EAGLE TECHNICAL BULLETIN
REF. TCCA STC: SH14-47
REF. FAA STC: SR03496NY

Eagle Service Bulletin Number: TB-E407-789-3

Purpose: Repair of inlet cowl installed with AFS filter (STC: SH04-34/SR09368RC).

Eligible Serial Numbers: All serial numbers.

Compliance: Should be incorporated if an AFS filter (STC: SH04-34/SR09368RC) has previously been installed on the aircraft.

Description: Eagle Copters has designed this repair to the inlet cowl of any Bell 407 previously installed with an AFS filter (STC: SH04-34/SR09368RC). This is necessary to make a Bell 407 eligible for application of STC SH14-47/SR03496NY. Compliance with this technical bulletin requires the parts listed in Table 1 below.

Parts List: Table 1

<table>
<thead>
<tr>
<th>QTY.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
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<tr>
<td>X</td>
<td>TB-E407-789-3-011</td>
<td>INLET COWL REPAIR KIT</td>
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<tr>
<td>1</td>
<td>0789-03-219-1</td>
<td>INNER DOUBLER</td>
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<tr>
<td>1</td>
<td>0789-03-219-3</td>
<td>EXTERNAL FILLER</td>
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<td>1</td>
<td>0789-03-219-5</td>
<td>CLOSEOUT</td>
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<td>1</td>
<td>0789-03-219-7</td>
<td>OUTER ANGLE</td>
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<td>0789-03-219-9</td>
<td>INNER ANGLE</td>
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<td>0789-03-219-13</td>
<td>MEDIUM PACKER</td>
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<td>1</td>
<td>0789-03-219-15</td>
<td>LARGE PACKER</td>
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<tr>
<td>21</td>
<td>CR3213-4</td>
<td>RIVET</td>
</tr>
<tr>
<td>14</td>
<td>CR3243-4</td>
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</tr>
<tr>
<td>6</td>
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<tr>
<td>A/R</td>
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<tr>
<td>1</td>
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<td>NUT, SELF-LOCKING, PLATE, ONE LUG</td>
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<td>3</td>
<td>MS21075L08N</td>
<td>NUT, SELF-LOCKING, REDUCED RIVET SPACING</td>
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<td>7</td>
<td>NAS1097AD6</td>
<td>RIVET</td>
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Weight and Balance: Weight and Balance change to the aircraft is accomplished as part of STC SH14-47/SR03496NY.
Procedure:

Note: All 0789-03-219 parts may be require additional forming and/or trimming to properly fit the inlet cowl.

1. Remove air inlet cowl and AFS filter per ICA-E407-789, Chapter 53, Section 7 and STC: SH04-34/SR09368RC.

2. Remove existing anchor nuts in locations specified on Figure 2.

3. Align 0789-03-219-1 Inner Doubler with inner face of cutout in the inlet cowl skin for best fit and maintain edge distance on all holes as shown in Figure 1.

4. Transfer drill existing $\phi 0.098"$, $\phi 0.129"$ and $\phi 0.194"$ holes from aircraft skin to 0789-03-219-1 Inner Doubler as shown in Figure 1.

5. Pitch new holes $\phi 0.129"$ between existing fastener holes to maintain 0.8"-1.3" pitch.

**Figure 1: 0789-03-219-1 Inner Doubler Installation**
6. Locate 0789-03-219-7 Outer Angle and 0789-03-219-9 Inner Angle to obtain best fit and align with edges of skin cutout per Figure 2.

7. Transfer drill \( \varnothing 0.129" \) and \( \varnothing 0.194" \) holes from aircraft outer skin to 0789-03-219-7 Outer Angle. Transfer drill holes from aircraft inner skin to 0789-03-219-9 Inner Angle per Figure 2.

8. Cutout existing aircraft skin per 0789-02-057 (see IIN-E407-789 for details).

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Figure 2: 0789-03-219-7/9 Angle Installation
9. Fit 0789-03-219-3 External Filler to doubler. Trim to maintain minimum 0.032" gap with existing skin per Figure 3.

10. Transfer drill 16X \( \phi \ 0.098" \) pilot holes from 0789-03-219-3 External Filler to 0789-03-219-1 Inner Doubler as shown in Figure 3.

11. Pitch in \( \phi \ 0.098" \) perimeter holes as required through 0789-03-219-3 External Filler and 0789-03-219-1 Inner Doubler, maintaining edge distance of 0.35" and 0.8"-1.3" pitch as shown in Figure 3.

![Figure 3: 0789-03-219-3 External Filler Installation](image-url)
12. Locate 0789-03-219-5 Closeout against 0789-03-219-7 Outer Angle and 0789-03-219-9 Inner Angle as shown in Figure 4.

