated as UH-21.
H-22 (Kaman) .....One Kaman K-225 procured for Navy test. Lycoming O-435-C, 200 hp engine.
H-23 (Hiller) ... Redesignated as OH-23.
H-24 (Seibel) ..... See page 38.
H-25 (Piasecki) ..... See page 44.
H-26 (American) ..... See page 42.
H-27 (Piasecki) .. This was the original designation of the second YH-16 with T-38 turbine engines installed. Later redesignated as the YH-16A.
H-28 (Hughes) ... This designation was assigned to an improved H-17 Model M-190-4A. None ever built.

H-29 (McDonnell) ... Assigned to the 2-seat version of the H-20 ram jet. The project was cancelled.
H-30 (McCulloch) ..... See page 37.
H-31 (Doman) ..... See page 39.
H-32 (Hiller) ..... See page 38.
H-33 (Bell) .... Original Army designation given to the XV-3 Convertiplane.
H-35 (McDonnell) ..... Original Army designation given to the XV-1.
H-36 ..... Reserved for Navy use, then cancelled. Designation never utilized.
H-37 (Sikorsky) ..... See page 49.
H-38 ..... Reserved for Navy use, then cancelled. Designation later assigned to a classified project.
H-39 (Sikorsky) ..... See page 36.
H-40 (Bell) ..... The production models of this aircraft were designated UH-1.
H-41 (Cessna) ..... See page 39.
H-42 (Hughes) .... Original USAF designation of the YHO-2HU. See page 43.
H-43 (Kaman) .... H-43B procured by USAF for crash & rescue missions. Lycoming T-51-L-1 turbine engine.
HO-1 (Sud) .....See page 42. Full designation YHO-1DJ.
HO-2 (Hughes) ..... See page 43. Full designation YHO-2HU. Also H-42.
HO-3 (Brantley) ..... See page 43. Full designation YHO-3BR.
OH-4A (Bell) ..... See page 62.
OH-5A (Hiller) ..... See page 63.
OH-6A (Hughes) ..... See page 64.
OH-13S (Bell) ..... See page 52.
OH-23F (Hiller) ..... See page 54.
OH-23G (Hiller) ..... See page 34.
Pawnee (Hiller) ..... Indian code name for the VZ-1E Flying Platform. P. 66.
R-1 (Platt-LePage) .... Twin rotor, side by side. P&W R-985-21, 410 hp engine. Only two models were built.
R-2 (Kellett) .... The YG-1C Autogyro. Jacobs R-915-1, 300 hp engine. Only one R-2 was procured.
R-3 (Kellett) .... Converted YG-1B Autogyro with feathering rotor. Jacobs R-755-3, 225 hp engine. The R-2 and R-3 are only true autogyros with official military designations.
R-4 (Sikorsky) .... First helicopter to be procured in quantity (131). Warner R-550-3, 200 hp engine.
R-5 (Sikorsky) .... First XR-5 (VS-272) was tandem rotor model; all others were single rotor. 132 procured in 11 models. Later redesignated as the H-5. P&W R-985-AN-5, 450 hp engine.
R-6 (Sikorsky, Nash-Kelvinator) ... 225 of Sikorsky design produced by N-K as R-6A and R-6B. Franklin O-405-9, 240 hp engine.
R-7 (Sikorsky) ... A redesignation of the R-6A. Designation later cancelled.
R-8 (Kellett) ..... Twin rotors, side by side. Franklin O-405-9, 240 hp engine. Two procured.
R-9 (G & A Aircraft, Firestone) ... Only one procured. One two-bladed rotor. Lycoming O-290-7, 135 hp engine.
R-10 (Kellett) ... Crew of 2, 6 litters. Two intermeshing rotors. 2 procured. Two P&W R-985-AN-5 engines. Later redesignated as H-10A. Ten cancelled.
R-11 (Rotor-Craft, Magill) ... Only one procured. Two contra-rotating, three-bladed rotors. Continental A-100, 100 hp engine.
R-12 (Bell) ..... 5-passenger Model 48. 13 procured. P&W R-1340-55, 600 hp engine. Later redesignated as H-12.
R-14 (G & A Aircraft, Firestone) ... 3 cancelled in 1946. LOH proposal.
Scout (Bell) ..... See page 60.
UH-1B (Bell) ..... See page 50.
UH-1D (Bell) ..... See page 56.
UH-19 (Sikorsky) ..... See page 35.

V/STOL AIRCRAFT

Aircar (Curtiss-Wright) ... See page 69.
Avrocar (Avro) ..... See page 69.
GEM (Princeton) ..... See page 69.
HZ-1DE (DeLackner) ..... See page 65.
VZ-1E (Hiller) ..... See page 66.
VZ-2PH (Vertol) ..... See page 66.
VZ-3RY (Ryan) ..... See page 66.
VZ-4DA (Doak) ..... See page 67.
VZ-6CH (Chrysler) ..... See page 67.
VZ-7AP (Curtiss-Wright).. See page 67.
VZ-8BP (Piasecki) ..... See page 68.
X-19 (Curtiss-Wright) ..... See page 71.
X-22A (Bell Aerospace) .... See page 70.
XC-142 (Ling-Temco-Vought, Ryan, & Hiller) ..... See page 70.
XV-1 (McDonnell) ..... See page 65.
XV-3 (Bell) ..... See page 68.
XV-4A (Lockheed) ..... See page 74.
XV-5A (Ryan) ..... See page 72.
XV-6A (Hawker Siddeley)...See page 73.
XV-8A (Ryan) .....See page 71.

It's no toss-up The Pratt & Whitney Aircraft PT6 (T74) provides the right combination of power, experience and dependability for any counter insurgency (COIN) aircraft. The PT6 is in production and use in a variety of production aircraft such as the Beechcraft "King Air", the DeHavilland "Turbo-Beaver" and "Twin Otter". • When you begin with the **FAA certificated** PT6 you begin with *experience* and proven dependability.

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