

ALERT SERVICE BULLETIN
Bell Helicopter **TEXTRON**

A Subsidiary of Textron Inc.

NO. 222U-06-74

DATE Nov 21, 2006

PAGE 1

DATE
REV

MODEL AFFECTED: 222U

SUBJECT: ENGINE - GEARBOX - REMOVAL AND REPLACEMENT OF LOCKING CUP PART NO. 4-082-094-01

HELICOPTERS AFFECTED: All Model 222U helicopters

COMPLIANCE: See vendor bulletin.

DESCRIPTION:

The purpose of this bulletin is to achieve complete distribution of the attached vendor bulletin to the current affected model distribution list on record by Bell Helicopter.

APPROVAL:

See vendor bulletin approval.

Honeywell

Honeywell International Inc.
P.O. Box 29003
Phoenix, AZ 85038-9003
U.S.A.
CAGE: 99193
Telephone: (800) 601-3099 (U.S.A.)
Telephone: (602) 365-3099 (International)
Web site: <https://pubs.cas.honeywell.com>

SERVICE BULLETIN

Category 1: Safety

ENGINE - GEARBOX - Removal and Replacement of Locking Cup Part No. 4-082-094-01

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LTS101-72-60-0244

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SERVICE BULLETIN

LTS101-650B-1 Part No. 4-001-000-12
LTS101-650C-3/C-3A Part Nos. 4-002-000-05/-07
LTS101-750B-1/-2 Part Nos. 4-001-000-25/-28
LTS101-750C-1 Part No. 4-002-000-06
LTS101-850B-2 Part No. 4-001-000-35

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LTS101-72-60-0244

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SERVICE BULLETIN

LTS101-650B-1 Part No. 4-001-000-12
LTS101-650C-3/C-3A Part Nos. 4-002-000-05/-07
LTS101-750B-1/-2 Part Nos. 4-001-000-25/-28
LTS101-750C-1 Part No. 4-002-000-06
LTS101-850B-2 Part No. 4-001-000-35

1. Planning Information

A. Effectivity

- (1) LTS101-650B-1 Part No. 4-001-000-12, BK117.
- (2) LTS101-650C-3 Part No. 4-002-000-05, Bell 222.
- (3) LTS101-650C-3A Part No. 4-002-000-07, Bell 222.
- (4) LTS101-750B-1 Part No. 4-001-000-25, BK117.
- (5) LTS101-750B-2 Part No. 4-001-000-28, HH-65A.
- (6) LTS101-750C-1 Part No. 4-002-000-06, Bell 222 UT/B.
- (7) LTS101-850B-2 Part No. 4-001-000-35, HH-65B.

B. Concurrent Requirements

Service Bulletin LTS101-72-50-0174, Engine - Turbine Section - Introduction of Thrust System, (revision 5 or later).

C. Reason

WARNING: FAILURE TO COMPLY WITH THIS SERVICE BULLETIN COULD RESULT IN DISTRESS OF LOCKING CUP PART NO. 4-082-094-01. IF LEFT UNMONITORED AND UNCORRECTED, DISTRESS OF LOCKING CUP PART NO. 4-082-094-01 COULD LEAD TO A POTENTIAL LOSS OF ENGINE POWER OR AN INFLIGHT SHUTDOWN AND COULD RESULT IN SEVERE PERSONAL INJURY, DAMAGE TO THE AIRCRAFT, AND/OR DEATH.

- (1) Honeywell Inc. discovered a Locking Cup Part No. 4-082-094-01 that fractured and resulted in a loss of engine power. An investigation found the locking cup to be below the specified hardness requirement. Locking cups below the specified hardness requirement could reduce the effectiveness of the locking feature.
- (2) Shim Part Nos. 4-082-088-01 through -10 are being replaced with hardened Shim Part No. 4-082-126-01 through -10 to improve resistance to fretting wear which was found on a limited number of in-service engines.

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LTS101-750C-1 Part No. 4-002-000-06
LTS101-850B-2 Part No. 4-001-000-35

D. Description

- (1) This service bulletin requires removal and replacement of Locking Cup Part No. 4-082-094-01 with Locking Cup Part No. 4-082-094-02 and Shim Part Nos. 4-082-088-01 through -10 with Shim Part Nos. 4-082-126-01 through -10 as required by correct engine build clearance of Py probe.
- (2) This service bulletin also requires using updated assembly procedures in Service Bulletin LTS101-72-50-0174 (revision 5 or later).

E. Compliance

- (1) Compliance addresses safety. Compliance must be accomplished in accordance with the drawdown schedules in Table 1 or Table 2 for engines not listed within Table 1.
- (2) Engines in compliance with Service Bulletin LTS101-72-50-0174 (revision 5 or later), are in compliance with this service bulletin. Operators in compliance may proceed to paragraph 3E of this service bulletin.

