NAVWEPS 01-230HLB-1B

POCKET CHECKLIST

UH-34D,G, & J HELICOPTERS

NOw 65-0008-k

PUBLISHED BY DIRECTION OF THE CHIEF OF
THE BUREAU OF NAVAL WEAPONS

EL TORO TOWER	271.7, 340.2, 126.2 (E), 360.2, CLNC 265.8
EL TORO GROUND	380.8 DEP CON 353.6, 132.7
EL TORO APP CON	305.5, 320.4, 380.2, 314.8, 268.7, 132.7, 388.0, 323.1 / 311.9 PMG 305.5 CWA

LOS ANGELES TOWER	239.3, 119.8, (VFR & SPECIAL VFR HELOS), 118.9, 379.1
LOS ANGELES APP CON	269.0, 124.9, (045°-224°), 381.6 & 124.5 (225°-044°)
LOS ANGELES RADAR	360.7

SANTA ANA TOWER	344.2, 340.2
LONG BEACH APP CON	269.6 (300°-119°), 343.9 (120°-299°)
LONG BEACH TOWER	118.8 (HELO'S ONLY), 302.0, 312.4
ORANGE CO TOWER	119.9, 379.9

LOS ANGELES AIRWAYS CONTROL 130.0 NEWPORT INN 130.0

RAMP FREQ AT LAX - AMERICAN 129.2, UNITED 129.4, TRANS WORLD 129.9, DELTA 131.45, NATIONAL 129.5, PAN AMERICAN 129.7, AIR WEST 131.1, WESTERN 130.1, PACIFIC 130.9, AIR CALIFORNIA 130.5

STATION	CALL	VOR	RBN	TACAN
EL TORO	NZJ	117.2	410	CH 37
OCEANSIDE	OCN	115.3	---	CH 100
SANTA ANA	SNA	108.8	---	------
SEAL BEACH (LONG BEACH)	SLI	115.7	---	CH 104
LOS ANGELES	LAX	113.6	332	CH 83
SAN DIEGO	SAN	117.8	---	CH 125

INITIAL VFR HEADING DISTANCE ETE (90 k)	SAN CLEMENTE	EL TORO	NEWPORT INN	LOS ANGELES	LONG BEACH	SAN DIEGO	CAMP PENDLETON
SAN CLEMENTE		298° 21 mi 14 min	298° 22 mi 15 min	298° 58 mi 39 min	298° 41 mi 28 min	120° 44 mi 29 min	098° 13 mi 9 min
EL TORO	138° 21 mi 14 min		233° 8 mi 6 min	285° 39 mi 26 min	277° 23 mi 16 min	138° 55 mi 37 min	125° 29 mi 20 min
NEWPORT INN	118° 22 mi 15 min	053° 8 mi 6 min		298° 36 mi 24 min	298° 19 mi 13 min	118° 66 mi 45 min	113° 34 mi 23 min
LOS ANGELES INTL.	115° 54 mi 36 min	100° 37 mi 25 min	115° 32 mi 22 min		108° 15 mi 10 min	115° 88 mi 58 min	115° 67 mi 45 min
LONG BEACH	118° 41 mi 28 min	100° 23 mi 16 min	118° 19 mi 13 min	305° 18 mi 12 min		118° 83 mi 55 min	118° 63 mi 42 min
SAN DIEGO	325° 44 mi 29 min	325° 55 mi 37 min	325° 66 mi 45 min	325° 96 mi 1+04 min	325° 83 mi 55 min		325° 35 mi 24 min
CAMP PENDELTON	278° 13 mi 9 min	305° 29 mi 20 min	293° 34 mi 23 min	293° 72 mi 48 min	293° 63 mi 42 min	328° 35 mi 24 min	

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List of Changed Pages Issued

(Insert latest changed pages. Destroy superseded pages.)

Page No.	*Date of Latest Revision*
Flyleaf	1 May 1965
3	1 May 1965
6A	1 May 1965
6B	1 May 1965
7	1 May 1965
16	1 May 1965
16A	1 May 1965
17	1 May 1965
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INTERIM CHANGE SUMMARY

NUMBER	CHANGE DATE	PAGES AFFECTED	PURPOSE

SECTION I

EMERGENCY PROCEDURES

CHECKLIST

ENGINE FAILURE AFTER TAKE-OFF AND BEFORE CLIMB

1. Collective pitch stick – REDUCE MOMENTARILY
2. Cyclic control stick – AFT TO REDUCE FORWARD SPEED
3. Tail rotor pedals – MAINTAIN DIRECTIONAL CONTROL
4. Collective pitch stick – INCREASE TO CUSHION LANDING
5. Wheel brakes – APPLY (After Touchdown)

ENGINE FAILURE DURING CLIMB

1. Collective pitch stick – MINIMUM
2. Airspeed – 60 KNOTS IAS
3. Flight procedure – AUTOROTATIVE LANDING WITH ENGINE INOPERATIVE

ENGINE FAILURE DURING CRUISE

1. Collective pitch stick – MINIMUM
2. Airspeed – 60 KNOTS IAS OR MAXIMUM GLIDE
3. Throttle – CLOSED
4. Cabin occupants – ALERTED
5. Engine – ATTEMPT RESTART
6. Flight Procedure – AUTOROTATIVE LANDING WITH ENGINE INOPERATIVE (if engine not restarted)

ENGINE FAILURE AT HIGH SPEED AND LOW ALTITUDE

1. Collective pitch stick – REDUCE TO MINIMUM IMMEDIATELY
2. Cyclic control stick – AFT TO HOLD HELICOPTER OFF SURFACE
3. Tail rotor pedals – COUNTERACT YAW
4. Collective pitch stick – RAISE TO CUSHION LANDING

ENGINE RESTART IN FLIGHT

1. Collective pitch stick – MINIMUM
2. Throttle – CLOSED
3. Mixture control lever – IDLE CUT-OFF
4. Fuel booster pump switch – FUEL BSTR PUMP
5. Fuel selector valve handle – ON or fuel shut-off valve switch – OPEN
6. Ignition switch – BOTH
7. Starter button – DEPRESS
8. Primer switch – HOLD ON ENG PRI

9. Mixture control lever – RICH
10. Throttle – AS ENGINE FIRES, INCREASE TO DRIVING SPEED

ENGINE SHUTDOWN IN FLIGHT

1. Throttle – CLOSED
2. Mixture control lever – IDLE CUT-OFF
3. Fuel booster pump switch – OFF
4. Ignition switch – OFF
5. Fuel selector valve handle – OFF or fuel shut-off valve switch – CLOSE

AUTOROTATIVE LANDING WITH ENGINE INOPERATIVE

1. Cabin occupants – ALERTED
2. Tail wheel lock handle – LOCKED
3. Wheel brakes – OFF
4. Shoulder harness inertia reel lock handle – LOCKED
5. Flare at approximately 100 feet
6. Cyclic control stick – FWD TO LANDING ATTITUDE AT 15 to 20 KNOTS IAS
7. Collective pitch stick – INCREASE AS HELICOPTER SETTLES
8. Contact ground with tail wheel first
9. Collective pitch stick – DECREASE (after contact)
10. Wheel brakes – APPLY

TAIL ROTOR FAILURE DURING TAKE-OFF OR WHILE HOVERING BELOW 10 FEET

1. Throttle – CLOSED IMMEDIATELY
2. Cyclic control stick – HOLD HELICOPTER IN LEVEL ATTITUDE
3. Collective pitch stick – INCREASE TO CUSHION LANDING
4. Wheel brakes – APPLY

