URGENT

***TB 1-1520-238-20-88**

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

AH-64, INSPECTION OF FUSELAGE STATION (FS) 176 FRAME FOR CRACKING AROUND THE WEB ON AIRCRAFT MANUFACTURED PRIOR TO TAIL NUMBER 84-25351

Headquarters, Department of the Army, Washington, D.C.

24 July 1998

NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL 24 JULY 2000 UNLESS SOONER RESCINDED OR SUPERSEDED.

1. Priority Classification. URGENT.

a. Aircraft in use. Upon receipt of this technical bulletin the condition status symbol of the cited aircraft will be changed to a Red Horizontal Dash // - //. The Red Horizontal Dash // - // may be cleared when the inspection of paragraph 8 below are completed. The affected aircraft shall be inspected as soon as practical but no later than the Task/Inspection suspense date. Failure to comply requirements of this Technical Bulletin within the time frame specified will cause the status symbol of the affected aircraft to be upgraded to a Red // X //.

b. Aircraft in Depot Maintenance. Same as paragraph 1.a.

c. Aircraft undergoing maintenance. Same as paragraph 1.a.

d. Aircraft in transit.

(1) Surface/Air shipment. Prior to first flight.

(2) Ferry status.

This TB supersedes USAAMCOM Message 181526Z Dec 97 (AH-64-98-ASAM-02)

(a) Same as paragraph 1.a.
(b) Those aircraft that have a DD250 and are at Boeing will be inspected prior to ferry to final destination.

e. Maintenance Trainers. (Category A, and B). N/A.

f. Component/Parts in Stock Including War Reserves at all Levels (depot and Others). N/A.

2. Task/Inspection Suspense Date. A one-time visual inspection on or before the next 10-hours/14-days, schedule an eddy current inspection on or before the next phase and perform a recurring eddy current inspection at every phase.

3. Reporting Compliance Suspense Date. Per paragraph 14.a. of this Technical Bulletin.

4. Summary of Problem.

a. The fuselage station (FS) 176 frame may develop cracking around the web holes and must be inspected. This frame was redesigned on aircraft beginning with tail number 85-25351. Aircraft 85-25351 and subsequent do not require this inspection.

b. For manpower/downtime and funding impacts see paragraph 12.

c. The purpose of this Technical Bulletin is to require inspection of the 176 frame to include: a onetime visual inspection on or before the next 10-hour/i 4-day interval, a recurring 125 hour visual inspection, schedule a one-time repositioning of the pitot and static lines and a recurring eddy current inspection on or before the next phase.

5. End Items to be Inspected. AH-64 aircraft, serial numbers 82-23355 thru 84-24311. Longbow remanufactured aircraft with fuselage upgrade annotated on the DD250 do not require this inspection.

6. Assembly Components to be inspected. N/A.

7. Parts to be Inspected.

Nomenclature	**Part No.**	**NSN**
FS 176 Frame	7-311113180-601	N/A

8. Inspection Procedures. The visual inspection is to be done on or before the next 10-hour/14-day inspection interval. It will also be repeated as a recurring 50 hour inspection, until the pitot and static lines are relocated and the NDI inspection has been completed. This inspection will be a 100 hour inspection.

a. Remove inspection panel B200.

b. Drop ammo pack.

c. Using flashlight and 10X magnifier inspect the upper right corner area of the FS 176 frame for cracks. Reference Figures 3 and 4, If no cracks are found refer to paragraph 9 and complete inspection.

d. Check frame upper right side around the holes as follows:

Hole Number	Hole Diameter	Location, RH Side WL	BL	Distance From Top of Frame
1	.63 (static)	144	17	1.5
2	.44 (pitot)	144	16.14	1.5
3	.312 (tooling)	142.75	16	2.75
4	Remaining 8 holes in upper RH, aft side of frame. Do not remove grommets, anti-chafe material, or sealing compound.			

e. Using flashlight and 10X magnifier inspect the upper left corner area of the FS 176 frame. Pay particular attention to the area around all holes. If cracks are found refer to paragraph 9 and complete inspection.

f. Using flashlight and 10X magnifier inspect the upper portion of the FS 176 frame cells between left BL 23.75 and right BL 23.75 between WL 145.5 and 141.62. If cracks are found refer to paragraph 9 and complete inspection.