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 LTS101-750C-1 Part No. 4-002-000-06
 LTS101-850B-2 Part No. 4-001-000-35

Table 1. Drawdown Schedule

Hours:	Action:		
0 - 1800 hours time since last engine repair or since new:	This service bulletin must be performed within 500 engine operating hours after receipt of this service bulletin, at next access to the thrust kit, or by August 31, 2007, whichever comes first.		
Spare engines:	This service bulletin must be performed by August 31, 2007, or prior to installation, whichever comes first.		
Engine Serial Numbers:			
LE45026	LE47072	LE45239	LE45766
LE45032	LE47139	LE45240	LE45822
LE45042	LE47190	LE45252	LE45823
LE45048	LE41040	LE45264	LE45837
LE45049	LE41084	LE45265	LE45839
LE45101	LE41104	LE45267	LE45989
LE45103	LE41147	LE45288	LE47017
LE45105	LE41217	LE45292	LE47021
LE45110	LE41229	LE45296	LE47022
LE45121	LE41239	LE45297	LE47027
LE45156	LE45018	LE45318	LE47031
LE45157	LE45022	LE45321	LE47054
LE45167	LE45026	LE45322	LE47059
LE45170	LE45028	LE45331	LE47071
LE45215	LE45029	LE45342	LE47072
LE45217	LE45037	LE45351	LE47076
LE45223	LE45039	LE45370	LE47079
LE45232	LE45045	LE45373	LE47083
LE45290	LE45052	LE45381	LE47087
LE45301	LE45060	LE45386	LE47088
LE45304	LE45062	LE45387	LE47090
LE45311	LE45064	LE45504	LE47092
LE45318	LE45065	LE45512	LE47095
LE45331	LE45067	LE45528	LE47097
LE45347	LE45072	LE45531	LE47100
LE45356	LE45079	LE45542	LE47102
LE45386	LE45085	LE45572	LE47133
LE45387	LE45091	LE45573	LE47137
LE45505	LE45091	LE45575	LE47142
LE45507	LE45094	LE45578	LE47167
LE45513	LE45105	LE45579	LE47172
LE45515	LE45107	LE45580	LE47178
LE45601	LE45116	LE45581	LE47183

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 LTS101-750C-1 Part No. 4-002-000-06
 LTS101-850B-2 Part No. 4-001-000-35

Table 1. Drawdown Schedule (Cont)

Hours:	Action:			
0 - 1800 hours time since last engine repair or since new:	This service bulletin must be performed within 500 engine operating hours after receipt of this service bulletin, at next access to the thrust kit, or by August 31, 2007, whichever comes first.			
Spare engines:	This service bulletin must be performed by August 31, 2007, or prior to installation, whichever comes first.			
Engine Serial Numbers:				
LE45602	LE45128	LE45584	LE47198	
LE45614	LE45130	LE45585	LE47201	
LE45620	LE45133	LE45586	LE47204	
LE45627	LE45139	LE45599	LE47231	
LE45653	LE45144	LE45601	LE48101	
LE45664	LE45176	LE45602	LE48122	
LE45665	LE45177	LE45624	LE48130	
LE45678	LE45184	LE45647	LE48131	
LE45689	LE45211	LE45701	LE48175	
LE45700	LE45215	LE45718	LE48177	
LE45705	LE45216	LE45719	LE48180	
LE45710	LE45217	LE45746	LE48181	
LE45759	LE45224	LE45757	LE48224	
LE47020	LE45225	LE45760	LE48225	
LE47046	LE45238	LE45765	LE48237	

Table 2. Drawdown Schedule - For Engine Serial Numbers Not Listed in Table 1

Hours:	Action:	
0 - 1800 hours time since last engine repair or since new:	This service bulletin must be performed at next access to the thrust kit after receipt of this service bulletin or by December 31, 2008, whichever comes first.	
Spare engines:	This service bulletin must be performed by December 31, 2008, or prior to installation, whichever comes first.	

