

# URGENT

\*TB 1-2840-256-20-05

## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

### INSPECTION OF FIRST STAGE NOZZLE SHIELD ALL T703-AD-700/700A ENGINES ON OH-58D AIRCRAFT

Headquarters, Department of the Army, Washington, D. C.  
10 January 2002

#### REPORTING OF ERRORS AND RECOMMENDED IMPROVEMENTS

You can help improve this manual. If you find mistakes or know of any way to improve procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), direct to: Commander U. S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL. 35898-5230. A reply will be furnished to you. You may also send your comments electronically to our e-mail address: 2028@redstone.army.mil or by fax 256-842-6546/DSN 788-6546. Instructions for sending an electronic 2028 may be found at the back of this manual.

**DISTRIBUTION STATEMENT A:** Approved for public release; distribution is unlimited.

#### NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL  
RESCINDED OR SUPERSEDED.

#### 1. Priority Classification. Urgent.

a. Aircraft in Use. Upon receipt of this Technical Bulletin (TB) make the following entry on DA Form 2408-13-1: Enter a Red Horizontal Dash status symbol with the following statement: Inspect T703-AD-700/700A engine in accordance with this TB. Clear Red Horizontal Dash when procedures in paragraphs 8. and 9. are completed. Affected aircraft shall be inspected as soon as practical but no later than 28 December 2001. Commanders unable to comply with requirements of this TB within time frame specified will upgrade affected aircraft status to a Red X.

b. Aircraft in Maintenance Facility:

(1) Aircraft in AVUM, AVIM, or Depot. Commanders and Facility Managers will not issue aircraft until they are in compliance with this TB.

(2) Aircraft at Contractor Facility. Bell Helicopter TEXTRON, Inc. (BHTI) or Special Operations Force Support activity will inspect DD 250 aircraft prior to those aircraft departing for ferry to final destination.

c. Aircraft in Transit.

(1) Surface/Air Shipment. Same as paragraph 1. a.

\*This TB supersedes OH-58-02-ASAM-03 132125Z Dec. 01

(2) Ferry Status.

(a) Same as paragraph 1. a.

(b) BHTI or Special Operations Forces Support activity will inspect DD 250 aircraft prior to those aircraft departing for ferry to final destination.

d. Maintenance Trainers (Category A and B). Same as paragraph 1. a.

e. Component/Parts in Stock Including War Reserves at All Levels (Depot and Others). Upon receipt of this TB, Depot and Materiel Activity Activity Commanders will ensure materiel condition tags of all items in all condition codes listed in paragraphs 6. and 7. are annotated to read TB 1-2840-256-20-05 , Inspection of First Stage Nozzle Shields, not complied with.

(1) Wholesale Stock. Not applicable.

(2) Retail Stock. Upon receipt of this TB, Commanders and Facility Managers maintaining retail stock at installation level and below shall contact supporting aviation unit to perform procedures in accordance with paragraphs 8. and 9. on subject materiel. Dispose of discrepant materiel in accordance with paragraph 10. Report compliance with this TB in accordance with paragraph 14. c. (2) no later than 28 December 2001.

f. Components/Parts in Work (Depot and Other Levels). Depot and Other Maintenance Activity Commanders will ensure items listed in paragraphs 6. and 7. are not issued until they are in compliance with this TB.

**2. Task/Inspection Suspense Date.** Complete inspection in accordance with paragraph 8. within the next 10 flight hours but not later than 28 December 2001 and report in accordance with paragraph 14. a. (2) no later than 4 January 2001.

**3. TAMMS Reporting Compliance Suspense Date.** Report compliance in accordance with paragraph 14. a. (1) no later than 8 January 2002.

**4. Summery of Problem.**

a. Rolls Royce has reported in Commercial Engine Bulletins that some 1st. stage nozzle shields have developed cracks at the dome braze joint and progressed into the dome. Cracking has caused a small piece to fall out of the dome. A turbine section was damaged in one case resulting in a vibration but with no loss of engine performance noticed. Rolls Royce has taken corrective action by releasing new 1st. stage nozzle heat shields P/N 23073566 or P/N 23073533 with a different braze material that do not require this inspection.

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

c. The purpose of this TB is to:

(1) Inspect aircraft records to determine current engine operating hours.

