



369/500/600 Series Temporary Revision

Manual: CSP-HMI-2, Handbook of Maintenance Instructions
Models: 369D/E/FF - 500/600N Helicopters
Issued: 31 October 1990
Revision 38: 26 May 2006
TR 06-001: 05 July 2006

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 06-001 / 05 July 2006	04-00-00	1 thru 14	TR 06-001
	53-40-30	205 thru 214	TR 06-001

* Signifies latest Temporary Revision.

This Page Intentionally Left Blank

AIRWORTHINESS LIMITATIONS


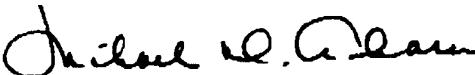




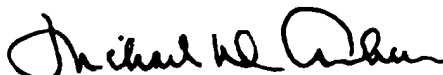
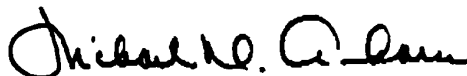


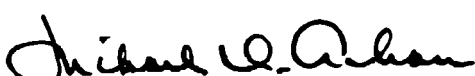

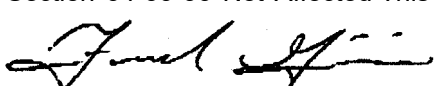
Type Certificate No. H3WE








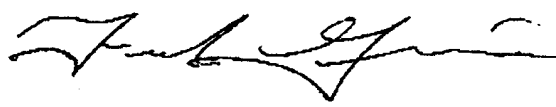

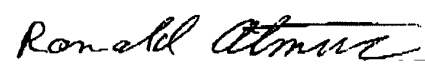


FAA Approved Airworthiness Limitations for MD Helicopters, Inc., Models 369D/E/F/FF and 500/600N.

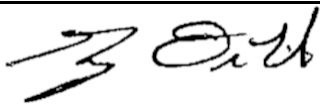
1. General

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Code of Federal Regulations (CFR), Title 14, Federal Aviation Regulation (FAR), Part 43.16 and 91.403 unless an alternative program has been FAA approved.

REVISION:	DATE	FAA SIGNATURE AND DATE
Original Issue:	October 31, 1990	Not FAA approved
Revision 1:	March 29, 1991	Not FAA approved this revision
Revision 2:	May 10, 1991	Michael W. Arban 6/20/91
TR 91-001	August 12, 1991	Mark P. Cook 8/14/91
Revision 3:	September 9, 1991	Michael W. Arban 9/12/91
TR 91-002	November 5, 1991	Michael E. O'Neil 11/7/91
Revision 4:	January 20, 1992	Michael W. Arban 01/16/92
TR 92-004	May 20, 1992	Michael W. Arban 5/27/92
Revision 5:	August 24, 1992	Michael W. Arban 08/19/92
TR 92-005	November 20, 1992	Michael W. Arban 11/12/92
Revision 6:	December 21, 1992	Michael W. Arban 12/4/92
Revision 7:	June 1, 1993	Section 04-00-00 Not Affected This Revision
TR 93-002	May 27, 1993	Michael W. Arban 5/27/93
Revision 8:	July 23, 1993	Al B. 7/13/93
TR 94-001	January 21, 1994	Michael W. Arban 02/09/94
Revision 9:	April 22, 1994	James Long 3-23-94 ACTING MGR.
Revision 10:	September 26, 1994	Section 04-00-00 Not Affected This Revision
TR 94-002	October 24, 1994	Michael W. Arban 10/24/94

REVISION:	DATE	FAA SIGNATURE AND DATE
Revision 11:	January 18, 1995	 01/23/95
Revision 12:	October 6, 1995	Section 04-00-00 Not Affected This Revision
TR 96-002:	April 24, 1996	 04/24/96
Revision 13:	May 31, 1996	 6/12/96 <small>acting Mgr. AWM (30)</small>
Revision 14:	September 13, 1996	 09/09/96
Revision 15:	November 15, 1996	Section 04-00-00 Not Affected This Revision
Revision 16:	January 6, 1997	Section 04-00-00 Not Affected This Revision
Revision 17:	February 24, 1997	 02/20/97
TR 97-001:	July 2, 1997	 07/02/97
TR 97-002:	August 19, 1997	 08/19/97
Revision 18:	October 17, 1997	Section 04-00-00 Not Affected This Revision T/R 97-001 and 97-002 Previously Signed
Revision 19:	December 16, 1997	 12/19/97
TR 98-001:	March 25, 1998	 03/25/98
Revision 20:	June 1, 1998	Section 04-00-00 Not Affected This Revision T/R 98-001 Previously Signed
TR 98-002:	June 22, 1998	 7/10/98 <small>ACTING MGR.</small>
TR 98-003:	3 August 1998	 8/3/98
Revision 21:	24 August 1998	Section 04-00-00 Not Affected This Revision T/R 98-002 and 98-003 Previously Signed
Revision 22:	10 March 1999	Section 04-00-00 Not Affected This Revision
Revision 23:	1 June 1999	Section 04-00-00 Not Affected This Revision
Revision 24:	7 December 1999	 12/30/99 <small>ACTING MGR.</small>
Revision 25:	28 April 2000	Section 04-00-00 Not Affected This Revision
Revision 26:	17 August 2000	 8/11/00
Revision 27:	9 October 2000	Section 04-00-00 Not Affected This Revision
Revision 28:	30 November 2000	Section 04-00-00 Not Affected This Revision

REVISION:	DATE	FAA SIGNATURE AND DATE
Revision 29:	11 May 2001	 5/4/01 5/14/01
Revision 30:	11 July 2001	Section 04-00-00 Not Affected This Revision
TR 01-001:	10 August 2001	 8/9/01
Revision 31:	5 November 2001	Section 04-00-00 Not Affected This Revision T/R 01-001 Previously Signed
TR 02-002:	30 January 2002	 1/23/02
Revision 32:	18 March 2002	 3/15/02
Revision 33:	24 June 2002	 6/11/02
TR 03-001:	18 June 2003	 6/13/03
TR 03-002:	25 June 2003	 7/2/03
Revision 34:	21 August 2003	Section 04-00-00 Not Affected This Revision T/R 03-001 and 03-002 Previously Signed
TR 03-003:	30 September 2003	 12/3/03
TR 03-004:	17 December 2003	 1/7/04
Revision 35:	20 May 2004	Section 04-00-00 Not Affected This Revision T/R 03-003 and 03-004 Previously Signed
TR 04-001:	28 May 2004	 6/7/04
Revision 36:	11 November 2004	 11/3/04
Revision 37:	13 December 2005	Section 04-00-00 Not Affected This Revision
TR 05-002:	16 December 2005	 12/29/05 12/29/05
Revision 38:	25 April 2006	Section 04-00-00 Not Affected This Revision T/R 05-002 Previously Signed

REVISION:	DATE	FAA SIGNATURE AND DATE
TR 06-001:	05 July 2006	 7/17/06

AIRWORTHINESS LIMITATIONS

2. Component Mandatory Replacement

The Airworthiness Limitation Replacement Schedule specifies the mandatory replacement time, structural inspection interval and related structural inspection procedures approved per the certificate basis of the Type Certificate Data Sheet No. H3WE and CAR 6 (6.250, 6.251) and CFR 27.571 for models 500/600N unique components only. At the listed finite-life, components or assemblies must be removed from the helicopter and permanently retired from service. At the listed inspection interval, the components or assemblies must be inspected in accordance with the Handbook of Maintenance Instructions (HMI). The title of the task and section of the HMI are referred to which provide the inspection procedures and criteria.

NOTE: Refer to CFR Part 43.10 for latest requirements for the removal, installation, storage and disposition of life-limited parts.

