



Marvel

Manufacturing Company

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Tail Rotor Hub & Blade Assembly Balance Bell Helicopter Models 212, 205A-1 Typical

(Rotor P/N 212-010-701 Typical)

Balance Equipment

Balance Indicator and Rotor Mount

1 7HEL075A Kit - Tail Rotor Balance

Note: The 7HEL075A Kit supplies all balance equipment required for this rotor. Due to the multipurpose application, balance equipment for other helicopter models may include one or more of its individual parts. Refer to the installation illustration for identification.

Preparation

1. Select a draft free area. Provide a flat top bench and hoist equipment or other means of suspension.
2. Provide two standard 2" x 4" wood blocks approximately 6" long. Place on ends on bench top with sides parallel, approximately 18" apart.
3. Clean rotor trunnion bore and cone seat surfaces. Position rotor to locate data plates of hub upward and place on support blocks to contact blade roots on flat outboard from blade bolts. Adjust blade pitch to seat evenly on blocks.
4. Remove 3165 Arbor from kit case and remove stored adapters from its shaft. Stand upright in bore of case block.
5. Clean oil from indicator area, if present, and depress indicator collar to release internal oil seal. Position collar for minimum free clearance, approximately .005", with arbor end and secure lightly with set screw.

Note: Prior to storing arbor in kit case after use, release set screw to allow oil seal to move upward and seat. Do not retighten set screw.

Balance Procedure

- 1. Install 3285 Bushing, large end upward, on arbor and position to align its top surface at the arbor scale sensitivity setting indicated by the installation illustration. Secure by moderately tightening both set screws.**
- 2. Insert arbor downward thru trunnion to seat cone surfaces.**
- 3. Install 2529 Bushing, large end downward, on arbor from lower end. Position upward on arbor to seat with cone of trunnion. Secure by tightening both set screws while maintaining clamping pressure against trunnion by both bushings. Recheck to insure bushings are seated against trunnion.**
- 4. Maintain blade contact with blocks to control blade pitch and adjust trunnion teeter position to visually align arbor to vertical.**
- 5. Install 3152 Base, hub extension downward, on arbor lower end. Align length of base with rotor span axis and position upward to place its corner posts approximately 1/16” below the blade root surfaces. Secure with both set screws.**
- 6. Engage cable loop of arbor with hoist hook and suspend without disturbing blade pitch of trunnion position.**
- 7. If friction of pitch change bearings can not maintain blade position and post clearance, allow both blades to equally pitch trailing edge downward and rest on the trailing posts. Maintain visually equal clearance with leading edge posts.**
- 8. Stabilize movements of the suspended rotor and observe balance condition as indicated by exposure of black disc in top surface of arbor shaft. Check to insure indications are not affected by interferences, air drafts or movement of nearby personnel.**
- 9. Refer to applicable helicopter maintenance manual for balance tolerance, method of correction of other assembly requirements.**

Balancer Installation – Tail Rotor Bell Models 205A-1, 212 Typical

