

**LIST OF SPECIAL INSPECTIONS**  
**WASP R985-AN5, -14B ENGINES**

(This EO replaces EO 10A-10AA-5 dated 16 Jan 62)

**TABLE OF CONTENTS**

<b>LATEST DATE</b>	<b>EO NO</b>	<b>TITLE</b>
	10A-10AA-5/1	(Replaced by EO 05-45B-7A)
	/2	(Replaced by EO 10A-10AA-5/5)
	/3	(Rescinded)
	/4	(Replaced by 10A-10AA-2A)
	/5	(Replaced by 10A-10AA-6A/2)
	/6	(Rescinded) Check to ensure that a Surplus Gasket 36P/39577 is not Installed and that Pipe Assembly 36P/39580 is in Serviceable Condition

\*Asterisks appearing opposite entries denote changes since last issue.

ISSUED ON AUTHORITY OF THE CHIEF OF THE DEFENCE STAFF



*DC*

SUSPENSION

EO 10A-10AA-5/6

LOG3197 12 JAN 1962

FROM: CANAIRMAT

DUE TO DEPLETION OF STOCKS OF PIPE ASSEMBLY  
36P/39580 SPECIAL INSPECTION 10A-10AA-5/6 IS TO BE  
WAIVED UNTIL FURTHER NOTICE.

**RESCINDED**

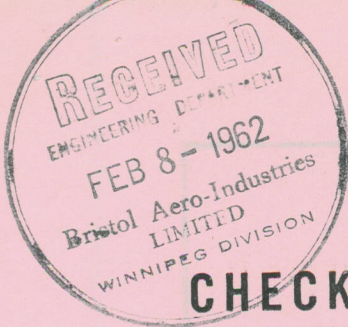
*Auth. List of Insp. 18 Sept. 64*

SUSPENSION  
NO 104-100A-276  
LOGS 12 JAN 1962

FROM: CANALRYAT

WAVE TO DELETION OF STOCKS OF PIPE ASSEMBLY  
360/3980 SPECIAL INSPECTION 104-100A-276 IS TO BE  
WAVED UNTIL FURTHER NOTICE.

RECEIVED  
JAN 12 1962  
NAVY



*DL*

**SPECIAL INSPECTION**

**CHECK TO ENSURE THAT A SURPLUS GASKET  
36P/39577 IS NOT INSTALLED AND THAT  
PIPE ASSEMBLY 36P/39580  
IS IN SERVICEABLE CONDITION**

(This EO replaces EO 10A-10AA-5/6 dated 10 Nov 61)

- EQUIPMENT AFFECTED: All R985-AN14B engines having gasket 36P/39577 and pipe assembly 36P/39580 installed
- BY WHOM WORK WILL BE PERFORMED: Operating Units, Repair Depots and Contractors
- WHEN WORK WILL BE PERFORMED: Operating Units and Repair Depots at Engine buildup, at next propeller removal, not later than next Periodic Inspection. Contractors at overhaul
- RCAF FORM ENTRIES: L14-1B, L14-7
- INSPECTION OF SPARES IN STOCK: Operating Units: Before installation  
Repair Depots: Before issuing engine to Operating Units
- RETURNS: Serial numbers of engines found defective to be reported to AMCHQ by message

