

NOTICE

Revision 5 updates the Tail Rotor Pitch Change Procedures in Chapter 65.

Please incorporate these updates into the Maintenance Manual in accordance with the Log of Pages (attached).

Bell Helicopter would also like to thank its Customers for providing us with Customer Feedback information. This information is very much appreciated and allows us to improve the quality of our manuals with each revision.

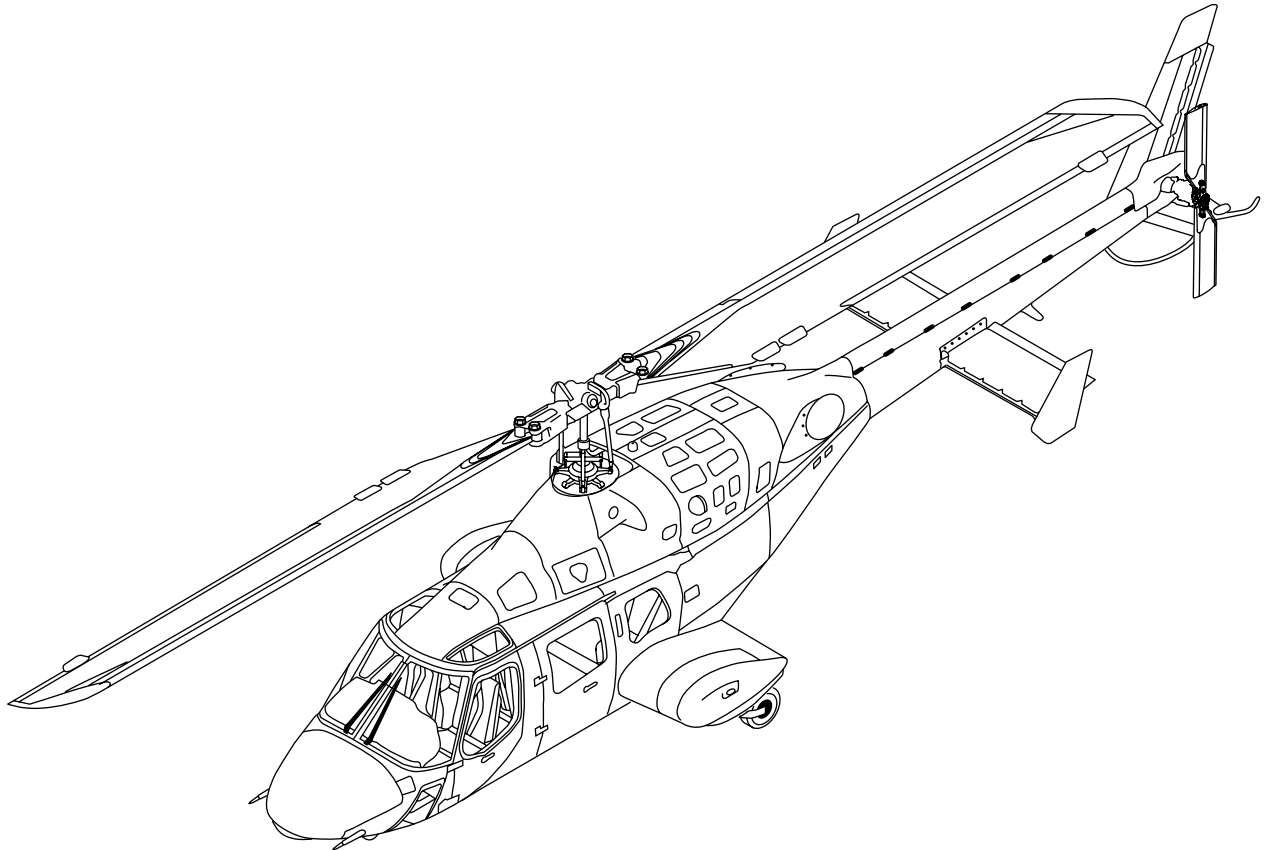
Bell Helicopter

A Textron Company

POST OFFICE BOX 482 • FORT WORTH, TEXAS 76101

12 FEBRUARY 1998
REVISION 5 — 15 DECEMBER 2006

Bell MODEL **222/222B**



MAINTENANCE MANUAL

VOLUME 1

GENERAL INFORMATION

NOTICE

The instructions set forth in this manual, as supplemented or modified by Alert Service Bulletins (ASB) or other directions issued by Bell Helicopter Textron Inc. and Airworthiness Directives (AD) issued by the applicable regulatory agencies, shall be strictly followed.

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LOG OF REVISIONS

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On a revised page, the text and/or illustration affected by the latest revision is shown by a vertical line. A revised page with only a vertical line next to the page number indicates that text has shifted or that non-technical correction(s) were made on that page.