- (1). A "life-limited" part is a physical component of the helicopter to which a maximum number of allowable operating hours or cycles are assigned. Certain assemblies and components on the helicopter have a limited life established by MDHI and approved by FAA Engineering. For example, a part with an assigned limit of 1000 hours, may accumulate 1000 hours of operation in service. Upon completion of the 1000 hours of operation, useful life of the part is ended. The finite-life assigned to different parts varies according to engineering fatigue tests, part experience, etc. The parts listed in this section must be removed from the helicopter at the finite-life indicated and identified as to its expired life (Ref, Table 1, Note (1)).
- (2). All parts not having an assigned life or stated to be of unlimited life, have a life of not less than 20,000 hours.
- (3). When a life-limited part or an assembly that incorporates a life-limited part is installed on a new or used helicopter, the nomenclature, part number, serial

number, component time and current helicopter hours are recorded in the Log Book and component log for the helicopter. Whether the life-limited part is new or used, the remaining number of useful life hours and previous inspection time, if applicable, for the part is added to the existing helicopter time. The total helicopter hours obtained then denotes the subsequent time at which the part must be removed from the helicopter or inspected.

- (4). If a life-limited part, is part of an assembly, the assembly must be removed from the helicopter when the time expires. The assembly may be overhauled and restored to maximum number of hours of useful life by installing new life-limited parts plus all other parts specified in the overhaul instructions (Refer to Component Overhaul Manual).
- (5). If interchanged between different model helicopters (for instance, Model 369D to 369FF or vice versa), any component having a limited life or overhaul schedule must be restricted to the lowest service life or TBO schedule indicated for the helicopter models and serial numbers affected.
- (6). Refer to the appropriate Allison Operation and Maintenance Manual for engine component replacement requirements.

3. Component Mandatory Inspections

Some components with mandatory inspection intervals require inspections to be completed in accordance with procedures detailed in other sections of this maintenance manual. The appropriate inspection procedures are referenced in the **Notes** flagged to each component to be inspected. All maintenance manual procedures which are referenced in the FAA Approved Airworthiness Limitations Component Mandatory Replacement Schedule are FAA approved procedures which cannot be changed without FAA review and approval of the proposed changes.

4. Retirement Index Number (RIN)

- (1). A Retirement Index Number (RIN) is a number that accounts for different usage spectra in assigning the retirement time for a component.

The RIN is calculated as the sum of an adjustment factor times flight hours plus another adjustment factor times Torque Events.

When a component reaches 1,000,000 RIN's, it has reached it's maximum life and is to be scrapped.

5. Torque Event (TE)

A Torque Event (TE) is defined as:

The transition to a hover from forward flight.

Any external lift operation.

NOTE: An external lift can either be on the cargo hook, external hoist or in external baskets.

For external lift operators, an external load is recorded as two (2) TE's (pick-up and drop-off).

Hover taxi with no external load will typically result in no TEs.

6. External Lift and Torque Event (TE) Requirements

The 369D/E/F/FF - 500/600N helicopters are multi-use helicopters. If the helicopter is used primarily for external lifts or training flights (high TE flights), there may be a reduction in inspection intervals of some components.



For safe operation of the helicopter, TE's must be recorded in the Rotorcraft Log Book. Each external lift will be recorded as two (2) TE's.

- (1). Determine the number of TE's and external lifts the helicopter accumulates per hour of flight time.
- (2). Record all TE's in Rotorcraft Log Book and continue to record all TE's.
- (3). Perform required TE inspections.

Table 1. Airworthiness Limitations Schedule

Component (1)	Model	Part Number (2)	Finite Life Hours (1)	Mandatory Inspection Hours
Main Rotor System				
Blade assembly, main rotor	369D/E (5)(6)	369D21100	3530 (37)	25 (11)(20)
		369D21100-516	3530 (37)	100 (20)
		369D21100-517	2500 (31)	25 (22)
		369D21100-517	3530 (37)	100 (20)
		369D21100-523	4000 (37)	100 (20)
		369D21120-501	3530 (37)	100 (20)
		369D21120-503	3530 (37)	100 (20)
	369F/FF (6)	369D21102	3430 (37)	25 (11)(20)
		369D21102-503	3430 (37)	100 (20)
		369D21102-517	2500 (31)	25 (22)
		369D21102-517	3430 (37)	100 (20)
		369D21102-523	4000 (37)	100 (20)
		369D21121-501	3430 (37)	100 (20)
		369D21121-503	3430 (37)	100 (20)
	500N (6)	369D21102-503	3430 (37)	100 (20)
		369D21102-517	2500 (31)	25 (22)
		369D21102-517	3430 (37)	100 (20)
		369D21102-523	4000 (37)	100 (20)
		369D21121-501	3430 (37)	100 (20)
		369D21121-503	3430 (37)	100 (20)
	600N (6)	369D21102-517 (21)	1900 (32)(37)	100 (20)
		369D21102-523	3200 (33)(37)	100 (20)
		369D21121-501	3200 (33)(37)	100 (20)
		369D21121-503	3200 (33)(37)	100 (20)
Folding pin, main rotor blade attach	369D/E/F/FF	369A1004	2850	
		369A1004-3	2850	
		369A1004-5	7600	
	500/600N	369A1004-5	7600	
Hub subassembly, main rotor	369D/E/F/FF 500N	369D21201	8900	
Pitch housing assembly, main rotor hub	369D	369D21300	9100	
		369D21300-501	9100	
	369E/F/FF 500N	369D21300-501	9100	

Table 1. Airworthiness Limitations Schedule (Cont.)

Component (1)	Model	Part Number (2)	Finite Life Hours (1)	Mandatory Inspection Hours
Retention strap assembly, main rotor hub	369D	369D21210	2770	100 (4)
		369D21210-501	2770	100 (4)
	369E/F/FF	369D21210-501	2770	100 (4)
	500/600N	369D21210-501	2770	100 (4)
Bolt - lead-lag hub, main rotor	369D	369A1220	6120	
	369D/E/F/FF 500N	369D21220	6120	
	600N	369D21220	5400 (34)	
Link assembly - lead lag hub, main rotor	369D/E	369H1203-BSC (39)	5762	25 (23)
		369H1203-21 (39)	5762	25 (23)
		369H1203-31 (39)	5762	25 (11)
		369H1203-51 (39)	11080	
		369H1203-53 (40)	11080	
		369H1203-61 (39)	11080	
	369F/FF	369H1203-21 (39)	5762	25 (23)
		369H1203-31 (39)	5762	25 (11)
		369H1203-51 (39)	11080	
		369H1203-53 (40)	11080	
		369H1203-61 (39)	11080	
	500N	369H1203-51 (39)	11080	
		369H1203-53 (40)	11080	
		369H1203-61 (39)	11080	
	600N	369H1203-51 (39)	11080	
		369H1203-53 (40)	11080	
Lead lag damper - main rotor	369D	369D21400-501 M50452	6060 On Cond.	(16)
		369D21400-503	On Cond.	(16)
	369D/E/F/FF 500/600N			
Drive shaft, main rotor	369D/E	369D25510	5020	300 (8)
	369F/FF	369D25510	3675	300 (8)
	500N	369D25510-21	3260	300 (15)
	369D/E	369F5510	(42)	
	369F/FF	369F5510	(42)	
	500N	369F5510	(42)	
	600N	600N5510	14000 (35)	
Mast assembly, main rotor	369D/E/F/FF 500N	369D22014	10450	
	600N	369D22014	3500	

Table 1. Airworthiness Limitations Schedule (Cont.)

