





# MAJOR REPAIR

Number  
9006201

Revision  
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Release Date: 02/06/92

Title: **Torus Assembly, p/n 968959 - Repair Using BMP Parts and Procedures.**

## I REVISION INFORMATION

Revision	Description	Approved By:	Date
Original		Jeff Smith	02/06/92

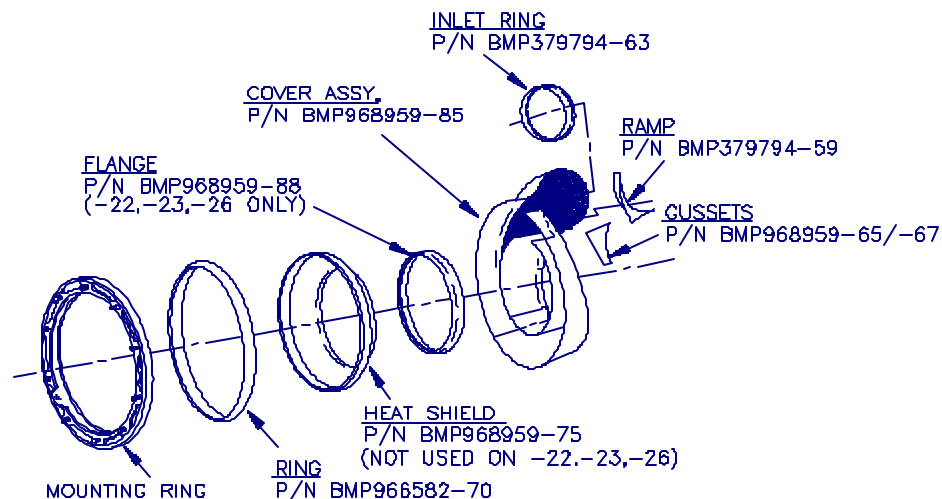
## I DESCRIPTION

GTCP85 APU series "CK" type torii p/n's 968959-2/-3/-4/-5/-8/-9/-11/-12/-13/-22/-23/-26 will be repaired in accordance with the GTCP85 inspection/repair manual 49-21-73 and as follows:

The following BMP fabricated repair parts will be used for torus restoration:

<u>BMP PART NUMBER</u>	<u>GARRETT PART NUMBER</u>	<u>DESCRIPTION</u>
BMP379794-59	N/A	RAMP
BMP379794-63	3602679-1/-2	INLET RING
BMP968959-65/-67	N/A	GUSSET
BMP966582-70	N/A	RING
BMP968959-75	3601665-1/-2	HEAT SHIELD ASSEMBLY
BMP968959-85	3602261-1 OR 3608680-1	COVER ASSEMBLY
BMP968959-88	3610549-2	FLANGE

**NOTE:** This repair maintains all original torii material specifications and minimum dimensional requirements and therefore maintains all containment requirements of the torii. It should be noted that for installations of this torii, a Garrett containment ring and augmentation containment ring may be required (Attachment I).





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## I PROCEDURE

### 1. Use of Ramp p/n BMP379794-59.

When the ramp requires replacement due to damage (excessive cracking, erosion, etc.), the damaged ramp will be removed by grinding and the BMP ramp p/n BMP379794-59 will be trimmed and installed per BMP drawing BMP968959 requirements. The ramp will be welded to the cover per BMP process 6.1B using Hastelloy W weld wire (AMS5786) and is subject to all dimensional requirements of BMP drawing BMP969959 sheet 3. The welds will be penetrant inspected per BMP process 1.1A with no cracks allowed.

### 2. Use of Inlet Ring p/n BMP379794-63.

When replacing inlet ring p/n 3602679-1/-2 per the GTCP85 repair manual 49-21-73 (attachment D), BMP fabricated inlet ring p/n BMP379794-63 will be used. The application of chromium carbide to the I.D. of the ring per the repair manual will be accomplished after installation of the ring. The installed ring will be subject to all inspectional requirements of the repair manual.

