



**THIS BULLETIN IS FAA APPROVED FOR ENGINEERING DESIGN**

SUBJECT: Mooney M20TN - Revised Crankcase Breather Tube Installation

MODELS/ SN  
AFFECTED: Mooney M20TN 31-0001 thru 31-0127

TIME OF  
COMPLIANCE: **AT NEXT SCHEDULED ANNUAL INSPECTION, BUT WITHIN NEXT 100 FLIGHT HOURS.**

INTRODUCTION: Continental Motors Inc. has found instances of oil coking and deposit build up at the crankcase breather outlet tube inside of the left hand exhaust tailpipe, which could result in the engine exhibiting higher than normal crankcase pressures and or increased oil consumption. This Service Bulletin is to provide instructions for replacement of the exhaust type crankcase breather assembly as referenced in Service Bulletin M20-312. **The attached compliance card needs to be filled out and returned to Mooney International Corporation upon completion of this Service Bulletin M20-319.**

INSTRUCTIONS: **Read entire procedures before beginning work.**

**BREATHER TUBE AND HOSE INSTALLATION:**

- 1.1. Turn master switch - OFF.
- 1.2. Remove top and bottom cowling per instructions provided in Chapter 71-10-00 of applicable Mooney aircraft Service & Maintenance Manual.
- 1.3. Remove clamps and cable ties, if used, from lower crankcase hose and breather tube. Remove crankcase hose. (See Figure M20-319-1)

**NOTE:**

**Inspect upper crankcase hose to verify it is free of damage and cracks. Replace if needed using new Tygon hose P/N 620072- 1. (See Figure M20-319-2)**

- 1.4. Remove assembly. (See Figure M20-319-1)
  - a.) Remove lower wastegate mounting hardware and gasket.
  - b.) Remove safety wire and exhaust V-Band clamp attaching left hand tailpipe to turbocharger.
  - c.) Remove and discard left hand tailpipe assembly or perform optional welding per Figure M20-319-3.

**NOTE:**

**Welding repair must be performed by an FAA Certified Repair Station that possesses the capability to perform the repair per the specifications called out in Figure M20-319-3. The repaired tailpipe must be delivered with a valid FAA Form 8130-3.**

- 1.5. Install new tubing.
  - a.) Install new breather tube P/N 620071-5 on lower exhaust cavity with clamp P/N MS21919WCJ12, AN3-7A bolt, (2) NAS1149F0363P washers, 914019-1 spacer, and MS21045L3 nut. Orient new breather tube with vent hole facing outboard as shown in Figure M20-319-4.
  - b.) Install new P/N 628555-45 hose (trim to fit) to lower air-oil separator connector and new breather tube with (2) clamps P/N 20010. (See Figure M20-319-5)

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- 1.6. Install new P/N MS21919WCJ18 cushion clamp to P/N 628555-45 hose. (See Figure M20-319-5)
  - a.) Install new P/N MS21919WCJ8 cushion clamp to engine mount.
  - b.) Attach clamps using mounting hardware AN3-4A bolt, NAS1149F0332P washers, and MS21045L3 nut.
- 1.7. Install new left hand tailpipe P/N 658428 (See Figure M20-319-6) or repaired tailpipe per Figure M20-319-3.
  - a.) Install new wastegate gasket and new lower wastegate mounting hardware. Do not torque, but leave allowable movement for tailpipe V-Band clamp to be installed.
  - b.) Install new exhaust V-Band clamp P/N 657198. Torque evenly per instructions provided in Chapter 81-30-00 of the M20TN aircraft Service & Maintenance Manual. Also refer to instructions provided in Chapter 17 of the applicable Continental Motors Engine Maintenance & Overhaul Manual. Torque V-Band clamp to 35-40 in lbs. Strike outer periphery of coupling band lightly to distribute load. Tighten to net torque of 50-60 in lbs plus nut running torque. Torque wastegate mounting hardware to 200-210 in lbs.

**NOTE:**

**Tailpipe V- Band clamps shall be replaced with a new clamp after two (2) removals or as referenced in Chapter 04- 00- 00 of the M20TN aircraft Service & Maintenance Manual.**

- c.) Safety wire .032" as required per AC 43-13 (supply as required).
- 1.8. Run engine and check for leaks or new tubing chaffing.
- 1.9. Re-install top and bottom cowling per instructions provided in Chapter 71-10-00 of applicable Mooney aircraft Service & Maintenance Manual.
- 1.10. Complete log book entry.
- 1.11. Complete Form QA 1027M for left hand V-Band clamp installation and insert into log book.