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LTS101-750C-1 Part No. 4-002-000-06
LTS101-850B-2 Part No. 4-001-000-35

- F. Approval
The accomplishment instructions section is approved by the FAA.
- G. Manpower
Approximately six man-hours are needed to replace the locking cup and shims.
- H. Weight and Balance
Not applicable.
- I. Electrical Load Data
Not applicable.
- J. Software Accomplishment Summary
Not applicable.
- K. References
- (1) Maintenance Manual Report Nos. LTS101-2.2, LTS101-2.3, LTS101-2.4, and 1H-65A-11-72-2B2.
 - (2) Overhaul Manual Report Nos. LTS101-3 and 1H-65A-11-72-11B2.
 - (3) Illustrated Parts Catalog Nos. LTS101-4.2, LTS101-4.4, LTS101-4.7, LTS101-4.8, LTS101-4.9, and 1H-65A-11-72-4B2.
 - (4) Service Bulletin LTS101-72-50-0174, Engine - Turbine Section - Introduction of Thrust System (revision 5 or later).
 - (5) Customer Service Letter CSL LT 101-153.
- L. Other Publications Affected
- (1) Illustrated Parts Catalog Nos. LTS101-4.2, LTS101-4.4, LTS101-4.7, LTS101-4.8, LTS101-4.9, and 1H-65A-11-72-4B2.
- M. Interchangeability or Intermixability of Parts
Not applicable.
2. Material Information
- A. Material - Price and Availability
Not applicable.

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 LTS101-750C-1 Part No. 4-002-000-06
 LTS101-850B-2 Part No. 4-001-000-35

B. Industry Support Information

Refer to Customer Support Letter CSL LT 101-153.

C. Material Necessary for Each Engine

Table 3. Purchased Material

New Part Number	Keyword/ Nomenclature	Old Part Number	Qty	Unit Price ¹	Instructions/ Disposition
4-082-094-02	Locking Cup	4-082-094-01 ²	1	1	2, 3
4-082-126-01 through -10	Shim	4-082-088-01 through -10 ²	2	1	2, 3
4-081-253-01	Tab Washer	4-081-253-01	1	1	4
4-081-253-01/-02/-03	Tab Washer	4-081-253-01/-02/-03	1	1	4
MS9582-14	Tab Washer	MS9582-14	1	1	4
M83248/1-010	Packing	M83248/1-010	1 ⁵	1	4
M83248/1-012	Packing	M83248/1-012	1 ⁶	1	4
M83248/1-013	Packing	M83248/1-013	1	1	4
M83248/1-014	Packing	M83248/1-014	2	1	4
M83248/1-034	Packing	M83248/1-034	1	1	4

¹Contact Honeywell Inc. for unit price and availability.

²Locking Cup Part No. 4-082-094-01 and Shim Part No. 4-082-088-XX are no longer available for purchase; new un-used parts may be returned for credit using the Honeywell return material authorization process.

³Return all removed parts to the service provider within 30 days after compliance.

⁴Scrap parts locally.

⁵Parts required for LTS101-650B-1, LTS101-750B-1, LTS101-750B-2, and LTS101-850B-2 engines only.

⁶Parts required for LTS101-650C-3, LTS101-650C-3A, and LTS101-750C-1 engines only.

D. Material Necessary for Each Spare

Same as paragraph 2C.

E. Reidentified Parts

Not applicable.

F. Tooling - Price and Availability

Not applicable.

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LTS101-850B-2 Part No. 4-001-000-35

NOTE: To obtain satisfactory results, procedures in this service bulletin must be accomplished in accordance with accepted industry maintenance practices and prevailing government regulations. Honeywell International Inc. is not responsible for the quality of work performed in complying with this publication unless Honeywell International Inc. performs such work. Such responsibility rests with the entity performing the work and the owner or operator.

3. Accomplishment Instructions

- A. Disassemble the engine to access Locking Cup Part No. 4-082-094-01 (11, Figure 1) and Shim Part Nos. 4-082-088-01 through -10 (4), following the instructions in the applicable manuals listed in paragraph 1.K.
- B. Remove and return Locking Cup Part No. 4-082-094-01 (11) and Shim Part Nos. 4-082-088-01 through -10 (4).
- C. Install Locking Cup Part No. 4-082-094-02 (11) and Shim Part Nos. 4-082-126-01 through -10 (4) as required in accordance with Service Bulletin LTS101-72-50-0174 (revision 5 or later).
- D. Reassemble the engine following the instructions in the applicable manuals listed in paragraph 1.K and Service Bulletin LTS101-72-50-0174 (revision 5 or later).
- E. Compliance with this service bulletin must be recorded in the engine logbook and the service bulletin compliance records. Complete and return the Notice of Service Bulletin Compliance (attached) to Honeywell International Inc.