g. Using flashlight and 10X magnifier inspect the area of the No. 2 right/left hand stringer connection at BL 23.75, WL 145.5. If cracks are found refer to paragraph 9 and complete inspection.

h. Upon completion of the visual inspection contact AVIM support to schedule an eddy current inspection of the following holes previously visually inspected on right hand aft side of the frame on or before the next phase:

Hole Number	Hole Diameter	Location, RH Side WL	BL	Distance From Top of Frame
1	.63 (static)	144	17	1.5
2	.44 (pitot)	144	16.14	1.5
3	.312 (tooling)	142.75	16	2.75

i. The eddy current inspection will be performed as a recurring inspection at every phase.

j. During next phase inspection visually inspect center opening in the FS 176 frame.

(1) Defuel aircraft.

(2) Remove ammo handling hardware.

(3) Remove panel P/N 7-311113510-11.

(4) Using flashlight and 10X magnifier visually inspect the inner flange of the FS 176 frame from WL 139.8, BL 0.0 around the cutout to WL 122.25, BL 17.55 for cracks resulting from previous fuel cell removal/installation.

9. Correction Procedures.

a. If no cracks are found:

(1) Perform recurring visual inspection IAW paragraph 8 of this Technical Bulletin.

(2) Perform recurring eddy current inspection at every phase using qualified

personnel/procedures.

b. If cracks are found contact technical POC for repairs. Aircraft is unserviceable until repaired.

(1) The status symbol will be updated to a red //X//.

(2) Submit a category 1 deficiency report and indicate crack locations.

k. On or before next phase move two lines (pitot and static) on upper right hand FS 176 frame to allow proper visual and eddy current inspection of these holes.

l. Reroute the pitot and static lines as follows:

(1) Remove the following items lAW reference 13.a:

(a) APU Panel, PLT RH Console.

(b) IFF Control Panel, PLT RH Console.

(c) VHF Radio, PLT RH Console.

(d) Refuel Panel.

(e) Access Door, located on transmission deck, beneath right hand Transformer rectifier.

(f) Ammo pack.

(g) Wire bundle clamp HS4271-3510 located on aft side of FS 176 frame (clip must stay installed on the frame).

(h) Right hand Transformer rectifier

(2) Cut pitot and static lines 8 inches aft of FS 176 frame. Reference figure 1.

(3) Cut convoluted tubing at clamp located forward of FS 176 frame and remove.

(4) Access the pitot line in the pilot right hand console. Cut line 12 inches forward of grommeted pass through at FS 145. Remove chafe tape. Reference figure 1.

(5) Access static line and disconnect from “T" fitting in pilot right hand console. Remove swagelok.

(6) Remove pitot and static lines between FS 176 frame and console. Make sure not to dislodge any grommets.

(7) Install new tubing between FS 176 frame and console. New tubing should follow same path through all bulkheads and grommets, except in the following cases:

(a) Convoluted tubing will not be used in new installation.

(b) New tubing will route over fuel filler neck.

(c) New tubing will route through new pass through location in FS 176 frame.

(8) In pilot right hand console area apply new swagelok to static line and install line to original "T" fitting . Splice new pitot line using swagelok fitting. Reference 13.a.

(9) At FS 176 frame install new 3 clamp assembly on existing clip and route new pitot and static lines through the top left two clamps. Route existing wire harness (W118) through the bottom clamp. Reference figure 2.

(10) Splice new tubing to the old lines aft of FS 176 frame. Reference 13.a.

(11) Perform pitot static system test. Reference 13.e.

10. Supply/Parts and Disposition.

a. Parts Required. N/A.

b. Requisitioning Instructions. N/A.

c. Bulk and Consumable Material.

