Chapter 4

DUNLOP HYDRAULIC BRAKE UNITS

(Inorganic pads and segmented plates)

1. This chapter contains information to guide personnel in the repair of certain hydraulic brakes, fitted with inorganic pads and segmented plates, that have been made unserviceable through wear or damage.

2. Each brake repair is normally given the code letter "RP" followed by the repair number. If this is not so, the repair is covered under an appendix number. The repairable brakes are listed in the list of Brake Units and Relevant Repair Schemes and the RP and relevant Volume 1 appendix numbers are given in the adjoining columns. Details of any special tools and repair parts which are fundamentally similar are given in Tables that follow the latest repair scheme issued.

3. The repairs are generally confined to the reclamation of stator assemblies and rotor assemblies which have become badly worn or distorted during service. The basic schemes are detailed in Appendices 1 and 2.

4. Other repairs may involve the restoration of damaged cylinder bolt attachment poles, the bushing of worn or damaged torque plate bolt holes, and the repolishing of worn or scored cylinder walls.

5. It should be noted that where no tolerances are given for certain dimensions shown on the repair drawings, the following limits will apply:— $\pm 0{\cdot}005$ in. for dimensions shown in decimal figures, $\pm 0{\cdot}015$ in. for dimensions shown in fractional figures.

Appendix 1

REPAIR OF BRAKE PLATE STATOR ASSEMBLIES

Introduction

1. Stator assemblies which are unserviceable in respect of defective brake pads may be reclaimed in accordance with the following instructions which detail the procedure for the fitting of new pads.

2. Normally the requirement will be to renew complete sets of pads per plate, but the renewal of individual pads which are defective for reasons other than wear is permitted.

3. When individual pads are to be renewed, the new pads before being fitted, must be ground to the average thickness of the pads remaining on the relevant face of the stator plate and to a tolerance of $\frac{0{\cdot}000}{0{\cdot}005}$ in. Defective pads on the double stator assemblies cannot be renewed singly; the mating pad on the opposite face of the stator plate, irrespective of condition, must be replaced by a new pad which must first be ground to the average thickness of the pads on that plate.

Method of repair

(1) Drill centrally through the pad retaining rivets using a drill of (*A*) in. dia. (Table 1). Prise off the pads and remove the rivets.

(2) Make a visual examination of the stator plate for evidence of cracking. A component which is defective in this respect is not repairable and must be rejected.

(3) Using a smooth file, carefully remove any burrs formed on the side face of the tenon slots. No attempt must be made to file and dress the abutment faces of the tenons.

(4) Place the stator plate flat on a surface plate and check that a 0·012 in. thick feeler cannot be inserted under any section of the plate. When the amount of dishing exceeds this limit, the plate must be flattened by a process of heat treatment.

(5) Clamp tightly the dished stator plate within the clamping plates (Table 1) and then normalize it at a temperature of 700 deg. C. for a period of five hours. Allow the plate to air cool and then remove it from the clamping plates. Repeat operation (4).

Note . . .

By substituting longer clamping bolts several plates may be flattened simultaneously.

(6) Polish both side surfaces of the stator plate with a calico polishing mop smeared with a suitable grease and dressed with No. 90 grade emery.

(7) Examine both side surfaces of the stator plate in a crack detector machine. Cracks, however minute, are not permitted and a defective plate, therefore, must be scrapped.

(8) Degrease the stator plate, apply one coat of magnesium alloy primer (Spec. D.T.D.911) and allow it to dry.

(9) Secure the pad or pads by riveting in accordance with the relevant procedure for single or double stator assemblies.

(10) After the fitting of new pads, check that the riveting is satisfactory. It must not be possible to insert a 0·005 in. thick feeler gauge more than $\frac{1}{4}$ in. deep between the mating faces of the pads and stator plates, not must it be possible to insert a 0·009 in. thick feeler gauge between the pad and the outer periphery of the rivet. The pad must not feel loose after riveting.

(11) Examine each rivet and the friction face of the pad, particularly in the area in the immediate vicinity of the rivet, for fractures. Small cracks up to $\frac{1}{32}$ in. deep are permissible around the periphery of the rivet only providing that there are not more than two per rivet and that the spacing is not less than 90 degrees. Defects other than these will render the components unserviceable.

(12) After riveting place the single stator assemblies flat on a surface plate (*pads downwards*). Check the assemblies for distortion. This must not exceed 0·025 in.

Using riveting tool Part No. AM.21749 (fig. 1)

4. When semi-tubular rivets are used in assembling pads to the stators the following method of riveting should be used with this special tool:—

(1) For single stator assemblies proceed as follows:—

(a) Fit the pressure plate, the rubber pad and washers to the peening punch and secure the assembly in the tool holder.

(b) Fit the peening peg to the base plate.

(c) Position a new pad on the stator plate and insert a rivet with the pre-formed head located in the pad centre. Ensure that the projections on the back of the pad casing engage the holes in the stator plate.

(d) Position the stator assembly so that the pre-formed head of the rivet locates over the peening peg. Fit the rivet plate over the protruding shank of the rivet (*chamfer of bore uppermost*). Slowly apply press load up to 1½ tons to fully form the rivet head.

(2) For double stator assemblies proceed as follows

(a) Prepare the riveting tool as detailed in (1)(a) and (1)(b), but omit the washer.

