

LIST OF SPECIAL INFORMATION EXPEDITOR

(This EO replaces EO 05-45B-5A dated 26 Aug 66)

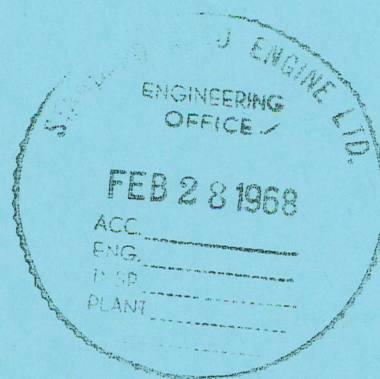
TABLE OF CONTENTS

LATEST DATE	EO NO	TITLE
	05-45B-5A/1	(Rescinded)
	/2	(Rescinded)
25 Mar 53	/3	Gyrosyn Compass Navigation System Wiring
	/4	(Replaced by EO 05-45B-5A/32)
	/5	(Replaced by EO 05-45B-5A/31)
	/6	(Replaced by EO 05-45B-6B/1)
	/7	(Rescinded)
	/8	(Rescinded)
	/9	(Rescinded)
	/10	(Rescinded)
	/11	(Rescinded)
	/12	(Rescinded)
	/13	(Replaced by EO 05-45B-2)
	/14	(Rescinded)
	/15	(Replaced by EO 05-45B-2)
	/16	(Rescinded)
	/17	(Rescinded)
	/18	(Rescinded)
	/19	(Rescinded)

LATEST DATE	EO NO	TITLE
	05-45B-5A/20	(Rescinded)
10 Jun 55	/21	#3 Bulkhead Cut-out
11 Oct 55	/22	Removal of Fuel Content Tank Units from Expeditor Aircraft
	/23	(Rescinded)
	/24	(Rescinded)
	/25	(Rescinded) Sidetone Modification
	/26	(Rescinded)
	/27	(Rescinded)
	/28	(Rescinded)
	/29	(Rescinded)
	/30	(Rescinded)
	/31	(Rescinded)
	/32	(Rescinded)
	/33	(Rescinded)
	/34	(Rescinded)
	/35	(Rescinded) Voltammeters Ref. 6A/10061
	/36	(Rescinded)
	/37	(Rescinded)
	/38	(Rescinded)
	/39	(Replaced by EO 05-45B-2D)
	/40	(Rescinded)
	/41	(Rescinded)
	/42	(Rescinded) Installation of Voltammeters Precautions
	/43	(Rescinded)
	/44	(Rescinded)
	/45	(Rescinded)
	/46	(Rescinded)

LATEST DATE	EO NUMBER	TITLE
	05-45B-5A/47	(Rescinded) Radio Compass Loop Gasket
13 May 58	/48	ILS Antenna Replacement
10 Aug 65	/49	De-Activating ARN-7 Changeover Relay Control Switch
*22 Mar 67	/50	Engine Mount Attachment Lugs

* Asterisks appearing opposite entries denote changes since last issue
ISSUED ON AUTHORITY OF THE CHIEF OF THE DEFENCE STAFF



R.C.A.F. MESSAGE

FROM: CANMATCOM 252000Z

51-00-26JU

TO: LOGLIST EXPEDITOR 1004TSD

ORIG. No. AMPA9641 DATE 2

INFORMATION

SPECIAL INSPECTION

A PROPELLER DOME STOP RING SETTINGS EO 15-30AL-5/1

B HAMILTON STANDARD PROPELLERS FSN 1610-21-802-8566

C EXPEDITOR AIRCRAFT

D OPERATING UNITS CMM REPAIR DEPOTS CMM CONTRACTORS

E BEFORE OR NOT LATER THAN THE NEXT PERIODIC INSPECTION

F AE TECH

G LL4-1B AND LL4-8

H PRIOR TO INSTALLATION

J NIL

K TO ENSURE THAT ALL MODEL 22D30 PROPELLERS INSTALLED ON EXPEDITOR AIRCRAFT HAS THE CORRECT BLADE ANGLE SETTINGS AND BLADES MARKED APPROPRIATELY PD PROPELLERS WHICH WERE OVERHAULED BY 6RD HAVE BLADE ANGLE SETTINGS INSCRIBED ON THE BLADES AS 13 DEGREES LOW ANGLE AND 86 DEGREES HIGH ANGLE IN ACCORDANCE WITH EO 15-30AL-2 PD THESE BLADE SETTINGS WERE IN ERROR AND THE EO IS BEING AMENDED

M 2 THE FOLLOWING IS THE SEQUENCE OF INSPECTION

FRISTOL AEROSPACE
LIMITED
R.C.A.F. MESSAGE

FROM:

TO:

ORIG. No.

DATE

INFORMATION

PAGE 2

- A REMOVE AND CLEAN THE PROPELLER DOME ASSEMBLY
- B REMOVE DOME ASSEMBLY HIGH PITCH STOP RING P/N 70965
- C INSPECT DOME ASSEMBLY LOW PITCH STOP RING P, 70975 FOR PROPER SETTING OF 12 DEGREES
(RESET IF REQUIRED)
- D INSTALL DOME ASSEMBLY HIGH PITCH STOP RING AT 84 DEGREES
- E SET DOME ASSEMBLY ROTATING CAM TO EITHER THE LOW OR HIGH PITCH BLADE ANGLE CMM SET
BLADE ASSEMBLIES AT THE SAME ANGLE
- F INSTALL PROPELLER DOME ASSEMBLY
- G REMOVE PAINTED HIGH AND LOW ANGLE SETTINGS FROM EACH BLADE (AS REQUIRED)
- H PAINT NEW MARKINGS OF 12 DEGREE LOW ANGLE CMM 84 DEGREE HIGH ANGLE
AS PER EO 15-30A-3 AND EO 05-1-2U
- I ADJUST ENGINE MAXIMUM RPM AS REQUIRED
- N 3 THIS SPECIAL INSPECTION REQUIRES APPROXIMATELY TWO MAN HOURS PER AIRCRAFT TO ACCOMPLISH
- P 4 SUPPLY DEPOTS AND UNIT SUPPLY SECTIONS SHALL ENSURE THAT ITEMS IDENTIFIED AS FSN
1610-21-802-8655 ARE PROPERLY TAGGED TO INDICATE THAT SPECIAL INSPECTION EO 15-30A-5/
CARRIED OUT PRIOR TO INSTALLATION



Service Bulletin

No. 508B

Printed in United States of America

CAA APPROVED PER DESIGNATED ENGINEERING REPRESENTATIVE October 20, 1958

SUBJECT: REIDENTIFICATION OF BLADE SHANK TEFLON STRIPS AND APPLICATION PROCEDURE MODIFICATION (Supplement to Service Bulletin 508)

PURPOSE: The purpose of this supplement is to introduce a tabular form of Teflon strip identification and a new method of Teflon application which is now used on production propeller assemblies.

The part numbering system of Teflon strips as outlined in the basic bulletin is obsolete by the information contained in this supplement.

The new method of Teflon strip application affords greater corrosion protection for the blade shank and provides an improved bond between the parts.

COMPLIANCE: Refer to the basic bulletin.

EQUIPMENT AFFECTED: Blade shank Teflon strips.

DETAILED INSTRUCTIONS:

A. The following tabulation identifies the new Teflon part numbers and their application to various shank sizes. Teflon strips mentioned in the basic bulletin, dimensionally comparable to those listed here, may be re-identified to the new part number.

SHANK SIZE	SHANK DIAMETER AFTER REWORK	TEFLON THICKNESS	TEFLON PART NUMBER
D	4.874-4.885	0.006-0.010	525648-8
	4.854-4.814	0.015-0.020	525648-17
	4.838-4.800	0.022-0.028	525648-25
	4.822-4.784	0.030-0.036	525648-33
	4.806-4.768	0.038-0.044	525648-41
	4.790-4.752	0.046-0.052	525648-49
	4.774-4.739	0.054-0.060	525648-57

HAMILTON STANDARD • DIVISION of UNITED AIRCRAFT CORPORATION
WINDSOR LOCKS • CONNECTICUT

DETAILED INSTRUCTIONS:

SHANK SIZE	SHANK DIAMETER AFTER REWORK	TEFLON THICKNESS	TEFLON PART NUMBER
E	5.068-5.029	0.006-0.010	525649-8
	5.028-4.991	0.015-0.020	525649-17
	5.012-4.977	0.022-0.028	525649-25
	4.996-4.961	0.030-0.036	525649-33
	4.980-4.945	0.038-0.044	525649-41
	4.964-4.933	0.046-0.052	525649-49
	4.948-4.933	0.054-0.060	525649-57
H	5.545-5.514	0.006-0.010	518373-8
	5.513-5.446	0.015-0.020	518373-17
	5.497-5.432	0.022-0.028	518373-25
	5.481-5.416	0.030-0.036	518373-33
	5.465-5.410	0.038-0.044	518373-41
	5.449-5.410	0.046-0.052	518373-49
	5.433-5.410	0.054-0.060	518373-57

B. Apply Teflon to blade shanks as follows:

1. Remove previously applied Teflon strips which are damaged or poorly adhered by pulling at the butted edges until the strip is free from the blade. Remove the residual cements from the blade shank by using Armstrong Stripper ES-100. Allow the stripper to remain in contact with the cement until it scrapes off easily. Thoroughly rinse the blade with water to remove all of the stripper.

2. On anodized blades, clean the area to be covered by the resin coating (refer to Figure 1) by using Toluol followed by either Gibson's Cleaner or Aerosol O. T. and powdered feldspar. The latter is prepared by mixing the following components by weight: 70 parts water, 20 parts powdered feldspar and 10 parts Aerosol O. T.

On non-anodized blades, Dutch Cleanser may be used as an alternate to those cleaners suggested for anodized blades.

Thorough cleaning of the blade shank region is essential since the resin will not adhere to any oily or otherwise contaminated surface.

Note

The above cleaning agents are suggested. Some other cleansers are known to be extremely alkaline and may leave surface films. Use of other cleansers should be made only after ascertaining that they have no undesirable characteristics.

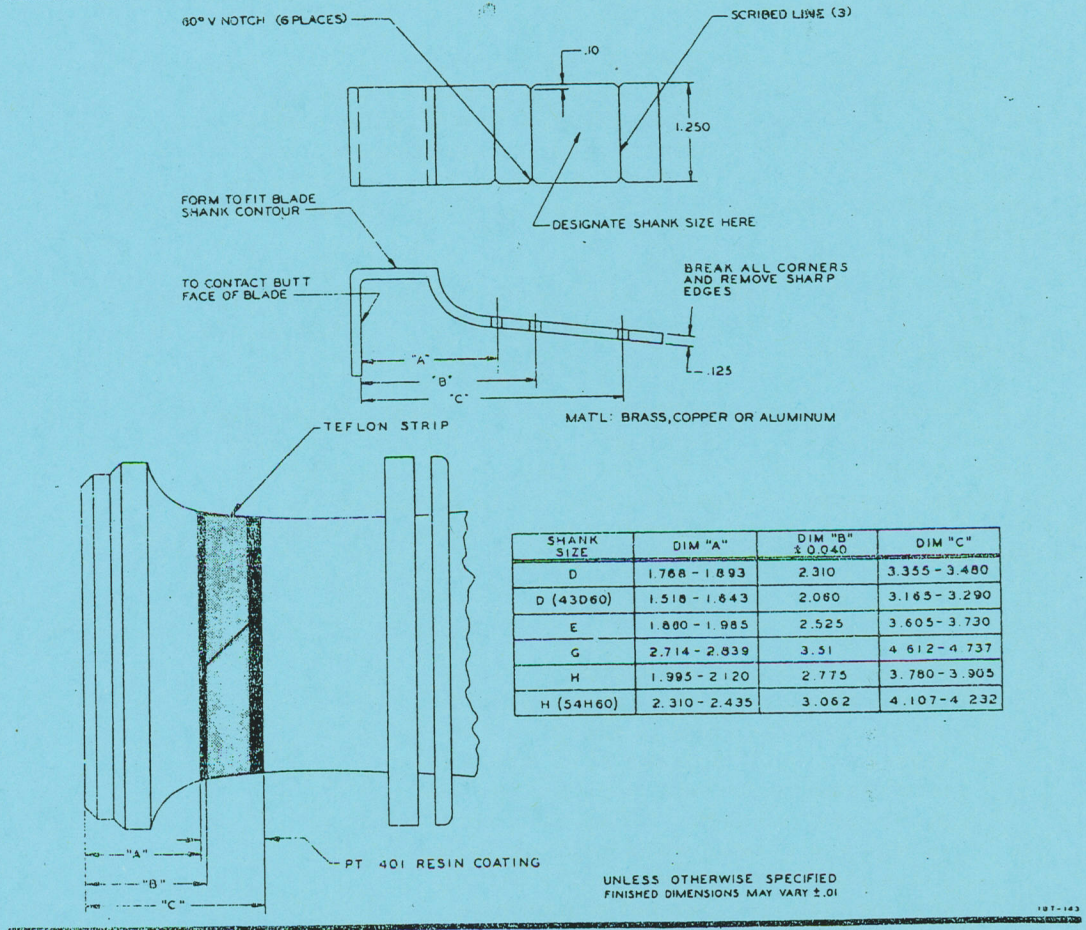


Figure 1. Teflon Strip Location.

3. After obtaining a water break-free surface remove excess water with clean cheese cloth and allow the area to dry.

Note

During the following operations the room temperature should be approximately 70 degrees F. (21 degrees C.) or higher for satisfactory use of cements. The blade should be retained in a horizontal position in a fixture which will permit rotating the blade. A spider arm from a scrapped spider, mounted securely at an angle to prevent the blade from falling has been found useful for this purpose.

4. Apply a brush coat of PT 401 black resin to the area shown in Figure 1. PT 401 resin is a mixture by volume of 16 parts PT 401 resin and 1 part H-10 hardener. The resin has a pot life of 12 hours. Allow the resin to dry on the blade shank for 20 minutes. Apply a second coat and allow to dry until such time as the resin surface will not be marred or damaged by subsequent operations such as taping. This time will exceed one hour. Insure that the resin coating is continuous.

5. Outline with masking tape that portion of the PT 401 resin coating to be covered by the Teflon strip as shown in Figure 1. A marking guide as shown in Figure 1 may be used.

6. Select the proper thickness Teflon strip part number from the tabulation given in paragraph A of this bulletin. Place it (dark side down) around the blade shank area enclosed by the masking tape. Lightly mark a diagonal line where the excess Teflon overlaps. Mark an edge of the strip so that it may be reinstalled in the same position for cementing. Remove the strip and cut on the marked line to remove the excess Teflon.

WARNING

Extreme care should be observed while handling Teflon. This material should not be exposed to heat in excess of 204 degrees C. (400 degrees F.). Above this temperature extremely toxic fluorine compounds are released. If fine dust, chips or slivers are created while handling Teflon, users should be warned to make certain that the material does not contaminate their hands or smoking materials. The temperature of a lighted cigarette is sufficiently high to break down the Teflon.

7. Clean the dark (treated) side of the Teflon strip with acetone and allow to dry.

8. Coat the dark side of the Teflon strip and the area between the masking tape on the blade shank with approximately 0.006 inch coat of Bondmaster M-611 or M-654. This cement is a mixture by weight of 100 parts M-611 or M-654 and 32 parts CH-16. Bondmaster has a drying time of 45 minutes. Since this material is quite viscous the use of a non-metallic instrument to apply the cement is recommended.

9. When the cement becomes tacky, position the Teflon strip around the shank and work out any air bubbles by hand. Air bubbles greater than 0.06 inch in any dimension are not permitted under the Teflon. A longitudinal misalignment of the strip ends not exceeding 0.06 inch is permissible. A gap not

exceeding 0.13 inch is permitted at the butt joint of the strip ends providing the gap is filled with Bondmaster.

10. When the Teflon strip is properly located wrap it firmly with masking tape.

11. The masking tape may be removed after 30 minutes drying time.

12. Lightly sand the butt joint with 3/0 or finer abrasive until a smooth even surface is obtained.

13. Areas in which there is evidence of poor edge adhesion may be repaired by applying additional cement and re-wrapping the strip with masking tape.

PARTS REQUIRED:

Name	Number	Quantity
Teflon Strip	As tabulated	AR
Armstrong Stripper	ES-100	AR
Corrosion Barrier	PT-401	AR
Bondmaster Cement	M-611 or M-654	AR
Gibson's Cleaner		AR
Aerosol O. T.		AR
Feldspar - Powdered Product		AR
Armstrong Stripper	Obtainable from Armstrong Products Co. Warsaw, Indiana	
PT-401	Product Techniques, Inc. 511 East 18th Place Los Angeles 3, California	
Bondmaster	Rubber and Asbestos Corp. 225 Belleville Ave. Bloomfield, N. J.	
Gibson's Cleaner	Purex, Ltd. 6901 McKessock Ave. St. Louis 15, Missouri	
Aerosol O. T.	American Cyanamid Co. Plastics and Resin Div. 1055 Commonwealth Ave. Boston 15, Mass.	
Powdered Feldspar	Orford Soap Co. 75 Hilliard St. Manchester, Connecticut	

PARTS REMOVED:

Name	Number	Quantity
Teflon Strip - Blade Shank	AR	AR

SPECIAL TOOLS REQUIRED: None.

PUBLICATIONS AFFECTED: Service Bulletin 508 and Aluminum Blade Overhaul Manual 130B.

(Codes 2, 3, 4, 5, 6, 15)

22 Mar 67

SPECIAL INFORMATION

ENGINE MOUNT ATTACHMENT LUGS

INFORMATION

1 The purpose of this Engineering Order is to bring to the attention of operating units, that improper machine finish of engine mount brackets (refer to Figure 1) have been reported from the field. Such a condition results in inner cowling cracks when engine mount brackets come in contact and wear on the curvature of inner cowling ring.

REWORK

2 Rework of engine mount attachment lugs by grinding to remove interference between inner cowling and mount is permissible. The weld may be ground back to the lug as indicated in Figure 2. The extent and procedure of rework is to be rigidly controlled to ensure that bracket lug or engine mount ring are not ground into.

NOTE

Improper grinding in this area may induce fatigue problems and could seriously affect the strength of the engine mount.

