



PT. SMART CAKRAWALA AVIATION

## WORK ORDER

Form: SCA/MTC/030

Subject : <b>Inspection Doc. 06 &amp; Add Task Due at 200 FH.</b>	No.	WO/005-SNA/VIII/2021
	Date	09-Aug-2021
	A/C Reg.	PK-SNA C208B-5634
Reference : MP C208B REV. 9	Prepared By	TS
	Checked By	CI
	Approved By	TM
To : Engineer In Charge		
<b>Description :</b>  1. Perform Inspection Doc. 06 & Add Task Due at 200 FH. 2. Make an entry in Maintenance Log. 3. Return the Completed Work Order and Form to PPC.  #If any finding, please close the routine card, and transferred to inspection card.		
<b>Additional Work :</b>          		
Compliance Statement	Sign & Date Company Lic. No.:  (Engineer In Charge)	Signature   (Technical Manager)

**AIRCRAFT CHECK WORK SUMMARY**  
(Form: SCA/MTC/051)

DATE OF ISSUED	JOWO #	TYPE OF MAINTENANCE	DATE OF ACCOMPLISHED		
09-Aug-2021	WO/005-SNA/VIII/2021	Inspection Doc. 06 & Add Task			
A/C Type		Mfg. Serial Number	A/C Registration		
C208B		C208B-5634	PK-SNA		
<b>AIRCRAFT DATA</b>					
Subject	Pos #	Serial Number (SN)	TTSN/TCSN		
Engine	#1	PCE-VA0730			
	#2	-			
Propeller/Rotor	#1	200483			
	#2	-			
Landing Gear	NLG				
	LH MLG				
	RH MLG				
<b>PACKAGE COVERED</b>					
No	Subject	Qty	Remark		
1	Non-Routine Card	-			
2	Inspection Card	-			
3	Work Order	1			
4	Summary Inspection List	1			
5	Material and Tool List	-			
6	Escalation form	-			
7	CRS (SMI / Unscheduled Maintenance)	1			
<b>INSPECTION CARD (IC) LIST (Finding during maintenance)</b>					
No	Taskcard Ref	Subject	Status		Name/ Sign & Stamp
			Open	Close	
<u>IC-001</u>					
<u>IC-002</u>					
<u>IC-003</u>					
<u>IC-004</u>					
<u>IC-005</u>					
<u>IC-006</u>					

<u>IC-007</u>					
<u>IC-008</u>					
<u>IC-009</u>					
<u>IC-010</u>					
<u>IC-011</u>					
<u>IC-012</u>					
<u>IC-013</u>					
<u>IC-014</u>					
<u>IC-015</u>					

Prepared by :  
Technical Support

Checked by :  
Chief Maintenance

Verified by :  
Chief Inspector

Approved by :  
Technical Manager

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## SUMMARY INSPECTION ITEMS (Form: SCA/MTC/050)

WO Ref: WO/005-SNA/VIII/2021

NO.	TASK CARD NO.	DESCRIPTION	DATE	EST MHR	NAME	STAMP
1	B03	PT6A-140 ENGINE GROUND RUN PERFORMANCE				
2	CHAPTER 12	INSPECTION DOCUMENT 06				
3	CHAPTER 51	ENGINE PT6A-140 100 HOUR INSPECTION/ MINOR INSPECTION				
4	CHAPTER 52	ENGINE PT6A-140 200 HOUR INSPECTION				
5	CHAPTER 53	ENGINE PT6A-140 200 HOUR/6 MONTHS INSPECTION				
6	73-10-00	FUEL NOZZLE REPLACEMENT (INITIALLY 200 HRS)				
7	72-00-00	BORESCOPE HOT SECTION INSPECTION (INITIALLY 200 HRS)				
8	74-20-02	VISUAL INSPECTION OF THE SPARK IGNITER/GLOW PLUGS (INITIALLY 200 HRS)				
8	SCA/MTC/0 23	EMERGENCY EQUIPMENT CHECK				



PT. SMART CAKRAWALA AVIATION

## CERTIFICATE RETURN TO SERVICE

### SCHEDULED MAINTENANCE INSPECTION (CRS-SMI)

A/C TYPE : CESSNA 208B

TTSN :

A/C REG : PK-SNA

TCSN :

MSN : C208B-5634

DATE :

TYPE OF INSPECTION : INSPECTION DOC. 06 & ADD TASK

DUE AT : 200 HOURS

REF : MP C208B REV. 9

EXCEPTION

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#### AUTHORIZED PERSON


I hereby certify that this aircraft has been maintained accordance with CASR and Maintenance Program.  
Aircraft safe and airworthy for flight

NAME	CAT	AMEL/OTR NO	SIGN&STAMP	DATE
	AIRFRAME & POWER PLANT			
	EIRA			

THE NEXT DUE TYPE OF INSPECTION :

DUE AT :

**Form: SCA/MTC/049**

	<b>INSPECTION CARD</b> <b>(Form: SCA/MTC/ 048)</b>	TECHNICAL DEPARTMENT
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1. CARD #	2. JO/WO #	3. ORIGINATOR	4. CARD REF	5. DATE
6. A/C REG/MSN	7. A/C TYPE	8. TRADE	12. VENDOR ORDER #	
9. ZONE	10. STA	11. MTC TYPE		

13. DESCRIPTION/DEFECT-IF FINDING OF CPCP INSPECTION, PLEASE COMPLETE SET. 20	14 PPC/ENG	15 DATE

16. CORRECTIVE ACTION	17 MECH	18 ENG. LIC	19 DATE
Performed at A/C TT : ..... A/C TC /LDG : .....			

20. CORROSION INFORMATION					
LOCATION	CAUSE OF DAMAGE				
	<input type="checkbox"/> Environment				
	<input type="checkbox"/> Internal Leakage				
CORROSION <input type="checkbox"/> Isolated <input type="checkbox"/> Widespread	<input type="checkbox"/> Chemical Spill				
CORROSION LVL <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	<input type="checkbox"/> LAV/Galley Spill				
PROPOSED ACTION <input type="checkbox"/> Doublers	<input type="checkbox"/> Blocked Drain				
<input type="checkbox"/> Others	<input type="checkbox"/> Wet Insulation Blanket				
	<input type="checkbox"/> Other				

21. If the defect is RII, Please Sign this card finally by RII Inspector	INSP	DATE
NOTICE OF INSPECTOR		

22. PARTS REQUIRED						
PART DESCRIPTION	PART NO	QTY	SERIAL NO		STATUS	
			ON	OFF	CLOSE	OPEN

23. TOOLS REQUIRED			
DESCRIPTION	PART NO. / MODEL	NEXT CALIBRATION DATE	STATUS



# MAINTENANCE PROGRAM CESSNA C208/C208B

## Appendix B03 – PT6A-140 Engine Run Performance Sheet

Reg. Mark : PK - WO/FML No. :

PRE – INSPECTION	
Location	
Date	
Cycle	
Filed Barometric	
OAT	
Altitude	

POST – INSPECTION	
Location	
Date	
Cycle	
Filed Barometric	
OAT	
Altitude	

PRE – INSPECTION		
	Target	Actual
Tq		
Np		
ITT	°C	°C
Ng	%	%
Wf		
Oil Press		°C
Oil Temp		°C
Start Temp		°C

POST – INSPECTION		
	Target	Actual
Tq		
Np		
ITT	°C	°C
Ng	%	%
Wf		
Oil Press		°C
Oil Temp		°C
Start Temp		°C

Engine Run Up Checks					
Inertial <input type="checkbox"/>	EPL <input type="checkbox"/>	OVG <input type="checkbox"/>	Stby Alt <input type="checkbox"/>	BOV <input type="checkbox"/>	Brake <input type="checkbox"/> Randomn <input type="checkbox"/>
<b>NOTE:</b> 1. Brake system at Torque 2000 ft-lbs.      3. EPL check can't exceed 4% Ng per second.      5. Low idle at 55.5 - 57% 40Amps. 2. Inertial Separator at Torque 400 ft-lbs.      4. Standby Alt at 80% Ng.      6. High idle at 64 - 66% Ng 40Amps					

Engine Performance Target Table (Cessna C208B EX)

OAT (°C)	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
Tq (ft.lbs)	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397
Np	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ITT (°C)	835	837	839	841	841	841	841	841	841	842	843	844	846	846	846
Ng (%)	102.7	102.7	102.7	102.7	102.7	102.7	102.7	102.6	102.6	102.6	102.6	102.6	102.6	102.6	102.5
WF (PPH)	578	578	578	578	578	578	578	570	565	565	560	560	555	548	548

### Note:

1. Make sure that inertial separator in normal condition, no bleed air extracted from the engine and air condition OFF.
2. This table only applies to altitude 0-500 feet MSL. For higher altitude, refer to EMM 72-00-00.
3. Max fuel flow is 580 lb/hr fuel flow is not more than 15 lbs/hr higher than the value shown in table.
4. If parameters are outside the target performance table to EMM chapter 71-00-00.

### REMARKS:

### PERFORMED BY

Name	Sign & Stamp	Date	Location



# MAINTENANCE PROGRAM CESSNA C208/C208B

## Chapter 12 – Inspection Document 06

Reg. Mark	:	PK - _____	Date	:	_____
MSN	:	_____	Station	:	_____
TSN / CSN	:	_____	WO No.	:	_____

ITEM CODE NO.	ZONE	TASK	SIGNATURE	
			SIGN	STAMP
A110001	ALL	Interior and Exterior Placard and Decal Detailed Inspection Task 11-00-00-220		
D121001	121	Brake System Servicing Task 12-10-01-610		
D121003	710	Shimmy Damper Servicing Task 12-10-01-611		
C122101	700	Landing Gear Lubrication Task 12-21-03-640		
B236001	343 375 376 571 671	Static Discharge System Functional Check Task 23-60-00-720		
A255101	251 252 255 256 257 258	Cargo Nets Detailed Inspection Task 25-51-00-220		
C270001	215 216 226 373 374 503 525 603 625	Flight Controls Lubrication Task 27-00-00-640		
B273101	211 212 503	Stall Warning System Operational Check Task 27-31-00-710		
C275001	525 527 625 627	Flap Tracks and Rollers Lubrication Task 27-50-00-640		
B281001	575 675	Fuel Vent Line Float Valve Operational Check Task 28-10-03-710		
A281001	521 621	Fuel Filler Assembly Detailed Inspection Task 28-10-01-220		
B301003	122 AUX	Bleed Air Pressure Regulator Functional Check (without TKS and not incorporating CAB93-2) Task 30-10-00-720		
B322001	710	Shimmy Damper Functional Check Task 32-20-02-720		



# MAINTENANCE PROGRAM CESSNA C208/C208B

## Chapter 12 – Inspection Document 06

ITEM CODE NO.	ZONE	TASK	SIGNATURE	
			SIGN	STAMP
B341101	AUX	Pitot Tube Heaters Operational Check Task 34-11-00-710		
A353001	256	Oxygen Mask Detailed Inspection Task 35-30-00-220		
B761003	AUX	Emergency Power Lever Annunciator Light (EPL) Operational Check Task 76-10-01-710		
*** End of Inspection Document 06 Items ***				

PERSONNEL PARTICIPATING IN THIS INSPECTION			
NAME	POSITION	SIGNATURE	LICENSE NUMBER

### RETURN TO SERVICE

The work recorded above has been carried out in accordance with the requirements of the Civil Aviation Safety Regulation for the time being in force and in that respect the aircraft is consider fit for Release to Service.

Name : \_\_\_\_\_ Stamp : \_\_\_\_\_  
Signature : \_\_\_\_\_ Place/Date : \_\_\_\_\_



# MAINTENANCE PROGRAM CESSNA C208/C208B

## Chapter 51 – Engine PT6A-140 100 Hours/Minor Inspection

Reg. Mark	:	PK - _____	Date	:	_____
MSN	:	_____	Station	:	_____
TSN / CSN	:	_____	WO No.	:	_____

ITEM CODE NO.	ZONE	TASK	SIGNATURE	
			SIGN	STAMP
F710001	130	Do a check of the FCU manual override system for static operation. For the engines installed with a manual override system only.		
F710003	130	Do a compressor performance recovery wash		
F720000	130	Do a visual inspection of the Control Linkages and wiring.		
F720001	130	Do a visual inspection of the engine exhaust duct welds.		
F720002	130	Do a visual inspection of the engine exhaust duct for cracks.		
F720003	130	Do a visual inspection of the gas generator case and the center fireseal.		
F720004	130	Do a visual inspection of the rear fireseal mounting ring.		
F722001	130	Do a visual inspection of the air inlet screen.		
F723000	130	Do a visual inspection with a mirror or a borescope inspection of the First-stage Compressor Rotor and the inlet case for corrosion		
F725005	130	Do a detailed inspection of the turbine exhaust duct.		
F731002	130	Do a check for the fuel pump installation and leaks.		
F731003	130	Do a check of the oil-to- fuel heater installation		
F731035	130	Do a visual Inspection of the Fuel - Oil Heat Exchanger Fuel Filter Element  <b>(CLEANING / REPLACEMENT)</b> P/N OFF: _____ P/N ON: _____		

# MAINTENANCE PROGRAM

## CESSNA C208/C208B

### Chapter 51 – Engine PT6A-140 100 Hours/Minor Inspection

ITEM CODE NO.	ZONE	TASK	SIGNATURE	
			SIGN	STAMP
F731006	130	Do a check of the drain valve for installation and leaks		
F731007	130	Do a check of the flow divider for installation and leaks.		
F731008	130	Do a visual inspection of the P3 filter and drain valve.		
F731015	130	Do a visual inspection of Fuel Pump outlet filter.  <b>(CLEANING / REPLACEMENT)</b> P/N OFF: _____ P/N ON: _____		
F731018	130	Clean or replace the P3 filter based on condition, service experience or environment. <b>Note:</b> If corrossions are found, replace filter.		
F732001	130	Do a check of the FCU for installation, linkages and pneumatic tubes.		
F792000	130	Inspect and clean oil filter for debris.		
*** End of Engine PT6A-140 100 Hours Inspection Items ***				

PERSONNEL PRITICIPATING IN THIS INSPECTION			
NAME	POSITION	SIGNATURE	LICENSE NUMBER

### RETURN TO SERVICE

The work recorded above has been carried out in accordance with the requirements of the Civil Aviation Safety Regulation for the time being in force and in that respect the aircraft is consider fit for Release to Service.

Name : \_\_\_\_\_ Stamp : \_\_\_\_\_  
Signature : \_\_\_\_\_ Place/Date : \_\_\_\_\_



# **MAINTENANCE PROGRAM** **CESSNA C208/C208B**

## **Chapter 52 – Engine PT6A-140 200 Hours Inspection**

Reg. Mark	:	PK - _____	Date	:	_____
MSN	:	_____	Station	:	_____
TSN / CSN	:	_____	WO No.	:	_____

ITEM CODE NO.	ZONE	TASK	SIGNATURE	
			SIGN	STAMP
F793001	130	Do a visual inspection of the chip detector for debris.		
*** End of Engine PT6A-140 200 Hours Inspection Items ***				

PERSONNEL PARTICIPATING IN THIS INSPECTION			
NAME	POSITION	SIGNATURE	LICENSE NUMBER

### **RETURN TO SERVICE**

The work recorded above has been carried out in accordance with the requirements of the Civil Aviation Safety Regulation for the time being in force and in that respect the aircraft is consider fit for Release to Service.

Name	:	_____	Stamp	:	_____
Signature	:	_____	Place/Date	:	_____



## MAINTENANCE PROGRAM CESSNA C208/C208B

### Chapter 53 – Engine PT6A-140 200 Hours or 6 Months Inspection

Reg. Mark	:	PK - _____	Date	:	_____
MSN	:	_____	Station	:	_____
TSN / CSN	:	_____	WO No.	:	_____

ITEM CODE NO.	ZONE	TASK	SIGNATURE	
			SIGN	STAMP
F793000	130	Do a visual inspection of the AGB internal scavenge oil pump inlet screen		
*** End of Engine PT6A- 140 200 Hours or 6 Months Inspection Items ***				

PERSONNEL PARTICIPATING IN THIS INSPECTION			
NAME	POSITION	SIGNATURE	LICENSE NUMBER

#### RETURN TO SERVICE

The work recorded above has been carried out in accordance with the requirements of the Civil Aviation Safety Regulation for the time being in force and in that respect the aircraft is consider fit for Release to Service.

Name	:	_____	Stamp	:	_____
Signature	:	_____	Place/Date	:	_____



**NON ROUTINE CARD**  
(Form: SCA/MTC/047)

1. JO/WO #	2. DATE	3. MTC TYPE	4. A/C REG/MSN
WO/005-SNA/VIII/2021	09-Aug-2021	REPLACEMENT	PK-SNA
5. CARD #	6. ATA SPEC	7. TRADE	8. STA
001	73		
9. ZONE	10. PANEL	-	
ENGINE			

11. DESCRIPTION			
PERFORM FUEL NOZZLE CLEANING/REPLACEMENT (INITIALLY 200 HRS)			
REFERENCE	<input checked="" type="checkbox"/> EMM Ch. 73-10-00	<input type="checkbox"/>	<input type="checkbox"/> OTHER
RII (*)	<input type="checkbox"/> Y	<input type="checkbox"/> N	MHR :

12. RESULT			MECH	ENG	INSP (*)
Performed at A/C TT : ..... A/C TC /LDG : .....					
FINDING	<input type="checkbox"/> Y	<input type="checkbox"/> N	ACT MHR :	DATE/TIME (DD/MM/YY)	
INSPECTION CARD (IC) #					

13. PARTS REQUIRED				
DESCRIPTION	PART NO	QTY	REMARK	
			STOCK	STATUS

14. TOOLS REQUIRED			
DESCRIPTION	PART NO / MODEL	NEXT CALIBRATION DATE	STATUS

73-10-04

Task 73-10-04-000-801

1. Removal of the Fuel Manifold Adapters and Transfer Tubes

**WARNING:** USE APPLICABLE SAFETY EQUIPMENT WHEN YOU DO WORK ON THE FUEL SYSTEM.

A. Overview of the Job

- (1) This task gives the procedure to remove the fuel manifold adapters and transfer tubes from the engine.