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H ELP

E VALUATE

L OGISTICS

P UBLICATIONS

Have you found something wrong with this manual — an error, an inconsistency, unclear instructions, etc.? Although we strive for accuracy and clarity, we may make errors on occasion. If we do and you discover it, we would appreciate your telling us about it so that we can change whatever is incorrect or unclear. Please be as specific as possible.

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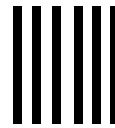
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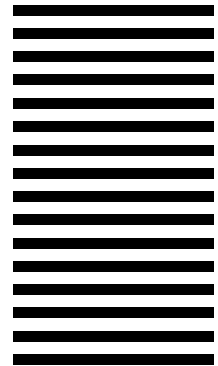
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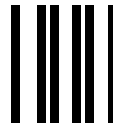
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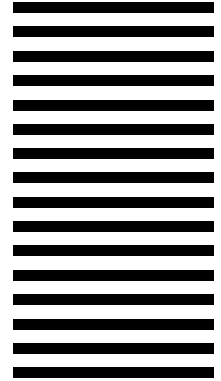


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January 1, 1996

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TAIL ROTOR PITCH CHANGE MECHANISM

65-76. TAIL ROTOR PITCH CHANGE MECHANISM.

The tail rotor pitch change mechanism mounts on the output shaft of the tail rotor gearbox. Movement of the directional control system is transmitted to the tail rotor by the pitch change mechanism. The mechanism is connected to the directional control system by a lever and idler mounted to the gearbox case.

65-77. REMOVAL — TAIL ROTOR PITCH CHANGE MECHANISM.

1. Remove idler (6, Figure 65-30) and lever (10) as follows:

a. Remove cotter pin (8), nut (7), washers (5), and bolt (4). Separate idler (6) from lever (10). Remove inner race (9).

b. Remove cotter pin (17), nut (16), washers (3), and bolt (2). Remove idler (6) from boss of tail rotor gearbox (1).

c. Remove cotter pin (15), nut (14), washers (12), and bolt (11).

d. Remove cotter pins (19), nuts (18), washers (20), and bolts (21). Remove lever (10).

2. Remove control assembly (22), pitch links (38), and counterweight links (33) as follows:

a. Removal tail rotor hub and blades. (Refer to Paragraph 65-68.)

b. Remove cotter pin (40), nut (39), washers (41), and bolt (42). Remove pitch link (38). Remove other pitch link (38) in same manner.

c. Remove cotter pin (32), nut (31), washers (30), and bolt (29). Remove cotter pin (35), nut (34), washers (36), and bolt (37). Remove counterweight link (33). Remove other counterweight link (33) in same manner.

d. Remove lockwire securing boot (23) to nut (24). Straighten edges of lockplates (25 and 27). Hold nut (24) and loosen nut (28). Remove nut (28),

lockplate (27), support (26), lockplate (25), and nut (24).

e. Remove lockwire securing boot (23) to control assembly (22) and remove boot.

f. Remove control assembly (22) from gearbox output shaft.

NOTE

Refer to Component Repair and Overhaul Manual for disassembly of control assembly (22).

65-78. INSPECTION AND REPAIR — TAIL ROTOR PITCH CHANGE MECHANISM.

NOTE

Refer to Component Repair and Overhaul Manual for more detailed inspection and repair procedures.