Component (1)	Model	Part Number (2)	Finite Life Hours (1)	Mandatory Inspection Hours
Drive Shafts, Couplings and Clutches				
Drive shaft, main rotor transmission	369D/E/F	369A5510	3790	
Coupling, main transmission drive shaft	369D/E/F/FF	369H5660	4300	
	500N	369H5660	3200	
Overrunning clutch assembly	369D/E/F/FF 500/600N	369F5450-501	On Cond.	100 (24)
Sprag assembly, overrunning clutch	369D/E/F/FF	369A5364 369D25351	(3)	300 (10)
	500N	369D25351	(3)	300 (10)
	369D/E/F/FF 500/600N	369F5456	(3)	300 (17)
Drive shaft, fan	500N	500N5200	2620	
	600N	500N5200	1200 (36)	
Drive shaft, tail rotor	369D/E	369D25518	13900	
	369F/FF	369DSK152-11 369D25518-503	13900 14610	
Coupling - tail rotor drive shaft (Bendix) (NOTE: Not certified on 369FF Model) (9)	369D/E/F	369A5501	4980	
		369H92564 (7)	4980	
Anti-Torque System				
Gearshaft assembly, tail rotor input	369D/E	369D25434	12000	
	369F/FF	369D25434	3365	
Gearshaft, tail rotor output pinion	369D/E/F/FF	369D25430	7290	
Blade assembly, tail rotor	369D/E	369D21613	5200	
		369D21613-11	5140	
		369D21613-31	5140	
		369D21613-41	5140	
		369D21613-51	5140	
		369D21613-61	5140	
		369D21613-71	5140	
		369D21640-501 (38)	400	
		369D21640-503 (38)	5140	
		369D21640-505 (38)	5140	
		369D21640-507 (38)	5140	
	369F/FF	369D21606	5140	
		369D21642-501 (38)	400	
		369D21642-503 (38)	5140	
		369D21642-505 (38)	5140	
		369D21642-507 (38)	5140	

Table 1. Airworthiness Limitations Schedule (Cont.)

Component (1)	Model	Part Number (2)	Finite Life Hours (1)	Mandatory Inspection Hours
Blade assembly, tail rotor (optional 4-blade)	369D/E	369D21615	10000	
		369D21641-501 (38)	400	
		369D21641-503 (38)	10000	
		369D21641-505 (38)	10000	
		369D21641-507 (38)	10000	
Hub, tail rotor	369D/E/F/FF	369A1725	3450	
Retention strap assembly, tail rotor	369D/E/F	369A1706	5100	
	369FF	369A1706-507 369A1706-509	5100 5100	
Blade assembly, NOTAR fan	500N	500N5310-15 500N5310-19	7500 7500	
	600N	500N5310-19	12500	
Hub, fan	500N	500N5352-7 500N5352-9	7500 7500	
	600N	500N5352-9	7500	
Shaft, NOTAR fan support	600N	500N5357-13	4000	
Pitch plate assembly	500/600N	500N5363-7	7500	
Tube assembly, fan pitch	500N	500N7113-3	600 (18)	
Rotating cone assembly	500N	500N3740-1 500N3740-41	10000 10000	
	600N	500N3740-61	10000	
		Tailboom		
Bolts, tailboom attach	369D/E/F/FF	MS21250-06014	21950	
Tailboom assembly	369D/E	369D23500	10300	
	369F/FF	369D23500-507	10300	
	500N	500N3500-19	10000	100 (14)
		500N3500-29	10000	
		500N3500-501	10000	
		500N3600-501	10000	
	600N	600N3500-503	2500 (25)	
		600N3500-505	5900	
		600N3500-507	1000	
		600N3500-509	6000 (19)	
		600N3500-511	6000 (19)	
		600N3500-513	2500 (25)	
		600N3500-515	5900	
		600N3500-517	1000	
Empennage fittings	600N	500N3530-7/8 500N3530-9/10	On Cond. On Cond.	100 (26) 100 (26)
Vertical stabilizer assembly	369D/E	369D23600	12700	
	369F/FF	369D23600-505	3388	

Table 1. Airworthiness Limitations Schedule (Cont.)

Component (1)	Model	Part Number (2)	Finite Life Hours (1)	Mandatory Inspection Hours
Torque tube, horizontal stabilizer	500N	500N3950-5	5000	
	600N	500N3950-7 600N3950	3000 1000 (19)	
Horizontal stabilizer assembly	369D (12)	369D23601	7700	
	369E (12)	421-087-505	7700	
		421-087-905 (13)	7700	
	369F/FF (12)	421-087-503 421-087-903	7700 7700	
	600N	500N3910-25	10000 (19)	
		500N3910-27	10000 (19)	
Controls				
Longitudinal idler bellcrank assembly	369D	369A7301	6500	
		369A7301-501	6500	
	369E/F/FF	369A7301-501	6500	
	500N	369A7301-501	2870	
Idler assembly, longitudinal pitch mixer	369D/E/F/FF	369A7603	13600	
	500N	369A7603	6050	
Longitudinal control rod	500N	369A7011-13	7740	
		369A7011-15	7740	
Socket, cyclic stick	600N	369A7141	1000	8 (27)
Cyclic tube assembly	600N	369D27132-503	1200	8 (27)
Housing, collective stick	600N	369A7347	450	
Tube, collective pitch control	600N	369A7348	400	
Tube assembly, collective pitch (pilot)	600N	369H7354-3	600	
Socket, cyclic stick	600N	369A7802	1000	8 (27)
Tube, collective pitch (co-pilot)	600N	369A7809	1800	
Housing, collective stick	600N	369A7820	450	
Housing, collective stick	600N	369H7837	450	
Tube assembly, collective pitch (co-pilot)	600N	369H7838-3	1000	
Fuselage Sta. 75 controls support bracket	600N	369N2608-1 1	6000 (41)	
		600N2608-9	Unlimited	
Airframe				
Landing gear brace	600N	600N6010-17/19	5900 (28)	
Landing gear strut	600N	600N6022-7/8	696 (29)	
Landing gear foot	600N	600N6043-3	3900 (30)	

Table 1. Airworthiness Limitations Schedule (Cont.)

Component (1)	Model	Part Number (2)	Finite Life Hours (1)	Mandatory Inspection Hours
Floats				
Squib cartridge, used on Emergency float kit 369D292473-5, -6, -9, -10, -11, -12 NOTE: Life is based from original date of manufacture.	369D/E/F/FF 500N	12552-1 (Holex, Inc.)	5 years	
		281993 (Walter Kidde)	5 years	
		12754-1 (Holex, Inc.)	5 years	
		5003527 (Tavco)	5 years	
Stabilizer support, utility float	369D/E	369D292036	3190	
		369DSK66	3190	

NOTES:

- (1) Life-limited components interchanged between models or configurations must be restricted to the lowest service life indicated for the models or configurations affected. Life-limited components removed at retirement are to be mutilated/destroyed or conspicuously marked to prevent inadvertent return to service. Parts are applicable only on models under which a service life is listed. Life-limited components cannot be altered or permanently marked in any manner without compromising the part integrity. Part tagging or other record keeping system is required. Related component records must be updated each time component is removed from service.
- (2) Service life shown for the basic (no dash number) part numbers apply to all dash numbered versions unless otherwise indicated.
- (3) With no cargo hook attached: - No retirement life assigned (Ref. Sec. 05-10-00, Component Overhaul or Recommended Replacement Schedule).
With cargo hook attached and no separate log: - 1800 hours.
With cargo hook attached and with separate log: - 1800 hours of external load operating time when logged separately.
(For 369D/E/F/FF helicopters with 369A5364 or 369D25351 sprag assembly, Refer to AD 90-19-02.)
- (4) Inspect in accordance with Main Rotor Strap Pack Lamination Inspection at 100-hour intervals, or 25-hour intervals if 2 laminates (369D/E/F/FF - 500N) or 1 laminate (600N) have failed in any one leg or tongue area of any strap assembly. A single cracked laminate between the shoes at the outboard end of a strap pack is cause for rejection of the hub assembly
369D/E/F/FF - 500N: (Ref. Sec. 62-20-00, Main Rotor Strap Pack Lamination Inspection).
600N: (Ref. Sec. 62-20-60, Main Rotor Strap Pack Lamination Inspection).
(For 369D/E/F/FF helicopters, refer to AD 89-02-01.)
- (5) The 369D21100-513, -515, 516, 517 and -523 main rotor blades are not interchangeable with any earlier configuration blades (Basic, -505 or -509); however, the -505 and -509 blades are interchangeable and the -513 and -515 blades are interchangeable. The -505 and -509 configuration blades may be modified to the -513M configuration, which is fully compatible with the -513 blade. (For information concerning modification, contact MDHI Customer Service Department.)
- (6) For the 369D/E helicopters, the 369D21120-501, -503 main rotor blade has all the same inspections and interchangeability as the 369D21100-517 main rotor blade.
For the 369F/FF - 500N helicopters, the 369D21121-501, -503 main rotor blade has all the same inspections and interchangeability as the 369D21102-517 main rotor blade.
For the 600N helicopters, the 369D21121-501, -503 main rotor blade has all the same inspections and interchangeability as the 369D21102-523 main rotor blade.
- (7) Used with 369H90123 Rotor Brake Kit.

- (8) Inspect main rotor drive shaft every 300 hours (Ref. Sec. 63-10-00, Main Rotor Drive Shaft Inspection (300 Hour)) (Reference AD 81-26-01).
- (9) Failsafe device, P/N 369D25530 bolt and 369D25531 socket, must be used at both ends of tail rotor driveshaft in accordance with Tail Rotor Drive Shaft Installation with Bendix Couplings (Reference AD 86-20-07).
- (10) For helicopters equipped with a cargo hook, inspect overrunning clutch sprag assembly P/N 369D25351, clutch inner race P/N 369A5353 and outer race 369A5352 every 300 hours (Ref. C.O.M., Sec. 63-10-10, Overrunning Clutch Sprag Inspection (300 Hour)). To establish time in service, either clutch total time with hook attached or a separate and permanent log of external load operating time per CFR 91.417, may be used.
(For 369D/E/F/FF helicopters with 369A5364 or 369D25351 sprag assembly, Refer to AD 90-19-02.)
- (11) Inspect main rotor blade root fittings and main rotor lead-lag link assemblies every 25 hours in accordance with Main Rotor Blade Upper and Lower Root Fitting Attach Lug and Lead-Lag Link Attach Lug Inspection (25 Hour) and every 100 hours in accordance with Main Rotor Blade Upper and Lower Root, Fitting Attach Lug and Lead-Lag Link Attach Lug Inspection (100 Hour) (Ref. Sec. 62-10-00) (Reference AD 95-03-13).
- (12) Tip plates, tip weights (where applicable) and attaching hardware have no retirement life and may be reused on replacement horizontal stabilizers.
- (13) 421-087-903 and -905 require addition of tip plates, tip weights and attaching hardware before installation.
- (14) Inspect the three upper slot bridges for cracks (Ref. Sec. 05-20-00).
- (15) Inspect main rotor drive shaft every 300 hours (Ref. Sec. 63-10-00, Main Rotor Drive Shaft Inspection (300 Hour)).
- (16) Inspect for deterioration every 600 hours up to a total time of 4200 hours and every 300 hours thereafter until deterioration is sufficient to retire assembly
369D/E/FF - 500N: (Ref. Sec. 62-20-00, Main Rotor Damper and Attachments Inspection)
600N: (Ref. Sec. 62-20-60, Main Rotor Damper and Attachments Inspection).
- (17) For helicopters equipped with a cargo hook, inspect overrunning clutch sprag assembly P/N 369F5456, clutch inner race P/N 369F5455 and outer race 369F5453 every 300 hours. To establish time in service, either clutch total time with hook attached or a separate and permanent log of external load operating time may be used.
- (18) 500N7113-1 1 tube assembly, fan pitch is an On-Condition part and replaces the 500N7113-3 tube assembly.
- (19) Interim hours: life extension testing in progress.
- (20) Inspect upper and lower blade root fittings every 100 hours in accordance with Main Rotor Blade Upper and Lower Root, Fitting Attach Lug and Lead-Lag Link Attach Lug Inspection (100 Hour) (Ref. Sec. 62-10-00)
(For 369D/E/F/FF - 500N helicopters, Reference AD 96-10-09).
- (21) Main rotor blades, P/N 369D21102-517 with S/N 1976 thru 2100, 2106 thru 2115 are not to be installed on 600N helicopter (Reference Service Bulletin SB600N-007R2) (Reference AD 98-15-26).
- (22) Inspect main rotor blades with 600 or more hours of operation every 25 hours of helicopter operation with a 10X magnifying glass for cracking of the lower surface of the blade emanating from the root fitting and doubler at the inboard end of the blade and to detect debonding between the blade root end fitting and doubler if missing or cracked adhesive or paint is observed. (Reference Service Bulletins SB369D-195R3, SB369E-088R3, SB369F-075R3, SB500N-015R3) (Reference AD 98-15-26).
- (23) Perform Main Rotor Blade Upper and Lower Root, Fitting Attach Lug and Lead-Lag Link Attach Lug Inspection (25 Hour) up to a total time of 500 hours and every 15 hours thereafter and every 100 hours in accordance with Main Rotor Blade Upper and Lower Root Fitting, Attach Lug and Lead-Lag Link Attach Lug Inspection (100 Hour) (Ref. Sec. 62-10-00) until retirement of 369H1203-BSC and -21 Lead-Lag Link Assembly. (Reference AD 95-03-13).
- (24) Inspect clutch retainer and bearing carrier for evidence of spinning and/or wear (Ref. Sec. 05-20-20).

