

NORTHWEST HELICOPTERS

PROVIDING ALL YOUR NEEDS FOR

the UH-1H & UH-1H Plus



RESTRICTED CATEGORY

Fire Fighting External Load
Construction Agricultural

LAW ENFORCEMENT
Refurbished to your specifications.



MILITARY USE

Service Life Extension Program for
current military operators.

EXHIBITION/COLLECTOR
Restored to your requirements as an exhibition,
collector, or museum helicopter.



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Bell Helicopter
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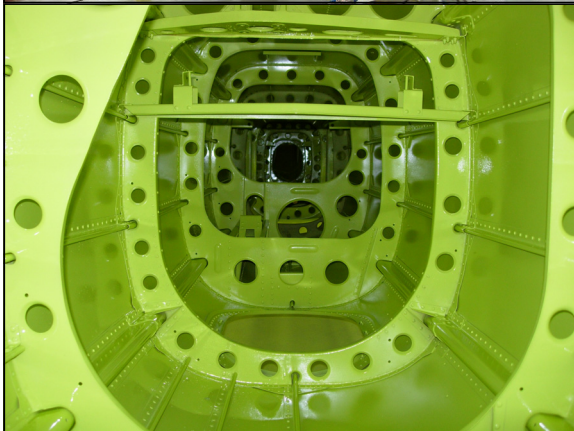
REFURBISHING THE UH-1H

Northwest Helicopters has been operating, refurbishing and maintaining UH-1 aircraft since 1989.

Since that time, the process of refurbishing the aircraft has been refined to include the following steps:



- Aircraft is acquired as surplus from the military or civilian sources and shipped to our Olympia, Washington USA facility. Currently, Northwest Helicopters maintains an inventory of approximately 50 surplus UH-1H aircraft that can be configured for either civilian or military use.



- Aircraft is stripped of old paint using a walnut shell blasting system.
- All airframe and avionics wiring is inspected. All military wiring that is not going to be re-utilized is removed.
- Airframe is inspected for any discrepancies and any required repairs are accomplished. Phase 1-6 inspections are completed.
- All windows are evaluated for serviceability or replaced, per customer specification.
- The original vertical fin spar is removed and replaced with an improved, AD compliant spar.
- The components of the aircraft are either overhauled or disassembled and inspected as specified by the customer.
- The airframe interior and exterior are prepared and painted per customer specifications.
- Customer specified avionics are installed.
- Overhauled/Inspected and painted components are installed on the airframe.
- New or custom interior seats and blankets are installed.
- Aircraft ground run checks are performed.
- Arrangements are made with the FAA and a Designated Airworthiness Representative to have the appropriate Airworthiness Certificate issued. Northwest Helicopters owns Type Certificate # R00005SE, which can be utilized to place the aircraft in "Restricted Category" so that it may be utilized in a variety of civilian roles.

UPGRADE TO THE UH-1H *Plus*

WHY UPGRADE TO THE UH-1H *Plus*

Northwest Helicopters has taken the standard UH-1H and turned it into a high performance UH-1H *Plus* helicopter.

The upgrade starts with a standard UH-1H helicopter, either customer provided or from Northwest Helicopters inventory.

- Aircraft is lightened to reduce the empty weight and increase the useful load
- Engine is replaced or upgraded to the T53-L-703 configuration
- Tailboom is modified with BLR Strake Kit™ and BLR Fast Fin Kit™
- 212 intermediate gearbox installed
- High output, Bell 209, oil cooler blower installed
- Cockpit is upgraded for 1800 horsepower engine operations

The Northwest Helicopters' UH-1H upgrade program is a modern cost effective way to achieve performance goals. Direct operating costs of the UH-1H *Plus* is estimated to be only \$644.11/hour.

Another option, making it even more obtainable, is the ability to upgrade your fleet in phases, either at your facility, or at our facility in Olympia, WA.

You will retain the commonality between the majority of the UH-1H components and use spares that you may already have in stock.