Nomenclature	Quantity	Part Number	NSN
Tubing	4 ft.	HD1-10922	4720-00-045-4714
Tubing	4 ft.	HD1-11228	4720-00-726-5459
Union	1	HS5116-006	4730-01-026-4825
Union	1	HS5116-004	4730-01-185-9135
Clamp Loop	1	AN742-6	5340-00-200-2741
Clamp Loop	1	MS21919WDF4	5340-00-286-9420
Clamp Loop	1	AN742-4	5340-00-298-9475
ALUMINUM(2024T3/T4)	1	.06x1.5x2	
Screw	1	NAS1096-3-7	5305-00-824-7362
Screw	1	NAS1096-3-19	5305-00-825-6761
Screw	1	NAS1096-3-14	5305-00-825-6755
Spacer	1	NAS43DD3-92	536500-836-9094
Washer	3	AN960KD10L	5310-01-136-3554
Nut	2	MS21042L3	5310-00-807-1474

d. Disposition. A QDR is required if cracks are found. Contact technical POC for repairs.

e. Disposition of Hazardous Material. N/A

11. Special Tools, Jigs and Fixtures Required.

Nomenclature	Part Number	NSN
Detector, Metal Flaw (Eddy Current Tester)	9017368.01	6635-01-419-0694

12. Application.

a. Category of Maintenance. AVUM for visual inspection and rerouting of pitot and static lines, and AVIM for eddy current inspection. Aircraft downtime will be charged to AVUM for visual inspection and rerouting of pitot and static lines, and to AVIM for eddy current inspection.

b. Estimated Time Required.

(1) Visual Inspection

(a) Total of 9 man-hours using 4 persons.

(b) Total of 3 hours downtime for one end item.

(2) Pitot and static line rerouting

(a) Total of 8 man-hours using 2 persons.

(b) Total of 4 hours downtime for one end item.

(3) Eddy Current Inspection

(a) Total of 3 man-hours.

(b) Total of 3 hours downtime for one end item.

c. Estimated Cost Impact of Stock Fund Items to the Field. N/A.

d. TB/MWOS to be Applied Prior to or Concurrently with this Inspection. N/A.

e. Publications Which Require Change as a Result of This Technical Bulletin. TM 1-1520-238-23, TM 1-1520-238-PMS, and TM 1-1520-264-23 shall be changed to reflect this TB.

13. References.

a. TM 1-1520-238-23, Aviation Unit and Intermediate Maintenance Manual, for Army AH-64A Helicopters, dtd 16 May 1994.

b. TM 1-1520-238-23P, Aviation Unit and Intermediate Maintenance Repair Parts and Special Tools List for Helicopter, Attack AH-64A, dtd 28 May 96.

c. TM 1-1520-238-PMS, 10 Hour/14 Day Inspection Checklist, AH-64A, dtd 30 June 94.

d. TM 1-1520-264-23, NDI for AH-64 Series Helicopters, dtd 30 Nov 96.

e. TM 1-1500-204-23, General Aircraft Maintenance Manual, dtd 31 Jul 92..

14. Recording and Reporting Requirements.

a. Reporting Compliance Suspense Date (Aircraft). Upon entering requirements of this Technical Bulletin on DA Form 2408-13-1 on all subject MDS aircraft, forward a priority message, Datafax or E-Mail to: Commander, AMCOM, ATTN: AMSAM-SF-A (SOF Compliance Officer), Redstone Arsenal, AL 35898-5222, per AR 95-1. Datafax number is DSN 788-8643 or Commercial (205) 842-8643. E-Mail

address is "safeadm@redstone.army.mil". The report will cite this Technical Bulletin number, date of entry in DA Form 2408-13-1, the aircraft mission design series and serial numbers of aircraft in numerical order.

b. Task/Inspection Reporting Suspense Date (Aircraft). N/A.

c. Reporting Compliance Suspense Date (Spares). N/A.

d. Task/Inspection Reporting Suspense Date (Spares). N/A.

e. The following forms are applicable and are to be completed in accordance with DA Pam 738-751,15 Jun 92. Note: ULLS-A users will use applicable "E" forms.

(1) DA Form 2408-13, Aircraft Status Information Record.

(2) DA Form 2408-13-1, Aircraft Inspection and Maintenance Record.

(3) DA Form 2408-13-2, Related Maintenance Action Record.

(4) DA Form 2408-13-3, Aircraft Technical inspection Worksheet.

(5) DA Form 2408-15, Historical Record for Aircraft.