**NOTE:**

**Fill out compliance card and send by MAIL or FAX to Mooney International Corporation as indicated on the attached Compliance Card. (See Figure M20-319-7)**

- 1.12. Return aircraft to service.
- 1.13. Procedure complete.

WARRANTY: N/A

REFERENCE DATA: 1. Mooney Maintenance Manual (applicable A/C)  
2. Continental Motors M-18 Maintenance and Overhaul Manual  
3. Mooney Service Bulletin M20-312



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PARTS LIST: Refer to Mooney Service Parts Department for part procurement.

Parts Kit P/N: **Service Bulletin Kit M20-319-001 (Crankcase Breather Tube Install Kit without Tailpipe)**

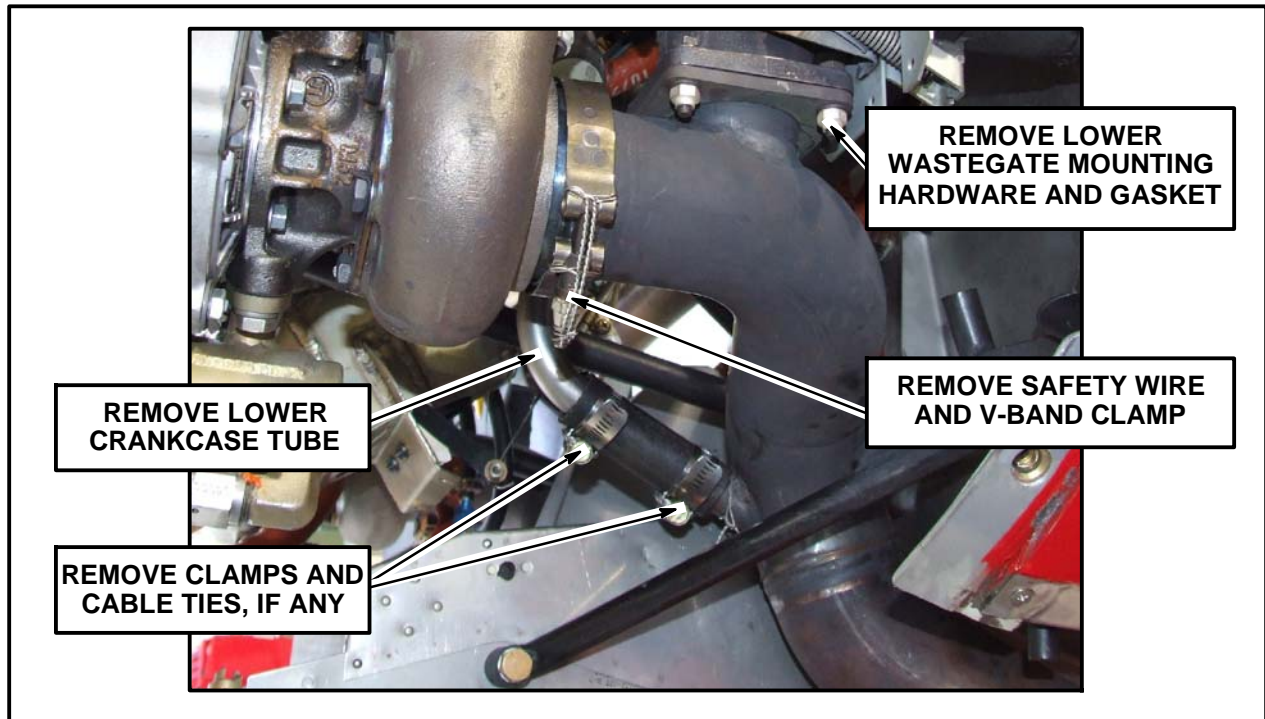
| <u>Item</u> | <u>P/N</u>    | <u>Description</u>        | <u>Qty</u> |
|-------------|---------------|---------------------------|------------|
| 1.          | 620071- 005   | BREATHER TUBE             | 1          |
| 2.          | 914019- 001   | SPACER                    | 1          |
| 3.          | MS21919WCJ12  | CLAMP                     | 3          |
| 4.          | NAS1149F0363P | WASHER                    | 2          |
| 5.          | MS21045L3     | NUT                       | 2          |
| 6.          | 628555- 45    | HOSE (TRIM TO FIT)        | 1          |
| 7.          | 657198        | CLAMP (V- BAND)           | 1          |
| 8.          | 20010         | CLAMP                     | 2          |
| 9.          | AN3- 7A       | BOLT                      | 1          |
| 10.         | MS20034- 5    | BOLT                      | 4          |
| 11.         | NAS1587- 4    | WASHER                    | 8          |
| 12.         | MS20500- 428  | LOCKNUT                   | 4          |
| 13.         | 652456        | GASKET                    | 1          |
| 14.         | MS21919WCJ8   | CLAMP                     | 1          |
| 15.         | MS21919WCJ18  | CLAMP                     | 1          |
| 16.         | AN3- 4A       | BOLT                      | 1          |
| 17.         | NAS1149F0332P | WASHER                    | 2          |
| 18.         | Form QA 1027M | TIME LIMIT COMPONENT FORM | 1          |