3 After grinding the affected areas are to be primed and painted.

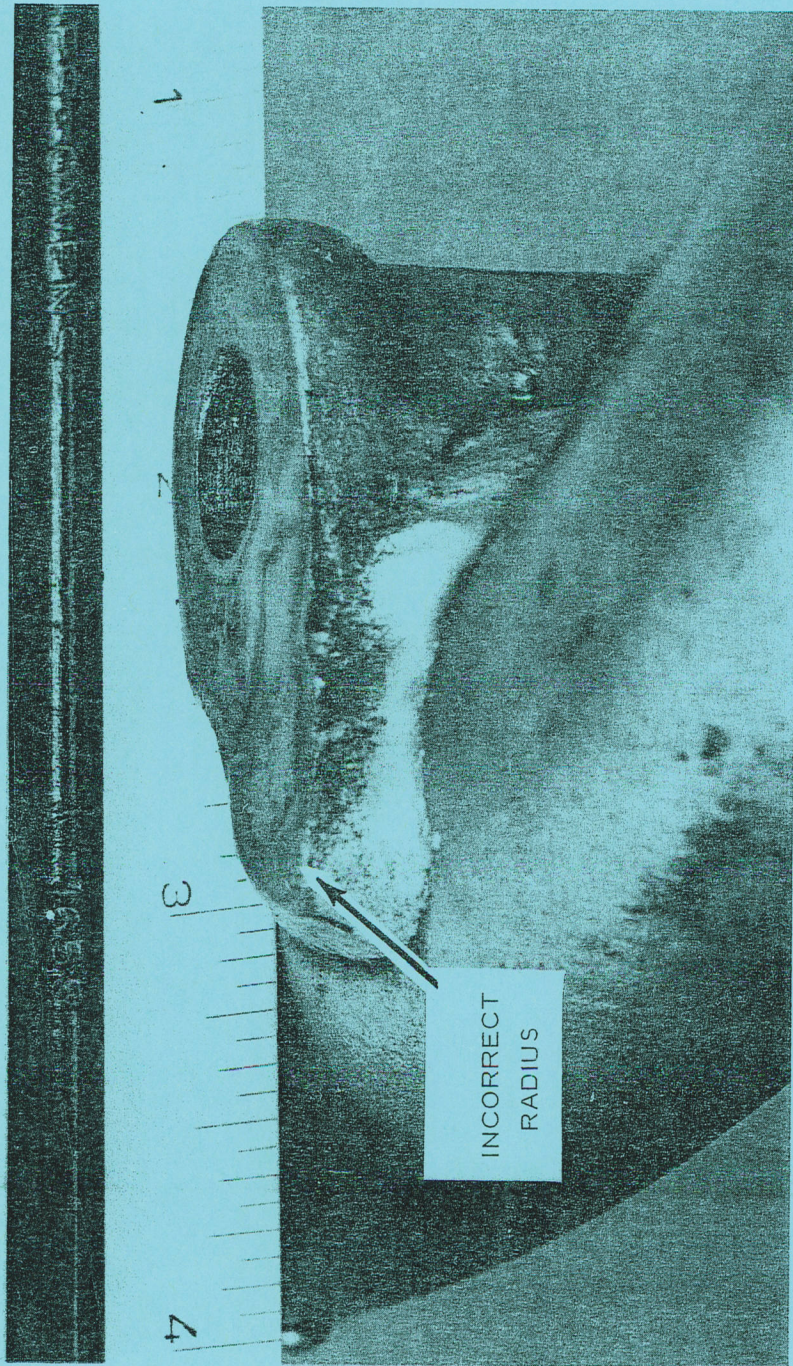
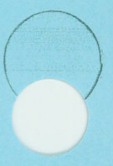


Figure 1



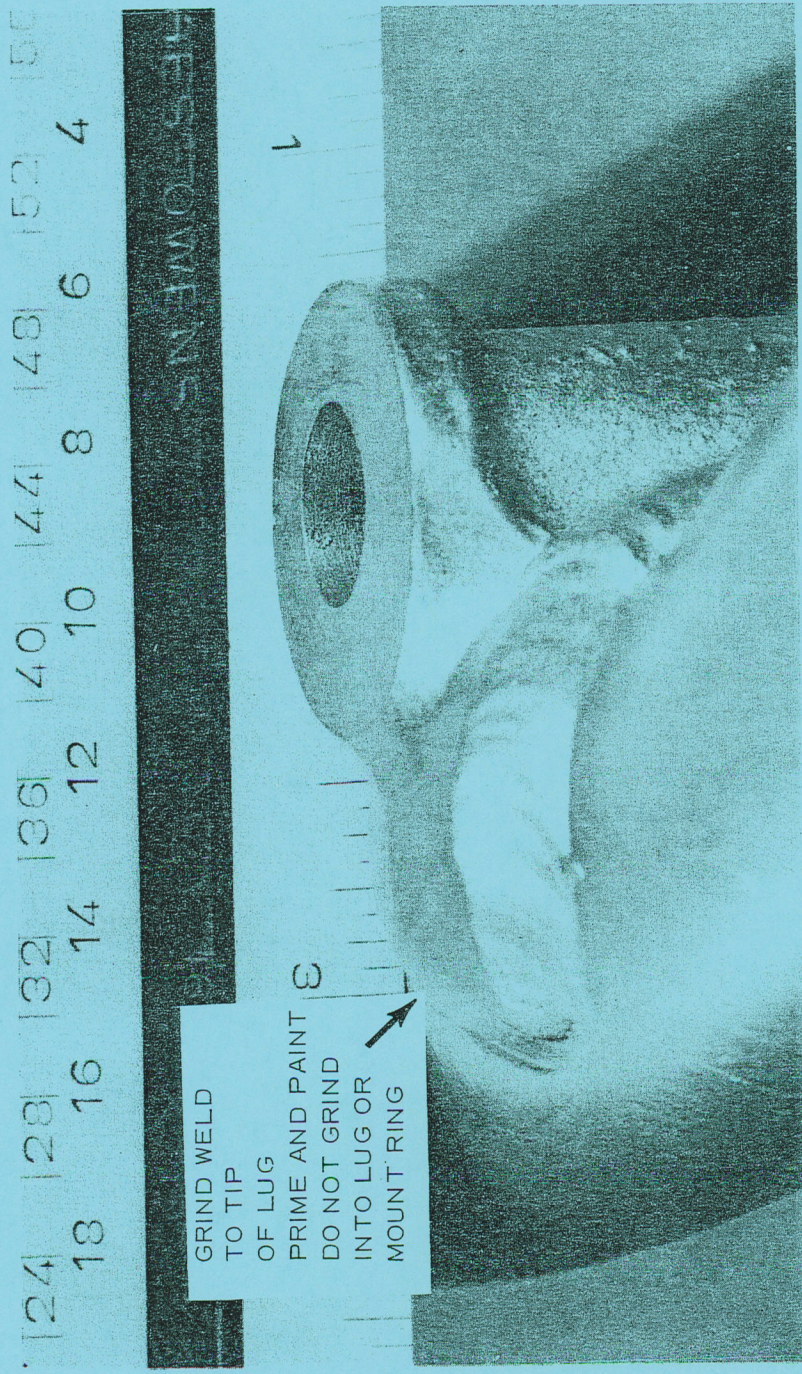


Figure 2

STANDARD AERO ENGINE L
ENGINEERING
OFFICE ✓
MAY 4 1967
ACC. _____
ENG. _____
IN-SP. _____
PLANT _____

10 Aug 65

SPECIAL INFORMATION

DE-ACTIVATING ARN-7 CHANGEOVER RELAY CONTROL SWITCH

EQUIPMENT AFFECTED:	C45 MNT Aircraft with EO 05-45B-6A/130 embodied
TRAINING AIDS AFFECTED:	NA
BY WHOM WORK WILL BE PERFORMED:	Operating Units
WHEN WORK WILL BE PERFORMED:	Next Primary Inspection
RCAF FORM ENTRIES:	L14
MODIFICATION OF SPARES IN STOCK:	NA

PURPOSE

1 To prevent turning the ARN-7 radio compass off when activating change-over control on the overhead control console.

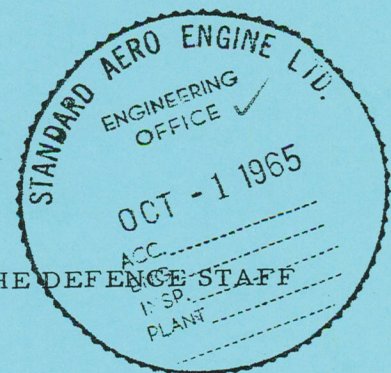
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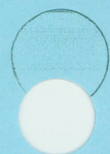
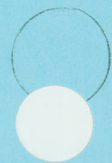
2 When EO 05-45B-6A/130 is embodied the change-over relay should be de-activated. The following is sequence of operations:

- (a) Turn on radio compass.
- (b) Activate change-over control to take control in the cockpit.
- (c) Turn off radio compass.
- (d) Locate wires R113-20 and R489-20 on pin 14 of relay BK 22K and remove them from the terminal.
- (e) Wrap the terminated wires with tape and stow.
- (f) Sign L14.

ISSUED ON AUTHORITY OF THE CHIEF OF THE DEFENCE STAFF

Prepared by:
AMC/SAVO/T1





SPECIAL INFORMATION

ILS ANTENNA REPLACEMENT

(This EO replaces EO 05-45B-6A/55 dated 6 May 55)

EQUIPMENT AFFECTED: Expeditor Mk 3N 3NM and 3TM Aircraft
ILS Antenna and Mast Assembly

BY WHOM WORK WILL BE PERFORMED: Units

WHEN WORK WILL BE PERFORMED: Only when it is necessary to replace
AS-27A/ARN5 antenna by type AS-27/ARN5

PURPOSE

1 To permit use of AS-27/ARN5 antenna on Expeditor Aircraft previously fitted with AS-27A/ARN5 ILS antenna.

INFORMATION DATA

2 The following information applies:-

(a) Due to differences in mounting of the stubmast the AS-27/ARN5 and AS-27A/ARN5 assemblies are not interchangeable. In general MBA parts are required for AS-27/ARN5 antenna and Beach parts for AS-27A/ARN5 antenna.

(b) Parts peculiar to AS-27/ARN5 (10EU/16710) antenna installations and contained in kits Ref. 57/645 available at 1 SD are as follows:-

RCAF REF.	PART	DESCRIPTION	QUANTITY
	1MBA6944	Adaptor Plate	1
	2MBA6313	Bracing Cable	1
	3MBA6943	Mast Assembly	1

(c) Parts peculiar to AS-27A/ARN5 (10EA/39944) antenna installations and removed when replacement is required are as follows:-

RCAF REF.	PART	DESCRIPTION	QUANTITY
	901-180806	Adaptor Plate	1
	901-180805	Mast Assembly	1
	111513-02403	Cable Assembly	1

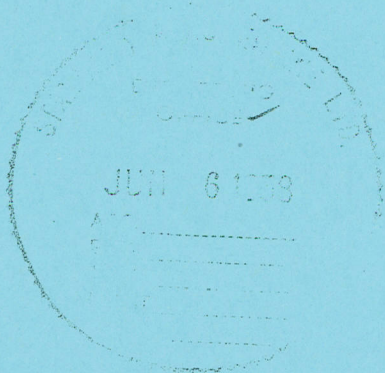
INFORMATION DATA (Cont'd)

NOTE

Wherever possible the replacement of ILS antenna should be by the same type as removed.

(d) Drawings MBA 3MBA6312 and 4MBA6942 required to effect the replacement are to be demanded from AMCHQ SOEP/ED.

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF



Prepared By:
AMC/S Tel O/Tel AF

RECEIVED
MAR 7 - 1958
BRISTOL AIRFIELD
(WESTERLY FIELD)
ENGINEERING
DEPARTMENT

SPECIAL INFORMATION

RADIO COMPASS LOOP GASKET

EQUIPMENT AFFECTED:

All Expeditor Aircraft

PURPOSE

1 This EO is published to make known an inexpensive substitute for Beech Part 814-180674 gasket.

INFORMATION DATA

2 When replacement of radio compass loop gasket Part 814-180674 is required, a gasket is to be fabricated locally, using the removed gasket or the loop to outline design of the new gasket. The material used is rubber sheet Ref. 32C/319 available at 1 SD.

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

Approved

RECORDED
INDEXED

THIS E.O. IS AVAILABLE TO
BAW. Refs
Dwg. 111-72007
PROJECT ENGINEER 10/1/52



PLANNING

ROYAL CANADIAN AIR FORCE

RESTRICTED
EO 05-45B-5A/42
20 Aug 57

RECEIVED
SEP 09 1957
BRISTOL AIRCRAFT
(WESTERN) LIMITED
ENGINEERING
DEPARTMENT

SPECIAL INFORMATION

INSTALLATION OF VOLTAMMETERS

PRECAUTIONS

Permitted

1. Instances have been reported where the connecting lugs of the Voltammeter have come in contact with the static line situated at the rear of the instrument causing a short circuit which resulted in the burning of the installation leads.
2. A check is to be carried out by visual inspection at the rear of the instrument panel after each installation of the voltammeter to ensure there is ample clearance between the connecting terminals and the static line.

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

THIS E.O. ^{IS} ~~IS NOT~~ APPLICABLE TO
all aircraft HK 9/9/57
 PROJECT ENGINEER

RESCINDED
AUTH.....

Prepared By:
AMC/SACO/ACA



14 Jun 57

RECEIVED
AUG 7 1957
BRISTOL AIRCRAFT
(WESTERN DIVISION)
ENGINEERING
DEPARTMENT

SPECIAL INFORMATION

MASTER BRAKE CYLINDER LOCATIONS

INFORMATION

1 Further to the problem outlined in EO 05-5B-5A/21, an additional snag has been encountered by one operator when installing the latest design of Part 694-187800 cylinders. It will be noted from Figure 1 that the inlet boss on the later type of cylinders is located further aft than on the older type and is of increased height; on some aircraft installation of these later type cylinders on the co-pilot side will result in chafing of the rudder balance cable on the tee or elbow inlet fittings. The older type are quite satisfactory in any location.

INSTRUCTION

2 Since there are approximately 1400 of the old type and only 120 of the later version it is recommended that whenever possible the new ones be reserved for use on the pilot side. When this becomes impossible or impractical bridging of the balance cable may be effected by local manufacture of a tube assembly and fitment as shown in Figure 2.

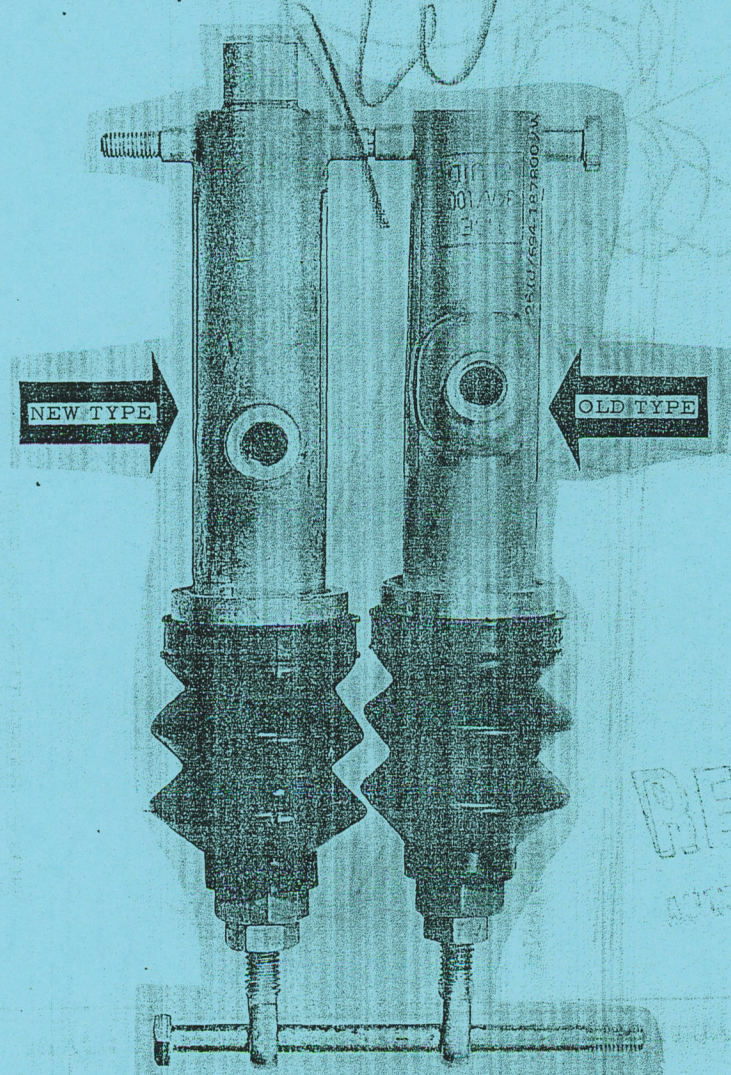


Figure 1

THIS E.O. 15 APPLICABLE TO
BAW for
Information only *H.K. 12 Aug 57.*

AL TUBE 1/4 OD x .035 x 3-1/2 - 1 REQ.
 SPEC. WW-T-787 COND. A
 AN818-4D NUT - 2 REQ.
 AN819-4Z SLEEVE - 2 REQ.
 FLARE TUBE ENDS

AN824-4D TEE - 1 REQ.
 BALANCE CABLE

AN816-4D NIPPLE - 1 REQ.

BRAKE MASTER CYL.
 (CO-PILOTS)

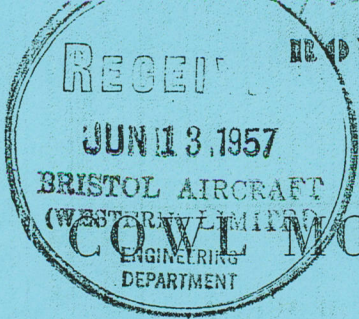
NOTE: BEND TUBE TO SUIT -
 ENSURE FREEDOM OF HOSE ASSY.
 WHEN BRAKES ARE ACTUATED

VIEW LOOKING OUTBOARD

Figure 2

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

Prepared by
 AMC/SACO/ACR



SPECIAL INFORMATION

COWL MOUNTING PAD DIFFICULTIES

INFORMATION

- 1 Since issuance of modification EO 05-45B-6A/85, which fitted rubber pads to the engine cowling support lugs, many operators have complained of the pads tearing, cowling adjustment difficulties and cylinders cracking at the lug attachment.
- 2 The modification had not been in effect for six months before all the modification kits were gone and 1000 spare pads (an estimated two years spares requirements) had been consumed. UCRs from all points were received so suddenly it became obvious that a very real problem existed and AMC issued a modification suspending order by message, LOG 3312 dated 16 Jan 57.
- 3 Since these pads were being used with considerable success by civilian operators in the USA and Canada a project was given the Canadian repair and overhaul contractor to investigate the matter with a view to determining where Service operators were going astray and what could be done to make the modification acceptable in its present form or recommend changes that would make it acceptable. The results of the investigation follow in the succeeding paragraphs.
- 4 In the meantime one unit reported by UCR that with care during fitment and removal of cowlings and the use of RCAF Ref. 33G/49 insulating compound on the pads to act as a lubricant or anti-stick, they considered the modification quite acceptable and encountered no difficulties.

INVESTIGATION RESULTS

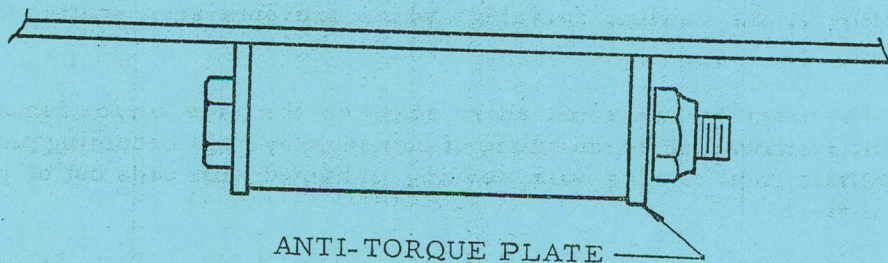
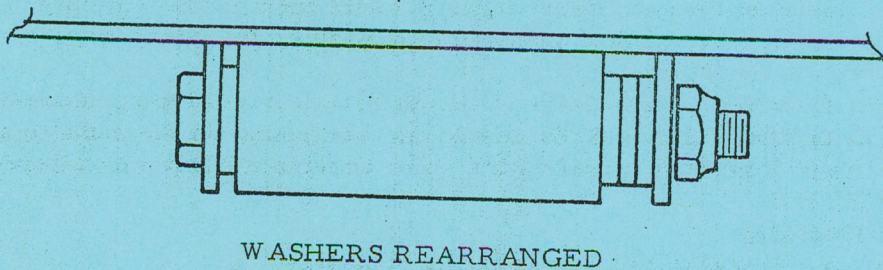
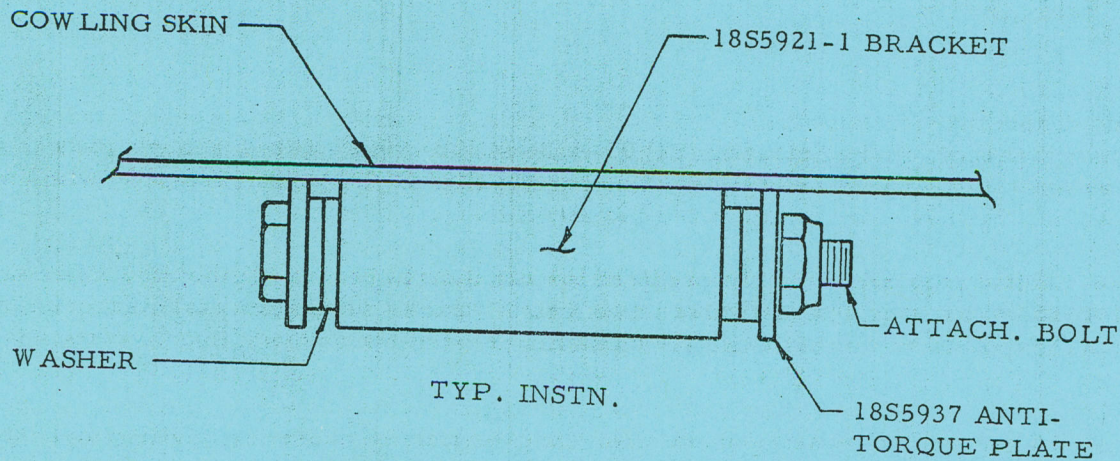
- 5 The following is a digest of the investigation results:-

- (a) The adjustment difficulties, where there is a gap found between the upper and lower cowlings, are probably due to the Part 18S5937 anti-torque plates preventing correct cowling positioning or a distortion of the cowling curvature which prevents snug seating of the male and female cowl brackets.
- (b) Pad tearing is caused by burrs and sharp edges on the male and/or female brackets, by rough handling during removal and replacement of cowlings, by pads becoming partially unseated during cowling installation and tearing when cowling tightened with pads out of position, or any combination of the above.

RECOMMENDATIONS

- 6 Cowling adjustment as outlined in EO 05-45B-5A/31 together with the following should be practised where applicable:-
- (a) Where brackets are misaligned or cowling contour is not as desired, judicious use of a rubber mallet may be necessary.
 - (b) On brackets with positioning plates so positioned as to prevent upper and lower cowlings mating, alter the number of washers on each side as applicable to rotate cowling position, refer to Figure 1.