LANDING WITH TAIL ROTOR INOPERATIVE

1. Collective pitch stick – MINIMUM
2. Throttle – CLOSED
3. Enter full autorotation into the wind
4. Airspeed – 60 KNOTS IAS GLIDE
5. Cyclic control stick – LATERAL TO MAINTAIN DIRECTIONAL CONTROL
6. Wheel brakes – OFF
7. Tail wheel lock handle – LOCKED
8. Shoulder harness inertia reel lock handle – LOCKED
9. Cabin occupants – ALERTED
10. Make final approach into wind
11. Engine – SHUTDOWN
12. Flight procedure – AUTOROTATIVE LANDING WITH ENGINE INOPERATIVE

ENGINE FIRE ON THE GROUND

1. Mixture control lever – IDLE CUT-OFF
2. Fuel booster pump switch – OFF
3. Fuel selector valve handle – OFF or fuel shut-off valve switch – CLOSE
4. Ignition switch – OFF
5. External power – DISCONNECTED
6. Battery – generator switch – OFF
7. Fight fire through engine cooling air exit

ENGINE FIRE IN FLIGHT

1. Enter autorotation
2. Throttle – CLOSED
3. Mixture control lever – IDLE CUT-OFF

4. Fuel booster pump switch – OFF
5. Fuel selector valve handle – OFF or fuel shut-off valve switch – CLOSE
6. Ignition switch – OFF
7. Cabin occupants – ALERTED
8. Flight procedures – AUTOROTATIVE LANDING WITH ENGINE INOPERATIVE

FUSELAGE FIRE

1. Pilot's compartment sliding windows – CLOSED
2. Cabin door – CLOSED
3. Cabin vents – CLOSED
4. Ventilating fan switch – OFF
5. Use the portable fire extinguisher
6. Land as soon as possible

ELECTRICAL FIRE

1. Battery-generator switch – OFF
2. Use the portable fire extinguisher
3. Land as soon as possible

BAILOUT

1. Airspeed – 50 TO 60 KNOTS IAS
2. Warn cabin occupants "PREPARE TO BAIL OUT"
3. Pilot's compartment sliding windows and cabin door – OPEN
4. Acknowledge crew reporting that they are prepared to bail out
5. Give bail out order
6. Cabin occupants dive out of cabin entrance, head first
7. Jumpmaster verbally notify pilot by calling "CABIN CLEAR," and/or tapping the pilot's leg to signify he is abandoning the helicopter
8. Pilot and copilot bail out of respective sliding windows

MAIN GEAR BOX OIL SYSTEM FAILURE

OPERATION OVER LAND

1. Land as soon as possible

OPERATION AT SEA

1. Main gear box oil lost and temperature pegged
   a. Prepare to ditch
   b. Head for nearest landing site
   c. Establish a slow cruise speed of 50 to 60 knots IAS at a low enough altitude to permit a quick flare followed by ditching at first sign of failure
2. Temperature merely exceeds red line
   a. Prepare to ditch
   b. Head for nearest landing site
   c. If oil pressure begins to drop, establish a slow cruise speed of 50 to 60 knots IAS at a low enough altitude to permit a quick flare followed by ditching at first signs of failure
3. Pressure zero. Temperature within limits
   a. Check XMSN OIL PRESSURE circuit breaker on those helicopters with pressure gages operating on alternating current
   b. Prepare to ditch
   c. Head for nearest landing site
   d. Cruise conditions and altitudes may be higher than for the two previous conditions
   e. If oil temperature rises, establish a slow cruise speed of 50 to 60 knots IAS at a low enough altitude to permit a quick flare followed by ditching at first sign of failure

AUTOMATIC STABILIZATION EQUIPMENT FAILURE

1. AUTO STAB release button – DEPRESS
2. If malfunction still persists, place flight control servo switch in AUX OFF position

DITCHING CHART

IMMEDIATE DITCHING

Pilot

1. Transmit distress signal.
2. Warn cabin passengers over interphone.
3. Notify cabin occupants to open the cabin door, check that safety belts are fastened, and to remain in seats until contact with water is made.

Note

If any cabin occupants do not have seats, they should place any loose equipment that can be used as a cushion against the ladders on the forward cabin bulkhead and sit on the floor with their backs braced against the cushions, and heads between their knees.

4. Open sliding window in pilot's compartment.
5. Shoulder harness locked.
6. Order copilot to secure the engine prior to entering the water.
7. Upon contact with the water, continue to increase collective pitch to slow rotor blade motion.
8. Abandon the helicopter through right sliding window exit.
9. Do not inflate raft until all personnel are at the raft. Raft will drift swiftly, when inflated.

Copilot

1. Open sliding window.
2. Shoulder harness locked.
3. Standby mixture control and rotor brake.
4. Prior to contact with water; Mixture control — IDLE CUT-OFF, and Battery-Generator Switch — OFF.
5. Upon contact with the water, apply the rotor brake.
6. Abandon the helicopter through left sliding window exit.
7. Assist in removal of any injured personnel, and ascertain that all personnel are accounted for.

Cabin Occupants

1. Open cabin door when notified by pilot.
2. Saftey belts FASTENED and remain in seats until all rotor motion has ceased.
3. Jettison survival equipment after the helicopter contacts the water.
4. Abandon helicopter through the cabin door or emergency escape hatch on left side.

DITCHING CHART (Cont)

PLANNED DITCHING

Pilot

1. Transmit distress signal.
2. Immediately brief crew over the interphone when ditching appears inevitable.
3. Order the crew to prepare all survival equipment for jettison, open cabin door, and jettison cabin emergency hatches.
4. Notify cabin occupants to check that safety belts are fastened, and to remain in seats until all rotor motion has ceased.

Note

If any cabin occupants do not have seats, they should place any loose equipment that can be used as a cushion against the ladders on the forward bulkhead and sit on the floor with their backs against the cushions and heads between their knees.

5. Open the sliding window in the pilot's compartment.
6. Shoulder harness locked.

Note

The pilot may, at his discretion, evacuate all nonessential equipment from a low hover prior to ditching the helicopter.

7. Establish a low hover into the wind a safe distance from any personnel in the water.

Copilot

1. Open sliding window.
2. Shoulder harness locked.
3. Once in the water, and the pilot closes the throttle, immediately place the Mixture control in IDLE CUT-OFF, and the Battery-Generator switch — OFF.
4. Apply the rotor brake.
5. Remain strapped in until all rotor motion has ceased, then abandon the helicopter through the left sliding window.
6. Assist in the removal of injured personnel, and ascertain that all personnel are accounted for.

Cabin Occupants

1. Open cabin door when notified by pilot.
2. Jettison survival equipment when ordered by the pilot.
3. Safety belts FASTENED and remain in seats until all rotor motion has ceased.
4. Abandon helicopter through the cabin door or emergency escape hatches on left side.

8. To ditch the helicopter, gradually back off on the throttle, reducing manifold pressure and RPM simultaneously. Allow the helicopter to settle slowly into the water, adjusting throttle to reduce RPM and adjusting collective pitch to control rate of descent. Once the lower portion of the helicopter is in the water, close the throttle.
9. Upon closing the throttle, adjust tail rotor control pedals to compensate for torque changes, increase collective pitch to further reduce motion, and adjust cyclic pitch to keep the helicopter in a level attitude.
10. Remain strapped in until all rotor motion has ceased, then abandon the helicopter through the right sliding window exit.
11. Do not inflate raft until all personnel are at the raft. The raft will drift swiftly when inflated.

