ROUTINE

***TB 1-1520-238-20-136**

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

TEMPORARY INSTALLATION OF MAIN ROTOR DRIVE COVER PLATE AND DE-ICE DISTRIBUTOR COVER PLATE FOR AH-64 SERIES AIRCRAFT

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

23 April 2004

NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

1. PRIORITY CLASSIFICATION. ROUTINE.

1.1. AIrcraft in Use. Upon application of this Technical Bulletin (TB) the condition status symbol of the cited aircraft will be changed by entering a **circle red X** in the logbook along with an entry stating "Temporary cover plates installed, aircraft restricted to maintenance test flight only". Following the test flight and retention nut re-torquing, remove the **circle red X** entry from logbook.

1.2. Aircraft in Depot Maintenance. Not Applicable.

1.3. AIrcraft Undergoing Maintenance. Aircraft involving removal/reinstallation of the Main Rotor Retention Nut.

1.4. Aircraft in Transit. Not Applicable.

1.5. Maintenance Trainers (Category A, B, and Others). Not Applicable.

1.6. Component/Parts in Stock Including War Reserves at All Levels (Depot and Others). Not applicable.

2. TASK INSPECTION SUSPENSE DATE. Not Applicable.

3. REPORTING COMPLIANCE SUSPENSE DATE. Not applicable.

*This TB supersedes USAMCOM (PROV) Message AH-64-MIM-02-011.

4. SUMMARY OF THE PROBLEM.

4.1. When a main rotor retention nut removed/reinstalled, a limited flight test is required ensuring that the main rotor head bearings are fully seated. After the aircraft has landed, the retention nut is re-torqued. The AH-64A TM allows this test flight to be performed with the Air Data Sensor (ADS) removed. The AH-64D IETM allows this test flight to be preformed with the entire Mast Mounted Assembly (MMA) and the derotation unit removed. During test flight, the resulting cavities expose the main rotor driveshaft and the main rotor mast to the elements. A cover plate can be locally manufactured as applicable and temporarily installed to cover this open area during the test flight. This prevents intrusion of water, dirt, and debris that could cause future problems.

NOTE

The AH-64D Aircraft can fly with the mast mounted assembly removed and the derotation unit installed using the standard derotation cover (P/N 7-511310317-1).

4.2. See Figures 1 and 2 for cover plate locations.

4.3. Cover plate cover specifications are shown in Paragraph 9.1 and fabrication drawings are shown in figures 3 and 4.

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

4.5. The purpose of this TB is to ensure that the proper maintenance sequence for the removal/re-installation and re-torque of the main rotor retention nut along with the limited test flight is followed and that the test flights are conducted using approved cover plates.

