MOONEY AIRCRAFT, INC.
LOUIS SCHREINER FIELD • KERRVILLE, TEXAS 78028

Service Bulletin

NUMBER: M20-154
DATE: 6-12-67

(This Service Bulletin is FAA D.O. Authorization SW-1 Approved)

SUBJECT: Retrofit of New Sprockets in Trim Wheel Assembly

MODELS AFFECTED: M20F S/N 660001 thru 670362

TIME OF COMPLIANCE: At Owner's Discretion

INTRODUCTION: The force required to turn the trim wheel for nose-down trim at airspeeds above 140 mph can be reduced approximately 20 to 25 percent by replacing the 12 and 17-tooth chain sprockets in the trim wheel assembly with 10 and 19-tooth sprockets. This reduction in pilot effort will be realized during all trim conditions but will be most apparent during nose-down trim at high airspeeds. A corresponding increase in travel of approximately 30 percent or $2\frac{1}{2}$ turns of the trim wheel will be required to trim the aircraft from full nose-down to full nose-up position.

INSTRUCTIONS:

Remove trim wheel assembly from aircraft.

1. Remove center floorboard Royalite cover.
2. Remove aluminized sealing tape from around edges of plate on trim wheel assembly.
3. Turn trim wheel to full nose-down position.
4. Remove fuselage access panel.
5. Disconnect stabilizer trim indicator control cable from stop block (make sure stop block is in contact with rear stop on trim wheel assembly).
6. Remove fasteners from trim control tube at rear of trim wheel assembly, being careful not to rotate control tube or trim wheel. (1)
7. Remove screws attaching trim wheel assembly to floorboard, and slide trim wheel assembly forward and upward, removing it from aircraft.

Remove existing chain sprockets.

1. Remove Royalite cover from trim wheel assembly.
2. Remove chain. (Refer to Service & Maintenance Manual).
3. Remove 12 and 17-tooth chain sprockets (P/N 740049-3 and -7) by driving out .125" diameter rollpins and loosening set screws.
4. File .025 to .030" of material from the top of the 740055-5 brass bushing (see attached sketch) to eliminate interference between chain and bushing after installation of new 10-tooth sprocket.

Install new chain sprockets.

1. Install new 10 and 19-tooth sprockets (P/N 740049-9 and -11) on shafts. Align rollpin holes and tighten set screws. Install rollpins (RP-A-52-028-125-0750 and RP-A-52-028-125-1000), and safety by staking edge of hole.

2. Install chain and adjust to obtain maximum tension in chain without causing binding. Refer to Service & Maintenance Manual.

3. Lubricate chain and sprockets with MIL-G-3278 grease.

4. Attach Royalite cover to trim wheel assembly.

Reinstall trim wheel assembly in aircraft.

1. Turn trim wheel to full nose-down position and slide trim control tube into position at rear of trim wheel assembly, being careful not to rotate control tube or trim wheel. (1)

2. Attach plate on trim wheel assembly to floorboard.

3. Attach trim indicator control cable to stop block (make sure trim indicator and stop block are in full nose-down trim position).

4. Fasten trim control tube to shaft at rear of trim wheel assembly with AN392-19 pin, AN960-4 washer, and AN380-2-2 cotter pin.

5. Operate system and check for binding.

6. Apply sluminized sealing tape around edges of plate on trim wheel assembly.

7. Install Royalite floorboard cover.

8. Install fuselage access panel.

9. Return aircraft to service.

(1) CAUTION: If the trim control tube is rotated at any time while disconnected from the trim wheel assembly, the rigging of the stops for maximum nose-up trim and nose-down trim must be checked. Refer to Service & Maintenance Manual.

SERVICE BULLETIN KIT NO. M20-154

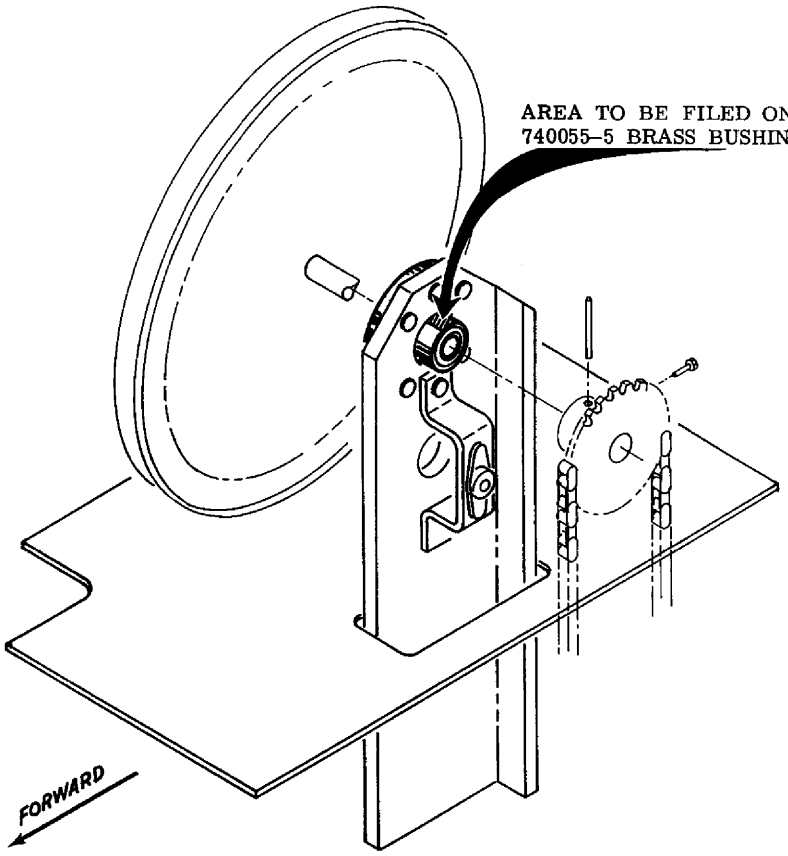
ITEMS TO BE REMOVED:

1. 740049-3 Sprocket (one)
2. 740049-7 Sprocket (one)
3. RP-A-52-028-125-0750 Rollpin (one)
4. RP-A-52-028-125-0875 Rollpin (one)

ITEMS TO BE INSTALLED:

1. 740049-9 Sprocket (one)
2. 740049-11 Sprocket (one)
3. RP-A-52-028-125-0750 Rollpin (one)
4. RP-A-52-028-125-1000 Rollpin (one)

This Service Bulletin Kit may be purchased from your local Mooney Dealer or Distributor. Direct factory orders will not be accepted.



TRIM CONTROL ACTUATOR
(740085)