



Helicopter Technology Company

Maintenance Manual

HTCM-001

**Part Number 500P2100 All Variants, 500P2300 All Variants,
369D21120 All Variants, 369D21121 All Variants, and
369D21123 All Variants
MAIN ROTOR BLADES
(Installation and Maintenance)**

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F	Released (Incorporates HTCM-003 Manual and Revises T/E Inspection)	01/15/04	GHB
G	Released (Adds -105, -305, and -505 Configurations)	01/11/08	GHB
H	Released (Revises Lives of -303, and -305 Configurations)	02/12/09	GHB

Note

All references below are to be found in the Hughes/MD Helicopters, Inc. Customer Service Publications – Basic Handbook of Maintenance Instructions (CSP-HMI-2) and Basic Handbook of Maintenance Instructions (CSP-H-2).

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Sheet 1 of 51 – HTC Proprietary Data Not to be Distributed

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PURPOSE

The purpose of this document is to both provide instructions for Maintenance and Use of HTC produced Main Rotor Blades and to provide an index to the relevant Chapters or Sections of the Hughes/MD Helicopters, Inc. Basic Handbook of Maintenance Instructions. CSP-HMI-2 shall be referenced for 369D, 369E, 369FF, 500N, and 600N Models. CSP-H-2 shall be referenced for 369A, 369H, 369HE, 369HM, and 369HS Models. The referenced Chapters or Sections apply to the installation and maintenance of HTC Rotor Blade Part Numbers 500P2100-BSC, -BSC-1, -101, -103, -105, -301, -303, and -305 and 500P2300-501, -503, and -505 Main Rotor Blades.

It is extremely important that these relevant sections of the Hughes/MD Helicopters, Inc. Maintenance Instructions be followed precisely.

Note: All references below are to be found in the Hughes/MD Helicopters, Inc. Customer Service Publications – Basic Handbook of Maintenance Instructions (CSP-HMI-2) or Basic Handbook of Maintenance Instructions (CSP-H-2) as appropriate.

Note: HTC has used the best possible materials for the construction of its rotor blades.

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Reference Documents

1. Mandatory Service Bulletin – 2100-2R2 – Inspection of Main Rotor Blade, Helicopter Technology Company, Los Angeles, California.
2. Mandatory Service Bulletin – 2100-3R3 – Main Rotor Blade Torque Event Inspection, Helicopter Technology Company, Los Angeles, California.
3. Mandatory Service Bulletin – 2100-4R2 – Main Rotor Blade Corrosion Inspection and Protection, Helicopter Technology Company, Los Angeles, California.
4. Customer Service Publications – Basic Handbook of Maintenance Instructions (CSP-HMI-2), Hughes/MD Helicopters, Inc., Mesa, Arizona [for 369D, 369E, 369FF, 500N, and 600N Models].
5. Customer Service Publications – Basic Handbook of Maintenance Instructions (CSP-H-2), Hughes/MD Helicopters, Inc., Mesa, Arizona [for 369A, 369H, 369HE, 369HM, and 369HS Models].
6. Customer Service Publications – Airworthiness Limitations, Overhaul and Replacement Schedules, Periodic Inspections, and Weight and Balance Procedures – Appendix B (CSP-H-4), Hughes/MD Helicopters, Inc., Mesa, Arizona [for 369A, 369H, 369HE, 369HM, and 369HS Models].

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Chapter 4 Airworthiness Limitations

Revision	Date	FAA Signature and Date
F	01/15/04	Signature on File
G	01/11/08	Signature on File
H	02/12/09	<i>John J. Cecil</i>

Interchangeability and Life Limit

500P2100-BSC

The Helicopter Technology Company (HTC) Part Number **500P2100-BSC (STC # SR09172RC)** Main Rotor Blade replaces the Hughes/MD Helicopters, Inc. Main Rotor Blade used on ROKA Model 500 MD Military Helicopters. The HTC blade is **fully interchangeable in any combination, is effective on 369D and E (H3WE)**, and carries an **on condition life-limit not to exceed 3,530 hours**.

Note: See CSP-HMI-2, Section 04-00-00, Note 37 for Reference to Torque Events (TE's). Perform inspection in accordance with **For 500P2100-BSC, -BSC-1, -101, -103, and -105 and 500P2300 All Variants: Torque Event (TE) Inspection** section below.

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500P2100-BSC-1

The Helicopter Technology Company (HTC) Part Number **500P2100-BSC-1 (STC # SR09172RC)** Main Rotor Blade replaces the Hughes/MD Helicopters, Inc. Main Rotor Blade used on ROKA Model 500 MD Military Helicopters. The HTC blade is **fully interchangeable in any combination, is effective on 369D and E (H3WE)**, and carries an **on condition life-limit not to exceed 3,530 hours**.

Note: See CSP-HMI-2, Section 04-00-00, Note 37 for Reference to Torque Events (TE's). Perform inspection in accordance with **For 500P2100-BSC, -BSC-1, -101, -103, and -105 and 500P2300 All Variants: Torque Event (TE) Inspection** section below.