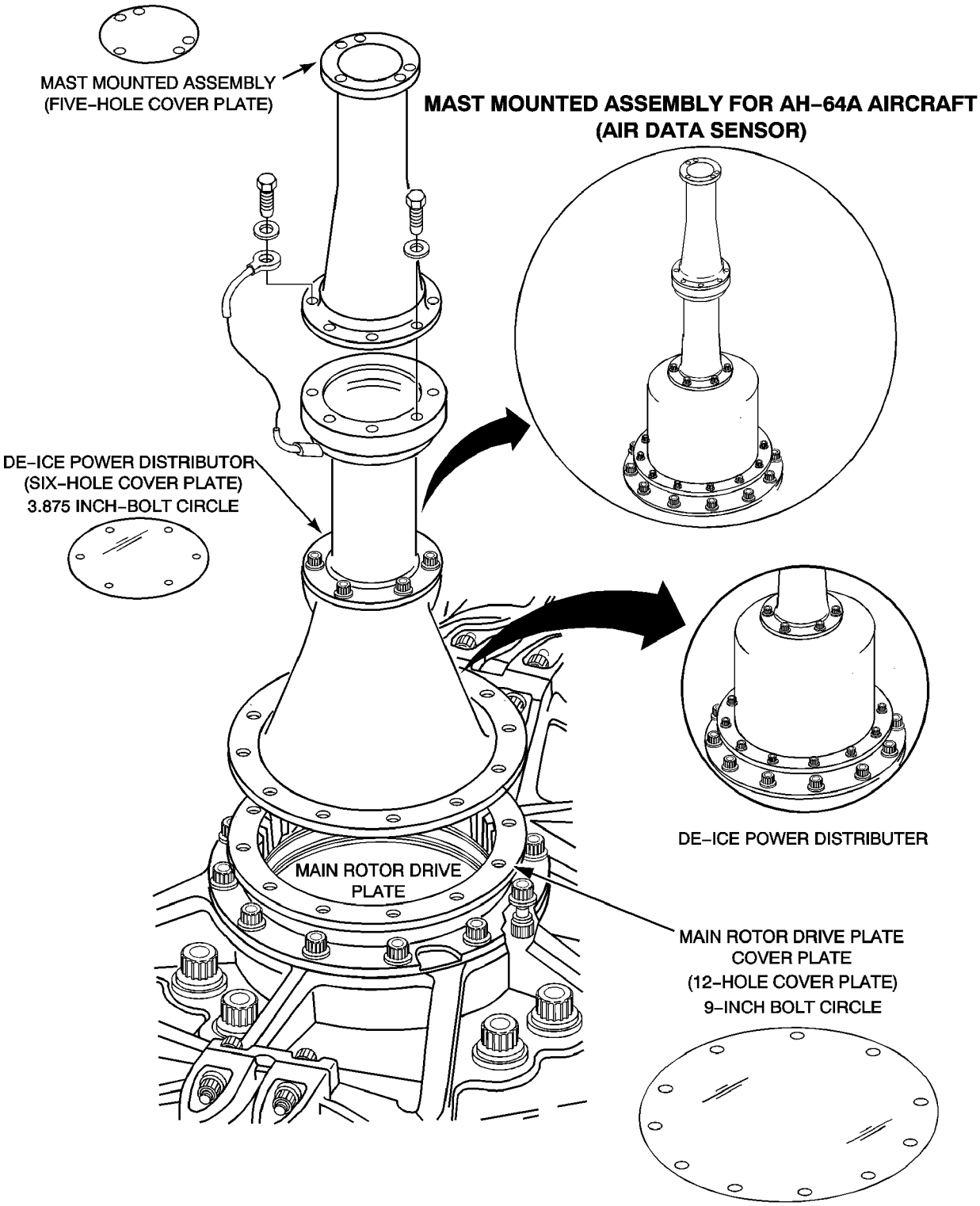

Figure 1. Temporary Test Flight Cover Plate Locations – A Model Aircraft

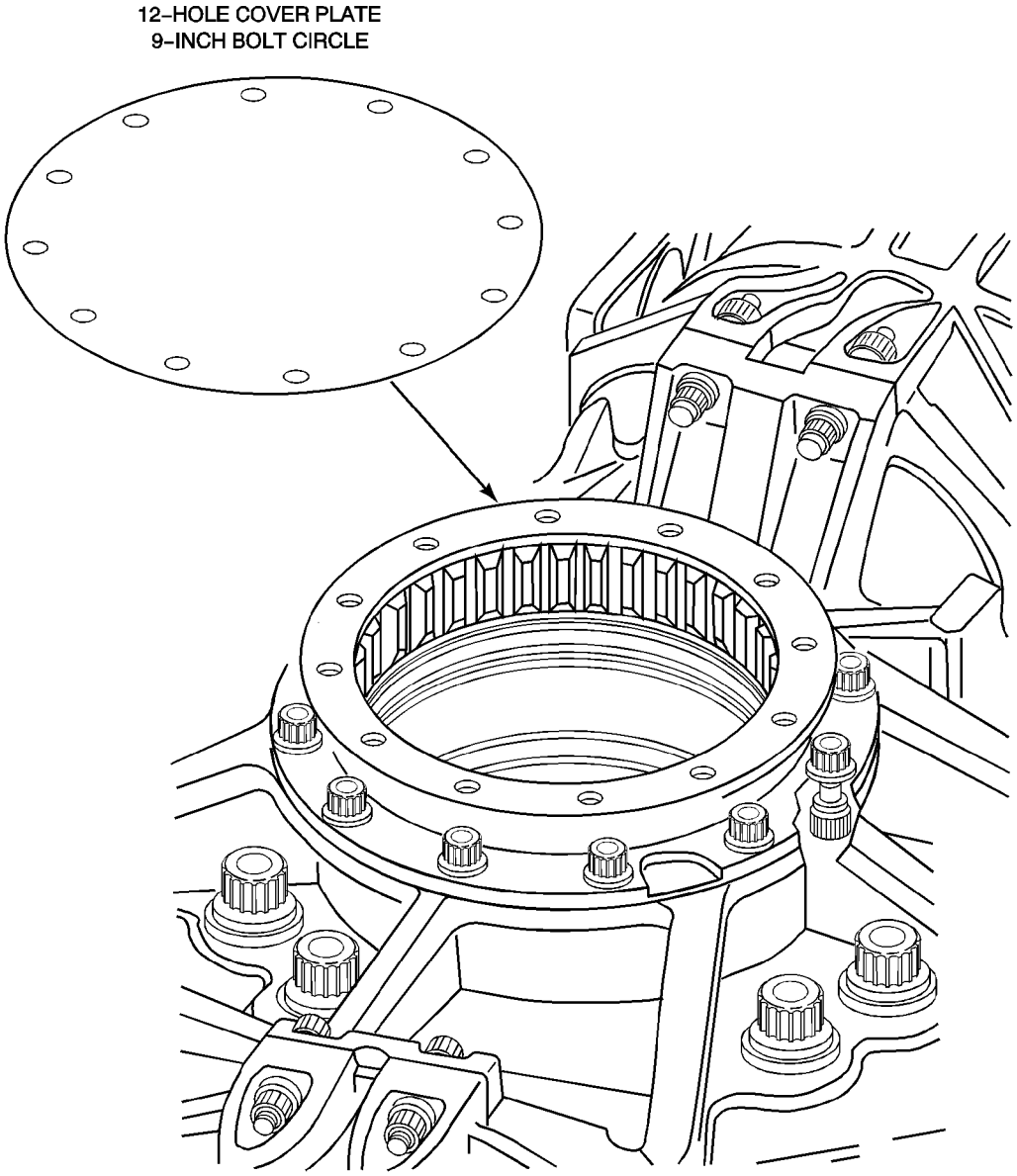

Figure 2. Temporary Test Flight Cover Location – D Model. Derotation Unit Not Installed

5. END ITEMS AFFECTED. All Army AH-64 AIRCRAFT.

6. ASSEMBLIES AFFECTED.

Nomenclature	Part Number	National Stock Number
Main Rotor Head Assy	7-311410003-607/-609/-611/-613 /-619/-621/-625	N/A
Mast Mounted Assy (ADS)	7-319720029-3	1560-01-179-0775
Main Rotor De-Ice Power Distributer	7-311A10025-3	1650-12-326-3293
Derotation Unit	7-519720075-3	6110-01-425-7237

7. PARTS AFFECTED.

Nomenclature	Part Number	National Stock Number	Quantity
Drive Plate Cover, Main Rotor, AH-64A	7-319720014	1615-01-170-2876	1
Drive Plate Cover, Main Rotor, AH-64D	7-511310299-3	5340-01-429-4980	1
Cover, Derotation Unit	7-511310317-1	5340-01-468-8254	1
Retaining Ring	7-311411103-3	5325-01-255-9314	1
Retention Nut	7-311411102-5	5310-01-350-1346	1
Main Rotor Retention Bolts	HS5287P06-01	5306-01-331-2588	12
Nut, Self-locking	MS21042L3	5310-00-807-1474	6
Washer, Flat	TX90790-34	5310-00-167-0834	6
Bolt, Machine	MS20073-03-10	5306-00-145-7008	8
Bolt, Machine	MS20073-03-6	5306-00-145-7006	8
Washer, Flat	AN960KD10	5310-01-134-5794	8
Screw, Close Tolerance	NAS1203-7	5305-00-754-2064	4
Bolt, Close Tolerance	HS5798-5-16	5306-01-468-1667	12

8. PROCEDURES.

WARNING

Since the Temporary Cover Plates can be made of either steel or aluminum and there is no insulator (gasket) other than primer, there could be a dissimilar metal corrosion problem if the covers are left on especially near a salt water environment. Therefore, the covers should be removed in a timely manner when the test flight is complete.