B. Job Set-up Information

- (1) Maintenance personnel must make reference to the INTRODUCTION section and to Task 70-00-00, Standard Practices, of this manual until they know the general procedures.
- (2) Put a drip tray below the engine.
- (3) Open or remove the engine cowlings as necessary (Ref. AMM).
- (4) Do the necessary steps to remove all pressure from the fuel system (Ref. AMM).
- (5) Disconnect the fuel pressure tube from the fuel manifold (Ref. Task 73-10-01-000-801).
- (6) Remove the ignition cables (Ref. Task 74-20-01-000-801).
- (7) Remove the front external oil scavenge tube (Ref. Task 79-20-03-000-802).

C. Equipment and Materials

(1) Special Tools:

Part Number	Name
PWC30128-14	Puller
PWC32366	Pusher
PWC34416	Puller

(2) Fixtures and Equipment:

Part Number	Name
Not applicable	Not applicable

(3) Consumable Materials:

**WARNING:** READ THE MATERIAL SAFETY DATA SHEETS BEFORE YOU USE THESE MATERIALS. SOME MATERIALS CAN BE DANGEROUS.

Part Number	Name

PWC05-027	Marker, Ink
PWC05-046	Marker, Ink
PWC05-053	Sheet, Polyethylene
PWC05-054	Bag, Polyethylene

D. Procedure  
(Ref. Fig. 201)

**WARNING: MAKE SURE YOU REMOVE THE PRESSURE FROM THE FUEL SYSTEM.**

**CAUTION: IF THE ENGINE IS NOT SEPARATED AT FLANGE C AND IT IS NECESSARY TO REMOVE ALL THE FUEL MANIFOLD ADAPTERS, THEN MAKE SURE THAT THE SPARK IGNITERS AND THE BOREScope PLUG STAY INSTALLED. IF NOT, THERE COULD BE ALIGNMENT PROBLEMS WITH THE COMBUSTION CHAMBER OUTER LINER WHEN YOU INSTALL THE FUEL MANIFOLD ADAPTERS AGAIN.**

**NOTE:**

1. Do not move the aircraft during this procedure.
  2. Keep the igniters installed.
  3. Remove the four fuel manifold adapter assemblies. Temporarily install the four fuel nozzle sheaths (bolts tightened) at the 2, 4, 8 and 10 o'clock positions. This will keep the combustion chamber liner alignment when you remove the outer fuel manifold adapter assemblies.
  4. The steps that follow gives a removal sequence that starts with the No. 8 fuel manifold inlet adapter. Also, it is best to think of Nos. 7, 8 and 9 adapters as a group. The operator can change the procedure sequences as applicable for adapters at other locations.
- (1) With an applicable ink marker (PWC05-027) or ink marker (PWC05-046), number the position of each manifold to identify its initial location for installation and to help find the hot section damage.
  - (2) Remove the two locknuts (1) and the locking plate (2) from the inlet manifold adapter (3).
  - (3) Remove the 26 locknuts (1) and the 13 locking plates (2) from the 13 manifold adapters (4).

**CAUTION: BE MORE CAREFUL TO ALWAYS MOVE THE TRANSFER TUBES AWAY FROM THE STRAINER ELEMENTS TO PREVENT THE DAMAGE TO THE STRAINER ELEMENTS FOUND IN THE BORE OF THE ADAPTER (ON THE SIDE OF THE TRANSFER TUBE LOCKING PLATES).**

- (4) Support the three bottom manifold adapters (3) and (4). Push the fuel transfer tubes (5) clockwise with pusher (PWC32366), then disengage them from the adjacent manifold adapters.



- (5) Remove the inlet manifold adapter (3) from the gas generator case.

**CAUTION: BE MORE CAREFUL TO ALWAYS MOVE THE TRANSFER TUBES AWAY FROM THE STRAINER ELEMENTS TO PREVENT THE DAMAGE TO THE STRAINER ELEMENTS FOUND IN THE BORE OF THE ADAPTER (ON THE SIDE OF THE TRANSFER TUBE LOCKING PLATES).**

- (6) Remove the two transfer tubes (5) from the inlet fuel manifold adapter (3). Remove and discard the two preformed packings (6) from transfer tubes.

**NOTE:** It is not necessary to remove the flow divider and dump valve (10) from the inlet manifold adapter (2) except for cleaning (Ref. Task 73-10-04-100-801). Do an inspection and test with parts that stay attached as an assembly.

- (7) Remove the gasket (7) and the sheath (8) from the inlet manifold adapter (3).  
(8) Slowly remove the 26 locknuts (1), the 13 locking plates (2) and the 13 manifold adapters (4) from the gas generator case.  
(9) Remove the 26 transfer tubes (5) from the 13 manifold adapters (4). Remove and discard the 52 preformed packings (6) from the transfer tubes.

**CAUTION: PUT ON CLEAN LINT-FREE GLOVES AND BE CAREFUL WITH THE FUEL NOZZLES. DO NOT TOUCH THE SPRAY OPENING OF THE FUEL NOZZLES. THIS CAN CAUSE AN UNSATISFACTORY SPRAY PATTERN.**

**CAUTION: MAKE SURE TO CORRECTLY ENGAGE THE WRENCH SOCKET ON THE NOZZLE DURING INSTALLATION. IF THE WRENCH MOVES, YOU CAN CAUSE DAMAGE THE FUEL NOZZLE OUTLET.**

**CAUTION: DO NOT PRY OFF THE SHEATHS WITH A SCREWDRIVER.**

- (10) Do a visual inspection of all the fuel nozzle (9) tips for concentricity with the fuel exit hole on the sheath (8) (Ref. Sheet 3).

**NOTE:** You must center the fuel nozzle tip with the fuel exit hole on the sheath.

- (11) If the concentricity is satisfactory, remove the sheath (8) from the manifold adapters (3) and (4) with puller (PWC34416), then continue to step (13).  
(12) If the concentricity is not satisfactory, replace the fuel manifold adapter assembly with the new or serviceable fuel manifold adapter assembly.  
(13) Do a functional check of the nozzle assemblies (Ref. Task 73-10-04-730-801).  
(14) If the functional check is not satisfactory, unlock the keywashers (10). Remove the nozzle (9) and the gasket (11) from the adapters (3) and (4). Discard the keywashers and the gaskets.

**NOTE:** If the nozzle assembly (9) is removed, you must replace it with new or overhauled assembly.

- (15) Remove the strainer elements (12) with the puller (PWC30128-14) from the manifold adapters

(3) and (4). Remove and discard the preformed packings (13).

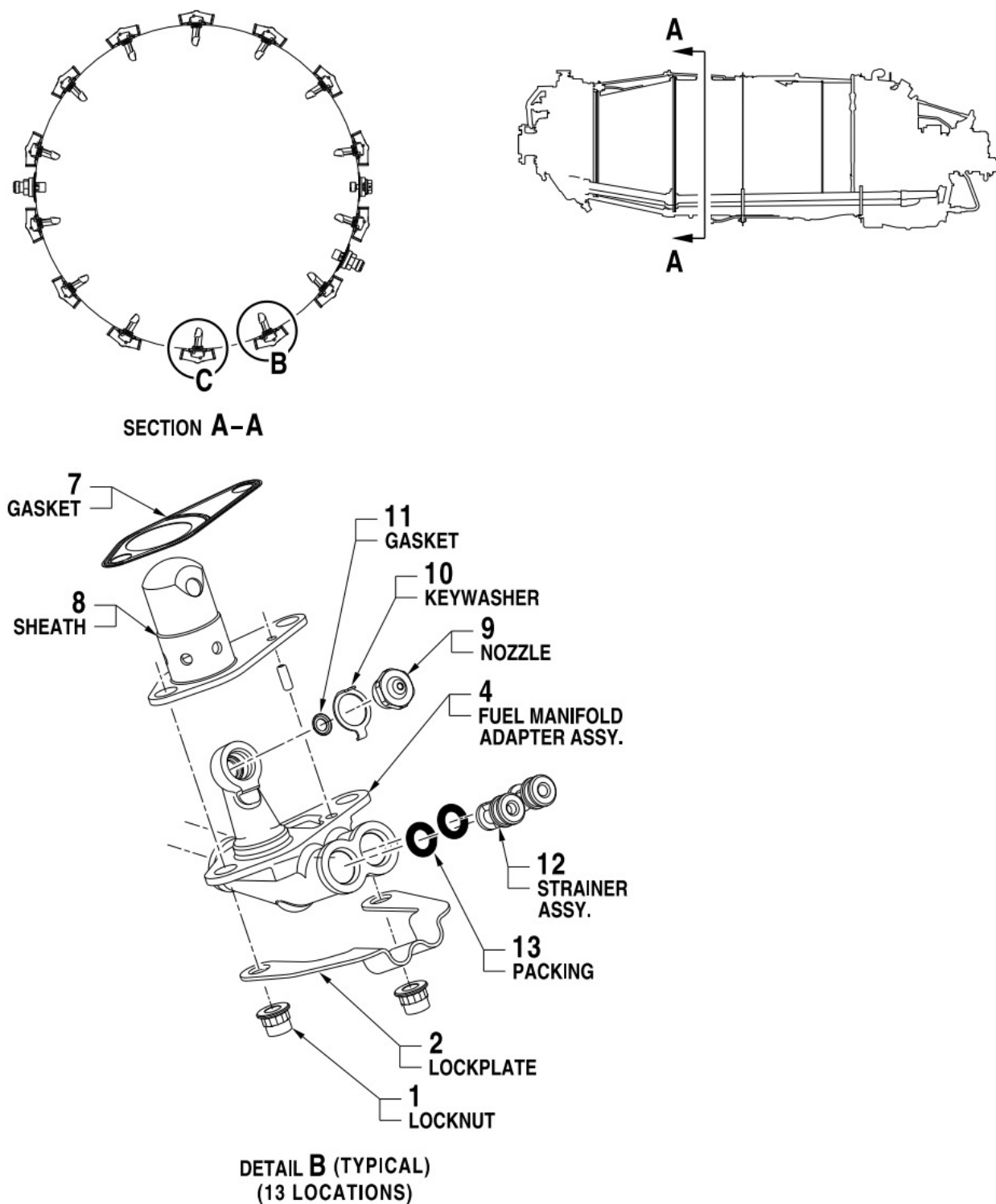
(16) Put all the parts in polyethylene bags (PWC05-054) or polyethylene sheets (PWC05-053).

#### E. Job Close-up Information

- (1) Send rejected assemblies for repair or overhaul in the initial packaging to prevent parts to touch each other during shipment.
- (2) Remove all tools, equipment and items not necessary from the work area.

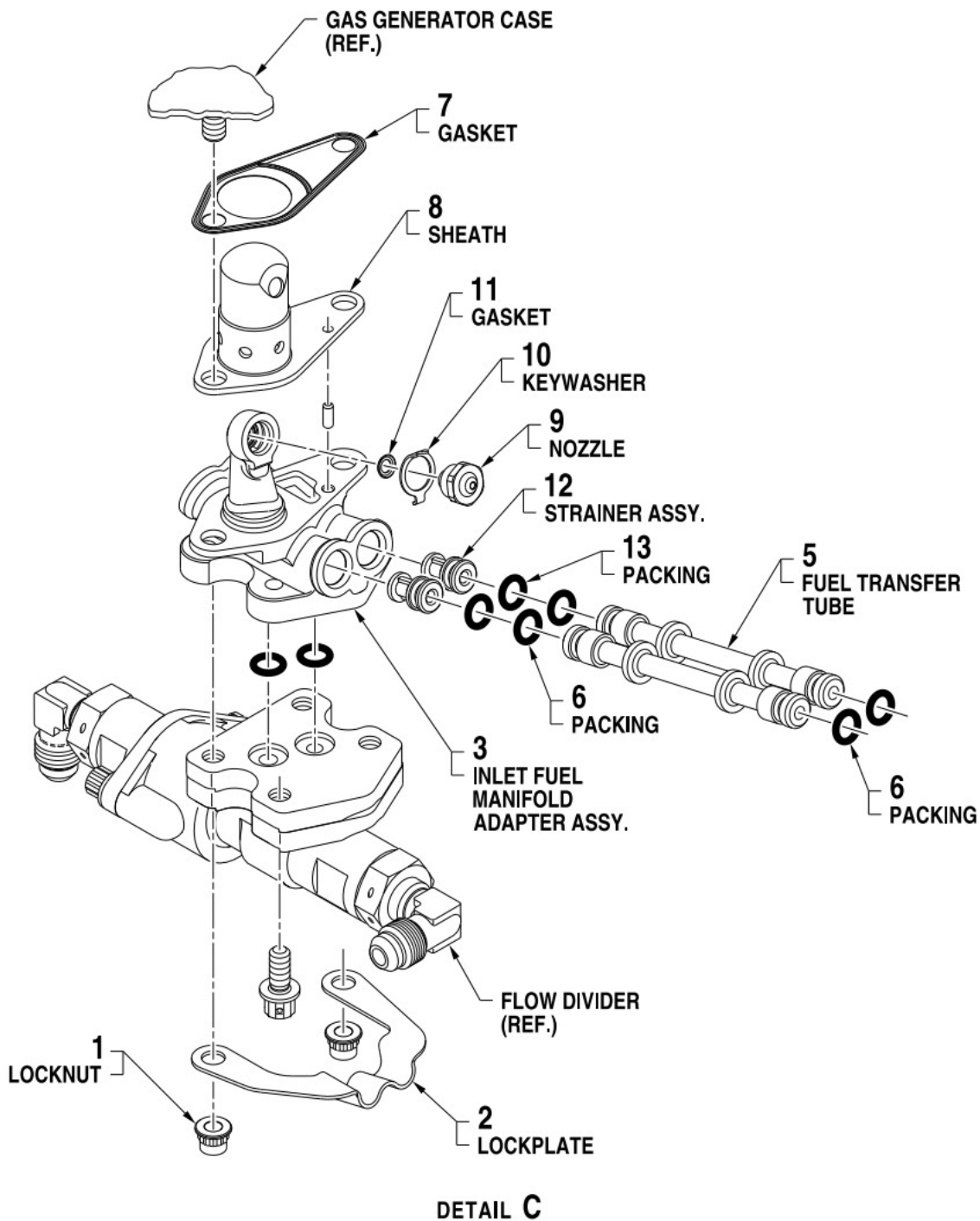
# Figure 201 Removal of the Fuel Manifold Adapters and Transfer Tubes (Task 73-10-04-000-801)

(SHEET 1 OF 4)



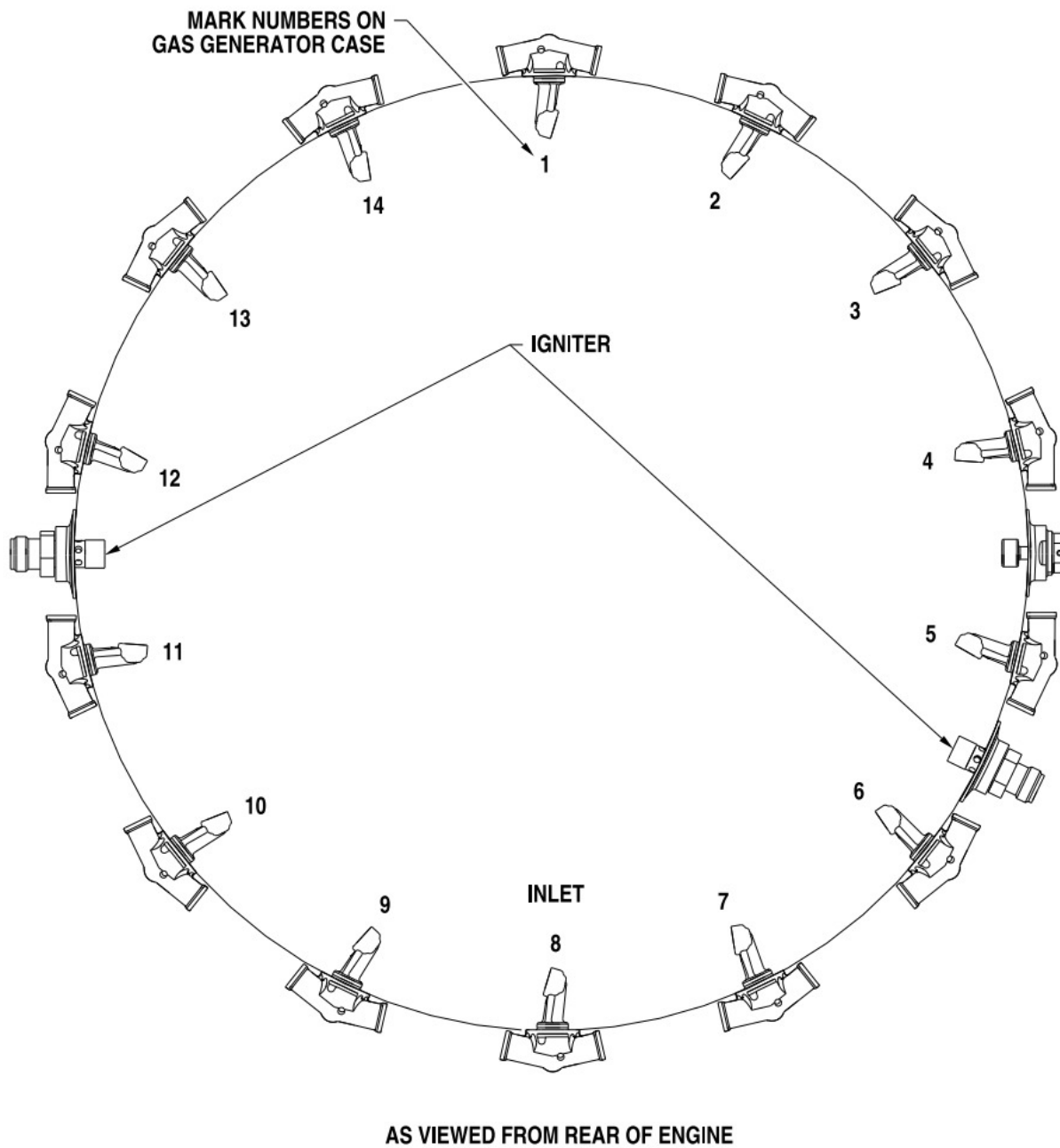
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(SHEET 2 OF 4)



