



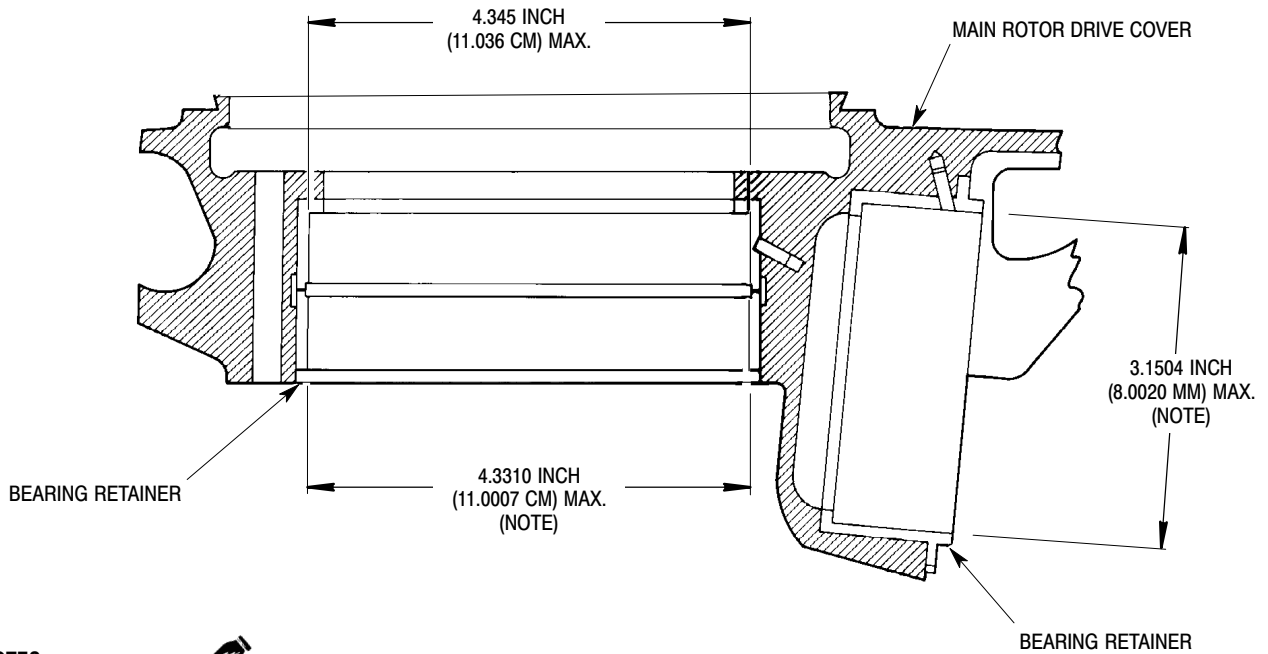
Manual: CSP-COM-5, Component Overhaul Manual
Models: 369D/E/F/FF - 500/600N Helicopters
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FILING INSTRUCTIONS:

1. Before inserting this change, ensure the manual is current.
Check the existing List of Effective Pages in the manual to ensure all prior revisions are inserted.
(Do not insert this revision if prior revisions are not inserted).
2. Insert this page in front of Page A of the List of Effective Pages (LOEP).
3. Incorporate this change by removing old pages and inserting new pages as indicated below.

Temporary Revision Number / Date	Section	Page	Page Revision
TR 07-001 / 14 November 2007	63-20-00	517 and 518	TR 07-001
	63-20-25	305 and 306	TR 07-001
	63-20-25	401 and 402	TR 07-001
	63-20-25	511 thru 514	TR 07-001
	63-20-25	705 thru 708	TR 07-001
	63-25-10	509 and 510	TR 07-001

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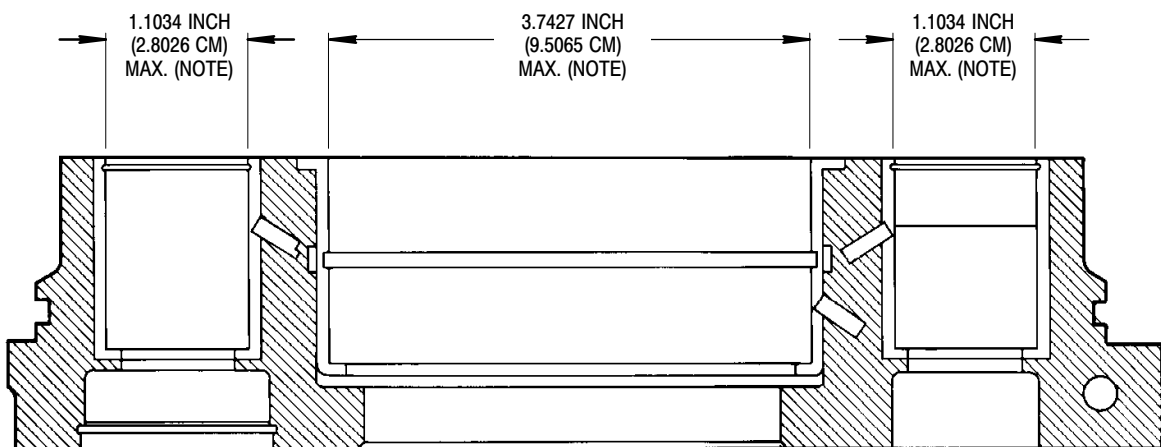


NOTES:

ROUNDNESS WITHIN 0.0005 INCH (0.0127 MM).
 0.001 INCH (0.025 MM) MAX. DIFFERENCE
 BETWEEN HIGH AND LOW MEASUREMENTS.