**New Tailpipe to be used with Service Bulletin M20-319 Crankcase Breather Tube Install**

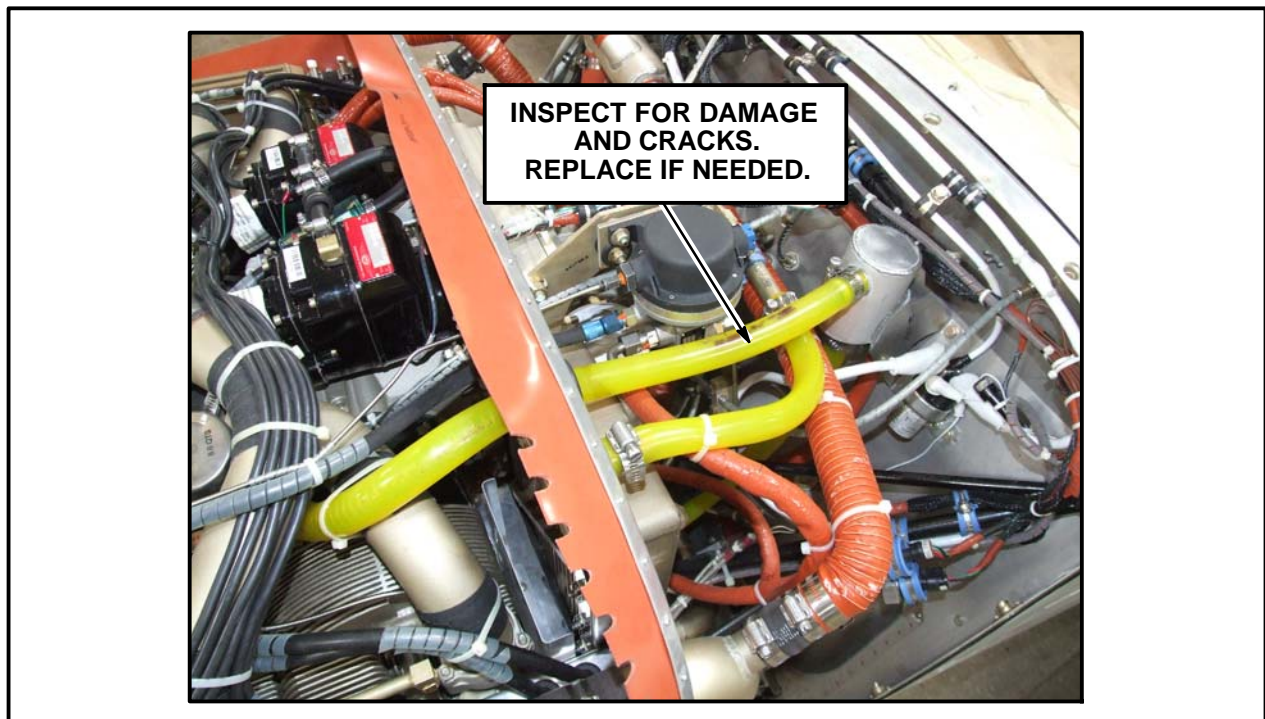
| <u>Item</u> | <u>P/N</u> | <u>Description</u> | <u>Qty</u> |
|-------------|------------|--------------------|------------|
| 1.          | 658428     | TAILPIPE, LH       | 1          |