**PURPOSE**

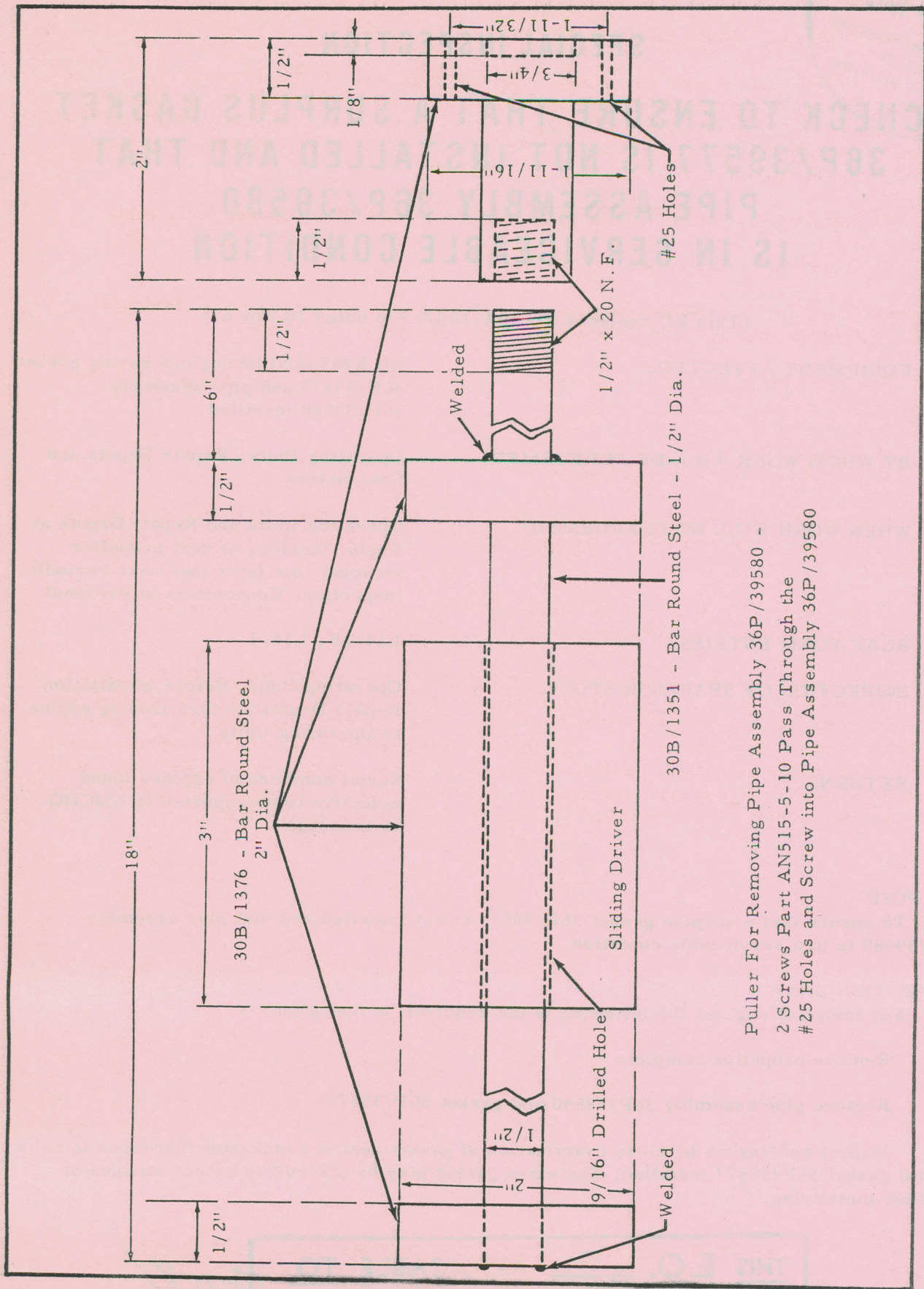
1 To ensure that a surplus gasket 36P/39577 is not installed and that pipe assembly 36P/39580 is in a serviceable condition.

**INSPECTION DATA**

- 2 For installed engines the following is the sequence of operation:-
  - (a) Remove propellor complete
  - (b) Remove pipe assembly 36P/39580 and gasket 36P/39577
  - (c) Inspect and ensure by close examination of gasket seat in crankshaft that there is not a second gasket 36P/39577 installed. The extra gasket may be difficult to detect because of possible metalizing.