500P2100-101

The Helicopter Technology Company (HTC) Part Number **500P2100-101 (STC # SR09074RC)** Main Rotor Blade replaces the Hughes/MD Helicopters, Inc. Part Number 369D21100-517 Main Rotor Blade. The HTC blade is **fully interchangeable in any combination, is effective on 369D and E (H3WE)**, and carries the **same life-limit of 3,530 hours**. This blade is also known as Part Number **369D21120-501**.

Note: See CSP-HMI-2, Section 04-00-00, Note 37 for Reference to Torque Events (TE's). Perform inspection in accordance with **For 500P2100-BSC, -BSC-1, -101, -103, and -105 and 500P2300 All Variants: Torque Event (TE) Inspection** section below.

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500P2100-103

The Helicopter Technology Company (HTC) Part Number **500P2100-103 (STC # SR09074RC)** Main Rotor Blade replaces the Hughes/MD Helicopters, Inc. Part Number 369D21100-517 Main Rotor Blade. The HTC blade is **fully interchangeable in any combination**, is **effective on 369D and E (H3WE)**, and carries the **same life-limit of 3,530 hours**. This blade is also known as Part Number **369D21120-503**.

Note: See CSP-HMI-2, Section 04-00-00, Note 37 for Reference to Torque Events (TE's). Perform inspection in accordance with **For 500P2100-BSC, -BSC-1, -101, -103, and -105 and 500P2300 All Variants: Torque Event (TE) Inspection** section below.

500P2100-105

The Helicopter Technology Company (HTC) Part Number **500P2100-105 (STC # SR09074RC)** Main Rotor Blade replaces the Hughes/MD Helicopters, Inc. Part Number 369D21100-517 Main Rotor Blade. The HTC blade is **fully interchangeable in any combination**, is **effective on 369D and E (H3WE)**, and carries the **same life-limit of 3,530 hours**. This blade is also known as Part Number **369D21120-505**.

Note: See CSP-HMI-2, Section 04-00-00, Note 37 for Reference to Torque Events (TE's). Perform inspection in accordance with **For 500P2100-BSC, -BSC-1, -101, -103, and -105 and 500P2300 All Variants: Torque Event (TE) Inspection** section below.

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500P2300-501

The Helicopter Technology Company (HTC) Part Number **500P2300-501 (STC # SR01050LA)** Main Rotor Blade replaces the MD Helicopters, Inc. Part Number 369D21102-523 Main Rotor Blade. The HTC blade is **fully interchangeable in any combination, is effective on 369FF, 500N, and 600N (H3WE)**, and carries the **life-limits: 3,430 hours on Models 369FF and 500N and either 3,200 hours or a Retirement Index Number of 1,000,000 (1,000,000 RIN's) on the Model 600N**. This blade is also known as Part Number **369D21121-501**.

Note: See CSP-HMI-2, Section 04-00-00, Notes 32 and 33 for Reference to Retirement Index Numbers (RIN's).

Note: See CSP-HMI-2, Section 04-00-00, Note 37 for Reference to Torque Events (TE's). Perform inspection in accordance with **For 500P2100-BSC, -BSC-1, -101, -103, and -105 and 500P2300 All Variants: Torque Event (TE) Inspection** section below.

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500P2300-503

The Helicopter Technology Company (HTC) Part Number **500P2300-503 (STC # SR01050LA)** Main Rotor Blade replaces the MD Helicopters, Inc. Part Number 369D21102-523 Main Rotor Blade. The HTC blade is **fully interchangeable in any combination, is effective on 369FF, 500N, and 600N (H3WE)**, and carries the **life-limits: 3,430 hours on Models 369FF and 500N and either 3,200 hours or a Retirement Index Number of 1,000,000 (1,000,000 RIN's) on the Model 600N**. This blade is also known as Part Number **369D21121-503**.

Note: See CSP-HMI-2, Section 04-00-00, Notes 32 and 33 for Reference to Retirement Index Numbers (RIN's).

Note: See CSP-HMI-2, Section 04-00-00, Note 37 for Reference to Torque Events (TE's). Perform inspection in accordance with **For 500P2100-BSC, -BSC-1, -101, -103, and -105 and 500P2300 All Variants: Torque Event (TE) Inspection** section below.

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500P2300-505

The Helicopter Technology Company (HTC) Part Number **500P2300-505 (STC # SR01050LA)** Main Rotor Blade replaces the MD Helicopters, Inc. Part Number 369D21102-523 Main Rotor Blade. The HTC blade is **fully interchangeable in any combination, is effective on 369FF, 500N, and 600N (H3WE)**, and carries the **life-limits: 3,430 hours on Models 369FF and 500N and either 3,200 hours or a Retirement Index Number of 1,000,000 (1,000,000 RIN's) on the Model 600N**. This blade is also known as Part Number **369D21121-505**.

Note: See CSP-HMI-2, Section 04-00-00, Notes 32 and 33 for Reference to Retirement Index Numbers (RIN's).