(2) Require inspection of engine to determine if discrepant 1st. stage nozzle shield with P/N 23062752 or P/N 23062750 are installed and to require shield replacement if cracks are found in nozzle shield dome just ahead of braze joint.

(3) Establish recurring inspection for engines over 600 hours operating time that have P/N 23062752 or P/N 23062750 1st. stage nozzle shields installed until shield is replaced with latest nozzle shield P/N 23073566 or P/N 23073533.

**5. End Items to be Inspected.** All OH-58D aircraft.

**6. Assembly/Component(s) to be Inspected.**

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
T703-AD-700 Engine	23005741	2840-01-131-3350
T703-AD-700A Engine	23055439	2840-01-333-2064
Turbine Module	All Part Numbers	

**7. Parts to be Inspected.**

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
1st. Stage Nozzle Shield	23062752	2840-01-430-4174
1st. Stage Nozzle Shield	23062750	2840-01-470-5603

**8. Inspection Procedures.**

a. Inspect aircraft records of the following aircraft to determine if suspect engine is installed and determine current engine operating hours.

(1) OH-58D aircraft having T703-AD-700 or T703-AD-700A engines installed with the following serial numbers:

AE-410438	AE-410356	AE-410157	AE-410025
AE-410401	AE-410226	AE-410069	AE-410032
AE-410222	AE-410203	AE-410148	AE-410343
AE-410081			

(2) All series OH-58A/C, OH-58D or H-6 aircraft if not maintained by the following companies:

**NOTE**

Any engine or turbine module from any OH-58A/C/D or H-6 series aircraft sent to any maintenance facility other than those listed below since 1 January 1996 are suspect. If suspect engine is a T63-A720, T703-AD-700 or T703-AD-700A, contact Technical Point of Contact provided in paragraph 16. a. for further assistance.

- (a) Aeromaritime Mediterranean Corp., 4115 Pleasant Valley Road, Chantilly, VA. 20151-1227.
- (b) Dallas Airmotive, Inc., 7511 Lemon Avenue, Bldg. B, Dallas, Texas 75209.
- (c) Keystone Engine Services, 1420 Phenixville Pike, West Chester, Pennsylvania 19380.
- (d) Premier Turbines, 3551 Doniphan Drive, Neosho, MO. 64850-9199.
- (e) Rolls Royce Engine Services, Oakland (National Airmotive), 7200 Earhart Road, Oakland, California 94621-4504.
- (f) Standard Aero Limited, 33 Allen Dyne Road, Winnipeg, Manitoba Canada.

b. If any OH-58A/C/D or H-6 series aircraft have a suspect engine installed and engine has less than 600 operating hours perform inspection in paragraph 8. f. through 8. j. at the next scheduled 600 engine hour inspection and at every third 100 engine hour inspection (300 hours) until suspect parts are replaced. Enter a Red Horizontal Dash on DA Form 2408-13-1 "Engine requires Stage 1 Nozzle Shield inspection at 600 Eng. Hrs. at xxxxx Acft Hrs. in accordance with TB 1-2840-256-20-05".

c. If any OH-58A/C/D or H-6 series aircraft have a suspect engine installed and engine has more than 600 engine hours but less than 900 engine hours perform inspection in paragraph 8. f. through 8.j. at next 100 hour engine inspection interval and at every third 100 hour engine inspection (300 hours) until suspect part is replaced. Enter a Red Horizontal Dash on DA Form 2408-13-1 "Engine requires Stage 1 Nozzle Shield inspection at next 100 hour Eng. inspect at xxxxx Acft Hrs. in accordance with TB 1-2840-256-20-05".

d. If any OH-58A/C/D or H-6 series aircraft have a suspect engine installed and engine has 900 hours or more perform engine inspection in paragraph 8. f. through 8. j. within the next 20 flight hours and at every third 100 hour engine inspection (300 hours) until suspect part is replaced. Enter a Red Horizontal Dash on DA Form 2408-13-1 "Engine requires Stage 1 Nozzle Shield Inspt. at xxxxx Acft. Hrs. in accordance with TB 1-2840-256-20-05".

e. If engine is not suspect proceed to paragraph 9. a.

f. For suspect engines, gain access to 1st. stage nozzle shield in accordance with TM 55-2840-256-23.