15. Weight and Balance. N/A.

16. Points of Contact for this Technical Bulletin.

a. Technical, Mr. Lee Bumbicka, AMSAM-AR-EI-P, DSN 897-4925 or Commercial (205) 313-4925. E-mail is bumbickal@avrdecr.redstone.army.mil.

b. Logistical, Mr. Rich Pfeiffer, SFAE-AV-AAH-LF, DSN 897-4245, of Commercial (205) 313-4245. E-mail is pfeifferr@peoavn.redstone.army.mil.

c. Forms and Records, Ms. Ann Waldeck, AMSAM-MMC-RE-F, DSN 746-5564 or Commercial (205) 876-5564. Datafax is DSN 746-4904. E-mail is waldeck-ab@redstone.army.mil.

d. Safety, Mr. Howard Chilton, AMSAM-SF-A, DSN 746-7271 or Commercial (205) 876-7271. E-mail is chilton-hi @ redstone.army.mil.

e. Foreign Military Sales (FMS), Recipients requiring clarification of action advised by this message should contact CW5 Joseph L. Wittstrom, AMSAM-SA, DSN 897-0681 or Commercial (205) 313-0681/0411. E-mail is wittstrom-il@redstone.army.mil, or Mr. Ronnie Sammons, AMSAM-SA-CS-NF, DSN 897-0869 or Commercial (205) 313-0869. Datafax is DSN 897-0916. E-mail is sammons-rw@redstone.army.mil (Huntsville is GMT minus 6 hours).

f. After hours, contact AMCOM Command Operations Center (COC), DSN 897-2066/2067 or Commercial (205) 313-2066/2067.

