



DN-145  
EN-33  
FN-22

# SERVICE BULLETIN

DATE: 09 APRIL 1987  
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**MANDATORY**

**SUBJECT:** FABRICATION AND INSTALLATION OF 369D25704 OIL FLEX-LINE HOSE ASSEMBLIES IN THE MAIN TRANSMISSION COOLING INSTALLATION (F/N 369D25700).

**MODELS AFFECTED:** All 369D, 369E, 369F and 369FF helicopters that have rigid oil lines installed in the main transmission oil cooling system.

**TIME OF COMPLIANCE:** This Service Information Notice shall be accomplished within the next 100 hours of helicopter operation or when the 369D25709 or 369D25710 tube assemblies need replacing, whichever occurs first. Compliance to this Service Information Notice will satisfy the requirements and compliance to EN-10 dated 10 November 1983, DN-124 date 10 November 1985 and DN-136/EN-24/FN-12 dated 7 August 1985.

**PREFACE:** This Service Information Notice contains all required information for owners/operators of McDonnell Douglas Helicopter Company (MDHC) Model 500 helicopters to fabricate and install 369D25704-11 or 369D25704-21 flex-line oil hoses which replace the 369D25709 and 369D25710 tube assemblies and 369D25705 hose assemblies.

**REFERENCE PUBLICATIONS:**

- 369D HMI Vol. I (CSP-D-2) Revised 15 June 1985
- 369E HMI Vol. I (CSP-E-2) Revised 30 Nov 1983
- 369F HMI Vol. I (CSP-F-2) Revised 15 Apr 1986
- 369D PFM (CSP-D-1) Revised 20 Jan 1984
- 369E PFM (CSP-E-1) Revised 11 July 1984
- 369F PFM (CSP-FF-1) Issued 25 Oct 1985
- EN-10/DN-124 Dated 10 November 1983
- DN-136/EN-24/FN-12 Dated 07 August 1985

**WEIGHT AND BALANCE:** Changed Weight

WEIGHT (LBS)	ARM (INCH)	MOMENT (INCH LBS.)
+1.22	Station 126.2	+154

**FAA APPROVAL:**

The resultant alteration to affected models as described by procedures in this notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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## PARTS LIST

<u>Part No.</u>	<u>Nomenclature</u>	<u>Qty.</u>	<u>Source</u>
369D25704-21	Hose Assembly	1*	MDHC**
369D25704-11	Hose Assembly	1 or 2*	MDHC**
MS21266-2N	Grommet	A/R	Commercial
AN743-12	Bracket	1	Commercial
AN960KD10L	Washer	9	Commercial
MS21919WDF12	Clamp	3	Commercial
NAS1713D30N	Clamp	1	Commercial
MS21919WDF11	Clamp	4	Commercial
NAS1303-3	Bolt	1	Commercial
MS2142-3	Nut	5	Commercial
NAS1096-3-7	Screw	2	Commercial
MS20470AD4	Rivet	4	Commercial
NAS1303-4	Bolt	2	Commercial

### PARTS LIST (Hose Fabrication)\*\*

AE701-8	Hose	A/R	Aeroquip Corp. Jackson, MI
AE138-16	Abrasion Sleeve	A/R	(same)
816-8D	Fitting	4	Commercial
	I.D. Tag	2	Commercial

### OR (Alternate)

156-8	Hose	A/R	Stratoflex Inc. Fort Worth, TX.
2645-22	Chafe Guard	A/R	(Same)
676-8D	Fitting	4	(Same)
	ID. Tag	2	Commercial

\*369F/FF Series helicopters require (2) -11 hose assemblies; 369D/E Series helicopters require (1) 11 and (1) -21 hose assembly.

\*\*369D25704-11 and -21 hose assemblies can be procured from MDHC or fabricated per Step A and Figure 1.

## MATERIALS

Primer, zinc chromate	TT-P-1757	Commercial
Lubricant (12 U.S. Pts)	MIL-L-7808	Commercial
EpoxyLite 202 or equivalent	N/A/	Commercial or EpoxyLite Corp., El Monte, CA.

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## PROCEDURE

A. Procure required hose assemblies from an Approved MDHC Service Center, Distributor or fabricate required hose assemblies per the following steps and Figure 1:

### NOTE

Hose, abrasion sleeve and end fittings are to be from the same manufacturer. Do not interchange parts.