- (25) The 600N3500-503 tailboom may be reworked to a 600N3500-505 tailboom, and the 600N3500-513 tailboom may be reworked to a 600N3500-515 tailboom by modifying the attachment fittings to all-steel fittings.
- (26) (Ref. Sec. 05-20-00) Using a flashlight and 10X magnifying glass, inspect horizontal stabilizer mounting brackets for cracks (pay particular attention to the forward inboard legs) (Ref. Tailboom Inspection).
- (27) Sockets must be inspected for cracks every eight hours after the initial 100 hour inspection.
- (28) Log all landings: Brace life is limited to 35400 logged landings or 5900 hours flight time if landing are not logged (assumed six landings per one hour of flight time).
- (29) Log all landings: Strut life is limited to 4170 logged landings or 696 hours flight time if landing are not logged (assumed six landings per one hour of flight time).
- (30) Log all landings: Foot life is limited to 23780 logged landings or 3900 hours flight time if landing are not logged (assumed six landings per one hour of flight time).
- (31) The following main rotor blades have a finite life of 2,500 hours or 15,000 torque events*, whichever occurs first;
P/N 369D21100-517 with S/N H664, H665, H667, H669, H671, H672, H674, H676, H679, H680, H683 thru H724, H726 thru H999 and J000 thru J039, J041 thru J055 and
P/N 369D21102-517 with S/N 1976 thru 2100, 2106 thru 2115.
* TORQUE EVENT (TE) - A TE is recorded for every transition from forward flight to a hover (Reference Service Bulletins SB369D-195R3, SB369E-088R3, SB369F-075R3, SB500N-015R3).
- (32) $RIN = (200 \times Hrs.) + (52 \times TE)$.
- (33) $RIN = (160 \times Hrs.) + (24 \times TE)$.
- (34) $RIN = (153 \times Hrs.) + (3 \times TE)$.
- (35) $RIN = (50 \times Hrs.) + (3 \times TE)$.
- (36) $RIN = (768 \times Hrs.) + (11 \times TE)$.
- (37) After accumulation of 750 flight hours and 13,720 TE, perform Main Rotor Blade Torque Event Inspection (Ref. Sec. 62-10-00) every 35 flight hours or 200 TE's (whichever occurs first).
- (38) The 369D21640-501, -503, -505, -507 tail rotor blades are two-way interchangeable with the 369D21613 tail rotor blades in sets of two only.
The 369D21641-501, -503, -505, -507 tail rotor blades are two-way interchangeable with the 369D21615 tail rotor blades in sets of two only (installed on the same inboard or outboard hub).
The 369D21642-501, -503, -505, -507 tail rotor blades are two-way interchangeable with the 369D21606 tail rotor blades in sets of two only.
- (39) The 369H1203-BSC, -11, -21, -31, -51 and -61 lead lag link assemblies can only be installed using the 369H1235-BSC bearing.
- (40) The 369H1203-53 lead lag link assembly can only be installed using the 369H1235-1 bearing.
- (41) The 369N2608-11 Control Support Bracket must be removed from 600N helicopters equipped with YSAS (Ref. SB600N-040).
- (42) $RIN = (29 \times Hrs.) + (1 \times TE)$.

B. Tailboom Installation

CAUTION Before tailboom installation, inspect radius blocks for brinelling, corrosion, cracks and indication of indent on face; none allowed.

NOTE: If installing a new tailboom, the 500N3500-5 cover will have to be installed after internal tailboom components are installed (Ref. 500N3500-5 Cover Installation).

- (1). Support tailboom so that the mating bulkhead surfaces are flush.
- (2). Slide countersunk/chamber washers on external wrenching bolts with countersunk side facing bolt head.

CAUTION If washers are installed backwards, structural failure may result due to insufficient surface in load bearing area that can cause spreading or cracking of washers and result in loss of clamp-up torque.

- (3). Install washer on bolt after the countersunk washer.
 - (a). Install either an AN960C516 or NAS1149C0563R washer on -5 bolts.
 - (b). Install either an AN960C616 or NAS1149C0663R washer on -6 bolts.

CAUTION Do not lubricate tailboom attach bolts or nutplates, this will cause a false torque reading and lead to bolt loosening.

- (4). With the tailboom supported in place, install four bolts with washers.
 - (a). 500N:
Torque bolts to **130 - 150 inch-pounds (14.69 - 16.95 Nm) plus drag torque**. Verify minimum run on torque of 6.5 inch-pounds (0.73 Nm).
 - (b). 600N:
RN003 - RN059 without TB600N-007 complied with; torque the two smaller diameter bolts to **130 - 150 inch-pounds (14.68 - 16.94**

Nm) plus drag torque and the two larger diameter bolts to **180 - 220 inch-pounds (20.33 - 24.85 Nm) plus drag torque**. Safety bolts.

RN003 - RN059 with TB600N-007 complied with and RN060 & subs; torque bolts to **180 - 220 inch-pounds (20.33 - 24.85 Nm) plus drag torque**. Safety bolts.

- (5). Check for a minimum of two threads protruding from nutplates.
- (6). Using a 0.002 inch (0.051 mm) feeler gauge, check for gap between tailboom and fuselage flange within 0.60 inch (15.3 mm) of centerline of each of the four attach bolts; no gap allowed.
- (7). Re-connect electrical connectors.
- (8). Re-connect control cable assembly.
- (9). Install tailboom fairing.

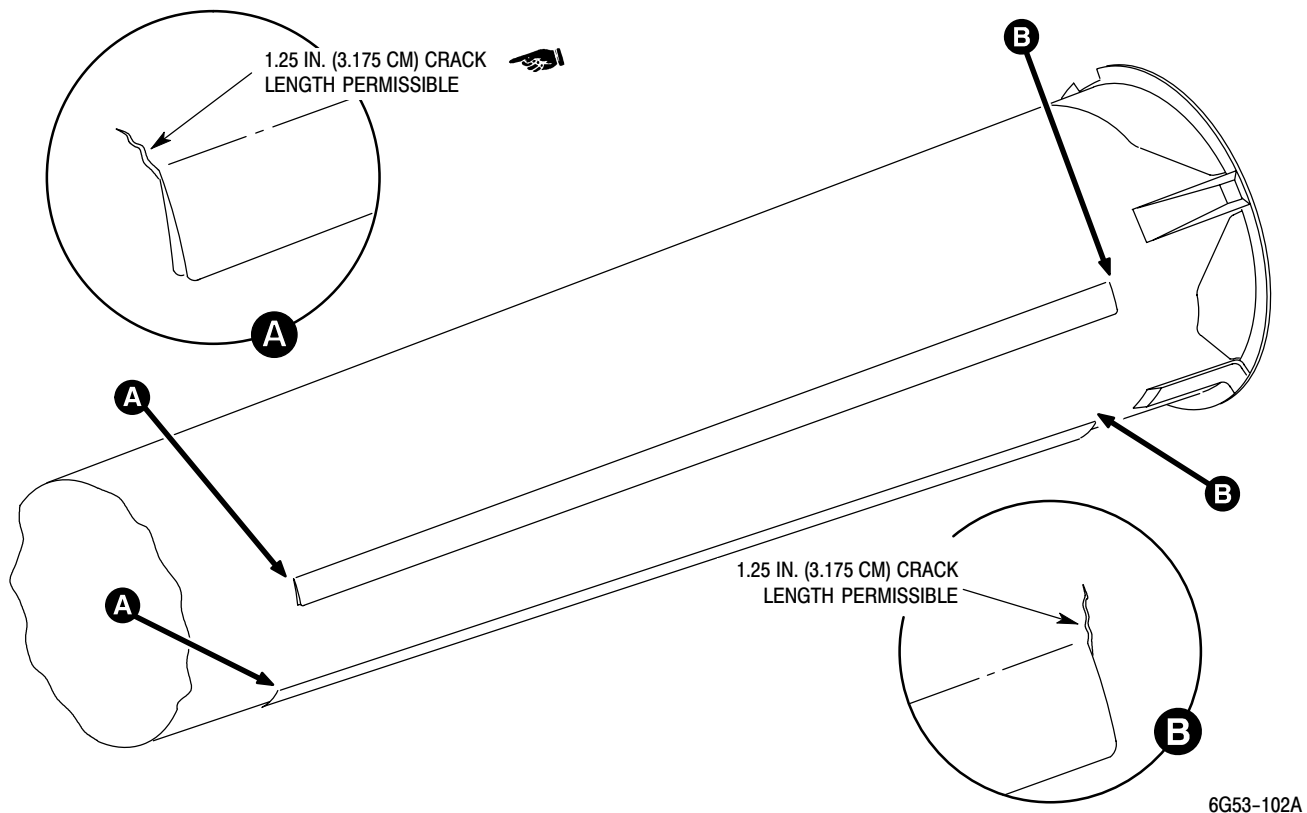
3. Tailboom Inspection

(Ref. Figure 201)

- (1). Inspect tailboom exterior as follows:
 - (a). Inspect tailboom fairing for cracks and delaminations.
 - (b). Inspect tailboom flange and mounting bolt holes attachment area for cracks at Sta. 168.20.
 - (c). Inspect radius blocks for brinelling, corrosion and indication of indent on face; none allowed. If found, scrap radius block and install new radius block.
 - (d). Inspect strake for cracks, delaminations, debonding, dents, nicks and separation.