H63-2074B

Figure 508. Bearing Retainers in Main Rotor Drive Cover – Serviceable Dimensions

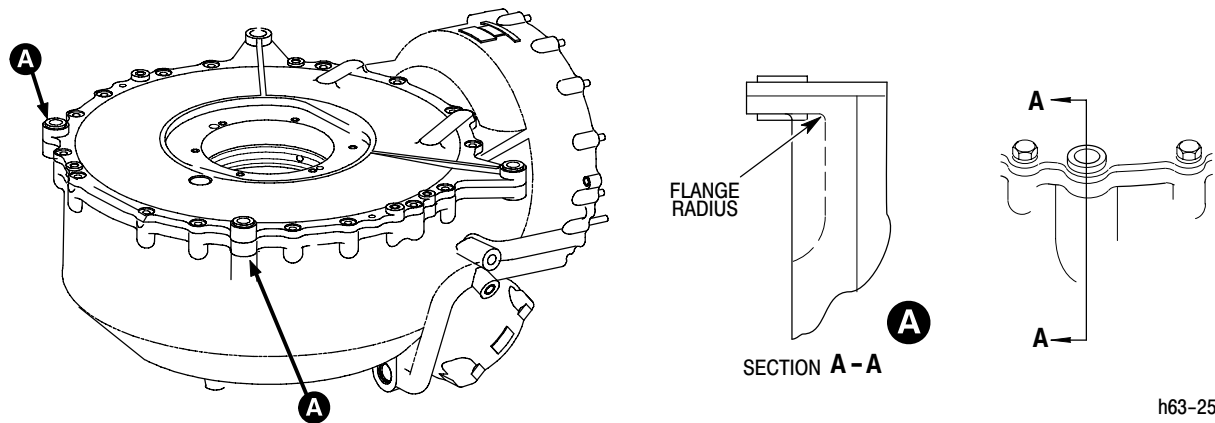


NOTE:

ROUNDNESS WITHIN 0.0005 INCH (0.0127 MM).
 0.001 INCH (0.025 MM) MAX. DIFFERENCE
 BETWEEN HIGH AND LOW MEASUREMENTS.




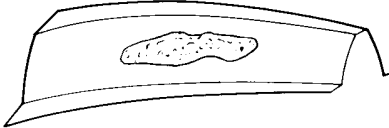

H63-2075B

Figure 509. Bearing Retainers in Tail Rotor Drive Cover – Serviceable Dimensions



h63-2582

Figure 510. Mast Mount Attach Lug

REJECT	ACCEPT
 <p>SCORING WILL APPEAR AS ABRASIONS AT THE TOP OF THE TOOTH PROFILE.</p>	 <p>ACCEPTABLE WEAR WILL APPEAR AS A LINE NEAR THE BOTTOM OF THE TOOTH THAT DOES NOT EXCEED 0.030 INCH (0.762 MM) WIDTH OR 0.400 INCH (10.16 MM) LENGTH AFTER POLISHING TOOTH WITH NO. 600 ABRASIVE PAPER.</p>
 <p>SPALLING WILL APPEAR AS IRREGULAR SHAPED CRATERS WHEN MATERIAL HAS FLAKED OFF.</p>	 <p>MAT-TYPE FINISH WILL APPEAR AS DULL GRAY IRREGULAR SHAPED AREAS THAT WILL RETURN TO A BRIGHT FINISH AFTER POLISHING WITH NO. 600 ABRASIVE PAPER. SEPARATED PITTING IS ALLOWABLE.</p>
 <p>EXCESSIVE WEAR WILL APPEAR AS A BAND NEAR THE CENTER OF TOOTH. REJECT WHEN THE STEP AT THE TOP OF THE WORN AREA EXCEEDS 0.030 INCH (0.762 MM) WIDTH OR 0.400 INCH (10.16 MM) LENGTH AFTER POLISHING TOOTH WITH NO. 600 ABRASIVE PAPER.</p>	

H63-2076A

Figure 511. Input Drive Pinion Gearshaft – Serviceability Criteria

- (a). Remove filler cap (2, Figure 7), screen (3), shim (4), and O-ring (6).
 - (b). Remove filler cap extension (5) and O-ring (6). Discard O-ring.
- (2). Remove bolts (23, Figure 2), washers (22), packing (19), shim (16) and bearing retainer (21).

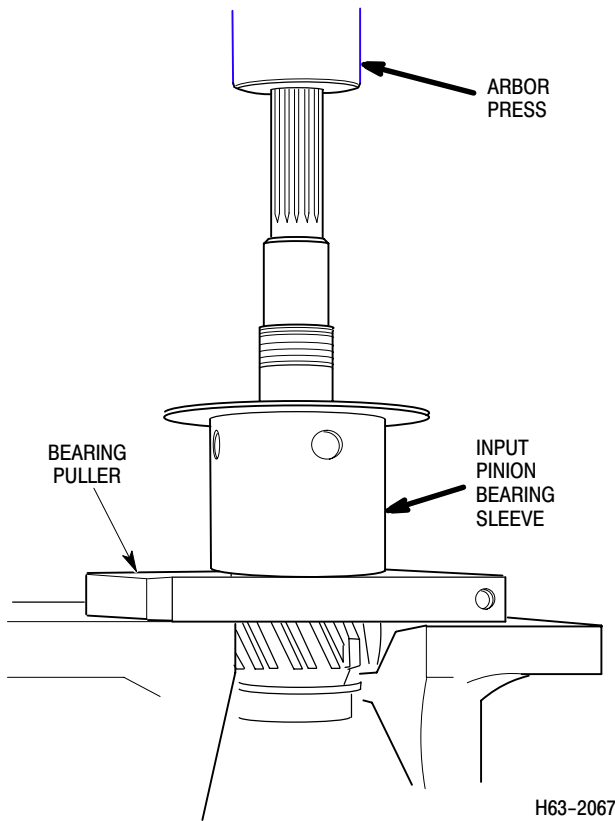


Figure 304. Removal - Input Bearings and Retainer from Input Pinion

- (3). Remove screws (34), washers (35) and pinion nozzles (37 and 38).
- (4). Remove lockwasher (18).
- (5). Install gear carrier (6) into torque fixture (4, Table 901, Ref Figure Figure 305).
- (6). Using torque multiplier (34, Table 901) remove locknut (17).
- (7). Using an arbor press and suitable adapter, press gear carrier (6) with

- bearings (14 and 15) and sleeve (13) out of cover (1).
- (8). Remove oil retainer (3) from gear carrier (6) bore.