(1) Remove 1st. stage nozzle shield from engine using TM 55-2840-256-23 and note its part number.

(2) If part number is other than 23062752 or 23062750, perform visual inspection on shield in accordance with applicable maintenance manual and clear original Red Horizontal Dash entry.

**NOTE**

If P/N 23062752 or P/N 23062750 are not installed on one of the T703 engines listed in paragraph 8. a. (2) contact Technical Point of Contact in paragraph 16. a.

(3) If part number is 23062752 or 23062750, then perform Dye Penetrant inspection using (TYPE I, Method A or B), TM 1-1500-266 Paragraph 1. 4. 7.

(4) Inspect suspect nozzle shield dome just ahead of brazed joint for cracks. Reference the figure showing inspection area at the following internet address: <http://www.scout-attack.redstone.army.mil/>, what's new. or <http://www.redstone.army.mil/sof/suppl/o58a0203.pdf> if internet access is not available. E-Mail or call Logistics Point of Contact listed in paragraph 16. b.

g. If no cracks are found, nozzle shield is serviceable and can be reinstalled. Proceed to paragraph 9. b.

h. If crack is found, proceed to paragraph 9. c.

i. If one or more of the following conditions below exist on any part number heat shield from any OH-58A/C/D or H-6 series aircraft proceed to paragraph 9. d.

(1) If Dash 3 Dome has cracked and moved away from Dash 2 Details to create a gap that is 0.10 inches or greater.

(2) If Dash 3 Dome has a hole equivalent to the area of a 1.0 inch diameter circle.

(3) If there is a piece of metal missing from Dash 3 Dome.

**9. Correction Procedures.**

a. If engine is not suspect or suspect nozzle shield has been replaced with a serviceable shield P/N 23073566 or P/N 23073533 no recurring inspection is required. Write-up in accordance with paragraph 1. a. may be cleared.

**NOTE**

ULLS-A units will use one of three 800 inspection numbers for the 300 engine hour recurring inspections.

b. If nozzle shield is P/N 23062752 or P/N 23062750 but is not cracked annotate engine DA Form 2408-5-1 "Stage 1 Nozzle initial inspection completed at xxxx engine hours. Perform recurring inspection of shield (P/N 23062752 or P/N 23062750) at 300 engine hour intervals in accordance with TB 1-2840-256-20-05 paragraph 8. g. through 8. k. until it is replaced with latest shield (P/N 23073566 or P/N 23073533)". Write-up in accordance with paragraph 1. a. may be cleared.

c. Replace damaged shield. If P/N 23062752 or P/N 23062750 is used to replace damaged shield annotate engine DA Form 2408-5-1 "Stage 1 nozzle inspection completed at xxxx engine hours and damaged shield replaced with another suspect shield". Perform recurring inspection of shield (P/N 23062752 or P/N 23062750) at 300 hour intervals in accordance with TB 1-2840-256-20-05 paragraph 8. g. through 8. k. until it is replaced with latest shield (P/N 23073566 or P/N 23073533). Write-up in accordance with paragraph 1. a. may be cleared.

d. Remove Turbine module and return it to Depot as unserviceable.

**10. Supply/Parts and Disposition.**

**NOTE**

HQDA-ODCSOPS will prioritize units and repair parts distribution as required

a. Parts Required. Items cited in paragraph 12 may be required to replace defective items.

b. Requisitioning Instructions. Users have local purchase authority for a one time buy to fill immediate use, high priority requirements for these shields. Sources include any Rolls Royce authorized maintenance center that provides only Original Equipment Manufacture (i.e. Rolls Royce) parts for 1st. Stage Nozzle Shield. contact Logistics Point of Contact listed in paragraph 16. b. (3) if you have any questions regarding approved local purchase sources. This authorization will expire once stock levels are established by Wholesale Management Activities. If requisitions are submitted through the wholesale supply system, use project code (CC 57-58) "X19" "X-RAY-ONE-NINE"

**NOTE**

Project code "X19" is required to track and establish a data base of stock fund expenditures incurred by the field as a result of SOF actions.