THIS E.O. 15 IS APPLICABLE TO  
 ALL EXPEDITORS *W. Wickham*  
 AS NOTED. PROJECT ENGINEER

*FEB 8 / 62*



Puller For Removing Pipe Assembly 36P/39580 -  
 2 Screws Part AN515-5-10 Pass Through the  
 #25 Holes and Screw into Pipe Assembly 36P/39580

Figure 1

INSPECTION DATA (Cont'd)

- (d) By the use of a straight edge ensure that the front face of pipe assembly 36P/39580 is not dished, measure the cap of the transfer tube to ensure that the depth of cap outside measurement is .463" minimum and check pipe assembly for signs of any other damage. Under no circumstances are operating units to carry out rework of pipe assembly 36P/39580 as tolerances on this item are critical.
- (e) Re-install gasket 36P/39577 and pipe assembly 36P/39580 if found serviceable.
- (f) Re-install propellor as per EO 05-45B-2.
- (g) On spare engines remove plug 36P/35979, screws 36P/220, washers 36P/12228, washer 36P/39576, nut 36P/39575, plug 36P/39574 and gasket 36P/39578.
- (h) Carry out inspection as per sub-para (b), (c) and (d). Re-install parts listed in sub-para (g).

ADDITIONAL DATA

3 The following additional data applies:

- (a) It is estimated that approximately one man-hour per engine will be required. Pipe assembly can be removed using wrench 36P/PWA2713 and puller manufactured locally as per Figure 1.
- (b) Contractors will carry out a more detailed inspection of this area to prevent a recurrence of this unsatisfactory condition.
- (c) There are two types of pipe assemblies which can be used in R985-AN14B engines. Pipe assembly 36P/39580 is constructed of aluminum, the number A39573 is inscribed on the forward face of assembly 36P/39580 and the thickness of the tube walls of the centre tube protrusion is approximately 1/8". Pipe assembly 36P/40352 is constructed of stainless steel and the thickness of the tube wall of the centre tube protrusion is less than 1/16" with the inside diameter chamfered. Under no circumstances is any attempt to be made to remove pipe assembly 36P/40352 as this item can only be removed by the Contractor.

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

Prepared By:  
AMC/SACO/ACR







FILE COPY

ORIGINATOR	TELEPHONE	DATE - TIME GROUP	FILE NO.
			NEW BAR 1230

TO BEAD NOT LATER THAN NEXT MINOR INSPECTION.  
 REF NO104-1044-2/2 SO JUL. AMEND WHEN WORK WILL BE PERFORMED

1977 04 OCT.  
 ORIGINATOR'S NO.

INFO

BOOK MESSAGE

DEFERRED

IF NOT MARKED  
 WILL BE  
 TRANSMITTED

ROUTINE

PRIORITY

IMMEDIATE

OPERATIONAL

INDICATE DEGREE  
 OF PRECEDENCE

FOR MESSAGE CENTRE USE ONLY

FOR UNCLASSIFIED MESSAGES ONLY MESSAGE FORM

104-1044-2/2

UNCLAS

WE Robinson - 1/17

P. L. JACKSON - 1/17

1006 TSD/SRE WINNIPING MAN  
 1005 TSD/TCA WINNIPING MAN  
 1004 TSD/MBA WINNIPING MAN  
 1003 TSD/GA(R) LINCOLN PARK ALTA

FROM

TO

10 TSU LINCOLN PARK ALTA

## SPECIAL INSPECTION

# GENERATOR DRIVE

(This EO cancels EO 10A-10AA-5/2 dated 18 May 53)

EQUIPMENT AFFECTED:	P & W R985-AN14B Engines
BY WHOM WORK WILL BE PERFORMED:	Operating Units
WHEN WORK WILL BE PERFORMED:	At unit's convenience
RCAF FORM ENTRIES:	L14, Log Book
INSPECTION OF SPARES IN STOCK:	NA
RETURNS:	NA

### PURPOSE

1 As a result of installing solid cork seal in lieu of hollow cork seal as detailed in EO 10A-10AA-5/2, several cases of insufficient lubrication and wear of the generator splined shaft occurred. As modification EO 05-45B-6A/1 dated 30 Nov 53 has effected the relief of crankcase backpressure which was causing oil leakage and generator soaking, it is now desirable to return to the original hollow cork seal installation.