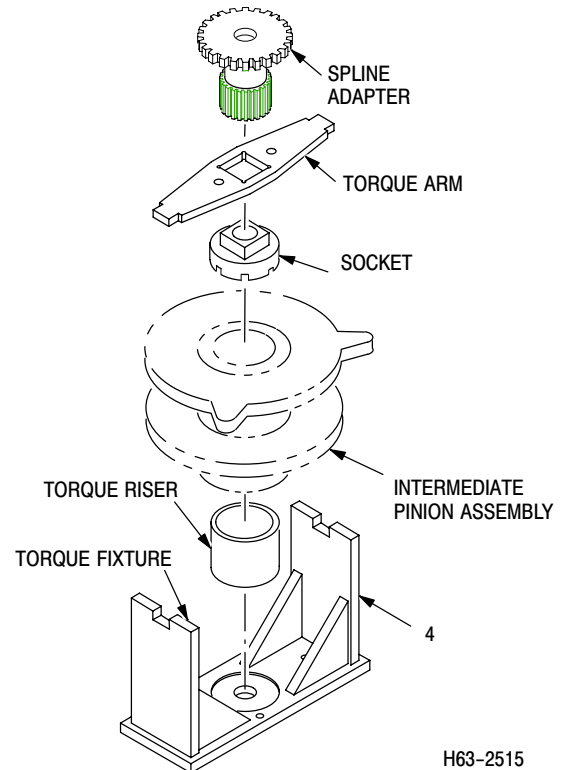


Figure 305. Gear Carrier Locknut Removal / Installation

- (9). Remove safety wire (or cable) from bolts (7).
- (10). Remove bolts and output drive gear (4). Discard bolts.
- (11). Remove retaining ring (5), from gear carrier.
- (12). Remove sleeve (13) from cover.
- (13). Remove bolts (33), washers (32), clamps (31) and tube (39) from cover.
- (14). Clean seal mating faces for installation or storage.
- (15). Remove O-rings (11) from cover bore.
- (16). Remove shim (12). Measure thickness and record on Overhaul, Modification And Repair Checklist.

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MAIN TRANSMISSION CLEANING/PAINTING

1. General

This section contains cleaning and painting requirements for main transmission components and parts.

components of the main transmission as described in.

WARNING Most cleaning solvents are flammable and must be kept away from heat or open flame. Avoid inhalation of fumes and extended contact with skin.

2. Main Transmission Cleaning

(Ref. Table 401) Clean individual parts and

Table 401. Cleaning Main Transmission Parts and Components

Nomenclature	Cleaning Method (Ref. Table 902)	Remarks
(Ref. Figure 1)		
Bearing retainer (1) Input Pinion (5) Spacer (6) Shim (7) Sleeve (9) Sleeve (15) Shim (16) Locknut (24) Pulley Shim (26) Input Pinion (5)	Agitate in cleaning solvent (1). Use soft bristle brush to remove particles of adhesive.	Dry with compressed air; blow air through nozzles and tubes to dry interior. Make sure passages are clear.
Washer (2) Bolt (3)	Place parts in wire mesh basket; agitate in cleaning solvent (1).	Dry parts thoroughly while in basket. Place parts in clean container after cleaning.
Fan mount (20)	Vapor degrease using trichloroethylene (8).	
CAUTION Do not spin bearings while drying with compressed air.		
Bearings (4, 11 and 12)	Degrease using ultrasonic or activated solvent method to dislodge contamination. Use filtered solvent spray to remove contamination.	Dry thoroughly with moisture-free compressed air.
(Ref. Figure 2)		
Output cover (8) Housing (10)	Vapor degrease using trichloroethylene (8).	

Table 401. Cleaning Main Transmission Parts and Components (Cont.)

Nomenclature	Cleaning Method (Ref. Table 902)	Remarks
Oil Retainer (3) Ring gear (4) Retainer (5) Gear carrier (6) Shims (12 and 16) Sleeve (13) Locknut (17) Nozzle (37 and 38)	Agitate in cleaning solvent (1). Use soft bristle brush to remove particles of adhesive.	Dry with compressed air; blow air through nozzles and tubes to dry interior. Make sure passages are clear.
Ring gear (4) Gear carrier (6) Tube (39) Retainer (21)		
CAUTION Do not spin bearings while drying with compressed air.		
Bearings (8, 14 and 15)	Degrease using ultrasonic or activated solvent method to dislodge contamination. Use filtered solvent spray to remove contamination.	Dry thoroughly with moisture-free compressed air.
Retainer (26) Washers (22, 25, 29, 32 and 35) Bolts (23, 24, 30 and 33) Pin (28) Screw (34) Clamp (31)	Place parts in wire mesh basket; agitate in cleaning solvent (1).	Dry parts thoroughly while in basket. Place parts in clean container after cleaning.
(Ref. Figure 3)		
Cover (1)	Vapor degrease using trichloroethylene (8).	
Shims (10, 11 and 17) Retainers (12, 21, 22 and 37) Seal Retainer (23 and 26) Locknut (31) Shafts (33 and 34) Gears (15, 16 and 38) Pinion (18) Spacer (19) Key (36)	Agitate in cleaning solvent (1). Use soft bristle brush to remove particles of adhesive.	Dry with compressed air; blow air through nozzles and tubes to dry interior. Make sure passages are clear.
Gears (15, 16 and 38) Pinion (18)		
CAUTION Do not spin bearings while drying with compressed air.		
Bearings (8, 9, 20, 32 and 35)	Degrease using ultrasonic or activated solvent method to dislodge contamination. Use filtered solvent spray to remove contamination.	Dry thoroughly with moisture-free compressed air.

