

BOX 72 • KERRVILLE, TEXAS 78028



DATE: 07-29-68

THIS BULLETIN IS FAA-DOA SW-1 APPROVED.

**SUBJECT:** LANDING GEAR SHOCK DISC RETROFIT**MODELS****AFFECTED:** M20, S/N 1001 thru 1200  
M20A, S/N 1201 thru 1700  
M20B, S/N 1701 thru 1851, 1853 thru 1923**TIME OF****COMPLIANCE:** At owner's option.**INTRODUCTION:**

This service bulletin authorizes the owners of M20, M20A, and M20B aircraft to modify their landing gear to allow installation of Lord shock discs on nose and/or main gears.

**INSTRUCTION I:****NOSE GEAR MODIFICATION AND SHOCK DISC RETROFIT**  
(See Figure 1.)

1. Place aircraft on jacks.
2. Remove nose wheel and spindle assembly.
3. Use Mooney shock disc replacement tool (ME-120) to remove collar bolt, collar, link assembly, and four Firestone shock discs and spacers. (See Note No. 2 at end of Instruction II for information on ME-120 tool.)
4. Remove exhaust cavity fairings.
5. Remove nose support V-truss (P/N 5015) and bushings.
6. Install S.B. Kit No. M20-161-1 (See Figure 1).
  - a. Install nose support V-truss (P/N 540001-503) and enclosed 914007 bushings.
  - b. Install (3) Lord shock discs (P/N 530021) on shock link assembly (P/N 540015-1).
  - c. Install spacer (P/N 530023-1) on top disc with standoff block facing to rear of the gear.
  - d. Install shock link, discs, and spacer on nose gear in reverse sequence of removal.
  - e. Install collar (P/N 510027-7) and new bolt (AN 5-16A).
7. Reinstall spindle and nose wheel assembly, exhaust cavity fairings, and check security of all parts. Lubricate gear. (Proceed with Instruction III, if Instruction II is not to be complied with.)

**INSTRUCTION II: MAIN GEARS SHOCK DISC RETROFIT (See Figure 2)**

1. Remove spindle to shock link attach bolt and hydraulic brake lines. Swing main gear wheels forward.
2. Use Mooney Shock Disc Tool ME-121 to remove bolt and collar (P/N 5131). Remove shock link assemblies (P/N 520003-3) from main gears. (See Note No. 2 at end of this instruction for information on ME-121 tool.)
3. Install S. B. Kit No. M20-161-2 (See Figure 2).
  - a. Install four Lord shock discs (P/N 530021) on each shock link assembly (P/N 520010-1).
  - b. Install spacer assembly (P/N 510047-1) on top of disc with standoff facing forward on gear.
  - c. Install shock link assemblies on gears in reverse sequence of removal.
  - d. Install collar P/N 510049 Basic (with bevel facing down and forward) and new bolt P/N 914003-501.
  - e. Reinstall spindle attach bolt.
4. Rework bracket (P/N 510013) by removing .3 IN. x .3 IN. of material from corner as shown in Figure 3. Partially retract gear and check clearance between reworked bracket P/N 510013 and 510047-1 spacer assembly. Minimum clearance between these parts is to be .10 inch.

NOTE NO. 1: Bracket (P/N 510046) may be ordered separately and installed in lieu of reworking P/N 510013; however, replacement of this bracket may entail extensive work.

5. Check security of all parts. Lubricate gear.
6. Reconnect hydraulic brake lines and bleed brakes.

NOTE NO. 2: Mooney shock disc tools ME-120 nose gear and ME-121 main gear may be procured from Mooney Spare Parts Department. Mooney Service & Maintenance Manual M20C-D-E-F 1962-1967 illustrates use of shock disc tools.

7. Proceed with Instruction III.

**INSTRUCTION III: GEAR-DOWN PRELOAD AND GEAR RETRACTION TEST**

1. Upon completion of shock disc retrofit of nose and/or main gears check gear-down preload in accordance with Mooney Service & Maintenance Manual.
2. Test operate landing gear retraction system including warning lights and warning horn operation.