LIFE RAFT PAULIN SIGNALS

NOTE. - Solid lines blue. Dotted lines yellow.

The pilot of the rescue plane will answer your messages either by dropping a note or by dipping the nose of his plane for the affirmative (yes) and fishtailing his plane for the negative (no).

Have abandoned plane.
LAND - Walking this direction.
SEA - Drifting

LAND - Need quinine or atabrine.
SEA - Need sun cover

LAND - Need warm clothing.
SEA - Need exposure suit or clothing shown.

LAND and SEA } Plane is flyable. Need tools.

SEA - Need equipment as indicated. Signals follow.

LAND - Need gas and oil. Plane is flyable.

LAND and SEA } Need medical attention

LAND and SEA } Need first aid supplies.

LAND and SEA } Need food and water.

LAND - Indicate direction nearest habitation.
SEA - Indicate direction of rescue craft.

LAND - Should we wait for rescue plane?
SEA - Notify rescue agency of my position.

LAND and SEA } O.K. to land. Arrow shows landing direction.

LAND and SEA } Do not attempt landing.

BODY SIGNALS

NEED MEDICAL ASSISTANCE - URGENT. LIE PRONE.

DO NOT ATTEMPT TO LAND HERE.

LAND HERE. (POINT IN DIRECTION OF LANDING.)

ALL O.K. DO NOT WAIT.

CAN PROCEED SHORTLY WAIT IF PRACTICABLE.

OUR RECEIVER IS OPERATING.

USE DROP MESSAGE.

NEED MECHANICAL HELP OR PARTS - LONG DELAY.

PICK US UP PLANE ABANDONED

AFFIRMATIVE (YES

NEGATIVE (NO)

GROUND/AIR EMERGENCY CODE

To Be Used to Amplify Distress Signals

INSTRUCTIONS

1. Lay out these symbols by using strips of fabric or parachutes, pieces of wood, stones, or any other available material.

2. Endeavor to provide as big a color contrast as possible between the material used for the symbols and the background against which the symbols are exposed.

3. Symbols should be at least 8 ft. in height or larger, if possible. Care should be taken to lay out symbols exactly as depicted to avoid confusion with other symbols.

4. In addition to using these symbols, every effort is to be made to attract attention by means of radio, flares, smoke, or other available means.

No.	Meaning	Symbol
1.	Require doctor. Serious injuries.	
2.	Require medical supplies	
3.	Unable to proceed	
4.	Require food and water	
5.	Require firearms and ammunition.	
6.	Require map and compass	
7.	Require signal lamp with battery, and radio	
8.	Indicate direction to proceed	
9.	Am proceeding in this direction	
10.	Will attempt take-off	
11.	Aircraft seriously damaged	
12.	Probably safe to land here	
13.	Require fuel and oil	
14.	All well	
15.	NO	
16.	YES	
17.	Not understood	
18.	Require Engineer	

Symbol

AIRCRAFT ACKNOWLEDGMENTS

Message Received and Understood.—An aircraft will indicate that ground signals have been seen and understood by—

1. Rocking from side to side, or
2. Making green flashes on signalling lamp.

Message NOT Understood.—An aircraft will indicate that ground signals are not understood by—

1. Making a complete right-hand circuit, or
2. Making red flashes on signalling lamp.

SECTION II

NORMAL PROCEDURES

PRESTART/START

1. Rotor brake – ON
2. Lights – AS REQD
3. Heater and pitot – OFF
4. Crew alarm – TEST
5. Hoist switches – OFF
6. Radio master – ON
7. Circuit breakers – IN
   (#1 Inverter optional)
8. ASE override – CENTERED
9. Fuel – ON
10. Mixture – IDLE CUT-OFF
11. Carb. air – DIRECT
12. Clutch pump – OFF
13. Servo – ON
14. Fuel transfer – OFF
15. Parking brakes – RESET
16. Tail wheel – LOCKED
17. Radios, Rad Alt, IFF – OFF
18. Ignition – OFF
19. Fuel boost – OFF
20. Ext. pwr. (Volt CK) – ON
21. Batt-Gen (Volt CK) – BATT ONLY
22. Fuel pressure – CHECK (148053 & Sub.)
23. Fuel boost – ON
24. Fuel pressure – CHECK (Prior to 148053)
25. Warning lights – TEST
26. Collective – DOWN
27. Throttle – CLOSED
28. Engine – START

POST-START

1. Oil press. – CHECK
2. Mags. – GROUND CHECK
3. Warm up – 1400 RPM
4. Fuel trans./emerg. – CHECK
5. No. 1 Inverter – IN
6. Servo interlock – CHECK
7. Cyclic/Rudder control – CHECK
8. Carb. air – CHECK
9. Man. press. Drain Valve – PRESS
10. Fuel gage – CHECK
11. Engine instruments – CHECK

*12. ASE – CHECK

ENGAGE

1. Fuel – ON
2. Fuel transfer – ON
3. Acft. clear – CHECK
4. Rotor brake – OFF
5. Engine – 1700 RPM
6. Rotors – ENGAGE
7. Clutch pump – OFF
8. Trans. oil press. – CHECK
9. Engine – 2000 RPM

POST ENGAGE

1. Batt.-Gen – BATT & GEN
2. Ext. pwr (Volt/Amp CK) – OFF
3. Radios, Rad. Alt, IFF – ON
4. No. 2 Inverter – CHECK
5. Flt instruments – CHECK
6. Fuel pump – CHECK
7. Hoist – CHECK
8. Servos – CHECK (PRI. OFF FIRST)
9. Mixture control – CHECK
10. Mags. – CHECK
11. Freewheeling – CHECK

*12. ASE CHECK (AS DESIRED AFTER ENG. START)

***PRE-TAXI CHECK (AS REQD)**

1. Chocks/tie-downs – REMOVED
2. Aircraft – CLEAR
3. Brakes – OFF/CHECK
4. Tail wheel lock – AS REQD

PRETAKE-OFF

1. ASE – ENGAGED
2. Take-off checklist – CHECK
3. All gages – CHECK
4. Shoulder harness – LOCKED
5. Crew chief – CHECKED

***ASE CHECK (AS DESIRED)**

1. ASE & BAR ALT. – ENGAGED
2. BAR ALT. – OFF
3. AUTO STAB. Releases – CHECK
4. ASE – ENGAGE
5. Channel check – YAW, ROLL & PITCH
6. Cover – DOWN

PRELANDING CHECK

1. Landing checklist – CHECK
2. Shoulder harnesses – LOCKED
3. Crew chief – CHECK

SHUTDOWN

1. Tail wheel – LOCKED
2. Parking brakes – SET
3. ASE – RELEASE
4. Radios, Rad Alt, IFF – OFF
5. Fuel boost and transfer – OFF
6. Rotor (2000 rpm) – DISENGAGE
7. Batt/Gen – BATT ONLY
8. Rotor brake (800 rpm or less) – ON
9. Mags. – GROUND CHECK
10. Mixture (Idle MIX. check) – IDLE CUT-OFF
11. Ignition – OFF
12. Fuel – OFF
13. Lights – OFF
14. Batt-Gen – OFF