- 1) Cut hose material to required length allowing for installation end fittings.
  - 2) Cut abrasion sleeves to required length.
  - 3) Install and position abrasion sleeves on hose assemblies.
  - 4) Install end fittings per manufacturer's instructions.
  - 5) Proof pressure test each hose assembly to 200 P.S.I.G. for two minutes minimum, five minutes maximum as shown in Figure 1A.
  - 6) Identify each hose assembly with complete part number and date assembly using metal identification tag or equivalent.
- B. Remove sound insulation and transmission access cover (Section 2~ HMI - Vol. 1).
- C. Drain main transmission and oil cooler lubrication system (Section 2, HMI Vol. 1).
- D. Disconnect and remove 369D25705-11 and -21 hose assemblies, 369D25709-11 (-13 on 369F/FF models) and 369D25710-11 tube assemblies and all associated hardware as shown in Figure 2.
- E. Remove 369D25701-3 or -11 bracket and install MS20470AD4 rivets in holes or cutoff bracket and deburr all sharp edges to prevent possible damage to flex-hose installation and surrounding area (See Figure 2).
- F. Remove 369D25701-5 and -7 brackets and fill holes with epoxy compound or cutoff brackets and deburr all sharp edges to prevent possible damage to flex-line installation and surrounding area.
- G. Using #6 drill, drill 0.204 inch diameter holes in two places as shown in Figure 3. Apply zinc chromate primer to holes and surrounding area.
- H. Install MS21266-2N grommet and position MS21919WDF11 clamps loosely around applicable hose assemblies as shown in Figure 3.
- I. Attach 369D25704 hose assemblies to AN 837-8D elbows.
- J. Attach 369D25704-11 (369D, E, F/FF) hose assembly to 369D25706 valve housing.

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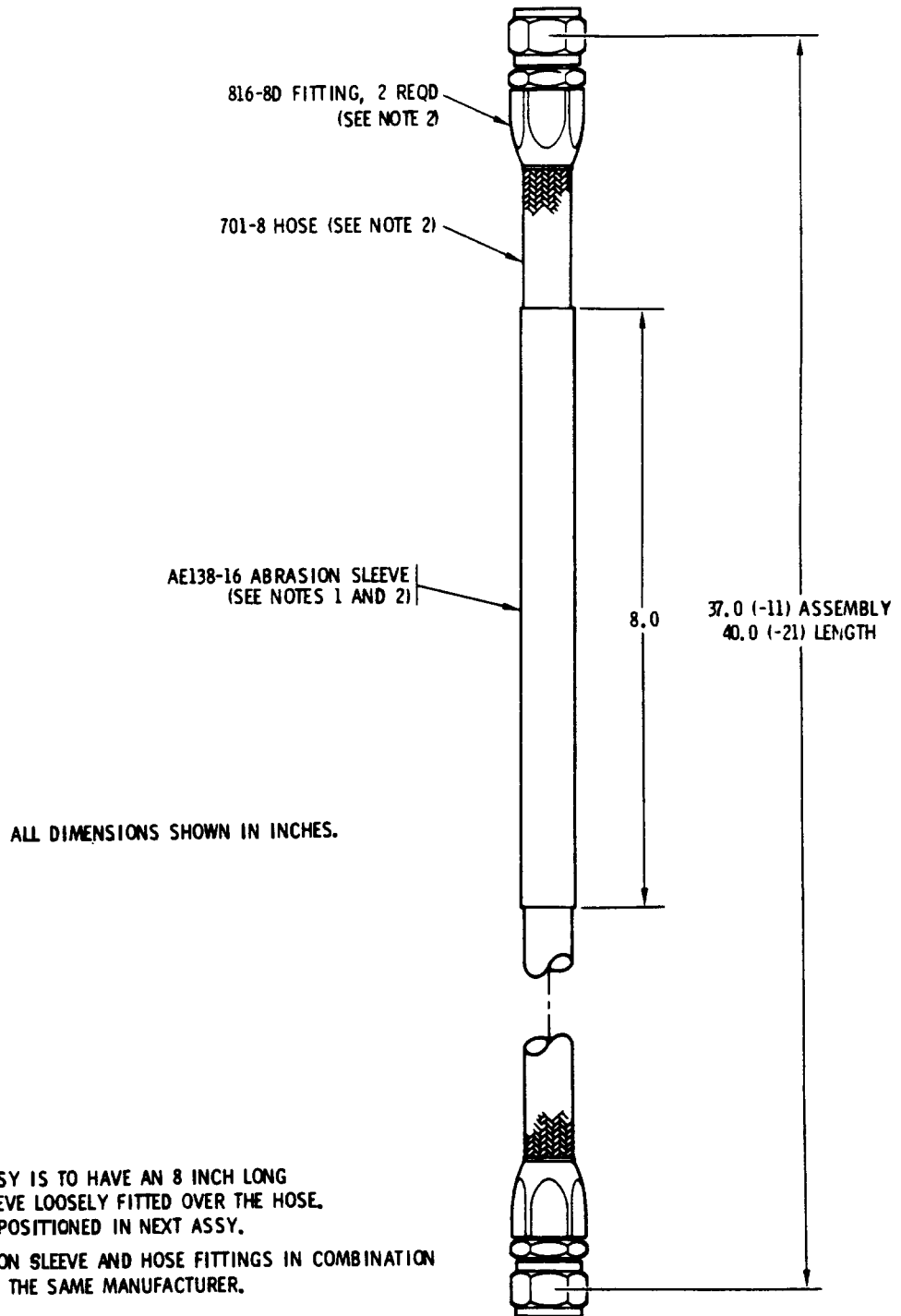
- K. Attach 369D25704-11 (369F/FF) to 369D25706 valve housing or 369D25704-21 (369D, E) to connector port located on 369D23020-5 web.
- L. Position abrasion sleeves so that no unshielded hose contacts bulkheads using NAS1713D30N and MS21919WDF12 clamps.
- M. Complete installation and tighten all clamps as shown in Figure 3.
- N. Fill transmission with approved lubricant (Section 2, HMI Vol. 1)
- O. Start engine and operate until lubricant has circulated through the entire oil cooling system (refer to applicable Pilot's Flight Manual). Check installation for leaks and security.
- P. Reinstall sound installation and transmission access covers (Section 2 of applicable HMI Vol. 1).
- Q. Check main transmission oil level at sight gage (Section 2, HMI Vol. 1). Add approved oil, if required.
- R. Record compliance with this Notice in the applicable section of the helicopter Log Book.