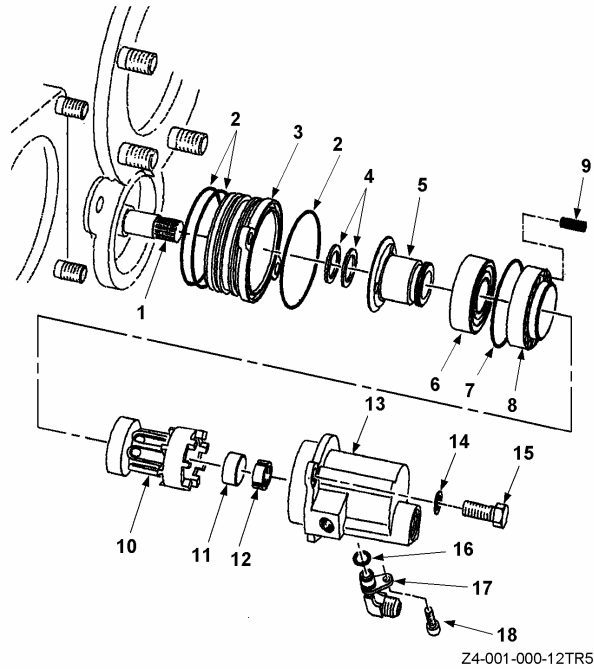
4. Appendix

Not Applicable.

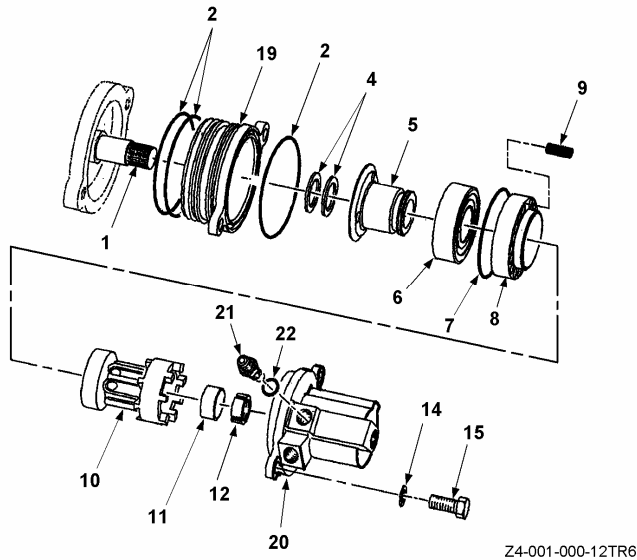
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LTS101-850B-2 Part No. 4-001-000-35



"B" Gearbox



"C" Gearbox

Figure 1. Thrust System - Details of "B" and "C" Gearboxes

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LTS101-750C-1 Part No. 4-002-000-06
LTS101-850B-2 Part No. 4-001-000-35

Key to Figure 1

- | | |
|-------------------------------|--|
| 1. Shaft Plug | 12. Nut |
| 2. Packing | 13. Thrust Recovery Cover
(B Gearbox) |
| 3. N2 Speed Indicator Housing | 14. Washer |
| 4. Shim | 15. Bolt |
| 5. Bearing Sleeve | 16. Packing |
| 6. Retention Ball Bearing | 17. Elbow Assembly |
| 7. Retaining Ring | 18. Bolt |
| 8. Spring Carrier | 19. N2 Speed Indicator Housing |
| 9. Coil Spring | 20. Thrust Recovery Cover
(C Gearbox) |
| 10. N2 Speed Indicator Flange | 21. Connector Assembly |
| 11. Locking Cup | 22. Packing |

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NOTICE OF SERVICE BULLETIN COMPLIANCE

Honeywell International Inc.
111 South 34th Street
P.O. Box 52181
Phoenix, Arizona 85072-2181, USA

Attention: Manager, Customer Support Engineering (LT 101)
 Mail Stop 404-246

Dear Sir:

This is to inform you that the service bulletin has been complied with as indicated below:

SERVICE BULLETIN _____ REVISION _____ DATE _____
Engine Model _____ Serial # _____ Hours _____ Cycles _____

FOLD
HERE

FOLD
HERE

Fan Module _____ Serial # _____ Hour _____ Cycles _____
GP Module _____ Serial # _____ Hour _____ Cycles _____
CT Module _____ Serial # _____ Hour _____ Cycles _____
AGB Module _____ Serial # _____ Hour _____ Cycles _____

Components Removed:

Part Number _____ Serial # _____ Hour _____ Cycles _____
 _____ _____ _____ _____

Aircraft Type _____ Serial # _____ Hour _____ Cycles _____

FOLD
HERE

FOLD
HERE

Very truly yours,

Signed : _____

Operator: _____

Location : _____

Date : _____

PLACE
STAMP
HERE

Honeywell International Inc.
111 South 34th Street
P.O. Box 52181
Phoenix, AZ 85072-2181
USA

Attention: Manager, Customer Support Engineering (LT 101)
Mail Stop 404-246