THIS E.O. <u>IS</u> <u>IS NOT</u> APPLICABLE TO	
<i>BAN for sub only.</i>	
<i>Proposed Mod 7 By 2.</i>	<i>UK 26.6.57.</i>
<i>Not to be carried out</i>	PROJECT ENGINEER
<i>Please instructed by HQ.</i>	



INSTALLATION WITH NO WASHERS PRIOR
TO EMBODIMENT OF EO 05-45B-6A/85
THIS INSTN. REQUIRED FOR PROPOSED
MODIFICATION SHOWN FIGURE 2.

Figure 1

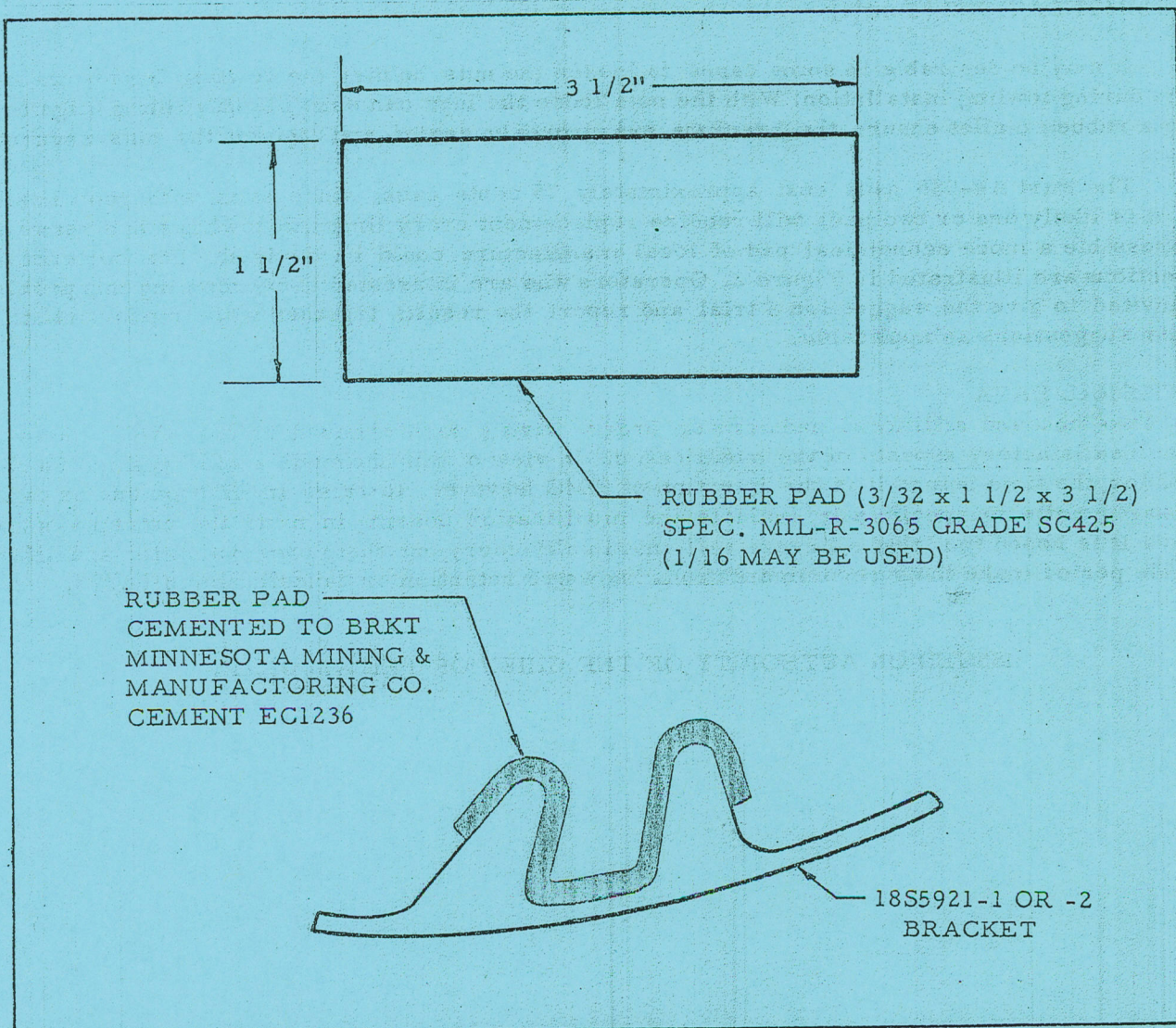


Figure 2

RECOMMENDATIONS (Cont'd)

- (c) Fill rivet holes on female brackets where fibre strips were removed.
- (d) Ensure all burrs and sharp edges are removed from both male and female brackets. This is most important.
- (e) Use a small amount of adhesive RCAF Ref. 33G/8, when installing pads to obviate their falling off or becoming unseated during cowling installation.
- (f) Coat each pad exterior lightly with RCAF Ref. 33G/49 insulating compound prior to cowling installation.

RECOMMENDATIONS (Cont'd)

(g) It may be desirable in some cases to loosen the nuts holding the cowling lugs to the cylinders during cowling installation. With the nuts loose the lugs can shift slightly aiding alignment; using a rubber mallet ensure the brackets are properly seated and tighten the nuts securely.

(h) The Part A4-585 pads cost approximately 75 cents each; since even with good normal care it is likely one or two pads will require replacement every time the cowlings are removed, it is possible a more economical pad of local manufacture could be devised. The contractor's suggestions are illustrated in Figure 2. Operators who are interested in overcoming this problem are invited to give the suggestion a trial and report the results together with improvements or further suggestions as applicable.

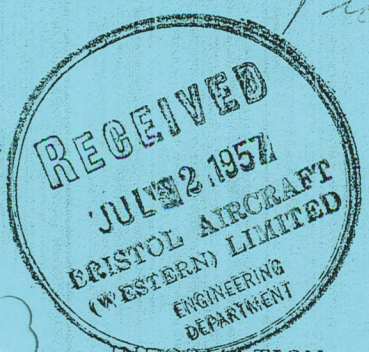
ADDITIONAL DATA

7 Two thousand additional pads are on order, having been ordered before AMC was aware of the unsatisfactory aspects of the modification. In view of this the modification will not be cancelled for the time being; it is the intention of AMC however, to raise an REW on one or two of the larger units to specifically evaluate the modification bearing in mind the contents of this leaflet. It is hoped too, that all users will unofficially carry out their own evaluation and after a suitable period make their recommendations known re retention or cancellation of 6A/85.

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF

Prepared By:
AMC/SACO/ACR

Planning attn Bill Torrey



SPECIAL INFORMATION OIL TANK CAPS

*Replaced by
45B-270*

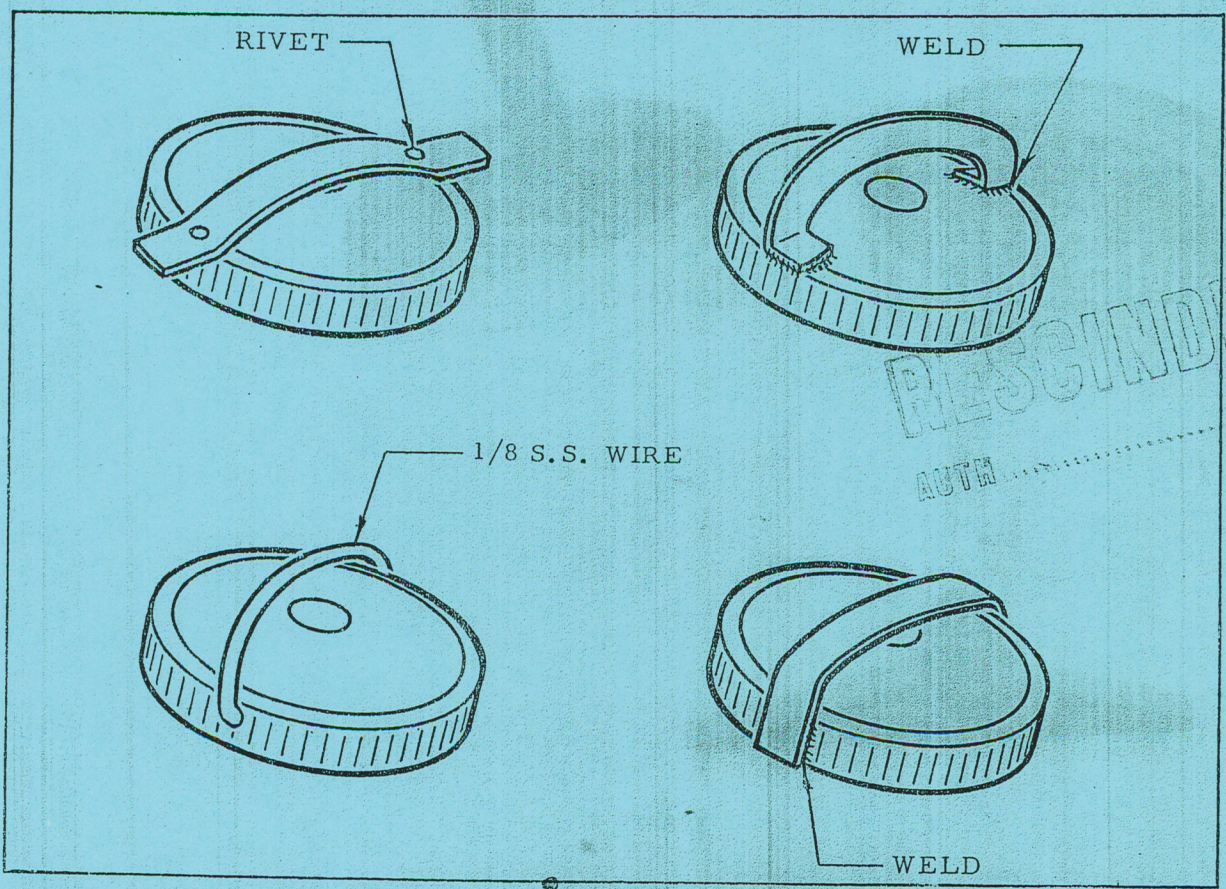
INFORMATION

1 Reports have been received that the new oil tank caps, fitted during Modification EO 05-45B-6A/100, are difficult to remove due to the recessed nature of the filler neck which only permits the fingertips to grip the cap. To overcome this, several suggestions for rework are illustrated, see Figure 1, any of which will probably suffice to facilitate removal. Operators are requested to select the one that appears most suitable and rework the caps accordingly.

2 One unit also reports that, in the opinion of their technicians, the dipsticks are of value in preventing over or under filling the tank. These were originally omitted on the contractor's advice that installation on the new cap would increase the price considerably; since aircraft, such as the Harvard, managed to do without them, it was considered a non-essential item and accordingly left off. Operators who agree that the dipstick is desirable may utilize the one originally fitted to the old cap as shown in Figure 2. If the removed one is not available, local manufacture is recommended using Figure 3 as a reference.

CAUTION

When fitting dipstick to Part 111-66016 cap, ensure the centre relief hole is not covered.



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Figure 1

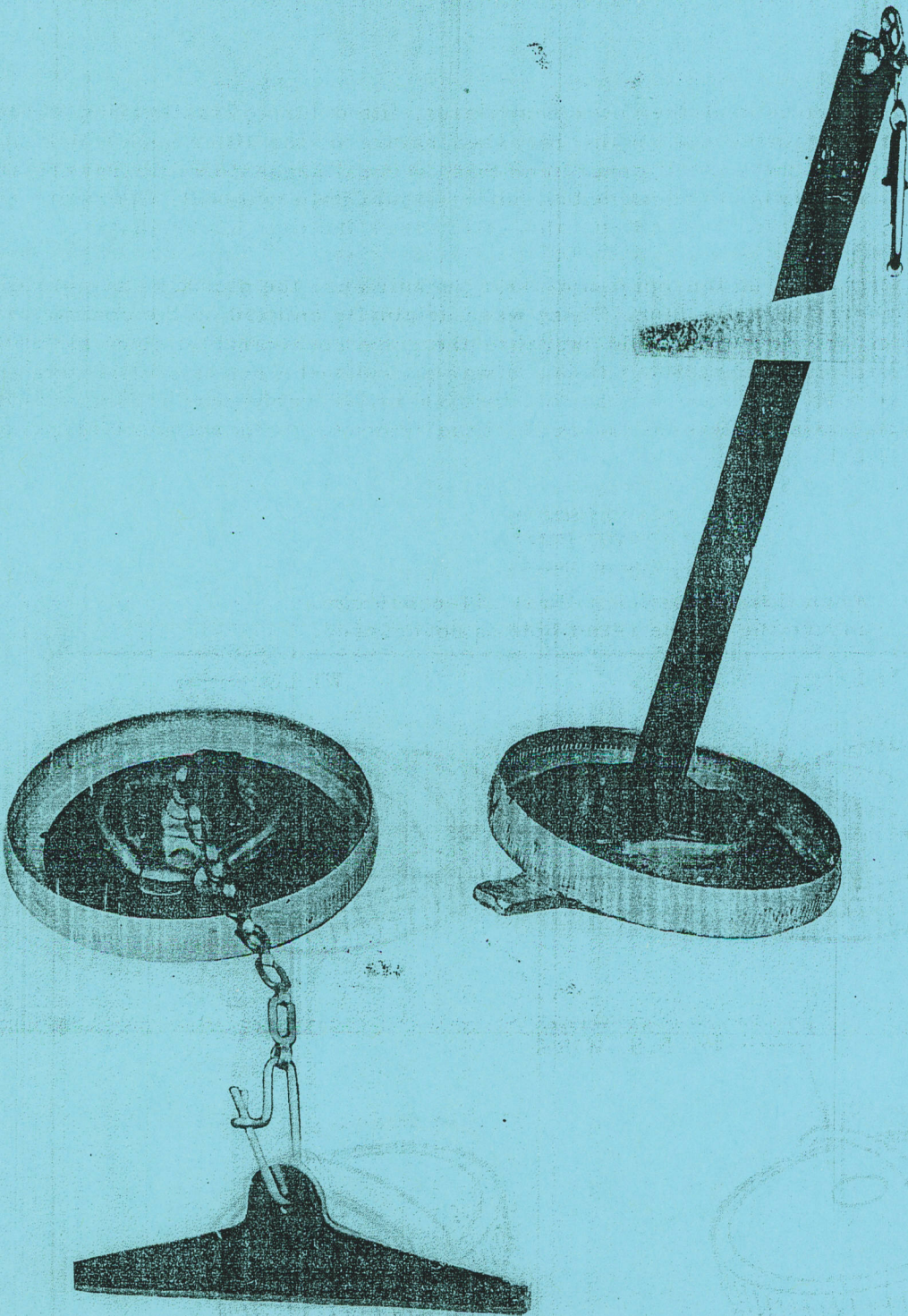


Figure 2

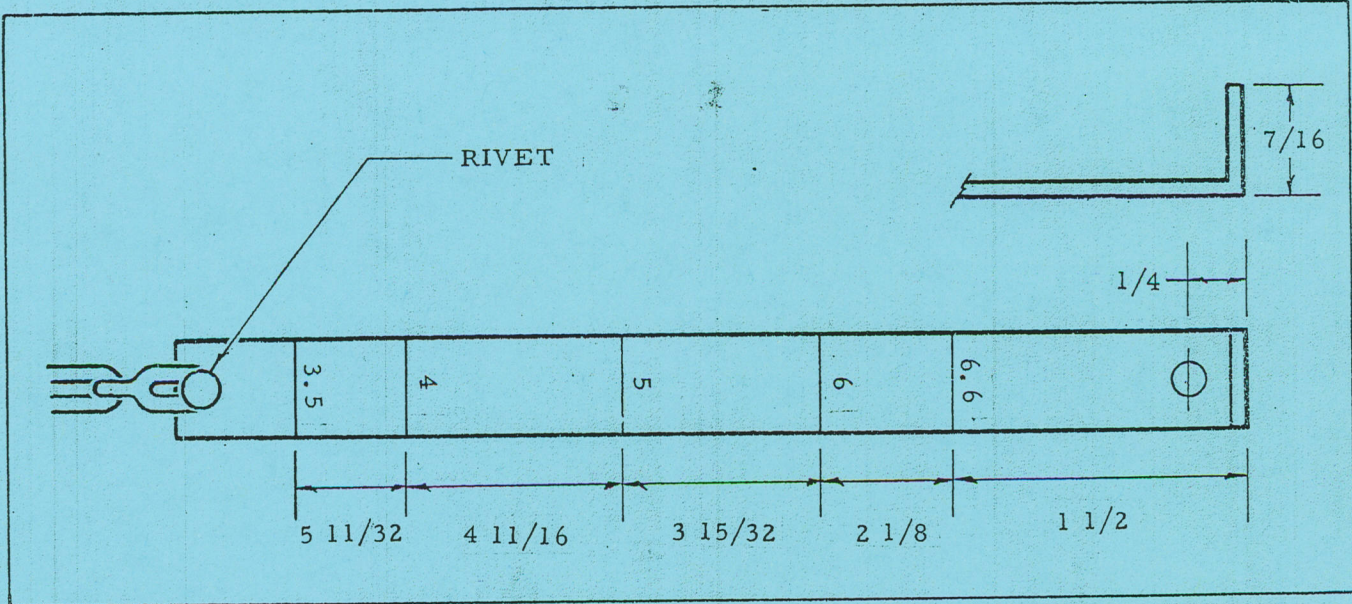


Figure 3

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SPECIAL INFORMATION

LANDING GEAR UNIVERSAL DUST BOOTS

(This EO replaces EO 05-45B-5A/38 dated 10 May 57)

INFORMATION

1 The rubber dust boot covers, fitted as original equipment on landing gear universals, are not listed in EO 05-45B-4. The universals are lubricated during manufacture and this lubricant should last until the rubber dust boot deteriorates allowing dust and dirt to enter.

2 Since the dust boot retaining bands are a swage type it is only possible to remove the boot by cutting the bands. This should not be normally necessary unless the existing boot has deteriorated to the extent replacement is necessary. Replacement boots are to be locally manufactured from commercial grade "kid leather" and attached as outlined in Figure 1.

INSTRUCTION

3 Repacking universals at the 200 hour intervals specified in the lubrication chart is not necessary if the rubber boot is installed and has not deteriorated to the extent dust and dirt are permitted to enter or the lubricant escape. However, inspection of rubber boots for condition is necessary every periodic, and repacking universals with leather covers is still required every 200 hours.

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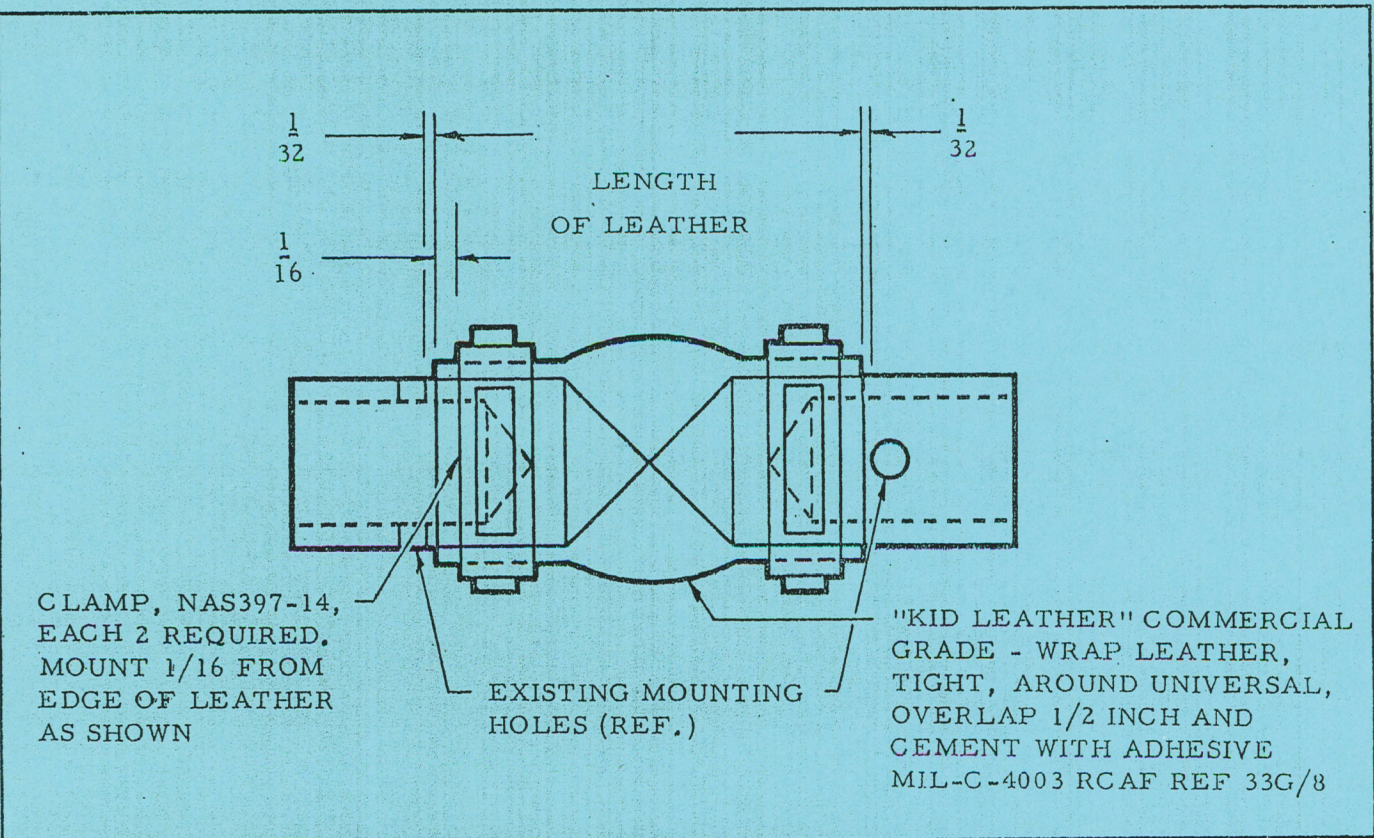


Figure 1

ISSUED ON AUTHORITY OF THE CHIEF OF THE AIR STAFF



SPECIAL INFORMATION

VISUAL INSPECTION OF UNDERCARRIAGE MOTOR

INFORMATION

1 Reports from operating units indicate in some cases undercarriage motors have been incorrectly positioned on installation, and electrical motor leads not properly secured, causing chafing of leads by drive chain Part 804-188007.

