CDRAMCOM REDSTONE ARSENAL AL//AMSAM-SF-A//
AIG 8881
AIG 9004
AIG 9042
AIG 8708
AIG 7515
AIG 7471
AIG 12124
DCM APMO QIARK AL//DCMDE-AQA//
ASF42 81ST ARCOM DOBBINS AFB GA
CDRRBDCOM ABERDEEN PROVING GROUND MD//AMSBC-OP/OPA//
CDRUSAGAPG ABERDEEN PROVING GROUND MD//STEAP-PF-V//
RAYTHEON RANGE SYSTEMS ENGINEERING KNAJALEIN MH//PAT2//
CDR WHITE SANDS MISSILE RANGE NM//STEPS-NRS-AA-MQA//
CDRDFG DOUGAY UT//STEPS-AVN//
USDOCQ LANDSOUTHEAST ISMIR TU//AV//
DCMC BELL HELICOPTER FORT WORTH TX//DCMDE-RED//
WALLOPS FLIGHT FACILITY NASA WALLOPS ISLAND VA
//CODE 831.2 AIRCRAFT QA//
INFO HQA FSPC PETERSON AFB CO//LGNSF//

ROBERT BROCK, SAFETY ENGINEER
AMSAM-SF-A, DSH 788-8632
MINIMIZE CONSIDERED

JOHN C. FROST, AMSAM-SF, 2-8634
UNCLASSIFIED
SUBJECT - AVIATION SAFETY ACTION MESSAGE, MAINTENANCE MANDATORY,
RCS CSGLD-1860(R1), ALL UH-1 SERIES AIRCRAFT, ONE TIME AND RECURRING
INSPECTION OF OIL DEBRIS DETECTION SYSTEM (OODS) SELF-SEALING
NOTE - THIS IS AN AVIATION SAFETY ACTION MESSAGE ISSUED PER AR 95-
3, CHAPTER 5 REVISION VIA MESSAGE HQ AVSOM, AMSAV-ESOF, 181900Z
SEP 90, SUBJECT: CHANGE TO AR 95-3, CHAPTER 5, SAFETY OF FLIGHT
MESSAGES. THIS MESSAGE HAS NOT BEEN TRANSMITTED TO UNITS
SUBORDINATE TO ADDRESSEES. ADDRESSEES SHOULD IMMEDIATELY
RETRANSMIT THIS MESSAGE TO ALL SUBORDINATE UNITS, ACTIVITIES OR
ELEMENTS AFFECTED OR CONCERNED. THE RETRANSMITTAL SHALL
REFERENCE THE MESSAGE. ACTION ADDRESSES WILL IMMEDIATELY VERIFY
THIS TRANSMISSION TO CDR, AMCOM, ATTN: AMSAM-SF-A (SOF COMPLIANCE

ROBERT BROCK, SAFETY ENGINEER
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2. TASK/INSPECTION SUSPENSE DATE - WITHIN 20 HOURS/30 DAYS.
3. REPORTING COMPLIANCE SUSPENSE DATE - NO LATER THAN 20 OCT 97
   IAW PARA 14A OF THIS MESSAGE.
4. SUMMARY OF PROBLEM -
   A. ACOM HAS RECEIVED FIELD REPORTS CITING FAILURE OF THE
      SELF-SEALING BREAK-AWAY COUPLING CONNECTING THE OIL LINE FROM THE
      ENGINE SCAVENGE PUMP TO THE ODDS LUBRICLONE FILTER. THE PINS IN
      THE CONNECTOR ARE DESIGNED TO SHEAR IN A CRASH SEQUENCE, BUT ARE
      WEARING AWAY PREMATURELY. THE PINS FAIL WHEN THE WEAR BECOMES
      EXCESSIVE. THE INTERNAL VALVE CLOSES AND SHUTS OFF THE OIL FLOW.
      PRESSURE IN THE OIL LINE INCREASES AND THE HOSE HAS FAILED UNDER
      CERTAIN CIRCUMSTANCES. MOST OF THE WEAR ON THE PINS CAN BE
      ATTRIBUTED TO NORMAL AIRCRAFT VIBRATION AND SIDE LOADING CAUSED
      BY THE SLIGHT MISALIGNMENT OF THE 90 DEGREE COUPLING HALF AT THE
      LUBRICLONE FILTER. PERIODIC INSPECTION OF THESE COUPLINGS IS
      NEEDED TO PREVENT A FAILURE DURING FLIGHT.
   B. THERE IS CURRENTLY A SHORTAGE OF 90 DEGREE COUPLING
      HALVES IN SUPPLY. FOR THE PURPOSE OF COMPLYING WITH THIS MESSAGE
      ONLY, THE USE OF A SOLID 90 DEGREE TUBE ELBOW IS AUTHORIZED TO
      TEMPORARILY REPLACE 90 DEGREE COUPLING HALVES THAT FAIL THE

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NO INSPECTION. THE SOLID 90 DEGREE TUBE ELBOW SHALL IMMEDIATELY BE REPLACED WHEN A SERVICEABLE 90 DEGREE COUPLING HALF IS OBTAINED AND INSTALLED.