(b) Position new pads at both sides of the stator plate, ensure that the projections on the back of the pad casings engage the holes in the stator plate, and insert a rivet. Secure the pads as detailed in sub-para. (1)(d).

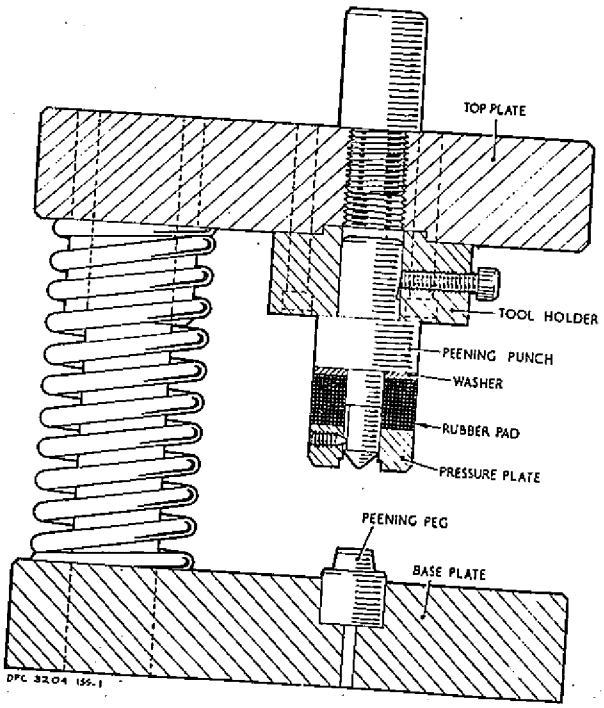

Fig. 1. Riveting tool

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Table 1

Relevant Data for the Repair of Stator Assemblies

Brake Unit Part No.	Drill size for removing rivets (*A*) (*in. dia.*)	Maximum press load for riveting (*B*) (*ton*)	Clamping plates Part No.	Riveting set Part No.
AH.50809	$\frac{39}{64}$	4	AM.20648	AM.20649
AH.50964	Any suitable size	1	AM.20648	AM.21132
AH.50965	,,	1	AM.20648	AM.21132
AH.51135	,,	1	AM.20648	AM.21132
AH.51136	,,	1	AM.20648	AM.21132
AH.50581	,,	1	AM.20648	AM.21132
AH.50582	,,	1	AM.20648	AM.21132
AH.51205	,,	1	AM.20648	AM.21132
AH.51206	,,	1	AM.20648	AM.21132
AH.51169	,,	1	AM.20648	AM.21132
AH.51170	,,	1	AM.20648	AM.21132
AH.51146	Any suitable size	1	AM.20648	AM.21132
AM.51147	Any suitable size	1	AM.20648	AM.21132
AH.50969	$\frac{39}{64}$	4	AM.20648	AM.21401
AH.51080	$\frac{39}{64}$	4	AM.20648	AM.21401
AH.51293	$\frac{39}{64}$	4	AM.20648	AM.21401
AH.51320	$\frac{39}{64}$	4	AM.20648	AM.21401
AH.51380	Any suitable size	1½	AM.20648	AM.21749
AH.51381	,,	1½	AM.20648	AM.21749
AH.51449	,,	1½	AM.20648	AM.21749
AH.51450	,,	1½	AM.20648	AM.21749
AH.51398	,,	1½	AM.20648	AM.21749
AH.51399	,,	1½	AM.20648	AM.21749

Appendix 2

REPAIR OF SPIDER TYPE ROTOR ASSEMBLIES

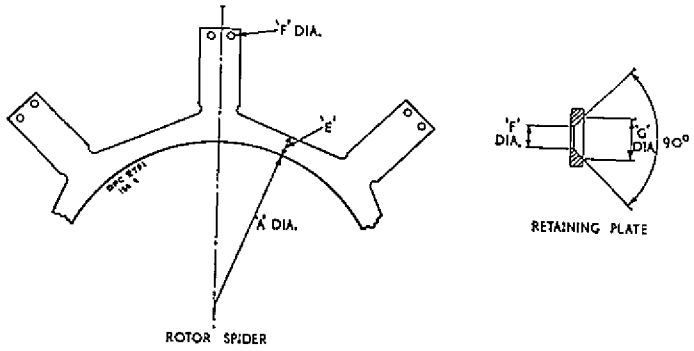

Fig. 1. Repair of rotor spider

Reclaiming of rotor assemblies

1. Rotor assemblies which are unserviceable in respect of defective segments (*refer to Vol. 1, Sect. 3, Chap. 4*) may be reclaimed in accordance with the following instructions which detail the procedure for the fitting of new segments. Individual segment renewal is not permitted and the complete set of segments must be renewed when this repair is undertaken. For value of the letters introduced into this repair refer to Table 1 of this appendix.

Method of repair

2. (1) Spin off a countersunk end of each rivet. Drift out the rivets and remove the retaining plates and the segments.

(2) Make a visual examination of the rotor spider for evidence of cracking. A component which is defective in this respect is not repairable and must be rejected.

(3) Using a smooth file, carefully remove any burrs formed on the side faces of the tenon ends of the spider arms. No attempt should be made to file or dress the abutment faces.