INSTRUCTIONS

2 Visual check is to be carried out to ensure that the motor is installed in accordance with Figure 2-67 of EO 05-45B-2. Electrical leads to be securely lashed or passed through grommet in the floor stiffener, to eliminate any possibility of contact with drive chain.

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Responsible

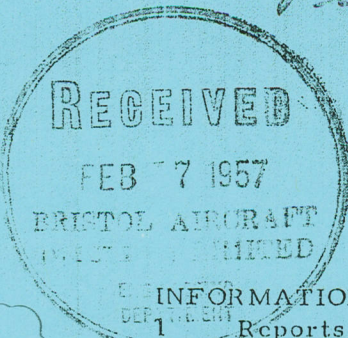
THIS E.O. 15 ~~15-1157~~ APPLICABLE TO
Butk. for info. only when carrying out checks per CTR 1150B. Need not be recorded in log book. H.K. 22/3/57
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Prepared By:
AMC/SACO/ACA



18 Jan 57



SPECIAL INFORMATION GENERATOR OIL LEAKAGE

1 INFORMATION

Reports have been received from the field concerning excessive engine oil consumption due to oil leakage through the four vent holes in the base of the 100 amp generator Part 30E16-1-A.

INSTRUCTIONS

2 Where excessive oil leakage through generator ventholes is evident, the following procedure is to be followed:-

(a) Using three rivets Part AN470AD4, plug the lower and two side holes leaving the top hole open. The rivets should be inserted from the outside to prevent their entry into the accessory drive bearing, should they become loose.

3 The above mentioned procedure is to be followed only when there is evidence of excessive oil leakage, and after it has been ascertained that the leakage is not due to unserviceable crankcase breather line or faulty gaskets. The rivets will be removed by the Repair and Overhaul contractor when the generator is returned for overhaul and plugging the vent holes will have to be carried out by units on an "as required" basis.

4 Any cases of generator oil soakage (i.e. oil entering the generator) occurring subsequent to plugging the three holes are to be reported to AMC by message.

REFERENCE

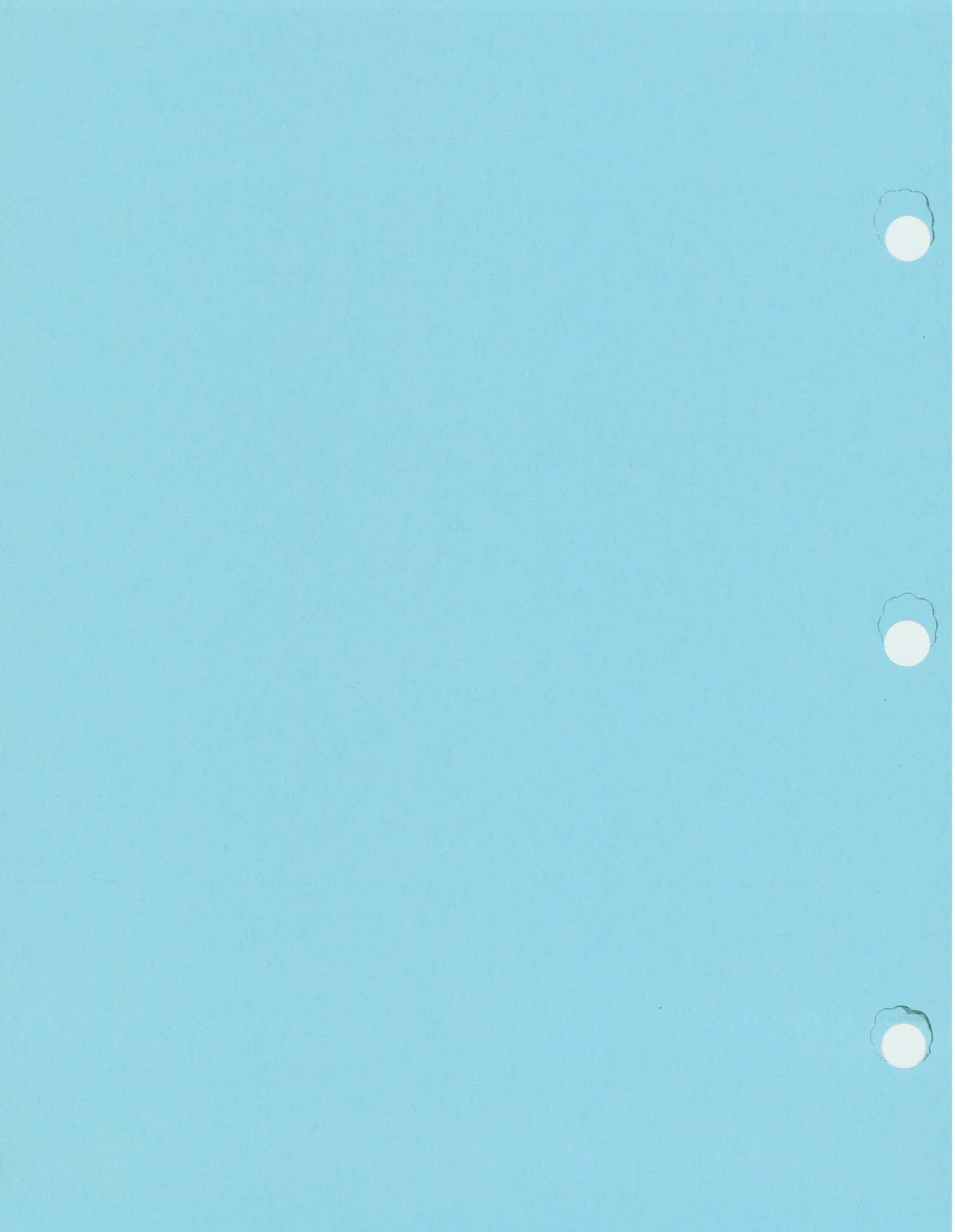
5 AMC Message LOG 2283 dated 7 Jan 57 to Stn. North Bay.

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AMC/SACO/AGA



PLANNING

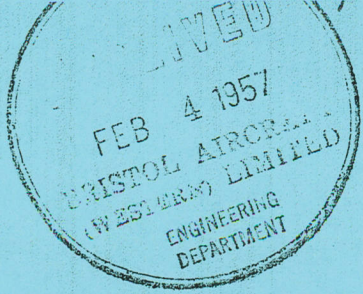
05-45B-5A/35

LOG 2178 11 SEP 57

SPECIAL INFORMATION

AMMETERS REF 6A 10061 MADE BY MECHRON ENGINEERING PRODUCTS ARE
NOT TO BE USED IN EXPEDITOR AIRCRAFT UNTIL FURTHER NOTICE.
THESE AMMETERS ARE POSITIVE POSTS BONDED TOGETHER CAUSING
SHORTING OF PRESENT AIRCRAFT WIRING.

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SPECIAL INFORMATION

VOLTTAMMETERS REF. 6A/10061

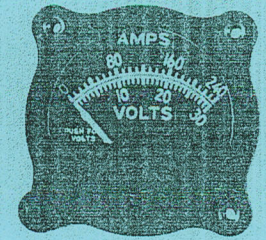
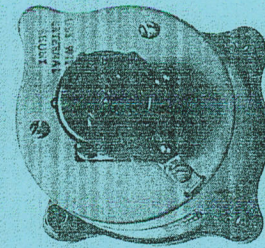
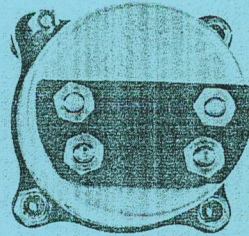
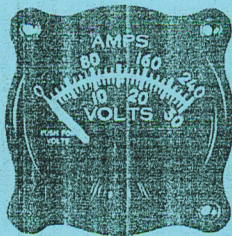
EQUIPMENT AFFECTED:

Expeditor Aircraft

- 1 Units are demanding Ref. 6A/615 ammeters for installation in Expeditor aircraft where the correct voltammeter is Ref. 6A/10061. Voltammeters Ref. 6A/615 are used on North Star Aircraft exclusively.
- 2 With reference to Figure 1 it can be seen that the two voltammeters resemble one another very closely except for the terminals at the back.
- 3 Expeditor units are to demand and use Ref. 6A/10061 voltammeters and all Ref. 6A/615 voltammeters are to be returned properly packaged to the Supply Depot.
- 4 CAP 665 will be amended accordingly.

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Ref. 6A/10061

Ref. 6A/615

Figure 1

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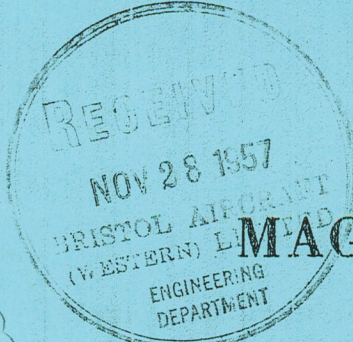
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SPECIAL INFORMATION

MAGNETO HARNESS INSTALLATION

(This EO replaces EO 05-45B-5A/34 dated 11 Dec 56)

INFORMATION

- 1 Inadequate information in the Expeditor Part List EO 05-45B-4 regarding the various magneto harness part numbers had led to considerable confusion when a need to demand replacements arises.
- 2 A recent survey has indicated approximately 90% of the Expeditor Aircraft are fitted with Scintilla magnetos and Part VJR24B-5X vibrators. The remainder have various combinations of Bosch or Scintilla magnetos and AN4181-1 or VJR24B-5X vibrators.
- 3 Pending revision of the aircraft Part List it is suggested that operators refer to the chart, see Figure 1, to determine the correct harness for any specific magneto/vibrator combination.

		MAGNETO TYPE			
		BOSCH MAGNETO		SCINTILLA MAGNETO	
		LH (ENGINE)	RH	LH (ENGINE)	RH
VIBRATOR TYPE	VJR24B-5X	26JU/ 180905-6 (RH Magneto)	26JU/ 180905-8 (RH Magneto)	644-180659-1 37A/866 (Serves both Mags)	644-180659-3 37A/865 (Serves both Mags)
		180904 (LH Magneto)	180904 (LH Magneto)		
	AN4181-1	644-180599 LH 37A/867 (Serves both Mags)	644-180599 RH 37A/868 (Serves both Mags)	644-180707 37A/870 (Serves both Mags)	644-180707 37A/870 (Serves both Mags)
<p><u>NOTE</u></p> <p>The ideal magneto/vibrator combination is Scintilla mag/AN4181-1 vibrator. When a change of one or the other of these items is necessary it is to be ensured the change is toward this combination.</p>					

Figure 1 (Issue 1) Installation Chart for Expeditor Magneto Harness

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INFORMATION (Cont'd)

4 When a Part 644-180707 harness is initially installed in the LH engine installation, the leads #40 and 38 to the firewall cannon plug must be reversed to pick up pins "A" and "B" respectively. This is indicated in EO 05-45B-2, wiring diagram 10-4A. Wiring diagram 10-4 indicates wiring for a Scintilla magneto and VJR24B-5X vibrator while diagram 10-4A outlines wiring for a Scintilla magneto and AN4181-1 vibrator.

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(WESTERN) LIMITED
ENGINEERING
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SPECIAL INFORMATION

ELECTRICAL INSULATION PRECAUTIONS

- 1 The 10EC/34493 resistors, which replaced 10EC/5925 resistors on embodiment of EO 05-45B-6A/82, cannot be attached in exactly the same manner. A lug, bracket or short lead should be attached to one end of the resistor for connection to the instrument.
- 2 The connections to the resistor must be neatly bound with tape adhesive insulation electrical polyvinyl chloride RCAF Ref. 33G/136, or equivalent, to prevent short circuits.

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 HK 27/12/56

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Prepared By:
AMC/SACO/ACA



15 Oct 56

SPECIAL INFORMATION

PROTECTION OF ENGINE
INNER COWL SEALS

(This EO replaces EO 05-45B-5A/4 dated 24 Apr 53)

GENERAL

1 The upper section of the inner cowl seals, Part 84-185896, are prematurely deteriorating due to the heat of the exhaust collector ring. The collector ring, at this point, is not covered by the heater muff and therefore gives off more heat than at the side inner cowl seal stops.

PROCEDURE

2 To obviate this condition a strip of asbestos tape, (of suitable width and length to adequately cover the area of possible deterioration) may be attached to the inner side of the seal using bifurcated rivets or heavy duty staples.

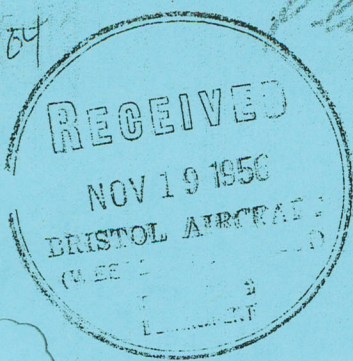
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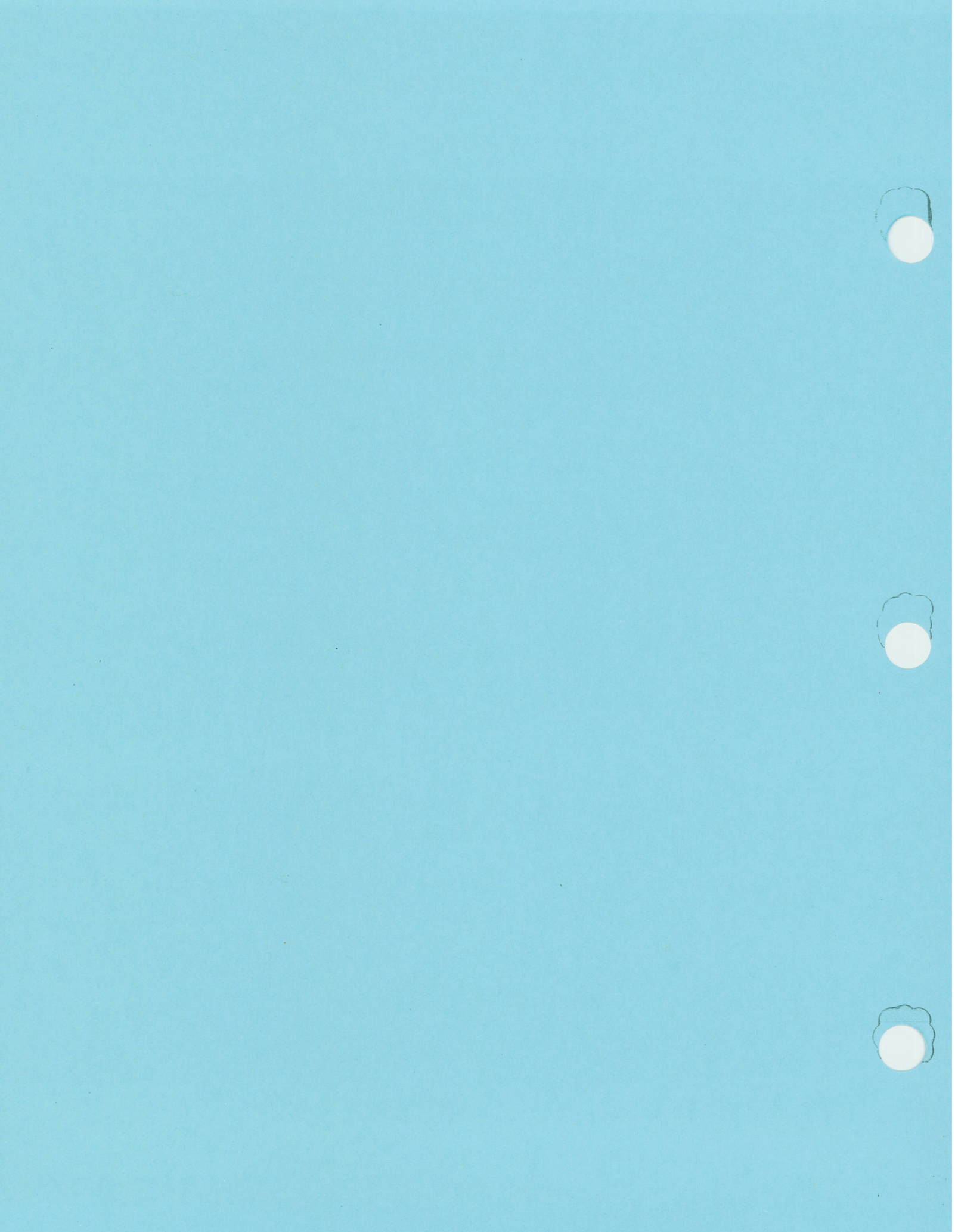
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SPECIAL INFORMATION INSTALLATION AND FITTING OF ENGINE COWLINGS

(This EO replaces EO 05-45B-5A/5 dated 24 Apr 53)

INFORMATION

1 Reports from Operating Units indicate a high rate of failure of the cowling support brackets, Part 18S592-1 and -2. The contractor advises the failure of these brackets is not due to a too light construction, as previously suspected, but is caused by subjecting the cowling to a pre-load condition. This condition will exist if the cowling is being fitted too tight. It is therefore considered extremely important that personnel required to remove and replace engine cowlings are thoroughly familiar with the following instructions.

INSTRUCTIONS

2 The instructions are to be carried out as follows:

(a) The mating surfaces of the front cowl fastener assemblies should be filed as required to permit the fastener lever arm to be operated by hand to the locked position. This filing is necessary only in instances where the mating surfaces of these fasteners contact so tightly that it is impossible to move the fastener lever arm to the locked position by hand with a moderate amount of effort.

(b) The turnbuckles on the S-36 cowl fastener assemblies should be adjusted to a maximum tightness sufficient to cause the extrusion channel formers along the mating surface of the upper cowl half to rest against the extrusion channel formers along the mating surface of the lower cowl half. Further tightening of the cowl fastener assembly turnbuckles will only throw excessive strain on the cowl fasteners and the cowling skin in the area of the cowl fastener attaching points.

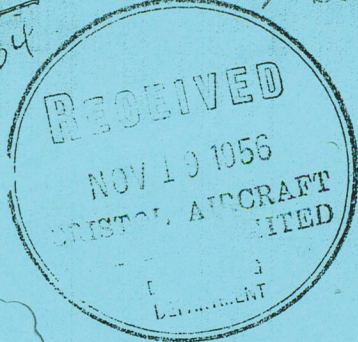
(c) The turnbuckles on the cowl fasteners which attach the wrapper sheets should be adjusted to a maximum tightness sufficient to cause the extrusion channel reinforcements on the upper ends of the wrapper sheets to rest against the extrusion channel formers on the upper half of the cowling. This adjustment should be made with the wrapper sheet support assemblies on the former ring positioned so that they do not contact the wrapper sheet. After making this adjustment the wrapper sheet support assemblies should be adjusted so that they exert moderate pressure on the wrapper sheet and cause the trailing edge of the cowling to rest firmly upon the former ring. They should not be tightened to such an extent as to deform the wrapper sheet or throw excessive strain on the cowling.

3 Engine cowling should be fitted so that installation without the use of special tools is possible.

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SPECIAL INFORMATION
PROPELLER FEATHERING SYSTEM

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ENGINEERING DEPARTMENT

1 Operation of the propeller feathering system on the Expeditor has been troublesome, so far, because of the relatively low capacity of the electrical system and congealing of the oil in the feathering lines and the propeller dome in cold weather.