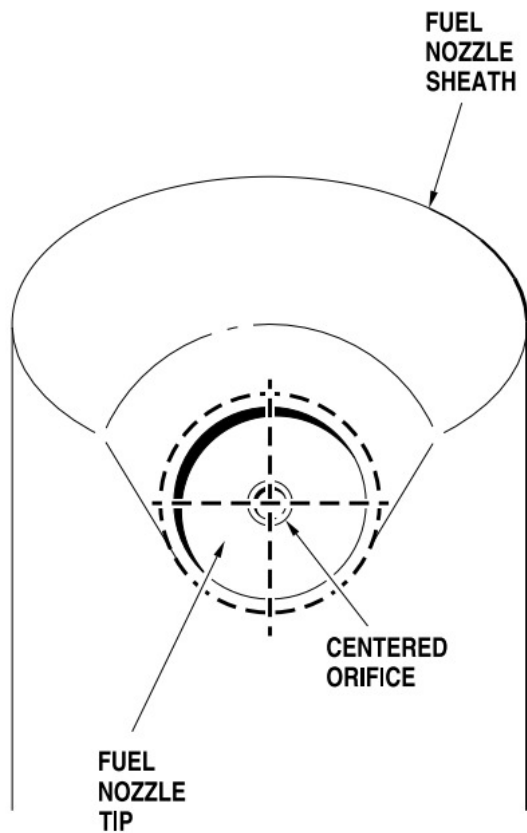
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(SHEET 3 OF 4)

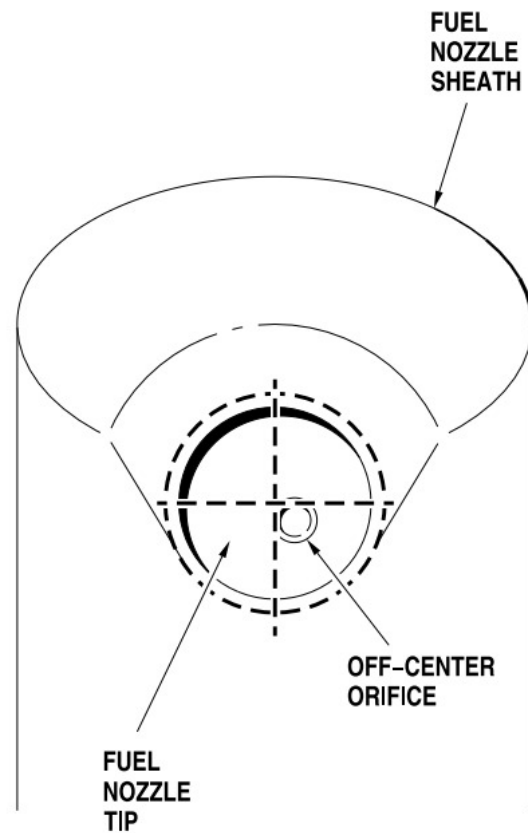


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(SHEET 4 OF 4)



**ACCEPTABLE**



**NOT ACCEPTABLE**

c81717a

73-10-04

Task 73-10-04-400-801

## 2. Installation of the Fuel Manifold Adapters and Transfer Tubes

**WARNING:** USE APPLICABLE SAFETY EQUIPMENT WHEN YOU DO WORK ON THE FUEL SYSTEM.

### A. Overview of the Job

- (1) This task gives the procedure to install the fuel manifold adapters and transfer tubes on the engine.

### B. Job Set-up Information

- (1) Maintenance personnel must make reference to the INTRODUCTION section and to Task 70-00-00, Standard Practices, of this manual until they know the general procedures.

### C. Equipment and Materials

- (1) Special Tools:

Part Number	Name
Not applicable	Not applicable

- (2) Fixtures and Equipment:

Part Number	Name
ES 628	Heat Gun

- (3) Consumable Materials:

**WARNING:** READ THE MATERIAL SAFETY DATA SHEETS BEFORE YOU USE THESE MATERIALS. SOME MATERIALS CAN BE DANGEROUS.

Part Number	Name
PWC01-001	Fuel, Engine
PWC03-001	Oil, Engine Lubricating

### D. Procedure

(Ref. Fig. 202)

**CAUTION:** USE OF ENGINE OIL (PWC03-001) ONLY PERMITTED AS A LUBRICANT FOR INSTALLATION OF THE FUEL NOZZLE ASSEMBLY. DO NOT USE CALIBRATION FLUID OR OTHER LUBRICANTS.

**CAUTION:** PUT ON CLEAN LINT-FREE GLOVES AND BE CAREFUL WITH THE FUEL NOZZLES. DO NOT TOUCH THE SPRAY OPENING OF THE FUEL NOZZLES. THIS CAN CAUSE AN UNSATISFACTORY SPRAY PATTERN.

**CAUTION:** MAKE SURE TO CORRECTLY ENGAGE THE WRENCH SOCKET ON THE NOZZLE DURING INSTALLATION. IF THE WRENCH MOVES, YOU CAN CAUSE DAMAGE THE FUEL NOZZLE OUTLET.

- (1) With a 10X magnifying glass, make sure that each manifold adapter assembly has the correct detail fuel nozzle assembly tip part number.

**CAUTION:** A MISSING OR INCORRECT INSTALLATION OF THE GASKET CAN CAUSE A PRIMARY FUEL FLOW LEAK INTO THE SECONDARY FUEL FLOW CIRCUIT DURING ENGINE START. THIS SITUATION CAN DELAY OR PREVENT ENGINE STARTING AND CAUSE TOO MUCH STARTING TEMPERATURE.

**CAUTION:** HOLD THE BASE WHEN YOU TIGHTEN IT TO PREVENT BENDING. DO NOT BE MORE THAN THE TORQUE LIMIT.

**CAUTION:** DO NOT INSTALL THE NOZZLE TIP ASSEMBLIES THAT HAVE FACTORY NUMBER OR DATE CODE IS EQUAL TO OR BETWEEN THE RANGES "BEN" TO "CET" (REF. SB1752).

- (2) Install the new gasket (11), the keywasher (10) and the nozzle (9) on the inlet fuel manifold adapter (3). Use engine oil (PWC03-001) as a lubricant and torque the nozzle 58 to 62 lbf.in. (6.6-7.0 Nm), then lock the keywasher.

**NOTE:** You can find factory number after the letter "S/N".

**NOTE:** The date code has a three letters, marked on the hexagon flats of the tip or on the adjacent face. It can also be a part of the factory number.

**NOTE:** You can install the nozzle tip assemblies that do not have a factory number or date code.

**NOTE:** When you install the new nozzle tip assembly, make sure that the cone and the distributor are installed in the nozzle body.

**CAUTION:** DO NOT INSTALL THE NOZZLE TIP ASSEMBLIES THAT HAVE FACTORY NUMBER OR DATE CODE IS EQUAL TO OR BETWEEN THE RANGES "BEN" TO "CET" (REF. SB1752).

- (3) Install the 13 new gaskets (11), the 13 keywashers (10) and the 13 nozzles (9) on the 13 fuel manifold adapters (4). Use engine oil (PWC03-001) as a lubricant and torque the nozzles 58 to 62 lbf.in. (6.6-7.0 Nm), then lock the keywashers.

**NOTE:** You can find factory number after the letter "S/N".

**NOTE:** The date code has a three letters, marked on the hexagon flats of the tip or on the adjacent face. It can also be a part of the factory number.



**NOTE:** You can install the nozzle tip assemblies that do not have a factory number or date code.

**NOTE:** When you install the new nozzle tip assembly, make sure that the cone and the distributor are installed in the nozzle body.

- (4) Lubricate the preformed packing (13) with engine oil (PWC03-001), then install it on the strainer element (12).
- (5) Install the strainer element (12) on the manifold adapter (3).
- (6) Lubricate the 13 preformed packings (13) with engine oil (PWC03-001), then install them on the 13 strainer elements (12).
- (7) Install the 13 strainer elements (12) on the 13 manifold adapters (4).
- (8) Do a leak test on each nozzle and adapter assembly (Ref. Task 73-10-04-790-801).
- (9) Do a functional check on each nozzle and adapter assembly (Ref. Task 73-10-04-730-801).

**CAUTION: DO NOT USE SHARP EDGED TOOLS TO BEND OR SET KEYWASHER TABS. TAB CAN DISENGAGE WITH SUBSEQUENT DAMAGE TO THE NOZZLE TIP.**

**CAUTION: THE MAXIMUM TORQUE MUST NOT BE MORE THAN 55 TO 65 LBF.IN. (6.3-7.4 NM) ON THE NOZZLES, TO ALIGN THE FLATS ON TIP WITH KEYWASHER.**

- (10) When satisfactory tests are complete, lock each keywasher (10) on the related fuel nozzles (9).
- (11) Do a leak test check of each fuel nozzle and adapter assembly (Ref. Task 73-10-04-790-801). If leaks are found, replace the keywasher (7) and do Steps (3) thru (8) again.
- (12) Install the manifold adapters (3) and (4) and fuel transfer tubes (5) as follows:
  - (a) Engage the locating pins, then install the 14 sheaths (8) on the manifold adapters (3) and (4).
  - (b) With the nozzle adapter and the sheath pushed together by hand, check clearance between the adapter and the sheath flanges. Maximum clearance permitted is 0.003 in. (0.0762 mm). If the clearance is not in the limits, send the parts to an approved overhaul facility for possible repair.

**NOTE:** If fit is too tight for hand installation, remove and increase the temperature of the sheath with heat gun (ES 628). Install the sheath again on the nozzle adapter. Measure the clearance.

- (c) Measure the concentricity of the fuel nozzle tip with fuel exit hole of the sheath.
- (d) Carefully measure the clearance between fuel nozzle tip and side of hole in sheath. Minimum 0.020 in. (0.508 mm) clearance necessary. If clearance is less at some points, or the two parts are twisted. Send the parts to an approved overhaul facility for possible repair.
- (e) Lubricate the 56 preformed packings (6) with engine oil (PWC03-001), then install them on the 28 transfer tubes (5).

**CAUTION: BE MORE CAREFUL WHEN YOU INSTALL THE FUEL TRANSFER TUBES, TO PREVENT THE DAMAGE TO THE STRAINER ELEMENTS FOUND IN THE BORE OF THE ADAPTER (ON THE SIDE OF THE TRANSFER TUBE LOCKING PLATES).**

(f) Install the 28 transfer tubes (5) on the 14 manifold adapters (3) and (4).

(g) Install the gasket (7) on the inlet manifold adapter (3).

**NOTE:** You can put the gasket on the two sides. For consistency, you must install all gaskets with the flat side against the gas generator.

(h) Install the inlet manifold adapter (3) on the gas generator case at 6 o'clock position with two locknuts (1). Tighten the nuts with your hand.

(i) Install the 13 gaskets (7) on the 13 manifold adapters (4).

(j) Install the manifold adapters (4) on the gas generator case, starting from the inlet manifold adapter (3). As you install each adapter, push the transfer tubes (5) counterclockwise with pusher (PWC32366) to engage them with the adjacent adapter at each location.

(k) Attach the manifold adapters on the gas generator assembly with the 13 locking plates (2) and the 26 locknuts (1). Tighten the nuts with your hand.

(l) Remove the two locknuts (1) from the inlet manifold adapter (3).

(m) Attach the inlet manifold adapter (3) on the gas generator case with the locking plate (2) and the two locknuts (1). Tighten the nuts with your hand.

**CAUTION: MAKE SURE TO INSTALL ALL THE 14 MANIFOLD ADAPTER LOCKING PLATES CORRECTLY.**

**CAUTION: MAKE SURE TO INSTALL THE METAL GASKETS CORRECTLY ON THE-RELATED SHEATH AND BOSS. SLOWLY TIGHTEN THE LOCKNUTS TO MAKE SURE THE CORRECT SEATING OF METAL GASKET.**

(13) Torque all manifold adapter locknuts (1) in a star pattern, 15 to 20 lbf.in. (1.7-2.3 Nm). Torque again the nuts in a star pattern 23 to 26 lbf.in. (2.6-2.9 Nm).

**NOTE:** After torque, a 0.001 in. (0.00254 mm) clearance is permitted between the adapter and sheath flanges.

#### E. Job Close-up Information

(1) Remove all tools, equipment and items not necessary from the work area.

(2) Connect the fuel pressure tube to the fuel manifold. (Ref. Task 73-10-01-400-801).

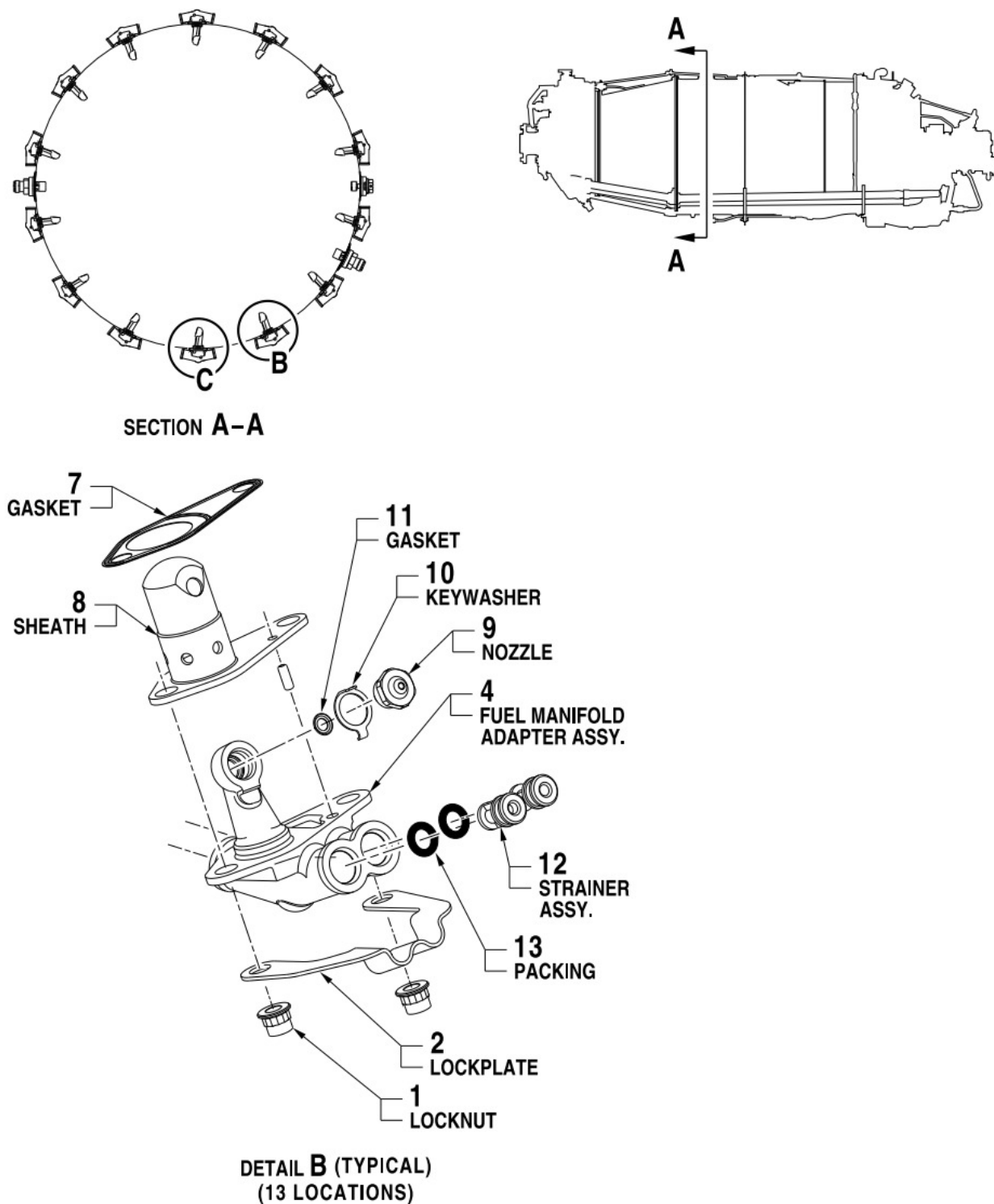
(3) Install the front external oil scavenge tube (Ref. Task 79-20-03-400-802).

(4) Install the ignition cables (Ref. Task 74-20-01-400-801).

(5) Do the necessary engine ground checks (Task 71-00-00-760-801).