Table 501. Detailed Inspection – Housing and Related Parts (Cont.)

Inspect Index No.	Maximum Serviceable Limits	Maximum Repairable Limits	Corrective Action
Filler/Extension Assembly (Ref. Figure 7) for:			
Filler Cap (2)	Cracks, corrosion, damaged threads, dent or tears.	None allowed.	Replace filler cap.
Screen (3)	Cracks or corrosion.	None allowed.	Replace screen.
Shim (4)	Cracks, scratches, corrosion.	None allowed.	Replace shim.
Extension (5)	Cracks, corrosion, damaged threads, dent or tears.	None allowed.	Replace extension.

B. Magnetic Particle and Fluorescent Penetrant Inspections

Those parts examined with a magnetic particle inspection must be done in accordance with ASTM E 1444 as identified in Table 502.

Those parts examined with fluorescent penetrant inspection must be done in accordance with ASTM E 1417 as identified in Table 502.

- (1). Inspect the main rotor transmission and related components (Ref Table 502 and Table 503).



CAUTION Prevent entry of paint stripper into joint lines of bearings, bushings or inserts which remain installed within the component requiring paint removal.

NOTE:

- Removal of dry film lube is not required for magnetic particle inspection.
- Stripping of paint and primer is necessary for fluorescent penetrant inspection. Use paint remover (27, Table 902) or light abrasive bead blast (25). Do not remove tagnite surface treatment or rockhard resin coating from nonferrous components.
- Removal of Tagnite surface treatment or Rockhard resin coating is not required for inspection of nonferrous components.

Table 502. Magnetic Particle and Fluorescent Penetrant Inspections

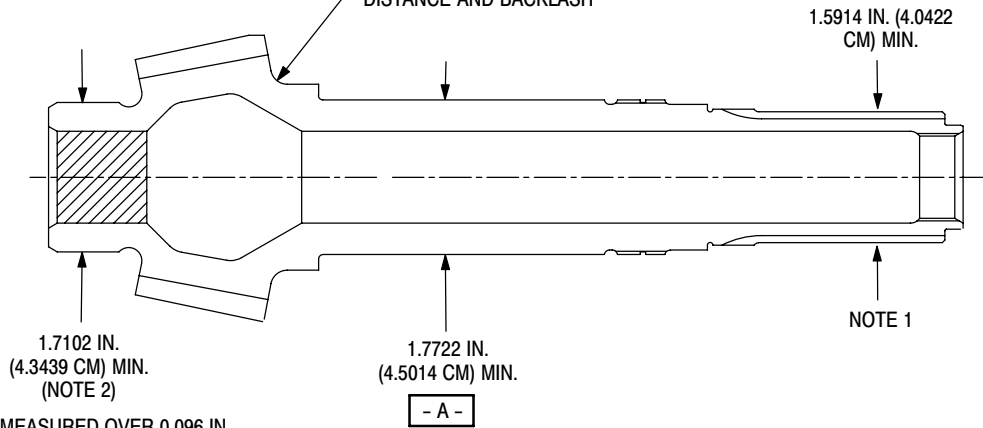
Inspect, Figure No, Item No.	Method of Inspection	Maximum Serviceable Limits	Maximum Repairable Limits	Corrective Action
NOTE: For a <u>normal overhaul</u> , the housing inspection only requires local removal of paint and primer approximately 2.00 INCH (0.50 cm) diameter from around the four mounting lug areas.				
NOTE: For an overhaul that is the result of:				
(1) After Main Rotor Blade/Drive System Sudden Stoppage - Level 2 (Ref. CSP-HMI-2, Sec. 05-50-00)				
(2) After Lightning Strike - Level 2 (Ref. CSP-HMI-2, Sec. 05-50-00)				
(3) If a part is thought to have impact damage or shows any indication of impact damage				
All internal and external paint must be removed to fully inspect the main transmission housing or main rotor drive cover.				
Main transmission housing (mast mount attach lugs), Figure 504 for:				
Cracks or breaks – include area below lug at flange radius and area around lug	FPI (ASTM E 1417)	No breaks or cracks	Not repairable	Replace housing.
Main rotor drive cover (mast mount attach lugs), Figure 504, for:				
Cracks or breaks	Fluorescent Penetrant (ASTM E 1417)	No breaks or cracks	Not repairable	Replace cover.
Tail rotor drive cover, Figure 3, item 1 for:				
NOTE: For an overhaul that is the result of an impact damage from a crash or has the indication of impact damage, all paint must be removed to fully inspect the drive cover.				
Cracks or breaks	Fluorescent Penetrant (ASTM E 1417)	No breaks or cracks	Not repairable	Replace cover
Blower mount assembly, Figure 1, item 20 for:				
Cracks or breaks	Fluorescent Penetrant (ASTM E 1417)	No breaks or cracks	Not repairable	Replace mount assembly
Input drive pinion, Figure 1, item 5 for:				
NOTE: If necessary, reapply dry film lube to gears before reassembly of transmission. Dry film lube can only be applied by E/M Corp.				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace input drive pinion
Input pinion bearing sleeve, Figure 1, item 9 for:				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace input pinion bearing sleeve
Output drive gear, Figure 2, item 4 for:				
NOTE: If necessary, reapply dry film lube to gears before reassembly of transmission. Dry film lube can only be applied by E/M Corp.				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace output drive gear

Table 502. Magnetic Particle and Fluorescent Penetrant Inspections (Cont.)