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**NOTES:**

1. EACH HOSE ASSY IS TO HAVE AN 8 INCH LONG ABRASION SLEEVE LOOSELY FITTED OVER THE HOSE. THIS WILL BE POSITIONED IN NEXT ASSY.
2. HOSE, ABRASION SLEEVE AND HOSE FITTINGS IN COMBINATION MUST BE FROM THE SAME MANUFACTURER.

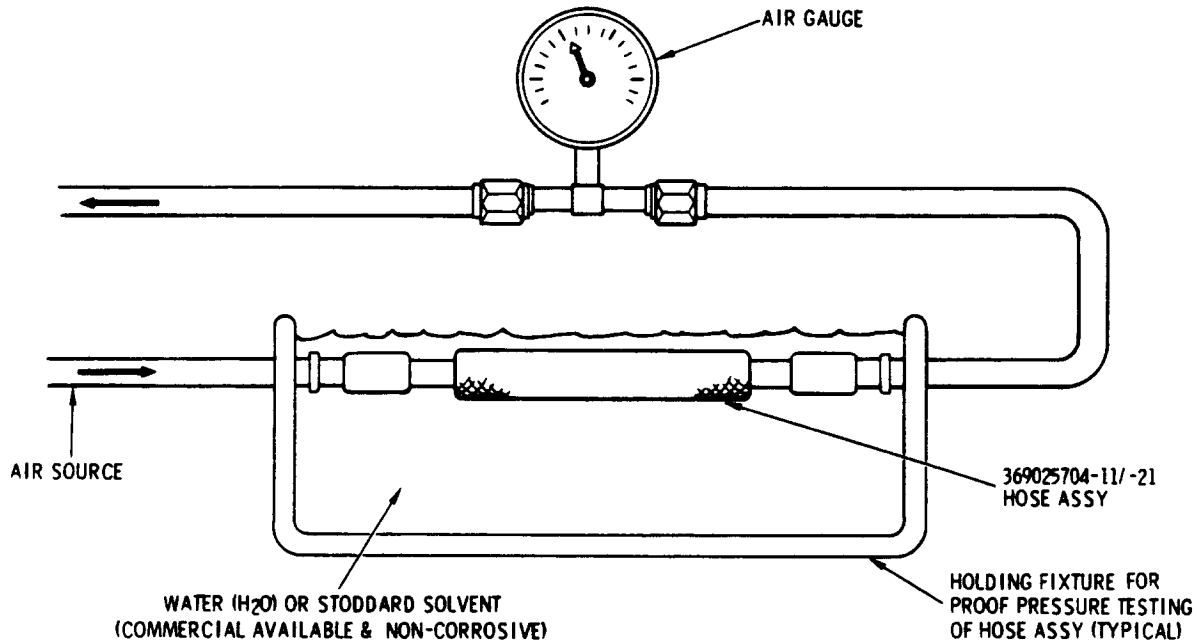
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Figure 1. Oil Flex Line Fabrication