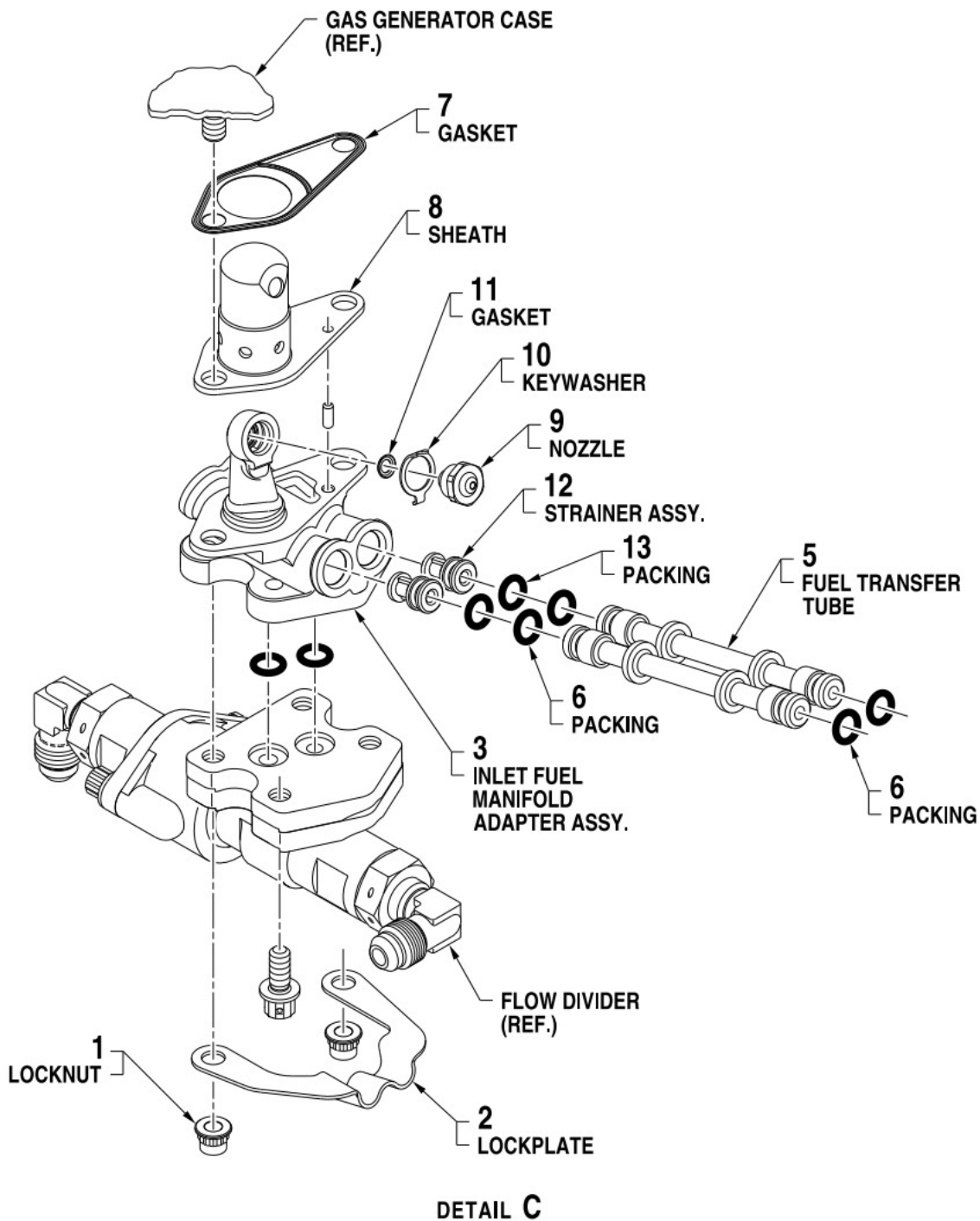
## Figure 202 Installation of the Fuel Manifold Adapters and Transfer Tubes (Task 73-10-04-400-801)

(SHEET 1 OF 4)



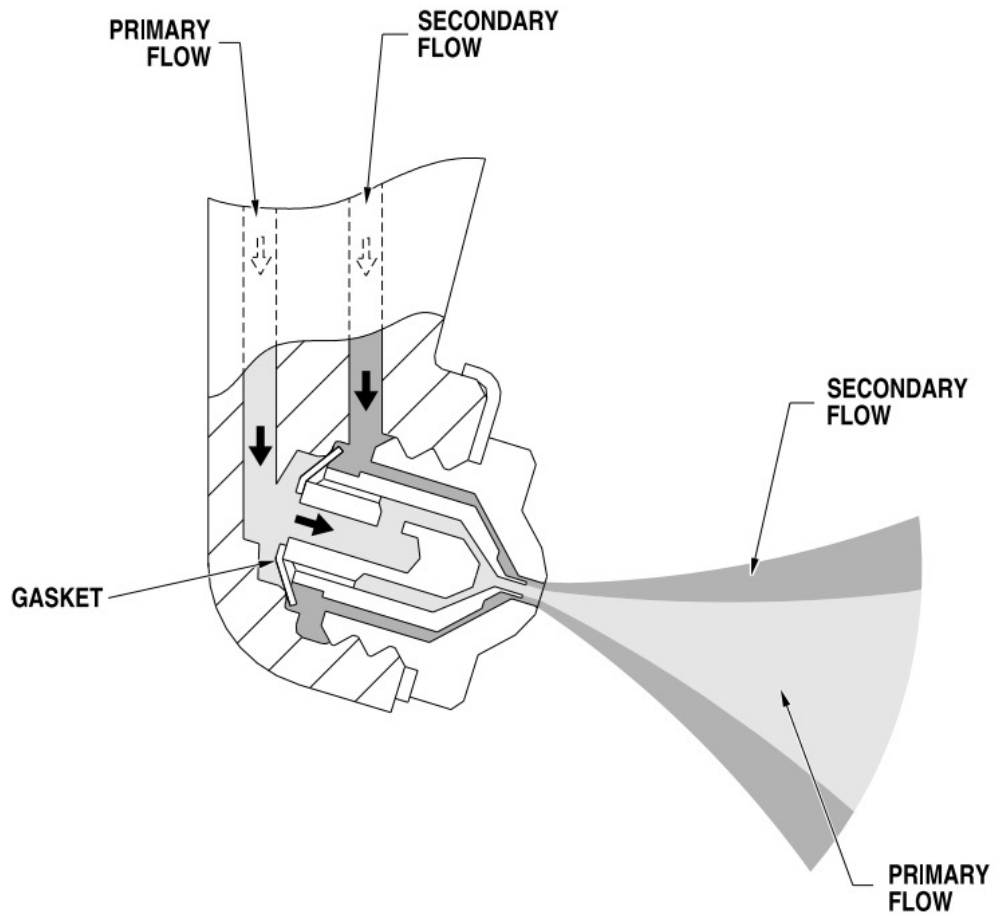
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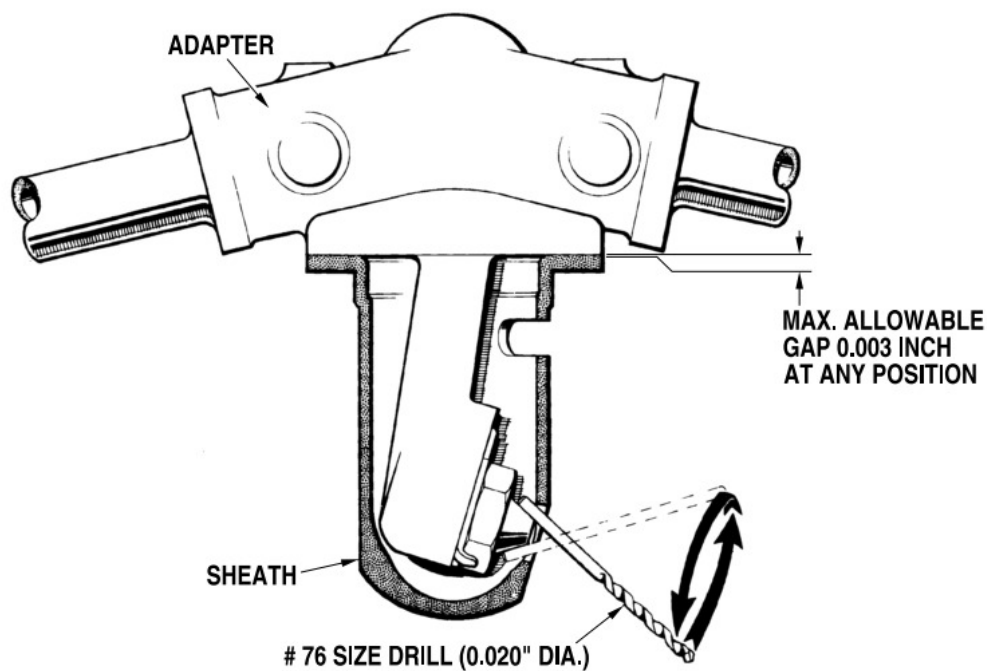
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(SHEET 3 OF 4)

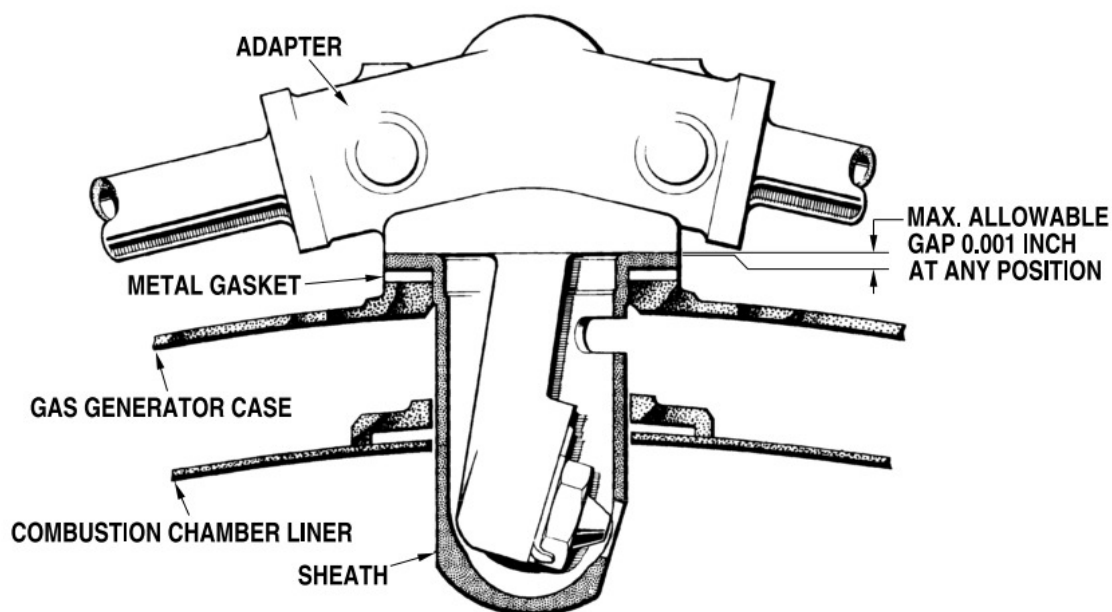


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(SHEET 4 OF 4)



SECTION THROUGH FUEL MANIFOLD ADAPTER AND SHEATH HAND HELD



SECTION THROUGH FUEL MANIFOLD ADAPTER AND SHEATH  
INSTALLED ON GAS GENERATOR CASE

c41914



**NON ROUTINE CARD**  
(Form: SCA/MTC/047)

1. JO/WO #	2. DATE	3. MTC TYPE	4. A/C REG/MSN
WO/005-SNA/VIII/2021	09-Aug-2021	INSPECTION	PK-SNA
5. CARD #	6. ATA SPEC	7. TRADE	8. STA
002	72		
9. ZONE	10. PANEL	-	
ENGINE			

11. DESCRIPTION			
PERFORM BORESCOPE HOT SECTION INSPECTION (INITIALLY 200 HRS)			
REFERENCE	<input checked="" type="checkbox"/> EMM Ch. 72-00-00	<input type="checkbox"/>	<input type="checkbox"/> OTHER
RII (*)	<input type="checkbox"/> Y	<input type="checkbox"/> N	MHR :

12. RESULT			MECH	ENG	INSP (*)
Performed at A/C TT : ..... A/C TC /LDG : .....					
FINDING	<input type="checkbox"/> Y	<input type="checkbox"/> N	ACT MHR :	DATE/TIME (DD/MM/YY)	
INSPECTION CARD (IC) #					

13. PARTS REQUIRED				
DESCRIPTION	PART NO	QTY	REMARK	
			STOCK	STATUS

14. TOOLS REQUIRED			
DESCRIPTION	PART NO / MODEL	NEXT CALIBRATION DATE	STATUS

72-00-00

Task 72-00-00-280-803

## 6. Borescope

### A. General

**CAUTION:** THE PURPOSE OF THE BORESCOPE INSPECTION IS NOT TO REPLACE OR DECREASE THE IMPORTANCE TO DO AN HSI. THE PURPOSE IS TO MONITOR THE INTERNAL COMPONENTS OF THE ENGINE TO HELP DECREASE THE COST OF FUTURE REPAIRS/REFURBISHMENTS.

**CAUTION:** YOU CAN EASILY CAUSE DAMAGE THE BORESCOPE BY HEAT, SHOCK, TWISTING AND PINCHING. BE VERY CAREFUL WHEN YOU USE THE BORESCOPE. THIS WILL HELP TO PREVENT DAMAGE TO THE EQUIPMENT.

**CAUTION:** DO NOT TWIST THE FIBERSCOPE TOO MUCH OR YOU CAN CAUSE DAMAGE TO THE OPTIC FIBERS. DO NOT TURN THE FIBERSCOPE BY THE EYEPIECE ONLY. IF POSSIBLE TURN THE FIBERSCOPE WITH THE OTHER HAND, NEAR THE POINT OF ENTRY INTO THE ENGINE.

**CAUTION:** DO NOT PUT THE BORESCOPE INTO LIQUID, IT CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (1) The borescope (PWC34910-101) is an optical device and used to do a visual inspection in the engine. Access is through two ports, or openings caused by removal of engine components (Ref. Fig. 603). Only approved personnel that do the inspection can use the borescope and give an analysis of the results. The borescope is an easily damaged device, specially to shocks, twisting and pinching. Use precaution. Be careful when handling/using tool. Examine the borescope assembly and its accessories and the procedures that follow.

**NOTE:** As an alternative, you can remove the Power Section Module (Heavy Maintenance only)

- (2) The borescope assembly has a pattern controlled rigid guide tube, a direct viewing flexible fiberscope, light source, side viewing adapter, and other accessories. If necessary, you can use a camera (PWC34960-201) to record engine areas that you examine.

**CAUTION:** HEAT CAN CAUSE DAMAGE TO THE BORESCOPE. THE ENGINE TEMPERATURE MUST BE LESS THAN 66°C (150°F) WHEN YOU DO A BORESCOPE INSPECTION. WAIT FOR A MINIMUM OF 40 MINUTES FOR THE ENGINE TO COOL AFTER THE SHUTDOWN.

- (3) The usual cooling time after engine shutdown is 40 minutes. If necessary, do a dry motoring run (Ref. Task 71-00-00-760-804). This step will decrease the engine temperature faster.

### B. Removal/Installation of Side-viewing Adapter (Ref. Fig. 601)



**NOTE:** An adapter (SL-4TP) is used to inspect components located at a nominal 90 degree angle to fiberscope distal tip. The use of side-viewing adapter will introduce a reduction in the field of view as compared to the direct viewing field. A ring is installed to protect distal end when side-viewing adapter is not fitted.

(1) Installation:

- (a) Hold the fiberscope as close as possible to the distal end, then remove the protective ring.

**CAUTION: INSTALL THE SIDE VIEW ADAPTER CAREFULLY. IF NOT INSTALLED AND TIGHTENED CORRECTLY, ADAPTER COULD FALL INTO ENGINE. DO NOT TIGHTEN TOO MUCH, IT COULD CAUSE DAMAGE TO THE DISTAL END.**

- (b) Hold fiberscope as close as possible to distal end, then install adapter with the index slot and lug aligned. Tighten the ring with your hand.

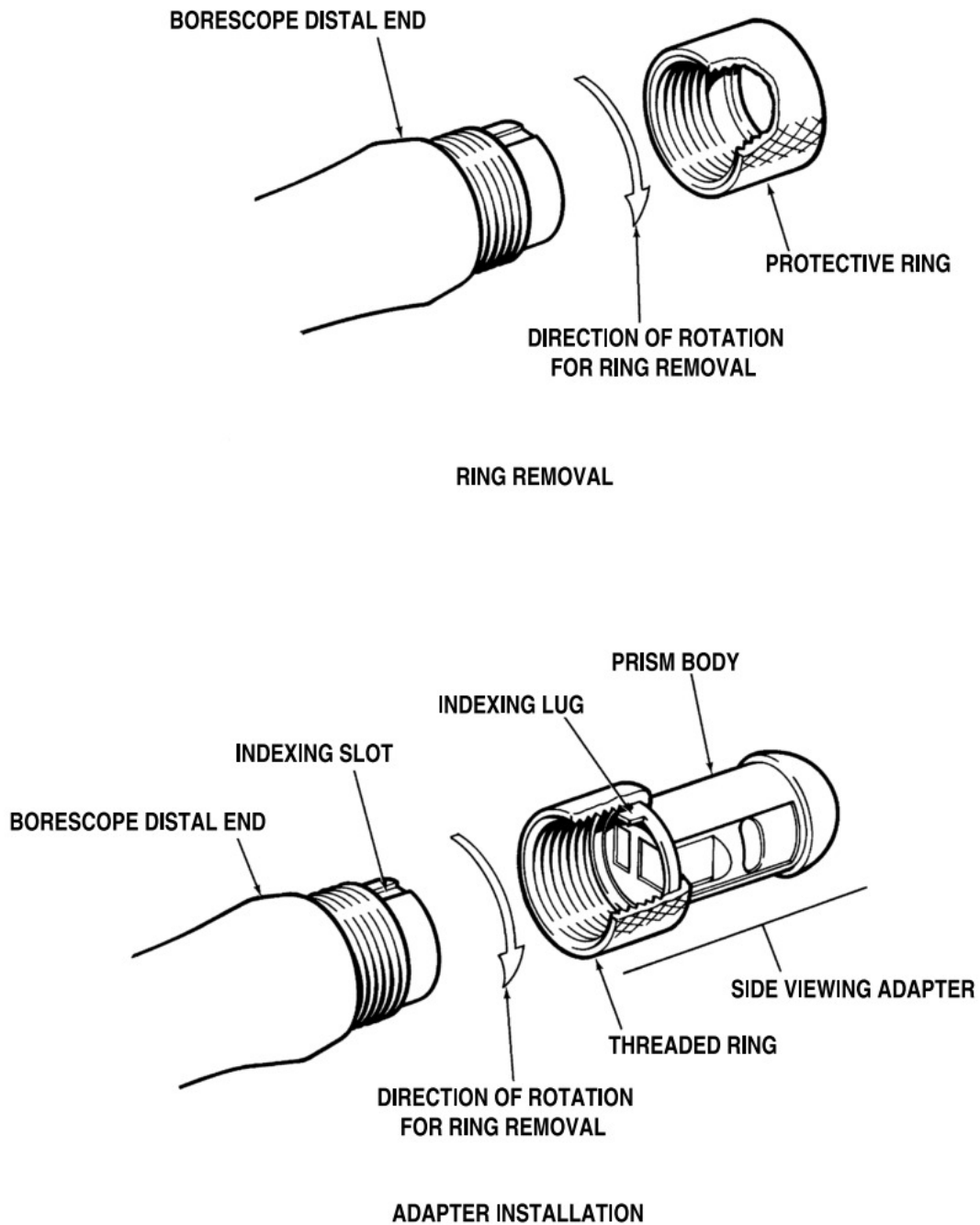
(2) Removal:

- (a) Hold the fiberscope as close as possible to the distal end, then remove the side-viewing adapter.