SUPPLEMENTARY INFORMATION

HELICOPTER DIMENSIONS

Length:	Maximum, main blades extended	65' 10"
	Minimum, main blades and pylon folded	37' 0"
Height:	Maximum to top of tail rotor, blade vertical	15' 10"
	Minimum, pylon folded tail rotor position 45 degrees	14' 10"
Width:	Maximum, main blades extended	56' 0"
	Minimum, main blades and pylon folded: curved main landing gear	13' 0"
	"V" leg main landing gear	15' 0"
	Main rotor diameter	56' 0"
	Tail rotor diameter	9' 6"
	Minimum main rotor ground clearance (Static tip clearance-forward sector)	9' 8"
	Minimum tail rotor ground clearance	6' 5"
	Curved main landing gear tread	12' 0"
	"V" leg main landing gear tread	14' 0"

HELICOPTER WEIGHT

Allowable Gross Weight	14000 pounds
C.G. Limits	Sta. 130.7 to Sta. 146.7

FUEL QUANTITY DATA

UH-34D

HELICOPTERS PRIOR TO BUNO 148053

TANKS	USABLE		UNUSABLE		FULLY SERVICED	
	U.S. Gallons	*Pounds*	*U.S. Gallons*	*Pounds*	*U.S. Gallons*	*Pounds*
FWD	100.5	583.0	0.5	3.0	101.0	586
CENTER	70.0	406.0	0	0	70.0	406
AFT	92.0	534.0	0	0	92.0	534
ALL TANKS	262.5	1523.0	0.5	3.0	263.0	1526

UH-34D

HELICOPTERS BUNOS 148053 AND SUBSEQUENT

TANKS	USABLE		UNUSABLE		FULLY SERVICED	
	U.S. Gallons	*Pounds*	*U.S. Gallons*	*Pounds*	*U.S. Gallons*	*Pounds*
FWD	103.4	599.5	0.6	3.5	104	603
CENTER	70.0	406.0	0	0	70	406
AFT	92.0	534.0	0	0	92	534
ALL TANKS	265.4	1539.5	0.6	3.5	266	1543

UH-34G HELICOPTERS

TANKS	USABLE		UNUSABLE		FULLY SERVICED	
	U.S. Gallons	*Pounds*	*U.S. Gallons*	*Pounds*	*U.S. Gallons*	*Pounds*
FWD	113.0	655	0.5	3	113.5	657
AUX	31.5	183	0	0	31.5	183
CENTER	70.0	406	0	0	70.0	406
AFT	92.0	534	0	0	92.0	534
ALL TANKS (SEARCH)	306.5	1778	0.5	3	307.0	1780
ALL TANKS EXCEPT AUX (ATTACK)	275.0	1595	0.5	3	275.5	1595

UH-34J

HELICOPTERS PRIOR TO BUNO 147984

TANKS	USABLE		UNUSABLE		FULLY SERVICED	
	U.S. Gallons	*Pounds*	*U.S. Gallons*	*Pounds*	*U.S. Gallons*	*Pounds*
FWD	113.1	656	0.4	2	113.5	658
AUX	31.5	183	0	0	31.5	183
CENTER	70.0	406	0	0	70.0	406
AFT	92.0	534	0	0	92.0	534
ALL TANKS (SEARCH)	306.6	1779	0.4	2	307.0	1781
ALL TANKS EXCEPT AUX (ATTACK)	274.5	1596	0.4	2	275.5	1598

UH-34J

HELICOPTERS BUNOS 147984 AND SUBSEQUENT

TANKS	USABLE		UNUSABLE		FULLY SERVICED	
	U.S. Gallons	*Pounds*	*U.S. Gallons*	*Pounds*	*U.S. Gallons*	*Pounds*
FWD	113.9	660.5	0.6	3.5	114.5	664
AUX	31.5	183.0	0	0	31.5	183
CENTER	70.0	406.0	0	0	70.0	406
AFT	92.0	534.0	0	0	92.0	534
ALL TANKS (SEARCH)	307.4	1783.5	0.6	3.5	308.0	1787
ALL TANKS EXCEPT AUX (ATTACK)	275.9	1600.5	0.6	3.5	276.5	1604

SERVICING REQUIREMENTS

Fuel	MIL-F-5572 (NATO Symbols F-18 and F-22) Ashore, Grades 115/145 or 100/130 (F-18) Afloat, Grade 115/145 (F-22)
Engine Oil	MIL-L-6082 (NATO Symbol O-117), Grade 1100 or MIL-L-22851, for expected continuous ground temperatures above 25°F MIL-L-6082 (NATO Symbol 0-117), Grade 1065 for expected continuous ground temperatures below 25°F
Gear Box Oil	MIL-L-21260 (NATO Symbol C-642) Grade 2 oil above —18°C (0°F) for main, intermediate, and tail gear boxes MIL-L-6082 (NATO Symbol O-117), Grade 1065 below —18°C (0°F) for main gear box and MIL-L-7808 (NATO Symbol 0-148), for tail and intermediate gear box below —18°C (0°F)
Hydraulic Oil	MIL-H-5606 (NATO Symbol H-505)

Tire Pressure:	*12000 Pound GW*	*14000 Pound GW*
Main Wheel	39 PSI	46 PSI
Tail Wheel	37 PSI	46 PSI

MAXIMUM MANIFOLD ABSOLUTE PRESSURE IN INCHES Hg (FUEL GRADE 115/145)

	ALTITUDE — FEET					
RPM	SL	2000	4000	6000	8000	10,000
2200	35.5	35.0	34.5	34.0	33.0	FT
2300	38.5	38.0	37.5	36.5	FT	FT
2400	42.5	42.0	41.0	FT	FT	FT
2500	47.5	46.5	FT	FT	FT	FT
2600	50.0	48.0	FT	FT	FT	FT
*2700	52.0	51.0	FT	FT	FT	FT
**2800	56.5	FT	FT	FT	FT	FT

POWER LIMITS WITH FUEL GRADE 100/130 (EMERGENCY USE ONLY)

Cruise Power same as with 115/145 Grade fuel.

				ALTITUDE — FEET			
	RPM	BHP	MIXTURE	SL	2000	4000	6000
TAKE-OFF POWER	**2800	1325	RICH	50.0	49.5	48.5	FT
MILITARY POWER	*2700	1275	RICH	47.5	47.0	46.0	FT
NORMAL RATED POWER	2500	1160	NORMAL	43.5	43.0	42.0	FT

FT — FULL THROTTLE

Maximum continuous — 2500 rpm (Normal Rated Power)
*30 Minute limit — 2500 to 2700 rpm (Military Rated Power)
**5 Minute limit — 2800 rpm (Take-Off Power)

ENGINE LIMITATIONS

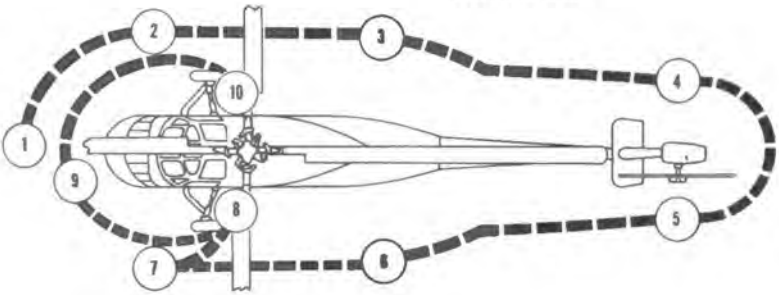
Engine Overspeed

Engine overspeeds to 2900 rpm are allowable. Engine overspeeds from 2900 to 3000 rpm require inspection of the engine and fan assembly. Engine overspeeds beyond 3000 rpm require removal of the engine and fan assembly for overhaul.