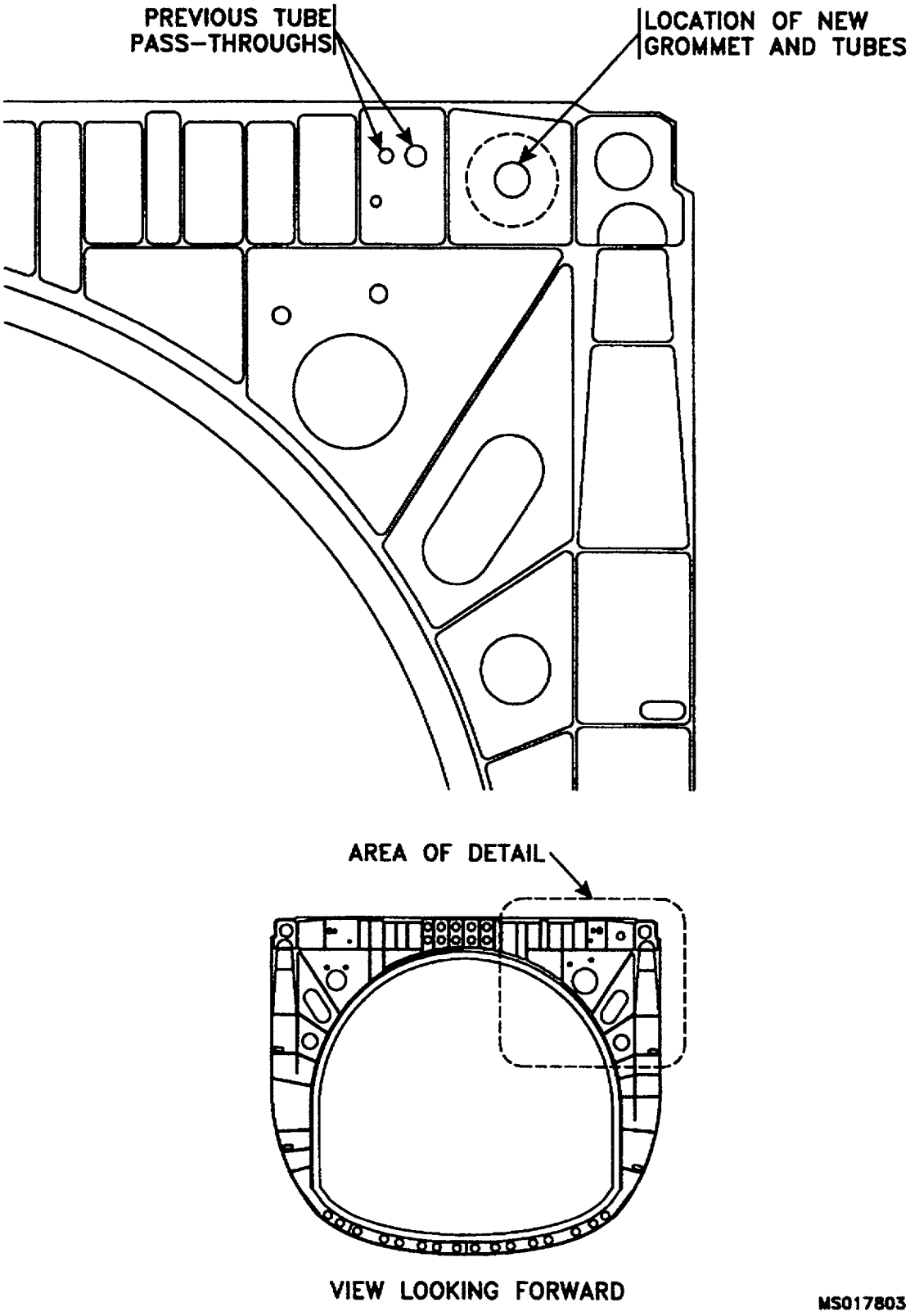
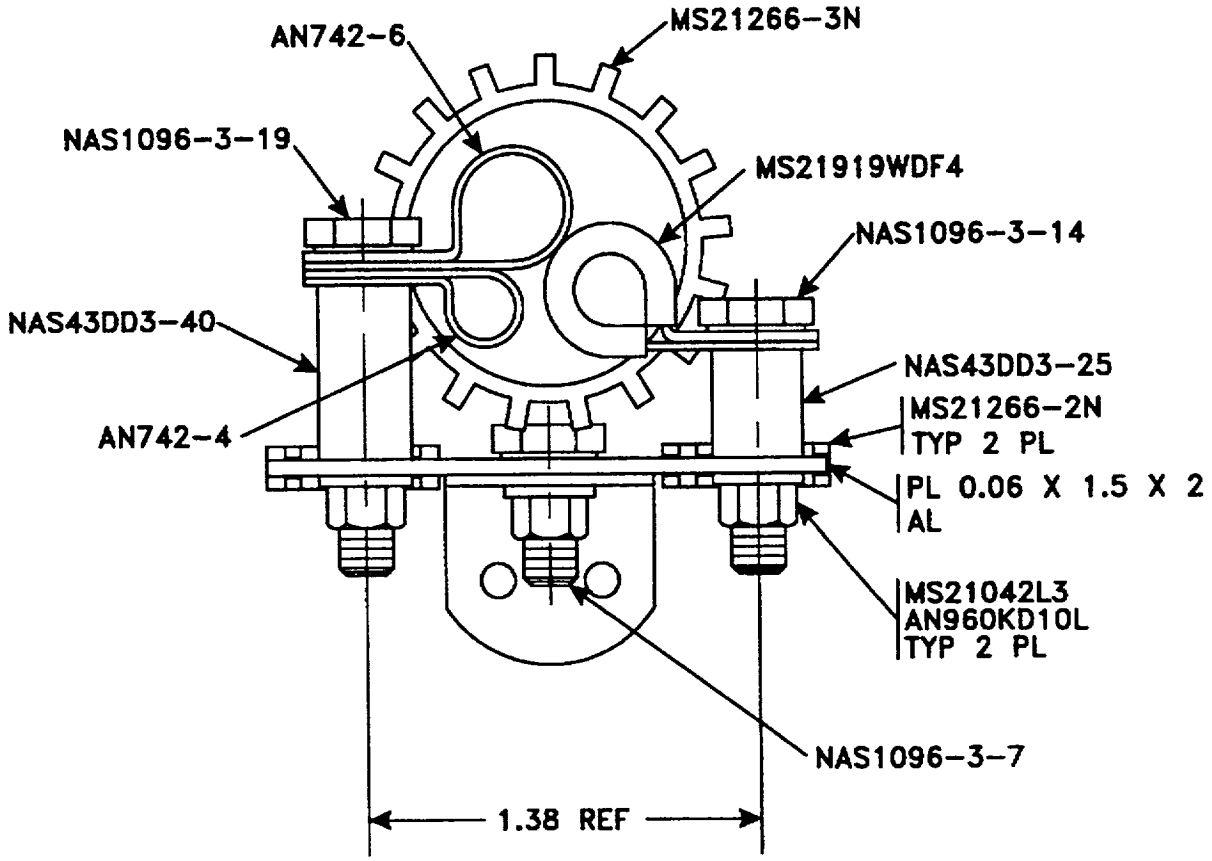

PREVIOUS TUBE PASS-THROUGHS
LOCATION OF NEW GROMMET AND TUBES
AREA OF DETAIL
VIEW LOOKING FORWARD
MS017803

Figure 1.