**CAUTION: INSTALL PROTECTIVE RING CAREFULLY. IF NOT INSTALLED AND TIGHTENED CORRECTLY, RING COULD FALL INTO ENGINE. DO NOT TIGHTEN TOO MUCH, IT COULD CAUSE TO THE DISTAL END.**

- (b) Hold the fiberscope as close as possible to the distal end, then install the protective ring. Tighten the ring with your hand.

**Figure 601 Side-viewing Adapter (Task 72-00-00-280-803)**



c12191

### C. Light Source

- (1) A halogen lamp is used to supply light from one of the two power supplies (110V, 60 Hz or a 220V, 50Hz).

**NOTE:** Request the electrical power necessary when you purchase the borescope.

- (2) Remove the top cover from the light source to replace the lamp.
- (3) Set the intensity knob at maximum for the best results.
- (4) Read the manufacturer's instructions before you install the light source.

### D. Removal/Installation of Camera

- (1) You can use a camera (PWC34960-201) or equivalent to record internal engine components. It must be installed with a 50 mm F1.8 lens.
- (2) Install the camera as follows:

**CAUTION: DO NOT USE COMPRESSED AIR TO CLEAN THE CAMERA, THE BORESCOPE OR THE RELATED COMPONENTS, IT CAN CAUSE DAMAGE TO THE EQUIPMENT.**

- (a) Clean the camera viewfinder, reflex mirror, focusing screen, and lens with the lens cleaning tissue and lens cleaner.
- (b) Install endoscopic focusing screen in camera.
- (c) Install the lens.
- (d) Install the adapter (CAII) on the lens.
- (e) Install film in camera (Ref. Camera Handbook) (if applicable).
- (f) Set the camera film speed to agree with the film and the exposure compensation to -2 (Refer to the camera handbook).
- (g) Release the knurled screw on the outer ring of the camera adapter, then align the bayonet slots with those on the inner ring.

**NOTE:** Make sure that you do not move the distal end when you take photographs.

- (3) Remove the camera as follows:
  - (a) Turn outer ring of camera adapter to disengage locking mechanism, then remove camera.
  - (b) Remove the camera adapter from the lens.
  - (c) Remove the camera adapter from the lens.
  - (d) Wind the film back (Refer to the camera handbook), then remove the film from the camera. Put a label in the film with the data that follows:
    - Engine serial number.
    - Date and the area or the component photographed.

- Engine operating time or cycles since the last overhaul.
- The cause for the borescope inspection (suspected FOD, low power, etc.).

E. Removal/Installation of Guide Tube Through The Fuel Manifold Adapter  
(Ref. Fig. 602)

(1) Installation

- (a) Remove applicable fuel manifold adapter (s) (Ref. Task 73-10-04-000-801).

**CAUTION: THE RIGID, PATTERN CONTROLLED GUIDE TUBE MUST ENGAGE FREELY WITH NO FORCE.**

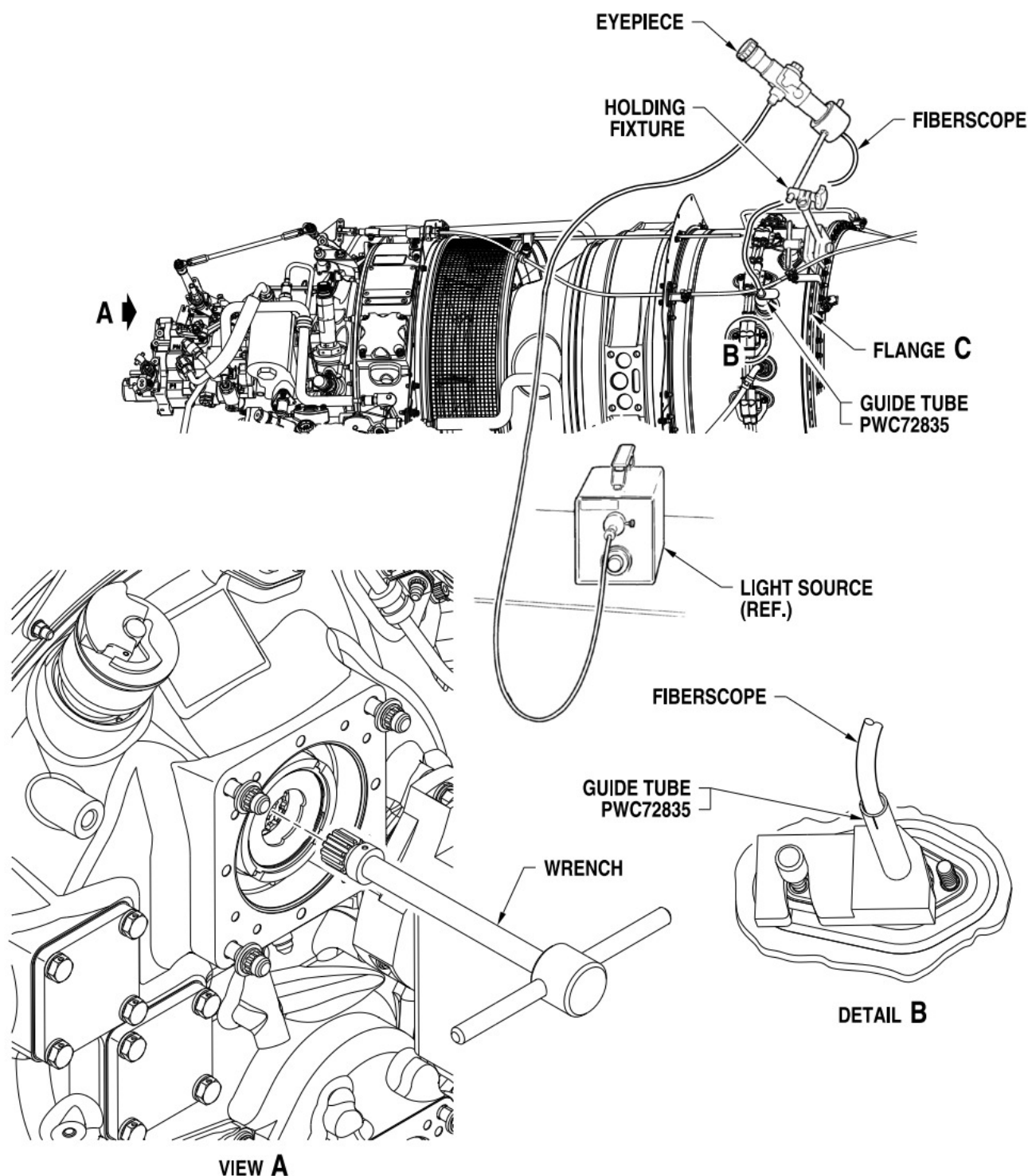
- (b) Carefully move the guide tube (PWC72835) through the manifold adapter opening into the combustion chamber and exit duct area.

- (c) The flange support is attached to the adapter boss attached with a washer and nut.

(2) Removal

- (a) Turn the guide tube clockwise to remove it.
- (b) Install fuel manifold adapter (s) (Ref. Task 73-10-04-400-801).

**Figure 602 Borescope and Accessories Installed (Typical) (Task 72-00-00-280-803)**



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## F. Removal/Installation of RGB/AGB Borescope Inspection Port (Ref. Fig. 603)

### (1) Removal

- (a) Remove the scavenge oil strainer assembly (Ref. Task 79-30-01-000-802).
- (b) Remove two nuts (1), two washers (2) and the cover (3) from the borescope inspection port (5).
- (c) Remove and discard the packing (4) from the cover (3).
- (d) Attach the holding fixture (PWC34913) to Flange A. Install the eyepiece to the fixture, then connect the light source.

**CAUTION: MAKE SURE END OF FIBERSCOPE DOES NOT TOUCH GEARS.**

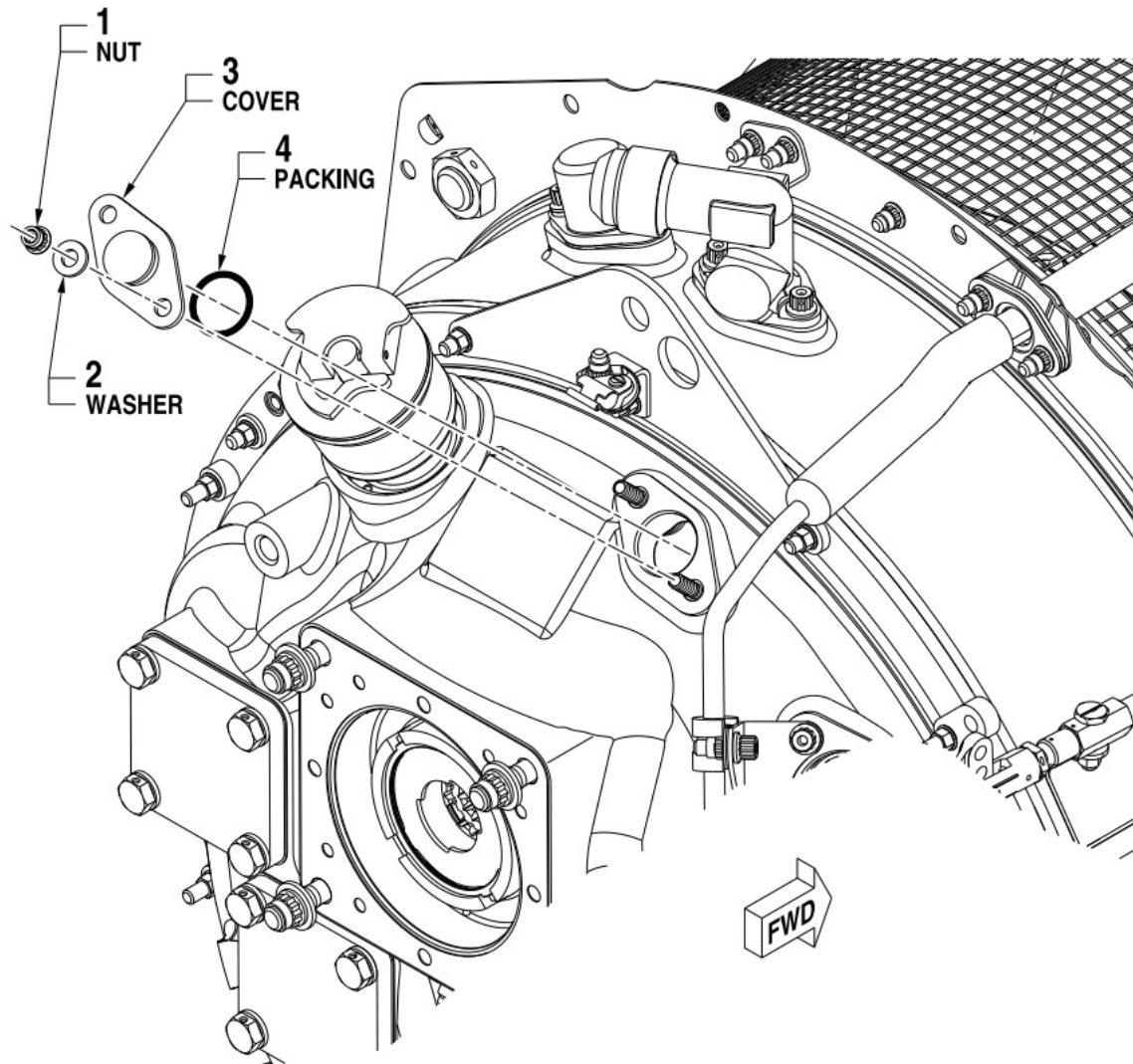
- (e) Put the fiberscope into the oil strainer access along the lower passage until you can see the first-stage planet gears. To see the second-stage gears, insert fiberscope in the up direction. Examine gears.
- (f) Move the fiberscope while a second operator turns the propeller by hand to turn the geartrain.

### (2) Installation

- (a) Remove the wrench, light source, fiberscope, eyepiece and holding fixture.
- (b) Install the scavenge oil strainer assembly (Ref. Task 79-31-01-400-802).
- (c) Lubricate the packing (4) with engine oil (PWC03-001), then install in cover (3) groove.
- (d) Install cover (3) on borescope inspection port (5) with two washers (2) and nuts (1). Torque the nuts (1) 23 to 26 lbf.in. (2.6-2.9 Nm).

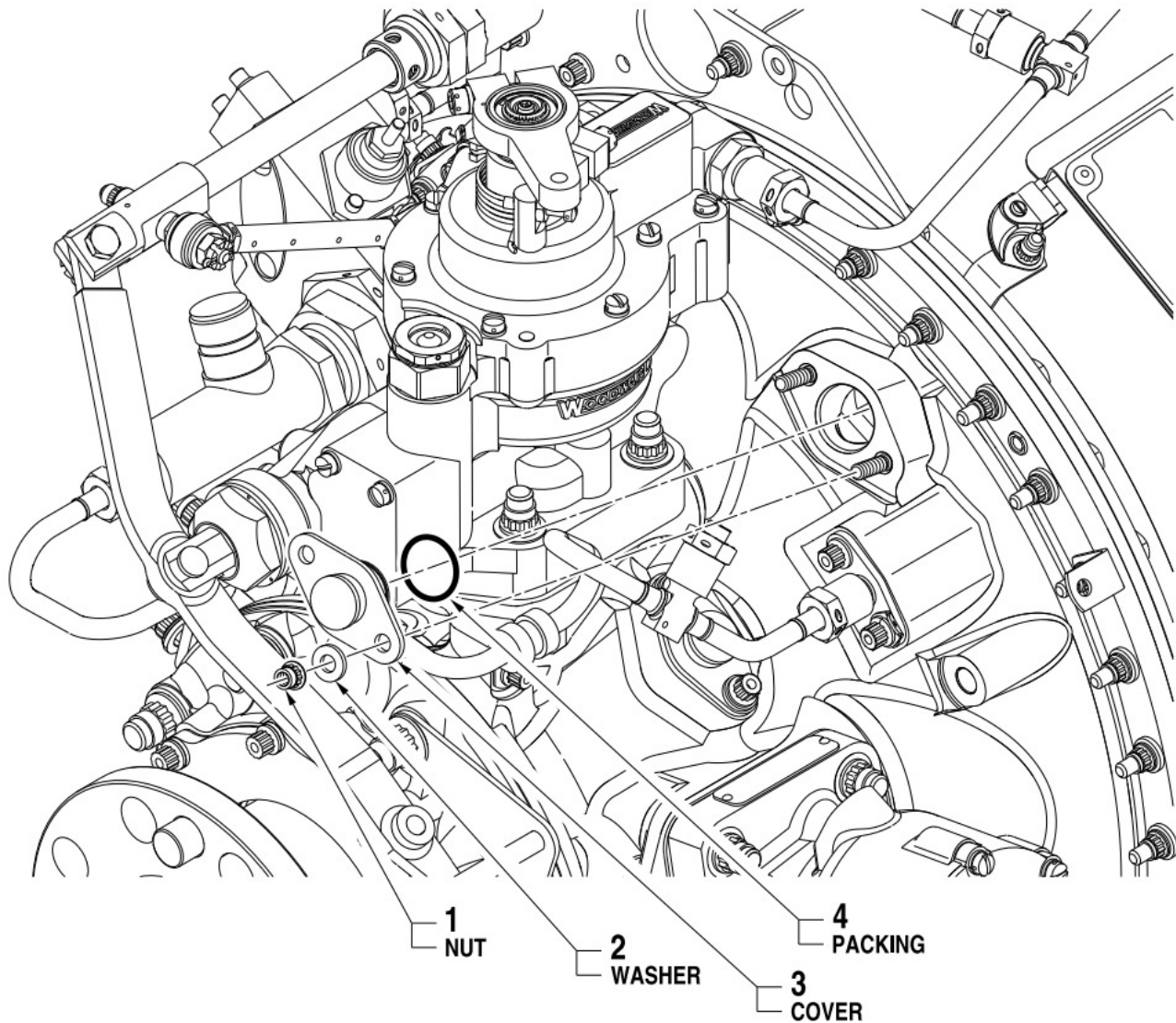
**Figure 603 RGB and AGB Borescope Access Ports (Task 72-00-00-280-803)**

(SHEET 1 OF 2)



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(SHEET 2 OF 2)



c224896



G. Removal/Installation of Guide Tube Through Borescope Inspection Port  
(Ref. Fig. 604)

(1) Installation

**WARNING: PUT ON EYE PROTECTION WHEN YOU CUT OR INSTALL THE CABLE.**

- (a) Cut and remove the safety cable from the plug (2). Remove the plug (2) and gasket (1) from the gas generator case (3). Discard the gasket.

**CAUTION: THE RIGID, PATTERN CONTROLLED GUIDE TUBE MUST ENGAGE FREELY WITH NO FORCE.**

- (b) Carefully move the guide tube (PWC72239) through the borescope inspection port into the combustion chamber and large exit duct area.
- (c) The guide tube end moves against the large exit duct, while the support flange is attached to the adapter boss.