- c. Bulk and Consumable Materials. Not applicable.
- d. Disposition. Dispose of removed parts/components in accordance with normal supply procedures.
- e. Disposition of Hazardous Material. Not applicable.

**11. Special Tools, Jigs, and Fixtures Required.** As required.

**12. Application.**

a. Category of Maintenance. AVUM for records inspection and AVIM for replacement. Report aircraft Non-Mission Capable Maintenance (NMCM) while undergoing inspection and correction in accordance with this TB.

- b. Estimated Time Required.
  - (1) Total of man-hours using 1 person.
    - (a) Total of 0.5 man-hours using one person.
    - (b) Total of 0.0 hours downtime for one end item.
  - (2) Time for repair/replacement.
    - (a) Total of 16.0 man-hours using two persons.
    - (b) Total of 8.0 hours downtime for one end item.

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

NOMENCLATURE	PART NUMBER NATIONAL STOCK NUMBER	QTY.	COST EACH	TOTAL \$
Nozzle Shield	23062752 or 23062750	1	\$ 2,034.96	\$ 2,034.96
Nozzle Shield	23073566 2840-01-491-9405	1	\$ 2,034.96	\$ 2,034.96
Nozzle Shield	23073533 2840-01-481-5594	1	\$ 2,034.96	\$ 2,034.96
Lock Wire	9505-00-221-2650	1	\$ 5.13	\$ 5.13
Anti-Seize Compound	8030-00-105-0270	1	\$ 21.53	\$ 21.53
Air Tube Seal	5365-01-286-5418	2	\$ 177.42	\$ 354.84
Maximum total cost per aircraft =				\$ 2,416.46

- d. TB/MWOs to be Applied Prior to or Concurrently with this Inspection. Not applicable.
- e. Publications Which Require Change as a Result of This Inspection. TM 1-2840-256-23P shall be changed to reflect this TB. A copy of this TB shall be inserted in TM 1-2840-256-23P as authority to implement the change until a printed change in received.

**13. Reference.**

- a. DA Pam 738-751, 15 March 1999
- b. TM 55-2840-256-23, 2 June 1986
- c. TM 1-1520-266-23, 30 May 1997

**14. Recording and Reporting Requirements.**

- a. Aircraft.

(1) Reporting Compliance Suspense Date. Upon entering requirements of this TB on DA Form 2408-13-1 for all effected aircraft, Commanders will forward a priority message to Commander, AMCOM, ATTN: AMSAM-SF-A (SOF Compliance Officer), Redstone Arsenal, AL. 35898-5000, in accordance with AR 95-1, no later than date specified in paragraph 3. Datafax number is DSN 897-2111 or 256-313-2111. E-Mail safeadm@redstone.army.mil. Report will cite this TB, date of entry on DA Form 2408-13-1, aircraft mission design and series, and serial numbers in numerical order.

(2) Task/Inspection Reporting Suspense Date. Upon completion of inspection, Commanders will forward a priority message to Logistical Point of Contact listed in paragraph 16. b. Report will cite this TB. date of inspection, aircraft serial number, aircraft and component hours, and results of inspection. Inspection and reports will be completed no later than 4 January 2002.

- b. Wholesale Spare Parts/Assemblies.

- (1) Reporting TB Receipt. Not applicable.
- (2) Task/Inspection Reporting Suspense. Not applicable.

- c. Retail Spare Parts/Assemblies.

- (1) Reporting TB Receipt. Not applicable.
- (2) Task/Inspection Reporting Suspense. Not applicable.

- d. The following forms are applicable and are to be completed in accordance with DA PAM 738-751, 15 March 1999:

**NOTE**

ULLS-A users will use applicable E forms.

- (1) DA Form 2408-5-1, Equipment Modification Record (Engine).
- (2) DA Form 2408-13, Aircraft Status Information Record.
- (3) DA Form 2408-13-1, Aircraft Inspection and Maintenance Record.
- (4) DA Form 2408-16, Aircraft Component Historical Record.
- (5) DA Form 2408-18, Equipment Inspection List.
- (6) DA Form 2410, Component Removal and Repair/Overhaul Record. (If engine is removed/replaced)
- (7) DD Form 1574/DD Form 1574-1, Serviceable Tag/Label - Materiel (color yellow). Annotate remarks block with "Inspected serviceable in accordance with OH-58-02-ASAM-03 (TB 1-2840-256-20-05)".
- (8) DD Form 1577-2/DD Form 1577-3, Unserviceable (Reparable) Tag/Label (color green). Annotate remarks block with "Unserviceable in accordance with OH-58-02-ASAM-03 (TB 1-2840-256-20-05)".