NOTES:

1. **MS21266-3N GROMMET SHOULD BE USED IN HOLE. USE OF SMALLER -2N GROMMET WILL RESTRICT USEABLE DIAMETER AND CAUSE INTERFERENCE.**

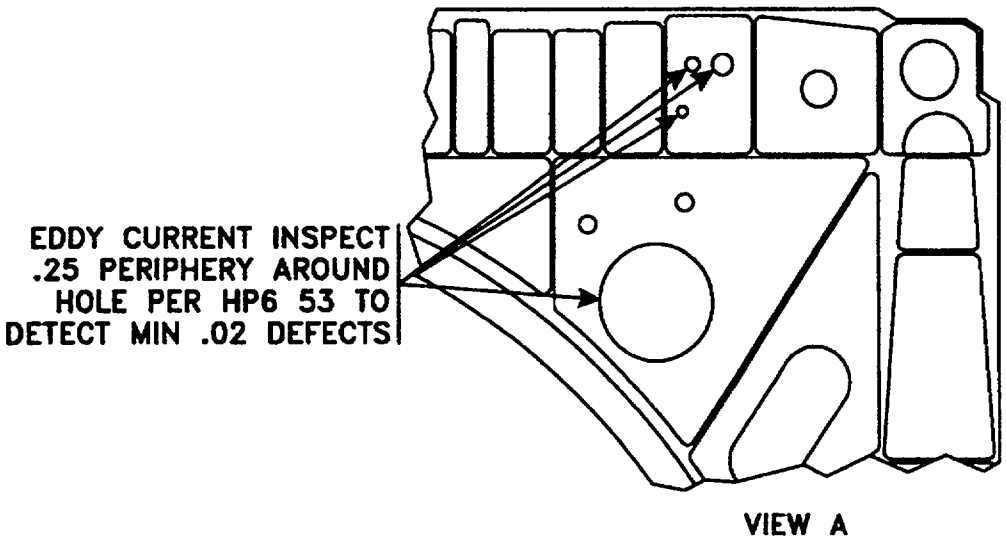
2. **THE CONFIGURATION IN AMB97-04, FIG. 2 WILL RESTRICT THE AMOUNT OF USEABLE HOLE SPACE. REPLACE AN742-4 CLAMP FOR ELECTRICAL BUNDLE WITH MS21919WDF4 OR HS4271-3510 TO PREVENT CHAFING FOR THE AMB CONFIGURATION.**

3. **USE MS21 266-2N GROMMET AS SHOWN ON FORWARD PLATE CONTACT SURFACE TO PREVENT CHAFING.**

4. **CENTER PLATE AS SHOWN AND POSITION SPACER HOLES TO ALLOW CLAMP POSITIONING AS SHOWN**

MS017S12

Figure 2.