(2) Removal

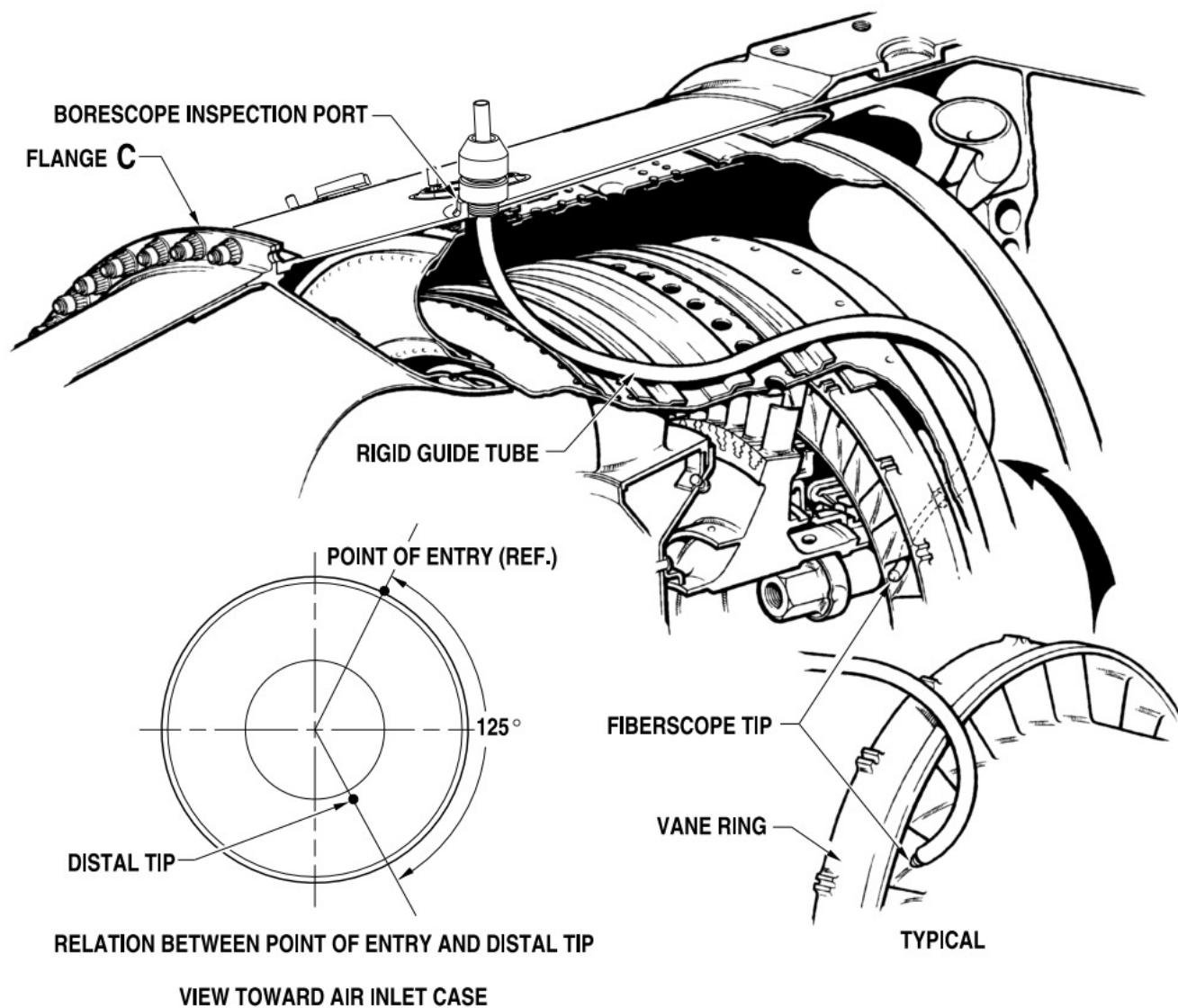
- (a) Loosen knurled screw to release the guide tube support flange.
- (b) Turn the guide tube clockwise to remove it.

**WARNING: PUT ON EYE PROTECTION WHEN YOU CUT OR INSTALL THE CABLE**

- (c) Install a new gasket (1) and plug (2) on gas generator case borescope port (3). Tighten the plug with your hand.
- (d) Torque the plug 300 to 360 lbf.in. (33.9-40.6). Use the crimper (PWC90025) to install the safety cable on the borescope port plug.

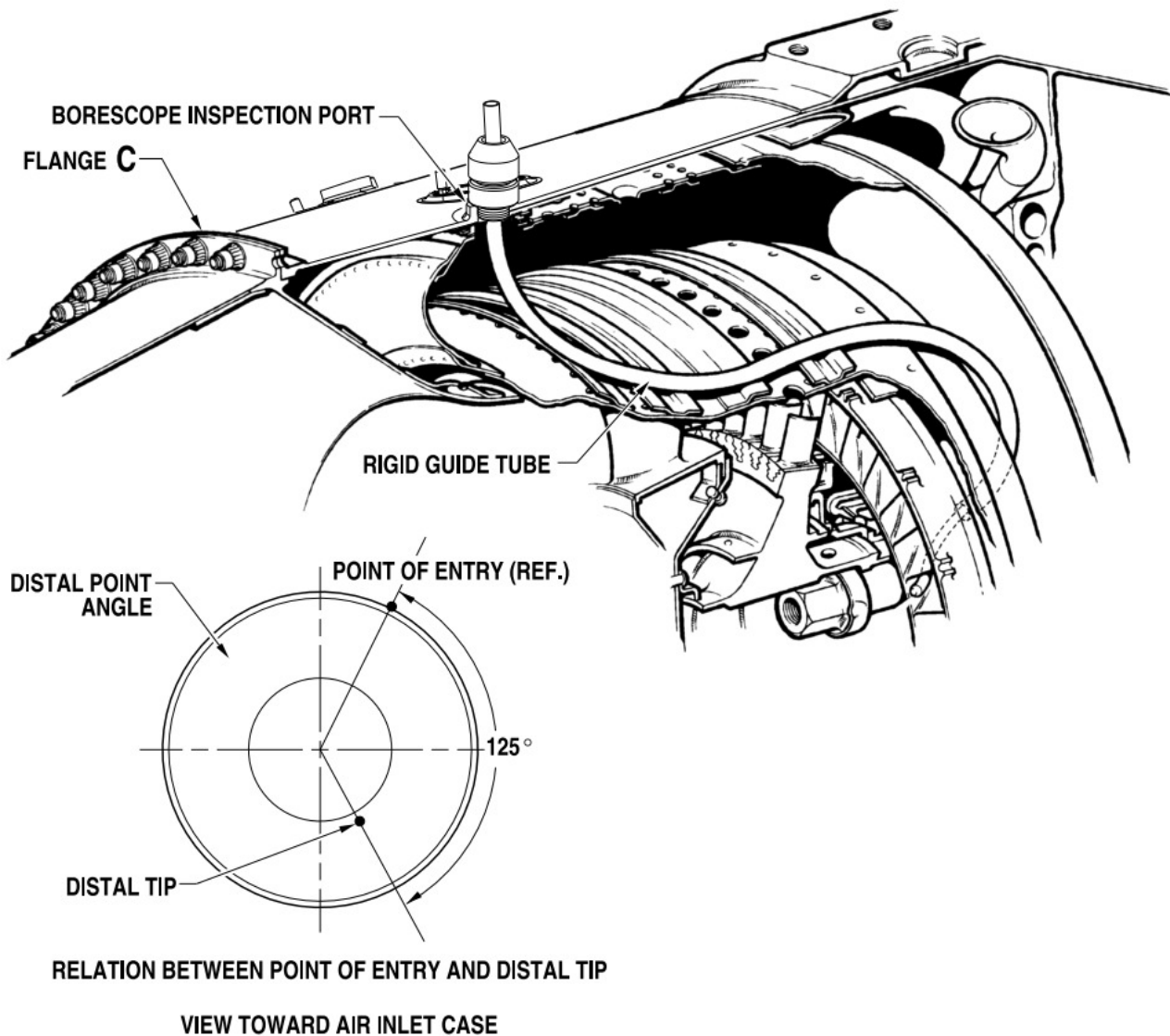
**Figure 604 Guide Tube Orientation (Task 72-00-00-280-803)**

(SHEET 1 OF 2)



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(SHEET 2 OF 2)



c224900

## H. Borescope Troubleshooting

- (1) The possible sources of, and repairs for problems found when you use a borescope are in Table 601.

Table 601 Borescope Troubleshooting (Task 72-00-00-280-803)

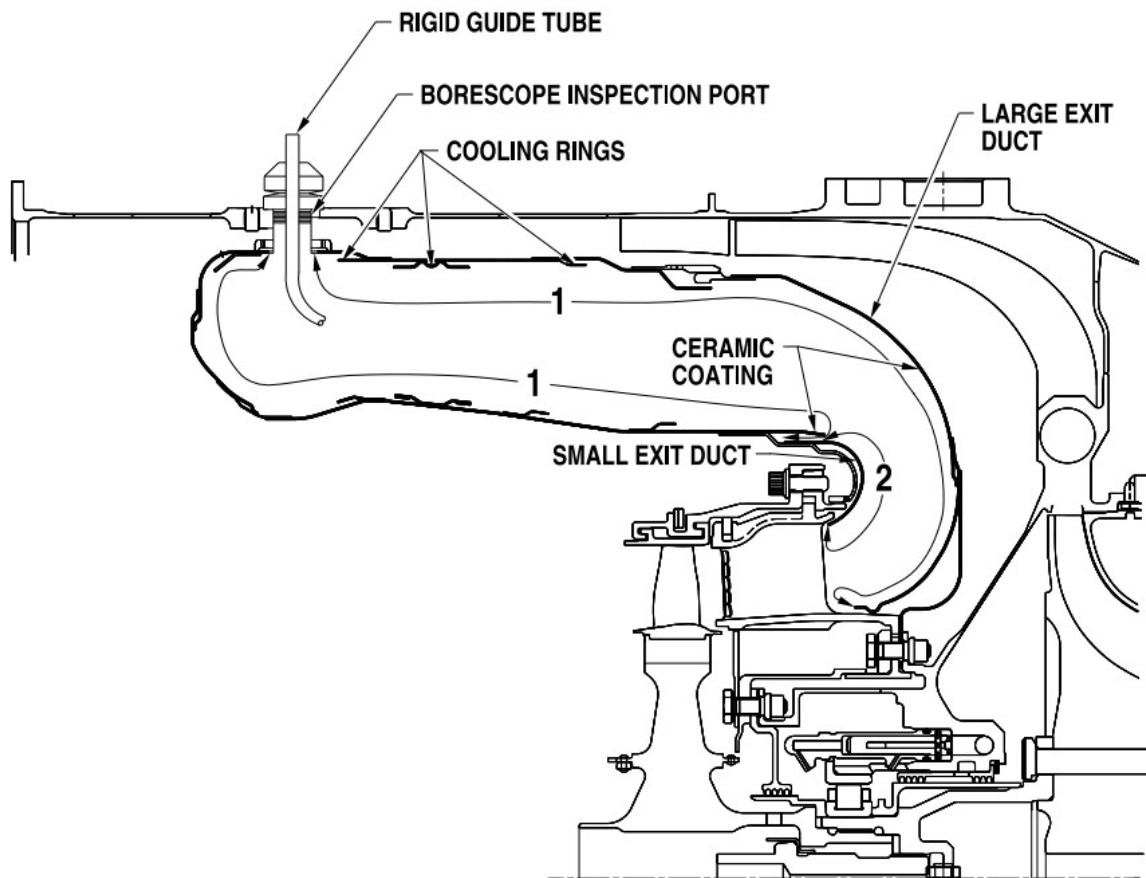
Problem	Possible Cause	Corrective Action
Unsatisfactory light	Oil or dirt on distal end or side-viewing adapter prism.	Clean with a lens cleaner and lens tissue
	Light source intensity switch set at low.	Set the switch to high.
	A damaged borescope light tube.	Return to the manufacturer for repair.
	A defective transformer.	Return to the manufacturer for repair.
An unsatisfactory view	Dioptr rings not adjusted correctly.	Adjust to agree with your eyes.
	Damaged fibers in fiberscope (seen as black dots in viewer).	Return to the manufacturer for repair.
	Unsatisfactory light.	Return to manufacturer for repair.
Fiberscope distal end does not move when the control knobs are turned.	Damaged control wires in the fiberscope.	Return to the manufacturer for repair.
<b>NOTE:</b> All repairs must be done by the manufacturer.		

Table 602 Borescope Inspection of Combustion Chamber Liner (Task 72-00-00-280-804)

AREA	VISUAL INSPECTION LIMITS
1 Combustion Chamber Liners and Large Exit Duct	SERVICEABLE CRITERIA - CONTINUE IN SERVICE: Cracks are serviceable. An HSI is recommended before component replacement is necessary.
	Converging cracks permitted in the inner and outer combustion chamber liner walls which do not touch.
	Plasma top coating (ceramic) loss that shows undercoat (diffused aluminide) permitted, given base metal is not burnt or eroded.
	Small areas (approximately 1 sq.in.) of bulging and/or hot spots can be repaired, and an HSI is recommended. Bulging and/or burning in the dome area, related or not with axial cracks permitted, given the axial cracks (no circumferential cracks permitted) are not more than 1.0 in. (25.4 mm) in length or a width of 0.030 in. (0.76 mm). <b>NOTE:</b> Engine can stay in service, given the related fuel adapter(s) is/are examined (Ref. Task 73-10-04-210-801). If not in the specified limits, replace it.
	No holes permitted. You must do an HSI to replace or repair the related component. Examine the related fuel adapter(s) (Ref. Task 73-10-04-210-801). If not in the specified limits, replace it.
	You can repair crack or twisted cooling rings. An HSI is recommended before cooling rings are burned through and pieces enter the gas stream. <b>NOTE:</b> If an HSI is not done, combustion chamber liner with distorted cooling rings or converging cracks must have the related fuel adapter(s) examined (Ref. Task 73-10-04-210-801). If not in the specified limits, replace it.
	Cracks along, or across, the dome to the outer liner seam weld permitted, given the cracks do not go across the fuel manifold support bracket. Do an inspection of damage at 100 hours. It is at your decision to reschedule a borescope inspection and subsequent inspections at 400 hours.
	SERVICEABLE CRITERIA - RESCHEDULE BORESCOPE INSPECTION: Converging cracks which do not touch permitted. Reschedule a borescope inspection at 100 hours and subsequent inspections at 400 hours.
	Cooling rings with cracks or twists can stay in service. As long as you know that there is a change in the cooling air flow, and the rate of deterioration of the

<b>AREA</b>	<b>VISUAL INSPECTION LIMITS</b> combustion chamber can increase. Reschedule a borescope inspection at 100 hours and subsequent inspections at 400 hours.
	Too much carbon deposits permitted, given: <ul style="list-style-type: none"> <li>- You do a flow check fuel adapters (Ref. Task 73-10-04-210-801).</li> <li>- If CT blades are eroded, refer to Inspection of CT Blades.</li> </ul> <p><b>NOTE:</b> If the adapters are serviceable, the combustion chamber liner is the possible cause of the deposits. Examine the CT blades, as erosion by carbon particles (some carbon particles stay in the gas stream, some do not stay in the combustion area) can cause damage and CT blade replacement.</p> Reschedule a borescope inspection at 100 hours and subsequent inspections at 400 hours.
2 Small Exit Duct	<b>SERVICEABLE CRITERIA - CONTINUE IN SERVICE:</b> Cracks and open radial cracks that extend from the inner to the outer diameter permitted (no limit in length).
	No limit to the quantity of coating loss permitted.
	Holes less than 0.500 in. (12.7 MM) Dia. in the outer wall permitted.
	<b>SERVICEABLE CRITERIA - RESCHEDULE BORESCOPE INSPECTION:</b> If you find holes or open cracks, an HSI is recommended. <p><b>NOTE:</b> The engine can stay in service, and you can delay an HSI . As long as you know that there is an effect to the CT stator cooling air flow, and the deterioration rate increases.</p> When you find damage, examine the CT stator (Ref. Task 72-50-01-210-801 and related fuel adapter (Ref. Task 73-10-04-210-801).         Reschedule a borescope inspection at 100 hours and subsequent inspections at 400 hours.

**Figure 605 Borescope Inspection of Combustion Chamber Liner and Large Exit Duct (Task 72-00-00-280-804)**



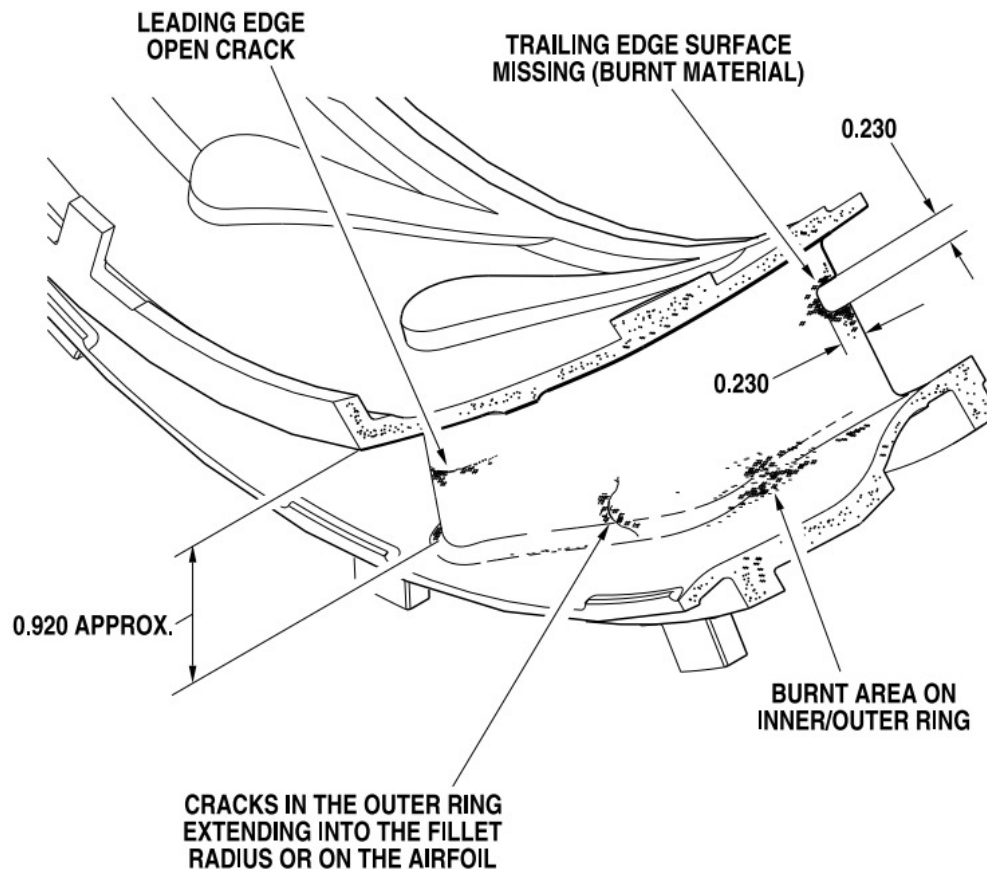
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**Figure 606 Borescope Inspection of CT Stator Assembly (Ref. Table 604) (Task 72-00-00-280-806)**