2 Two modifications were raised for the purpose of improving this condition:

(a) EO 05-45B-6A/78 replaces the 50 ampere generator with 100 ampere generator. This new installation should provide adequate power to the feathering system in most instances.

(b) EO 05-45B-6A/62 provides dilution to the feathering system oil through a high pressure fuel pump. The aircraft wiring is modified to actuate the dilution and feathering pumps simultaneously when the feathering switch is depressed. Since dilution of the feathering oil is undesirable in mild weather because the viscosity of the feathering oil might become so low as to prevent the feathering pump from building up the necessary pressure, a seasonal switch is installed beside the feathering buttons which renders the dilution system inoperative when the SUMMER position is selected.

3 Many variables affect the operation of the feathering system, some of which are:

(a) Except when the feathering pump is in operation, the oil in the feathering line is static and thereby subject to congealing in low temperatures. Similarly, the oil in the propeller dome is also static once the propeller has been feathered. Dilution of the feathering oil is therefore necessary and the seasonal switch should be in the WINTER position at ambient air temperatures below 0°C.

(b) The load imposed on the aircraft electrical power supply during feathering pump operation varies directly with the viscosity of the oil in the feathering system. In extreme conditions this load may exceed 200 amperes. The single generator operating during the feathering cycle may become overloaded, in which case the aircraft battery is required to supply the balance of power necessary to complete the operation. Consequently, in all cases of ground feathering an auxiliary power unit should be used. Similarly, in-flight practice feathering should be limited to one exercise per flight followed by one hour cruising to ensure the battery has sufficient time to become recharged.

(c) During single engine flight the dead power plant rapidly cools to ambient temperature. To prevent oil starvation on restart, caused by congealed residual oil in the engine, such flights should be limited to a maximum duration of ten minutes.

4 Dilution and functional test of the feathering system will be carried out in the following instances:

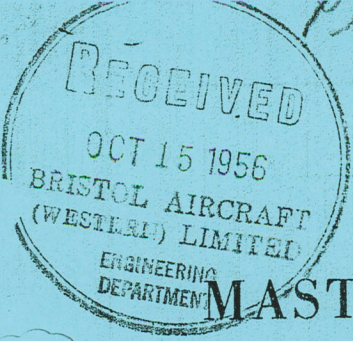
(a) Maintenance personnel shall carry out dilution of the feathering system at temperatures below 0°C (32°F) on run-up after periodic inspections and wherever work has been done affecting the oil in the feathering system. An APU shall be used and engine oil temperature shall not exceed 40°C (104°F). The procedure is as follows:

(1) Ensure master and generator switches are off and seasonal switch, adjacent to feathering buttons, is in WINTER position.

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SPECIAL INFORMATION



MASTER BRAKE CYLINDER LOCAL REPAIR

(This EO replaces EO 05-45B-5A/29 dated 23 Jul 56)

INFORMATION

1 Although modification EO 05-45B-6A/32, MBC Piston Replacement, should go far toward prolonging the life of the cup gland, replacement of this item, and other minor parts replacements, will be necessary from time to time. Except for entire piston replacement all MBC repairs have previously been carried out by the contractor. This was felt to be the most advisable course due to the difficulty encountered during re-assembly of the piston. Now however, plans are available for local manufacture of a tool that should simplify this task; refer to Figure 1. This tool facilitates compression of the cup retainer ring, previously a most difficult procedure.

2 Accordingly we have stocked a breakdown of parts for the modified 694-187800 MBC and these are detailed in Figure 2. Single asterisked items have been procured in small quantities and are to be demanded only as and when an actual requirement exists. Double asterisked items have been procured in slightly larger quantities (ea 200 for an estimated 12 months requirements) and 3 - 4 months requirements may be stocked by operators.

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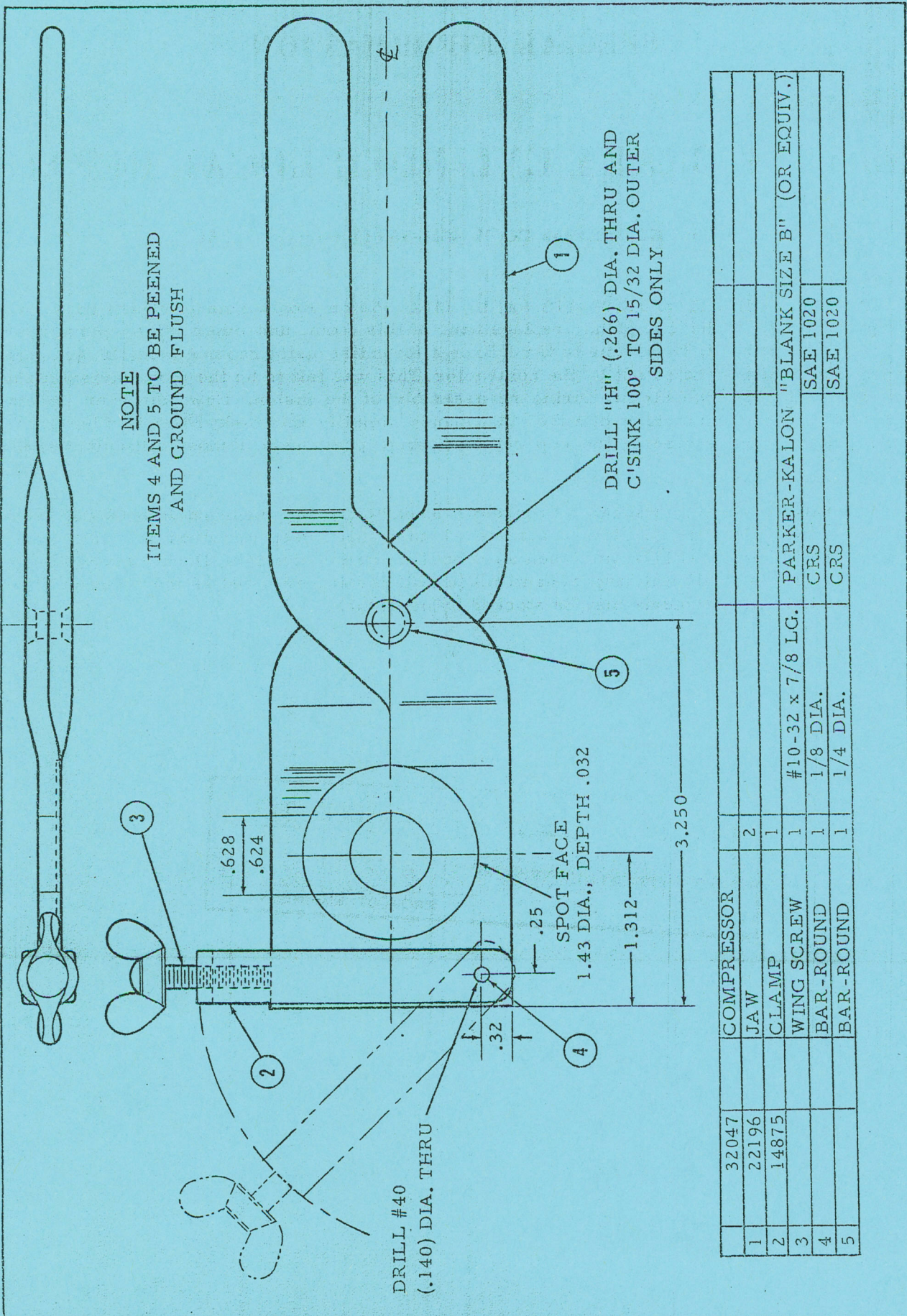


Figure 1

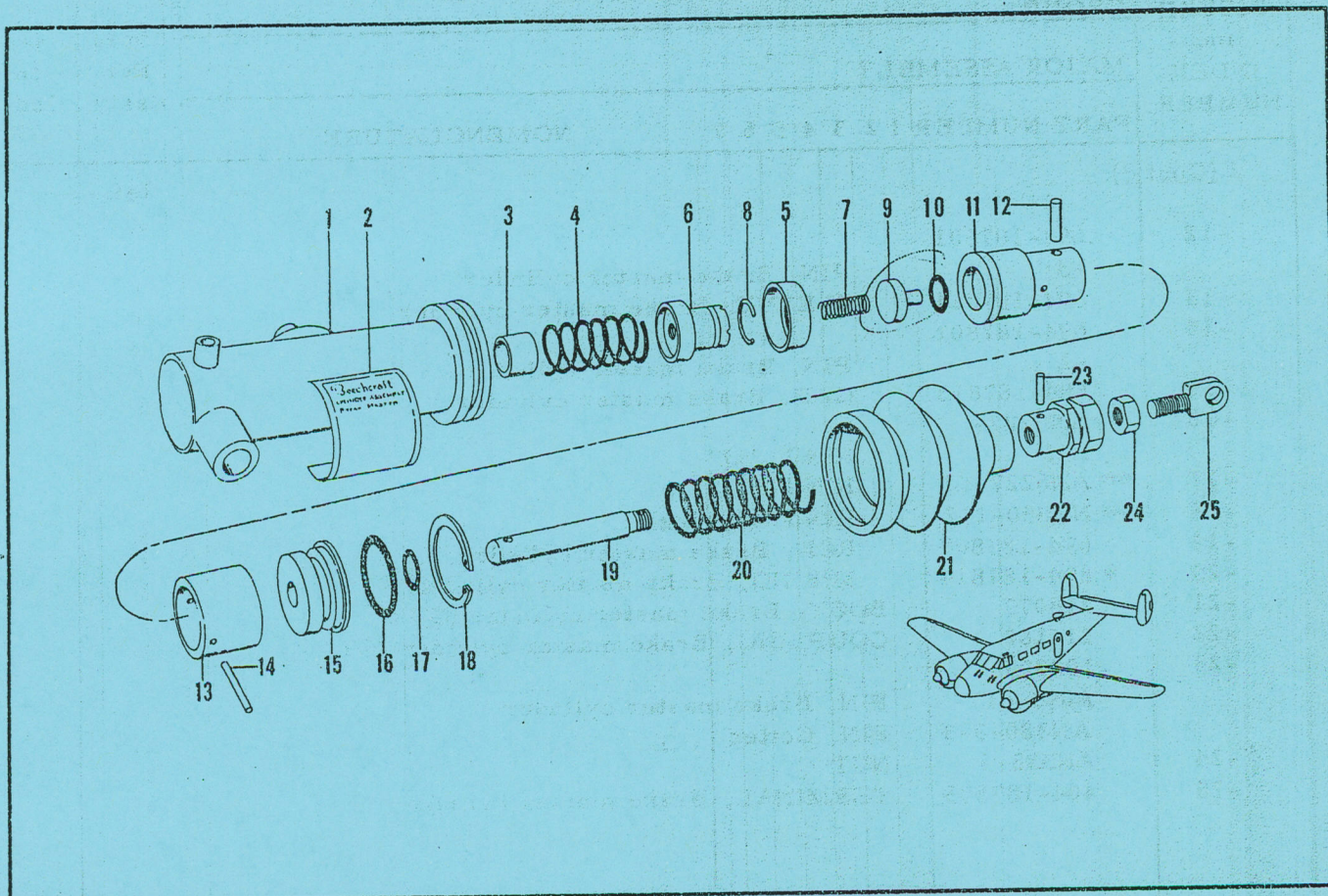
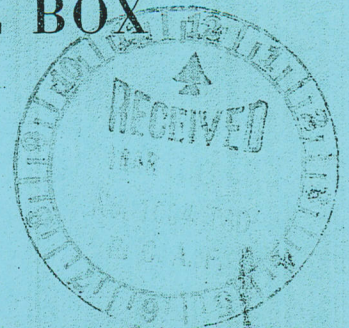
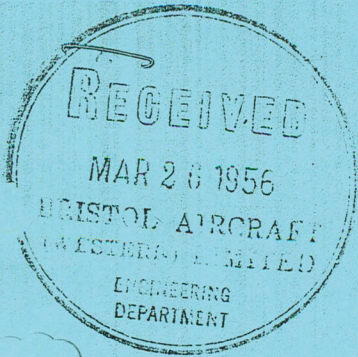


Figure 2

FIGURE and INDEX NUMBER	GROUP							Units Per Ass'y	Usage on Code	
	MAJOR ASSEMBLY									
	PART NUMBER	1	2	3	4	5	6	7	NOMENCLATURE	
2	* 694-187800								CYLINDER ASSY, Brake master for next higher assy)	Ref.
-1	* 404-187814								CYLINDER, Brake master	1
-2	694-180113								PLACARD, Brake master cylinder	1
-3	** 100969-A19- 15-014								SPACER, Brake master cylinder	1
-4	* 694-187804								SPRING, Brake master cylinder	1
	* 694-187801								PISTON ASSY, Brake master cylinder	1
-5	** 694-187803								CUP, Brake master cylinder piston	1
-6	694-187806								RETAINER, Brake master cylinder piston	1
-7	* 111504-010- 016-0024-22								SPRING, Brake master cylinder piston	1
-8	** 644-187811								RING, Retainer	1
-9	** 694-187815								VALVE ASSY, Poppet	1
-10	AN6227-B8								RING, "O"	1
-11	694-187802								PISTON, Brake master cylinder	1

FIGURE and INDEX NUMBER	GROUP							Units Per Ass'y	Usage on Code
	MAJOR ASSEMBLY								
	PART NUMBER	1	2	3	4	5	6		
2 (Cont'd)									Ref.
-12	694-187801								
	-3							PIN, Brake master cylinder	1
-13	694-187811							SLEEVE, Brake master cylinder	1
-14	694-187801								
	-1							PIN, Brake master cylinder	1
-15	694-187813							CAP, Brake master cylinder	1
-16	** AN6227-								
	B15							RING, "O"	1
-17	** AN6227-B8							RING, "O"	1
-18	** NAS50-112							RING, Retainer	1
-19	694-189807							ROD, Brake master cylinder	1
-20	* 694-187814							SPRING, Brake master cylinder	1
-21	218077							BOOT, Brake master cylinder (GY)	1
-22	214182							COUPLING, Brake master cylinder (GY)	1
-23	102809-								
	A093-017							PIN, Brake master cylinder	1
	AN380-3-3							PIN, Cotter	1
-24	AN335-5							NUT	1
-25	404-187803							TERMINAL, Brake master cylinder	1

SPECIAL INFORMATION
GENERATOR CONTROL BOX
VENTILATING



INFORMATION

1 Expeditor 3T aircraft having EO 05-45B-6A/25 "Generator Control Box Ventilating" incorporated have exterior louvers on both sides of the fuselage at approximately bulkhead #5. When the aircraft with this modification are parked outside during snowstorms, snow is blown into the control box via the louvers. Subsequent melting of the snow, when generators are operated, results in burning of the generator relay,

INSTRUCTION

2 The above mentioned aircraft therefore, are not to be parked outside during snowstorms or during risk of snowstorms without suitable covers being installed over the generator control box ventilating louvers.

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MAY 1956

Prepared By:
AMC/SACO/ACR

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SPECIAL INFORMATION

SYPHONING OF NOSE FUEL CELLS

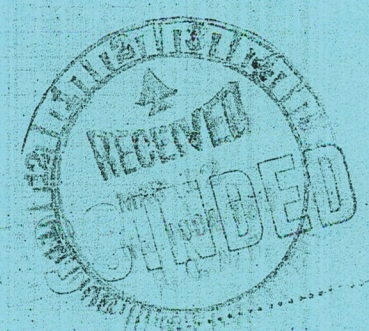
INFORMATION

1 A case has occurred of the nose fuel cell being filled to the top of the filler neck, while parked outside during cold weather and subsequently stored overnight in a heated hangar. Expansion started the fuel flowing out of the vent line followed by syphoning action decreasing the cell interior pressure. This permitted the cell to collapse upward continuing the syphoning until the cell had drained itself on the hangar floor.

INSTRUCTION

2 The seriousness of large amounts of aviation fuel spilled on hangar floors and thence to drainage and sewer systems cannot be over-emphasized. To obviate future cases of this nature ample provision for fuel expansion is to be made during refuelling Expeditor fuel tanks and cells. The necessary percentage of capacity reduction may be calculated approximately using 1 1/2 percent for each 20 degrees the tender fuel temperature is less than 37.8°C (100°F). Refer to chart in Figure 1.

3 The peculiar characteristic of Expeditor nose fuel cells and the instruction outlined above is to be brought to the attention of all servicing personnel.



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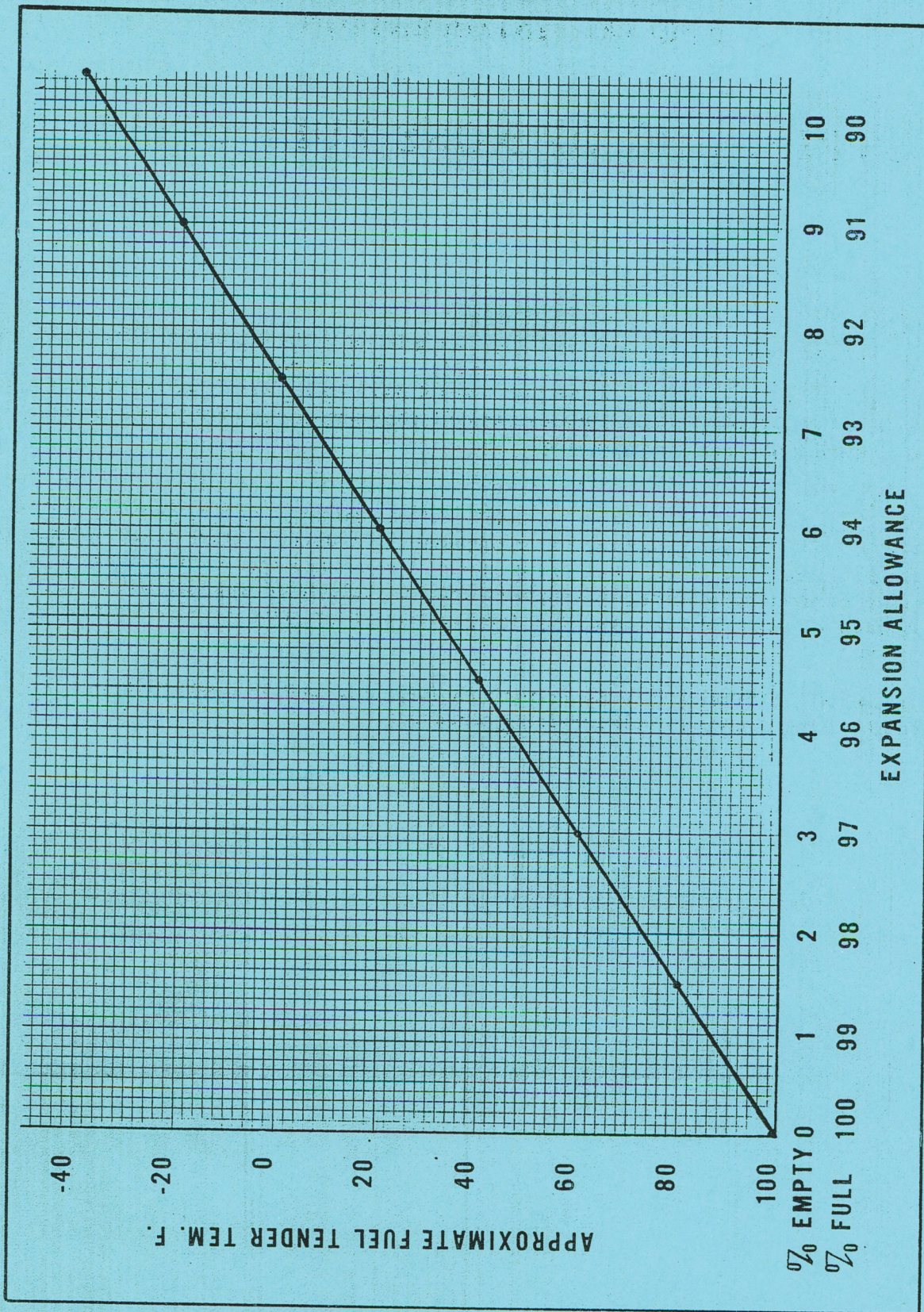


Figure 1

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SPECIAL INFORMATION

SIDETONE MODIFICATION

INTRODUCTION

1 Incorporation of the Sidetone Modification as per EO 05-45B-6A/27 involves terminals 3, 9, 10 and 12 of the rear radio junction box. Conflict arises in the assignment of terminals 9 and 10. The below tabulation indicates the possible configurations for substitution for terminals 9 and 10.