Note: See CSP-HMI-2, Section 04-00-00, Note 37 for Reference to Torque Events (TE's). Perform inspection in accordance with **For 500P2100-BSC, -BSC-1, -101, -103, and -105 and 500P2300 All Variants: Torque Event (TE) Inspection** section below.

04-00-00 Airworthiness Limitations

1. General

Airworthiness Limitations

2. Component Mandatory Replacement

Refer to Chapter 04-00-00.

3. Component Mandatory Inspections

Refer to Chapter 04-00-00.

4. Retirement Index Number (RIN)

Refer to Chapter 04-00-00.

5. Torque Event (TE)

Refer to Chapter 04-00-00.

6. External Lift and Torque Event (TE) Requirements

Refer to Chapter 04-00-00.

Table 1. Airworthiness Limitations Component Mandatory Replacement Schedule

Refer to Chapter 04-00-00 and Table 1.

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Chapter 5 Continued Airworthiness

05-00-00 CONTINUED AIRWORTHINESS

Checks/Inspections

1. General Description of Inspections

Refer to Chapter 05-00-00.

05-10-00 CONTINUED AIRWORTHINESS

Component Overhaul/Recommended Replacement

1. Component Overhaul or Recommended Replacement Schedule

Refer to Chapter 05-10-00.

05-20-00 CONTINUED AIRWORTHINESS

100-Hour or Annual Inspection Checklist

1. 100-Hour or Annual Inspection

Refer to Chapter 05-20-00.

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05-20-10 CONTINUED AIRWORTHINESS

300-Hour Inspection Checklist

1. 300-Hour Inspection

Refer to Chapter 05-20-10.

05-20-15 CONTINUED AIRWORTHINESS

Yearly Inspection Checklist

1. Yearly Inspection

Note: Not Applicable to Helicopter Technology Company Rotor Blades.

05-20-20 CONTINUED AIRWORTHINESS

Special Inspections

1. Special Inspections Hourly and Calendar

Note: Not Applicable to Helicopter Technology Company Rotor Blades.

05-50-00 CONTINUED AIRWORTHINESS

Conditional Inspections

1. Conditional Inspections

After a Hard Landing

Refer to Chapter 05-50-00.

After a Main Rotor Overspeed

Refer to Chapter 05-50-00.

After Airspeed 10% Beyond V_{NE} Limit

Refer to Chapter 05-50-00.

After Main Rotor Blade/Drive System Sudden Stoppage

Refer to Chapter 05-50-00.

After Tail Boom Strike

Refer to Chapter 05-50-00.

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Chapter 18 Vibration and Noise Analysis

18-10-00 MAIN ROTOR TRACK AND BALANCE

Maintenance Practices

1. Main Rotor Blade Tracking - General

Refer to Chapter 18-10-00.

Removal/Installation

1. Main Rotor System Tracking Equipment Installation

Refer to Chapter 18-10-00. Please see Figure 401 - Blade Tracking Equipment - Main Rotor Components and Figure 402 - Main Rotor Balancing Equipment Installation.

Adjustment/Test

1. Blade Tracking Procedure

Refer to Chapter 18-10-00. Please see Figure 501 - Track Conditions and Adjustments - Typical and Figure 502 - Adjustments Main Rotor Blade Tab.

Note: When using trim tab bending tool for tab adjustments, do not engage the tab deeper than the radius (i.e. 0.38 inches deep) as this can damage the trailing edge bond of the blade.

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8. Main Rotor System Balance Procedure

Refer to Chapter 18-10-00.

9. Main Rotor Autorotation RPM Check

Refer to Chapter 18-10-00.

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Chapter 62 Main Rotor

62-00-00 MAIN ROTOR

Fault Isolation

1. Main Rotor System - General Information

Refer to Chapter 62-00-00.

2. Main Rotor System Troubleshooting

Refer to Chapter 62-00-00.

62-10-00 MAIN ROTOR BLADE

Removal/Installation

1. Main Rotor Blade - General

Refer to Chapter 62-10-00.

2. Main Rotor Blade Replacement

Refer to Chapter 62-10-00.

3. Main Rotor Blade and Damper Attach Pin Installation and Adjustment

Refer to Chapter 62-10-00.

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Inspection/Check

1. Main Rotor Blade Inspection

Refer to Chapter 62-10-00.

2. Main Rotor Blade and Damper Attach Pin Inspection and Corrosion Protection

Refer to Chapter 62-10-00.

3. Main Rotor Blade and Damper Attach Pin Disassembly and Special Inspection

Refer to Chapter 62-10-00.

4. Main Rotor Blade Forward Tip Cap Inspection and Corrosion Protection

Refer to Chapter 62-10-00.

5. Main Rotor Blade Upper and Lower Root Fitting Attach Lug and Lead-Lag Link Attach Lug Inspection (25 Hour)

Refer to Chapter 62-10-00 except Slippage Mark Inspection is not applicable to Helicopter Technology Company Rotor Blades.