### 3. Use of Gusset p/n BMP966582-65/-67.

When the inner or outer gusset require replacement due to damage (excessive cracking, erosion, etc.), the damaged gusset will be removed by grinding and the replacement inner gusset p/n BMP968959-65 or outer gusset p/n BMP968969-67 as applicable will be fabricated and installed per installed per BMP drawing BMP968959 requirements. The gussets will be welded to the cover and the ramp per BMP process 6.1B using Hastelloy W weld wire (AMS5786) and is subject to all dimensional requirements of BMP drawing BMP969959 sheet 3. The welds will be penetrant inspected per BMP process 1.1A with no cracks allowed.

### 4. Use of Ring P/N BMP966582-70.

When the cone (area of the torus between the mounting ring and the cover, see reference A) exhibits excessive damage (excessive cracking, missing material, etc.), the damaged section will be remove by machining per



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BMP drawing BMP968959 sheet 2 dimensions and ring P/N BMP966582-70 will be welded in place per BMP process 6.1B using Hastelloy W weld wire

## I PROCEDURE (Continued)

per AMS5786. The weld joint must exhibit 100% penetration and is subject to penetrant inspection per BMP process 1.1A. Completion of the torus repair will be accomplished in accordance with this repair and/or repair manual 49-21-73 procedures as applicable.

### 5. Use of Heat Shield Assembly p/n BMP968959-75.

When replacing the heat shield assembly p/n 3601665-1 or -2 per the GTCP85 repair manual 49-21-73 (attachment D), BMP fabricated heat shield assembly p/n BMP968959-75 will be used. The installed heat shield will be finish machined in accordance with the repair manual dimensions for torii p/n 968959-2/-3 (pre SB 49-3137, attachment E) or torii p/n 968959-4/-5/-8/-9/-11/-12/-13 (post SB 49-3137, attachment E) as applicable. The installed heat shield assembly will be subject to all inspectional requirements of the repair manual.

### 6. Use of Cover p/n BMP968959-85.

When replacing the torus cover p/n 3602261-1 OR 3608680-1 per the GTCP85 repair manual 49-21-73 (attachment D), BMP fabricated cover p/n BMP968959-85 will be used. The installed cover will be subject to all inspectional requirements of the repair manual.

### 7. Use of Flange p/n BMP968959-88.

When replacing the flange p/n per the GTCP85 repair manual 49-21-73 (attachment D), BMP fabricated heat shield assembly p/n BMP968959-88 will be used. The installed flange be finish machined in accordance with the repair manual dimensions. The installed flange will be subject to all inspectional requirements of the repair manual.



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## I SUBSTANTIATION

**ATTENTION: Substantiation Data is considered Proprietary and is not customarily included when major repairs are sent to our Customers. Please contact our Quality Control Department if you require any additional information.**

DEPARTMENT OF TRANSPORTATION  
 FEDERAL AVIATION ADMINISTRATION  
 STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS

DATE  
 06 FEB 1992

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

MAKE GARRETT	MODEL NO. GTCP85	TYPE (Airplane, Rotor, Helicopter, etc.) APU	NAME OF APPLICANT BRITT METAL PROCESSING
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LIST OF DATA

IDENTIFICATION	TITLE
9006201	TORUS ASSEMBLY, P/N 968959-REPAIR USING BMP PARTS AND PROCEDURE.
BMP968959 SHEETS 1-7	TORUS ASSEMBLY, TURBINE - GTCP85 CK TYPE
BMP 966582 SHEET 2	TORUS ASSEMBLY - GTCP85 SERIES APU
BMP379794 SHEETS 4&9	TORUS ASSEMBLY, TURBINE

The FAA Central Region Atlanta Aircraft Certification Office acknowledges receipt and

accepts approval  
 approves recommendation  
 approves data

DER-I-T 2/6/92  
 DER No. 8110-3 Date

J.C. Price  
 Signature of FAA Engineer

ACE-140A 2/11/92  
 Branch Date

This data has been added to our files

PURPOSE OF DATA

DEFINE BMP DESIGNED REPAIR TO P/N968959 TORUS OF THE GTCP85 SERIES APU.

APPLICABLE REQUIREMENTS (List specific sections)

FAR 33.15  
 FAR 43.13(b)

CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered \_\_\_\_\_ have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations.

I (We) Therefore  Recommend approval of these data  
 Approve these data

SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)	DESIGNATION NUMBER(S)	CLASSIFICATION(S)
<u>Jeffrey L. Smith</u>	DER IN TRAINING	ENGINES