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**Figure SB M20-319-1 - OLD-STYLE CRANKCASE BREATHER TUBE ASSEMBLY**



**Figure SB M20-319-2 - AIR-OIL SEPARATOR, CRANKCASE TUBE, AND CLAMPS**



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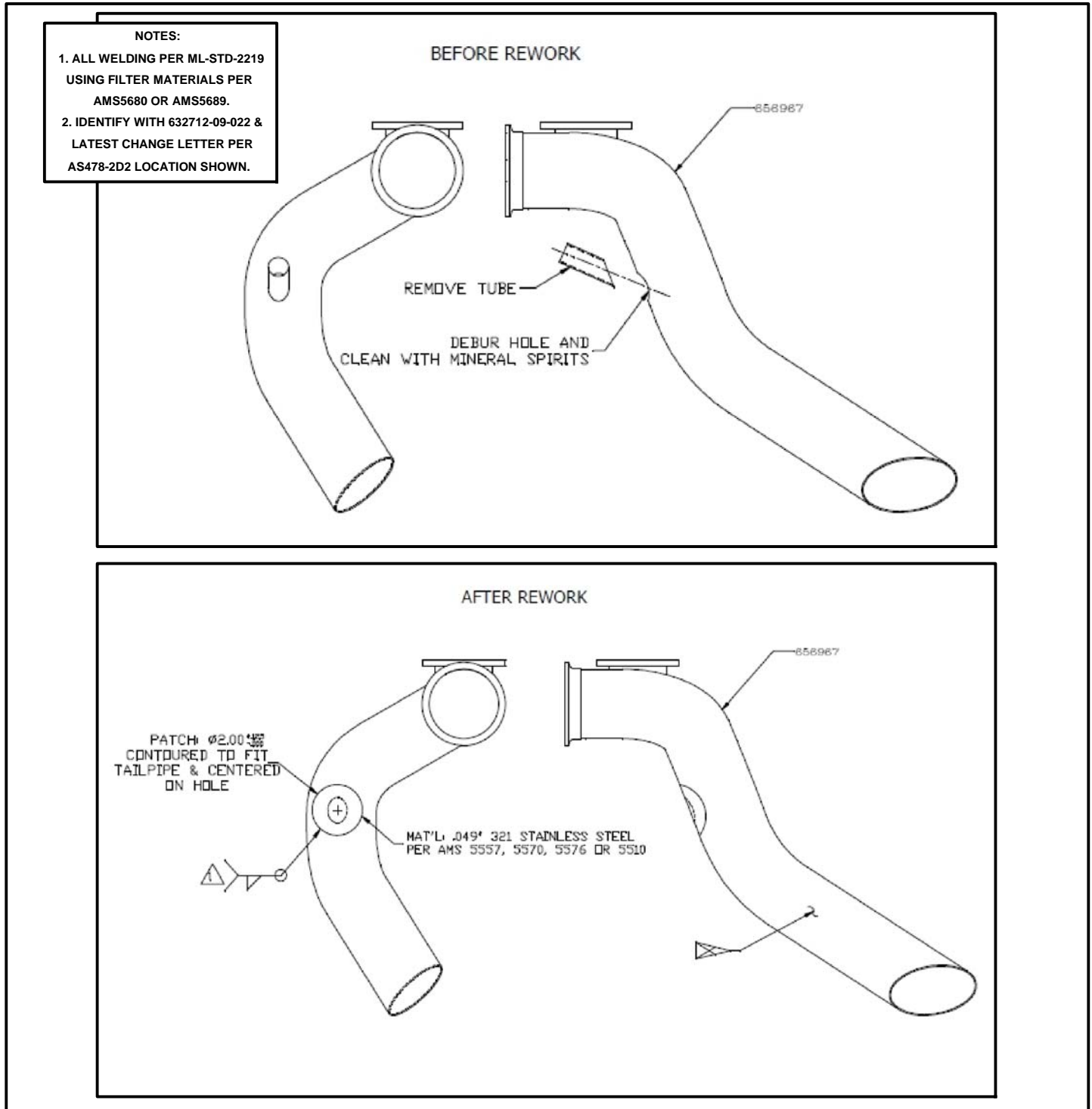