### INSPECTION DATA

2 Generator drive is to be checked and if solid cork seal Part 36P/2655 is found installed it is to be replaced by hollow cork seal Part 36P/50681.

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

**SUPERSEDED**

BY EO 10A-10AA-6A/2

# GENERATOR DRIVE SPECIAL INSPECTION

(This EO cancels EO 10A-10AA-2/5 dated 18 May 53)

EQUIPMENT AFFECTED: P & W R985-AN14B Engines

BY WHOM WORK WILL BE PERFORMED: Operating Units

WHEN WORK WILL BE PERFORMED: At unit's convenience

RCAF FORM ENTRIES: L14, Log Book

INSPECTION OF SPARES IN STOCK: NA

RETURNS: NA

PURPOSE

1 As a result of installing solid cork seal in lieu of hollow cork seal as detailed in EO 10A-10AA-2/5, several cases of insufficient lubrication and wear of the generator splined shaft occurred. As modification EO 05-45B-6A/1 dated 30 Nov 53 has effected the relief of crankcase back pressure which was causing oil leakage and generator soaking, it is now desirable to return to the original hollow cork seal installation.

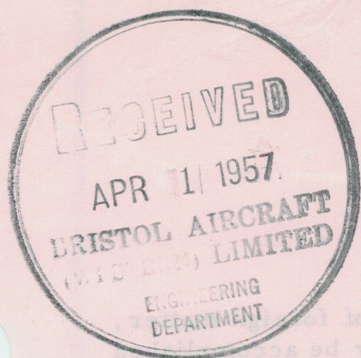
INSPECTION DATA

2 Generator drive is to be checked and if solid cork seal Part 36P/7435 is found installed it is to be replaced by hollow cork seal Part 36P/5081.

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

DUPLICATE  
BY EO 10A-10AA-6/15  
SUPERSEDED

Prepared By:  
AMC/SACO/ACR



SPECIAL INSPECTION  
**CRACKED CRANKSHAFTS**

(This EO replaces EO 10A-10AA-5/4 dated 21 Nov 55)

EQUIPMENT AFFECTED:

P & W R985-AN14B Engines

BY WHOM WORK WILL BE PERFORMED:

Operating Units, RDs and  
 Civilian Overhaul Contractors

WHEN WORK WILL BE PERFORMED:

Operating Units at each recurring 200  
 hours periodicity. RDs and Civilian  
 Contractors, the correct thread root  
 form must be established and/or that  
 P & W SB 1488 has been embodied.

RCAF FORM ENTRIES:

L14, Section 7 and EO 05-45B-7A

INSPECTION OF SPARES IN STOCK:

NA

RETURNS:

To AMC by message giving full parti-  
 culars on cracked or suspected crank-  
 shafts, detailing engine serial number;  
 condition of crankshaft and time since  
 overhaul. Consolidated monthly returns  
 by letter are required for all crankshaft  
 inspections, indicating engine serial  
 number and time since overhaul.

PURPOSE

1 To inspect all crankshafts at the thrust nut area for cracks.

INSPECTION DATA

2 The following procedure is to be followed:-

(a) Remove the propeller, thrust bearing retainer plate, and using tool PWA 1093, remove thrust bearing retaining nut.

## INSPECTION DATA (Cont'd)

CAUTION

The thrust bearing area is to be suitably sealed off to prevent ingress of foreign matter, i. e. ferrous oxide solution into the nose section of the engine, this may be accomplished by coating the area with general purpose grease and/or masking off the area with masking tape.