3. Check gear down-and-locked. Remove jacks and return aircraft to service.
4. Fill out and mail Service Bulletin Compliance card.

**SERVICE**

**BULLETIN KITS:**

**SERVICE BULLETIN KIT: M20-161-1**  
(Instruction I, Nose Gear)

AN 5-16A Collar bolt . . . . .	(1)
510027-7 Collar . . . . .	(1)
530023-1 Spacer Assembly . . . . .	(1)
530021 Lord Shock Discs . . . . .	(3)
540015-1 Shock Link . . . . .	(1)
540001-503 Nose Support V-truss . . . . .	(1)
914007-4 Bushings . . . . .	(1)
914007-2 Bushings . . . . .	(2)

The following parts will be removed and will not be reinstalled:

- Bolt through Collar
- 5131 Collar
- 510008 Shock Pad
- 3CRE-714 Firestone Discs (4)
- 510021 Spacers (3)
- 510022 Spacer
- 540005-3 Shock Link
- 5015 Nose Support V-truss and bushings

**SERVICE BULLETIN KIT: M20-161-2**  
(Instruction II, Main Gears)

914003-501 Collar Bolt . . . . .	(2)
510049-Basic Collar . . . . .	(2)
510047-1 Spacer Assembly . . . . .	(2)
530021 Lord Shock Discs . . . . .	(8)
520010-1 Shock Link . . . . .	(2)

The following parts will be removed and will not be reinstalled:

- Bolt through Collar (2)
- 5131 Collar (2)
- 510008 Shock Pad (2)
- 510021 Spacers (8)
- 3CRE-714 Firestone Discs (10)
- 510022 Spacers (2)
- 520003-3 Shock Link (2)

These service bulletin kits may be procured from your local Mooney distributor. No direct factory orders will be accepted.