13. Pitch in $\phi$ .098" perimeter holes as required in 0789-03-219-5 Closeout, maintaining edge distance of 0.25" and 0.8"-1.3" pitch as shown in Figure 4.

14. Transfer drill $\phi$ .098" holes from 0789-03-219-5 Closeout to 0789-03-219-7 Outer Angle and 0789-03-219-9 Inner Angle as shown in Figure 2 and Figure 4.

Figure 4: 0789-03-219-5 Closeout Installation
15. Locate 0789-03-054-2 Angle per 0789-02-050 (see IIN-E407-789 for details). Fit 0789-03-219-11, 0789-03-219-13 and 0789-03-219-15 Packers between 0789-03-054-2 Angle and aircraft skin/doubler per Figure 5.

16. Upsize all pilot holes in 0789-03-219-3 External Filler to 0789-03-219-1 Inner Doubler to \(\phi 0.129''\) and deburr all holes.

Figure 5: 0789-03-219-11/-13/-15 Packer Installation
17. Countersink holes in 0789-03-219-3 External Filler and aircraft skin per the locations and dimensions shown in Figure 6.

18. Apply chemical conversion coating (alodine) to parts per MIL-C-5541 class 1A.

19. Prime parts per MIL-PRF-23377, type 1, class C and touch-up edges.

20. Assemble parts wet with PS 890 sealant (or equivalent).
21. Install rivets and anchor nuts per AC43.13 as shown in Figure 6 and Figure 7.

22. Fillet seal edges of repair with PS 890 sealant (or equivalent).

23. Paint to match aircraft color and finish per Aircraft Maintenance Manual and/or ICA-E407-789.

24. Notify Eagle Copters that this Technical Bulletin has been accomplished by filling out the attached form (page 9) and emailing it back to Eagle Copters.

25. Make entry into aircraft technical reports to indicate TB-E407-789-3 has been completed.

![Figure 7: Inner Fastener Installation]

3X MS21075L08N
Anchor nut

0789-03-219-5
Closeout

0789-03-219-1
Inner Doubler

CR3213-4
21X Ø 0.194"

CR3243-4
14X Ø 0.194"

1X MS21061L3
Anchor nut
NOTIFY EAGLE COPTERS THAT THE TB-E407-789-3 HAS BEEN INCORPORATED INTO THE AIRCRAFT LISTED BELOW.

AIRCRAFT SERIAL NUMBER: ____________________________

AIRCRAFT OWNER: ____________________________

DATE TB-E407-789-3 WAS INCORPORATED ON THE ABOVE AIRCRAFT:

______________________________

SIGNATURE OF PERSON RESPONSIBLE FOR ENTRY INTO AIRCRAFT TECHNICAL RECORD:

______________________________

PRINT NAME OF PERSON RESPONSIBLE FOR ENTRY INTO AIRCRAFT TECHNICAL RECORD:

______________________________

Email this page to: mboyce@eaglecopters.com
NOTES:

2. FORM PART TO MATCH BELL 407 INLET COWL, INNER SURFACE AT DONALDSON I/B CUTOUT.
3. FINISH: CHEMICAL CONVERSION COATING (ALODINE) PER MIL-C-5541, CLASS IA. APPLY TWO COATS OF EPOXY PRIMER PER MIL-P-23377, TYPE 1, CLASS C.
4. UNITS: INCHES UNLESS OTHERWISE NOTED.
5. BREAK SHARP EDGES 0.005 TO 0.010 MAX.
6. IDENTIFICATION: IDENTIFY WITH PART NUMBER USING INDELIBLE INK (RUBBER STAMP) OR LASER ETCH (0.002 DEPTH), CHARACTER HEIGHT 0.08 MIN.
7. WEIGHT: 0.60 lbs

SECTION A-A
SCALE 1:2

SECTION B-B

-1 INNER DOUBLER

APPROVED

TOLERANCES:

X.X ± 0.100 ANGULAR ± 1/2°
X.XX ± 0.030
X.XXX ± 0.010

MATERIAL
2024-T3 CLAD
QQ-A-250/4

STOCK SIZE .040 THK
NOTES:
2. FORM PART TO MATCH BELL 407 INLET COWL, OUTER SURFACE AT IBF DONALDSON CUTOUT.
3. FINISH: CHEMICAL CONVERSION COATING (ALODINE) PER MIL-C-5541, CLASS 1A. APPLY TWO COATS OF EPOXY PRIMER PER MIL-PRF-23377, TYPE 1, CLASS C.
4. UNITS: INCHES UNLESS OTHERWISE NOTED.
5. BREAK SHARP EDGES: 0.003 TO 0.010 MAX.
6. IDENTIFICATION: IDENTIFY WITH PART NUMBER USING INDELIBLE INK (RUBBER STAMP) OR LASER ETCH (0.002 DEPTH). CHARACTER HEIGHT 0.08 MIN.
7. WEIGHT: 0.41 lbs.