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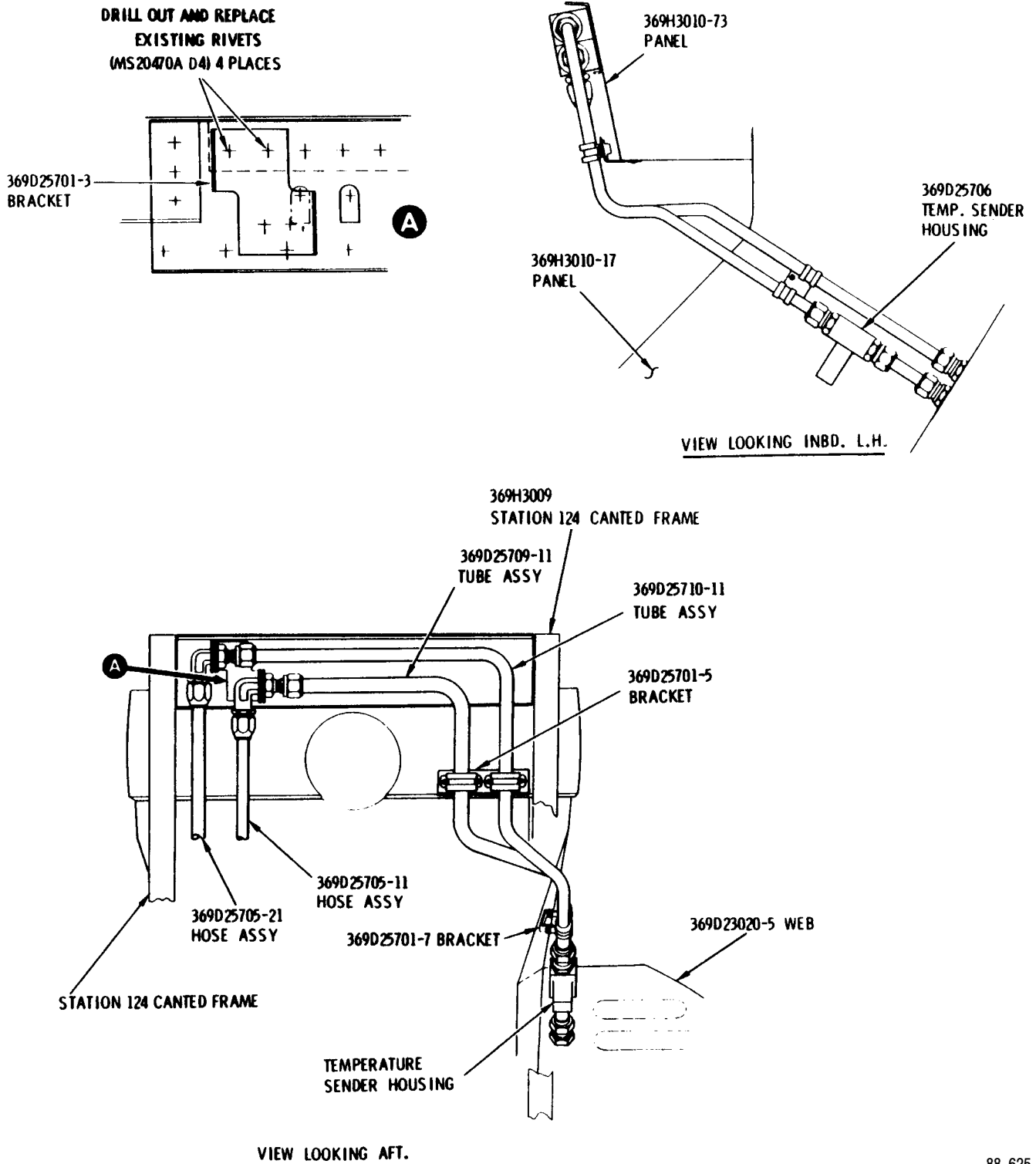
Figure 2. Hose Assembly Proof Pressure Set-Up