ROTOR AND TRANSMISSION LIMITATIONS

1. 2915 to 3050 apparent rpm range. A thorough visual inspection should be performed to include main and tail rotor blades, hubs and control linkage, tail drive shafts, and tail drive shaft brackets.
2. 3050 to 3500 apparent rpm range.
   a. Powered flight – The foregoing components are to undergo a major overhaul with the exception of the main and tail rotor blades, and tail drive shaft brackets which will receive a thorough visual inspection.
   b. Autorotative flight – The hub and control linkage in the rotor and transmission system are to undergo a major overhaul. A thorough visual inspection should be performed to include the main and tail rotor blades, the tail drive shafts and brackets.
3. Over 3500 apparent rpm range. The main and tail rotor blades, main rotor head, tail rotor head, and tail rotor head counterweight assemblies should be scrapped.

EXTERIOR INSPECTION



1. GENERAL.
- a. All protective covers removed.
- b. Windshield clean.
- c. Oil or fuel leakage on ramp.

2. RIGHT FRONT FUSELAGE.
- a. Cooling air intake screens for security and freedom from obstructions.
- b. Clutch compartment for integrity.
- c. Oil quantity and filler cap security.
- d. Mower and flood lights for security and cleanliness.
- e. Tire for cuts, slippage, blisters and proper inflation.
- f. Landing gear oleo strut for damage, proper extension, and cleanliness.
- g. Fuselage skin for damage, dents or cracks.
- h. Fuel filler caps secure (all tanks).
- i. Cabin door for security.

3. RIGHT REAR FUSELAGE.
- a. Main transmission fairing for security.
- b. Fuselage skin for damage.
- c. Radio antennas for security and damage.

4. RIGHT SIDE PYLON.
- a. Tail wheel locking pin secure.
- b. Tail wheel tire for cuts, blisters, slippage and proper inflation.
- c. Tail wheel oleo strut for damage, proper extension and cleanliness.
- d. Pylon hinge lock indicator retracted and secure.
- e. Stabilizer for security and damage.
- f. Tail cone and pylon skin for dents and cracks.
- g. Intermediate and tail gear box for leakage, oil levels and heat discoloration.

5. LEFT SIDE PYLON.
- a. Tail wheel tire for cuts, blisters, slippage and proper inflation.
- b. Tail wheel oleo strut for damage, proper extension and cleanliness.
- c. Stabilizer for security and damage.
- d. Tail cone and pylon skin for dents and cracks.
- e. Tail rotor head for security.
- f. Tail rotor blades for dents, cracks and security.
- g. Pylon hinges for cracks and security.

6. LEFT REAR FUSELAGE.
- a. Fuselage skin for damage and dents.
- b. Radio antennas for security and damage.
- c. Heater exhaust unobstructed.
- d. Heater vent line for fuel leakage.
- e. Emergency hatches for security.

7. LEFT FRONT FUSELAGE.
- a. Tire for cuts, slippage, blisters and proper inflation.
- b. Mower and flood lights for security and cleanliness.
- c. Landing gear oleo strut for damage, proper extension and cleanliness.
- d. Fuselage skin for damage, dents or cracks.
- e. Engine exhaust outlet unobstructed and secure.
- f. Landing light for security and damage.
- g. Static ground wire for good contact with ground.
- h. [illegible] for security and damage.
- i. Clutch compartment for integrity.

8. LEFT SERVICE PLATFORM.
- a. Main gear box fairing for security and damage.
- b. Damper reservoir for quantity and discoloration of damper fluid.
- c. Horn locking pins in flush and safety wired.
- d. Taper pins seated nuts tight.
- e. Bonding wires secure.
- f. Rotor blades for damage, cord alignment and pressure indicators for loss of pressure.
- g. Rotor head assembly and control linkages.
- h. Transmission housing and heat stripe.
- i. "A" frame mountings.
- j. Servo and flight controls for bends and alignment.
- k. Primary servo hydraulic fluid level.
- l. Transmission fluid level.
- m. Transmission deck for leaks and cleanliness.
- n. Main gear box oil cooler blower and belts for security and wear or damage.
- o. Quick disconnect for security.
- p. Static port for cleanliness.
- q. Left service platform secure.

9. ENGINE COMPARTMENT.
- a. Mounting bolts for cracks and security.
- b. Cowling clamps for security.
- c. All rubber for deterioration and security.
- d. Throttle and mixture control rod-ends for security.
- e. Oil sump plugs tight and safety wired.
- f. Cowling, ducts, shroud, cables, lines and wires for cracks and chafing.
- g. Evidence of excessive oil leakage.
- h. Landing light checked.
- i. Engine compartment doors closed and locked.

10. RIGHT SERVICE PLATFORM.
- a. Pitot cover removed.
- b. Visual inspection of hydraulic hoist.
- c. Main gear box fairing for security and damage.
- d. Damper reservoir for quantity and discoloration of damper fluid.
- e. Horn locking pins in flush and safety wired.
- f. Taper pins seated nuts tight.
- g. Bonding wires secure.
- h. Rotor blades for damage, cord alignment and pressure indicators for loss of pressure.
- i. Rotor head assembly and control linkages.
- j. Transmission housing and heat stripe.
- k. "A" frame mountings.
- l. Servo and flight controls for bends and alignment.
- m. Auxiliary servo hydraulic fluid level.
- n. CG and A box for security.
- o. Transmission deck for leaks and cleanliness.
- p. Right service platform secure.

INFORMATION REQUIRED FOR

ACCIDENT REPORTING

1. Date and time of mishap.
2. Location of mishap.
3. Location of helicopter relative to an easily found landmark (town, airfield, highway, intersection, etc.).
4. Name and rank of injured or deceased personnel.
5. Name (and rank where applicable) of injured or deceased personnel not passengers of the helicopter.
6. Name, Rank, and Serial number of pilot's.
7. Brief description of damage to helicopter.
8. Damage to other property.
9. Material failure – if involved.
10. Can helicopter be repaired and/or flown out.
11. What spare parts and service are required.
12. Location of nearest airport or safe landing area.
13. Location and number of telephone where you can be reached.
14. Other information that will aid in expediting salvage or rescue operations.

SECTION III

PERFORMANCE DATA

This section consists of the following charts:

Temperature Conversion Chart.

Specific Humidity Chart.

Maximum Gross Weight For Hovering Out Of Ground Effect – 2800 RPM.

Maximum Gross Weight For Hovering Out Of Ground Effect – Sea Level.

Maximum Gross Weight For Hovering Out Of Ground Effect – 1000 Feet.

Maximum Gross Weight For Hovering Out Of Ground Effect – 2000 Feet.

Maximum Gross Weight For Hovering Out Of Ground Effect – 3000 Feet.

Maximum Gross Weight For Hovering Out Of Ground Effect – 4000 Feet.

Maximum Gross Weight For Hovering Out Of Ground Effect – 5000 Feet.