(4) Place the rotor spider flat on a smooth surface plate and check that a 0·012 in. thick feeler gauge cannot be inserted under any section of the spider. If the amount of dishing exceeds this limit the spider must be flattened and this can be achieved normally by planishing with a hide hammer. Where convenient the spider may be alternatively flattened by clamping and heating. If heating, clamp the dished spiders between the special clamping plates and normalize for 5 hours at 565 deg. C. Allow it to air cool and check again with the 0·012 in. feeler gauge.

(5) Check the rotor spider for diametrical distortion. Ascertain the positions in the bore which fall below the minimum serviceable dia. of "A" in. At these points the bore must be locally restored to the nominal dia. of "A" in. Achieve this by filing an equal amount of metal from each side of the bore at these points. Carefully blend the filed area to the bore profile to leave a surface free from burrs and file marks. During this operation and following its completion, check frequently to ensure that at no point has filing progressed beyond the limit of "E" in. This dimension is applicable at any point between the pairs of arms adjacent to the locality where filing is undertaken.

(6) Polish both sides of the rotor spider with a calico polishing mop smeared

with a suitable grease and dressed with No. 90 grade emery.

(7) Examine both side surfaces of the rotor spider in a crack detector machine. Cracks however minute are not permitted, and a defective rotor spider must therefore be scrapped.

(8) Check the size of the rivet holes in the retaining plates. Use a drill of N in. dia. as a plug gauge. Oversize rivets P must be fitted in holes into which the drill can be inserted. Rivet holes elongated in excess of R in. must also be fitted with oversize rivets. When oversize rivets are fitted open out the rivet holes with a drill F in. dia. and increase the retaining plate countersink to G in. dia.

(9) Position the segment and fit the retaining plate and rivets.

(10) Degrease the assembly and apply one coat of cellulose primer (*Ref. No.* 33B/1122 or /1123 *Home*, or /560 *Overseas*), and allow it to dry.

Note . . .

It is not necessary to remove the primer when assembling the rotor spider to a brake unit.

Bowing

3. Rotor assemblies unserviceable through circumferential or radial bowing should be rectified as follows:—

(1) Insert steel strips of S thickness into the slots in the three edges of the segment. Ensure that the strips are of sufficient length and breadth to prevent closure of the slots during pressing.

(2) Flatten the segment in the cold condition by placing it under a suitable press.

Table 1

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Table 1

Relevant data for the repair of rotor assemblies

Brake Unit Part No.	Rotor Spider Part No.	Retaining Plate Part No.	Rotor Segment Part No.	Nom. dia. A in.	Serviceable A in. (min.)	Minimum permissible Width E in.	Gauging drill N in. dia.	Oversize rivet (p) Part No.	Limiting Dimension Oversize rivet holes R in.	Drill dia. F in.	Retaining plate C sink G in. dia.	Thickness of steel strips S in.
AH.50809	AH.40952	AHO.36654	AHM.4621	10·0	9·937	0·312	0·136 (No. 29)	AS.460/505	0·136	0·159	0·281	0·091/0·090
AH.50964	AH.40732	AHO.37554	AHM.4619	8·0	7·937	0·355	0·136 (No. 29)	AS.460/507	0·136	0·159	0·281	0·135/0·134
AH.50965	AH.40732	AHO.37554	AHM.4619	8·0	7·937	0·355	0·136 (No. 29)	AS.460/507	0·136	0·159	0·281	0·135/0·134
AH.51135	AH.40732	AHO.37554	AHM.4619	8·0	7·937	0·355	0·136 (No. 29)	AS.460/507	0·136	0·159	0·281	0·135/0·134
AH.51136	AH.40732	AHO.37554	AHM.4619	8·0	7·937	0·355	0·136 (No. 29)	AS.460/507	0·136	0·159	0·281	0·135/0·134
AH.50581	AH.40732	AHO.37554	AHM.4619	8·0	7·937	0·355	0·136 (No. 29)	AS.460/507	0·136	0·159	0·281	0·135/0·134
AH.50582	AH.40732	AHO.37554	AHM.4619	8·0	7·937	0·355	0·136 (No. 29)	AS.460/507	0·136	0·159	0·281	0·135/0·134
AH.51205	AH.40732	AHO.37554	AHM.4619	8·0	7·937	0·355	0·136 (No. 29)	AS.460/507	0·136	0·159	0·281	0·135/0·134
AH.51206	AH.40732	AHO.37554	AHM.4619	8·0	7·937	0·355	0·136 (No. 29)	AS.460/507	0·136	0·159	0·281	0·135/0·134
AH.51169	AH.40732	AHO.37554	AHM.4619	8·0	7·937	0·355	0·136 (No. 29)	AS.460/507	0·136	0·159	0·281	0·135/0·134
AH.51170	AH.40732	AHO.37554	AHM.4619	8·0	7·937	0·355	·0136 (No. 29)	AS.460/507	0·136	0·159	0·281	0·135/0·134
AH.50969	AH.40952	AHO.36654	AHM.4621	10·0	9·937	0·312	0·136 (No. 29)	AS.460/505	0·136	0·159	0·281	0·091/0·090
AH.51080	AH.40952	AHO.36654	AHM.4621	10·0	9·937	0·312	0·136 (No. 29)	AS.460/505	0·136	0·159	0·281	0·091/0·090
AH.51293	AH.40952	AHO.36654	AHM.4621	10·0	9·937	0·312	0·136 (No. 29)	AS.460/505	0·136	0·159	0·281	0·091/0·090
AH.51295	AH.40952	AHO.36654	AHM.4621	10·0	9·937	0·312	0·136 (No. 29)	AS.460/505	0·136	0·159	0·281	0·091/0·090
AH.51320	AH.40952	AHO.36654	AHM.4621	10·0	9·937	0·312	0·136 (No. 29)	AS.460/505	0·136	0·159	0·281	0·091/0·090

Appendix 3

(Completely revised)

RENEWAL OF TORQUE PLATE AXLE BUSH

Introduction

1. If the internal diameter of the bush is found to exceed the limit (B) in. given in Table 1 it must be renewed as follows:—

(1) Remove the retaining screws and press out the defective bush.