Inspect, Figure No, Item No.	Method of Inspection	Maximum Serviceable Limits	Maximum Repairable Limits	Corrective Action
Ring gear carrier, Figure 2, item 6 for:				
NOTE: If necessary, reapply dry film lube to gears before reassembly of transmission. Dry film lube can only be applied by E/M Corp.				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace output drive shaft assembly
Deleted				
Output shaft bearing sleeve, Figure 2, item 13 for:				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace sleeve
Accessory gear driver, Figure 3, item 15 for:				
NOTE: If necessary, reapply dry film lube to gears before reassembly of transmission. Dry film lube can only be applied by E/M Corp.				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace drive gear
Input drive gear, Figure 3, item 16 for:				
NOTE: If necessary, reapply dry film lube to gears before reassembly of transmission. Dry film lube can only be applied by E/M Corp.				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace drive gear
Output drive pinion, Figure 3, item 18 for:				
NOTE: If necessary, reapply dry film lube to gears before reassembly of transmission. Dry film lube can only be applied by E/M Corp.				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace drive pinion
Oil pump drive shaft, Figure 3, item 33 for:				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace oil pump drive shaft
Tachometer drive shaft, Figure 3, item 34 for:				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace tachometer drive shaft
Accessory driven pinion gear, Figure 3, item 38 for:				
NOTE: If necessary, reapply dry film lube to gears before reassembly of transmission. Dry film lube can only be applied by E/M Corp.				
Cracks or breaks	Magnetic Particle (ASTM E 1444)	No breaks or cracks	Not repairable	Replace drive gear

MD Helicopters, Inc.
 COMPONENT OVERHAUL MANUAL
 P/N 369F5100

PART NO., SERIAL NO., EXACT MOUNTING
 DISTANCE AND BACKLASH



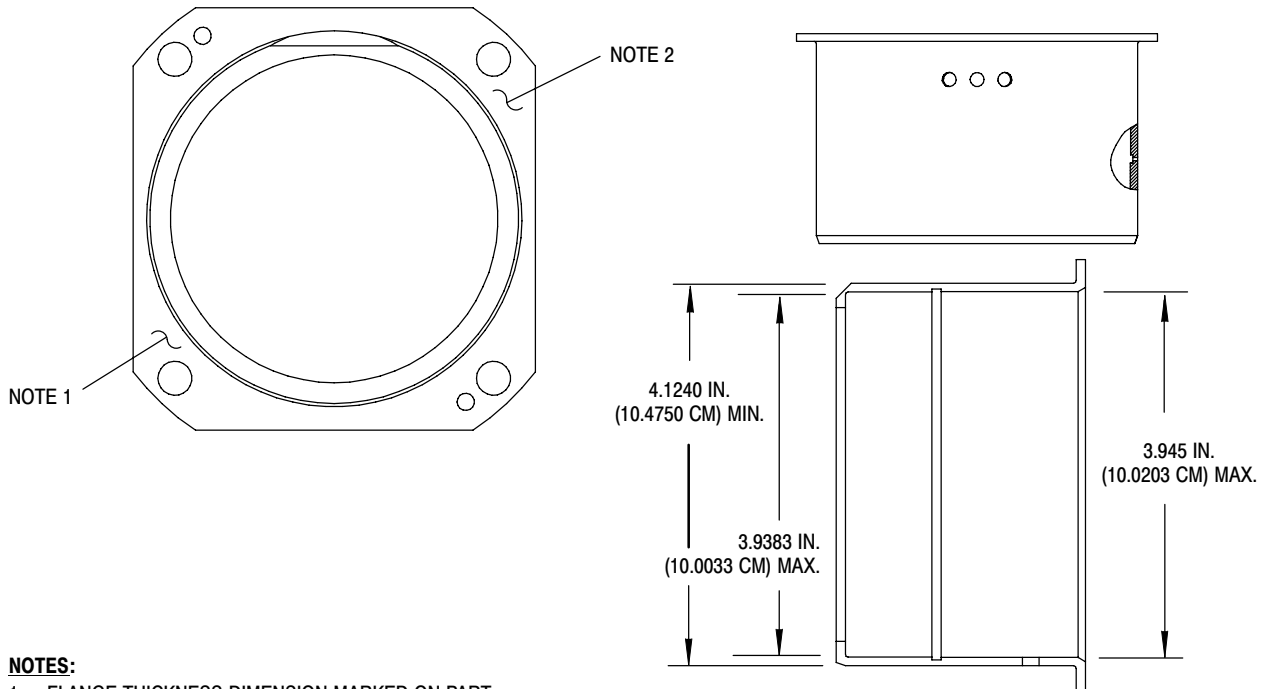
NOTE:

1. SPLINE DIAMETER MEASURED OVER 0.096 IN. (2.4384 MM) DIA. PINS.
2. CONCENTRIC WITH DIA. "A" WITHIN 0.001 IN. (0.0254 MM).

369F5121 INPUT DRIVE PINION

H63-2519A

Figure 501. Input Drive Pinion Gearshaft – Serviceable Dimensions



NOTES:

1. FLANGE THICKNESS DIMENSION MARKED ON PART.
2. DIMENSION BETWEEN SHOULDERS MARKED ON PART.

H63-2541A

Figure 502. Sleeve, Bearing, Input Shaft Outer – Serviceable Dimensions

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D. Main Rotor Drive Reassembly

(Ref. Figure 704)

- (1). Install retainer ring (17) into groove on inside diameter of gear carrier.
- (2). Install oil retainer (20) into gear carrier from top of shaft. Use tools 9 and 18, Table 901.

NOTE: Ensure bolt holes in gear are aligned with holes in carrier when installing gear.

WARNING Handling hot items presents a serious burn potential. Heat resistant gloves are required.

- (3). Heat ring gear (19) to 350°F (130°C) maximum.
- (4). Install ring gear on gear carrier and allow to cool to room temperature.

NOTE: Lubricate new bolt (18) threads with transmission oil (12, Table 902) prior to each installation.

- (5). Secure ring gear with new bolts (18). Torque bolts to **510 - 555 inch-pounds (57.62 - 62.71 Nm)** in a cross-torque pattern. Loosen bolts and retorque to same value.

NOTE: A maximum of three bolts may be safety wired (or safety cabled) together.