(SHEET 1 OF 4)



**NOTE:**

TRAILING EDGE DEFECTS EXCEEDING THE ABOVE LIMITS ARE NOT ACCEPTABLE. DIMENSIONS CANNOT BE ACCURATELY MEASURED WHEN USING A BORESCOPE THEREFORE THE EXTENT OF THE DAMAGE MAY BE ESTIMATED AS A PERCENTAGE OF AIRFOIL LEADING EDGE HEIGHT. ( 0.920 APPROX. )

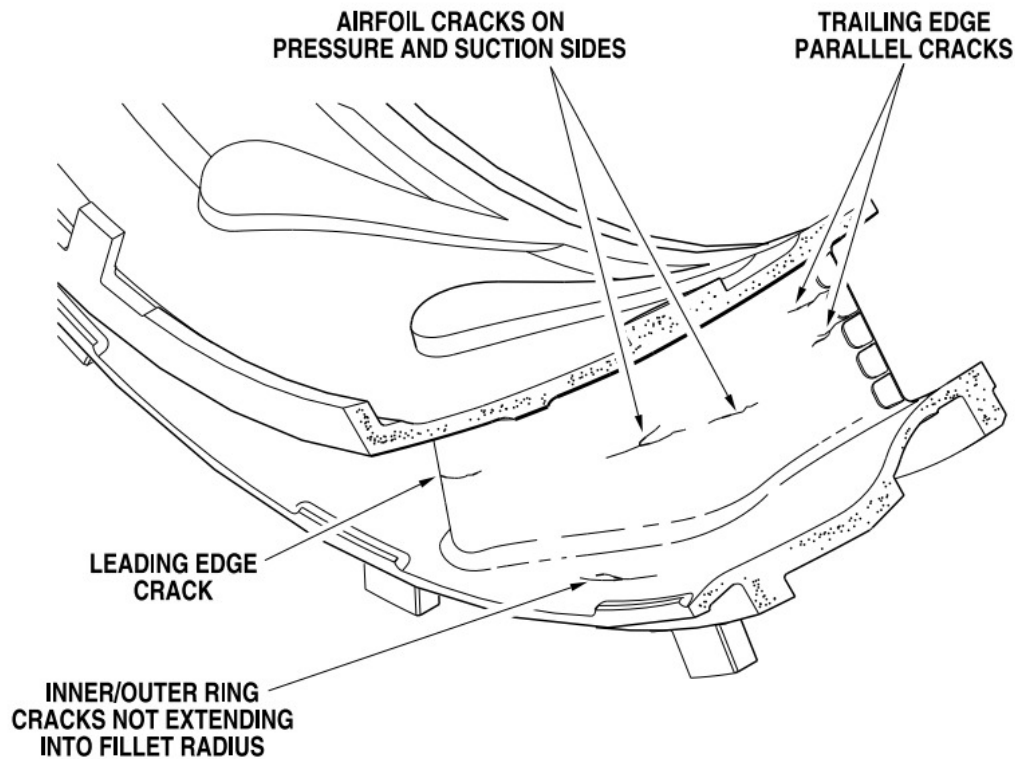
Table 603 Borescope Inspection of CT Stator Assembly (Ref. Fig. 606) (Task 72-00-00-280-806)

AREA	VISUAL INSPECTION LIMITS
1 Airfoil Surfaces	SERVICEABLE CRITERIA - CONTINUE IN SERVICE: Leading edge with many hairline cracks permitted, given they are in the limits that follow: 0.500 in. (12.7 mm) long maximum

<b>AREA</b>	<b>VISUAL INSPECTION LIMITS</b> <ul style="list-style-type: none"> <li>- 0.500 in. (12.7 mm) long maximum</li> <li>- No burning you can see</li> </ul>
	Hairline cracks that extend from the outer or inner ring into the airfoil permitted.
	Trailing edge with many hairline cracks (pressure or suction) permitted, given they are in the limits that follow: <ul style="list-style-type: none"> <li>- 1.00 in. (25.4 mm) long maximum</li> <li>- No burning you can see</li> </ul>
	<b>SERVICEABLE CRITERIA - RESCHEDULE BORESCOPE INSPECTION:</b> Cracks or damage permitted, given they are in the limits that follow. Reschedule a borescope inspection at 100 hours and subsequent inspections at 400 hours. <ul style="list-style-type: none"> <li>- Trailing edge surface missing (burnt material), radial limit 0.350 in. (8.90 mm), axial limit 0.250 in. (6.35 mm)</li> <li>- Leading-edge open crack</li> <li>- Cracks which extend from the outer ring into the fillet radius or on the airfoil</li> </ul>
2 Inner Ring	<b>SERVICEABLE CRITERIA - CONTINUE IN SERVICE:</b> Cracks permitted, given they are in the limits that follow: <ul style="list-style-type: none"> <li>- Open and hairline cracks upstream</li> <li>- Hairline cracks through the wall</li> <li>- Hairline cracks which extend into the airfoil</li> <li>- Open cracks to a maximum of 0.020 in. (0.508 mm) through or full length</li> </ul>
	No converging cracks permitted.
3 Outer Ring	<b>SERVICEABLE CRITERIA - CONTINUE IN SERVICE:</b> Cracks permitted, given they are in the limits that follow: <ul style="list-style-type: none"> <li>- open cracks upstream not more than 0.020 in. (0.508 mm)</li> <li>- Hairline cracks through the wall, must have 20% of outer ring not damaged</li> <li>- Hairline cracks which extend into the airfoil</li> <li>- Piston support open cracks to a maximum of 0.005 in. (0.127 mm) through or full length</li> </ul>
	No converging cracks permitted.

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(SHEET 2 OF 4)

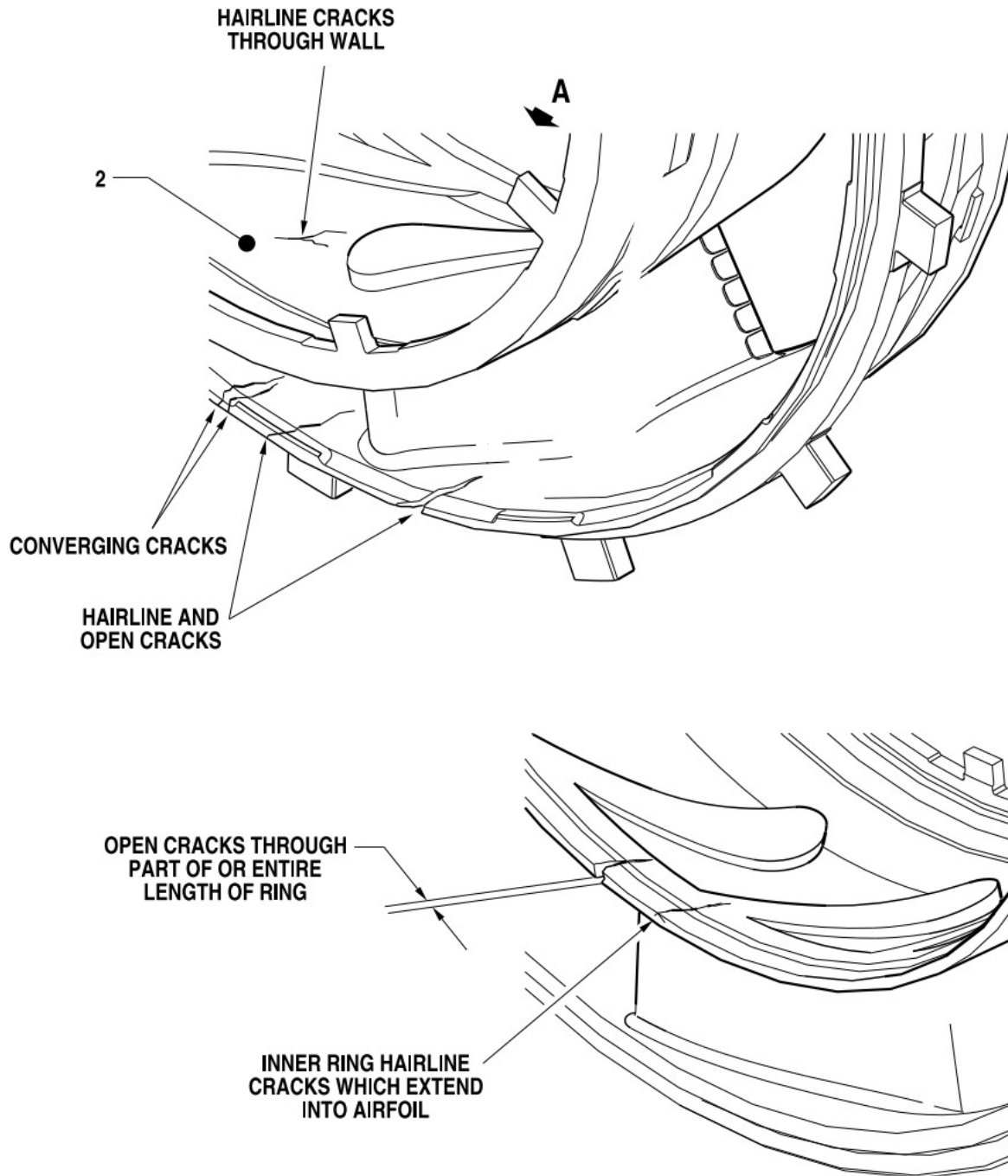


**NOTE:**

**THE ABOVE DEFECTS ARE ACCEPTABLE FOR FURTHER SERVICE. THE EXTENT OF THE DEFECTS(S) MUST BE RECORDED AND MONITORED BY ADDITIONAL INSPECTIONS. THE ASSOCIATED FUEL ADAPTER MUST BE INSPECTED AND REPLACED IF NOT WITHIN SPECIFIED LIMITS.**

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(SHEET 3 OF 4)

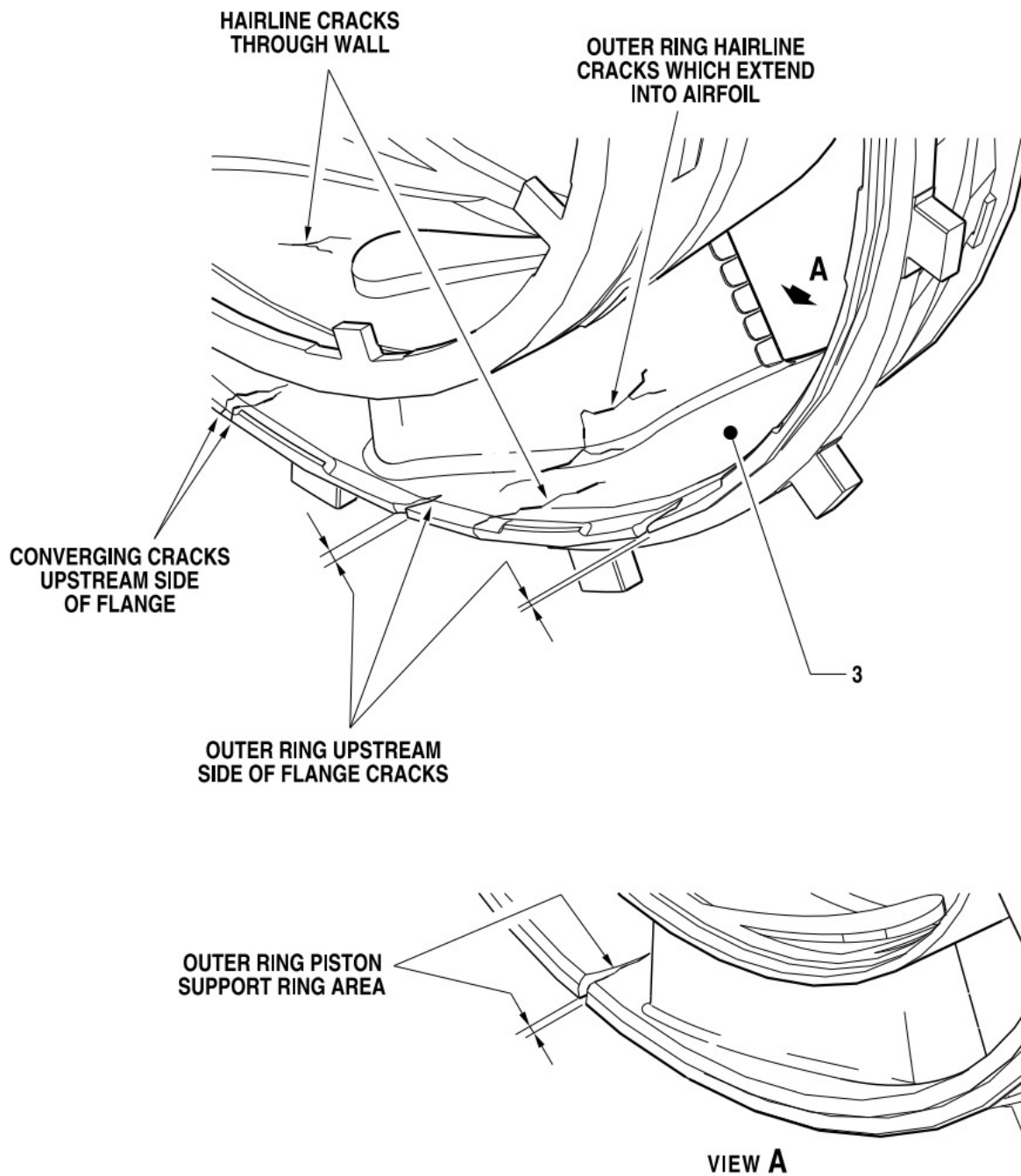


NOTE: THE ABOVE DEFECTS ARE ACCEPTABLE FOR FURTHER SERVICE EXCEPT WHERE NOTED.

VIEW A

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(SHEET 4 OF 4)



**NOTE: THE ABOVE DEFECTS ARE ACCEPTABLE FOR FURTHER SERVICE EXCEPT WHERE NOTED.**

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**Figure 607 Borescope Inspection of CT Blades (Ref. Table 604) (Task 72-00-00-280-807)**

(SHEET 1 OF 3)



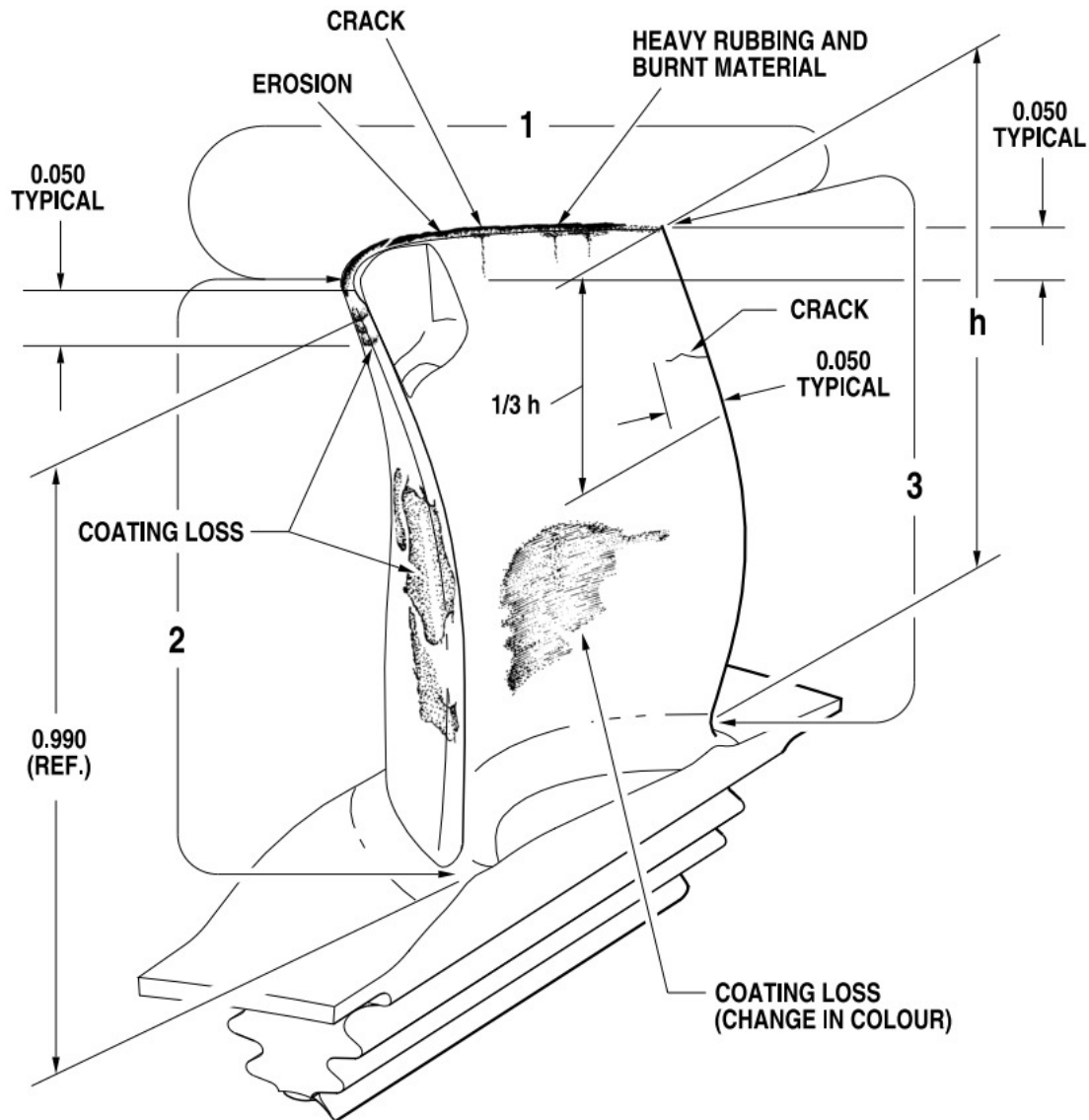
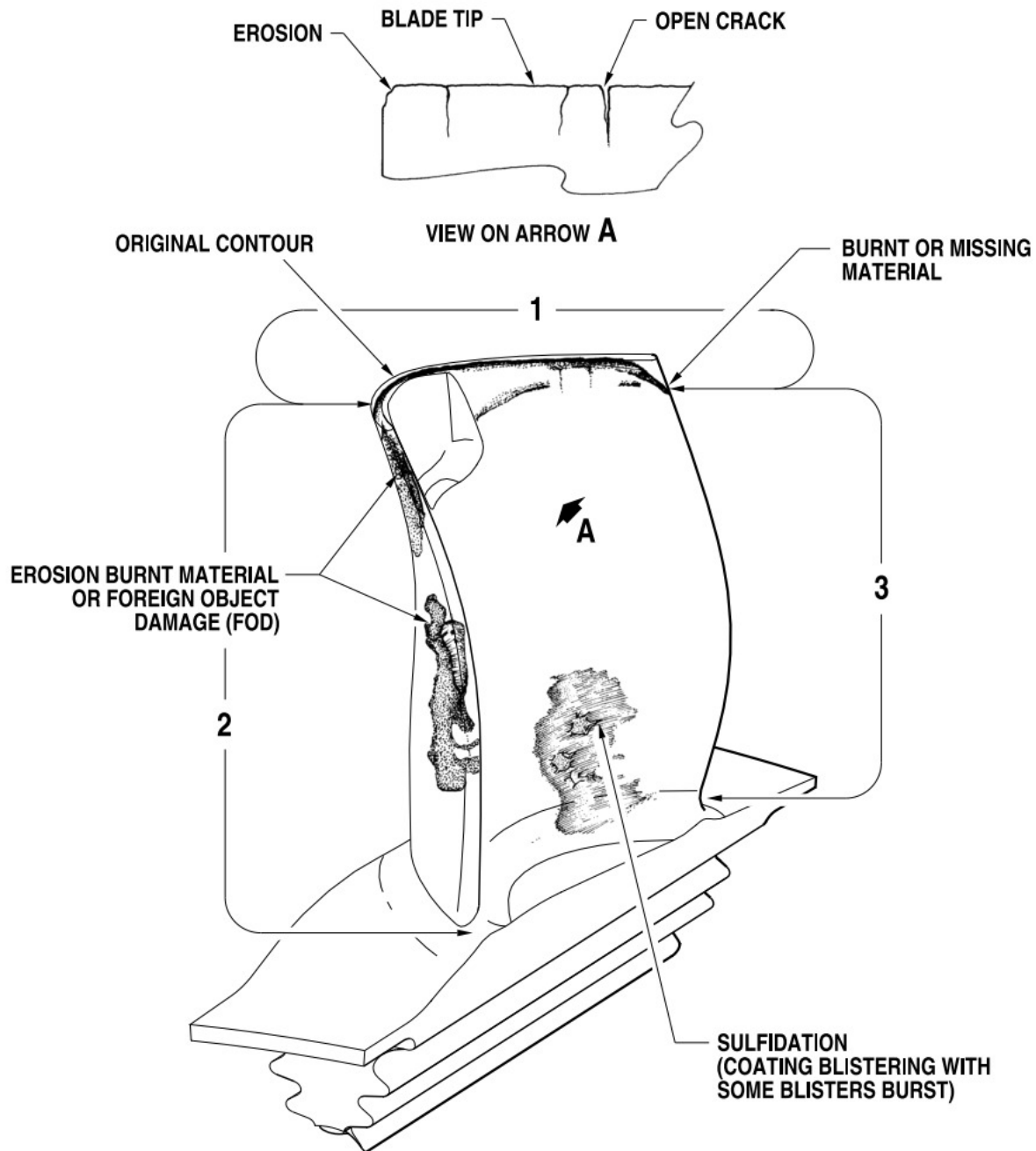