In addition to the upgrades, a newly refurbished UH-1H *Plus* helicopters from Northwest Helicopters offer the customer several options:

- EXTENDED HEIGHT LANDING GEAR
- AFS BARRIER AIR FILTER
- COMPOSITE MAIN ROTOR BLADES
- AVIONICS
- WIRE STRIKE
- FAST ROPE SYSTEM
- HOOKWELL PROTECTOR
- CARGO MIRROR
- MECHANICAL SPECIALTIES CARGO HOOK
- HOIST OR HOIST PROVISIONS
- BUBBLE DOOR
- LOAD CELL
- LEFT SIDE PIC & CARGO RELEASE
- CUSTOM EXTERIOR PAINT SCHEME
- NEW INTERIOR PAINT
- CUSTOM SEATS

UH-1H vs. UH-1H *Plus* COMPONENT TBO/RETIREMENT LIVES IMPROVEMENT WITH ENGINE UPGRADE

	UH-1H <i>Plus</i> with -13 HONEWELL ENGINE	UH-1H <i>Plus</i> with -703 HONEWELL ENGINE
ENGINE	2400	3000*
MAIN ROTOR BLADES	2500	2500/10,500**
TAIL ROTOR BLADES	1200	2400
TAIL ROTOR HUB ASSEMBLY	1500	1500
MAIN TRANSMISSION	2000	2000

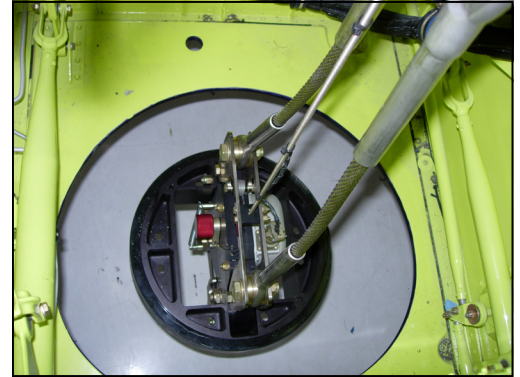
*FOR COMMERCIAL OPERATORS

**NEW COMPOSITE BLADES WILL HAVE A 10,500 LIFE

UPGRADE TO THE UH-1H *Plus*

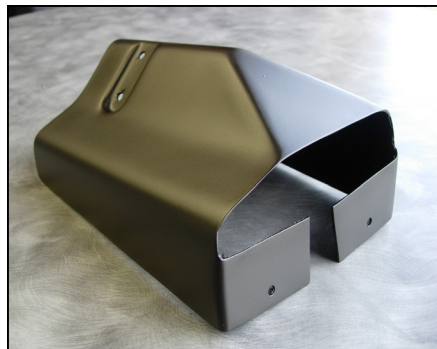
BENEFITS OF THE UH-1H *Plus* OVER OTHER UPGRADED UH-1H

- Commonality between the UH-1H *Plus* and the standard UH-1H parts, tooling, pilot training and maintenance
- Conversion can be done in stages or all at the same time
- Simple conversion process can be done at Northwest Helicopters' facility or yours
- Short turn around time on conversion
- Considerable savings over other UH-1H upgrade programs
- All parts are available from Northwest Helicopters LLC
- Cost-effective solution for military firefighting, law enforcement, and general utility applications



*Mechanical Specialties Model UH606
Suspension Assembly and Cargo Hook*

*NEW production composite
reinforced windshield wiper motor
covers for the UH-1H*



*NEW production carbon graphite
composite UH-1H 42° gearbox cover*



*Custom
Pilot Seats*



Dual Cargo Mirrors

THE UH-1H *Plus* vs. THE STANDARD UH-1H

- 28% or 400 SHP increase in available engine power
- Extended time between overhauls on the engine and some components
- Decreased pilot workload with modified tail
- Increase in crosswind capability with modified tailboom
- Better altitude performance with the new optional modern blades
- With optional glass cockpit, your UH-1H *Plus* will be as modern as any NEW helicopter

UPGRADE TO THE UH-1H *Plus*

AVIONICS

The UH-1H *Plus* can receive a tremendous technological upgrade with the introduction of an integrated “Glass Cockpit.” Flight instruments may be integrated into two separate and redundant displays that ease pilot work load and provide many features not available with old analog gauges.