(2) Align the screw holes in the new bush with the tapped holes in the torque plate and using a suitable press, press the bush into its housing.

(3) Use a feeler gauge to ascertain that the bush is correctly fitted. Clearance is not permitted between the bush flange and the face of the torque plate.

(4) Set up the torque plate in a suitable lathe, and in such a manner that a dial test indicator reading can be taken on the outer periphery of the portion of the bush projecting from the inner face of the torque plate. Adjust the setting until the bush is concentric within 0·001 in., thus allowing a maximum permitted dial gauge variation of 0·002 in.

(5) Bore out the bush to (A) in. diameter (*Table* 1). The finished bore must be perfectly smooth and free from tool marks.

(6) Fit and securely tighten the retaining screws and lock them by peening a small amount of metal from the bush face into the screwdriver slots. Ensure that neither the screwheads nor the peened metal stand proud of the bush face.

Table 1

Limiting and machining dimensions

Brake Part No.	Maximum permitted internal dia. of bush (B) in.	Internal dia. of bush—new (A) in.
AH.50809	4·207	$\frac{4·202}{4·200}$
AH.50969	4·207	$\frac{4·202}{4·200}$
AH.51080	4·207	$\frac{4·202}{4·200}$
AH.51293	4·207	$\frac{4·202}{4·200}$
AH.51295	4·207	$\frac{4·202}{4·200}$
MH.51230	4·207	$\frac{4·202}{4·200}$

Appendix 4

(Completely revised)

REPAIR OF LOCKING RING

Part No. AHM 3933

Brake units AH.50964, AH.50965, AH.51135, AH.51136, AH.51169, AH.51170.

Introduction

1. When the damage has occurred to the locking holes in the locking ring so as to render the removal tool inefficient, it is permissible to drill 6 fresh holes interspaced between the existing defective holes.

(1) Drill 6 holes $\frac{5}{32}$ in dia. × 0·15 in. deep to drill points and equispaced on a 7·312 in. p.c.d. between the existing 6 holes.

(2) Protect the bare metal with seaplane varnish (*Ref.* 33*B*/9428868).

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Appendix 5

RP.237

REPAIR TO TORQUE PLATE BRAKE UNITS PART No. AH.51169, AH.51170, AH.51135, AH.51136

Nature of repair

1. To repair a torque plate when leakage occurs past a faulty sealing plug. Do not disturb plugs which are leakproof.

Method of repair

2. (1) Dismantle the brake unit and degrease the torque plate.

(2) Pressure test the torque plate hydraulically to 3400 lb/in² in the special test rig and examine the torque plate for any sign of leakage from the plugs.

(3) Locate the torque plate in the drill jig and drill holes in the faulty plugs with a 0·116 in. dia. (*No.* 32) drill. Tap the holes 4 B.A. to a depth of $\frac{7}{32}$ in.

(4) Withdraw the plugs (*in this process the retaining pins will be sheared*). Remove the heads of the retaining pins in the torque plate with a hooked tool without damaging the 0·156 in. dia. bore. Ream the relevant 0·156 in. dia. holes marked x through to the cylinder bore and leave a good finish. Ream the 0·0625 in. dia. holes if necessary.

(5) Plug up the cylinder bore with a plug 1·4990/1·4985 in. dia. and ensure that the oilways and the rest of the torque plate are thoroughly clean.

(6) Press into the cylinder bore the plug AHO.36349 (*dry assembly*) or a suitable plug with interference limits of 0·004/0·006 in. Make up the latter plug from