PROCEDURE

2 Proceed as follows:-

- (a) Terminals 9 and 10 vacant. Wiring may be accomplished as per EO.
- (b) Terminal 9 vacant and may be used. Terminal 10 previously assigned. Use terminal between #25 and 30 inclusive for terminal 10.
- (c) Terminals 9 and 10 previously assigned. Use terminals 30 and 32 in lieu of terminals 9 and 10 respectively.
- (d) Terminals 9 and 10 previously assigned. No spare terminals. Provide two auxiliary terminals or splice the wires assigned by the modification.

ADDITIONAL DATA

3 Since the aircraft were provided with spare wiring extending approximately 3 feet off of #10 bulkhead, sufficient wire should be available to reach any radio junction box terminal. Inspection of the individual aircraft rear radio junction box will reveal which of the above configuration of previous terminal assignment exists and the necessary action to install the Sidetone Mod.

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special information. Matter brought to attention of 1004 TSD



SPECIAL INFORMATION

IMPROVED WINTER OPERATION OF ENGINE CONTROLS

EQUIPMENT AFFECTED:

Expeditor 3

GENERAL

1 During the past several winters' operation of Expeditor 3 aircraft it has become evident that the performance of the engine controls, when OAT's of -20°C (-4°F) or lower are encountered, leaves much to be desired. Despite two seasons' testing by CEPE (Climatic Detachment), nothing short of substituting a control of completely new design has been suggested that would assure trouble-free operation. A number of suggestions for improved performance, however, have been put forward and this leaflet is intended to bring these to the operators' attention so they may be evaluated in use and the results, along with any further recommendations, passed to AMC for assessment.

INFORMATION

2 The throttle, constant speed, mixture and oil shutter controls appear to be only slightly affected by extreme low temperatures. The cowl flap and carburettor heat controls, however, are particularly prone to stiffness and often, seizure. It is with these two controls that this information will more specifically apply.

COWL FLAP SYSTEM

3 Repeated tests indicated that the greatest contributor toward the high resistance found in the cowl flap control was the cable itself. This was attributed to oil soaking of the cable housing and also to a build-up of hardened graphite powder accumulated through repeated lubrications in accordance with existing instructions.

4 Since the swaged ends of the cables make disassembly for proper cleaning impossible, the only positive corrective action is replacement of any cables found where sticking is attributable to the cable alone. To prevent oil soaking of serviceable cables it is recommended that the cable housings in the area of the engine and landing gear compartments be wrapped with polyvinyl chloride tape or sheathed in plastic tubing. The linkage and telescoping end fittings should be regularly cleaned and lightly lubricated with low temperature grease, Spec. 3-GP-683A. The portions of the flaps that bear on each other should also be periodically cleaned and lightly lubricated with low temperature grease. Further lubrication of the controls with powdered graphite in suspension should be discontinued; carbon tetrachloride or naphtha alone should be used to clean the cable and loosen the existing graphite.

CARBURETTOR HEAT CONTROL

5 This control may be found either completely seized or just stiff to operate. The former is due to freezing in the hot air valve assembly and the latter to conditions similar to that outlined for the cowl flap controls.

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6 With the aircraft in the tail down position the drain is not in the lowest portion of the valve. To overcome this, CEPE have recommended a new drain plate be fabricated with a shorter, larger diameter drain installed at the extreme lower edge of the plate and a groove filed in the casting to route moisture to the drain. The drain should be at approximately right angles to the plate rather than near horizontal. Since snow blowing into the air intakes and melting is the source of the water, it is recommended that when aircraft are parked outside in blowing snow conditions intake covers be fitted to prevent ingress of snow. These could be locally manufactured of heavy canvas with an elastic edging and a warning flag attached. Sticking controls should be treated in a manner similar to that outlined for the cowl flap controls above.

INSTRUCTION

7 Units are requested to apply as much of the above information as is felt necessary to their aircraft during the ensuing winter and report on their findings and recommendations via UCR at the conclusion of the cold weather season.

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SPECIAL INFORMATION

INSPECTION OF LANDING GEAR
ACTUATOR MOTOR GEAR

INFORMATION

1 The one gear receiving the least amount of inspection for wear on Expeditor aircraft is the bronze gear on the landing-gear actuator motor assembly. The reason for this lack of inspection is due to the gear being enclosed in a housing.

2 This inspection could be accomplished in conjunction with EO 05-45B-7A, FU403, #4 check, Section 1.

PROCEDURE

3 Proceed as follows:-

- (a) Remove the large inspection door under the cockpit in the center fuselage.
- (b) Disconnect the two wires to the actuator motor; remove the four bolts holding the motor to the gear housing and unfasten the strap.
- (c) While holding the motor have someone to operate the manual gear operation crank to back the worm and motor out of the housing.
- (d) Through the opening created by the removal of the motor and worm gear, inspect the gear with a flashlight and small inspection mirror for broken, damaged or worn teeth. The maximum allowable wear on the gear teeth is $1/32$ inch, see Figure 1.

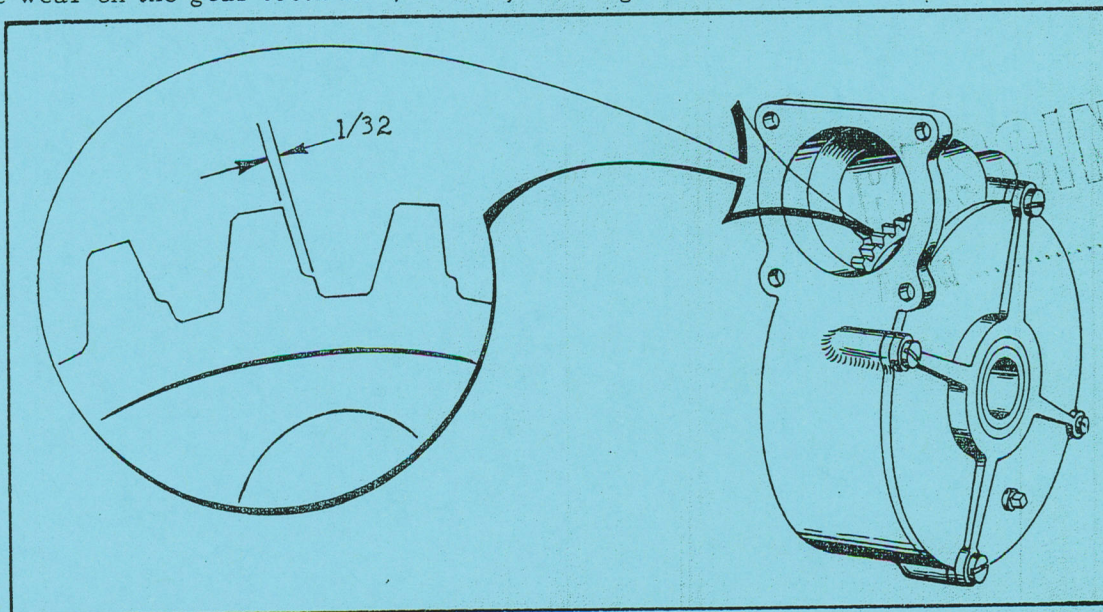


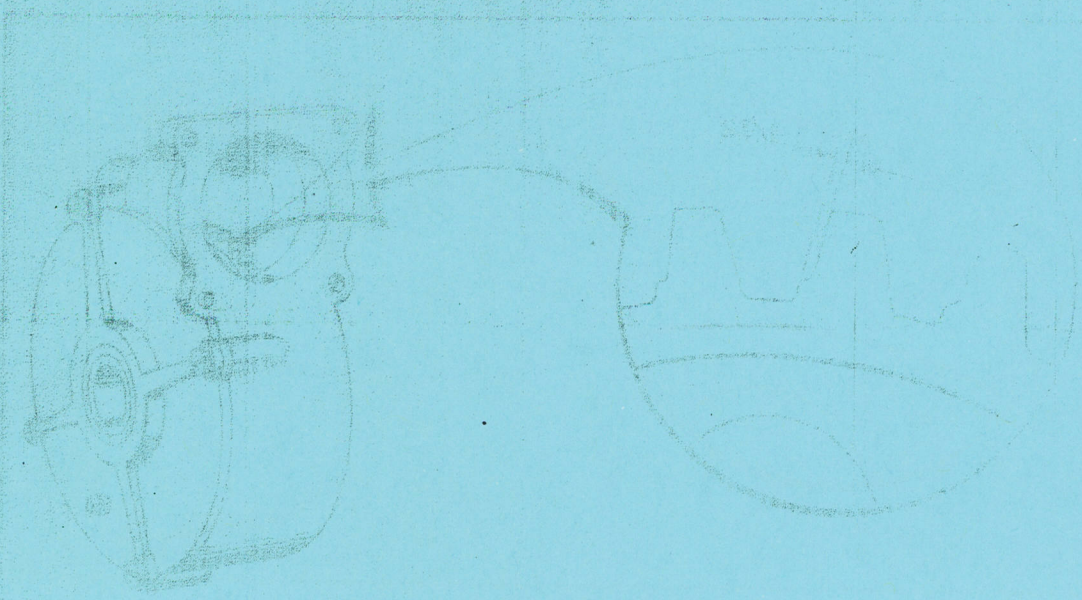
Figure 1

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PROCEDURE (Cont'd)

- (e) Check worm gear for roughness or scored, marred or otherwise damaged teeth.
- (f) If large gear is damaged or worn more than 1/32 inch it should be replaced, and if worm gear is damaged or rough enough to damage the large gear and cannot be polished, it should be replaced.
- (g) If gears are in acceptable condition, reassemble the units. Insure that sealing agent is spread over the surface of the gear housing against which the motor sets.

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SPECIAL INFORMATION

REMOVAL OF FUEL CONTENT TANK UNITS FROM EXPEDITOR AIRCRAFT

- 1 Repair and overhaul contractors are reporting many cases of unnecessary damage to potentiometers and wiper arms.
- 2 This damage is taking place during removal of the tank units from the aircraft.
- 3 Although removal of this unit requires the instrument technician to open the potentiometer housing and work all around the potentiometer, there is sufficient room with proper tools to remove the unit without damaging it.
- 4 Supervisors are to ensure that proper tools and methods are used in future removals and all personnel are cautioned in this respect.

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SPECIAL INFORMATION

NO. 3 BULKHEAD CUT-OUT

JUL 15 1955

1004 TSD

INFORMATION

1 A quantity of new master brake cylinder assemblies Part 694-187800, were procured from Beech Aircraft as spares and have been issued to units in satisfaction of high priority demands. These assemblies are to the latest Beech design and incorporate a rectangular plug at the cylinder forward end whereas previous designs had the plug located on the under side. This design change has resulted in a lengthened cylinder assembly which, on the pilot's and co-pilot's outboard cylinders, interferes with #3 bulkhead, see Figure 1.

INSTRUCTION

2 Wherever possible it is recommended that the above described cylinders be located in the inboard cylinder positions. However, when installation in the outboard position(s) is unavoidable a cut-out on #3 bulkhead is to be made as detailed in Figures 2 and 3

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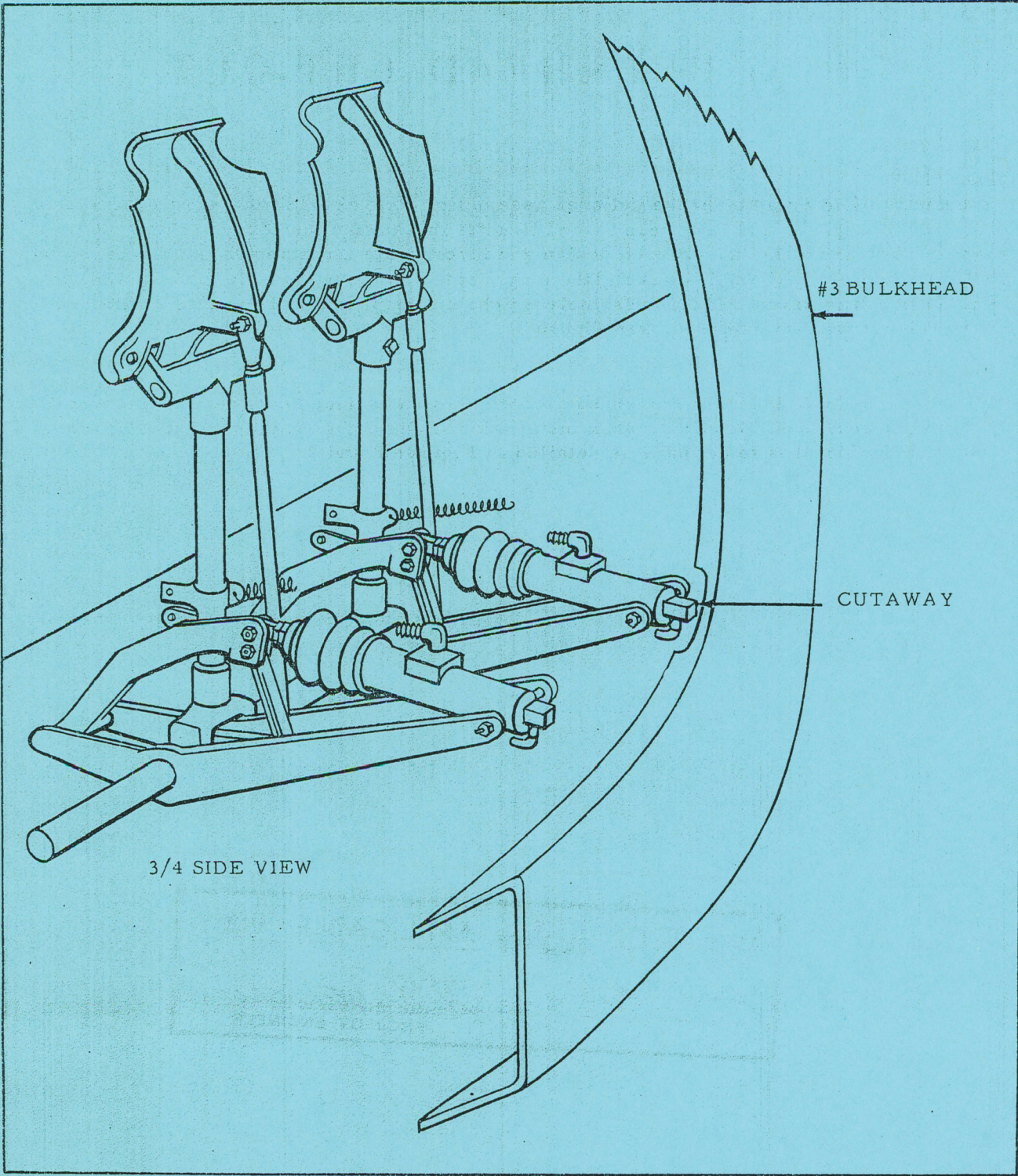


Figure 1

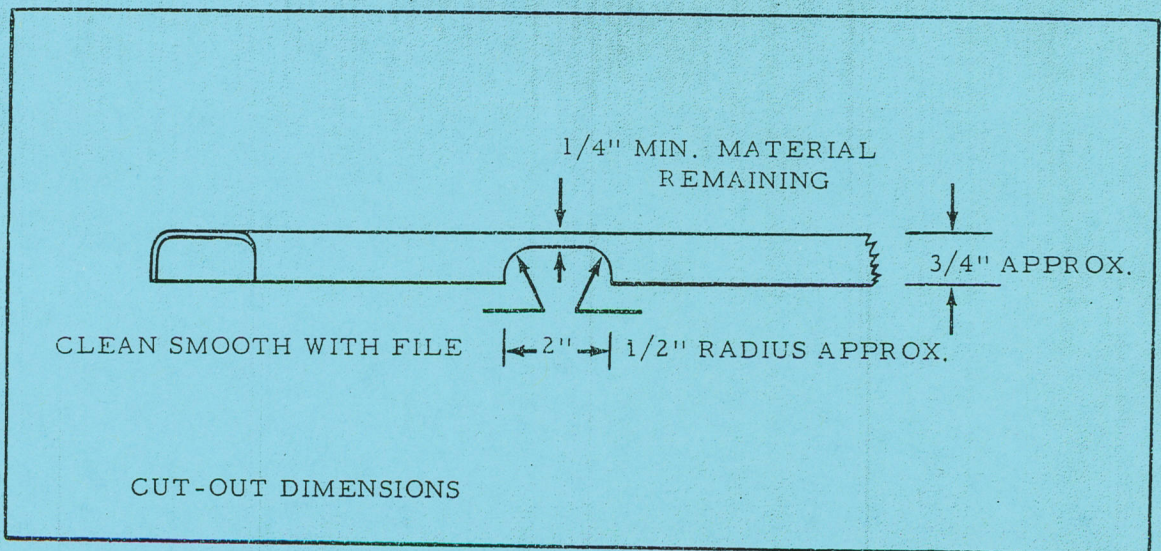


Figure 2

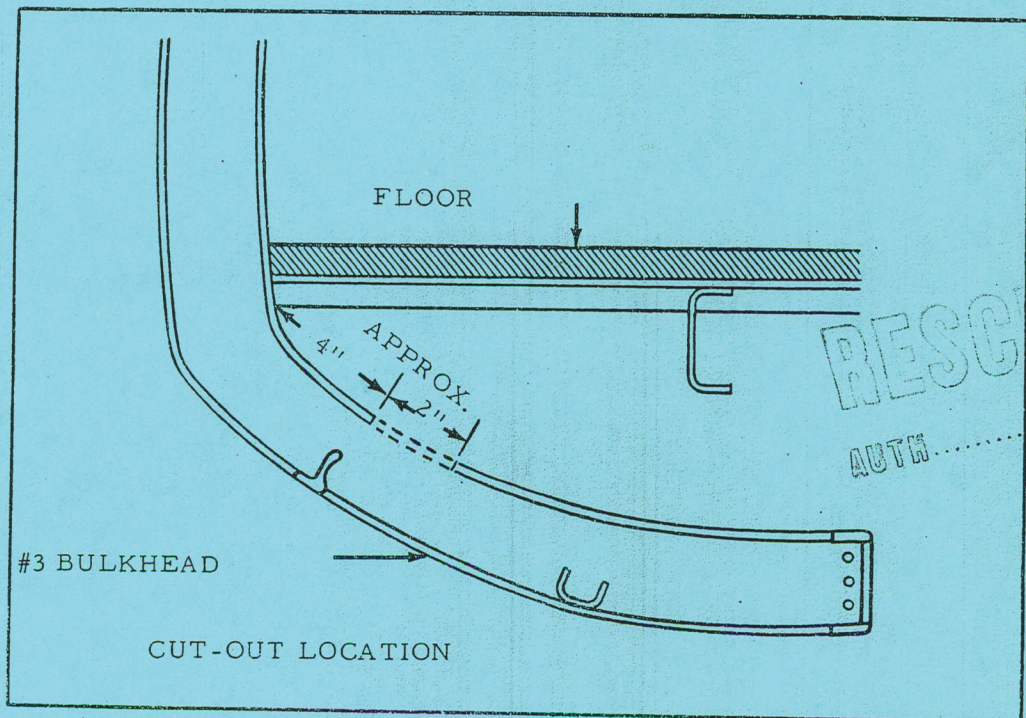


Figure 3

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SPECIAL INFORMATION

REPOSITIONING BRAKE TOE PEDALS

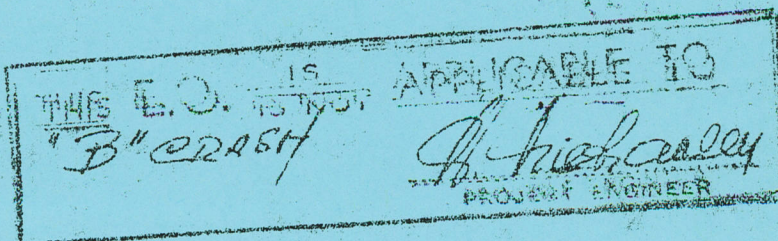
INFORMATION

1 The original positioning of the Expeditor 3 brake toe pedals is such that the angle formed by the toes, heel and knee of the pilot is acute. This creates an uncomfortable foot position during landing and taxiing when it is desirable to have the instep on the lower portion of the pedal and the toes on the upper; in fact some pilots will find this position impossible to assume without depressing the toe pedal due to a lack of ankle flexibility. In the latter case, control of the rudder and brake could be reduced during landings when complete control is desirable to avoid or correct swings.

2 To alleviate the conditions described above the manufacturer has outlined a rerigging procedure of the toe pedals that will increase the foot angle without unfavourably affecting brake functioning. This rerigging, however, may ONLY be carried out subsequent to installation of the Part 53088SG brake assemblies. Refer to modification leaflet EO 05-45B-6A/23.