Figure SB M20-319-3 - LH TAILPIPE, WELDING EXISTING TAILPIPE



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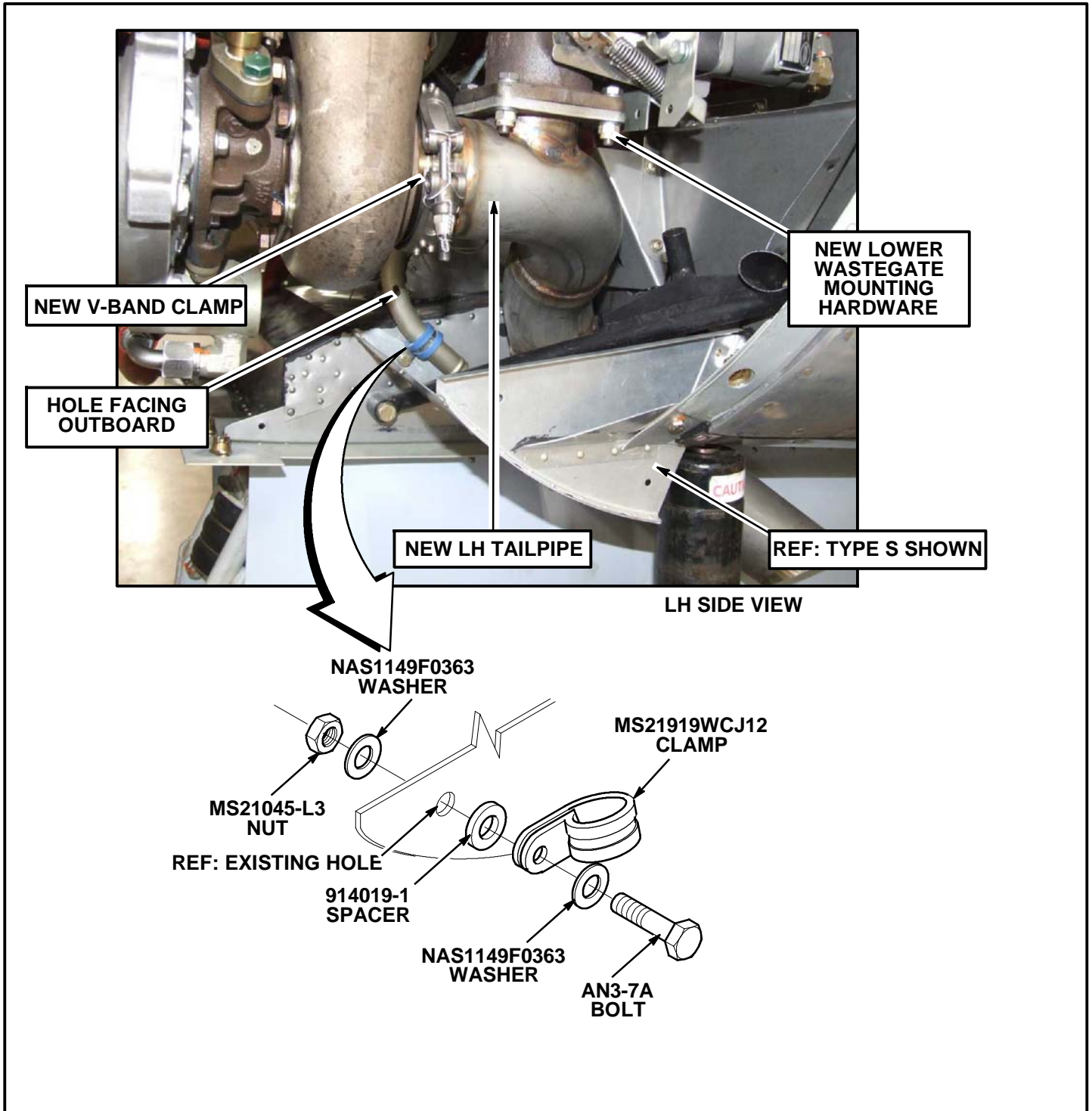
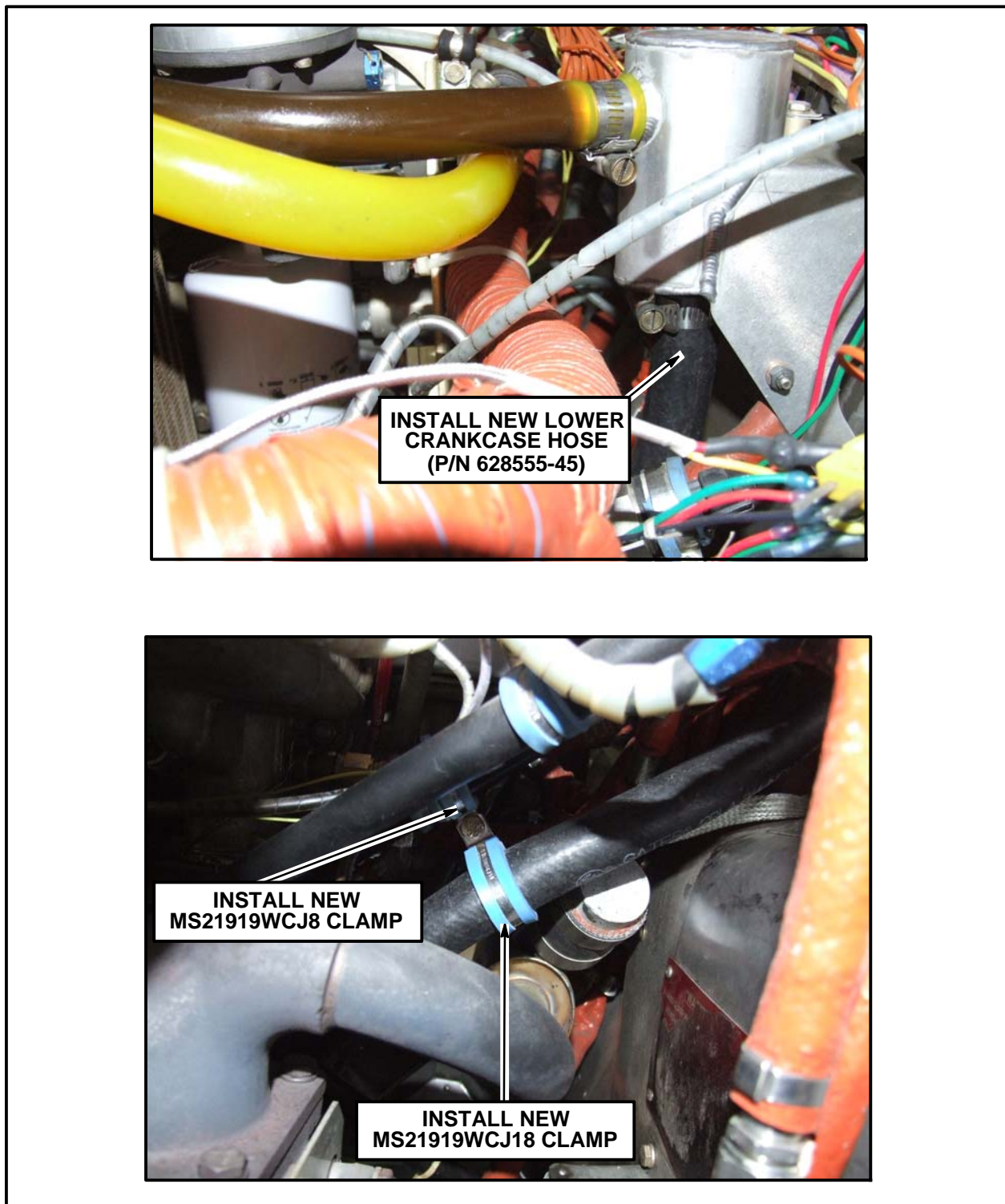