NOTE: Damage to slots can cause significant degradation of aircraft performance in a hover.

- (e). Inspect tailboom surface area and tailboom circulation control slots surface area for cracks, voids, dents, holes, scratches, separation, delaminations at tailboom and security.
 - 1). Using a bright light, inspect fore and aft radii of the lower portion of the three upper slot bridges for cracks, illuminate area under the flap.

**Figure 202. Tailboom Flap Inspection**

NOTE: The flap may be raised slightly, using finger pressure only, to aid in checking this area.

(f). Inspect flaps for cracking and debonding (Ref. Figure 202):

- 1). A crack of any length, in line with aft edge of flap, is permissible at interface between flap and tailboom.
- 2). A crack of 1.25 inch (3.175 cm) maximum length, in line with the forward edge of flap, is permissible at interface between flap and tailboom.

NOTE: If crack in forward edge of flap is longer than 1.25 inch (3.175 cm), contact your local MDHI Field Service Representative for disposition.

(g). Inspect horizontal stabilizer mounting brackets (pay particular attention

to the forward inboard legs) and attachment fittings for cracks, voids, separation and delamination.

- (h). Inspect stabilizers (Ref. Sec. 53-50-30).
- (i). Inspect (tail-skid) for cracks, dents, holes and delamination.
- (j). Inspect rotating thruster cone for freedom of operation, cracks, holes, separation and delamination.
- (k). Inspect tailboom grommets (2) places for cracks and proper fit.

(2). Inspect tailboom interior as follows:

- (a). Check stator vanes and stator diffuser cone for cracks, delaminations and separation.

- 1). Maximum allowable cracks found emanating from stator vane inserts should not exceed 0.10 inch (2.54 mm) span-wise.

- 2). No cracks allowed running cord-wise towards leading or trailing edge
 - (b). Inspect slot air foils for cracks, delamination and separation from boom.
 - (c). Inspect control cable assembly attachment points for looseness, cracks and condition.
 - (d). Inspect cable conduit for cracks, separation and delamination.
 - (e). Inspect air circulation area for FOD and cleanliness. If necessary, clean with mild soap and water.
- (3). Inspect rotating thruster cone collar strap ring rivets for looseness, strap for cracks and condition.

4. Tailboom Repair

There are no repair procedures for the tailboom at this time. Refer to MDHI Field Service Representative.

5. Stator Replacement

(Ref. Figure 201, View D)

A. Stator Removal

- (1). Remove tailboom.
- (2). Note or index top of stator for reassemble. Support stator and remove seven exterior screws and washers mounted around the forward part of the tailboom.

B. Stator Installation

- (1). Support stator and align stator vanes in tailboom, install seven screws and washers, torque screws to **3 - 6 inch-pounds (0.34 - 0.68 Nm) plus drag torque**. Total torque should not exceed **15 inch-pounds (1069 Nm)** total torque.
- (2). Install tailboom.
- (3). Verify that stator does not rub against the fan and for clearance of 0.020-0.080 inch (0.508-2.032 mm) between stator and fan.

6. Stator Blade Replacement

(Ref. Figure 201, View E)

- (1). Stator Blade Removal: Remove two self-locking screws and two surface washers.
- (2). Stator Blade Installation: Install two surface washers and two self-locking screws. Torque screws to **3 - 6 inch-pounds (0.34 - 0.68 Nm) plus drag torque**. Total torque should not exceed **15 inch-pounds (1069 Nm)** total torque.

7. Rotating Thruster Cone Replacement

(Ref. Figure 201, View H)

A. Rotating Thruster Cone Removal

- (1). Remove cone tip cap by removing eight screws and washers.
- (2). Support rotating thruster cone and remove three bolts and washers that attach the rotating thruster cone, carefully slide rotating cone aft to clear stationary cone, bearings and followers and the cable and drum assembly.

B. Rotating Thruster Cone Installation

- (1). Carefully slide rotating thruster cone over stationary cone, bearings, rollers and followers.
- (2). With the thruster supported in place, install three bolts with washers attaching the rotating thruster to thruster gear box. Torque bolts **70 - 90 inch-pounds (7.91 - 10.17 Nm)**. Safety wire bolts.
- (3). Install cone tip cap with eight screws and washers, torque screws per general aircraft practices.

8. Rotating Thruster Cone Inspection

- (1). Inspect for cracks and separation of composite laminates.
- (2). Check for freedom of rotational movement within the control range of thruster.
- (3). When the thruster is removed from helicopter, check roller surface area (strap) for cracks and condition.

NOTE: Refer to MD Helicopters Inc. Representative for structural repairs, cracks, etc.

9. Stationary Thruster Cone Replacement

(Ref. Figure 201)

A. Stationary Thruster Cone Removal

- (1). Remove rotating thruster cone (Ref. Rotating Thruster Cone Removal).
- (2). Remove eight off wing screws from pan cover, remove cotter pin, nut and washer from sector input shaft and remove pan cover. Remove washer and bushing from sector bellcrank input shaft.
- (3). Remove bolt, washer and bushing from thruster input sector bellcrank clevis (Ref. View J).
- (4). Remove thruster cone fairings.
- (5). Support stationary thruster cone and remove eight bolts and washers, with cable assembly attached to cone, carefully lift cone off tailboom so that the control rod passes through the thruster cone cutout.

B. Stationary Thruster Cone Installation

- (1). Support stationary thruster cone to tailboom so that the control rod passes through the cutout of the stationary cone, and that the mating surfaces are flush to the tailboom. Slide countersunk/chamber washers on external wrenching bolts with countersunk side facing bolt head.

CAUTION If washers are installed backwards, structural failure may result due to insufficient surface clamp-up in load bearing areas that can cause spreading or cracking, resulting in loss of clamp-up torque.

- (2). With the stationary thruster cone support in place, install eight bolts and washers. Torque bolts **30 - 40 inch-pounds (3.39 - 4.52 Nm) plus drag torque.**
- (3). Connect control rod to input sector bellcrank clevis and install bushing,

washer and bolt, torque bolt per standard aircraft torque values and safety wire.

- (4). Install thruster cone fairings.
- (5). Install rotating thruster (Ref. Rotating Thruster Cone Installation).

10. Stationary Thruster Cone Inspection

- (1). Inspect for cracks and delamination of composites structure for the following: Internal ducts, air foil supports, pan cover and pan (hat section).
- (2). Inspect rollers and bearings for condition and freedom of rotation. Inspect for cleanliness.
- (3). Inspect sector bellcrank, cable assemblies, pulleys and support brackets for condition, inspect of cleanliness.
- (4). Inspect upper input shaft for damage and wear. Check for play in mounting pins. If mounting pins are found to have play, replace with new pins and collars.
- (5). Inspect thruster aft support shaft for damage and wear. Check for play in mounting hardware. If top bolt is found to be loose, retorque to **10 - 15 inch-pounds (1.13 - 1.69 Nm)**. If bottom mounting pins are found to be loose, replace with new pins and collars.

11. Conduit and Support Strap Rebonding

(Ref. Figure 203) The following procedure is for rebonding of the conduit supports.

Consumable Materials (Ref. Section 91-00-00)

Item	Nomenclature
CM217	Isopropyl alcohol
CM402	Adhesive

- (1). Lightly abrade faying surfaces with Scotchbrite until surface gloss of the laminate is gone.
- (2). Solvent-wipe parts using a clean lint-free cloth dampened with isopropyl alcohol (CM217).