3 Subject to the restriction mentioned in para. 2 above, the following adjustments may be made to achieve a more comfortable brakes-off position of the brake toe pedals:-

- (a) Remove the bolt that attaches the 404-187942 eyebolt to the toe brake pedal.
- (b) Screw the 404-187942 eyebolt into the 644-187944 rod until the measurement from the center of the attaching bolt hole in the 644-187944 rod is approximately $11 \frac{5}{16}$ ". This approximate dimension allows for variations in the installation of the brake system and the pilot's floor structure.
- (c) Attach the 404-187942 eyebolt to the toe brake pedal. The measurement from #3 bulkhead to the aft upper face of the toe pedal should be $10 \frac{3}{8}$ " with the pilot's and co-pilot's pedal brakes off and in neutral rudder position. If this measurement should be more or less than $10 \frac{3}{8}$ ", further adjustment may be made by altering the $11 \frac{5}{16}$ " measurement of the 644-187944 rod and 404-187942 eyebolt in the rod. The master cylinder length is to be adjusted to $7 \frac{5}{8}$ " from the center of its mounting hole to the center of the hole in the eyebolt fitting which attaches the 404-187827 master cylinder activating link.



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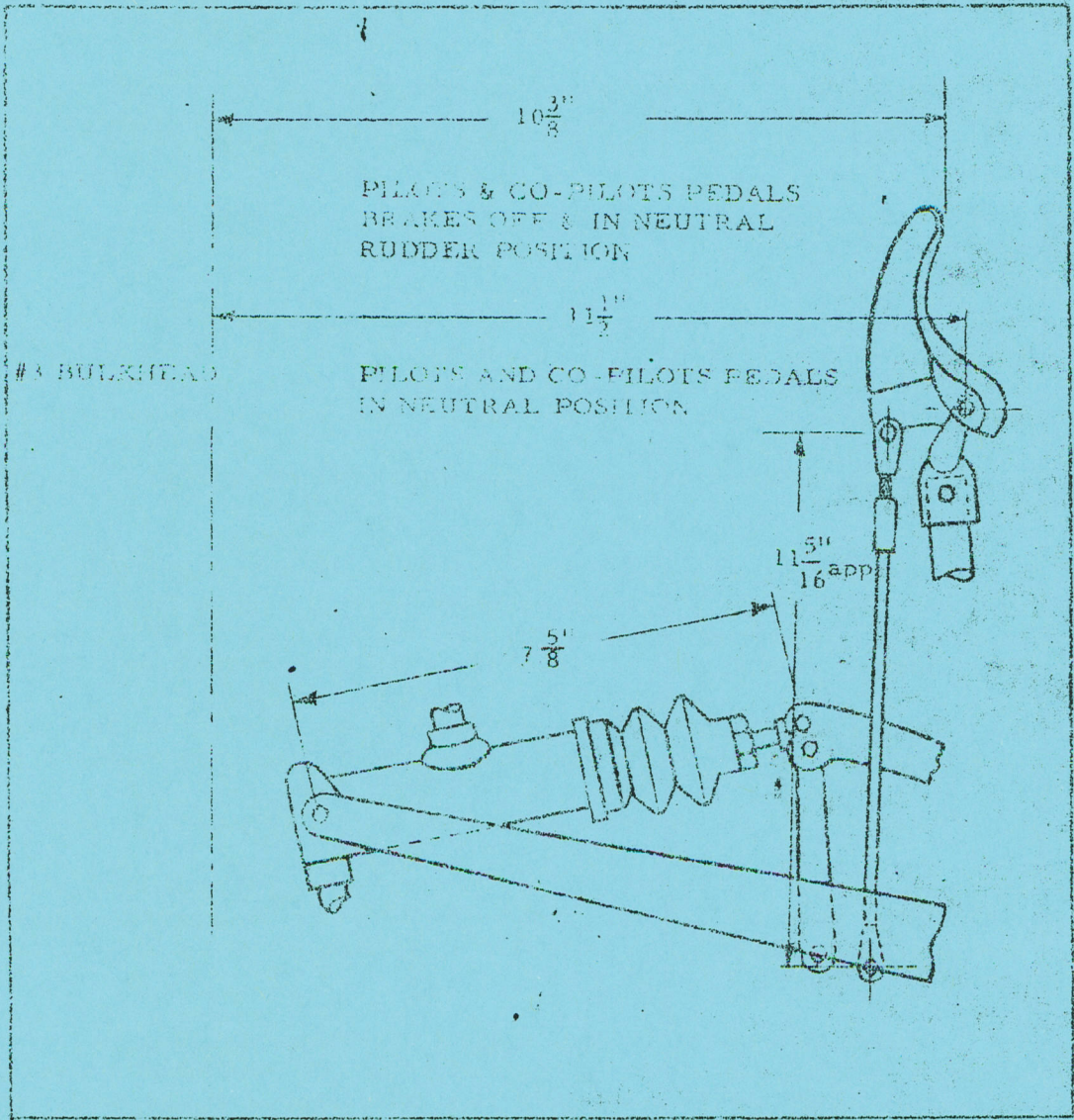


Figure 1

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SPECIAL INFORMATION 004 TSD

CLARIFICATION OF ENGINE COWLING INTERCHANGEABILITY

INFORMATION

1 The following information is pertinent when ordering replacement engine cowlings for Expeditor 3 aircraft:-

(a) The engine cowlings on Expeditor 3T models were modified from the old 185901 and 185903 assemblies to Part 185901 CO55863 and 185903 CO55861 assemblies. This modification was required to provide clearance for the full-feathering hydromatic propellers.

(b) Due to the different location of the S36-7 fastener assembly on the cowlings modified to CO55863 and CO55861 and the 404-185901 and 404-185903 cowlings, these assemblies can only be installed when used in pairs.

(1) The 185901 CO55863 upper cowling to be used only with the 185903 CO55861 lower cowling.

(2) The 404-185901 upper cowling to be used only with the 404-185903 lower cowling.

(c) One set of cowlings as in (b) (1) or (b) (2) can be interchanged on all models of Expeditor 3 when retained together as pairs.

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11 Jun 54

SPECIAL INFORMATION

MAGNETO INSTALLATIONS

INFORMATION

1 Changes in the type of magneto now furnished with engines to be installed in Expeditor Aircraft, and the necessity of using an AN4181-1 Induction vibrator as replacement for the VJR24B-BX vibrator, are apt to cause confusion when various combinations of magneto, harness assembly and vibrator are encountered.

2 Outlined hereunder are cases of all the possible combinations operating units will encounter when a change of magneto or vibrator type is necessitated.

Case #1

(a) Change of Bosch magneto to Scintilla where existing vibrator is a VJR24B-BX. - An immediate installation can be made by reworking the existing magneto switch wiring harness. This may be accomplished by removing existing wiring in the conduit and replacing with the wire supplied on the new magneto (when new magneto is fitted to an overhauled engine Ref. EO 10A-10-3AB. Some harness assemblies may require a lengthening of the conduit to reach the new magneto.

Case #2

(b) Change of Bosch magneto to Scintilla where existing vibrator is an AN4181-1. - This can be accomplished immediately by rework similar to Case 1 or replacing harness assembly with a reference 37A/869 or 37A/870 Part 644-180707 LH or RH respectively.

Case #3

(c) Change of Bosch magneto to Scintilla and a VJR24B-BX vibrator to an AN4181-1. - Replace existing harness with a reference 37A/869 or 37A/870 Part 644-180707 LH or RH respectively.

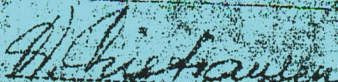
Case #4

(d) Change of VJR24B-BX vibrator to AN4181-1 with a Bosch magneto. - Replace existing harness assembly with a reference 37A/867 or 37A/868 Part 644-180599 LH or RH respectively.

Case #5

(e) Change of VJR24B-BX vibrator to AN4181-1 with Scintilla Magneto. Replace existing harness assembly with a reference 37A/869 or 37A/870 Part 644-180707 LH or RH respectively.

3 Many Scintilla magnetos are presently fitted to Expeditor Aircraft using an off-set ty radio shielding. For the past two years overhaul contractors have been instructed by AMC to convert R985 engines to a magneto installation using upright shielding. This standardization is necessary to reduce installation problems.

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4. Production of the VIR24B-BX vibrator has been discontinued necessitating standardization to the AN4181-1.

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*Rescinded
May 5/59*

SPECIAL INFORMATION

PARKING BRAKE CONTROL ASSEMBLY
- MISHANDLING

INFORMATION

1. A recent survey of the consumption figures for Expeditor 3 parking brake control assemblies, Part 404-187905-4, reveals these are failing at an excessive rate and all failures are attributable to mishandling rather than faulty material or design.
2. The T handle of the parking brake control merely closes a valve in the parking brake, and once the pressure on the brake pedals is released the resultant pressure of trapped fluid will retain the valve in a closed position. It is not necessary to use more than finger tip pull to move the control to its extreme position thus closing the valve. Twisting the handle while pulling is not only unnecessary, it is bound to result in premature failure since the control was designed for strictly "push-pull" movement.
3. It is requested the correct procedure for setting parking brake as detailed in EO 05-45B-1 Part 1, para. 35, and the information outlined above be brought to the attention of all applicable ground and aircrew personnel.

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SPECIAL INFORMATION

SHUTTLE VALVE A42

REF 27VA/1850

EQUIPMENT AFFECTED:

Expeditor 3

GENERAL

- 1 The A22 shuttle valve as used on Expeditor Aircraft is being replaced by an A42 valve which is of a sturdier construction and is held under the same reference number as the A22 (27VA/1850).
- 2 To install the A42 shuttle valve, the reducer adaptor in the casting is to be taken out. The A42 valve is screwed in the casting until it "bottoms" then backed off 1/2 turn.
- 3 To lock the valve in position use AN924-8D nut.
- 4 Ensure that the ring seal AN6290-8 is in position between the lock nut and face of the casting prior to installation of the A42 valve.

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2702

SPECIAL INFORMATION

SHUTTLE VALVE A42

REF 27VA/1850

EQUIPMENT AFFECTED:

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GENERAL

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8 Dec 53

SPECIAL INFORMATION
 UNDERCARRIAGE LOWER LIMIT
 SWITCH ADJUSTMENT

*Replaced by
45B-2*

INFORMATION

1 The instructions for adjustment of the undercarriage lower limit switch presently contained in EO 05-45B-2, Reference Part 2, Section 9, para. 7, are considered to be not sufficiently explicit to prevent minor adjustment discrepancies which could result in abnormal stress on the torque shafts and motor mechanism of the undercarriage retract system.

2 Pending revision of EO 05-45B-2 further clarifying the instructions for adjustment of the undercarriage lower limit switch, the following is to be brought to the attention of all applicable personnel.

(a) To adjust undercarriage lower limit switch, proceed as follows:-

(1) Support aircraft on jacks so all wheels are clear.

(2) Retract gear electrically to upper position and then lower electrically to the lower position. The slide should contact the stop firmly at the bottom of the slide tube, but not with a hard impact.

(3) If the slide hits the stop too hard, retract the gears two or three inches from the lower stop and relocate lower switch mounting bracket slightly forward. If the slide does not hit the stop firmly locate the switches aft. Retract gears electrically and check the upper limit switch setting again. Extend gears electrically and check lower switch setting. Continue until switches are set correctly.

CAUTION

RESCINDED

Do not set the lower limit switch to impose an abnormal stress on the landing gear torque shafts and landing gear motor mechanism. To check the load make a mark across the clutch teeth and release the clutch. The resulting "spring-back" of the clutch engaging teeth should be no more than 1/2 the width of one tooth. If this is exceeded, relocate the lower switch mounting bracket slightly forward.

(4) Tighten bolts securely holding switch and bracket.

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SPECIAL INFORMATION

EXPEDITOR RUDDER TRIM INDICATOR
UNRELIABILITY

INFORMATION

1 Reports from some operating units have indicated that the existing rudder trim indicator mechanism is very difficult to maintain in a serviceable condition. A modification to replace the existing phonograph needle and record type mechanism with a gear chain mechanism is being processed. Kits to modify all aircraft are on order.

INSTRUCTION

2 In the interim, at the discretion of the C Tech O and senior flying personnel, Expeditor 3 aircraft having chronic rudder trim indicator unserviceabilities are to be placarded to advise the operators to disregard the indicator. Trim may then be checked by counting adjuster turns.

3 It is considered that a major source of unserviceabilities of this item is the rough use of the adjuster. All personnel should be cautioned to use reasonable care in operating the tab mechanism and to guard against striking the stops at each end of travel with undue force.

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290-210

SPECIAL INFORMATION

ADJUSTMENT OF FLAP LIMIT SWITCHES

(This EO replaces EO 05-45B-5A/13 dated 27 Nov 53)

*Replaced by
EO 05-45B-2*

INFORMATION

1 The data presently contained in the Expeditor Maintenance and Description Instructions regarding the adjustment of the flap limit switches is incorrect. (Reference EO 05-45B-2, Part 2, Section 5, para. 15, issue dated 15 Aug 51).

INSTRUCTION

2 The above referenced para. 15 is to be locally amended to read as follows:

- (a) Adjustment of Flap Limit Switches - Adjustment of the flap limit switches is made by changing the position of the adjustable actuator bolt located on the travelling arm (refer figure 2-43). The amount of adjustment varies with the make of flap mechanism motor. Wherever it is possible the limit switches are to be set while using an external power supply rectifier delivering 28 volts which is equivalent to the voltage delivered by the aircraft generators.
- (b) Dumore Motor - The adjustable actuator bolt of flap mechanisms incorporating this make of motor should be adjusted to actuate the limit switches and stop the motor at a distance of one half turn of the hand crank from both the up and down stops.
- (c) Lamb or Black and Decker Motor - The down limit switch for both these makes of motors should be adjusted to actuate at a distance of one-sixth of a turn of the limit switch actuator screw shaft from the down stop. The up stop is to be adjusted to actuate the upper limit switch a three-sixths of a turn of the limit switch actuator screw shaft from the stop.

NOTE

The above adjustments are calibrated in sixths due to the presence of the hex-nut that rotates on the screw shaft. Each corner of the hex represents a sixth of the circumference when rotated and therefore presents a convenient and simple method of calibrating actuator travel.

(d) The limit switches are accessible through the access door in the pilot's compartment floorboard. The applicable settings should be adhered to closely; if the stops are contacted before the limit switches are actuated, excessive strain will be put on the system and premature failures will result. Loosen the jam nuts on the actuator bolts and change their length as required.

3 All applicable maintenance personnel are to be made aware of this information prior to carrying out a check of the flap limit switches on the next minor inspection.

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<i>ONLY</i>	<i>H. H. Johnson</i>
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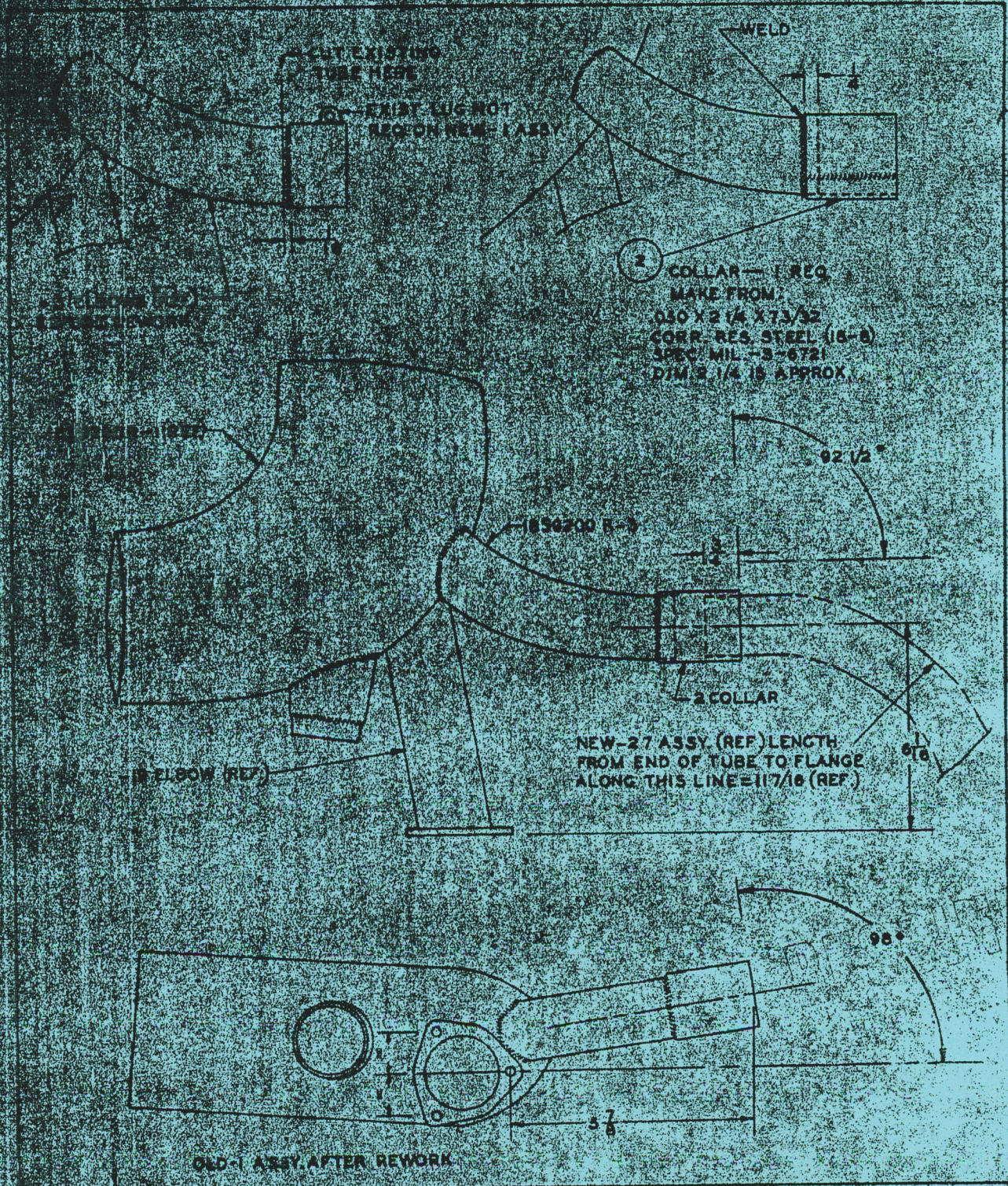


Figure 1

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REVISIONS

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(a) Cut the -3 elbow and weld on a new collar made from corrosion resistant steel, Spec MIL-S-6721, RCAF Ref. 30B/1591, .050 x 2 1/4 x 7/32 to dimension shown in Figure 1.

2. Permit the use of the old -1 assembly when it becomes necessary to replace the old -2 elbow the following rework will be carried out:-

INSTRUCTION

1. A minor change in the 18S9200R exhaust collector ring assembly has destroyed the interchangeability of the present exhaust system. The new 18S9200R-27 elbow assembly is slightly shorter and the new 18S9200R-1 elbow of the 18S9200R-1 segment assembly is longer than previously. Thus the new 18S9200R-27 elbow assembly will not fit the old 18S9200R-1 segment assembly. This was accomplished without a corresponding change in part number permitting old and new stock to be held under the same part number.

INFORMATION

SPECIAL INFORMATION
EXPEDITOR EXHAUST SYSTEM
INTERCHANGEABILITY

SPECIAL INFORMATION

EXPEDITOR EXHAUST SYSTEM
INTERCHANGEABILITY

INFORMATION

1. A minor change in the 18S9200R exhaust collector ring assembly has destroyed the interchangeability of the present exhaust system. The new 18S9200R-27 elbow assembly is slight shorter and the new 18S9200R-3 elbow of the 18S9200R-1 segment assembly is longer than previously. Thus the new 18S9200R-27 elbow assembly will not fit the old 18S9200R-1 segment assembly. This was accomplished without a corresponding change in part number permitting both old and new stock to be held under the same part number.

INSTRUCTION

2. To permit the use of the old -1 assembly when it becomes necessary to replace the old -2 elbow the following rework will be carried out:-

(a) Cut the -3 elbow and weld on a new collar made from corrosion resistant steel, Spec MIL-S-6721, RCAF Ref. 30B/1591, .050 x 2 1/4 x 7/32 to dimension shown in Figure 1.

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SPECIAL INFORMATION

USE OF FIXED AILERON TABS

INFORMATION

1 Due to slight variances of the center section of some Expeditor 3 aircraft, the contractor found these required an excessive movement of the adjustable tab to obtain level flight. To obviate this condition the contractor fitted an auxilliary fixed tab on the trailing edge of both ailerons. These were bent sufficiently to permit level flight under normal conditions with little or no movement of the adjustable tab from neutral. On approximately the last hundred aircraft manufactured and on all spare ailerons, riv-nuts were installed to provide for fitment of fixed tabs if found necessary.

2 Service testing and investigation of the tabs has indicated that they may be safely used if of the proper dimensions and if maximum setting angles are not exceeded.

INSTRUCTION

3 Operators of Expeditor aircraft may install fixed aileron tabs to RH and LH ailerons when an excessive movement of the adjustable tab is necessary to obtain level flight.