- (b) Thoroughly clean and inspect the thrust nut threaded area of the crankshaft for cracks, using Magnetic Inspector Kit Method. Complete details of procedures accompany each Kit.
- (c) Engines with any evidence of cracked crankshafts are to be reported to AMC by message in accordance with CAP 16, Vol. 1, Q8/4 paragraph 13, and by STATS 318.

## ADDITIONAL DATA

3 The following additional data applies:-

- (a) CAUTION must be taken during inspection of crankshafts and re-assembly to ensure that the crankshaft has not moved rearward in the thrust bearing. If the crankshaft has moved rearward there will not be sufficient land area to support the oil slinger ring centrally. If trouble is encountered maintaining the oil slinger ring on the locating land, the oil slinger ring should be coated with general purpose grease, to ensure that the oil slinger is properly located before assembly of the thrust bearing retaining nut and bearing retaining plate.
- (b) When the thrust bearing plate, thrust nut and oil slinger have been removed to carry out the inspection the following conditions, which are natural and are not to cause undue concern, may be encountered.
- (1) It is possible to rotate the crankshaft without movement of the inner race of the thrust bearing.
- (2) Possible loose fit and movement of the thrust bearing outer race.
- (c) The following description and reference to Figure 1 will clarify and provide an explanation for these conditions.
- (1) When the thrust nut is locked in position it bears against the inner race of the thrust bearing, the ring retainer, the spacer, then the inner race of the front main bearing, which is then locked against the cheek of the crankshaft causing the whole assembly to turn with the crankshaft. Conversely when the thrust nut is removed, as the ring retainer, which the inner race of the thrust bearing is seated on, has a permissible clearance of .0025" to .004" between the crankshaft, it may not turn when the crankshaft is rotated.
- (2) The outer race of the thrust bearing is only locked in the nose section steel liner when the thrust plate is in position, and torqued. This bearing also has a maximum clearance of .004" between the OD of the race and the steel liner.
- (d) Ensure that the thrust nut is torqued to the prescribed requirements, i. e. using tool PWA 1093 modified to RCAF Drawing 21938 for adaption of torque wrenches 360 ft lbs or 3600 inch lbs with 3/4" drive, torque to 250 ft lbs and further tighten through 25 to 30 degrees.

ADDITIONAL DATA (Cont'd)

(e) Ensure that the propeller retaining nut is torqued as indicated in EO 15-30-2 to prevent galling of the crankshaft.

(f) Additional supply of Magnetic Inspector Ferric Oxide Paste Part 5591, is obtainable by the pound from D & S Aviation Co. Ltd., 11903 Bayview Blvd., St. Laurent P.Q. Purchases are to be made by LPO.