NOTE

Temporary Cover Plates are to be used only for test flight purposes and never for mission use.

8.1. AH-64A Procedure

8.1.1 Safe aircraft per procedures in TM 1-1520-238-23-3, paragraphs 5.

8.1.2 Follow TM procedures to remove, inspect and re-install the retention nut

8.1.3 Drive Plate installed without De-Ice Distribution.

8.1.3.1 Fabricate a temporary drive plate cover per specifications given in paragraph 9.1.

8.1.3.2 Enter a **circle red x** per paragraph 1.1.

8.1.3.3 Install the temporary cover plate (Figure 4) using the 8 bolts/washers and 4 screws per Figure 301 of TM 1-1520-238-23-P2 normally used to secure the drive plate cover and torque each to 20 inch-pounds per paragraph 6. of TM 1-1520-238-23-4. Continue the maintenance steps in the TM, which includes the limited test flight.

8.1.3.4 When the test flight is completed remove the cover plate and perform thee retention nut re-torque called out in the TM.

8.1.3.5 Remove the conditions imposed by paragraph 1.1

8.1.4 Drive Plate installed with De-Ice Distribution.

8.1.4.1 Fabricate a temporary drive plate cover per specifications given in paragraph 9.1.

8.1.4.2 Enter a **circle red x** par paragraph 1.1.

8.1.4.3 Install the temporary cover plate (Figure 5) using the 6 nuts/washers per Figure 301 of TM 1-1520-238-23-P2 normally used to secure the ADS and torque to 20 inch-pounds per paragraph 6. of TM 1-1520-238-23-4. Continue the maintenance steps in the TM which includes the limited test flight.

8.1.4.4 When the test flight is completed remove the cover plate and perform the retention nut re-torque called out in the TM.

8.1.4.5 Remove the conditions imposed by paragraph 1.1.

8.2. AH-64D Procedure.

8.2.1 Safe aircraft per procedures in IETM 1-1520-251-LONGBOW publications.

8.2.2 Follow IETM procedures to remove, inspect and reinstall the retention nut.

8.2.3 Drive Plate installed without Derotation Unit.

8.2.3.1 Fabricate a temporary drive plate cover per specifications given in paragraph 9.1

8.2.3.2 Enter a **circle red x** per paragraph 1.1.

8.2.3.3 Install the temporary cover plate (Figure 4) using the 8 bolts/washers and 4 screws called out in the IETM (under Maint Transmission Lube System Installation/Drive Plate Cover – Remove and Install) normally used to secure the drive plate cover plate and torque each to 23 inch-pounds. Continue the maintenance steps, which includes the limited test flight.

8.2.3.4 When the test flight is completed remove the cover plate and perform the retention nut re-torque called out in the TM.

8.2.3.5 Remove the conditions imposed by paragraph 1.1.

8.3. Following the limited test flights, remove the main rotor drive plate covers and inspect for damage (none allowed). Inspect all nuts, bolts, screws, and washers for damage before using to reinstall the ADS (A Model) or Derotation unit (D Model). Replace any damaged items.

