



# Marvel

Manufacturing Company

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# **Tail Rotor Hub & Blade Assembly Balance Bell Helicopter Models 212, 412 Typical Rotor 212-011-701**

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## **Balance Equipment**

### **Balance Indicator and Rotor Mount**

**1      7HEL087                      Kit - Tail Rotor Balance**

**Note: The 7HEL087 Kit supplies all balance equipment items 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 edge approximately 3 1/2" apart on bench top.**
- 3.      Remove 3165 Arbor from kit case and stand upright in bore of case block, wipe oil from indicator read, if present.**
- 4.      Depress indicator collar, releasing oil seal, and reposition to provide minimum free clearance with arbor end. Lightly secure with set screw.**

## **Balance Procedure**

- 1. Place 3152 Base, hub extension upward, central across blocks.**
- 2. Index and secure adjustable plug section of 2939 Pitch Position Posts at 1 5/16" from end of rod. Install in outer threaded bores "A" of base.**
- 3. Install 3378 Adapter, large end downward, over hub extension of base.**
- 4. Position tail rotor assembly to locate blade precone upward and pitch horns adjacent to position posts. Install on adapter and seat trunnion.**
- 5. Install 2533 Bushing, knurled end upward, on 3165 Arbor from lower end. Position near top of arbor shaft and temporarily secure with set screw.**
- 6. Install 2586 Plate on arbor from lower end and position against bushing.**
- 7. Install 3380 Cone, knurled end upward, on arbor from lower end and position its top surface at arbor scale setting indicated by the installation illustration. Secure by moderately tightening both set screws.**
- 8. Insert arbor downward thru rotor trunnion and base. Seat cone into trunnion bore and secure by moderately tightening both set screws in hub of base.**
- 9. Reposition rotor if necessary and insert large diameter plug of position posts into bolt bore of pitch horns.**
- 10. Lower plate and busing on arbor to seat on rotor yoke and secure by moderately tightening both set screws in bushing. Maintain engagement of posts with pitch horns.**
- 11. Suspend assembly to clear work support. Stabilize movements 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.**
- 12. Refer to applicable helicopter maintenance manual for balance tolerance, method of correction or other assembly requirements.**

## Balancer Installation – Tail Rotor Rotor 212-011-701