1. Inspect and repair components of pitch change mechanism in accordance with Component Repair and Overhaul Manual.

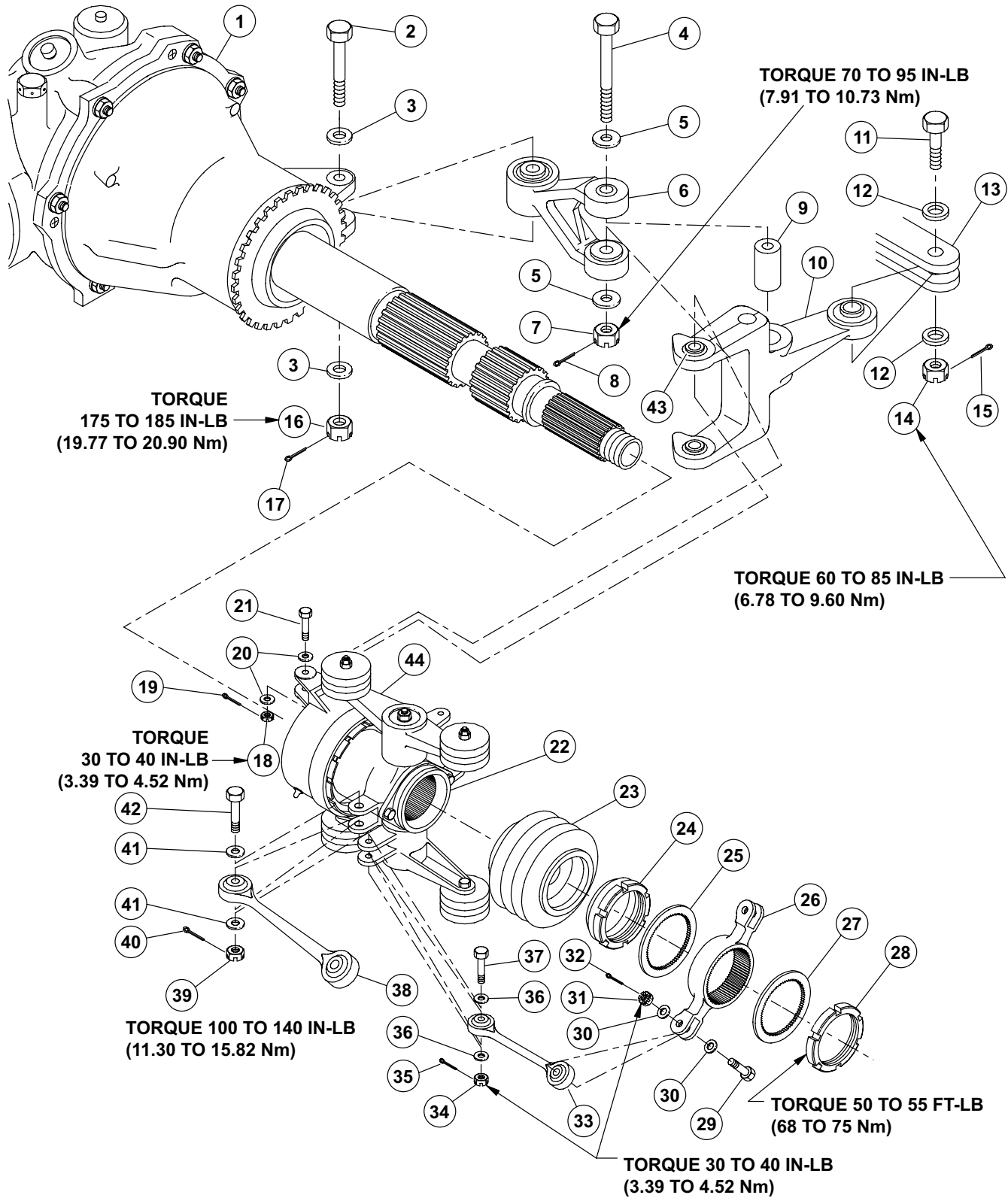
2. Inspect bearings in idler (6, Figure 65-30), lever (10), pitch links (38) and counterweight links (33) for roughness and wear. (Refer to BHT-ALL-SPM for bearing wear limits.)

3. Inspect nuts (24 and 28) for damaged threads.

4. Inspect boot (23) for deterioration.

5. Check bearings in control assembly (22) for evidence of roughness and wear.

6. Inspect input lever bearing (43) bore diameter for damage or corrosion. Maximum bore diameter after cleanup may not exceed 0.755 inch (19.18 millimeters).



430_MM_64_0001+

Figure 65-30. Tail Rotor Pitch Change Mechanism (Sheet 1 of 2)

- | | |
|-------------------------|-----------------------------|
| 1. Tail rotor gearbox | 23. Boot |
| 2. Bolt | 24. Nut |
| 3. Washer | 25. Lockplate |
| 4. Bolt | 26. Support |
| 5. Washer | 27. Lockplate |
| 6. Idler | 28. Nut |
| 7. Nut | 29. Bolt |
| 8. Cotter pin | 30. Washer |
| 9. Inner race | 31. Nut |
| 10. Lever | 32. Cotter pin |
| 11. Bolt | 33. Counterweight link |
| 12. Washer | 34. Nut |
| 13. Control tube clevis | 35. Cotter pin |
| 14. Nut | 36. Washer |
| 15. Cotter pin | 37. Bolt |
| 16. Nut | 38. Pitch link |
| 17. Cotter pin | 39. Nut |
| 18. Nut | 40. Cotter pin |
| 19. Cotter pin | 41. Washer |
| 20. Washer | 42. Bolt |
| 21. Bolt | 43. Bearing |
| 22. Control assembly | 44. Counterweight bellcrank |

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Figure 65-30. Tail Rotor Pitch Change Mechanism (Sheet 2 of 2)

65-79. INSTALLATION — TAIL ROTOR PITCH CHANGE MECHANISM.

MATERIALS REQUIRED

Refer to BHT-ALL-SPM for specifications and source.