Table 604 Borescope Inspection of CT Blades (Ref. Fig. 605) (Task 72-00-00-280-807)

AREA	VISUAL INSPECTION LIMITS
1 Blade Tips	SERVICEABLE CRITERIA - CONTINUE IN SERVICE: Rubbing and burnt material permitted, given the engine performance is in the serviceable limits.
	Cracks 0.050 in. (1.27 mm) maximum long permitted. An HSI is recommended, but must not be more than 400 hours
	No erosion burnt material, FOD and open cracks permitted.
2 Leading Edge	SERVICEABLE CRITERIA - CONTINUE IN SERVICE: Tip erosion permitted, given it does not break into the hole at the blade tip.
3 Trailing Edge	SERVICEABLE CRITERIA - CONTINUE IN SERVICE: Cracks permitted, given it is in the limits that follow: <ul style="list-style-type: none"> <li>- 0.050 in. (1.27 mm) long maximum</li> <li>- the top 1/3 of the blade</li> <li>- An HSI is recommended, but must not be more than 400 hour</li> </ul>
4 All Other Surfaces	SERVICEABLE CRITERIA - CONTINUE IN SERVICE: Local surface damage permitted, given it is in the limits that follow: <ul style="list-style-type: none"> <li>- no loss of coating</li> <li>- no change in color</li> <li>- no signs of sulfidation on adjacent blades</li> <li>- Geometrical change not more than a depth of 0.005 in. (0.12 mm) or 0.005 in. (0.12 mm) high. There is no width limitation (Ref. Fig. 607 Sheet 3)</li> </ul>

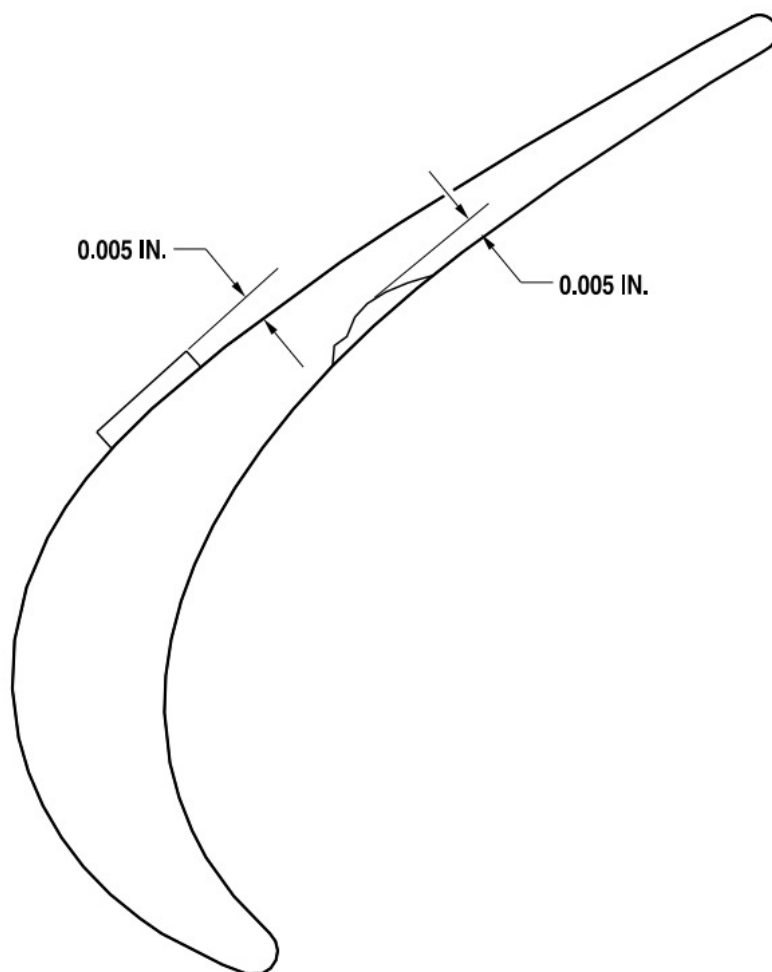
c224882

(SHEET 2 OF 3)



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(SHEET 3 OF 3)



c224884

Table 605 Borescope Inspection of the CT Shroud Segments (Task 72-00-00-280-808)

AREA	VISUAL INSPECTION LIMITS
1 Shroud Segments	SERVICEABLE CRITERIA - CONTINUE IN SERVICE: Heavy rubbing and oxidation permitted, given that the T5 is in limits.
	Burned segments can cause damage to the CT shroud housing (cracks and burning of the attachment rim) Replace a damaged shroud housing at the next HSI or refurbishment.

Table 606 Borescope Inspection of PT Stator (Task 72-00-00-280-809)

AREA	VISUAL INSPECTION LIMITS
Inner/Outer Rings	SERVICEABLE CRITERIA - RESCHEDULE BORESCOPE INSPECTION: Reschedule a borescope inspection at 100 hours and subsequent inspections at 400 hours. Cracks permitted and you can repair them.
Airfoil	SERVICEABLE CRITERIA - RESCHEDULE BORESCOPE INSPECTION: Reschedule a borescope inspection at 100 hours and subsequent inspections at 400 hours. Cracks permitted and you can repair them.
	Not permitted are wide open cracks, too much FOD, missing or burnt material.

Table 607 Borescope Inspection of the PT Blades (Task 72-00-00-280-810)

AREA	VISUAL INSPECTION LIMITS
Airfoil	SERVICEABLE CRITERIA - CONTINUE IN SERVICE: Minor irregular surface permitted, given they are in the limits that follow: <ul style="list-style-type: none"> <li>- a maximum of three nicks or dents</li> <li>- 0.005 in. (0.127 mm) deep maximum</li> <li>- a minimum of 0.100 in. (2.54 mm) apart</li> <li>- Damage must not go out more than 0.005 in. (0.127 mm)</li> </ul>
	Damage on one side of the airfoil is not directly opposite to damage on the other side. Stone to remove sharp edges from the nicks or dents.
	Examine for cracks on the airfoil, thru the fillet radii with a 10X power magnifying glass. If you find cracks, send the assembly to an overhaul shop for full inspection.
Blade	Examine for cracks or loss of material in the shroud area.

AREA Tip	VISUAL INSPECTION LIMITS
Blades	<p>Examine for cracks on the blades with a 10X power magnifying glass, If you find a crack in the blades, continue as follows:</p> <ul style="list-style-type: none"> <li>- If you find blades with cracks because of impact and/or FOD, send the PT disk assembly to an approved overhaul facility for replacement of only the blade(s) with cracks.</li> <li>- If you find that the crack(s) are not related to impact and/or FOD, send the PT disk assembly to an approved overhaul facility for replacement of the full set of blades.</li> </ul>

Table 608 Borescope Inspection of the RGB or AGB Gears (Task 72-00-00-280-811)

AREA	VISUAL INSPECTION LIMITS
Tooth Contact Faces	<p>SERVICEABLE CRITERIA - CONTINUE IN SERVICE: Spalling (small clusters) permitted, given it in the limits that follow:</p> <ul style="list-style-type: none"> <li>- One extremity of the tooth width</li> <li>- a thin band on less than 1/2 tooth length</li> </ul>
	No spalling permitted in a thin band along the full width of the tooth or dispersed along the contact area.
	<p>Light shallow scoring that you cannot find with a 0.040 in. (1.02 mm) radius scriber permitted.</p> <p><b>NOTE:</b> Scoring usually shows that of an unsatisfactory lubricated engine and the oil is recommended to be flushed and fill again.</p>
	<p>No deep scoring (root/tip direction) permitted across tooth contact surface.</p> <p><b>NOTE:</b> Deep scoring is specified as scoring where you can feel scratches with 0.040 in. (1.02 mm) radius scriber.</p>
	<p>Heat discoloration permitted, but, this usually shows an unsatisfactory lubricated engine which can lead to scoring, then spalling.</p> <p><b>NOTE:</b> The related oil is recommended to be flushed and fill again.</p>
	<p>The correct tooth contact is a central located strip on the face of the tooth. A defect shows incorrect tooth contact.</p> <p><b>NOTE:</b> Incorrect tooth contact can cause spalling because the torque transmitted by the gear is transmitted by a smaller tooth surface. This results in increased contact pressure and local overloading.</p>

AREA	VISUAL INSPECTION LIMITS
	No rough tooth contact surface permitted because of too much wear, with raised material at tooth extremities.
	Wear pattern starting at the end of the tooth shows end loading permitted. A minor quantity of end loading is not considered detrimental.
	<p>SERVICEABLE CRITERIA - RESCHEDULE BORESCOPE INSPECTION: Components that have serviceable damage per above, can stay in service, given you do an inspection of the damaged area at an interval not more than 400 hours. Do subsequent inspections at intervals that are related to the rate of progression and level of deterioration seen.</p> <p><b>NOTE:</b> You must make sure to do the scheduled oil filter and chip detector inspections that are necessary by the regular maintenance program.</p>

Table 609 Hot Section Inspection Criteria (Task 72-00-00-280-812)

Component	Nature of Inspection
Gas Generator Case (Ref. Task 72-40-01-210-802)	Cracks, distortion, signs it was too hot and corrosion.
Combustion Chamber Liners (Ref. Task 72-40-01-210-801)	Cracks, distortion, burning, blockage of cooling holes because of repair and coating loss. Some coating loss permitted, given no base metal burning occurs. Make sure of the cooling ring clearances.
Small Exit Duct (Ref. Task 72-50-01-210-803)	Cracks, distortion, burning, blockage of cooling holes because of repair and coating loss. Some coating loss permitted, given no base metal burning occurs. Make sure of the cooling ring clearances.
CT Stator Assembly (Ref. Task 72-50-01-210-802)	Cracks, coating loss, erosion of base metal or impact damage. Examine stator cooling air inlet and outlet ports for signs of blockage.
Shroud Housing (Ref. Task 72-50-01-210-803)	Cracks, coating loss, erosion of base metal or impact damage. Examine stator cooling air inlet and outlet ports for signs of blockage.
CT Shroud Segments (Ref. Task 72-50-01-210-801)	Cracks, distortion, erosion and metal build-up.
CT Disk Assembly (Ref. Task 72-50-01-210-802)	Measure radial tip clearance.



Component	Nature of Inspection
	Examine blades for a tip rub, erosion, impact damage, coating loss, cracks, shift and circumferential movement. If you find cracks on one or more blades, send the CT disk assembly to an approved overhaul facility. You must discard the full set of blades, then replaced with a new set of CT blades (Ref. Task 72-50-02-000-801).
	Examine blade retaining rivets for condition.
Sealing Ring(s) (Ref. Task 72-50-01-210-802)	Wear, fretting and distortion.
Fuel Adapters (Ref. Task 73-10-04-730-801)	Dissimilarity of carbon build-up. Do a functional test.
Fuel Adapter Sheaths (Ref. Task 73-10-04-210-801)	Fretting wear, erosion and carbon build-up.
Compressor Inlet (Ref. Task 72-20-01-210-801)	Remove the air inlet screen, then examine inlet area, the struts, first-stage blades and vanes for dirt deposits, corrosion and cracks.
Trim Thermocouple (Ref. Task 77-20-01-750-803)	Make sure that the lugs and leads are attached. Do an operational check.
PT Disk Assemblies (Ref. Task 72-50-04-210-801)	Blades for impact damage, erosion and cracks. Examine in-situ.
PT Stator Assembly (Ref. Task 72-	Cracks, erosion and impact damage. Examine in-situ.

<b>Component</b>	<b>Nature of Inspection</b>
50-03-210-801)	
Reduction Gearbox Oil Strainer (Ref. Task 79-30-01-000-802)	Remove and examine assembly for unwanted matter.
RGB Chip Detector (Ref. Task 79-30-01-000-801)	Remove and examine the chip detector for metal deposits.
Exhaust Duct (Ref. Task 72-50-05-210-801)	Cracks and distortion.



**NON ROUTINE CARD**  
(Form: SCA/MTC/047)

1. JO/WO #	2. DATE	3. MTC TYPE	4. A/C REG/MSN
WO/003-SNA/VIII/2021	09-Aug-2021	INSPECTION	PK-SNA
5. CARD #	6. ATA SPEC	7. TRADE	8. STA
003	74		
9. ZONE	10. PANEL	-	
ENGINE			

11. DESCRIPTION			
VISUAL INSPECTION OF THE SPARK IGNITER/GLOW PLUGS (INITIALLY 200 HRS)			
REFERENCE	<input checked="" type="checkbox"/> EMM Ch. 74-20-02	<input type="checkbox"/>	<input type="checkbox"/> OTHER
RII (*)	<input type="checkbox"/> Y	<input type="checkbox"/> N	MHR :

12. RESULT			MECH	ENG	INSP (*)
Performed at A/C TT : ..... A/C TC /LDG : .....					
FINDING	<input type="checkbox"/> Y	<input type="checkbox"/> N	ACT MHR :	DATE/TIME (DD/MM/YY)	
INSPECTION CARD (IC) #					

13. PARTS REQUIRED				
DESCRIPTION	PART NO	QTY	REMARK	
			STOCK	STATUS

14. TOOLS REQUIRED			
DESCRIPTION	PART NO / MODEL	NEXT CALIBRATION DATE	STATUS



# **EMERGENCY EQUIPMENT LIST INSPECTION & MONITOR**

**PT. SMART CAKRAWALA  
AVIATION**  
DEPARTMENT TEKNIK  
Form: SCA/MTC/023

<b>DATE :</b>	<b>A/C REG :</b>
<b>A/C TYPE :</b>	<b>CHECKER : SIGN:</b>

No.	Description	P/N	S/N	Next Insp.	Remarks
1	Pilot Life Vest				
2	Co-Pilot Life Vest				
3	Pax Life Vest				
4	Pax Life Vest				
5	Pax Life Vest				
6	Pax Life Vest				
7	Pax Life Vest				
8	Pax Life Vest				
9	Pax Life Vest				
10	Pax Life Vest				
11	Pax Life Vest				
12	Pax Life Vest				
13	Firt Aid Kit				
14	Crash Axe Installed				
15	Fire Extinguisher				
16	Life Raft (If Installed)				
17	Survival Kit (If Installed)				
<b>OTHERS</b>					



## Additional Work Sheet

### Inspection Doc. 06 & Add Task

Aircraft Registration: **PK-SNA**

WO# Nr: **WO/005-SNA/VIII/2021**

## Parts Used Sheet

### Special Tool Used

[illegible]



## Additional Work Sheet

### Inspection Doc. 06 & Add Task

Aircraft Registration: **PK-SNA**

WO# Nr: **WO/005-SNA/VIII/2021**

## Parts Used Sheet

### Part Used

[illegible]