Figure SB M20-319-4 - LH TAILPIPE, LOWER WASTEGATE MOUNTING HARDWARE, AND V-BAND CLAMP INSTALLATION



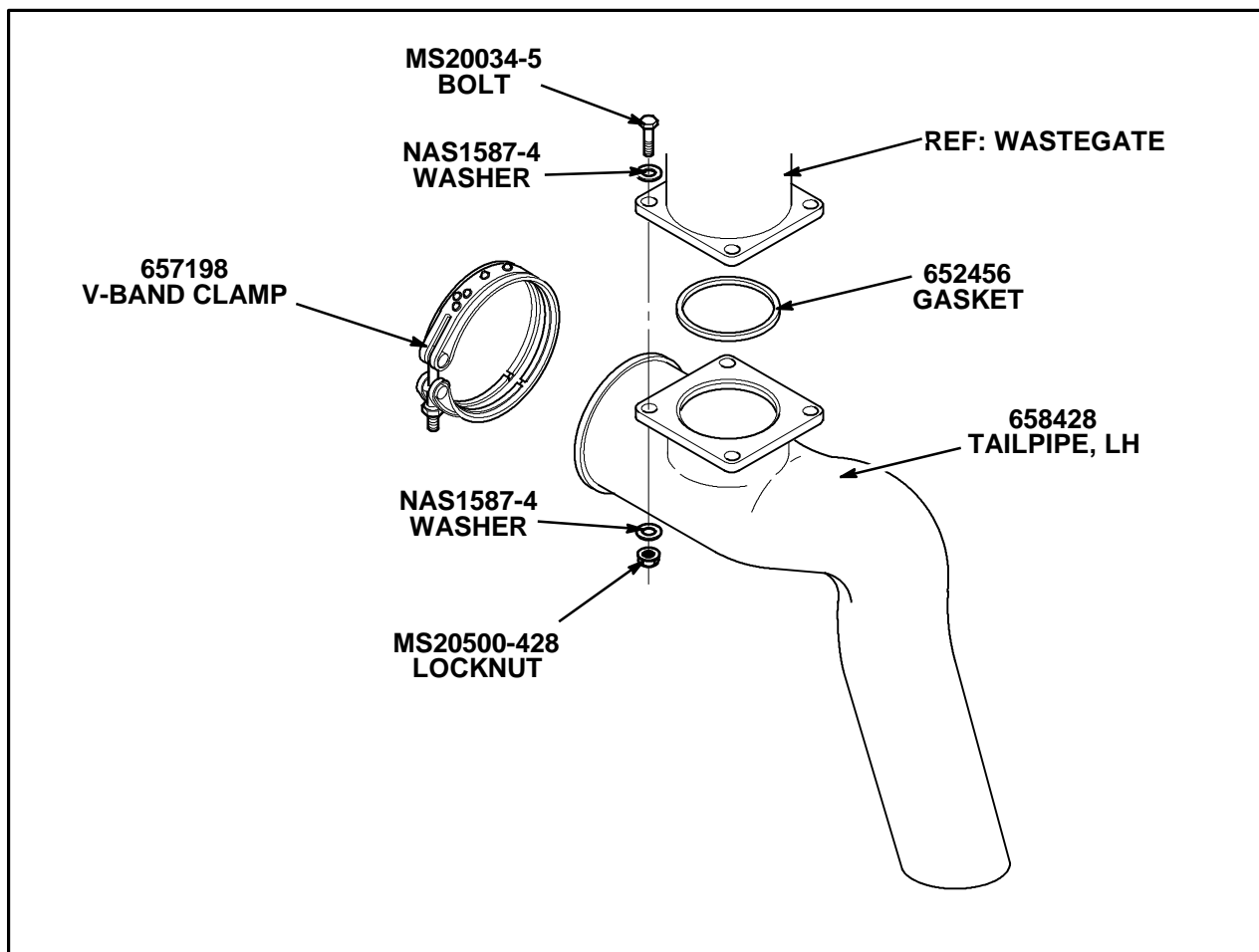
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**Figure SB M20-319-5 - LOWER CRANKCASE HOSE INSTALLATION**



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**Figure SB M20-319-6 - LOWER WASTEGATE AND TAILPIPE INSTALLATION**





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**MOONEY INTERNATIONAL CORPORATION**  
KERRVILLE, TEXAS 78028 - FAX 830-257-4635

SERVICE (BULLETIN) (INSTRUCTION) NO. \_\_\_\_\_ HAS BEEN COMPLIED  
WITH ON AIRCRAFT MODEL \_\_\_\_\_ SERIAL NUMBER \_\_\_\_\_