- (6). Safety bolts with lockwire (11, Table 902).
- (7). Clean all bores and passages in output cover (1) with dry compressed air.
- (8). Install oil tube and nozzle as follows:
 - (a). Apply sealant (3, Table 902) to outer diameter of open end of oil tube (8).
 - (b). Insert open end of oil tube into output cover.
 - (c). Install clamps (11), washers (9) and bolts (10). Torque bolts to **36 - 46 inch-pounds (4.07 - 5.20 Nm)**.
- (9). Wipe mating surfaces of bearing liner (2) and cover (1) with solvent (8, Table 902).

WARNING Handling hot items presents a serious burn potential. Heat resistant gloves are required.

- (10). Heat inner races of bearings (3 and 4) and bearing liner (2) to 350°F (177°C) maximum.

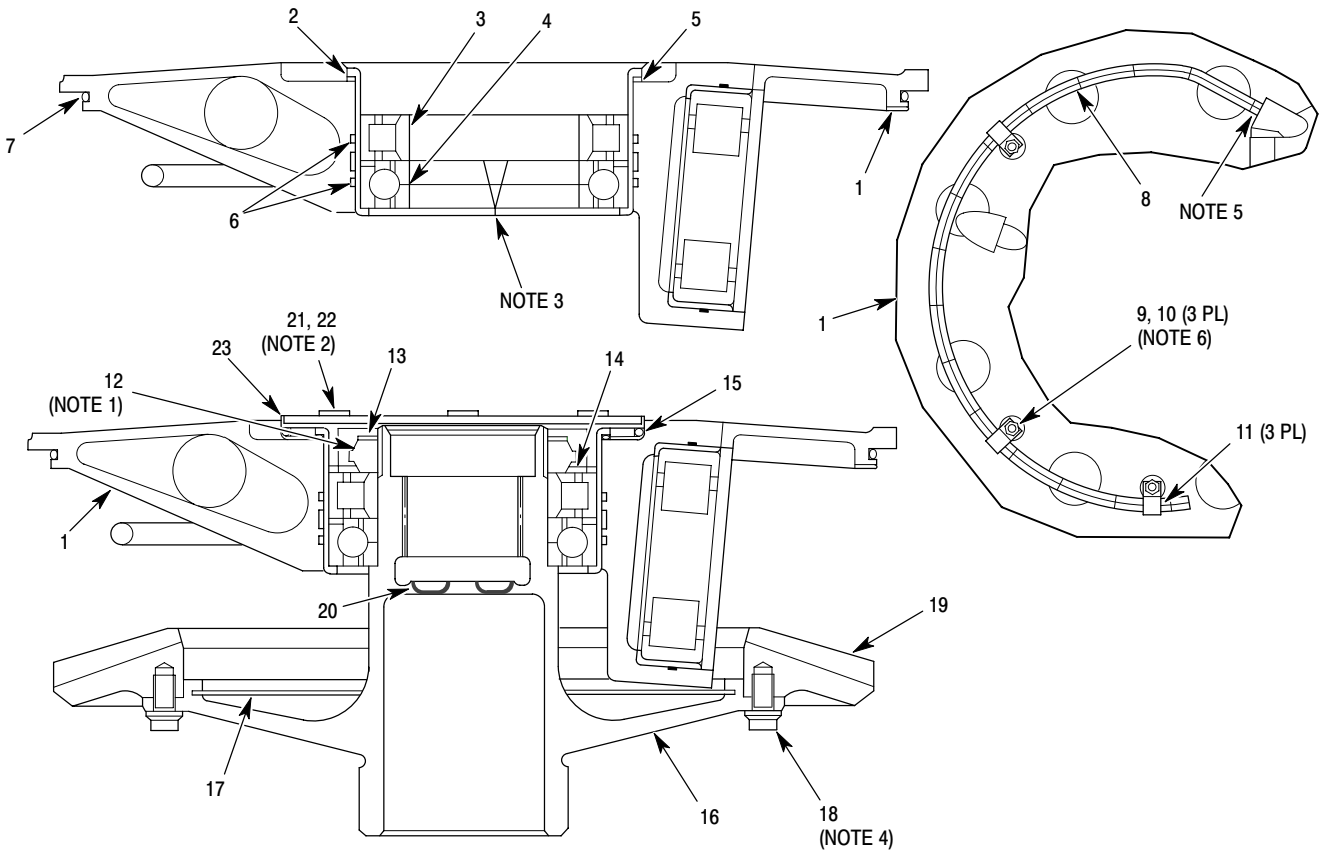
NOTE:

- Align “V” marks on ball bearing inner race with “V” facing toward gears.
 - Outer race of bearing (4) must be installed with oil grooves facing upward and toward the outer race of bearing (3).
- (11). Press inner race of bearing (4), without oil groove, onto gear carrier (16).
 - (12). Install bearings (3 and 4) into bearing liner (2).
 - (13). Assemble inner races into bearings (3 and 4) and install onto gear carrier (16).

NOTE: If output gear set backlash, as recorded before disassembly, was within tolerance, and if old ring gear is used, replacement of gear carrier shim (5) is not necessary and you may reuse the removed shim. New peel shim thickness is calculated on the shim-ming calculation sheet (Ref. Transmission Overhaul, Repair and Modification Check List).

NOTE: Lightly coat O-rings (6) with lubricant (18, Table 902) to prevent installation damage.

- (14). Install O-rings in grooves of output cover (1).
- (15). Install split peel shim (5) on under side of liner flange. Press liner into bore of cover (1).
- (16). Install bearing retainer tool (35, Table 901) using washers (22) and bolts (21). Torque bolts to **10 inch-pounds (1.13 Nm) maximum plus drag torque**.
- (17). Press cover assembly onto gear carrier shaft. Use tools 9 and 14, Table 901.