NUMBER	NOMENCLATURE
C-001	Grease
C-104	Corrosion Preventive Compound
C-352	Retaining Compound
C-447	Lockwire

1. Apply grease (C-001) to the splines of control assembly (22, Figure 65-30), and inboard set of splines at the tail rotor gearbox output shaft.

2. Apply corrosion preventive compound (C-104) to the remaining splines of the tail rotor gearbox output shaft. Place the control assembly (22) on output shaft of the tail rotor gearbox (1).

3. Connect idler (6) to boss on tail rotor gearbox (1) with bolt (2), washers (3), and nut (16). Torque nut (16), 175 to 185 inch-pounds (19.77 to 20.90 newton-meters). Install cotter pin (17).

4. Install bearing (43) in lever (10) as follows:

a. Clean corrosion preventive compound from exterior of bearing (43) and bore of input lever (10) at bearings (43) location.

NOTE

Cure time of retaining compound (C-352) at room temperature is 30 minutes. Complete steps through subparagraph 5. while retaining compound is still wet.

b. Apply retaining compound (C-352) (Loctite #609 with Primer "T") to bore of input lever (10).

c. Install bearing (43) in lever (10).

5. Connect each lug of lever (10) to control assembly (22) with bolt (21), washers (20), and nut (18) while retaining compound is wet. Torque nuts (18) 30 to 40 inch-pounds (3.39 to 4.52 newton-meters), install cotter

pins (19) and bend around nuts (18). Allow retaining compound to cure.

6. Position inner race (9) in lever (10). Connect idler (6) to lever (10) with bolt (4), washers (5), and nut (7). Torque nut (7) 70 to 95 inch-pounds (7.91 to 10.73 newton-meters). Install cotter pin (8).

7. Connect lever (10) to control tube clevis (13) with bolt (11), washers (12), and nut (14). Torque nut (14) 60 to 85 inch-pounds (6.78 to 9.60 newton-meters). Install cotter pin (15).

8. Install boot (23) and secure to control assembly (22) with lockwire (C-447).

9. Install and position counterweight links (33) as follows:

a. Connect each counterweight link (33) to bellcrank on control assembly (22) with bolt (37), washers (36), and nut (34). Torque nut (34) 30 to 40 inch-pounds (3.39 to 4.52 newton-meters). Install cotter pins (35).

b. Install nut (24), lockplate (25), support (26), lockplate (27), and nut (28) on threaded splines of tail rotor gearbox output shaft. Tighten nuts (24 and 28) enough to hold support (26) snug.

c. Ensure that directional controls are properly rigged. (Refer to Chapter 27.) Position pitch change housing to obtain 4.63 to 4.65 inches (117.6 to 118.1 millimeters) dimension shown on Figure 65-31.

d. Position nuts (24 and 28, Figure 65-30) as follows:

(1) Place centerline of counterweight bellcranks parallel with centerline of tail rotor gearbox output shaft.

(2) Adjust position of nuts (24 and 28) until bearings in counterweight links (33) align with holes in support (26).

(3) Hold nut (24) in this position and tighten nut (28) firmly against lockplate (27).

(4) Install tail rotor, but do not connect pitch links. (Refer to Paragraph 65-70.)

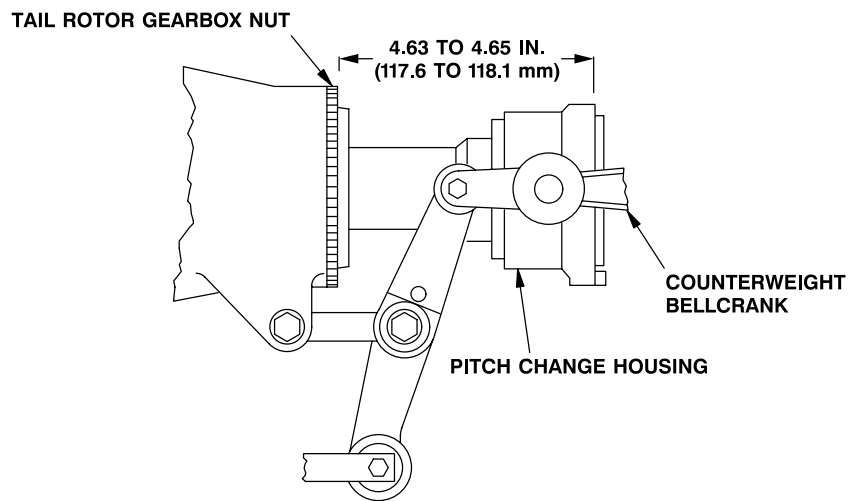


Figure 65-31. Tail rotor pitch change mechanism positioning

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