## **SERVICE LETTER**

#### SUBJECT: FUEL CONTROL UNIT - INSPECTION OF CASTING WALL THICKNESS

To all Customers, Operators and Service Centers:

Date: Jul 08/09

This Service Letter is issued to draw attention to the following information:

Pratt & Whitney Canada (P&WC) have issued Service Bulletin SB 14431 to advise that some Fuel Control Units (FCU) may have a possible thin wall condition for the drilled passage between the inlet port and the minimum flow orifice. The thin wall condition can cause a high pressure external fuel leak at the engine.

The FCU manufacturer (Woodward Governor Company) have issued Service Bulletin SB 83212-73-018 advising of this possible condition for specific FCUs. The affected FCUs are detailed by serial number in the SB. Woodward have also issued Service Information Leaflet SIL WG64143 on this subject.

Pilatus, P&WC and Woodward have already inspected some affected FCUs. However, the following FCUs originally installed on the following aircraft at delivery still need to be inspected:

FCU S/N	Engine S/N	Aircraft MSN
16300654	RY0098	1098
16307553	RY0099	1097
16310053	RY0100	1099
16302557	RY0101	1050
16312717	RY0102	1100
16356121	RY0109	1106
16360700	RY0110	1108
16365245	RY0113	1110
16361344	RY0114	1111
16365458	RY0115	1112
16370149	RY0116	1114
16374470	RY0117	1116
16372180	RY0119	1118

Operators are advised to check for affected FCUs and complete the inspection/replacement of affected FCUs as soon as practical.



Operators requiring further information on this subject, please contact one of the addresses given below:

PILATUS AIRCRAFT LTD., CUSTOMER SUPPORT MANAGER, CH-6371 STANS, SWITZERLAND.

General Aviation Tel: + 41 41 619 6208 Fax: + 41 41 619 7311

eMail: SupportPC12@pilatus-aircraft.com

PILATUS BUSINESS AIRCRAFT LTD., PRODUCT SUPPORT DEPARTMENT, 11755 AIRPORT WAY, BROOMFIELD, CO 80021. USA

Tel: 303 465 9099 Fax: 303 465 6040

eMail: Productsupport@PilBal.com

PILATUS AUSTRALIA (Pty.) LTD., 17 James Schofield Drive, Adelaide Airport SA 5950, AUSTRALIA

Tel: +61 (08) 8234 4433 Fax: +61 (08) 8234 4499 Free Call: 1800 445 007

eMail: SupportPC12@pilatus.com.au

#### Attachments:

P&WC SB 14431

Woodward SB 83212-73-018

Woodward SIL WG64143

### PRATT & WHITNEY CANADA

## **SERVICE BULLETIN**

P&WC S.B. No. 14431

# BULLETIN INDEX LOCATOR 73-20-00

TURBOPROP ENGINE
FUEL CONTROL UNIT - INSPECTION

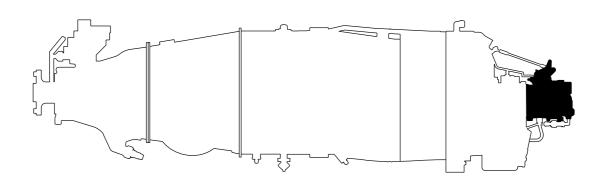
#### MODEL APPLICATION

PT6A-66B, PT6A-66D, PT6A-67A, PT6A-67AG, PT6A-67B, PT6A-67F, PT6A-67P, PT6A-67R

Compliance: CATEGORY 3

Summary:

Some of the Fuel Control Units (FCU) have a possible thin wall condition for the drilled passage between the inlet port and the minimum flow orifice. The thin wall condition can cause a high pressure external fuel leak at the aircraft engine. Perform an on-wing ultrasonic inspection of the FCU within the first 500 flight hours and replace unit if it does not meet the requirements within TTSN 500 hours.



May 06/2009 PT6A-72-14431 Cover Sheet

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VP - Legal Services, Pratt & Whitney Canada Corp., 1000 Marie-Victorin (01BE5), Longueuil, Quebec J4G 1A1.

P&WC S.B. No. 14431

### TURBOPROP ENGINE FUEL CONTROL UNIT - INSPECTION

#### 1. Planning Information

#### A. Effectivity

PT6A-66B Engines.

PT6A-66D Engines.

PT6A-67A Engines.

PT6A-67AG Engines.

PT6A-67B Engines.

PT6A-67F Engines.

PT6A-67P Engines.

PT6A-67R Engines.

NOTE: Refer to Table 1.

#### B. Concurrent Requirements

None.

#### C. Reason

#### (1) Problem

A possible thin wall condition exists on 98 field units for the drilled passage between the inlet port and the minimum flow orifice. If not inspected/replaced within the first 500 service hours the thin wall condition could cause a high pressure external fuel leak at the aircraft engine.