INSTALLATION DATA

4 Where it is necessary to fit auxilliary fixed tabs and no provision has previously been made on the ailerons for fitment, the rework data is as follows:

- (a) Lay-out position of riv-nut holes per Figure 1.
- (b) Cut holes in lower side of aileron fabric large enough to allow riv-nut heads to nest on trailing edge structure.
- (c) Drill trailing edge and install 6K75, RCAF Ref. 28/14958, riv-nuts.
- (d) Patch fabric on upper side.
- (e) Manufacture tabs per Figure 2 and install using AN526-632-6, RCAF Ref. 28/10010 screws.
- (f) The tab setting angles are to be determined by test flight of the aircraft under normal loading conditions and the adjustable tab in neutral.

WARNING:- A maximum angle of 20 degrees up or down for each tab shall not be exceeded.

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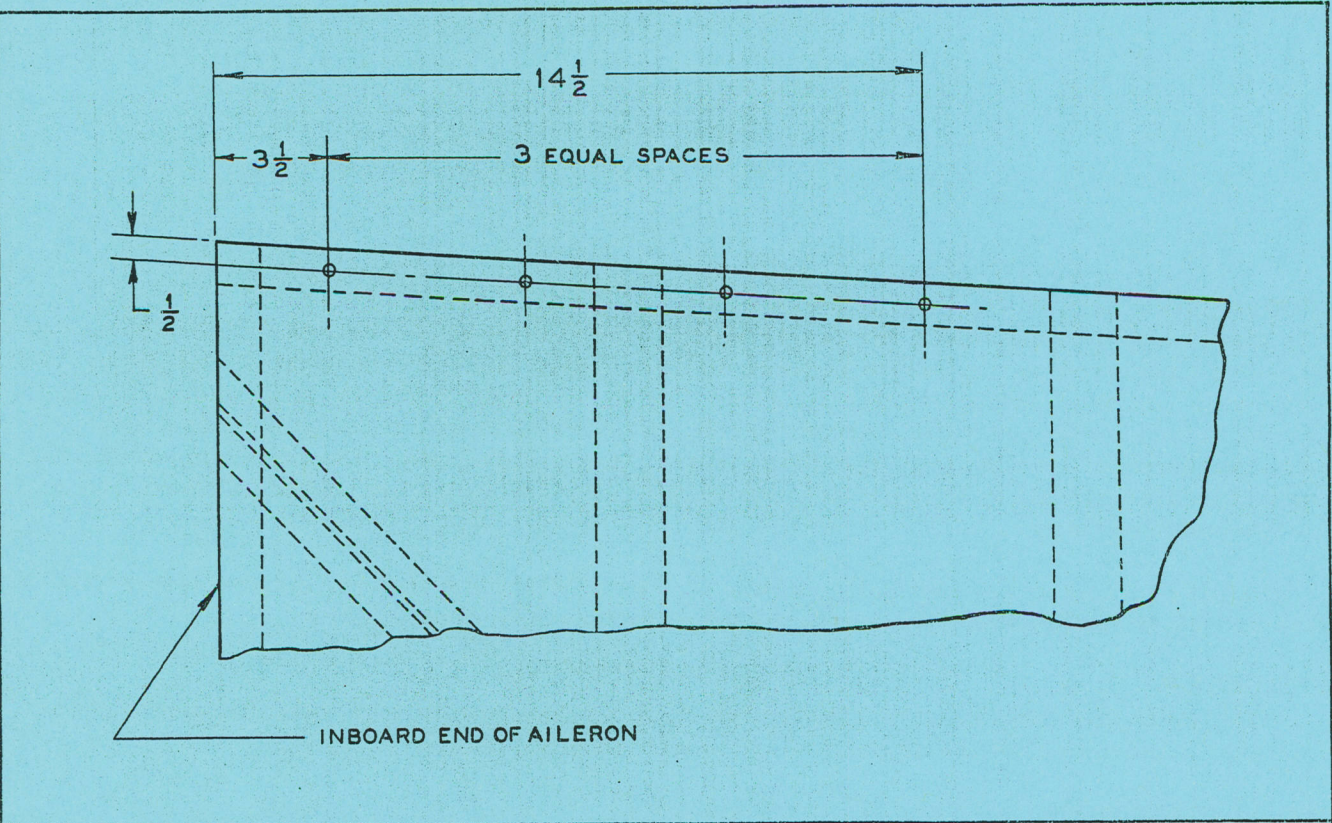


Figure 1

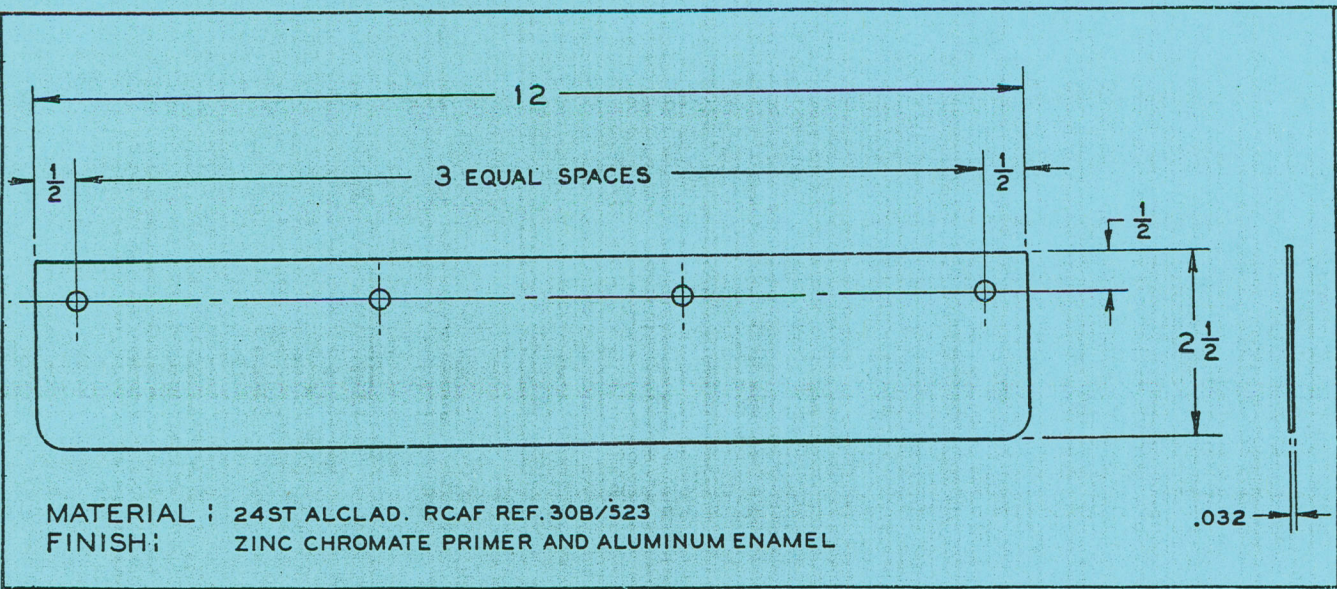


Figure 2

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5/ May 57

SPECIAL INFORMATION

MAGNAFLUX INSPECTION OF AN BOLTS

(This EO replaces EO 05-45B-5A/10 dated 9 Oct 53)

INFORMATION

1. Bench engineering drawings specify that many AN bolts used in the Expeditor aircraft are to be 100% magnaflux inspected before use. These bolts are listed in EO 05-45B-4 under their regular AN number with the suffix (M) added and may be physically identified by the letter "M" etched or stamped on the bolt head.

2. Magnaflux inspected bolts are a requirement of Specification MIL-I-6870 which directs that all bolts 1/4 inch and over in nominal diameter, of ferro-magnetic materials and for which the specific minimum hardness is above Rockwell C-26, shall be 100% inspected. Bolts such as described are to be found in assemblies bearing considerable strain and where failure would adversely affect airworthiness; i. e., engine bearers, undercarriage, control pulleys, etc.

3. The risk of inadvertent replacement of the magnaflux inspected bolts with stock non-inspected AN bolts is readily apparent when maintenance personnel are uninformed.

INSTRUCTION

4. When replacement of 1/4" or over ferrous bolts is necessary, EO 05-45B-4 is to be consulted to determine if the bolt in question bears the suffix (M). If it does a section 28/ replacement bolt shall be selected and magnaflux inspected for cracks using RCAF Reference 36P/S-435 electro-magnetic crack detector (now available at all Expeditor user-units). Upon passing inspection the letter "M" is to be stamped or etched on the bolt head.

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AMC/SACO/ACR



SPECIAL INFORMATION
INSTALLATION
OF WINDSCREEN FROST SHIELDS

INFORMATION

1 The present windscreen defrosting facilities of the Expeditor aircraft have been found inadequate during operations in sub-zero temperature conditions. To obviate this condition plastic frost shields (similar to the type commonly used on ME vehicles) have been procured and operating units in areas where sub-zero winter temperatures are prevalent are urged to submit demands covering their UE aircraft as soon as possible.

2 A complete set sufficient for fitment of one aircraft is comprised of the following:-

RCAF REF.	PART	DESCRIPTION	QUANTITY
26JU/21861		Frost Shield, Side Window	2
26JU/31703		Frost Shield, Center Front Window	1
26JU/31709		Frost Shield, Co-Pilot Side Window (Triangular)	1
26JU/31710		Frost Shield, Pilot Side Window (Triangular)	1

INSTALLATION INSTRUCTIONS

3 The frost shields are to be installed as follows:-

- (a) Shields and windscreen must be dry and warm. Installation is not to be carried out in hangar where the air is damp from washing aircraft or other similar operations.
- (b) Thoroughly clean windscreen and windows with a good quality cleaner. Polish glass surface with a soft dry cloth, ensuring area cleaned is left perfectly dry.
- (c) Remove the tape from the frost shield gasket and install shield at desired position at the same time exerting a slight pressure around the entire rubber gasket surface to ensure contact at all points. Support in this position for a few seconds to obtain a proper seal.
- (d) An application of clear cellulose enamel or lacquer along the outer edges after installation is an added preventative against fogging or seepage of condensation under the gasket.

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SPECIAL INFORMATION

VISUAL INSPECTION OF UNDERCARRIAGE CLUTCH FOLLOWING MANUAL OPERATION

INFORMATION

1 The Expeditor undercarriage is such that a lock in the down position is dependent upon the geometric design and the irreversible worm and gear of the motor gear box. It has been determined that following a manual operation of the undercarriage the subsequent release of the clutch does not always engage the clutch teeth. This, coupled with other extreme conditions such as heavy landing or harsh braking, could result in a slight retraction of the undercarriage until the spring loaded clutch release assembly engaged permitting the worm and gear to form a lock. Engagement of the clutch teeth after this slight rotation of the torque shafts will move the slide assemblies a slight distance up and away from the down stops thereby reducing the safe angle of the geometric lock. The reduced effectiveness of the geometric lock and increased strain on the nacelle retract chains during extremely rough handling conditions could result in premature retraction of the undercarriage.

INSTRUCTION

2 After lowering of the landing gear by manual operation and when the crank cannot be turned further, release clutch and rock the hand crank back and forth until the clutch pedal comes back against the floorboards, indicating that the clutch is completely engaged. Complete engagement is to be verified by visual inspection of the landing gear clutch through the inspection panel on the pilot's compartment floor. Where the electrical system is still in operation and the manual lowering is a test or demonstration, an electrical down selection is to be made with the power on to ensure complete lowering of the slide assemblies against the stops.

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SPECIAL INFORMATION

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BATTERY MASTER SWITCHES

INFORMATION

1 The purpose of this EO is to bring to the attention of operating units the intermittent operation of battery master switches on Expeditor 3 Aircraft.

2 If failure should occur in flight, pilots should be aware that by operating the switch off and on several times it will in most cases make contact and operate the battery circuits. Any switches found to be operating intermittently should, of course, be replaced.

3 Records show that the battery master switches that have failed were invariably installed by the manufacturer. Switches obtained from RCAF for replacement have proven satisfactory which indicates that this problem should not be encountered too much in the future.

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AMC/SACO/ACA

General Jones



8 Jun 53

SPECIAL INFORMATION

PIPING AND ELECTRICAL WIRING

Replaced by
#B-6B/11

INFORMATION

1 The intention of this order is to bring to the attention of operating units the general unsatisfactory condition of piping and electrical wiring and conduiting in Expeditor 3N, 3TM and 3MN aircraft, which has resulted in numerous instances of chafing and fretting.

2 During inspections, particular attention should be paid to inspecting for signs of chafing of the following:

(a) Electrical wire bundles behind the instrument panel where they might rub on tubing or structure.

(b) Electrical wiring and conduiting in and around the battery compartments especially where lying on the bottom of the mainplanes.

(c) Electrical wires between fire detection thermocouples, especially in the engine nacelles.

(d) De-icer bootlines passing through wing root rib lightening hole in the engine nacelles.

(e) Piping in and about the battery compartment where it may be bearing on the structure or other tubes.

3 Temporary rectification action at the unit should consist of taping or the use of a rubber buffer at points of wear or, also, in the case of tubing, slight bending to provide clearance.

4 A program for permanent rectification will be initiated by AMC. The permanent rectification will consist mainly of installing sufficient approved clamps and grommets to provide adequate support and protection. It is anticipated that this program will be underway by 15 June 53. In the meantime, airframe and electrical personnel should be constantly on the alert for signs of abrasion throughout the entire aircraft.

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SPECIAL INFORMATION INSTALLATION AND FITTING OF ENGINE COWLINGS

INFORMATION

1 Reports from Operating Units indicate a high rate of failure of the cowl support brackets, Part 18S592-1 and -2. The contractor advises the failure of these brackets is not due to a too light construction, as previously suspected, but is caused by subjecting the cowl to a pre-load condition. This condition will exist if the cowl is being fitted too tight. It is therefore considered extremely important that personnel required to remove and replace engine cowlings are thoroughly familiar with the following instructions.

INSTRUCTIONS

2 The instructions are to be carried out as follows:

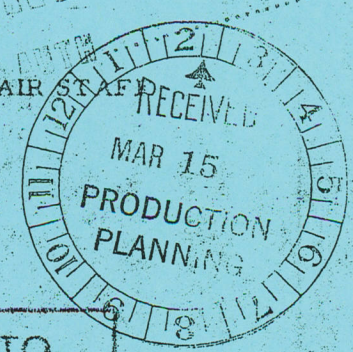
(a) The mating surfaces of the front cowl fastener assemblies should be filed as required to permit the fastener lever arm to be operated by hand to the locked position. This filing is necessary only in instances where the mating surfaces of these fasteners contact so tightly that it is impossible to move the fastener lever arm to the locked position by hand with a moderate amount of effort.

(b) The turnbuckles on the S-36 cowl fastener assemblies should be adjusted to a maximum tightness sufficient to cause the extrusion channel formers along the mating surface of the upper cowl half to rest against the extrusion channel formers along the mating surface of the lower cowl half. Further tightening of the cowl fastener assembly turnbuckles will only throw excessive strain on the cowl fasteners and the cowl skin in the area of the cowl fastener attaching points.

(c) The turnbuckles on the cowl fasteners which attach the wrapper sheets should be adjusted to a maximum tightness sufficient to cause the extrusion channel reinforcements on the upper ends of the wrapper sheets to rest against the extrusion channel formers on the upper half of the cowl. This adjustment should be made with the wrapper sheet support assemblies on the former ring positioned so that they do not contact the wrapper sheet. After making this adjustment the wrapper sheet support assemblies should be adjusted so that they exert moderate pressure on the wrapper sheet and cause the trailing edge of the cowl to rest firmly upon the former ring. They should not be tightened to such an extent as to deform the wrapper sheet or throw excessive strain on the cowl.

3 Engine cowl should be fitted so that installation without the use of special tools is possible.

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*Replacement
45B-5A/31*



SPECIAL INFORMATION

PROTECTION OF ENGINE INNER COWL SEALS

GENERAL

1 The upper section of the inner cowl seals, Part 84-185896, are prematurely deteriorating due to the heat of the exhaust collector ring. The collector ring, at this point, is not covered by the heater muff and therefore gives off more heat than at the side inner cowl seal stops.

PROCEDURE

2 To obviate this condition a strip of asbestos tape, (of suitable width and length to adequately cover the area of possible deterioration) may be attached to the inner side of the seal using bifurcated rivets or heavy duty staples.

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SPECIAL INFORMATION

(GYROSYN COMPASS NAVIGATION SYSTEM WIRING)
(This E.O. replaces EO 05-45B-5/22 dated 9 Feb. 53)

INTRODUCTION

1 This Engineering Order details the wiring changes necessary in the Gyrosyn Compass Navigation System for conversion of the Expeditor 3NM to 3TM role or for suitable operation of the gyrosyn compass in 3N or 3NM aircraft, when Ref. 6A/1361, Master Indicator, MK4B and Ref. 6A/1262, Amplifier are not being used.

PROCEDURE

2 To accomplish the required wiring changes, proceed as follows:-

- (a) Remove Ref 6A/1361, Master Indicator and/or Ref. 6A/1362, Amplifier, if installed.
- (b) Disconnect wire F1020 from terminal number 3, in the navigation instrument junction box, (Refer to EO 05-45B-2, Fig. 10-3, Item 6, located aft of the co-pilot's seat and re-connect to terminal number 13.
- (c) Wires F1103, F1104, and F1012, (not shown in EO 05-45B-2) which are connected to terminals numbers 20, 21 and 22 in the a/m junction box, are to have their free ends (presently taped back) connected as indicated below;
Wire F1103 from terminal number 20 to terminal number 16.
Wire F1104 from terminal number 21 to terminal number 14.
Wire F1012 from terminal number 22 to terminal number 15.

NOTE

If the above jumper leads are not installed they are to be manufactured locally and connected

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in accordance with this Engineering Order.

ADDITIONAL DATA

3 In some instances the Gyrosyn Compass System in Expeditor 3M Aircraft has been found to be incorrectly wired. To ensure that the system is correctly wired proceed as follows:

(a) Check for continuity between pin number "2" of the C-2 master indicator connector and pin "M" of the C-2 amplifier.

(b) If continuity exists in the above circuit, the system is correctly wired for the Model TM Aircraft role.

(c) If this circuit is not continuous, remove wire number F-1020 from terminal number "3" in the navigation instrument, junction box and reconnect to terminal number "13".

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10 Mar 53

SPECIAL INFORMATION

SETTING OF "NORMAL" POSITION ON
ANTI-ICER RHEOSTAT CONTROL

INFORMATION

1. Experience has indicated that, if the anti-icer rheostat on Expedition 3 Aircraft is turned too far in a clockwise direction, the anti-icer pump is liable to stall.
2. A placard on the panel of the aircraft indicates the position of the rheostat for "normal" operation of the pump. Experience has shown that when the anti-icer pump or the rheostat is replaced, the position for "normal" operation usually changes.

INSTRUCTIONS

3. When changing pumps or rheostats the following procedure is to be carried out:
 - (a) Locate "normal" point of rheostat at approximately 21.5 ohms resistance if Adel anti-icer pump is installed or at 14 ohms if Weldon anti-icer pump is installed.
 - (b) With voltage at 28.5 volts, adjust the check valves to obtain normal flow of 3 1/2 to 3 3/4 quarts/propellor/hour.
 - (c) Check for maximum flow of 5 quarts/propellor/hour or more.
 - (d) If maximum flow cannot be obtained, relocate "normal" point of rheostat, i.e. move "normal" point clockwise, and repeat (b) and (c).
 - (e) Affix a suitable placard to indicate the "normal" position.

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A. J. Anderson
PROJECT ENGINEER

Prepared By:
AMC/SACO/ACA 2



29 Jan 53

SPECIAL INFORMATION

"This is an Advance Engineering Order carrying the full authority of A.F.E.Os. This format is adopted to provide necessary technical information as early as possible to operating units and will be incorporated in EO 05-45B-7A at the next revision".

INSTRUCTIONS FOR DESLUDGING OF EXPEDITOR 3
(Hamilton Standard 22D30) HYDROMATIC PROPELLORS

INFORMATION

1. Experience has indicated that hydromatic propellers as fitted to Expeditor 3 aircraft require periodic desludging.

INSTRUCTIONS

2. The Hamilton Standard 22D30 Hydromatic Propeller is to be desludged on every major inspection as follows:
 - (a) Remove the dome assembly and check the retaining nut for tightness.
 - (b) Partially disassemble the dome by removal of stop rings and shell from the cams.

NOTE

DO NOT DISMANTLE THE PISTON AND CAMS.

- (c) Thoroughly clean the exposed components of all sludge and carbon deposits by flushing with cleaner fluid (3GP-8 RCAF Ref 33C/182).
- (d) Examine the exposed hub components and distributor valve assembly for galling and damage.
- (e) Lubricate all parts with clean engine oil and reassemble.
- (f) Check the dome shell attaching screws for distortion and stretch.

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