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6. Main Rotor Blade Upper and Lower Root Fitting Attach Lug and Lead-Lag Link Attach Lug Inspection (100 Hour)

Refer to Chapter 62-10-00 except Slippage Mark Inspection is not applicable to Helicopter Technology Company Rotor Blades.

7. Main Rotor Blade Leading Edge Abrasion Strip Check (For 500P2100-101, 103, and -105 and 500P2300 All Variants Only)

Refer to Chapter 62-10-00.

8. Main Rotor Blade Torque Event Inspection

Refer to Chapter 62-10-00.

Repairs

1. Main Rotor Blade Repair (Nicks, Scratches and Wear Spots)

Refer to Chapter 62-10-00.

2. Main Rotor Blade Repair (Dents, Depressions and Erosion)

Refer to Chapter 62-10-00.

3. Trim Tab Damage Repair

Refer to Chapter 62-10-00.

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4. Forward Tip Cap Threaded Insert Repair

Refer to Chapter 62-10-00.

5. Loose Balance Weight Repair

Refer to Chapter 62-10-00.

6. Loose Trailing Edge Weight Repair

Note: Not Applicable to Helicopter Technology Company Rotor Blades.

7. Loose or Missing Rivets or Aft Tip Cap Repair

Refer to Chapter 62-10-00.

8. Damper Attach Blade Fitting Bearing Replacement

Refer to Chapter 62-10-00.

9. Leading Edge Protective Tape Replacement

Note: Not Applicable to Helicopter Technology Company Rotor Blades.

10. Leading Edge Abrasion Strip Sealing (For 500P2100-101, -103, and -105 and 500P2300 All Variants Only)

Refer to Chapter 62-10-00.

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11. Tip Cap Sealing

Refer to Chapter 62-10-00.

12. Main Rotor Blade Protective Tape Installation

Refer to Chapter 62-10-00.

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SECTION 2 Servicing and General Maintenance

10. CORROSION CONTROL

F. Corrosion Arresting on Main Rotor Blades

Refer to Paragraph F.

11. PAINT FINISH

C. Main Rotor Blade Repainting

Refer to Paragraph C.

14. TORQUE DATA

A. Torque Wrenches

Refer to Paragraph A.

15. TORQUE WRENCH LOAD APPLICATION

Refer to Chapter 15. and Table 2-9. Special Torques (Main Rotor and Controls System and Main Rotor and Control System).

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SECTION 7 Main Rotor and Control System

2. MAIN ROTOR AND CONTROL SYSTEM TROUBLESHOOTING

Refer to Chapter 2. and Table 7-1. Troubleshooting Main Rotor Vibrations.

4. MAIN ROTOR BLADES

Refer to Chapter 4. and Figure 7-1. Main Rotor Control System.

5. MAIN ROTOR TRACKING

Refer to Chapter 5. Please see Figure 7-4. Installation of Main Rotor Blade Tracking Strobe, Figure 7-5. Main Rotor Blade Tab Adjustment, Figure 7-6. Typical Tracking Conditions and Adjustments, and Table 7-4. Summary Procedure for Blade Tracking.

6. MAIN ROTOR TRACKING EQUIPMENT INSTALLATION

Refer to Chapter 6. Please see Figure 7-4. Installation of Main Rotor Blade Tracking Strobe System.

7. MAIN ROTOR BLADE TRACK ADJUSTMENT

Refer to Chapter 7. Please see Figure 7-5. Main Rotor Blade Tab Adjustment, Figure 7-6. Typical Tracking Conditions and Adjustments, and Table 7-5 Autorotation RPM Chart.

A. Pitch Control Rod Adjustment

Refer to Paragraph A.

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B. Blade Tab Adjustment

Refer to Paragraph B.

C. Main Rotor Blade Ground Tracking

Refer to Paragraph C.

D. Hover Track Verification

Refer to Paragraph D.

E. Forward Flight Tracking

Refer to Paragraph E.

F. Autorotation RPM Check

Refer to Paragraph F.

G. Autorotation RPM Adjustment

Refer to Paragraph G.

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8. MAIN ROTOR BALANCING

Refer to Chapter 8. Please see Figure 7-7. Main Rotor Hub - Cross Section, Table 2-2. Ground Support Equipment and Special Tools. and Table 7-6. Main Rotor Balancing Hardware.

A. Balancing Equipment and Balance Spare Kit

Refer to Paragraph A.

B. Procedural Instruction

Refer to Paragraph B.

C. Balance Equipment Installation

Refer to Paragraph C.

D. Balancing Procedure

Refer to Paragraph D.

9. MAIN ROTOR BLADE REPLACEMENT

Refer to Chapter 9. Please see Figure 7-3. Main Rotor Blade Assembly.

A. Main Rotor Blade Removal

Refer to Paragraph A.

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B. Main Rotor Blade Installation

Refer to Paragraph B.

10. MAIN ROTOR BLADE INSPECTION

Refer to Chapter 10. Please see Figure 7-8. Main Rotor Blade Damage and Repair Limits – Nicks, Scratches, Gouges, and Cracks, Figure 7-9. Main Rotor Blade Damage and Repair Limits for Dents and Depressions, and Table 2-4. Maintenance Materials.