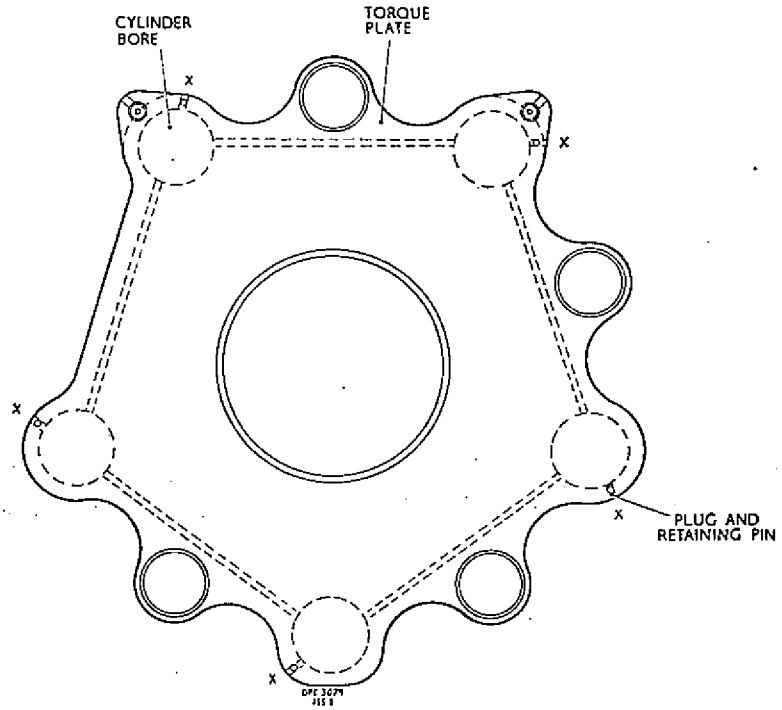

Fig. 1. Repair to torque plate

Zirconium Spec. D.T.D.622 (*finish black chromate D.T.D.*911) to the same length as the hole in the torque plate. Check the surface finish of the plug. This must not exceed 20 micro in. The plug must be driven in flush with the surface of the torque plate.

(7) Drill through the plug with a 0·055 in. dia. drill and fit retaining pins (*similar to AHO.*37593) to suit, with a 0·001/0·003 in. interference limit on the head.

(8) Pressure test the torque plate hydraulically to 3400 lb/in². Check for leakage past the blanking plugs. Leave the brake unit on test for at least 30 minutes. Leakage from the torque plate is not permissible.

Identification

3. After satisfactory completion of the repair "RP.237" is to be stamped with $\frac{1}{8}$ in. metal letters on the torque plate adjacent to the part number. Treat the indentations and the exposed metal around the pins and plugs with selenious acid solution. Re-paint the torque plate locally in accordance with Vol. 1, Book 2, Sect. 3, Chap. 2 of this publication.

Inspection

4. The repair must be to the satisfaction of the supervising inspector A.I.D., C.I.O./N.A.I or C.I.O./A.I.S.

Requirement

5. Selenious acid solution: Make from 2 oz. selenious acid crystals dissolved in one pint of water.

New parts

6. The following new parts are needed to carry out this repair:—

Part No.	Description	No. off
	Retaining pin	As required
	Plug (refer to para. 2 (6))	As required

Special tools

7. The following special tools are needed to carry out this repair:—

Part No.	Description	No. off
A.20486	Drill jig (*torque plate*) *Part No. AH.*41210)	
A.20487	Drill jig (*torque plate*) *Part No. AH.*41211)	
AM.18964	Test rig (*torque plate*)	
AO.105449	Plug (*cylinder bore*)	

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ient

ious acid solution: Make from 2 oz
acid crystals dissolved in one pin

Appendix 6

REPAIR OF PLATE-BRAKE ROTOR ASSEMBLIES
(Jig-saw Type)

ollowing new parts are needed to
this repair:—

Description	No. off
etaining pin	As required
ug (refer to para. 2 (6))	As required

owing special tools are needed to
s repair:—

Description	No. off
Drill jig (*torque plate*) *Part No. AH.41210*)	
Drill jig (*torque plate*) *Part No. AH.41211*)	
est rig (ue plate)	
ug (*cylinder bore*)	

Examination of the rotor segments for ear and possible subsequent repair is detailed in Vol. 1, Book 2, Sect. 3, Chap. 4. the following procedures, the grinding equirements are limited to the minimum ecessary for repair. Segments repaired by he manufacturer are, however, ground to ixed dimensions and can be identified by $\frac{1}{16}$ in. grooves on the outer edge; each groove indicates a stage of repair.

Bowed segments

2. Segments which are unserviceable due to excessive facial bowing may be flattened in the cold condition by using a suitable press in the following manner.

(1) Position two 0·007/0·008 in. shims, which are slightly longer than the width of the segment, on a flat solid press-bed, so that the distance between them is almost the length of the segment.

(2) Place the segment, with the convex surface uppermost, to bridge the two shims.

(3) Position a pressure plate. The length of the plate used for pressing must be slightly less than the width of the gap between the shims. The plate must be disposed centrally on the segment directly over the gap between the shims to ensure correct flattening of the segment.

(4) Flatten the segment but do not free the pressure until the bottom surface of the segment contacts the press bed between the shims.

(5) Place the segment on a surface plate and, avoiding the waisted areas, check that a 0·003 in. feeler cannot be inserted under the segment.

3. After carrying out the above procedure, any bowing in excess of 0·003 in. may be removed by grinding both friction surfaces as detailed for waisting, para. 5.

Waisted segments

4. After correcting any excessive facial bowing as detailed in para. 3, segments which are unserviceable due to excessive waisting may be repaired as follows:—

(1) Grind the friction surfaces until waisting is reduced to below the limit detailed in Vol. 1, Book 2, Sect. 3, Chap. 4. Ground areas must be parallel within 0·002 in. Ensure that grinding has not reduced the segments below the minimum permitted thickness.

(2) If segment tongues have been reduced in thickness by previous repair, the amount of relief detailed in para. 7 should be restored.

Surface cracks on tongues

5. When surface cracks develop on tongues and are within the limit detailed in Vol. 1, Book 2, Sect. 3, Chap. 4, further development may be retarded by grinding to provide relief from the friction surface.

(1) Machine 0·015 in. from each side of the tongue and form the chamfers as shown in fig. 1. Tongue thickness must not be less than dimension T (Table 1).