#### (2) Cause

Woodward (FCU supplier) has determined that the casting tooling was produced to a solid model that did not comply with the casting drawing requirements, resulting in insufficient stock in a specific location.

#### (3) Solution

Casting tooling was modified to reflect the casting drawing requirements. Inspect field units for wall thickness within the first 500 service hours. Replace unit within the first 500 service hours if reading is less than 0.031 inch (0.79 mm).

#### D. Description

Do an inspection of the affected FCU (Ref. Supplier SB83212-73-018).

#### E. Compliance

CATEGORY 3 - For FCU serial numbers listed in Table 1, P&WC recommends to do this Service Bulletin within 500 flight hours or one year whichever occurs first.

P&WC No. RFN6425
P&WC Proprietary Information. Subject to the restrictions on the back of the locator.
May 06/2009

### P&WC S.B. No. 14431

## TURBOPROP ENGINE FUEL CONTROL UNIT - INSPECTION

#### 1. Planning Information (Cont'd)

- F. Approval
  - D.A.A. approved
- G. Weight and Balance

None.

H. Electrical Load Data

Not changed.

I. Software Accomplishment Summary

Not applicable.

J. References

Illustrated Parts Catalog P/N 3036124 (PT6A-66, PT6A-66B)

Illustrated Parts Catalog P/N 3070904 (73-20-00) (PT6A-66D)

Illustrated Parts Catalog P/N 3036134 (73-20-00) (PT6A-67/67A/67AF/67AG/67R/67T)

Illustrated Parts Catalog P/N 3038338 (73-20-00) (PT6A-67B, PT6A-67P)

Illustrated Parts Catalog P/N 3071154 (73-20-00) (PT6A-67F)

Maintenance Manual P/N 3036122 (PT6A-66, PT6A-66B)

Maintenance Manual P/N 3070902 (73-20-00) (PT6A-66D)

Maintenance Manual P/N 3036132 (73-20-00) (PT6A-67/67A/67AF/67AG/67R/67T)

Maintenance Manual P/N 3038336 (73-20-00) (PT6A-67B, PT6A-67P)

Maintenance Manual P/N 3071152 (73-20-00) (PT6A-67F)

Overhaul Manual P/N 3036123 (PT6A-66, PT6A-66B)

Overhaul Manual P/N 3070903(73-20-00) (PT6A-66D)

Overhaul Manual P/N 3036133 (73-20-00) (PT6A-67/67A/67AF/67AG/67R/67T)

Overhaul Manual P/N 3038337 (73-20-00) (PT6A-67B, PT6A-67D, PT6A-67P)

Overhaul Manual P/N 3071153 (73-20-00) (PT6A-67F)

Woodward Governor SB 83212-73-018

#### K. Publications Affected

None.

L. Interchangeability and Intermixability of Parts

Not applicable.

#### 2. Material Information

#### A. Industry Support Information

Not applicable.

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### TURBOPROP ENGINE FUEL CONTROL UNIT - INSPECTION

#### 2. Material Information (Cont'd)

#### B. Material - Cost and Availability

You can get the procurable parts listed in Para. 2.D. from any Pratt & Whitney Canada Parts Distribution Center.

The estimated total cost of new parts needed to replace old parts is \$Quote (US, 2009).

The new parts are available.

#### C. Manpower

No more man-hours are necessary to include this service bulletin at overhaul.

#### D. Material Necessary for Each Engine

The quantity of materials listed in this section is on a per Engine basis.

New P/N	Keyword	Old P/N	Qty	Est. Unit List Price (\$US, 2009)	Instructions Disposition			
Consum	Consumable Materials and Parts Required:							
AS3209-0	Packing, Preformed	AS3209-012	1	1.06	(A)			
AS3208-0	Packing, Preformed	AS3208-04	3	0.65	(A)			
AS3208-0	Packing, Preformed	AS3208-06	1	1.00	(A)			
(A) Star	ndard Replacement Parts.							

#### (A) Standard Replacement Parts.

#### E. Reidentified Parts

None.

#### F. Tooling - Price and Availability

Not applicable.

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## TURBOPROP ENGINE FUEL CONTROL UNIT - INSPECTION

#### 3. Accomplishment Instructions

A. Refer to Table 1 for the list of affected FCU serial numbers.

TABLE 1, Affected Engine and Fuel Control Unit Serial Numbers

Engine Serial No.	FCU Part No.	FCU Serial No.	Comments.
	(PT6A-67B/-67P)	Pilatus Aircraft Ltd.	
RY0098	3119892-07	16300654	
RY0099	3119892-07	16307553	
RY0100	3119892-07	16310053	
RY0101	3119892-07	16302557	
RY0102	3119892-07	16312717	
RY0103	3119892-07	16312723	
RY0106	3119892-07	16347084	
RY0107	3119892-07	16323277	
RY0108	3119892-07	16347072	
RY0109	3119892-07	16356121	
RY0110	3119892-07	16360700	
RY0111	3119892-07	16349679	
RY0112	3119892-07	16365459	
RY0113	3119892-07	16365245	
RY0114	3119892-07	16361344	
RY0115	3119892-07	16365458	
RY0116	3119892-07	16370149	
RY0117	3119892-07	16374470	
RY0119	3119892-07	16372180	
RY0120	3119892-07	16386761	
RY0121	3119892-07	16390581	
RY0122	3119892-07	16394381	
RY0123	3119892-07	16404489	
RY0124	3119892-07	16392119	