11. MAIN ROTOR BLADE REPAIR

Refer to Chapter 11. Please see Figure 7-8. Main Rotor Blade Damage and Repair Limits – Nicks, Scratches, Gouges, and Cracks, Figure 7-9. Main Rotor Blade Damage and Repair Limits for Dents and Depressions, and Table 2-4. Maintenance Materials.

A. Nicks, Scratches, and Wear Spots

Refer to Paragraph A.

B. Dents, Depressions, and Erosion

Refer to Paragraph B.

C. Forward Tip Cap Insert

Refer to Paragraph C.

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D. Loose Balance Weights

Refer to Paragraph D.

E. Loose or Missing Rivets or Aft Tip Cap

Refer to Paragraph E.

12. LEADING EDGE PROTECTION

Refer to Chapter 12. Please see Table 2-4. Maintenance Materials.

13. BEARING REPLACEMENT – DAMPER ATTACH, BLADE FITTING

Refer to Chapter 13. Please see Figure 7-10. Bearing Replacement – Main Rotor Blade Attach Fitting Repair, Table 2-2. Ground Support Equipment and Special Tools, and Table 2-4. Maintenance Materials.

14. REPAIR OF TRIM TAB AND TRAILING EDGE (369A1100 SERIES)

Note: This Chapter is also applicable to Helicopter Technology Company Rotor Blades.

Refer to Chapter 14. Please see Figure 7-9. Main Rotor Blade Damage and Repair Limits for Dents and Depressions and Figure 7-11. Repair and Removal of Trim Tab, Main Rotor Blade.

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15. MAIN ROTOR BLADE AND DAMPER ATTACH PIN INSPECTION AND CORROSION PROTECTION

Refer to Chapter 15. Please see Figure 7-3. Main Rotor Blade Assembly, Figure 7-12. Main Rotor Blade and Damper Attach Pin, and Table 2-4. Maintenance Materials.

16. MAIN ROTOR BLADE AND DAMPER ATTACH PIN DISASSEMBLY AND SPECIAL INSPECTION

Refer to Chapter 16. Please see Figure 7-12. Main Rotor Blade and Damper Attach Pin and Table 2-4. Maintenance Materials.

17. MAIN ROTOR BLADE AND DAMPER ATTACH PIN ADJUSTMENT

Refer to Chapter 17. Please see Figure 7-3. Main Rotor Blade Assembly.

18. MAIN ROTOR BLADE FORWARD TIP CAP INSPECTION AND CORROSION PREVENTION

Refer to Chapter 18. Please see Table 2-4. Maintenance Materials.

19. MAIN ROTOR BLADE UPPER AND LOWER ROOT FITTING ATTACH LUG INSPECTION (25 HOUR)

Refer to Chapter 19 except Slippage Mark Inspection is not applicable to Helicopter Technology Company Rotor Blades. Please see Figure 7-13. Main Rotor Blade Root Fitting Attach Lugs and Lead-Lag Link Assembly Inspection and Table 2-4. Maintenance Materials.

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20. MAIN ROTOR BLADE UPPER AND LOWER ROOT FITTING ATTACH LUG INSPECTION (100 HOUR)

Refer to Chapter 20 except Slippage Mark Inspection is not applicable to Helicopter Technology Company Rotor Blades. Please see Figure 7-13. Main Rotor Blade Root Fitting Attach Lugs and Lead-Lag Link Assembly Inspection and Table 2-4. Maintenance Materials.

21. MAIN ROTOR BLADE LEADING EDGE ABRASION STRIP CHECK

Refer to Chapter 21.

23. VIBRATION ABSORBER

Refer to Chapter 23. Please see Figure 7-15. Vibration Absorber and Table 2-4. Maintenance Materials.

A. Vibration Absorber Removal

Refer to Paragraph A.

B. Vibration Absorber Installation

Refer to Paragraph B.

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C. Vibration Absorber Inspection

Refer to Paragraph C.

D. Vibration Absorber Disassembly

Refer to Paragraph D.

E. Vibration Absorber Repair

Refer to Paragraph E.

F. Vibration Absorber Reassembly

Refer to Paragraph F.

G. Vibration Absorber Weighing

Refer to Paragraph G.

Chapter 4 Airworthiness Limitations

Revision	Date	FAA Signature and Date
F	01/15/04	Signature on File
G	01/11/08	Signature on File
H	02/12/09	<i>John L. Cecil</i>

Interchangeability and Life Limit

500P2100-301

The Helicopter Technology Company (HTC) Part Number **500P2100-301 (STC # SR09184RC)** Main Rotor Blade replaces the Hughes/MD Helicopters, Inc. Part Number 369A1100-507 Main Rotor Blade. The HTC blade is **fully interchangeable in any combination**, is **effective on 369A, H, HE, HM, and HS (H3WE)**, and carries the **same life-limit of 2,440 hours**. This blade is also known as Part Number **369D21123-501**.