C. FOR MANPOWER/DOWNTIME AND FUNDING IMPACTS SEE PARA 12.

D. THE PURPOSE OF THIS MESSAGE IS TO REQUIRE AN INSPECTION OF THE COUPLINGS, ESTABLISH A RECURRING INSPECTION TO PREVENT FUTURE FAILURES, AND PROVIDE A TEMPORARY SOLUTION TO THE SUPPLY SHORTAGE.

5. END ITEMS TO BE INSPECTED - ALL UH-1 AIRCRAFT EQUIPPED WITH THE ODDS.

6. ASSEMBLY COMPONENTS TO BE INSPECTED - N/A.

7. PARTS TO BE INSPECTED -

<table>
<thead>
<tr>
<th>NOMENCLATURE</th>
<th>PART NO.</th>
<th>NSN</th>
</tr>
</thead>
<tbody>
<tr>
<td>COUPLING HALF, 90 DEGREE</td>
<td>222645</td>
<td>4730-01-322-4962</td>
</tr>
<tr>
<td>COUPLING HALF, STRAIGHT</td>
<td>222646</td>
<td>4730-01-322-9863</td>
</tr>
</tbody>
</table>

8. INSPECTION PROCEDURES -

A. GAIN ACCESS TO LEFT SIDE ENGINE COMPARTMENT. LOCATE THE OIL LINE (FIGURE 98, ITEM 172A) RUNNING FROM THE ENGINE TO THE ODDS LUBRICLONE FILTER (LEFT SIDE OF ENGINE ON THE FIREWALL).

LOCATE THE BREAK-AWAY OIL COUPLING (90 DEGREE AND STRAIGHT

ROBERT BROCK, SAFETY ENGINEER
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HALVES) AT THE ODDS LUBRICONE FILTER.

B. LOOSEN THE B-NUT ON THE OIL LINE (FIGURE 98, ITEM 172A) AND DISCONNECT THE OIL LINE AT THE STRAIGHT COUPLING HALF. TEMPORARILY CAP OIL LINE TO PREVENT CONTAMINATION.

C. MEASURE THE WEAR ON THE BREAK-AWAY PINS USING A FEELER GAGE AS FOLLOWS:

NOTE

WHEN ATTEMPTING TO MEASURE THE GAP DO NOT ROCK COUPLING HALVES BACK AND FORTH. APPLY AN EVEN PRESSURE SO THAT A CONSISTENT READING IS OBTAINED.

1. APPLY PRESSURE TO COUPLING HALVES (AS IF TO PUSH THEM TOGETHER). MEASURE AND RECORD THE BREAK-AWAY JOINT GAP AT EACH PIN POSITION WITH THE COUPLINGS FULLY COMPRESSED.

2. APPLY OPPOSITE PRESSURE TO THE COUPLING HALVES (AS IF TO PULL THEM APART). AGAIN MEASURE AND RECORD THE BREAK-AWAY JOINT GAP AT EACH PIN POSITION WITH THE COUPLING FULLY EXTENDED.

3. CALCULATE THE DIFFERENCE IN THESE MEASUREMENTS AT EACH PIN POSITION.

D. IF THE DIFFERENCE IS 0.085 INCHES OR LESS, AT ALL
LOCATIONS, THE COUPLING IS SERVICEABLE. REINSTALL THE OIL LINE.

PAY CLOSE ATTENTION TO THE ALIGNMENT OF THE 90 DEGREE COUPLING
HALF. IF NECESSARY, LOOSEN THE 90 DEGREE COUPLING HALF FROM THE
LUBRICLONE FILTER AND REPOSITION IT SO THAT THE LEAST AMOUNT OF
SIDE LOADING IS PLACED ON THE BREAK-AWAY COUPLING. ENSURE THAT
THE CLAMP USED TO SECURE THE OIL LINE TO THE LOWER FUEL FILTER
LINE IS POSITIONED AS CLOSE TO THE BREAK-AWAY COUPLING END OF THE
OIL LINE AS PRACTICAL TO REDUCE VIBRATION.

II. IF THE DIFFERENCE IS GREATER THAN 0.085 INCHES AT ANY OF
THE THREE LOCATIONS, PROCEED WITH THE CORRECTION PROCEDURES OF
PARAGRAPH 9.

9. CORRECTION PROCEDURES -

A. REPLACE THE 90 DEGREE COUPLING HALF WITH A SERVICEABLE
COUPLING IF THE DIFFERENCE CALCULATED IN PARAGRAPH 8 IS GREATER
THAN 0.085 INCHES.

B. REINSTALL THE OIL LINE. PAY CLOSE ATTENTION TO THE
ALIGNMENT OF THE 90 DEGREE COUPLING HALF. POSITION THE 90 DEGREE
COUPLING HALF SO THAT THE LEAST AMOUNT OF SIDE LOADING IS PLACED
ON THE BREAK-AWAY COUPLING. ENSURE THAT THE CLAMP USED TO SECURE
THE OIL LINE TO THE LOWER FUEL FILTER LINE IS POSITIONED AS CLOSE

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to the break-away coupling end of the oil line as practical to
reduce vibration.