EDDY CURRENT INSPECT
.25 PERIPHERY AROUND
HOLE PER HP6 53 TO
DETECT MIN .02 DEFECTS
VIEW A

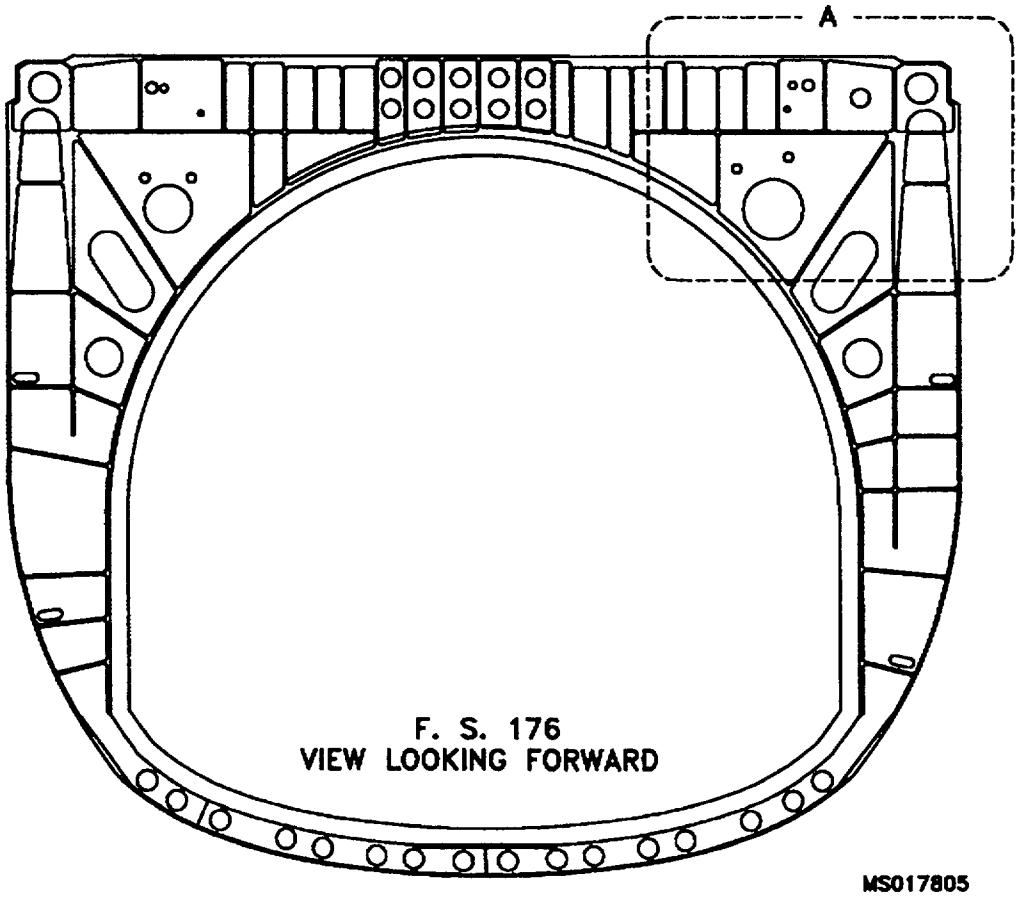

A
F. S. 176
VIEW LOOKING FORWARD
MS017805

Figure 3.