500P2100-303

The Helicopter Technology Company (HTC) Part Number **500P2100-303 (STC # SR09184RC)** Main Rotor Blade replaces the Hughes/MD Helicopters, Inc. Part Number 369A1100-507 Main Rotor Blade. The HTC blade is **fully interchangeable in any combination**, is **effective on 369A, H, HE, HM, and HS (H3WE)**, and carries a **life-limit of 2,940 hours**. This blade is also known as Part Number **369D21123-503**.

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500P2100-305

The Helicopter Technology Company (HTC) Part Number **500P2100-305 (STC # SR09184RC)** Main Rotor Blade replaces the Hughes/MD Helicopters, Inc. Part Number 369A1100-507 Main Rotor Blade. The HTC blade is **fully interchangeable in any combination, is effective on 369A, H, HE, HM, and HS (H3WE)**, and carries a **life-limit of 2,940 hours**. This blade is also known as Part Number **369D21123-505**.

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04-00-00 Airworthiness Limitations

1. General

Refer to Paragraph 1.

AIRWORTHINESS LIMITATIONS

Note: This Chapter is also applicable to Helicopter Technology Company Rotor Blades.

Refer to Chapter 4. Please see Table 1. Airworthiness Limitations Component Mandatory Replacement Schedule.

2. Component Mandatory Replacement

Refer to Paragraph 2.

3. Component Mandatory Inspections

Refer to Paragraph 3.

4. Torque Events (TE)

Refer to Paragraph 4.

5. External Lift and Torque Event (TE) Requirements

Refer to Paragraph 5.

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05-00-00 Continued Airworthiness

Checks/Inspections

1. General Description of Inspections

Refer to Paragraph 1.

05-20-00 CONTINUED AIRWORTHINESS

100-Hour or Annual Inspection Checklist

1. 100-Hour or Annual Inspection

Refer to Section 1. Please see Table 1. 100-Hour or Annual Inspection.

2. Torque Event Attachment

Refer to Section 2. Please see Table 2. Permanent Record of Torque Events.

05-20-10 CONTINUED AIRWORTHINESS

300-Hour Inspection Checklist

1. 300-Hour Inspection

Refer to Section 1. Please see Table 1. 300-Hour Inspection.

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05-20-20 CONTINUED AIRWORTHINESS

Special Inspections

1. Special Inspection Hourly and Calendar

Refer to Section 1. Please see Table 1. Special Inspections Hourly and Table 2. Special Inspections Calendar.

05-50-00 CONTINUED AIRWORTHINESS

Conditional Inspections

1. Conditional Inspections

Refer to Section 1. Please see Table 1. Conditional Inspections.

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HTC SPECIFIC INSPECTIONS

For 500P2100 All Variants and 500P2300 All Variants: Honeycomb Rib Section Bond

CHECKS/INSPECTIONS

If any type of blade damage or strike occurs at the outboard 36 inches of the blade: a “Coin Tap” inspection of the honeycomb rib section needs to be performed. The zone to be inspected is bounded from 30.1 inches inboard of the Blade Tip to 4.4 inches inboard of the Blade Tip and 2.9 inches aft of the leading edge to 5.1 inches aft of the leading edge (See Figure 4 below). Perform this inspection on both the upper and lower surfaces of the blade.

Note: If any dis-bonds are detected, please contact HTC for further instructions and disposition of the blade.

For 500P2100-BSC and -BSC-1 ONLY: Leading Edge Erosion

CHECKS/INSPECTIONS

Daily: Visually inspect the leading edge of the blade for erosion through the blade skin (purple colored adhesive visible).

Note: If any adhesive (purple color) is visible through the leading edge of the blade skin, please contact HTC for further instructions and disposition of the blade.

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For 500P2100-301, -303, and -305 ONLY: Pendulum Mount Washer Bond

CHECKS/INSPECTIONS

Every 100 Hours: Visually inspect Pendulum Mount Washers for rotational displacement (i.e. mis-alignment of Torque-Seal stripe on washer) or evidence of powdery residue.

Note: If rotational displacement or evidence of powdery residue is detected, please contact HTC for further instructions and disposition of the blade.

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For 500P2100-BSC, -BSC-1, -101, -103, and -105 and 500P2300 All Variants: Torque Event (TE) Inspection

CHECKS/INSPECTIONS

1. Review the definition of a Torque Event (TE) (Reference MD Helicopters, Inc. CSP-HMI-2, Section 04-00-00, Torque Event (TE)).
2. Review Rotorcraft Log Book entries to determine current number of TE's accumulated (actual usage) on each main rotor blade. If the current number of TE's cannot be reliably determined, 13,720 TE's shall be used.
3. Record current number of TE's accumulated (actual usage) on each main rotor blade in Rotorcraft Log Book. Continue to record the number of TE's accumulated (actual usage) throughout the life of the main rotor blades.
4. Determine main rotor blade TE inspection interval using current number of TE's per Limitations Component Mandatory Replacement Schedule (Reference MD Helicopters, Inc. CSP-HMI-2, Section 04-00-00, Table 1. Airworthiness Limitations Component Mandatory Replacement Schedule).