Tach. Time: \_\_\_\_\_ N-Number \_\_\_\_\_ (Reg. No.)  
Owner: \_\_\_\_\_ Date of Compliance: \_\_\_\_\_  
\_\_\_\_\_ Complied By: \_\_\_\_\_  
\_\_\_\_\_

Inspection Report: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Form 07-0001

PLACE  
STAMP  
HERE

**MOONEY INTERNATIONAL CORPORATION**  
ATT'N: TECHNICAL SUPPORT  
165 Al Mooney Road, North  
Kerrville, Texas 78028

**SEND TO: Mooney International Corporation**  
165 Al Mooney Road North  
Kerrville, TX 78028  
FAX: (830) 257-4635 or EMAIL [support@mooney.com](mailto:support@mooney.com)

**Figure SB M20-319-7 - Compliance Card**



## Mooney International Corporation

### QUALITY ASSURANCE FORM QA1027M

#### AIRCRAFT LIFE-LIMITED PARTS LOG

#### PURPOSE:

To provide documentation for components installed on the Mooney aircraft that cannot be permanently marked with a control number and have a defined, limited time span before removal and replacement.

#### RESPONSIBILITIES:

1. The assembly inspector is responsible for initiating this form when a life-limited component is installed on an aircraft assembly. Additional life-limited component forms are required for each life-limited component during final assembly and completion operations. The completed forms are retained in the aircraft logbook with a copy in the aircraft permanent record.
2. For service parts, when a life-limited part replacement is ordered, a copy of this form and instruction must accompany the part. The installing agency is responsible for filling out the form and securing it in the aircraft logbook as part of the return to service documentation.
3. A life-limited component with usable life left which is used in another installation must be accompanied by its original parts log form.

#### FORM INSTRUCTIONS:

The following numbers correspond with the numbers on the sample form:

1. Enter the aircraft serial number
2. Enter the total number of aircraft hours at the time the Certificate of Airworthiness (Standard) is issued
3. Enter the date when block 2 is completed
4. Enter the part nomenclature
5. Enter the part number. Add “-L” for Left or “-R” for Right if applicable
6. Enter the manufacturer’s serial number, lot number or work order number as appropriate that uniquely identifies the part
7. Enter the date of manufacture
8. Enter the date the part was installed
9. Enter the date or maximum flight hours at which the item must be removed / reinstalled
10. Enter the final date the item was removed and scrapped

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AIRCRAFT LIFE-LIMITED PARTS LOG

|                   |   |                   |   |
|-------------------|---|-------------------|---|
| A/C Serial Number | 1 | Total Hours (A/C) | 2 |
| Date              | 3 |                   |   |

| Nomenclature                | Part No.<br>L-Left/R-Right | Manufacturer's<br>Serial No. / Lot<br>No. / W.O. No. | Date of<br>Manufacture | Date<br>Installed | Removal/Re-<br>installation<br>date |
|-----------------------------|----------------------------|--|------------------------|-------------------|-------------------------------------|
| 4                           | 5                          | 6  | 7                      | 8                 | 9                                   |
|                             |                            |  |                        |                   |                                     |
|                             |                            |  |                        |                   |                                     |
|                             |                            |  |                        |                   |                                     |
|                             |                            |  |                        |                   |                                     |
| Final Removal / Scrap date: |                            | 10   |                        |                   |                                     |

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AIRCRAFT LIFE-LIMITED PARTS LOG

|                   |                   |
|-------------------|-------------------|
| A/C Serial Number | Total Hours (A/C) |
| Date              |                   |

| Nomenclature               | Part No.<br>L-Left/R-Right | Manufacturer's<br>Serial No. / Lot<br>No. / W.O. No. | Date of<br>Manufacture | Date<br>Installed | Removal/Re-<br>installation<br>date |
|----------------------------|----------------------------|--|------------------------|-------------------|-------------------------------------|
|                            |                            |  |                        |                   |                                     |
|                            |                            |  |                        |                   |                                     |
|                            |                            |  |                        |                   |                                     |
|                            |                            |  |                        |                   |                                     |
|                            |                            |  |                        |                   |                                     |
| Final Removal / Scrap date |                            |  |                        |                   |                                     |