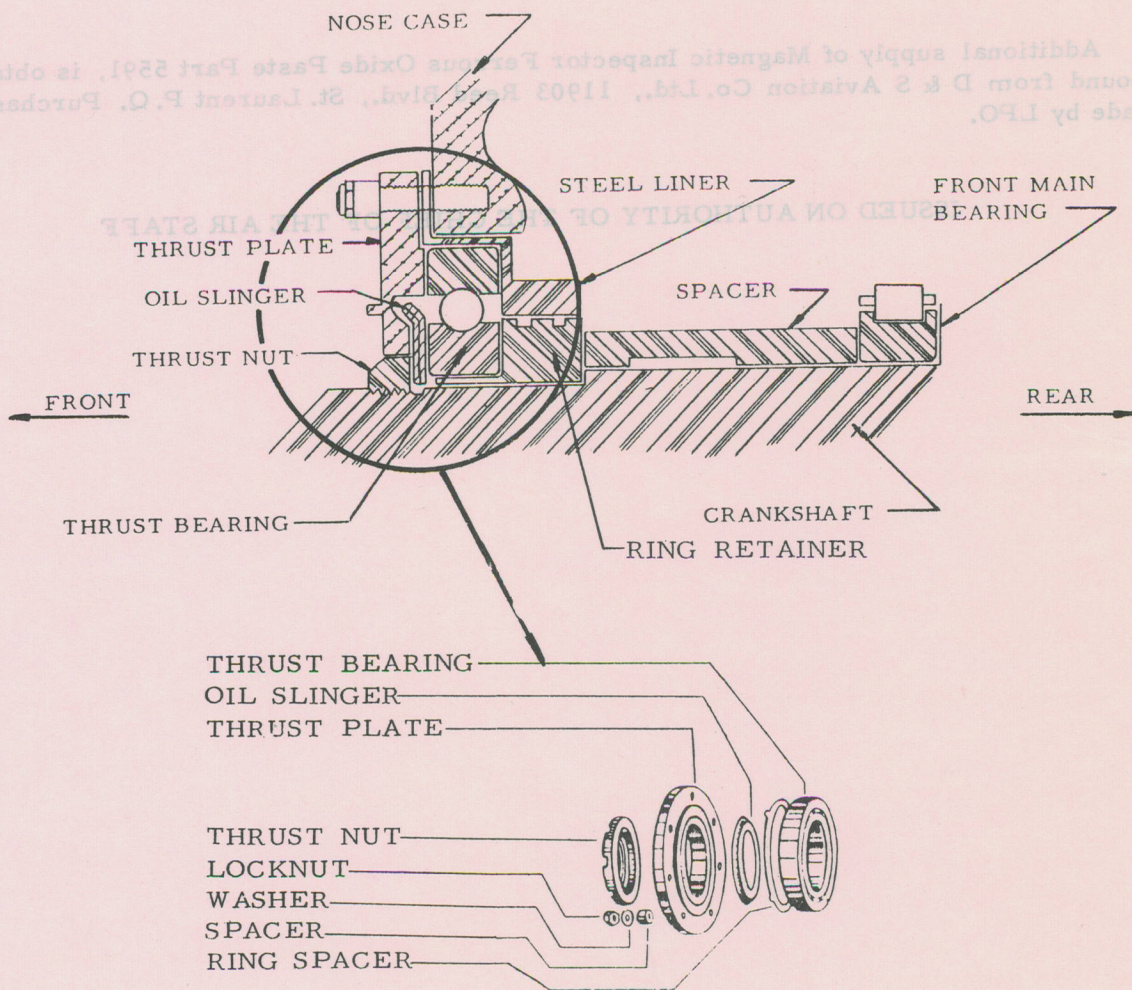


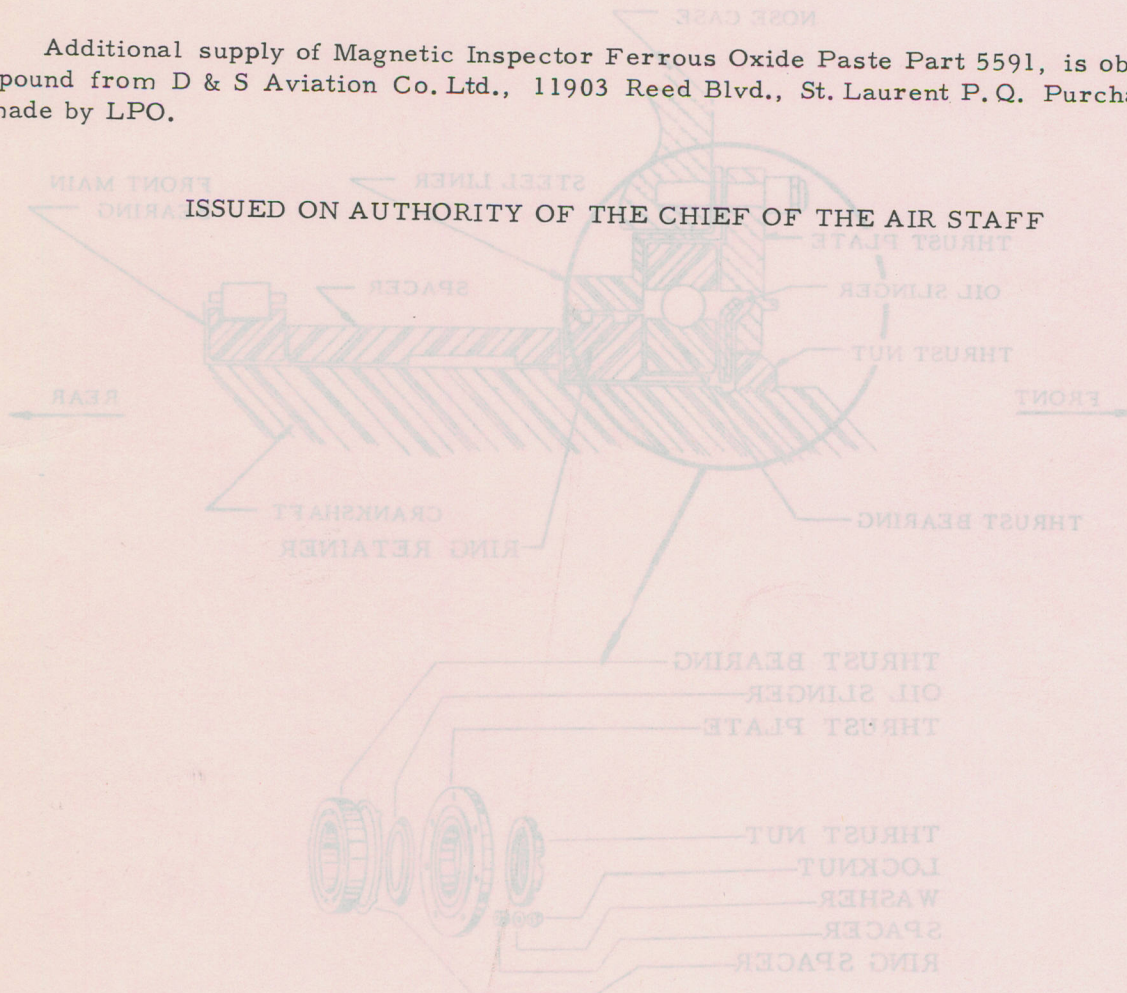
Figure 1 (Issue 1)

Prepared By:  
AMC/SACO/ACR

ADDITIONAL DATA (Cont'd)

(e) Ensure that the propeller retaining nut is torqued as indicated in EO 15-30-2 to prevent galling of the crankshaft.

(f) Additional supply of Magnetic Inspector Ferrous Oxide Paste Part 5591, is obtainable by the pound from D & S Aviation Co. Ltd., 11903 Reed Blvd., St. Laurent P.Q. Purchases are to be made by LPO.



Prepared By:  
AMC/SACO/ACR

Figure 1 (Issue 1)



ROYAL CANADIAN AIR FORCE

**SPECIAL INSPECTION**

**P & W R985 ENGINES**

(This EO replaces AMC message T4980 dated 1 Dec 53)

EQUIPMENT AFFECTED: P&W R985-AN14B engines

BY WHOM WORK WILL BE PERFORMED: Operating Units

WHEN WORK WILL BE PERFORMED: When replacement carburettors or MRPs are available

RCAF FORM ENTRIES: L14, Log book

INSPECTION OF SPARES IN STOCK: Carburettors on spare engines are to be inspected in accordance with EO 15-10BAA-5/1.

RETURNS: NA

PURPOSE

1 To ensure fitment of carburettors inspected in accordance with EO 15-10BAA-5/1 to prevent engine failure due to the mixture control needle seat backing off.

INSPECTION DATA

2 The following is the sequence of inspection:

(a) Remove NA-R9B carburettors for inspection, in accordance with EO 15-10BAA-5/1, by MRP and refit or, replace NA-R9B carburettors by ones that have been inspected.