9. COVER PLATE SPECIFICATIONS.

9.1. Cover plate specifications are as follows:

Nomenclature	Material	Dimensions	Processes
Main Rotor Drive Plate Cover Plate, A and D model A/C	ASTM 1020 HR/CR Steel or AL 7075	See Figure 3.	Paint cover plate using yellow primer, NSN 8040-01-205-6819
De-Ice Distribution Cover Plate, A model A/C only	ASTM 1020 HR/CR Steel or AL 7075	See Figure 4.	Paint cover plate using yellow primer, NSN 8040-01-205-6819

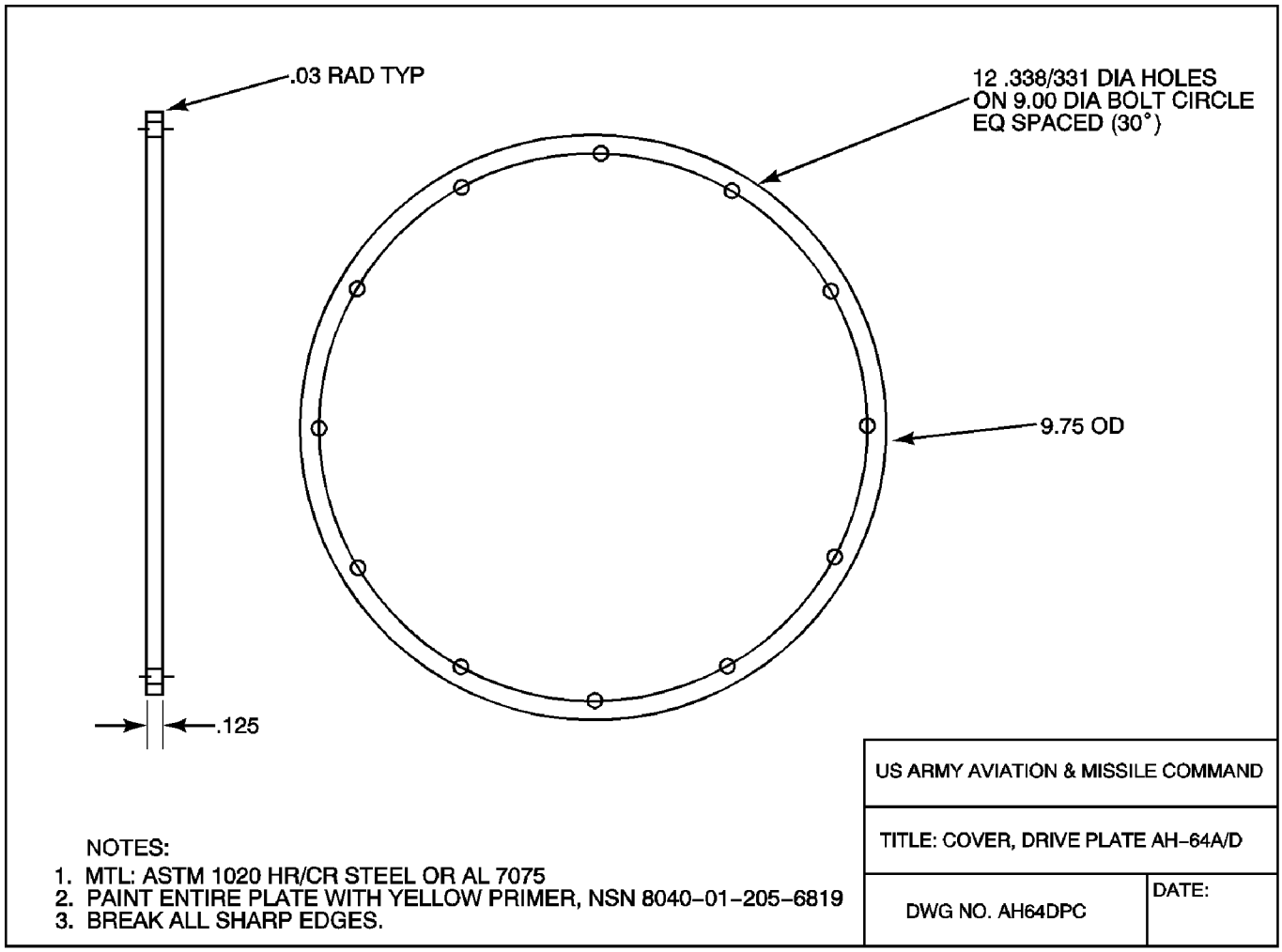

Figure 3. COVER, DRIVE PLATE AH-64A/D

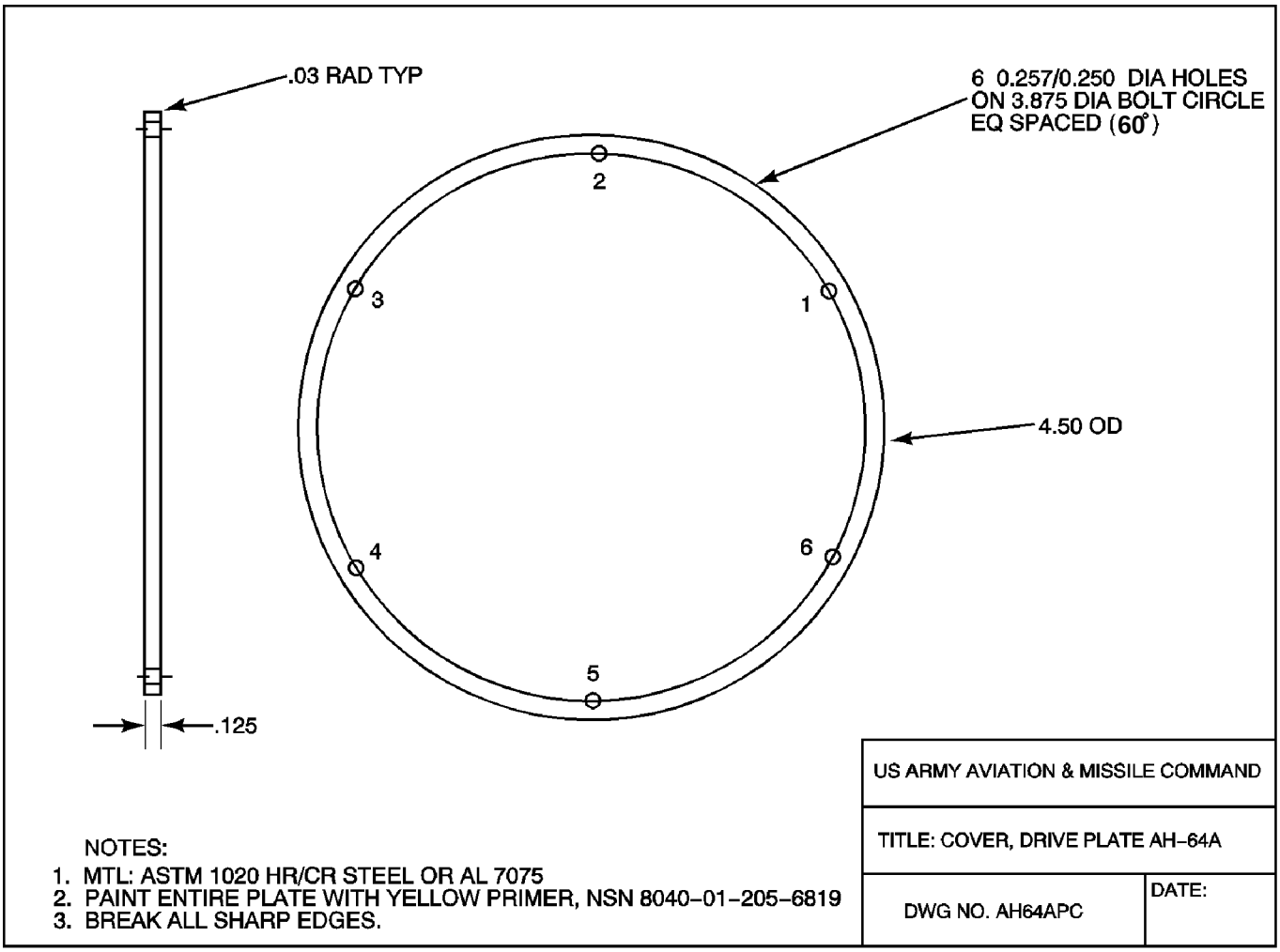

Figure 4. COVER, DE-ICE DISTRIBUTOR, AH-64A

10. SUPPLY/PARTS AND DISPOSITION.

10.1. Parts required. Items cited in paragraph 7 may be required to replace unserviceable items.

10.2. Requisitioning Instructions. Requisitioning replacement parts through normal supply channels using normal supply procedures.