42° GEARBOX UPGRADE

Historically a weak point of the Bell UH-1H when used in extreme environments is the 204-040-003, 42° gearbox. While it has provided a uniquely long military service life, a better option is now available. Northwest Helicopters installs upgraded 212-040-003, 42° gearboxes on the performance enhanced Bell UH-1H *Plus*. This gearbox is virtually indestructible and with its 5000 hour overhaul interval is very cost effective to operate.



BLR FAST FIN™ & STRAKE KIT™

These BLR upgrades provide a dramatic increase in tail rotor authority with a decrease in the power it takes to maintain directional control. This translates into more available power to the main rotor, which increases the altitude and high temperature performance of the aircraft. These benefits are accomplished without modifying the original drive train or gearboxes in any way. This is a distinct advantage when maintaining the UH-1H *Plus*. It has the same tail rotor gearbox configuration as thousands of other UH-1H aircraft operating around the world today.

HONEYWELL T53-L-703 ENGINE

The original equipment T53-L-13B at 1400 horsepower, while extremely reliable, has proven to be underpowered at high elevations and hot temperatures. The upgraded T53-L-703 at 1800 horsepower, solves this problem. The additional 400 horsepower provides the needed power at high altitudes yet still maintains the extraordinary reliability of the proven T53 engine in the Bell UH-1H *Plus*.



IMPROVED VERTICAL SPAR FIN

Another important upgrade Northwest Helicopters incorporates into all of their performance enhanced UH-1H *Plus* aircraft is the installation of the Global Helicopter Technology Improved Vertical Fin Spar. The Global Spar eliminates the problems associated with the original equipment “laminated” spar that was prone to cracking. This spar is virtually indestructible and adds to the already phenomenal safety and reliability record of the UH-1H *Plus*.



NEW CARBON COMPOSITE MAIN ROTOR BLADES FOR YOUR BELL MEDIUM HELICOPTERS



- STANDARD 48" ROTOR DIAMETER REQUIRES NO MAIN ROTOR HUB MODIFICATIONS
- IMPROVED HOT & HIGH PERFORMANCE
- DECREASED FUEL FLOW IN CRUISE FLIGHT
- CARBON FIBER CONSTRUCTION (NO FIBERGLASS)



- ONE PIECE, STAINLESS STEEL, LEADING EDGE ABRASION STRIP
- DUAL TRIM TABS ALLOW FOR BETTER TRACKING ADJUSTMENTS AND A BETTER RIDE
- 10,500 HOURS TIME LIFE



Weight 185.0 lbs. each
(saves 38 lbs. over metal blades)

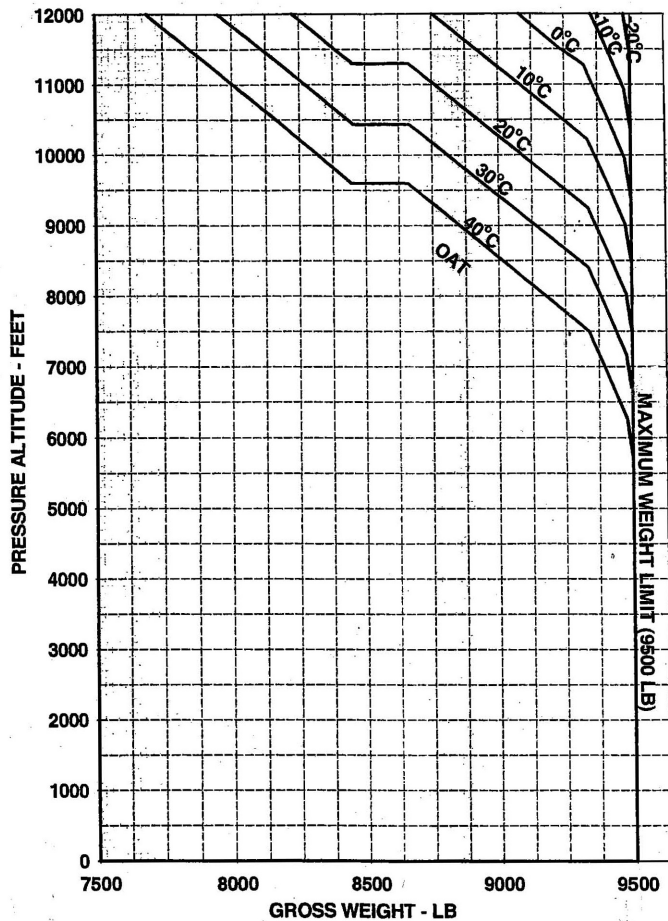
Chord: 23.6"