APPROVED

TOLERANCES:
X.X ± 0.100  ANGULAR ± 1/2°
X.XX ± 0.030
X.XXX ± 0.010

MATERIAL: 2024-T3 CL00

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NOTES:
2. CUT PART TO MATCH BELL 407 INLET COWL INNER SURFACE AT CUTOUT FWD EDGE.
3. FINISH: CHEMICAL CONVERSION COATING (ALODINE) PER MIL-G-5541, CLASS 1A. APPLY TWO COATS OF EPOXY PRIMER PER MIL-P-22377, TYPE 1, CLASS C.
4. UNITS: INCHES UNLESS OTHERWISE NOTED
5. BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
6. IDENTIFICATION: IDENTIFY WITH PART NUMBER USING INDELIBLE INK (RUBBER STAMP) OR LASER ETCH (0.002 DEPTH), CHARACTER HEIGHT 0.08 MIN.
7. WEIGHT: 0.11 lbs

-5 CLOSEOUT

APPROVED

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EAGLE COPTERS LTD
CALGARY, ALBERTA, CANADA

DATING NO. 0780-03-219
REV. A SHEET 1 OF 6

TITLE: DOUBLER
SCALE: NTS

DRAWING NO.
DATE 16.04.26
2. FORM PART TO MATCH BELL 407 INLET COWL, INNER SURFACE AT CUTOUT FWD EDGE.
3. FINISH: CHEMICAL CONVERSION COATING [ALCONYL] PER MIL-C-5541, CLASS 1A. APPLY TWO COATS OF EPOXY PRIMER PER MIL-P-23377, TYPE 1, CLASS C.
4. UNITS: INCHES UNLESS OTHERWISE NOTED.
5. BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
6. IDENTIFICATION: IDENTIFY WITH PART NUMBER USING INDELIBLE INK [RUBBER STAMP] OR LASER ETCH (0.0022 DEPTH), CHARACTER HEIGHT 0.08 MIN.
7. WEIGHT: 0.08 lbs
NOTES:
2. FORM PART TO MATCH BELT 407 INLET COWL INNER SURFACE AT CUTOUT FWD EDGE.
3. FINISH: CHEMICAL CONVERSION COATING (ALCODINE) PER MIL-C-5541, CLASS 1A. APPLY TWO COATS OF EPOXY PRIMER PER MIL-PREF-23377, TYPE 1, CLASS C.
4. UNITS: INCHES UNLESS OTHERWISE NOTED.
5. BREAK SHARP EDGES: 0.003 TO 0.010 MAX.
6. IDENTIFICATION: IDENTIFY WITH PART NUMBER USING INDELIBLE INK (RUBBER STAMP) OR LASER ETCH 0.002 DEPTH, CHARACTER HEIGHT 0.08 MIN.
7. WEIGHT: 0.08 lb.

-9 INNER ANGLE

SECTION E-E
SCALE 1 : 2

GRAIN DIRECTION

12.99
3.13

DELETED
1604.26 VS
BN 16-575

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TOLERANCES:
X.X ± 0.100 ANGULAR ± 1/2°
X.XX ± 0.030
X.XXX ± 0.010

DESIGN
DJB

DRAWN
AK

CHECKED
VS

MFG. APPR.
KC

APPROVED
HB

DE APPR.
D9

DATE
16.04.26

STOCK NO:
040 THK

MATERIAL
2024-T3 CLAD

MATERIAL NO:
QQ-A-250/5

SHEET 9 OF 6

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NOTES:
2. FINISH: CHEMICAL CONVERSION COATING (ALODINE) PER MIL-C-5541, CLASS 1A. APPLY TWO COATS OF EPOXY PRIMER PER MIL-PRF-23377, TYPE 1, CLASS C.
3. UNITS: INCHES UNLESS OTHERWISE NOTED.
4. BREAK SHARP EDGES: 0.003 TO 0.010 MAX
5. IDENTIFICATION: IDENTIFY WITH PART NUMBER USING INDELIBLE INK (RUBBER STAMP) OR LASER ETCH (0.002 DEPTH). CHARACTER HEIGHT 0.08 MIN.
6. WEIGHT: 0.00 lbs

-11 SMALL PACKER
-13 MEDIUM PACKER
-15 LARGE PACKER

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CALGARY, ALBERTA, CANADA

TOLERANCES:
X.X ± 0.100  ANGULAR ± 1/2°
X.XX ± 0.030  X.XXX ± 0.010

DESIGN  DJB
DRAWN  AK
CHECKED  VS
MFG. APPL.  KC
APPROVED  HB
DE APPR.  DB
DATE  16.04.26