NOTES:

1. USING TOOL (34. TABLE 901), TORQUE TO 417 FT. LBS (565 NM). BACK OFF AND RETORQUE TO 350-392 FT. LBS (475-532 NM).
2. TORQUE 36-46 IN. LBS (4.07-5.20 NM) PLUS DRAG TORQUE (6 PL).
3. ALIGN "V" MARKS ON ROLLER BEARING INNER RACE WITH "V" POINTING INBOARD.
4. TORQUE BOLT TO 42-46 FT. LBS (57-62 NM). LUBRICATE BOLTS WITH TRANSMISSION OIL PRIOR TO EACH INSTALLATION.
5. APPLY ADHESIVE TO OIL TUBE HERE.
6. TORQUE 36-46 IN. LBS (4.07-5.20 NM) PLUS DRAG TORQUE.

H63-2530A

- | | |
|------------------------------|-----------------------------|
| 1. OUTPUT COVER - 369F5103 | 13. LOCKWASHER - SL61W-17F |
| 2. LINER - 369F5115 | 14. SHIM - 369F5156 |
| 3. ROLLER BEARING - 369F5146 | 15. O-RING - M83248/1-437 |
| 4. BALL BEARING - 369F5147 | 16. GEAR CARRIER - 369F5135 |
| 5. SHIM - 369F5157 | 17. RETAINER RING - RR-975 |
| 6. O-RINGS - M83248/1-160 | 18. BOLT - 369F5161 |
| 7. O-RING - M83248/1-281 | 19. RING GEAR - 369F5127 |
| 8. OIL TUBE - 369A5147 | 20. OIL RETAINER - 369A5146 |
| 9. WASHERS - AN960-10L | 21. BOLT - NAS1303-6 |
| 10. BOLTS - NAS1303-1 | 22. WASHER - NAS620A10L |
| 11. CLAMPS - AN742D6 | 23. RETAINER - 369F5119 |
| 12. LOCKNUT - SL61N-17F | |

Figure 704. Output Cover And Gear Carrier Assembly

NOTE: The torque call-outs in step (18). are input torque for the torque multiplier (34, Table 901)

(18). Apply anti-seize compound (5, Table 902) to serrated thread of gear carrier shaft. Install locknut (12) and torque to **456 inch-pounds (51.53 Nm)**. Loosen locknut and retorque to **384 - 432 inch-pounds (43.40 - 48.82 Nm)**. Use torque fixture (Ref. Figure 305), (3, 4, 5, 8, and 21, Table 901) and torque multiplier (34).

(19). Press lockwasher (13) over locknut.

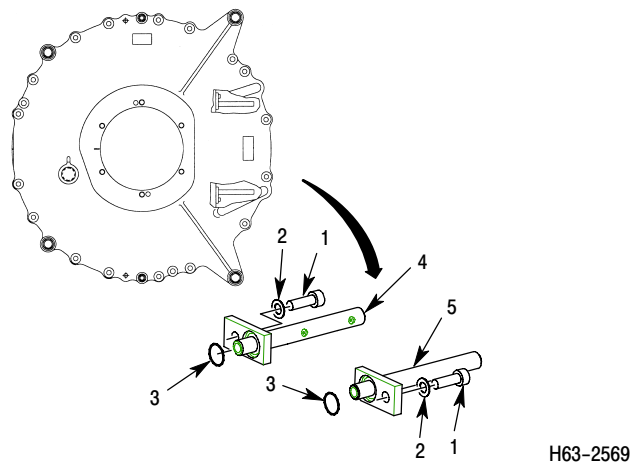
(20). Remove bearing retainer tool.

NOTE: Lightly coat lubricate O-ring (15) to prevent installation damage.

(21). Install O-ring (15) in top cover.

(22). Install shim (14) in liner (2) on top of bearing (3) and install bearing retainer (23) with O-ring (15), washers (22) and bolts (21). Torque bolts to **36 - 46 inch-pounds (4.07 - 5.20 Nm)**.

(23). Install O-ring (7) on output cover.



- 1. SCREW - NAS1352-08-8
- 2. WASHER - NAS620A8L
- 3. O-RING - M83248/1-011
- 4. NOZZLE - 369F5173
- 5. NOZZLE - 369F5172

Figure 705. Output Nozzle Installation

(24). Install O-ring (3, Figure 705) in counter bore on back face of nozzles (4 and 5) and install nozzles into cover using washers (2) and screws (1).

Torque screws to **12 - 15 inch-pounds (1.36 - 1.69 Nm)**.

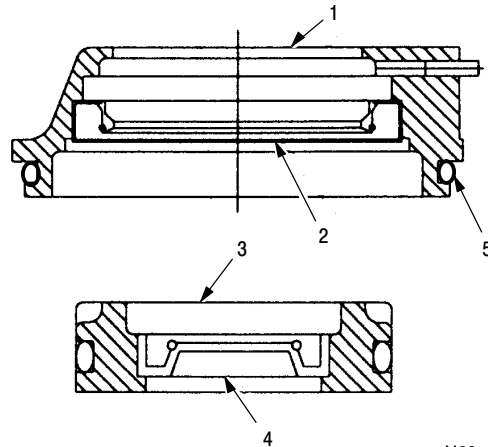
E. Intermediate Drive Cover / Accessory Drive Assembly

CAUTION Use only enough force to seat seal in retainer. Excess force will distort or damage seals.

NOTE: Allow sealant 24 hours cure time before further handling.

(1). Coat mating surfaces of seal retainer (1, Figure 706) with sealing compound (3, Table 902). Press seal into retainer.

(a). Coat mating surfaces of seal retainers (3) with sealing compound. Press seals (4) into retainers using seal installation tool (15, Table 901).



H63-2521

- 1. SEAL RETAINER - 369F5109
- 2. SEAL - 369F5167
- 3. SEAL RETAINER - 369A5106
- 4. SEAL - 369A5189
- 5. O-RING - M83248/1-239

Figure 706. Intermediate Cover Seal Installation

(2). Press bearings (12, Figure 707) onto accessory drive shafts (4 and 5) using bearing installation tool (13, Table 901) and install woodruff keys (8) using installation tool (29, Table 901).