(b) Where feasible a MRP will inspect carburettors at Operating Units, Other Operating Units are to demand replacement carburettors.

(1) MRP from CP&W will inspect all NA-R9B carburettors at:

Station Rockcliffe	Station Trenton
Station North Bay	6 Repair Depot
Station St. Hubert	Station Centralia
Station Camp Borden	Station Toronto

(2) TCA Winnipeg will inspect all NA-R9B carburettors at Station Winnipeg.

(3) SAE will inspect all NA-R9B carburettors at MBA.

(4) MRP from CPA(R) Calgary will inspect all NA-R9B carburettors at:

Station Moose Jaw	Station Claresholm
Station Penhold	Station Rivers
Station Saskatoon	24 AMB

Prepared By: ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF  
AMC/SACO/ACR



SPECIAL INSPECTION

GENERATOR DRIVE

(This EO replaces AMC T5012 dated 25 Apr 53)

EQUIPMENT AFFECTED:	P & W R985-AN14B Engines
BY WHOM WORK WILL BE PERFORMED:	Operating Units
WHEN WORK WILL BE PERFORMED:	As soon as possible
RCAF FORM ENTRIES:	L14, Log Book
INSPECTION OF SPARES IN STOCK:	NA
RETURNS:	UCRs to be submitted if corrosion or wear of drive discovered

PURPOSE

1 To prevent excessive oil leakage into generators the hollow cork Part 36P/50681 is to be replaced by solid cork Part 36P/7435 and generator drive inspected for corrosion and wear.

INSPECTION DATA

2 Generator drives are to be checked and solid cork Part 36P/7435 installed in lieu of hollow cork seal Part 36P/50681. Installation of solid cork prevents engine oil lubrication of engine drive pinion Part 36P/1744 and generator splined shaft, with resultant wear and corrosion. These parts therefore are to be lubricated with RCAF Ref. 34A/207 MIL-G-7118 Grease on installation of solid cork. With solid cork installation, the generator is to be removed at 100 or 120 hours depending on maintenance cycle and the drive pinion and generator shaft is to be inspected for wear and corrosion and relubricated.

NOTE

To avoid hydraulicing the cork, only a small excess of lubricant should be left in the drive pinion. Work the generator back and forth gently until the pinion and generator shaft are fully engaged.

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

Prepared By  
AMC/SACO/ACR



ROYAL CANADIAN AIR FORCE

**SPECIAL INSPECTION**

**OIL SUMP**

EQUIPMENT AFFECTED: P&W R985-AN14B  
BY WHOM WORK WILL BE PERFORMED: Operating Units  
WHEN WORK WILL BE PERFORMED: Not later than next Daily Inspection.  
RCAF FORM ENTRIES: L14, Log Book  
INSPECTION OF SPARES IN STOCK: N.A.  
RETURNS: NIL

PURPOSE

1 To inspect the oil sump Part 48393 on engines installed in Expeditor Aircraft for chafing by the inter cylinder baffle support bracket Part 49403 and the inter cylinder baffle Part 41463.

INSPECTION DATA

2 Oil sumps of installed engines are to be inspected for wear immediately forward of the front drain plug. Wear at this point is caused by misalignment of the following parts:-

RCAF REF.	PART	DESCRIPTION
26JU/1135	804-189139	Duct assembly - carburettor air intake
26JU/1133	804-189061	Bracket assembly - carburettor air duct RH
26JU/1134	804-189062	Bracket assembly - carburettor air duct LH
	49403	Cap strip locking

(a) When chafing is encountered the above parts are to be properly installed to provide adequate clearance between the sump and cap strip Part 49403.

(b) The sides of oil sumps are to be inspected for wear caused by insufficient clearance between the sump and the inter cylinder baffle Part 41463. Where chafing is encountered the inter cylinder baffle is to be reworked to provide sufficient clearance.

3 Chafed oil sumps are to be replaced where necessary.

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

Prepared By:  
AMC/SACO/R3

