

Nº 1160

TAA C83 JTOR391F

TAMARAC HELICOPTER CORP.

P. O. Box 297

EVANSVILLE, MINNESOTA 56326

Phone 218-948-2635

☒ REPAIR
☒ 100-HOUR
INSPECTION
☒ PERIODIC
☒ A.D. NOTES
☐ SERVICE
LETTERS

[illegible]

INVOICE



Evansville
Phone 218-948-2635

Tamarac Helicopter Corp.

Evansville, Minnesota 56326
Battle Lake, Minnesota 56515

FAA CRS JTOR391F

No 52

Annual and 100 Hour Inspection Checklist

Registered Owner <u>Lowell Ricks</u> • <u>612-284-2239</u>			Date <u>10-31-92</u>	
Address <u>RR Elbow Lake, Minn. 56531</u>			Registration No. <u>N3351F</u>	
Aircraft Make & Model <u>Hiller UH-12E</u>		Airframe T.T. <u>8988.7</u>	Tach. T. <u>347.9</u>	Aircraft Ser. No. <u>1207</u>
Engine Make & Model <u>Lycoming UO540-C2A</u>		Engine T.T. <u>347.9</u>	T.S.O.H. <u>347.9</u>	Engine Ser. No. <u>L-1636-43</u>

Applicable Airworthiness Directives and Service Bulletins

Number	1 Time	Recure	T.T.	Subject	Initials
86-22-04	N/A	X	Over	M/R Blade PW 2253-1001-09 C.H. insp. required at aircraft T.T. of 9920.9	<u>[Signature]</u>
				☒ Preliminary Inspection ☒ Hidden Damage Inspection ☒ Progressive Inspection ☒ Final Inspection	
8988.7/347.9 This Aircraft Engine was repaired and inspected I.A.I. Approved check list as per Part 23 Appendix B and is approved for return to service. Partinent details of the repair are on file at this repair station as of W.O. No. <u>1160</u> Date <u>11-5-92</u> <u>[Signature]</u> I/CRS (Signature of authorized person) FAA Approved Repair Station TAMARAC HELICOPTER CORP. NO. CRS Evansville, Minn. 56326					

Engine Run-Up and Pre-Flight Inspection

- | | |
|--------------------------------------|--|
| 1. Generator Output <u>good ✓ AB</u> | 8. Propeller Operation <u>N/A</u> |
| 2. Oil Pressure <u>good ✓ AB</u> | 9. Check Engine Controls <u>✓ ok AB</u> |
| 3. Oil Temperature <u>✓ ok AB</u> | 10. Brakes & Parking Brakes <u>N/A</u> |
| 4. Fuel Pressure <u>✓ ok AB</u> | 11. Idle RPM <u>✓ ok AB</u> |
| 5. Cyl. Head Temp. <u>✓ ok AB</u> | 12. Carb. Heat Operation <u>✓ ok AB</u> |
| 6. Left Mag. Drop <u>✓ ok AB</u> | 13. Static RPM <u>✓ ok AB (3200 RPM)</u> |
| 7. Right Mag. Drop <u>✓ ok AB</u> | 14. Idle Cut-Off <u>✓ ok AB</u> |



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Hiller 12E

Evansville, Minnesota 56326

ENGINE & FUEL SYSTEMS

Ship No. 3351F

Date 11-3-92

Clock Time 342.9

- | | | |
|---|--------|----------------|
| 1. Remove, insp., clean & install main fuel screen. Safety. | | <u>✓ ok AB</u> |
| 2. Remove, insp., clean & install carb finger screen. RH | | <u>Not Due</u> |
| (Install new crush gasket) LH carb finger screen | | <u>Not Due</u> |
| 3. Remove belly, insp. plates, insp. fuel quantity indicators for leaks | | |
| | FWD | <u>✓ ok AB</u> |
| | REAR | <u>✓ ok AB</u> |
| 3a. Install Plates | | <u>✓ ok AB</u> |
| 4. Check fuel filler cap for tightness. | | <u>✓ ok AB</u> |
| 5. Check rig of carb air heat | | <u>✓ ok AB</u> |
| 6. Check throttle rigging | | <u>✓ ok AB</u> |
| 7. Check mixture rigging | | <u>✓ ok AB</u> |
| 8. Check R.H. mag. timing & pts. | | <u>✓ ok AB</u> |
| 9. Check L.H. mag. timing & pts. | | <u>✓ ok AB</u> |
| 10. Drain static, press & air speed ports | | <u>✓ ok AB</u> |
| *11. On run up check engine fuel press. | | <u>✓ ok AB</u> |
| *12. On run up check aux fuel press. | | <u>✓ ok AB</u> |
| 13. Dye Penetrant of TT Bar Pin Area | | <u>Not Due</u> |
| 14. Dye Penetrant of cuff & trunnion & control meter spar | | <u>Not Due</u> |
| | Yellow | <u>Not Due</u> |
| | Blue | <u>Not Due</u> |
| 15. Dye Penetrant inside M/R Hub Assy. | | <u>Not Due</u> |
| *16. Check mag drop on engine run up | R | <u>✓ ok AB</u> |
| | L | <u>✓ ok AB</u> |