(2) Restore the tongue relief at convenient periods during the remaining service life of the segment.

Dressing the segment slots

6. When difficulty is experienced in mating the tongues and slots during assembling, the segment slots may be dressed as follows.

(1) Ream the circular portion of the slot to Bin. max. dia. (fig. 2) (Table 1).

(2) File up to $\frac{1}{64}$ in. from either or both sides of the slot neck but ensure that the slot dimension after dressing does not exceed A in. max. (Table 1). The dressing of the slot neck may be repeated on future occasions, but the neck limiting dimension must not be exceeded.

(3) After dressing restore the radii as shown in fig. 2.

TABLE 1

Segment Part No.	A max. (in.)	B max. dia. (in.)	Dimension T (in.)
AHM.6258	0·910	1·030	0·460
AHM.6336	0·910	1·030	0·310
AHM.5476	0·550	0·655	0·230
AHM.5777	0·660	0·781	0·270
AHM.5665	0·660	0·781	0·216
AHM.5543	0·660	0·781	0·300
AHM.5398	0·660	0·781	0·335
AHM.5380	0·660	0·781	0·235

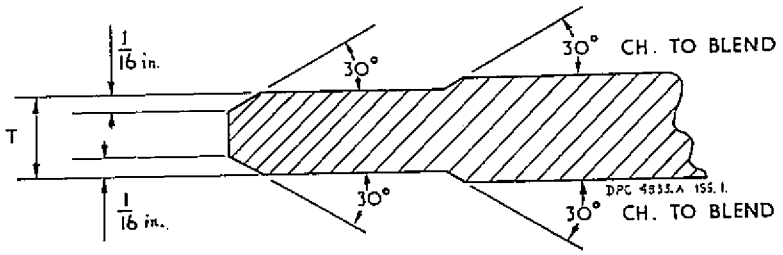
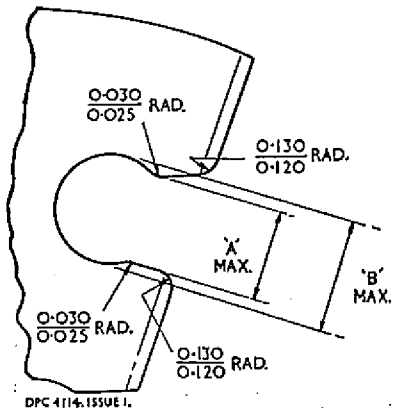


Fig. 1. Machining the tongues



(DIMENSIONS IN INCHES)

Fig. 2. Segment slots

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RP.260

REPAIR TO TORQUE TUBE TENONS BRAKE UNITS

Part No. AH.51169, AH.51170, AH.51135, AH.51136, AH.50964, AH.50965, AH.50581, AH.50582, AH.51146, AH.51147, AH.51205, AH.51206.

(Torque Tube, Part No. AH.41040)

Introduction

1. When the torque tube tenons are worn beyond the limits of serviceability (refer to Vol. 1, Book 2, Sect. 3, Chap. 4 and the relevant appendix); they may be repaired by riveting sleeves to the machined tenons.

Method of repair

2. (1) Dismantle the brake unit, remove the torque tube and degrease it.

(2) Remove the nickel plate from the torque tube.

(3) Hold the torque tube in a vertical miller dividing head. Locate in the bore and set the torque tube so that the centre of the tenon is vertical.

(4) Mill the eight tenons to the dimensions given in RP.260/2 (*fig.* 1) and remove the burrs.

(5) Drill and countersink eight sets of two holes to the dimensions given in *fig.* 1 and remove the swarf. Stamp RP.260/2 in the position shown with $\frac{1}{8}$ in. metal stamps.

(6) Nickel plate the torque tube in accordance with D.T.D.919 and check the plating figures.