← Swept tip design for reduced drag.

Part Number 205CB0600-101

NEW CARBON COMPOSITE MAIN ROTOR BLADES FOR YOUR BELL MEDIUM HELICOPTERS

ESTIMATED HOVER OUT OF GROUND EFFECT



Performance:

Expected minimum performance as illustrated on the chart. Updated chart will be released after flight testing is completed.

Design:

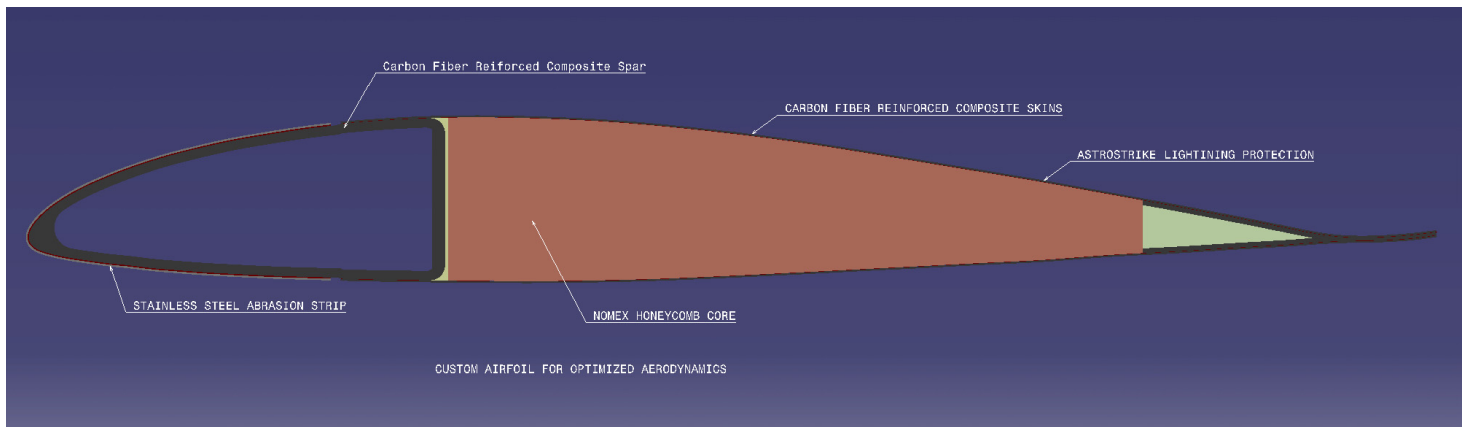
This new design is nothing like any previously designed blade for the Bell medium helicopters. They were designed using the latest engineering available for main rotor blades. Illustration below.

Models:

Expected availability for military and public use operators in July 2009. STC approval for Restricted Category UH-1H helicopters is expected September 2009.

Approval for Bell model 205 and 212 is expected at the end of the 2009.