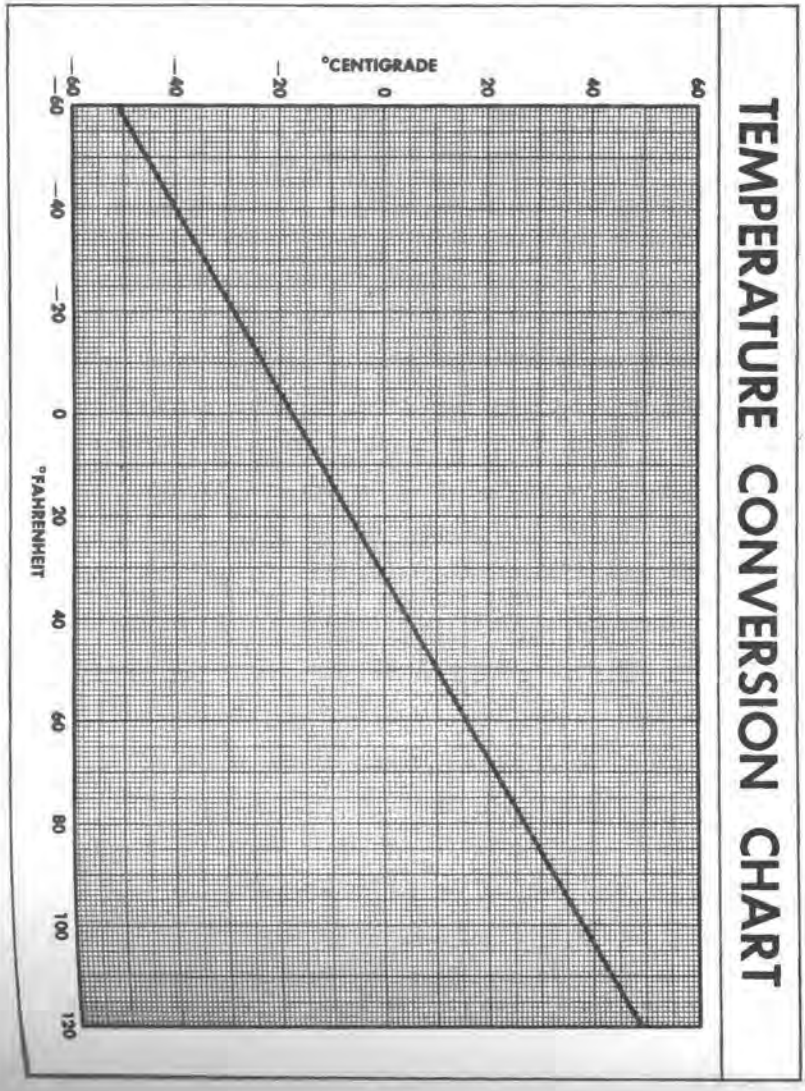
Take-Off Distances – Feet.

Maximum Endurance Chart.

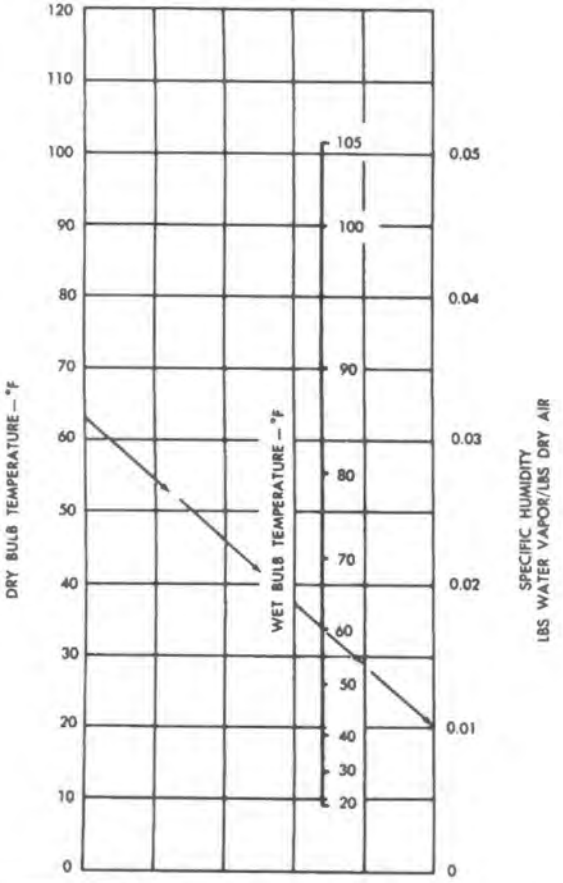
Total Landing Distance To Clear 50 Foot Obstacle.

Blade Stall Chart.

Altitude Limits For Safe Landing After Power Failure.


TEMPERATURE CONVERSION CHART
°CENTIGRADE
-60
-40
-20
0
20
40
60
°FAHRENHEIT
-60
-40
-20
0
20
40
60
80
100
120

SPECIFIC HUMIDITY CHART



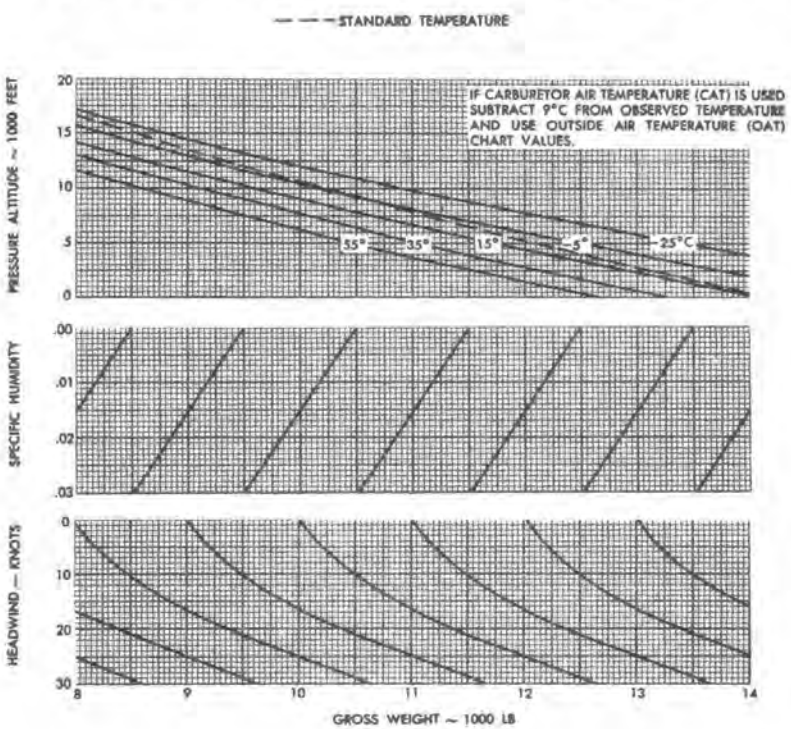
EXAMPLE

FOR A DRY TEMPERATURE OF 63°F AND A WET BULB TEMPERATURE OF 60°F THE SPECIFIC HUMIDITY IS 0.01

MAXIMUM GROSS WEIGHT FOR HOVERING OUT OF GROUND EFFECT ~ 2800 RPM

MODEL: UH-34D
DATE: 30 AUGUST 1961
DATA SOURCE: FLIGHT TEST

ENGINE: R-1820-84A & 84C
FUEL GRADE: 115/145
FUEL DENSITY: 6.0 LB/GAL



NOTE

ON HELICOPTERS EQUIPPED WITH CARBURETOR AIR FILTER, A GREATER THROTTLE OPENING IS REQUIRED TO PRODUCE A GIVEN MANIFOLD PRESSURE. CONSEQUENTLY FULL THROTTLE OPERATION OCCURS AT A LOWER ALTITUDE. THE FOLLOWING CORRECTIONS MAY BE USED FOR FULL THROTTLE OPERATION.