- (3). Wipe dry using a clean, lint-free, dry cloth and allow to air dry for 15 minutes at ambient temperature.

CAUTION Do not heat conduit to more than 170°F (77°C). Conduit and tailboom can be damaged from too much heat.

- (4). If conduit is bent away from tailboom, heat conduit to make more flexible for re-bonding.

NOTE: Adhesive must be applied within 2 hours of preparation. If more than 2 hours elapse before adhesive application, re-prepare surfaces.

- (5). Mix adhesive (CM402) according to manufacturer's instructions and apply to faying surfaces.
- (6). Secure parts together with light pressure and allow to cure for 24 hours at ambient temperature.

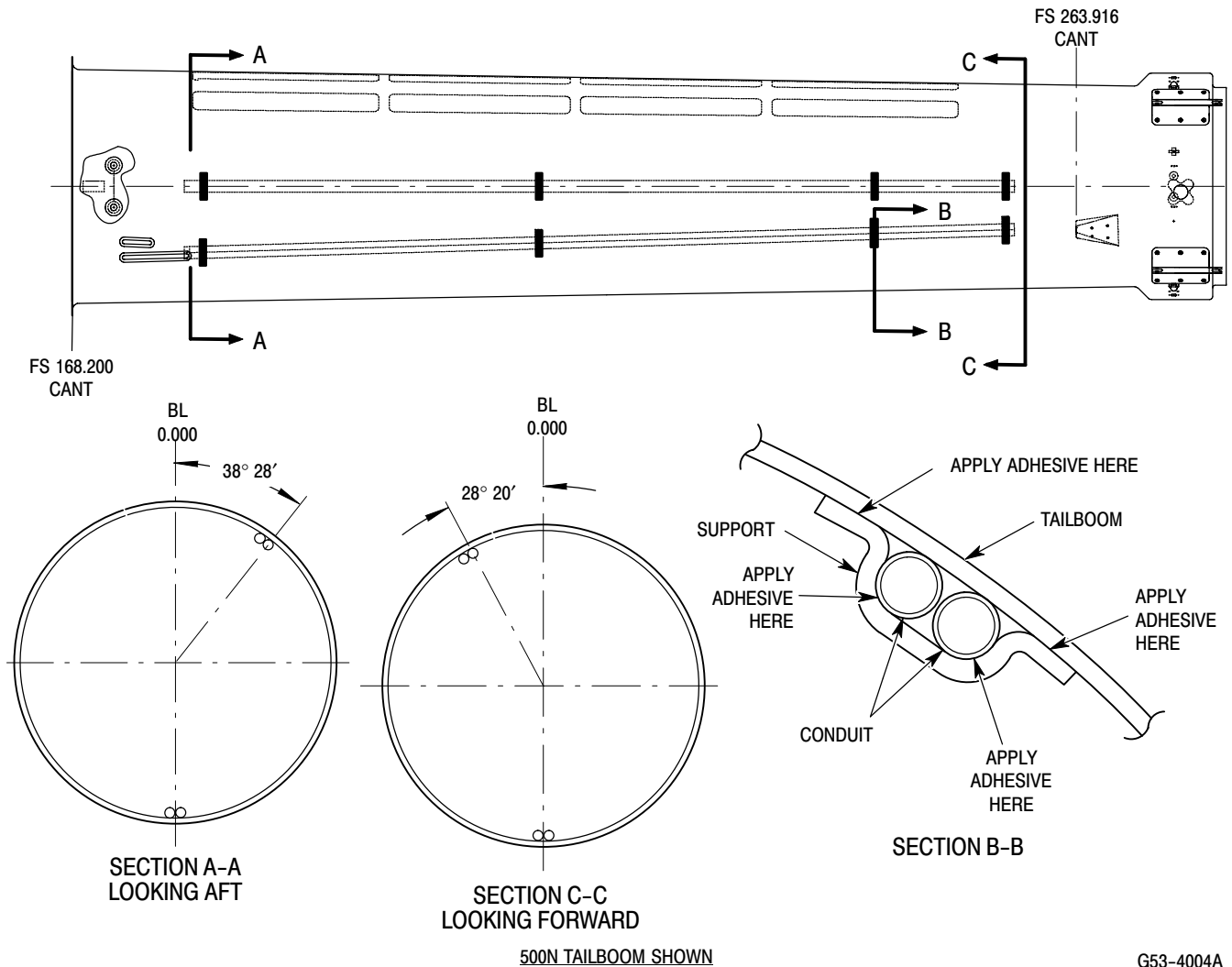


Figure 203. Conduit and Support Strap Rebonding

12. Horizontal Stabilizer Mount Fitting Replacement

(Ref. Figure 201)

Empennage Fitting	Part No.
L/H, Aluminum	500N3530-3, -7
R/H, Aluminum	500N3530-4, -8
L/H, CRES	500N3530-9
R/H, CRES	500N3530-10

**Consumable Materials
(Ref. Section 91-00-00)**

Item	Nomenclature
CM101	Solid film lubricant
CM206	Chemical coating
CM222	1,1,1-Trichloroethane
CM304	Enamel, epoxy
CM315	Adhesive primer
CM318	Primer
CM418	Cement, epoxy
CM425	Sealing compound
CM801	Abrasive paper, silicon carbide

- (1). Remove horizontal stabilizer (Ref. Sec. 53-50-30, Horizontal Stabilizer Replacement).
- (2). Remove rotating thruster cone (Ref. Rotating Thruster Cone Replacement).
- (3). Remove stationary thruster cone (Ref. Stationary Thruster Cone Replacement).
- (4). Remove collars from pins in mount fittings.
- (5). Drive pins out of fittings.

CAUTION Do not allow fittings to reach 200°F (94°C), damage to tailboom composite material will occur.

NOTE: Heating the fitting to 150°F (66°C) may assist in removing them from tailboom.

- (6). Carefully pop fittings loose from tailboom while not damaging fiberglass sheets under fitting.
- (7). Clean area with 1,1,1-Trichloroethane (CM222).

- (8). Locate new fitting on tailboom.
- (9). Back-drill fittings to 0.186-0.188 inch (4.724-4.775 mm).
- (10). Remove fitting and deburr rivet holes.
- (11). Touch up rivet holes with solid film lubricant (CM101) for steel fittings or chemical coating (CM206) for aluminum fittings.
- (12). Steel fittings only:
 - (a). Using abrasive paper (CM801), lightly abrade tailboom where fitting is to be mounted.
 - (b). Clean fitting and tailboom abraded area with 1,1,1-Trichloroethane (CM222).
 - (c). Prime fitting with adhesive primer (CM315).
 - (d). Apply a thin layer of cement (CM418) between fitting and tailboom.

NOTE:

- Use HTS12-6-4/-5 pin rivets with HTS1176DU-6AWU collars or alternate HTS48-6-4/-5 pin rivets with HST2000-6AW collars.
 - Gage rivet holes to ensure proper length pin rivets.
- (13). Relocate fitting on tailboom and install with pin rivets wet with primer (CM318).
 - (14). Seal edges around fittings with sealing compound (CM425).
 - (15). If installing steel fittings, prime with adhesive primer (CM315).
 - (16). Touch up with paint (CM304).
 - (17). Reinstall stationary thruster cone (Ref. Stationary Thruster Cone Replacement).
 - (18). Reinstall rotating thruster cone (Ref. Rotating Thruster Cone Replacement).
 - (19). Reinstall horizontal stabilizer (Ref. Sec. 53-50-30, Horizontal Stabilizer Replacement).
 - (20). Check rigging of thruster (Ref. Sec. 67-20-30).

- (21). Check rigging of vertical stabilizers
(Ref. Sec. 67-20-30).