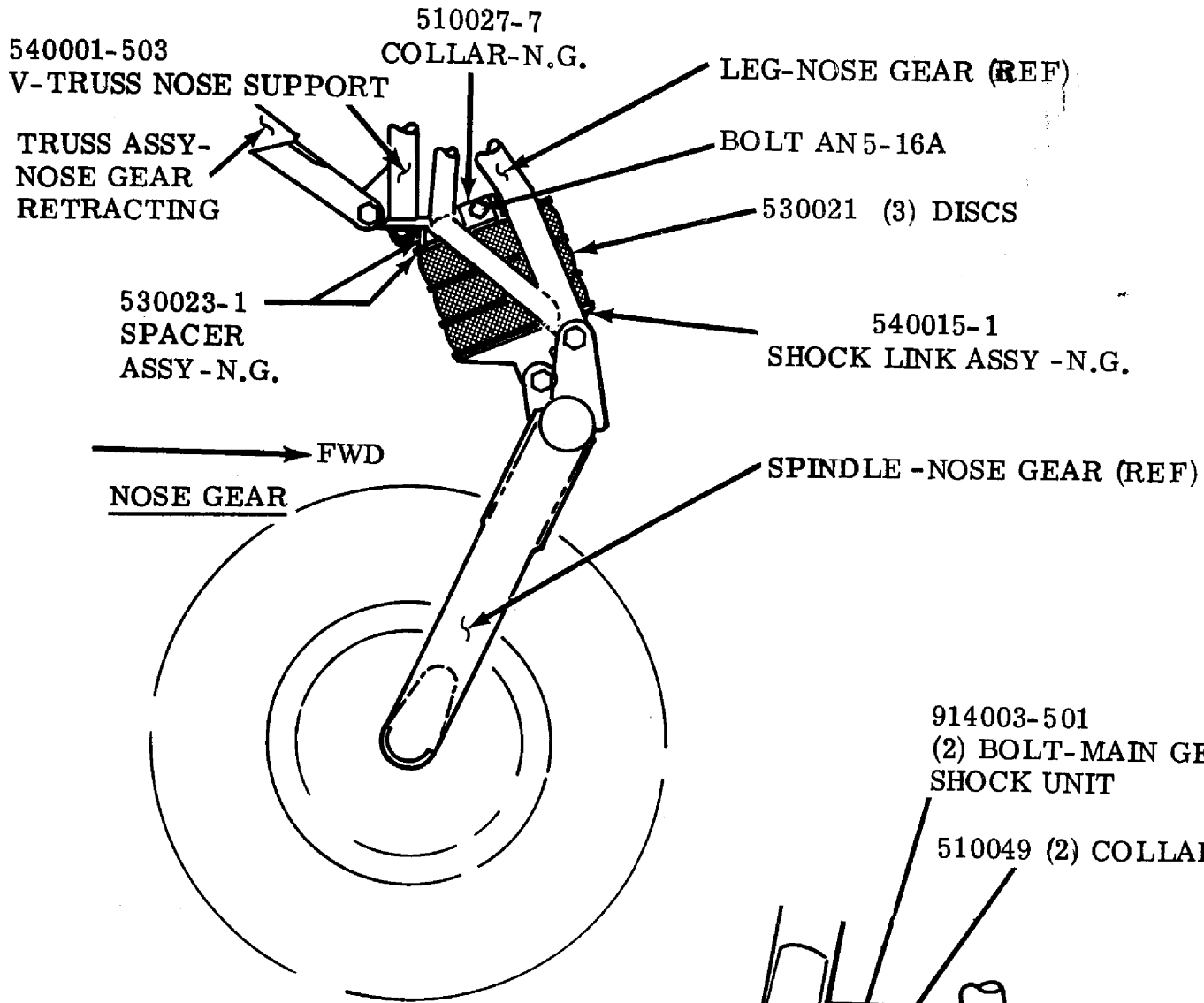


FIGURE 1

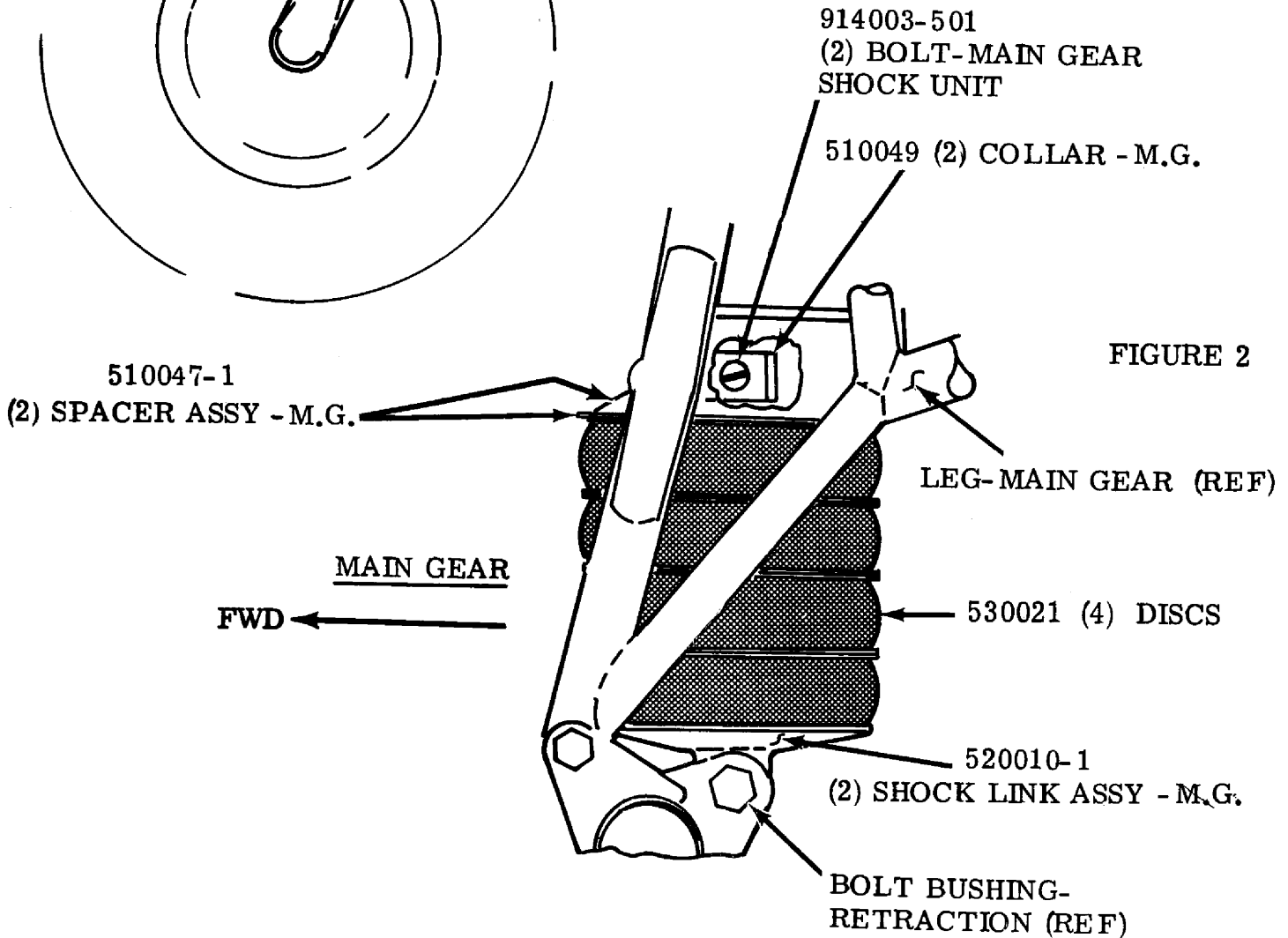