C. Repeat this inspection at each phase inspection. The
inspection procedure will be added to Reference 13A. Reference
13B will be changed to reflect this new requirement.

D. If a replacement 90 degree coupling half is not available
and cannot be obtained in a timely manner through the supply
system, a solid fitting may be used temporarily until a
replacement is received. The status symbol of the affected
aircraft shall be a horizontal red dash until the solid fitting
is removed and a replacement 90 degree coupling half is
installed. Install a solid fitting as follows:

(1) The following parts are required:

<table>
<thead>
<tr>
<th>PART NAME</th>
<th>PART NUMBER</th>
<th>QTY</th>
<th>NSN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube Elbow</td>
<td>AN833-12D or MS24394D12</td>
<td>1</td>
<td>4730-00-197-2919</td>
</tr>
<tr>
<td>Hex Nut</td>
<td>AN924-12D</td>
<td>1</td>
<td>5310-00-199-1028</td>
</tr>
<tr>
<td>Preformed Packing</td>
<td>MS29961-119</td>
<td>1</td>
<td>5330-00-835-9974</td>
</tr>
</tbody>
</table>

(2) Disconnect the hose from the straight coupling half,
and retain the coupling half for later installation.

(3) Install tube elbow into lubriclone assembly using

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PERFORMED PACKING AND NUT. DO NOT TIGHTEN NUT.

NOTE
THE TUBE ELBOW IS SHORTER THAN THE
BREAK-AWAY FITTINGS, THEREFORE, IT MAY
BE NECESSARY TO REPOSITION THE OIL LINE
BY LOOSENING AND RELOCATING THE STAND-OFF
CLAMPS BETWEEN THE OIL LINE AND THE LOWER
FUEL FILTER HOSE.

(4) ATTACH HOSE TO TUBE ELBOW.

(5) ALLOW HOSE AND TUBE ELBOW TO ALIGN IN A NEUTRAL
POSITION. TIGHTEN NUTS.

10. SUPPLY/PARTS AND DISPOSITION

A. PARTS REQUIRED - COUPLING HALF, 90 DEGREE, P/N 222645,
RNF 4720-01-322-4262, MAY BE REQUIRED TO REPLACE DEFECTIVE ITEMS.
IF COUPLING HALF, 90 DEGREE, P/N 222645, IS REQUIRED AND IS NOT
AVAILABLE, USE THE PARTS CITED IN PARA 9D(1) UNTIL THE COUPLING
HALF, 90 DEGREE, IS INSTALLED.

B. REQUISITIONING INSTRUCTIONS - REQUISITION REPLACEMENT
PARTS USING NORMAL SUPPLY PROCEDURES. IF REQUISITIONING THE
TEMPORARY REPLACEMENT TUBE ELBOW LISTED IN PARA 9D(1), ONLY PART

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B. ESTIMATED TIME REQUIRED -

(1) TOTAL OF 1 MAN-HOUR USING 2 PERSONS.
(2) TOTAL OF 1 HOURS DOWNTIME FOR ONE END ITEM.

C. ESTIMATED COST IMPACT OF STOCK FUND ITEMS TO THE FIELD -

<table>
<thead>
<tr>
<th>NOMENCLATURE</th>
<th>PART NO./NSN</th>
<th>QTY/AC</th>
<th>COST EA.</th>
<th>TOTAL $</th>
</tr>
</thead>
<tbody>
<tr>
<td>COUPLING HALF,</td>
<td>2E2645</td>
<td>1</td>
<td>$488.62</td>
<td>$488.62</td>
</tr>
<tr>
<td>90 DEGREE</td>
<td>4730-01-322-4962</td>
<td>1</td>
<td>$488.62</td>
<td>$488.62</td>
</tr>
</tbody>
</table>

TOTAL COST PER AIRCRAFT = $488.62

D. TB/MNOS TO BE APPLIED PRIOR TO OR CONCURRENTLY WITH THIS INSPECTION - N/A.

E. PUBLICATIONS WHICH REQUIRE CHANGE AS A RESULT OF THIS INSPECTION - TM 55-1520-210-23-1 AND TM 55-1520-210-PM SHALL BE CHANGED TO REFLECT THIS MESSAGE. A COPY OF THIS MESSAGE SHALL BE INSERTED IN THE APPROPRIATE TM AS AUTHORITY TO IMPLEMENT THE CHANGE UNTIL THE PRINTED CHANGE IS RECEIVED.

13. REFERENCES -

A. TM 55-1520-210-23-1.
B. TM 55-1520-210-PM.

14. RECORDING AND REPORTING REQUIREMENTS -

A. REPORTING COMPLIANCE SUSPENSE DATE (AIRCRAFT) - UPON