1. WHEN DETERMINING MAXIMUM GROSS WEIGHT FOR HOVERING AT A SPECIFIED ALTITUDE, SUBTRACT 400 POUNDS FROM THE GROSS WEIGHT AS DETERMINED BY USE OF THE CHART.
2. WHEN DETERMINING MAXIMUM ALTITUDE FOR HOVERING AT A SPECIFIED GROSS WEIGHT, SUBTRACT 500 FEET FROM THE PRESSURE ALTITUDE AS DETERMINED BY USE OF THE CHART.

MAX G.W. FOR HOGE — 2800 RPM

UH-34D MAX. GROSS WEIGHT FOR HOVER OUT OF GROUND EFFECT (NO WIND—2800 RPM) SEA LEVEL

CARBURETOR AIR FILTER INSTALLED

DRY \ WET	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120
45	14,000															
50	13,950	13,865														
55	13,925	13,840	13,745													
60	13,855	13,770	13,675	13,565												
65	13,805	13,705	13,605	13,500	13,380											
70	13,735	13,645	13,560	13,460	13,335	13,205										
75		13,620	13,515	13,415	13,295	13,175	13,030									
80		13,545	13,470	13,370	13,240	13,120	12,985	12,840								
85			13,430	13,325	13,210	13,085	12,945	12,790	12,615							
90			13,365	13,265	13,145	13,020	12,885	12,735	12,565	12,370						
95				13,195	13,090	12,960	12,825	12,675	12,500	12,305	12,065					
100				13,170	13,050	12,920	12,775	12,630	12,455	12,260	12,030	11,780				
105					12,995	12,860	12,735	12,585	12,410	12,220	11,980	11,730	11,450			
110					12,950	12,830	12,685	12,540	12,370	12,180	11,935	11,690	11,405	11,090		
115						12,795	12,655	12,510	12,340	12,150	11,910	11,665	11,370	11,050	10,650	
120						12,745	12,600	12,455	12,265	12,090	11,850	11,605	11,310	10,995	10,595	10,340

NOTE: DO NOT INTERPOLATE. USE NEXT HIGHEST VALUE OF DRY AND WET TEMPERATURE FOR CONSERVATIVE GROSS WEIGHT.

UNITS: Temperature - °F
Weight - lbs.

(15 Oct. 1964)

UH-34D MAX. GROSS WEIGHT FOR HOVER IN GROUND EFFECT—10 FT. WHEEL HT. (NO WIND—2800 RPM) SEA LEVEL

CARBURETOR AIR FILTER INSTALLED

WET / DRY	65	70	75	80	85	90	95	100	105	110	115	120
70	14,000	13,875										
75	13,955	13,830	13,690									
80	13,890	13,770	13,635	13,490								
85	13,860	13,730	13,590	13,440	13,270							
90	13,785	13,660	13,520	13,375	13,200	13,010						
95	13,740	13,610	13,475	13,325	13,150	12,950	12,715					
100	13,700	13,570	13,425	13,280	13,105	12,910	12,680	12,425				
105		13,510	13,385	13,235	13,060	12,870	12,625	12,380	12,100			
110			13,315	13,170	13,000	12,810	12,565	12,320	12,035	11,720		
115			13,275	13,130	12,960	12,770	12,530	12,285	12,000	11,670	11,270	
120				13,075	12,835	12,710	12,470	12,225	11,940	11,615	11,215	10,770

NOTE: DO NOT INTERPOLATE. USE NEXT HIGHEST VALUE OF DRY AND WET TEMPERATURE FOR CONSERVATIVE GROSS WEIGHT.

UNITS: Temperature - °F.
Weight - lbs.

(15 Oct. 1964)

Pages 27 thru Page 32 deleted
Changed 1 May 1965

All information deleted from page 33

MAX G.W. FOR HOGE — 5000 FT — TAKE-OFF

MAXIMUM ENDURANCE

CONFIGURATION: CLEAN

STANDARD DAY

MODEL: UH-34D
DATE: 30 AUGUST 1961
DATA: FLIGHT TEST

ENGINE: R-1820-84A & 84C
FUEL GRADE: 115/145
FUEL DENSITY: 6.0 LB/GAL

GROSS WEIGHT POUNDS	PRESS. ALT. FEET	POWER SETTINGS					ENDURANCE — HOURS								
		ENG. RPM	MAN. PRESS. IN. HG	APPROXIMATE TOTAL SPEED/KNOTS			1800 LB FUEL	1600 LB FUEL	1400 LB FUEL	1200 LB FUEL	1000 LB FUEL	800 LB FUEL	600 LB FUEL	400 LB FUEL	200 LB FUEL
				LB/HR	TAS	CAS									
13,500	12,000														
	10,000														
	8,000	2500	30.8	545	62	55	3.29	2.92	2.56	2.19	1.83	1.46	1.09	.732	.366
	6,000	2400	31.5	484	66	60	3.70	3.29	2.88	2.47	2.06	1.64	1.23	.824	.412
	4,000	2300	31.2	448	61	57	4.01	3.56	3.12	2.65	2.23	1.78	1.33	.982	.446
	2,000	2200	30.8	409	58	56	4.39	3.90	3.41	2.92	2.44	1.95	1.46	.976	.488
	SL	2200	31.2	382	61	61	4.69	4.17	3.65	3.13	2.61	2.08	1.56	1.04	.522
12,000	12,000														
	10,000	2400	27.1	410	60	52	4.39	3.90	3.41	2.92	2.44	1.95	1.46	.976	.488
	8,000	2400	27.0	390	64	57	4.60	3.90	3.41	3.07	2.56	2.04	1.53	1.02	.512
	6,000	2200	28.5	350	57	52	5.13	4.56	3.99	3.42	2.85	2.28	1.71	1.14	.570
	4,000	2200	28.8	331	62	58	5.43	4.83	4.22	3.62	3.02	2.41	1.81	1.20	.604
	2,000	2200	28.1	325	62	60	5.52	4.91	4.29	3.68	3.07	2.45	1.84	1.22	.614
	SL	2200	28.9	320	61	61	5.61	4.99	4.36	3.74	3.12	2.49	1.87	1.24	.624
10,500	12,000	2400	24.0	334	65	54	5.38	4.78	4.18	3.58	2.99	2.39	1.79	1.19	.598
	10,000	2400	24.5	331	66	57	5.43	4.83	4.22	3.62	3.02	2.41	1.81	1.20	.604
	8,000	2400	24.8	330	65	57	5.45	4.84	4.24	3.63	3.03	2.42	1.82	1.21	.606
	6,000	2200	25.6	289	60	55	6.22	5.53	4.84	4.15	3.46	2.76	2.07	1.38	.692
	4,000	2200	25.5	289	60	57	6.22	5.53	4.84	4.15	3.46	2.76	2.07	1.38	.692
	2,000	2200	26.5	289	56	54	6.22	5.53	4.84	4.15	3.46	2.76	2.07	1.38	.692
	SL	2200	26.5	285	55	55	6.30	5.60	4.90	4.20	3.50	2.80	2.10	1.40	.700
9,000	14,000	2400	21.0	300	66	53	5.99	5.32	4.66	3.99	3.33	2.68	1.99	1.33	.666
	12,000	2400	21.5	295	62	52	6.08	5.40	4.73	4.05	3.38	2.70	2.02	1.35	.676
	10,000	2400	22.0	300	63	54	5.99	5.32	4.66	3.99	3.33	2.68	1.99	1.33	.666
	8,000	2400	22.5	300	59	52	5.99	5.32	4.66	3.99	3.33	2.68	1.99	1.33	.666
	6,000	2200	23.0	270	56	51	6.66	5.92	5.18	4.44	3.70	2.96	2.22	1.48	.740
	4,000	2200	23.0	270	54	51	6.66	5.92	5.18	4.44	3.70	2.96	2.22	1.48	.740
	2,000	2200	21.0	270	52	50	6.66	5.92	5.18	4.44	3.70	2.96	2.22	1.48	.740
	SL	2200	25.0	270	51	51	6.66	5.92	5.18	4.44	3.70	2.96	2.22	1.48	.740