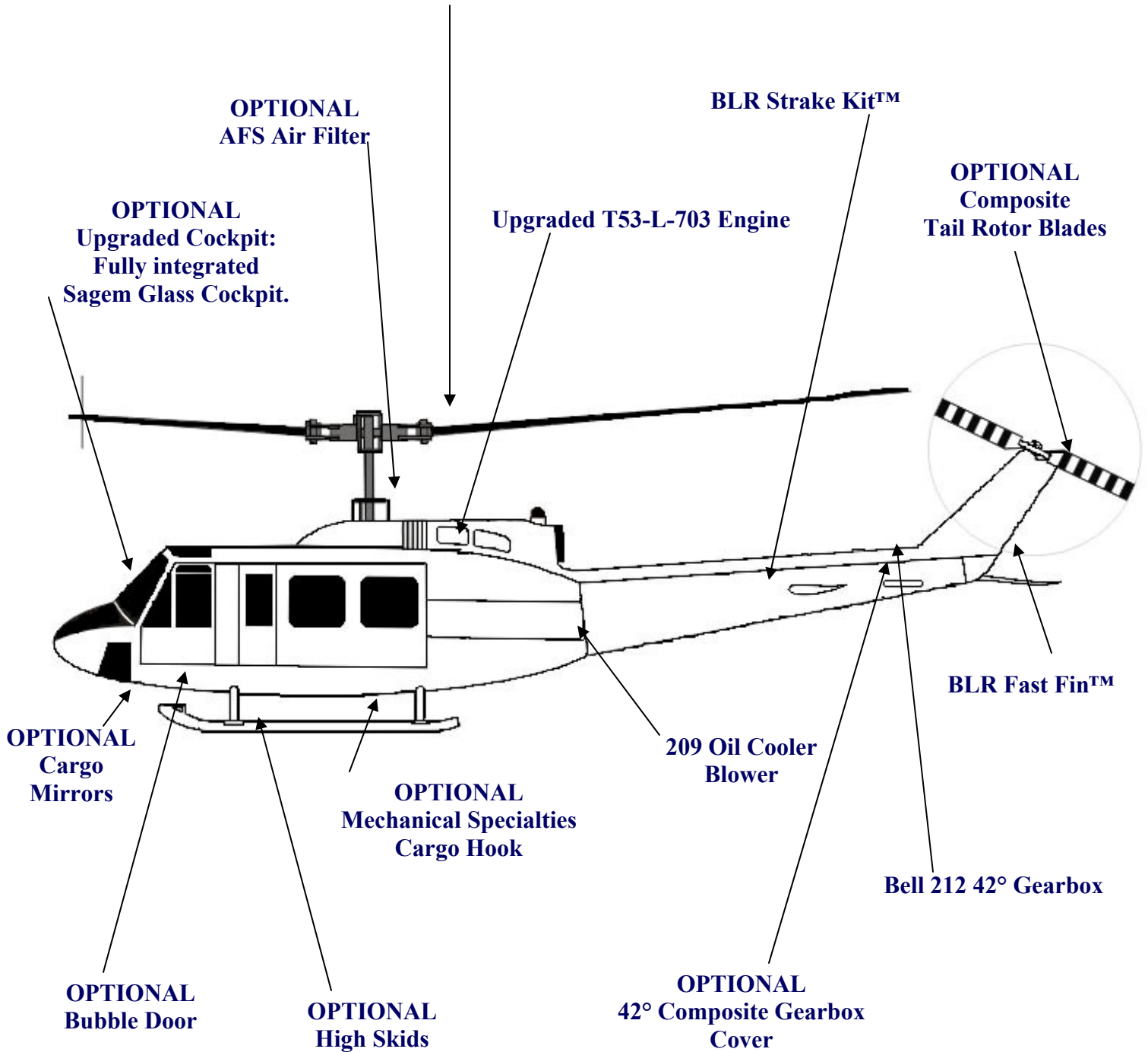
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Manufacturing production exclusive to IAC Ltd*