FIGURE 2

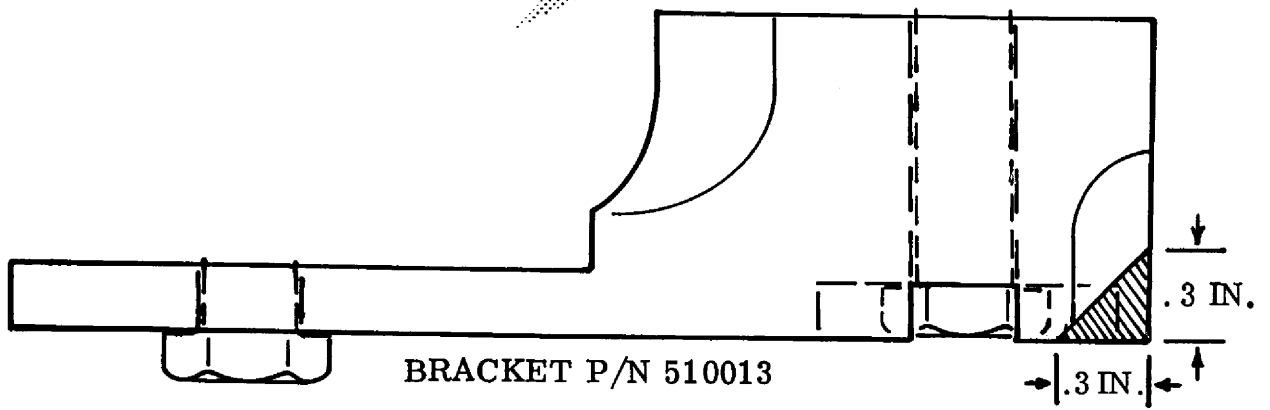
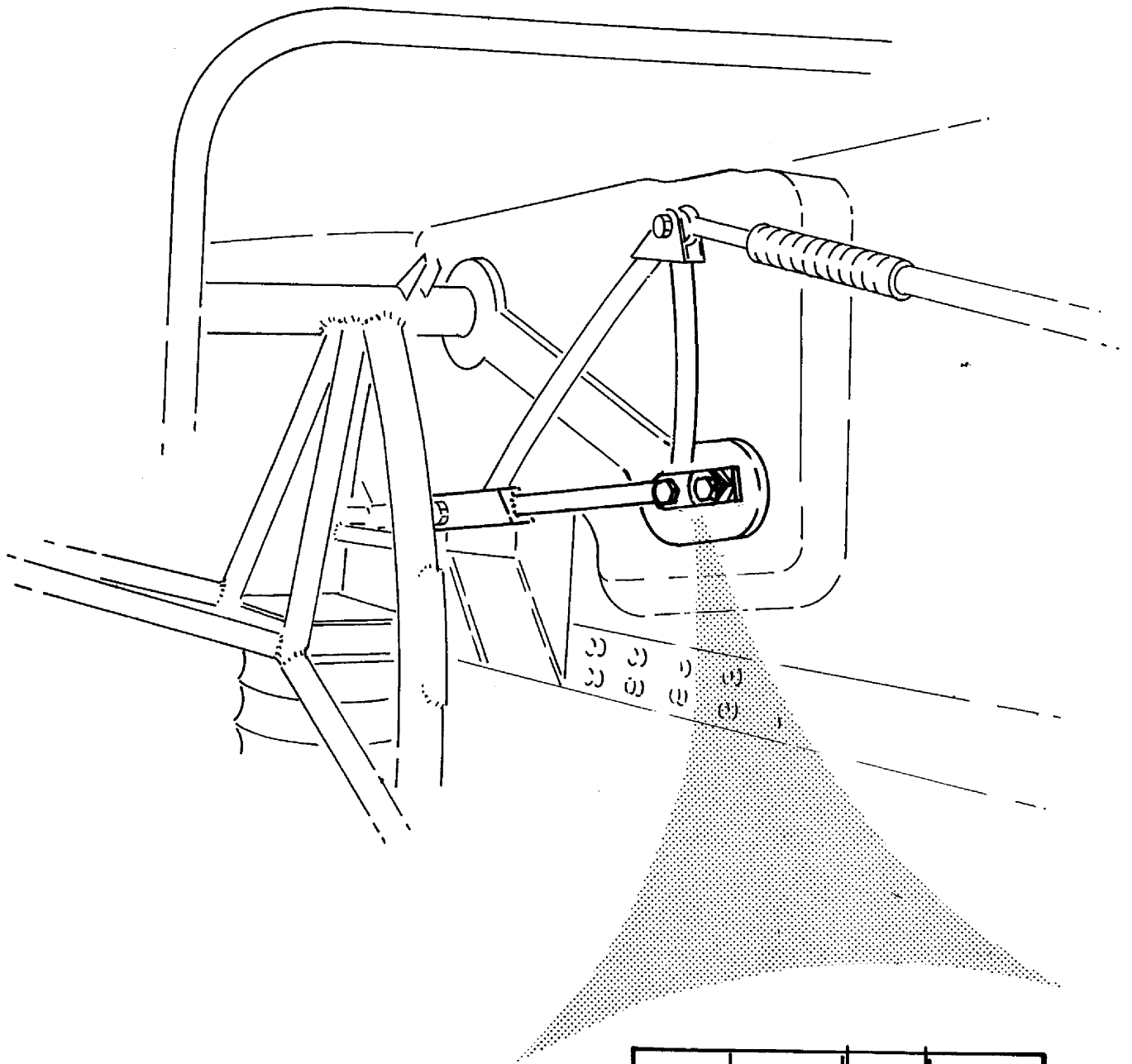


FIGURE 3 REWORK OF BRACKET P/N 510013.

NOTE: 510046 BRACKET MAY  
BE USED INSTEAD OF REWORK.