5. Inspect main rotor blades at the required interval per Main Rotor Blade Torque Event Inspection (Reference MD Helicopters, Inc. CSP-HMI-2, Section 62-10-00).

Note: A record of TE's must be kept (Reference MD Helicopters, Inc. CSP-HMI-2, Section 04-00-00, Table 1. Airworthiness Limitations Component Mandatory Replacement Schedule)

Note: It is recommended to paint the inboard 24 inches (Not to be exceeded) of the blade Gloss White to aid in crack detectability. If this is done, all blades must be painted alike and Re-Balanced (Reference MD Helicopters, Inc. CSP-HMI-2, Section 20-30-00, 4. Main Rotor Blade Paint).

6. In addition, inspect the **Outboard Periphery of the Bottom Doubler and Bottom Root Fitting** for cracks (Figure 1). **Lift outboard end of the blade off the droop stop** by the blade outboard end. Use a **10x Magnifying Glass**. Any evidence of cracking scraps the blade.

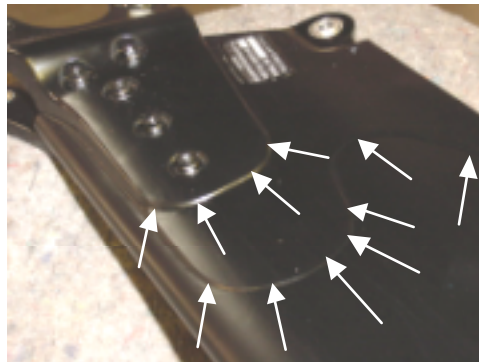


Figure 1 - Inboard Area of Main Rotor Blade - Bottom Side

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7. Record compliance of this Service Bulletin in the Technical Directives and Bulletins section of the rotor blade Serviceable Component Record.
8. For further information and rotor blade disposition, contact Helicopter Technology Company, LLC (HTC) at (310) 523-2750, or FAX (310) 523-2745.

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For 500P2100 All Variants and 500P2300 All Variants: Corrosion Inspection and Protection

REQUIRED MATERIALS

1. Sealant, Two-Part Epoxy, DP-190, 3M Corporation or Sealant per MIL-S-8802, Type II, Class B-2 (e.g. Pro-Seal)
2. Liquid Wax, Turtle Wax T-123, Turtle Wax Inc., Chicago, Illinois or equivalent
3. Naphtha
4. Kim Wipes or equivalent clean lint-free wipes.

STORAGE REQUIREMENTS

1. Blades shall be stored in a container designed for storage of Blades.
2. Blades shall be stored so that moisture is not enclosed in the container.
3. Blades shall not be permitted to be in contact with standing or pooling water.
4. Blades shall be inspected periodically to verify that there is no visible corrosion.
5. Blades shall have required Sealant in place prior to storage.
- 6) Blades should be Waxed prior to storage.

INSPECTION AND PROTECTION INSTRUCTIONS

1. Clean area thoroughly with Solvent. Naphtha is recommended. MPK, MEK, or Acetone should not be used as they will remove the pigment from the black paint.
2. Inspect areas as shown in Figure 2 and Figure 3 for Active Corrosion. Any evidence of corrosion in these areas is cause for scrapping of the blade.
3. If areas do not have Sealant in place, apply small bead of Sealant around peripheries (top and bottom surfaces) of Root Fitting Bushings (inside and outside), around peripheries of Root Fitting-to-Doubler Bond-Lines, around peripheries of Doubler-to-Skin Bond-Lines, around Abrasion Strip-to-Skin Bond Lines, and around the Tip End of the Blade as shown in Figure 2 and Figure 3 below. Ensure that the center portion of each of the Tip Cap Rivets (2 Places, Top and Bottom Side of Blade – Figure 3) are sealed to prevent water/moisture from entering the blade.
4. Wax all painted surfaces of blades in accordance Wax manufacturer's instructions.

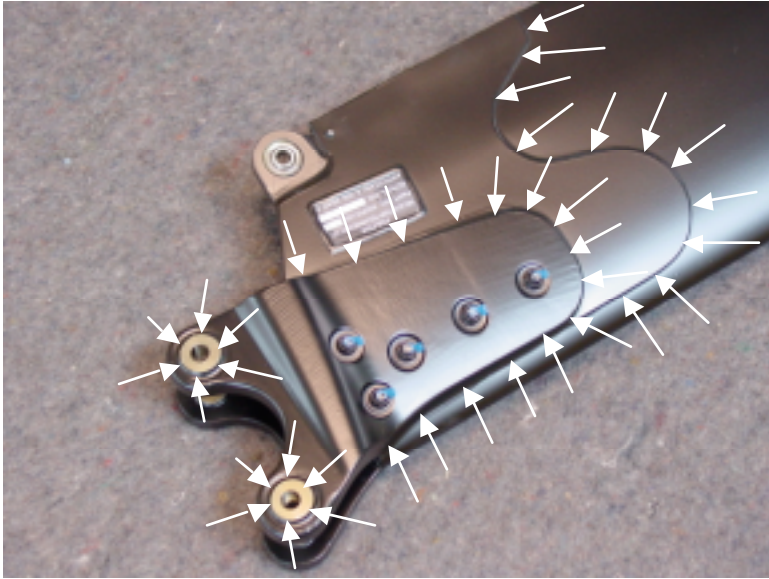


Figure 2 - Main Rotor Blade Root End Affected Areas (Bottom Side Shown)
 – Same Applies to Top Side)