UPGRADE TO THE UH-1H^{Plus}

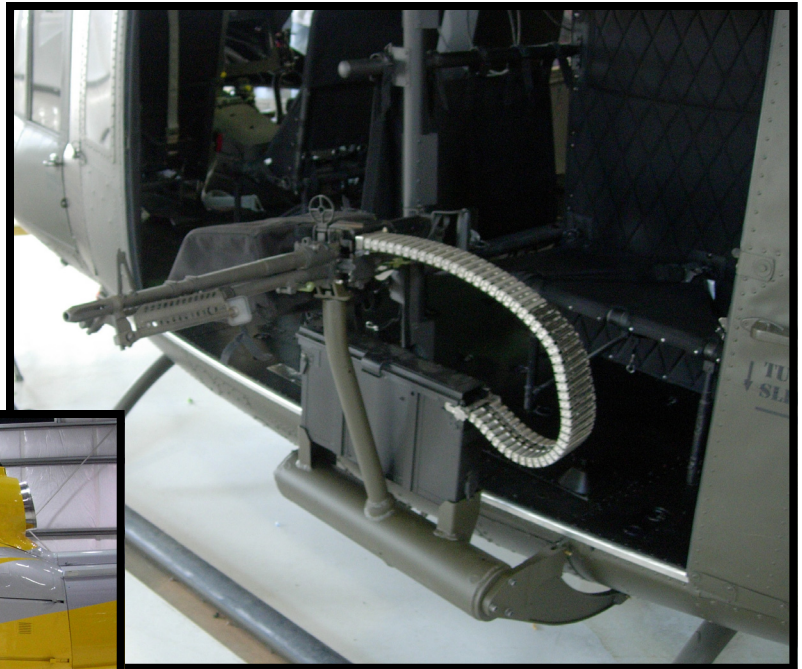
OPTIONAL Main Rotor Blades:

High performance, new technology, composite blades will be available in mid-late 2009 and will provide a dramatic performance improvement over any other blade available for the UH-1H.



WEAPONS SYSTEM FOR THE BELL UH-1H

Available to foreign military and security customers that are approved by the United States of America State Department to receive U.S. weapons systems. Prior approval and export permit is required prior to export.



Our display weapons are considered non-gun by the BATF.

Our UH-1H helicopters are available with complete door gun weapons systems utilizing:

New M-60D 7.62 machine guns by U.S. Ordinance Inc.

Newly manufactured M-23 style gun mounts by Mechanical Specialties LLC.

- Optional Flex Feed Chutes
- Optional Ammo Boxes
- Optional Shell Casing Bags

This is a fully functioning weapons system that is offered with our Bell UH-1H helicopter refurbishment program.

This door gun system is also available for collectors as a non-functional display only.