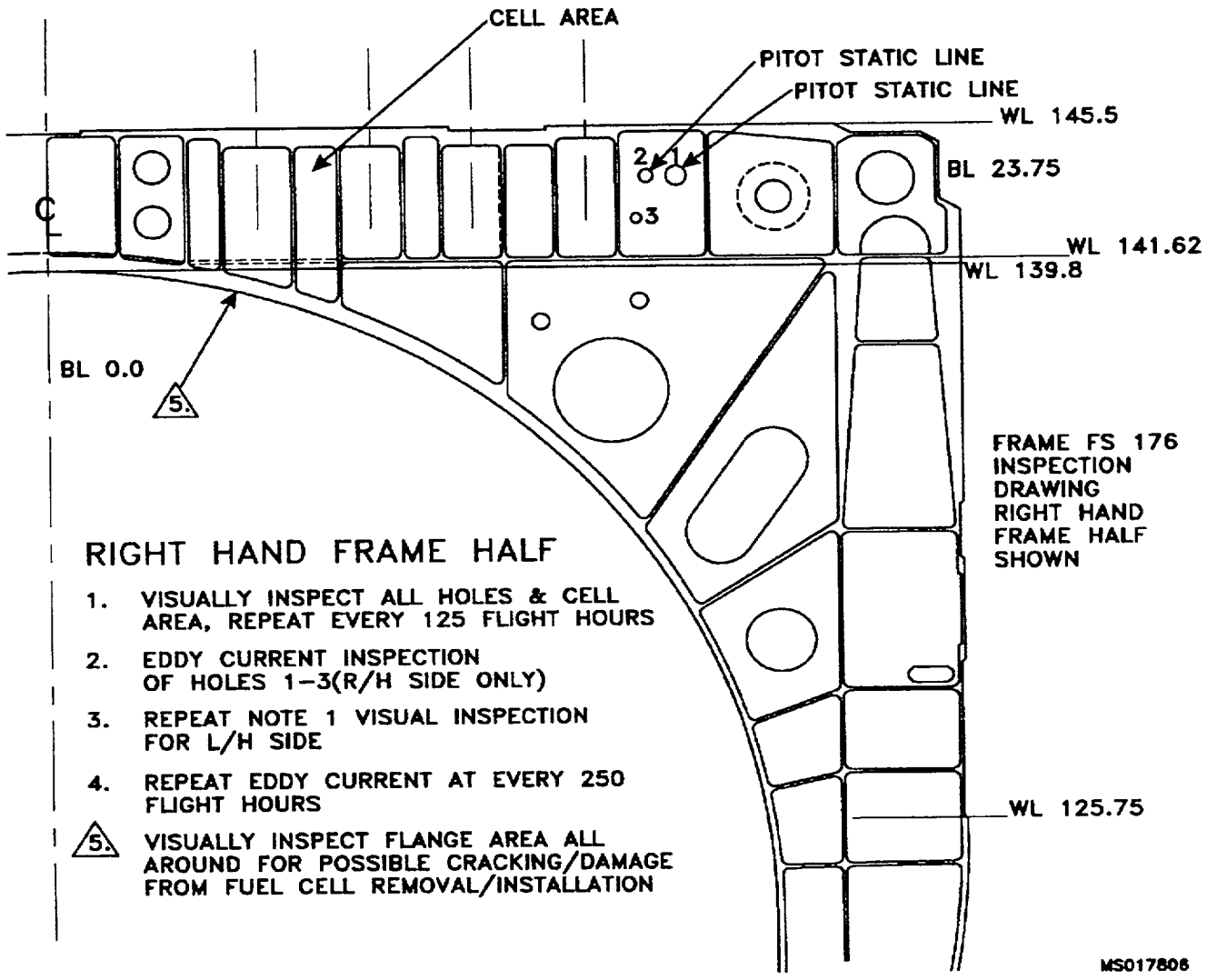

CELL AREA
PITOT STATIC LINE
PITOT STATIC LINE
WL 145.5
BL 23.75
WL 141.62
WL 139.8
BL 0.0
5.
FRAME FS 176
INSPECTION
DRAWING
RIGHT HAND
FRAME HALF
SHOWN
RIGHT HAND FRAME HALF
1. VISUALLY INSPECT ALL HOLES & CELL AREA, REPEAT EVERY 125 FLIGHT HOURS
2. EDDY CURRENT INSPECTION OF HOLES 1-3(R/H SIDE ONLY)
3. REPEAT NOTE 1 VISUAL INSPECTION FOR L/H SIDE
4. REPEAT EDDY CURRENT AT EVERY 250 FLIGHT HOURS
5. VISUALLY INSPECT FLANGE AREA ALL AROUND FOR POSSIBLE CRACKING/DAMAGE FROM FUEL CELL REMOVAL/INSTALLATION
WL 125.75
MS017806

Figure 4.

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
04853

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THE METRIC SYSTEM AND EQUIVALENTS

'NEAR MEASURE

. Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

'VEIGHTS

Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 lb.
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

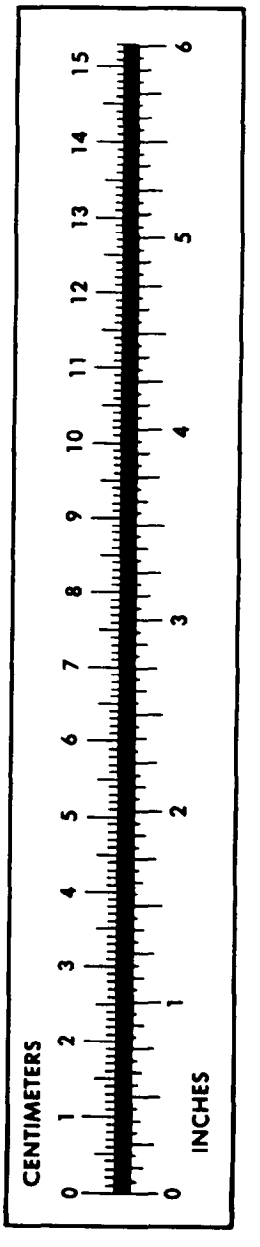
TEMPERATURE

5/9(°F - 32) = °C
212° Fahrenheit is evuivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5C° + 32 =°F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
ıts	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
lometers per Liter	Miles per Gallon	2.354
meters per Hour	Miles per Hour	0.621



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