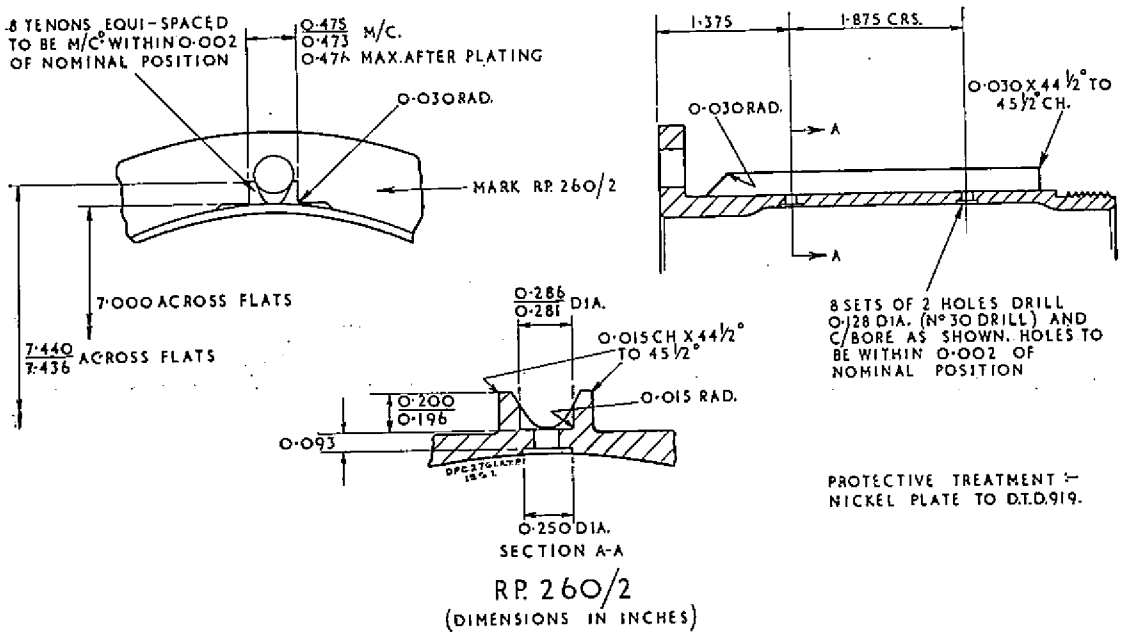

Fig. 1. Repair of torque tube tenons

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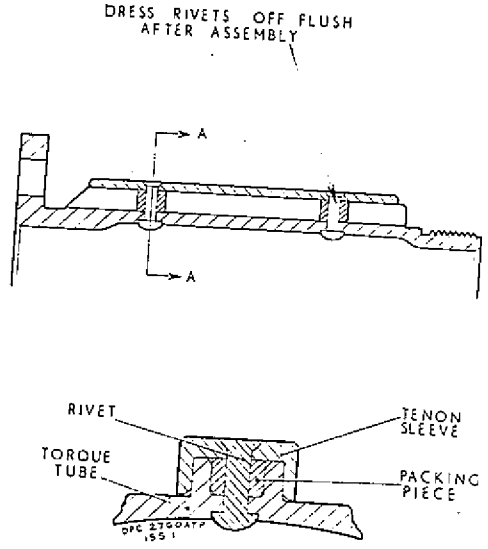

Fig. 2. Refitting of tenon sleeve and torque tube

(7) Assemble the packing pieces and tenon sleeves to the torque tube and rivet the sleeves to the torque tube as shown in RP.260/1 (*fig.* 2). Dress off the rivets flush as shown in *fig.* 2. Protect the rivets locally with one coat of S2 primer paint.

(8) After satisfactory completion of the repair, stamp "RP.260" on the side face of the tenon sleeve with $\frac{1}{8}$ in. letters. Protect the letters with S2 primer paint.

(9) Secure the torque tube to the torque plate. The nuts of the bolts securing these two parts must be tightened to a torque of 17 lb/ft. The bolt threads are to be greased before the nuts are fitted. Re-assemble the brake unit as described in Vol. 1, Book 2, Sect. 3, Chap. 4.

New parts

3. The following new parts are required to carry out this repair:—

Part No.	Description	No. off per unit
AHO.39725	Tenon sleeve	8
AHO.39722	Packing piece	16
AS.455/408	Rivet	16

4. The repair must be to the satisfaction of the supervising inspector A.I.D., C.I.O.,/ N.A.I. or C.I.O./A.I.S.

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n *fig.* 2. Protect the one coat of S2 primer

completion of the .260" on the side face ve with $\frac{1}{8}$ in. letters. with S2 primer paint. tube to the torque of the bolts securing us e tightened to a The bolt threads are re the nuts are fitted. ake unit as described Sect. 3, Chap. 4.

P 's are required to

ription	No. off per unit
sleeve	8
g piece	16
	16

the satisfaction of r A.I.D., C.I.O.,/

RP 268

REPAIR TO CONICAL THRUST RING ASSEMBLY AHM.4374 AND BRAKE PRESSURE PLATE AH.41193

REPAIR TO CONICAL THRUST RING ASSEMBLY AHM.4374

Introduction

1. This repair applies to conical thrust ring assembly AHM.4374 only up to and including Issue 2. If such an assembly, which comprises conical thrust ring AH.41008 and thrust plate AH.40968, has become distorted and/or corroded, it may be repaired in accordance with this scheme.

Method of repair

2. (1) Clean and degrease the conical thrust ring assembly.

(2) Remove the rivets and separate the thrust ring and thrust plate.

(3) If plating of the component is broken up by flaking or if the component is to be straightened by heat treatment remove the nickel plate in accordance with D.T.D.919.

(4) Flatten the distorted plate preferably by cold planishing. Do not apply excessive force during this operation. If it is found that the components need straightening by heat treatment, place the conical thrust ring and the thrust plate in their respective fixtures (para. 4) and heat them to a temperature of 580 to 610 deg. C. for 1 hour per inch of thickness of component and fixture. Allow the components to air cool and then remove them from the fixture.

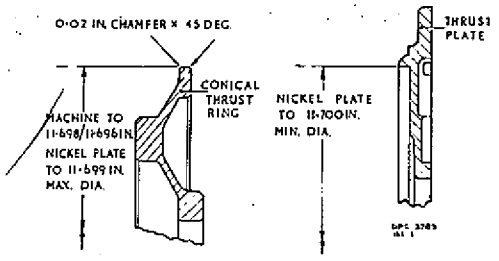

Fig. 1. Machining conical thrust ring

(5) Place each component on a surface plate and check that a 0·010 in. feeler gauge cannot be inserted under the contact face. When the amount of distortion exceeds this the component must be rejected.

(6) Machine the thrust ring to the details and dimensions given in fig. 1.

(7) With $\frac{1}{16}$ in. metal stamps, impress "RP. 268" adjacent to the issue number of the conical thrust ring.