- 15. Weight and Balance.** Not applicable.

**16. Points of Contact.**

- a. Technical Point of Contact is Mr. Gary Oglesby, AMSAM-RD-AE-P-E, DSN 897-4931 or 256-313-4931, fax DSN 897-4961. E-Mail gary.oglesby@redstone.army.mil.

b. Logistical Point of Contact is Mr. Ray Hensley, SFAE-AS-ASH-L, DSN 645-7441 or 256-955-7441, fax DSN 645-7125. E-Mail raymond.hensley@redstone.army.mil

c. Wholesale Point of Contact (Spares) is Mr. Terry Blackmore, AMSAM-MMC-AV-SOA, DSN 897-1392 or 256-313-1392, fax DSN 788-6758. E-Mail terry.blackmore@redstone.army.mil.

d. Forms and Records Point of Contact is Ms. Ann Waldeck, AMSAM-MMC-MA-NM, DSN 746-5564 or 256-876-5564, fax 746-4909. E-Mail ann.waldeck@redstone.army.mil.

e. Safety Points of Contact:

(1) Primary — Mr. Frank Rosebery (SAIC), AMSAM-SF-A, DSN 788-8631 or 256-842-8631, fax DSN 897-2111 or 256-313-2111. E-Mail frank.rosebery@redstone.army.mil.

(2) Alternate — Mr. Ron Price, AMSAM-SF-A, DSN 788-8636 or 256-842-8636, fax DSN 897-2111 or 256-313-2111. E-Mail ron.price@redstone.army.mil.

f. Foreign Military Sales (FMS) recipients requiring clarification of action advised by this TB should contact:

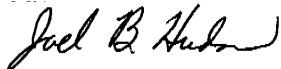
(1) Primary — Mr. Ronnie W. Sammons, AMSAM-SA-CS-NF, DSN 897-6856 or 256-313-6856, fax DSN 897-6630 or 256-313-6630. E-Mail ronnie.sammons@redstone.army.mil.

(2) Alternate — Mr. Paul W. Tarr, AMSAM-SA-CS-NF, DSN 897-6861 or 256-313-6861, fax DSN 897-6630 or 256-313-6630. E-Mail paul.tarr@redstone.army.mil.

g. After hours contact AMCOM Command Operations Center (COC) DSN 897-2066/7 or commercial 256-313-2066/7.

By Order of the Secretary of the Army:

Official:



**JOEL B. HUDSON**  
*Administrative Assistant to the  
Secretary of the Army*  
0200304

**ERIC K. SHINSEKI**  
*General, United States Army  
Chief of Staff*

DISTRIBUTION:

To be distributed in accordance with Initial Distribution Number (IDN) 314019, requirements for TB 1-2840-256-20-05.

***These are the instructions for sending an electronic 2028***

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: "Whomever" <whomever@where.army.mil

To: 2028@redstone.army.mil

Subject: DA Form 2028

1. **From:** Joe Smith
2. **Unit:** home
3. **Address:** 4300 Park
4. **City:** Hometown
5. **St.:** Louis, MO
6. **Zip:** 77777
7. **Date Sent:** 19-OCT.-93
8. **Pub no:** 55-2840-229-23
9. **Pub Title:** TM
10. **Publication Date:** 04-JUL-85
11. **Change Number:** 7
12. **Submitter Rank:** MSG
13. **Submitter F Name:** Joe
14. **Submitter M Name:** T
15. **Submitter L Name:** Smith
16. **Submitter Phone:** 123-123-1234
17. **Problem: 1**
18. **Page:** 2
19. **Paragraph:** 3
20. **Line:** 4
21. **NSN:** 5
22. **Reference:** 6
23. **Figure:** 7
24. **Table:** 8
25. **Item:** 9
26. **Total:** 123
27. **Text:**

This is the text for the problem below line 27.