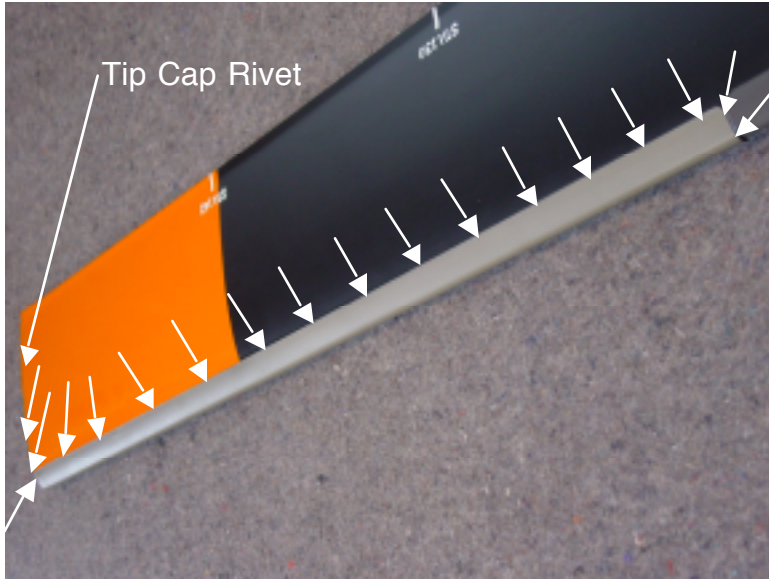


Figure 3 - Main Rotor Blade Tip End Affected Areas (Top Side Shown)
 – Same Applies to Bottom Side)

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5. Record compliance of this Service Bulletin in the Technical Directives and Bulletins section of the rotor blade Serviceable Component Record.
6. For further information and rotor blade disposition, contact Helicopter Technology Company, LLC (HTC) at (310) 523-2750, or FAX (310) 523-2745.

HTC SPECIAL NOTES

For 500P2100 All Variants and 500P2300 All Variants: Appearance of Tip End of Blade Assembly

RIB SECTION AND BALANCE WEIGHT

On many Blade Assemblies there may be a protrusion or depression around the periphery of the Rib Section (Honeycomb) or Balance Weight (Tomahawk). See **Figure 4** for location of the Rib Section (Honeycomb) and Balance Weight (Tomahawk). This is a natural effect of the manufacturing process and is not indicative of any disorder with the blade.

Note: If the protrusion/depression exceeds 0.025 inches deviation from the airfoil contour, please contact HTC for further instructions and disposition of the blade.

Note: A protrusion or depression around the periphery of the Honeycomb Section or Balance Weight (Tomahawk) is not indicative of any disorder with the blade. **This is only applicable to Blade Assemblies that have not been damaged.**

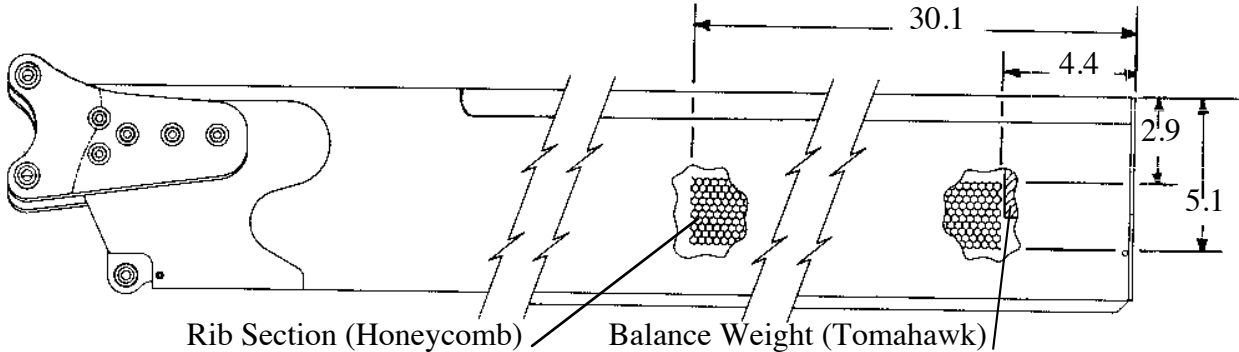


Figure 4
Location of Honeycomb Section and Balance Weight in Tip End of Blade Assembly