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GREASE JOB

Ship No. 3351F

Date 11-3-92

Clock Time 347.9

1. T R blades (2 places)
2. T R hub (2 places)
3. 1" shaft (4 places)
4. Cardon joint (3 places)
5. Outer gimble (2 places)
6. Rudder cable cross shafts (2 places)
7. Cyclic cross shaft under seat deck (2 places)
8. Snubber rod ends (2 places)
9. Throttle cable (2 places)
10. Throttle cam (1 place)
11. Collective cross shaft fire wall rear (2 places)

CYCLIC SYSTEM (to wobble plate)

1. Old style rod ends
2. Bell cranks (7 places)
3. Bracket fire wall (2 places)

COLLECTIVE SYSTEM (to coll. yoke)

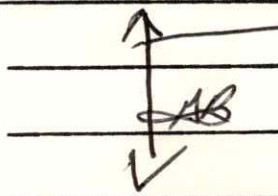
1. Old style rod ends
2. Bell cranks (2 places)
3. Bracket fire wall (2 places)

HEAD AND TRANSMISSION

Rotor head (6)

Ballast (7)

Scissors (4)



W. Plate (2)

Coll. boots (2)

Coll. yoke (5)

Pylon yoke (3)

aircraft record 1.4 hrs

previously TAB



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Ship No. 3351F

Date 11-3-92

Clock Time 347.9

OIL SYSTEM

1. Drain trans res. N/A Not Due
2. Drain engine res. N/A (ND)
3. Drain engine sump N/A (ND)
4. Remove engine screen, Insp., clean, install (use new crush gasket) and safety. N/A
5. Remove trans. screen, insp., clean, install & safety. N/A (Not Due)
6. Check trans. orfices.
 - a. Check upper orfice N/A (ND)
 - b. Check center orfice N/A (ND)
 - c. Check BW orfice N/A (ND)
 - d. Check tach gen orfice N/A (ND)
 - e. Check trans vent N/A
Check valve N/A (ND)
 - f. Check filter & safety ✓ ok AS
7. Service trans res. ✓ ok AS
Service engine res. ✓ ok AS
- 7a. (Note) Close all 3 valves ✓ ok AS
8. Drain C.F.G. Box oil, insp. & safety plug ✓ ok AS
- 8a. Service C.F.G. Box ✓ ok AS
9. Insp. cooling fan ✓ all ok AS
Install cooling fan (Key) ✓ ok AS
10. Drain T.R.G. Box oil, insp., install plugs, service & safety. Not Due
11. Check cuff oil level and safety.
 - Yellow ✓ serviced AS
 - Blue ✓ serviced AS

AIRFRAME CHECKS — A

1. Check windshield, cabin and door window for damage and cleanliness ☒
2. Check interior for condition, security, and cleanliness ☒
3. Check pitot tube for alignment and obstruction ☒
4. Inspect basic body and tail boom for visible damage and security of mounted accessories ☒
5. Check tail rotor guard for security ☒
6. Check aft flight control tunnel area for loose objects or foreign matter ☒
7. Check sliding cowl latch mechanism for engagement of locking lugs and handles for proper locking and operation ☒
8. Inspect seat belts for condition and security of attachment ☒
9. Check stabilizer for cracks, damage and security ☒
10. Check isolation mount for security, separation, excess bulging, and deterioration ☒

LANDING GEAR CHECKS — B

1. Inspect landing gear struts and skid for damage, security and wear ☒
2. Check Torque tubes for cracks at tube to strut attachment bolts ☒

FUEL AND OIL SYSTEMS CHECK — C

1. Check all fuel lines for security, chafing and condition ☒
2. Check all oil lines for security, chafing and condition ☒
3. Inspect airframe fuel filter for cleanliness ☒
4. Inspect transmission vent filter/breather vent.
 - A. Replace trans. vent filter (Tran. P/N 24-2300-3 & 41) ☒
 - B. Clean trans. breather vent (Tran. P/N 24-2300-31 & 41) ☒
5. Check fuel tank filler cap for condition and proper decals ☒
6. Check fuel filter and shut-off for condition, leakage, wear, and freedom of operation ☒
7. Check fuel boost pump for proper operation ☒
8. Check fuel drains for proper operation and leakage ☒
9. Inspect engine and transmission oil tanks for quantity ☒
10. Drain and refill engine and transmission oil every 200 hrs. ☒
11. Check all drain lines and valves for security and leakage ☒
12. Replace transmission oil filter element ☒
13. Remove, inspect for metal, clean and replace transmission chip detector ☒
14. Remove and inspect transmission finger screen ☒
15. Check oil coolers and blower for cracks, damage and leakage ☒
16. Check tail rotor gearbox and intermediate gearbox for leaks, security and site gage for proper oil level ☒