(8) Nickel plate the conical thrust ring and the thrust plate in accordance with D.T.D. 919 and to the dimensions given in fig. 1. The depth of plating must be 0·0003 to 0·0005 in.

(9) Position the conical thrust ring within the thrust plate so that the rivet holes, the counterbore and the slot are in the position shown in fig. 2. Rivet together the conical thrust ring and the thrust plate with the rivets AS.460/508 inserted through the existing 3 rivet holes.

(10) Drill 5 additional rivet holes (fig. 2) 0·166 in. dia. in the positions shown. Use a No. 19 drill. Countersink the holes 0·062 deep × 90 deg. inc.

(11) Fit another five rivets.

(12) Engrave an arrow 0·060 in. deep at the position indicated in fig. 2. The position relative to the counterbores and rivet holes is important. Fill in the arrow with red paint.

New parts

3. The following new parts are required to carry out this repair:—

Part No.	Description	No. off per unit
AS.460/508	Rivet	8

Special tools

4. The following special tools are required:—

Fixture Part No.	Conical thrust ring Part No.	Fixture Part No.	Thrust plate Part No.
AM.22031	AH.41008	AM.22030	AH.40968

5. The repair must be to the satisfaction of the supervising inspector A.I.D., C.I.O./N.A.I. or C.I.O./A.I.S.

REPAIR TO BRAKE PRESSURE PLATE AH.41193

Introduction

1. A plate distorted in excess of 0·040 in. may be reclaimed in accordance with this scheme.

2. This plate can arrive for repair in two conditions.

(1) As pressure plate AH.41193.

(2) As pressure plate sub-assembly AHO38015.

Fixture AM. 22336 (*for clamping during heat treatment*) can be used for either.

Method of repair

(1) Clean and degrease the pressure plate.

(2) Check that the tenon slot is within the limit of 0·660 in. If it is outside these limits the plate must be rejected unless it can be reclaimed by a relevant repair scheme. If plating of the component is broken up by flaking or if the component is to be straightened by heat treatment remove the nickel plate in accordance with D.T.D. 919.

(3) Flatten the distorted plate preferably by cold planishing; do not apply excessive force during this operation. If it is found that the pressure plate needs straightening by heat, place the pressure plate in the fixture and heat to a temperature of 580 to 610 deg. C. for a period of one hour for every inch of thickness of the component and fixture. Allow the component to air cool, then remove it from the fixture.

(4) Place the component on a surface plate and check that a 0·010 in. feeler gauge cannot be inserted under the contact faces. When the amount of distortion exceeds this, the faulty component must be rejected.

(5) Nickel plate the backing plate in accordance with D.T.D. 919 to a depth of 0·0003/0·0005 in.

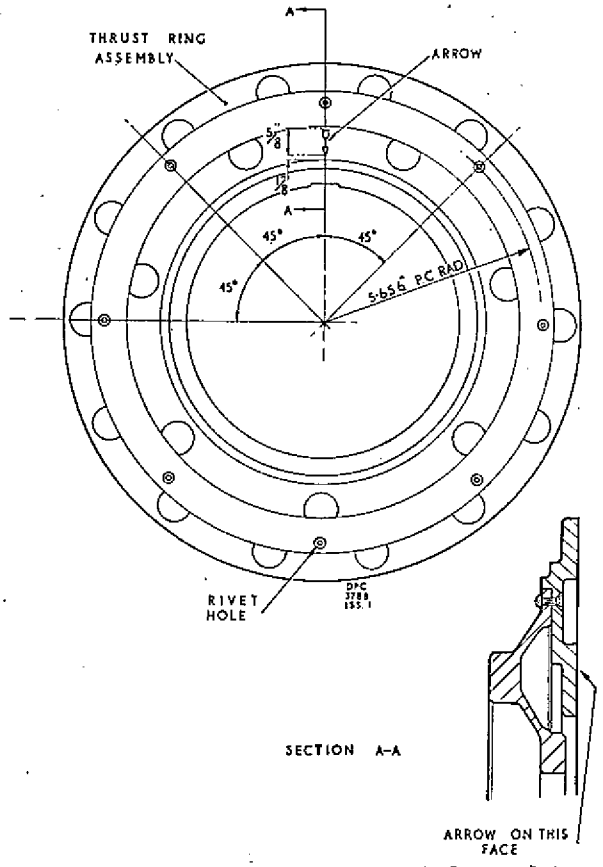

Fig. 2. Riveting, thrust ring and thrust plate

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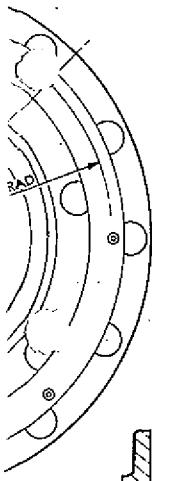

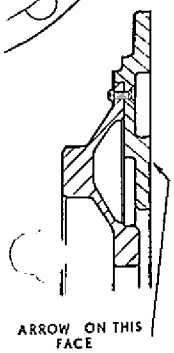

ARROW ON THIS FACE

l thrust plate

TABLE I

Repair data

Brake unit Part No.	Maximum permitted bore dia. (A) in.	Minimum permitted serviceable bore dia. (B) in.	Limiting dimension (C) in.
AH.50809	9·875	9·937	0·312