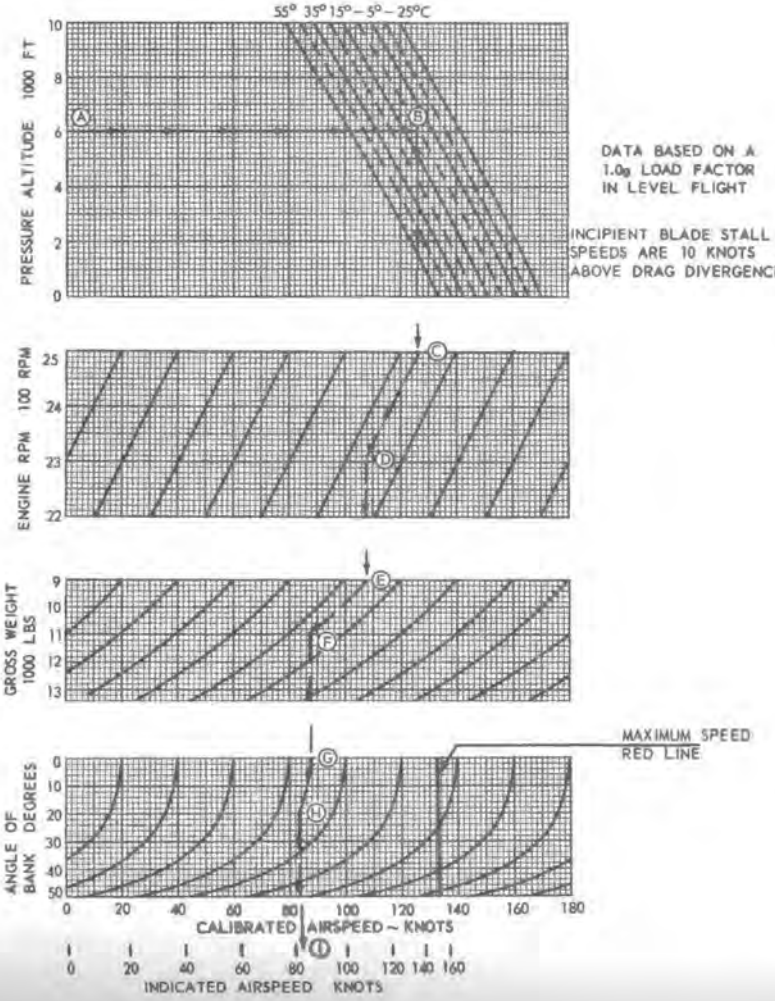
REMARKS: MIXTURE – NORMAL

All information deleted from page 35

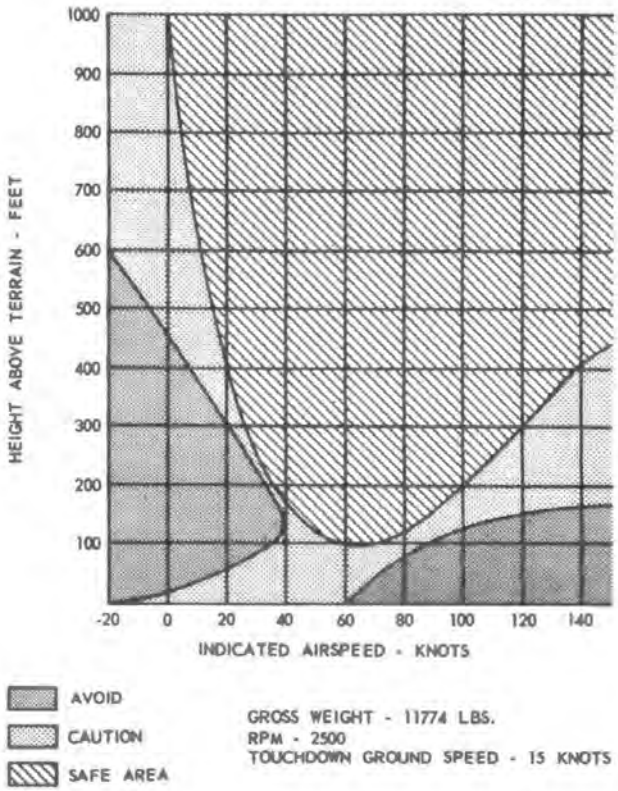
INCIPIENT BLADE STALL CHART

MODEL: UH-34D
DATE: 26 DECEMBER 1963
DATA BASIS: FLIGHT TEST

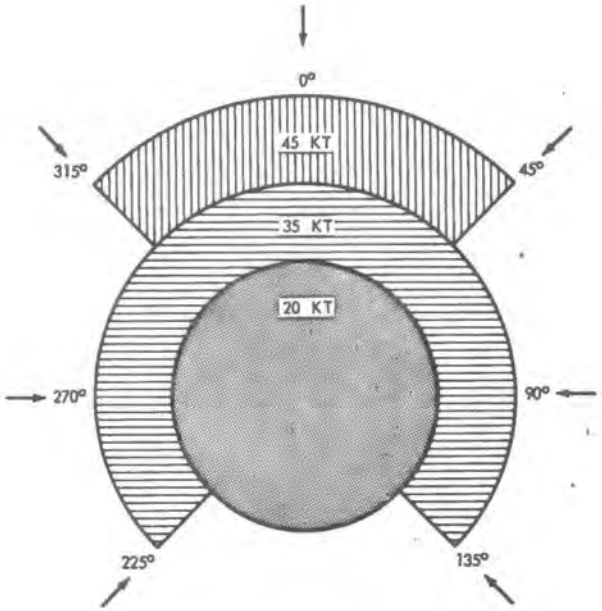
ENGINE: R-1820-84A & 84C
FUEL GRADE: 115/145
FUEL DENSITY: 6.0 LB/GAL



ALTITUDE LIMITS FOR SAFE
LANDING AFTER POWER FAILURE



THE HEIGHT VELOCITY DIAGRAM SHOWN ABOVE DEPICTS THE CAPABILITIES OF THE HELICOPTER UNDER STANDARD ATMOSPHERIC CONDITIONS, OVER A PAVED RUNWAY, AT SEA LEVEL AND UNDER ZERO WIND CONDITIONS. VARIATIONS OF GROSS WEIGHT, ATMOSPHERIC CONDITIONS, DENSITY ALTITUDE, AND WIND CONDITIONS FROM THOSE STATED WILL CHANGE THE ABOVE LIMITS. OPERATE WITHIN THE AVOID AND CAUTION AREAS ONLY AS NECESSARY FOR MISSION ACCOMPLISHMENT.



FOR SHIPBOARD OPERATIONS IN ROUGH SEAS OR TURBULENT WIND CONDITIONS, ALL MAXIMUM ALLOWABLE RELATIVE WINDS SHOULD BE REDUCED BY 10 KNOTS.

MAX SAFE REL WIND FOR ENGA AND DISENGA OF ROTORS

★ U.S. GOVERNMENT PRINTING OFFICE : 1965 O - 776-478