

R22

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SERVICE BULLETIN SB-91

DATE: 03 November 2003

TO: All R22 Owners, Operators, and Service Centers

SUBJECT: A437 Jackshaft Brace Tabs

ROTORCRAFT AFFECTED: R22 Helicopters S/N 0002 thru S/N 3465 except S/Ns 0256, 1087, 1112, 1226, 1475, 1493, 1918, 2051, 2219, 2452, 2890, 3087, 3160, 3167, 3299, and 3460.

TIME OF COMPLIANCE: Within next 100 flight hours or by 01 March 2004, whichever occurs first.

BACKGROUND: RHC has received a report of a cracked aluminum A437-2 Jackshaft Brace Tab. Tab failure can cause reduced main rotor flight control travel. Aluminum tabs (primed, square corners) must be replaced with A437-2 revision E or subsequent stainless steel tabs (bare, rounded corners).

COMPLIANCE PROCEDURE:

NOTE: Use R22 Maintenance Manual (MM) change 21 dated June 2000 or later and R22 Illustrated Parts Catalog (IPC) revised June 2000 or later.

1. An A437-2 revision E tab is included with service bulletins mailed to affected owners. Additional tabs may be obtained from RHC Customer Service.
2. Skip to Step 11 if helicopter is not equipped with aux fuel tank. Ensure aux fuel tank is empty. Defuel as required per MM section 1.150.
3. Open mast fairing, disconnect pitot line from pitot elbow, and remove mast fairing.
4. Reference IPC Figure 9-13, Auxiliary Fuel Cowling Assembly. Remove three B042 skins, including attached antennas, located between fuel tanks (disconnect antenna leads as required). Remove aft cowl door.
5. Reference IPC Figure 5-19, Rotor Brake Installation. Disconnect B157-1 mount from B321-8 channel. Loosen clamp securing static line to B321-8 channel and slide out line.
6. Remove appropriate Ty-raps and disconnect aux fuel tank quantity sender from airframe electrical harness.
7. Remove safety wire and disconnect vent tube(s) from aux fuel tank. Install protective caps on tube(s) and tank vent(s).
8. Remove safety wire and disconnect plastic tube from aux fuel tank drain valve.
9. Disconnect fuel line from aux fuel tank outlet and install protective caps on line and outlet.

-OVER-

10. Remove aux fuel tank assembly.
11. For R22 S/N 0002 thru 0435, comply with R22 Service Letter #25 as required.
12. Reference MM Figure 8-9 and IPC Figure 7-11. Remove bolt connecting jackshaft to A343-1 forward support strut upper rod end. Remove screws securing A437 tab to V-bulkhead and pivot strut outboard.
13. Remove upper rod end (**count and record number of turns required**), jam nut, palnut, washer, and aluminum A437 tab from strut. Discard tab, but retain rod end and hardware.
14. Install replacement A437-2 tab on strut using rod end and hardware retained in step 13. Screw rod end in same number of turns recorded in step 13 and finger tighten nut.
Caution: Failure to screw rod end in same number of turns as recorded in step 13 will change flight control rigging.
15. Pivot support strut into alignment with bulkhead and install screws securing A437-2 tab to bulkhead.
16. Connect jackshaft to strut with attaching bolt head pointed aft. Ensure rod end is centered between and clears jackshaft plates. Verify smooth jackshaft operation throughout flight control travel. Torque attaching bolt, rod end jam nut, and palnuts per MM section 1.320 and torque stripe.
17. Install aux fuel tank by reversing steps 3 thru 10 and, prior to closing mast fairing, verify fuel vent tube security with no kinking (ref. R22 Service Bulletins SB-83 and SB-84), and perform following pitot system leak check:
 - a. Seal pitot tube elbow drain hole with tape.
 - b. Connect a piece of clean, tight-fitting flexible tubing to pitot tube. Alternatively, a clean syringe may be used.
 - c. Fold over free end of tubing and slowly roll it up to pressurize pitot system until airspeed indicates 70 knots. Tightly hold rolled tubing to maintain initial pressure.
 - d. Verify no more than 10 knot drop in airspeed during 1 minute. If drop exceeds 10 knots/minute, locate and repair leakage.
 - e. Disconnect tubing from pitot and remove tape covering drain hole.
18. For helicopters equipped with aux fuel tank, perform fuel flow check per MM section 12.260.
19. If installed, verify proper rotor brake and BRAKE warning light operation.
20. Make appropriate maintenance record entries.

Approximate Cost:

Parts: No charge for A437-2 tab if ordered by 01 March 2004. Order must include helicopter serial number.

Labor: 1.0 man-hour without aux fuel tank or 2.5 man-hours with aux fuel tank.

Note: Labor warranty may apply to R22 S/N 3318 and subsequent if work is performed by original selling dealership.

THE DESIGN ENGINEERING ASPECTS OF THIS BULLETIN HAVE BEEN SHOWN TO COMPLY WITH APPLICABLE FEDERAL AVIATION REGULATIONS AND ARE FAA APPROVED.