13. 500N3500-5 Cover Installation

(Ref. Figure 204) New tailbooms come with the 500N3500-5 cover separate. This cover must be bonded in place after the wiring and cables are installed.

Consumable Materials (Ref. Section 91-00-00)

Item	Nomenclature
CM222	1,1,1-Trichloroethane
CM410	Adhesive, epoxy (parts A & B)
CM802	Abrasive cloth, aluminum oxide
CM819	Kimwipe

- (1). With cutout facing down and forward, gently role cover to shape of tailboom and position inside aft end of tailboom. Slide cover in until aft end is flush with tailboom.

NOTE: Right edge of cover should be just to the right of the torque tube housing (8° to the right of centerline). Left edge should be under the left horizontal stabilizer empennage fitting.

- (2). Check holes in cover to ensure they line up with electrical connectors on tailboom.
- (3). If holes do not line up with electrical connectors, remove cover, role 180° and reposition in tailboom.

NOTE: Tailboom is manufactured with 1.0 x 1.0 inch (25.4 x 25.4 mm) spots marked for abrasion.

- (a). If tailboom is not previously marked, place a mark every 2.0 inches (50.8 mm) around cover and tailboom.

- (b). Do not bond the bottom 8.0 inches (203.2 mm) on aft end of cover.

- (4). Abrade around the cover mating surface with 240 grit abrasive cloth (CM802) to remove gloss.

NOTE:

- Use care to avoid damage to the fiber reinforcement.
- Metallic faying surfaces do not require abrading.

- (5). Using 240 grit abrasive cloth (CM802), lightly abrade spots, where marked, around the tailboom until the surface gloss is removed.

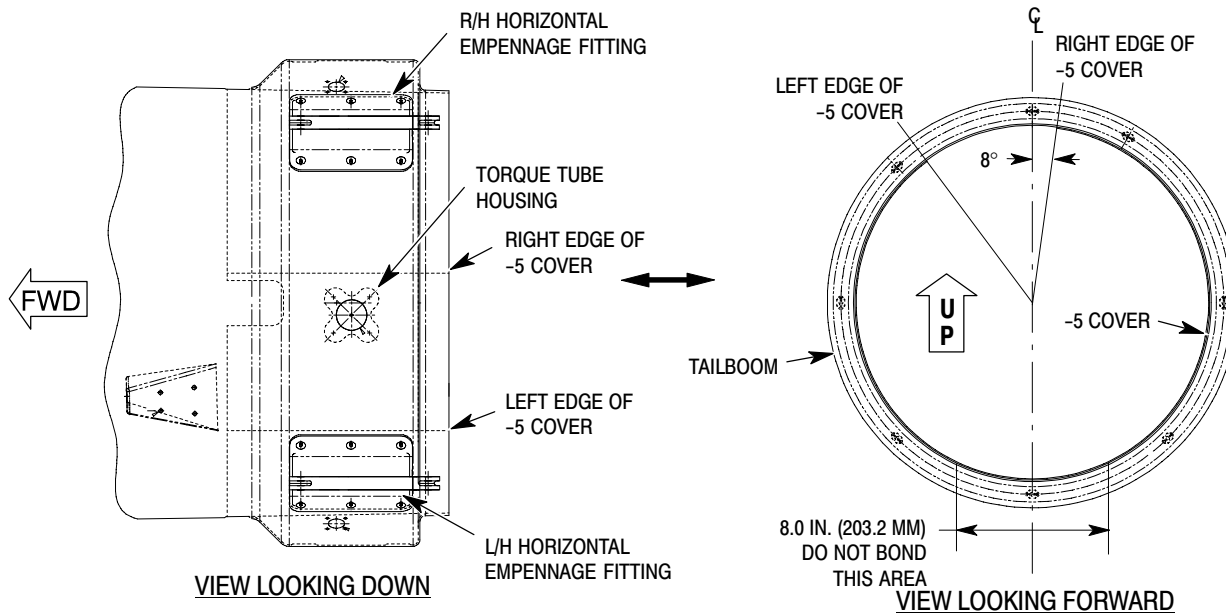
- (6). Wipe abraded surfaces with kimwipes (CM819) dampened with 1,1,1-Trichloroethane (CM222). Allow to air dry for 15 minutes.

- (7). Mix adhesive according to manufacturer's instructions.

NOTE: Adhesive must be applied within two hours of cleaning. Repeat solvent prep if more than two hours elapses before bonding.

- (8). Apply adhesive to abraded areas and position cover in tailboom. Clean up excessive adhesive.

- (9). Allow to cure per manufacturer's instructions.



G53-4005

Figure 204. 500N3500-5 Cover Installation**14. Tail Skid Replacement**

(Ref. Figure 205)

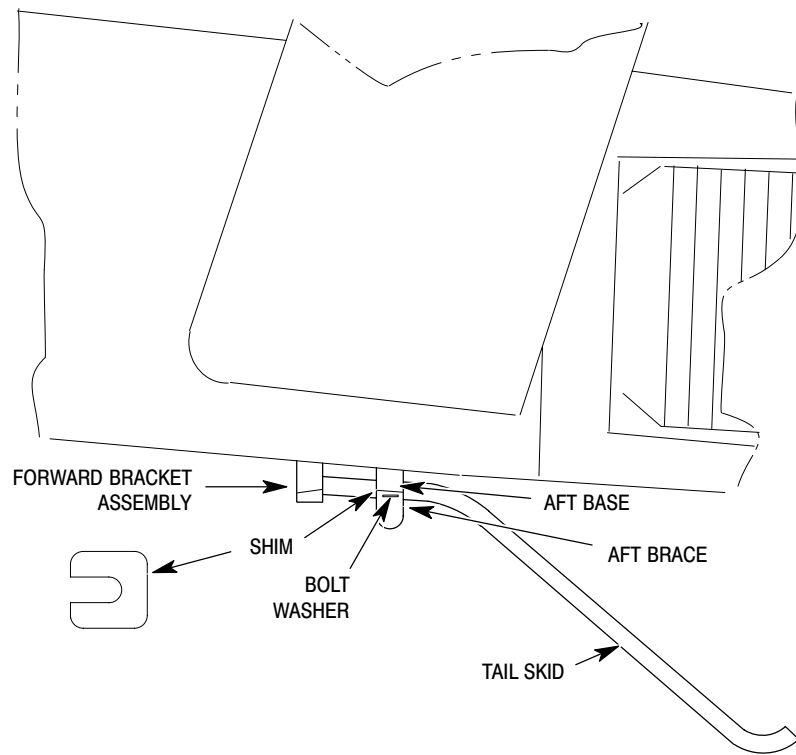
A. Tail Skid Removal

- (1). Remove two bolts with washers from aft tail skid brace.
- (2). Retain shims between base and brace if same tail skid is to be reinstalled.
- (3). Slide tail skid from forward bracket assembly.

B. Tail Skid Installation

- (1). Slide tail skid into forward bracket assembly.
- (2). Install aft brace onto aft base.
- (3). If reinstalling the same tail skid:

- (a). Insert removed shims and install two bolts and washers.
- (b). Torque bolts to **36 - 40 Inch-pounds (3.95 - 4.52 Nm) plus drag torque.**
- (4). If installing a new tail skid:
 - (a). Install bolts finger tight, ensure gap is even on both sides.
 - (b). Measure gap between brace and base.
 - (c). Subtract 0.010 in. (0.254 mm) and peel shims to that thickness.
 - (d). Insert shims between brace and base and torque bolts to **36 - 40 Inch-pounds (3.95 - 4.52 Nm) plus drag torque.**



G53-4006

Figure 205. Tail Skid Installation

This Page Intentionally Left Blank