NOTE: Lightly coat O-rings (13) with lubricant (18, Table 902) to prevent installation damage. Only hand pressure is required to install seal retainers.

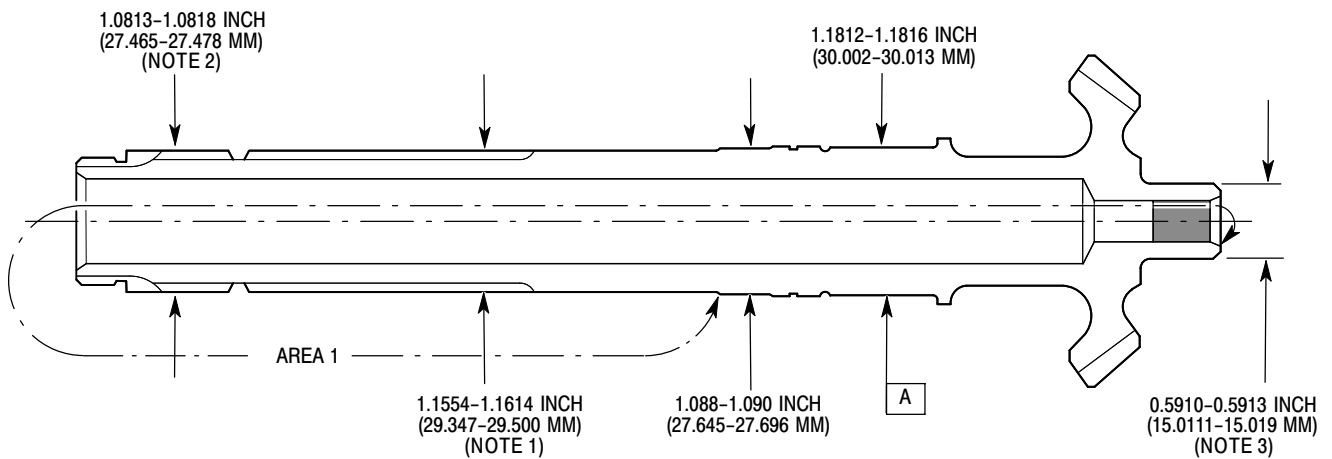
(3). Install O-ring in groove on outer diameter of seal retainer (2).

Table 504. Detailed Inspection – Input Shaft Cover (Cont.)

Inspect Index No. (Ref. Figure 2)	Maximum Serviceable Limits	Maximum Repairable Limits	Corrective Action
Plated surfaces	Not serviceable if surfaces are corroded	Corrosion that does not extend into parent metal	Remove corrosion to depth of plating if necessary and replace cadmium plating (Ref. Minor Nicks, Scratches, and Corrosion).
All magnesium parts for corrosion:			
Mating surfaces	Not serviceable if surfaces are corroded	Light corrosion and light pitting that extends to max. of 10% of the surfaces	Treat (Ref. Minor Nicks, Scratches, and Corrosion).
Non-mating surfaces	Not serviceable if surfaces are corroded	Corrosion that can be removed without removing more than 10% of wall thickness in affected area	Remove corrosion to eliminate all indications and treat (Ref. Minor Nicks, Scratches, and Corrosion).

E. Output Gearshaft Assembly

- (1). Inspect output gearshaft assembly (Ref. Figure 506, Figure 507 and Table 505)



NOTES:

1. MEASURED OVER TWO 0.080 INCH (2.032 MM) DIAMETER PINS.
2. CONCENTRIC WITH DIMENSION A WITHIN 0.002 INCH (0.051 MM) TOTAL INDICATOR READING.
3. CONCENTRIC WITH DIMENSION A WITHIN 0.001 INCH (0.025 MM) TOTAL INDICATOR READING.

H63-2581-7A

Figure 506. Serviceable Dimensions – Output Gearshaft Assembly

Table 505. Detailed Inspection – Components of Output Shaft and Retainer Assembly

Inspect Index No. (Ref. Figure 1)	Maximum Serviceable Limits	Maximum Repairable Limits	Corrective Action
NOTE: All inspections are visual unless otherwise noted.			
Output gearshaft assembly (10) for:			
Damaged teeth, scoring, spalling, pitting and wear	Scoring, wear and separated pitting	Not repairable	Replace gearshaft.
Scratches or scoring on bearing seats	Axial marks from bearing removal up to 0.002 inch (0.051 mm) depth	Not repairable	Replace gearshaft.
Roller bearing journals for scratches or raised metal	No damage	Not repairable	Replace gearshaft.
Damaged splines	No broken or chipped splines	Not repairable	Replace gearshaft.
Wear	If wear is evident, check dimensions shown in Figure 506	Not Repairable	Replace gearshaft.
Grooved oil seal journal or damaged protective sleeve	No wear	Groove not exceeding 0.005 inch (0.127 mm) depth	Install or replace protective sleeve (Ref. Speedi-Sleeve).
Surface corrosion in area 1 (Figure 506)	Not serviceable if surface corroded	Repair to conform to Figure 506	Repair (Ref. Minor Nicks, Scratches, and Corrosion).
Bearing (6) for:			
Flaking, spalling, pitting, heat discoloration (blue) and corrosion on rollers and races	Small indentations and discoloration (except solid dark blue) on rollers and races and corrosion stains on nonactive surfaces	Not repairable	Replace bearing.
Duplex bearing (4) for:			
Spalling and pitting on balls; heat discoloration (blue); corrosion on balls and races; and free movement of set	Indentations on balls, discoloration (except solid dark blue) on balls and races and corrosion stains on non-active surfaces	Not repairable	Replace bearings.
Locknut (2) for:			
Damaged threads or ears	No damage	Not repairable	Replace locknut.
Cork plug (9) for:			
Deterioration or play	No deterioration or play	Not repairable	Replace cork plug (Ref. Cork Plug).