AIR INDUCTION AND EXHAUST — D

1. Engine cowl and air intake duct for security, cracks, punctures, deformation or damage ☒
2. Air intake door cable for fraying and security ☒
3. Check reverse air intake for security, cracks and damage ☒
4. Engine exhaust ejectors, for condition and security of mounting ☒
5. Check condition of inlet and exhaust covers ☒

DRIVE SYSTEMS — E

1. Bendix Engine to trans drive shaft (shaft installed in aircraft) for alignment, axial play of ball and sockets in fwd. and aft. diaphragm packs, security of attaching bolts and correct assembly of diaphragm assemblies ☒
2. Bendix shaft removed from aircraft for visible damage, proper safetying, security of assembly bolts, damaged protective coating on diaphragm packs and freedom of internal ball spline ☒
3. Visually inspected transmission mount (P/N 24-28030-11 & 12) and inspect transmission mount struts (P/N 24-28030-1 & 2) for cracks in weld area ☒
4. Inspect tail rotor drive shaft assembly and Bendix flex coupling assemblies for security and damage ☒

HYDRAULIC SYSTEM — F

- * 1. Inspect hydraulic power cylinders for security leakage and lines for condition, security and chafing ☒
- * 2. Inspect hydropacs for leakage, fluid levels, security, etc. ☒

ROTORS — G

1. Inspect main rotor blades for bonding separation, dents, scratches, cracks, corrosion and security ☒
2. Check main rotor hub for security, leakage and site gauges for proper oil level ☒
3. Inspect tail rotor blades for dents, scratches, cracks and security ☒
4. Inspect tail rotor hub for security and general condition ☒

FLIGHT CONTROLS — H

- | | |
|---|--|
| 1. Check tail rotor cables for fraying and security..... ☒ | 3. Collective cylinder balance spring and hooks for excessive wear ☒ |
| 2. Check torque of swashplate retention nut (P/N 24-34216 or 24-34254) for proper torque. (If torque is low, or if nut is removed and reinstalled, recheck torque after 5-10 flight hours)..... ☒ | 4. Check for freedom of movement between isolation link swivel and isolation link..... ☒ |

ENGINE — I

- | | |
|---|---|
| 1. Inspect engine for oil leaks, damage, security, broken or missing safety wire and any loose or missing bolts, etc.... ☒ | 6. Check ^{Cargh Heat} anti-ice valve for security, worn parts, and proper operation..... ☒ |
| * 2. Check fuel lines for security, tightness and leakage (fuel boost pump on) ☒ | 7. Inspect magnetic chip detector plugs ☒ |
| 3. Inspect compressor inlet guide valves ^{air filter etc} and visible blades and vanes for FOD..... ☒ | 8. Clean burner drain valve..... ☒ |
| 4. Inspect compressor scroll ^{INDUCTION} for cracks or breaks at anti-ice valve and bleed parts ☒ | 9. Drain oil system and refill, remove, clean, and reinstall oil filter every 200 hours ☒ |
| 5. Inspect discharge air tube inserts for backing out, cocked, or looseness ☒ | 10. Check ^{becoming} Allison manual for additional and special inspections ☒ |

ELECTRICAL — J

- | | |
|---|--|
| 1. Check rotating beacons for operation, light bulbs and security ☒ | 8. Check cables for corrosion and proper insulation from battery box cover and structure ☒ |
| 2. Check electrical compartment for security, damage, corrosion and cleanliness ☒ | 9. Fill battery water to proper level and check tightness of terminals..... ☒ |
| 3. Check instrument lights for proper operation..... ☒ | 10. Check navigation lights and landing lights ☒ |
| 4. Inspect starter-generator for security, condition of electrical connections, etc. ☒ | 11. Check electrical switches for operation and fuse box for burned fuses ☒ |
| 5. Check cyclic trim actuators for proper operation ☒ | 12. Inspect electrical wiring and cables for possible chafing, security and proper insulation..... ☒ |
| 6. Inspect battery for condition ☒ | 13. Check position of light flasher for mounting and operation ☒ |
| 7. Inspect battery box for condition, clean and paint if deteriorated by acid. Check drains and vents for proper operation..... ☒ | |