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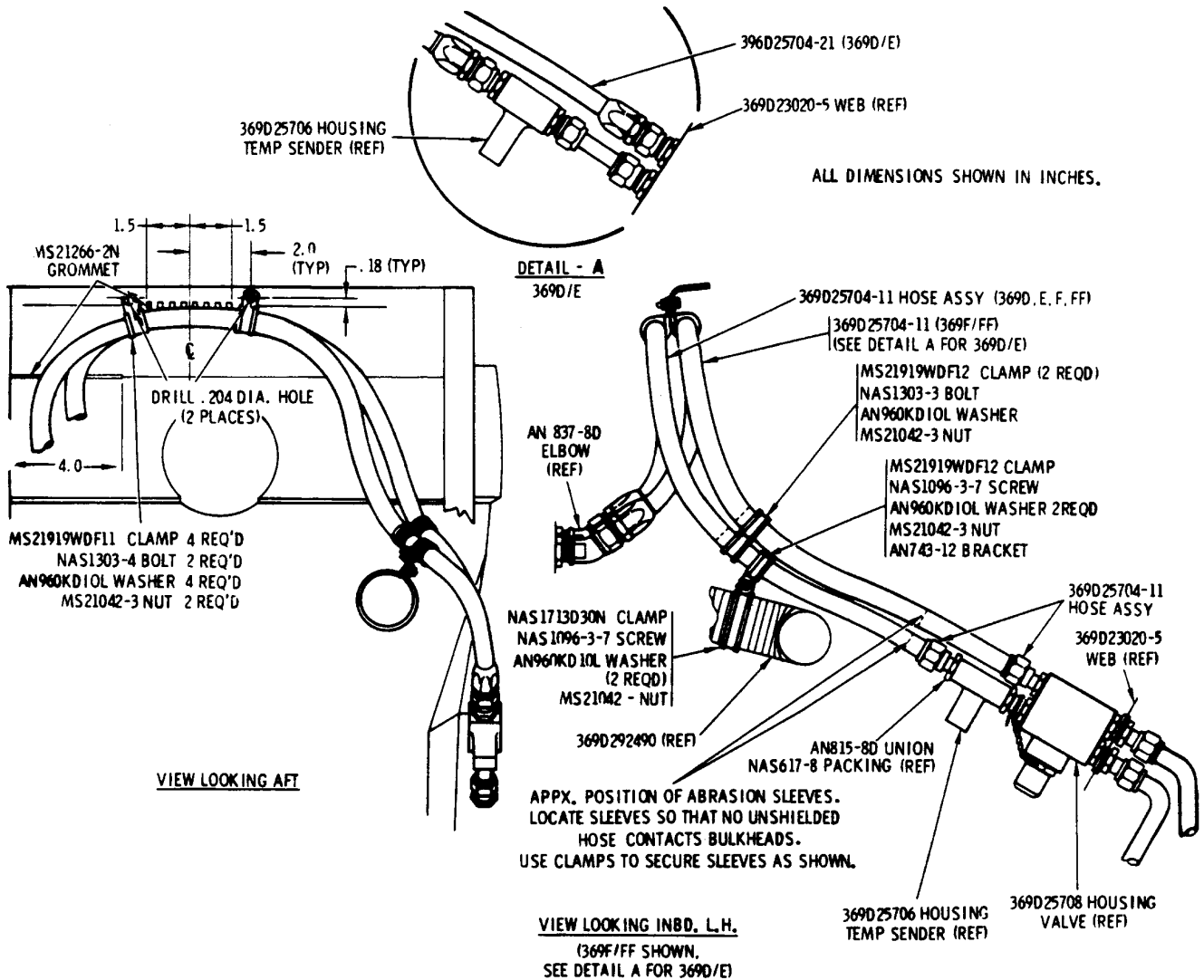
Figure 3. Main Rotor Oil Cooling Installation Bracket Removal

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Figure 4. Main Rotor Cooling Flex Line Installation

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