SHIPPING YOUR REFURBISHED HELICOPTER



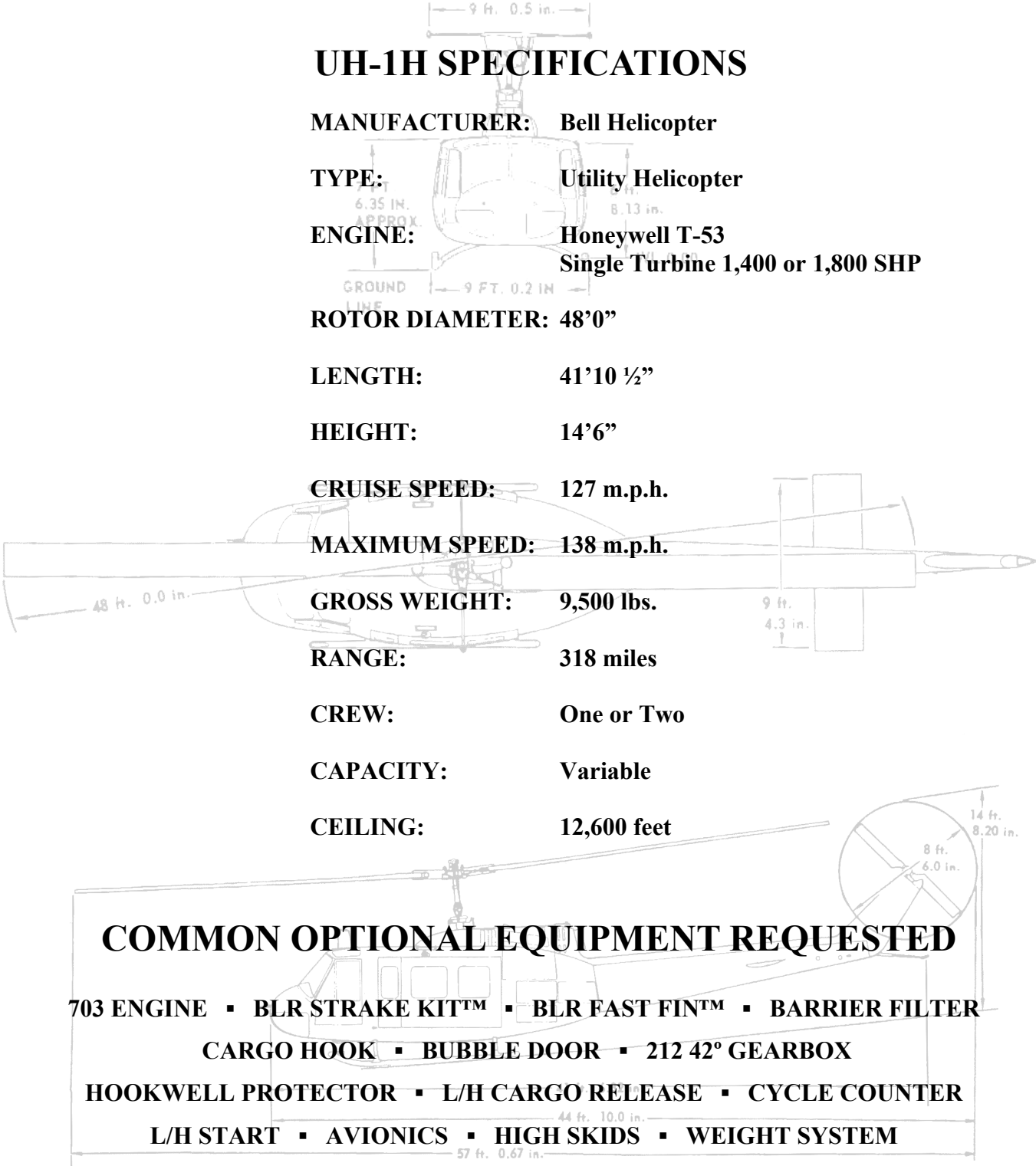
- Delivery methods that Northwest Helicopters has used include: fully assembled aircraft as “roll-on/roll-off” ocean freight, partially disassembled “flat rack” ocean freight, and disassembled and containerized ocean freight.
- Northwest Helicopters has even arranged for the UH-1H to be shipped on Boeing 747 aircraft to Europe.



**Northwest Helicopters works closely with the U.S. State Department to acquire the necessary approval to export UH-1H aircraft to foreign countries. Since 2004, Northwest Helicopters LLC has exported over 30 aircraft to foreign countries all with full U.S. State Department approval.*



UH-1H SPECIFICATIONS

- 
- MANUFACTURER:** Bell Helicopter
- TYPE:** Utility Helicopter
- ENGINE:** Honeywell T-53
Single Turbine 1,400 or 1,800 SHP
- ROTOR DIAMETER:** 48'0"
- LENGTH:** 41'10 1/2"
- HEIGHT:** 14'6"
- CRUISE SPEED:** 127 m.p.h.
- MAXIMUM SPEED:** 138 m.p.h.
- GROSS WEIGHT:** 9,500 lbs.
- RANGE:** 318 miles
- CREW:** One or Two
- CAPACITY:** Variable
- CEILING:** 12,600 feet

COMMON OPTIONAL EQUIPMENT REQUESTED

- 703 ENGINE ▪ BLR STRAKE KIT™ ▪ BLR FAST FIN™ ▪ BARRIER FILTER
CARGO HOOK ▪ BUBBLE DOOR ▪ 212 42° GEARBOX
HOOKWELL PROTECTOR ▪ L/H CARGO RELEASE ▪ CYCLE COUNTER
L/H START ▪ AVIONICS ▪ HIGH SKIDS ▪ WEIGHT SYSTEM

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Northwest Helicopters LLC, in a joint venture with Turbines LTD, known as NWH/Turbines JV LLC has and continues to provide UH-1H helicopters worldwide from our extensive inventory of more than 50 UH-1Hs.