INSTRUMENTS AND RADIO — K

- | | |
|---|---|
| 1. Check instruments for proper range markings and compass card if available and current ☒ | 5. Check equipment and wiring for proper clearance and routing ☒ |
| 2. Check instruments for cracked or broken glass, slippage marks, security and cleanliness ☒ | 6. Inspect wiring and conduits for proper routing and security of mounting to prevent chafing and short-circuiting..... ☒ |
| 3. Check pitot static system for moisture, openings for obstructions, dirt and misalignment ☒ | 7. Check bonding and shielding for proper installation and condition ☒ |
| 4. Inspect radio and electronic equipment for proper installation and security of mounting ☒ | 8. Check all antennas for condition and security of mounting ☒ |

LUBRICATION — L

- | | |
|--|---|
| 1. Tail rotor gearbox, oil change every 100 hours..... ☒ | 6. Grease swashplate bearing, every 100 hours (1 place) ☒ |
| 2. Intermediate gearbox, oil change every 100 hours ☒ | 7. Grease isolation link swivel, every 100 hours (1 place) ☒ |
| 3. Grease tail rotor hub and blades (four (4) places)..... ☒ | 8. Lubricate engine control cables, every 100 hours ☒ |
| 4. Grease tail rotor drive shaft bearing blocks every 100 hours (3 places) ☒ | 9. Remove Bendix shaft from aircraft, collapse and install in holding fixture and grease every 100 hours..... ☒ |
| 5. Tail rotor drive shaft universal joint assembly, every 100 hours..... ☒ | 10. Check service manual for special requirements ☒ |

ELECTRICAL SYSTEM — I

1. Inspect battery for condition ☒
2. Inspect battery box for condition, clean and paint if deteriorated by acid. Check drains and vents for proper operation..... ☒
3. Check cables for corrosion and proper insulation from battery box cover and structure ☒
4. Fill battery water to proper level and check tightness of terminals ☒

5. Check navigation lights and landing lights ☒
6. Check electrical switches for operation and fuse box
for burned fuses ☒
7. Inspect electrical wiring and cables for possible
chafing, security and proper insulation ☒
8. Check position of light flasher for mounting and
operation ☒

RADIO GROUP (Installation) — J

1. **Inspect radio and electronic equipment for proper installation and security of mounting** ☒
2. **Check equipment and wiring for proper clearance and routing** ☒
3. **Inspect wiring and conduits for proper routing and security of mounting to prevent chafing and short-circuiting** ☒

4. Check bonding and shielding for proper installation and condition ☒
5. Check all antennas for condition and security of mounting ☒

MISCELLANEOUS GROUP — M

1. Inspect any miscellaneous items of equipment installed. Inspect for proper installation, security of mounting and proper operation..... ☒

T.T. 8988-7 This ~~engine~~^{aircraft} has been
Insp. I.A.W. Annual/~~1~~ ~~yr.~~ Insp. List and
was found to be airworthy this date *only*
11-5-92 Gary Behrens
A&P 1917274 *Howell*

CORRECTION SHEET

Item	Correction
* F-1	Hydraulic spray system inspected ✓ HB
* F-2	Hydraulic spray system ✓ OK HB
G-1	Fuel line from Engine fuel pump to Pump Valve leaking ✓ HB
I-2	Fuel line leak - Replace hose with new easy ✓ HB ^{AS P 19172}
M-1	Spray system inspected all ok ✓ HB
I-3	Air filters inspected cleaned & reinstalled ✓ HB ✓
G-1	Main rotor blades cleaned & top coated all ok ✓ HB

T.T. 347.9 This engine has been
Insp. I.A.W. Annual/~~Reg.~~ Insp. List and
was found to be airworthy this date only
11-5-92 Gary Behrend
A&P 1917274 Mary Behrend



Tamarac Helicopter Corp.

P.O. Box 297

Phone 218-948-2635

Hiller 12E

Evansville, Minnesota 56326

100 HOUR FIELD INSPECTION

1. Set spark plugs (Big barrel, short reach) etc.
2. Set points - (100 or 200)
3. Timing Light
4. Engine turning tool
5. Safety wire
6. Cetter Keys (misc)
7. Crush washer oil screen
8. Grease gun & grease
9. T R Gear box oil
10. Oil squirt can
11. Shop towels
12. 1 case oil
13. Plastic pail
14. String tie
15. Core seal
16. Rod ends 14TMC (six)
17. U ball cyclic (2)
18. Mirror glaze
19. Misc. big bolts, nuts, etc.
20. Acid brushes
21. Dye check kit
22. T R rod ends
23. Log book
24. Cig - short & long
25. RH & LH mag - 100 or 200?
26. Fuses
27. Tail rotor wrench