10.3. Bulk and Consumable Materials. Not Applicable.

10.4. Disposition. Dispose of removed parts/components in accordance with normal supply procedures. A QDR is not required.

10.5. Disposition of Hazardous Material. Not Applicable.

11. SPECIAL TOOLS, JIGS AND FIXTURES REQUIRED. Not Applicable.

12. APPLICATION.

12.1. Category of Maintenance. AVIM. Aircraft downtime will be charged to AVIM.

12.2. Time Required.

12.2.1 Time of approximately 2 hours using one person to fabricate the cover plate.

12.2.2 Time of approximately 1/2 hour using one person to remove and install the cover plate.

12.3. Estimated Cost Impact of Stock Funds Items to the Field. Not Applicable.

12.4. TB/MWO's to be Applied Prior to or Concurrently with this TB. Not Applicable.

12.5. Publications which Require Changes as a Result of this TB.

12.5.1 TM 1-1520-238-23-3, Technical Manual, Aviation Unit and Intermediate Maintenance Manual, Volume 3 of 9, for AH-64A Apache Attack Helicopter.

12.5.2 TM 1-1520-251-LONGBOW/APACHE IETM CD No. 1.

NOTE

The TB will be referenced in the TM's at the start of the procedures.

13. REFERENCES.

13.1. TM 1-1520-238-23P1, Aviation Unit and Intermediate Maintenance Repair Parts and Special Tools List for AH-64A Apache Attack Helicopter.

13.2. TM 1-1520-238-23P2, Aviation Unit and Intermediate Maintenance Repair Parts and Special Tools List for AH-64A Apache Attack Helicopter.

13.3. TM 1-1520-238-23-3, Aviation Unit and Intermediate Maintenance Manual, volume 3 of 9, for the AH-64A Apache Attack Helicopter.

13.4. TM 1-1520-238-23-4, Aviation Unit and Intermediate Maintenance Manual, volume 4 of 9, for the AH-64A Apache Attack Helicopter.

13.5. TM 1-1520-251-LONGBOW/APACHE IETM, CD No.1.

14. RECORDING AND REPORTING REQUIREMENTS. Not Applicable.

15. WEIGHT AND BALANCE. Not Applicable.

16. POINTS OF CONTACT.

16.1. Maintenance Point of Contact is Mr. Malcolm Fuller, DSN 897-2350 Ext 9783, Commercial (256) 705-9783, Datafax is (256) 705-9918. E-mail is Malcolm.Fuller@rdec.redstone.army.mil.

16.2. Technical Point of Contact is Mr. Lee Bumbicka, DSN 897-2350 Ext 9820, Commercial (256) 705-9820, Datafax is (256) 705-9918. E-mail is Lee.Bumbicka@rdec.redstone.army.mil.

16.3. Forms and Records Point of Contact is Ms. Ann Waldeck, AMSAM-MMC-MA-NM, DSN 746-5564 or Commercial (256) 876-5564, Datafax is DSN 746-4904. E-mail is Ann.Waldech@redstone.army.mil.

16.4. Logistical Point of Contact is Mr. Wayne Fusselman, PEOAVN, DSN 897-4043, or Commercial (256) 313-4043, Datafax is DSN 897-4343. E-mail is Wayne.Fusselman@us.army.mil.

16.5. Foreign Military Sales, Mr. Ronnie Sammons, AMSAM-SA-SM-AV, DSN 897-0875, Commercial (256) 313-0875, E-mail is Ronnie.Sammons@redstone.army.mil, Datafax is DSN 897-6630 (Primary Contact) or Mr. Paul Tarr, AMSAM-SA-SD-AS, DSN 897-6861, commercial (256) 313-6861, E-mail is Paul.Tarr@redstone.army.mil, Datafax is DSN 897-6630 (Alternate Contact).

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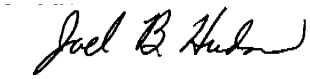
Official:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff



JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0410701

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