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## TURBOPROP ENGINE FUEL CONTROL UNIT - INSPECTION

#### 3. Accomplishment Instructions (Cont'd)

TABLE 1, Affected Engine and Fuel Control Unit Serial Numbers (Cont'd)

Engine Serial No.	FCU Part No.	FCU Serial No.	Comments.	
RY0125	3119892-07	16402365		
RY0126	3119892-07	16402386		
RY0127	3119892-07	16411071		
RY0128	3119892-07	16402383		
RY0129	3119892-07	16418729		
RY0130	3119892-07	16413174		
RY0131	3119892-07	16408403		
RY0132	3119892-07	16447515		
RY0133	3119892-07	16428600		
RY0134	3119892-07	16454292		
RY0136	3119892-07	16438288		
RY0137	3119892-07	16459010		
RY0138	3119892-07	16434651		
RY0139	3119892-07	16432168		
RY0141	3119892-07	16469334		
RY0142	3119892-07	16463354		
RY0147	3119892-07	16463502		
RY0151	3119892-07	16493980		
RY0158	3119892-07	16516353		
RY0159	3119892-07	16514107		
RY0160	3119892-07	16516820		
PT6A-67AG/-67F Air Tractor Inc.				
RD0208	3120023-08	16406373		
RD0209	3120023-08	16460419		
RD0210	3120023-08	16470840		
RZ0013	3071922-01	16359456		
	1	1		

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## TURBOPROP ENGINE FUEL CONTROL UNIT - INSPECTION

#### 3. Accomplishment Instructions (Cont'd)

TABLE 1, Affected Engine and Fuel Control Unit Serial Numbers (Cont'd)

Engine Serial No.	FCU Part No.	FCU Serial No.	Comments.
RZ0014	3071922-01	16379307	
RZ0016	3071922-01	16379291	
RZ0017	3071922-01	16434509	
RZ0018	3071922-01	16473317	
	PT6A-67	7A Epic Air	
RT0043	3120023-08	16362507	
RT0044	3120023-08	16362173	
RT0045	3120023-08	16376955	
RT0046	3120023-08	16428487	
	PT6A-6	6D Socata	
RV0163	3120023-08	16357032	
RV0164	3120023-08	16356011	
RV0166	3120023-08	16363583	
RV0168	3120023-08	16376840	
RV0169	3120023-08	16377073	
RV0170	3120023-08	16430126	
RV0171	3120023-08	16444200	
RV0172	3120023-08	16397238	
RV0173	3120023-08	16397395	
RV0174	3120023-08	16404216	
RV0175	3120023-08	16424374	
RV0176	3120023-08	16418730	
RV0177	3120023-08	16426400	
RV0178	3120023-08	16448750	
RV0179	3120023-08	16462137	
RV0180	3120023-08	16464831	

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### TURBOPROP ENGINE FUEL CONTROL UNIT - INSPECTION

#### 3. Accomplishment Instructions (Cont'd)

TABLE 1, Affected Engine and Fuel Control Unit Serial Numbers (Cont'd)

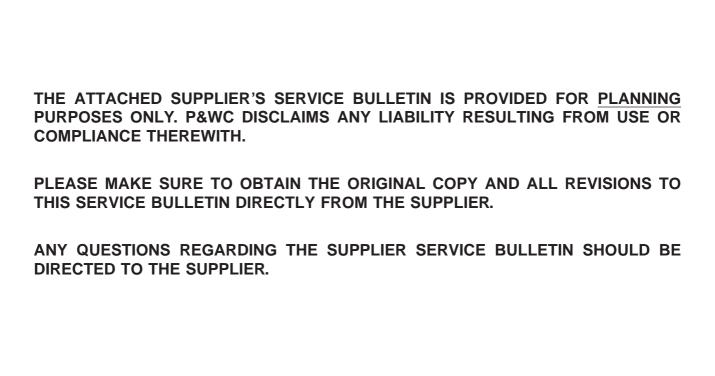
Engine Serial No.	FCU Part No.	FCU Serial No.	Comments.	
RV0181	3120023-08	16468066		
RV0182	3120023-08	16469353		
RV0183	3120023-08	16473274		
	PT6A-66B Piagg	o Aero Industries		
RW0097	3120832-04	16367714		
RW0098	3120832-04	16374466		
RW0099	3120832-04	16377075		
RW0100	3120832-04	16316761		
RW0101	3120832-04	16426211		
RW0102	3120832-04	16436569		
RW0103	3120832-04	16438056		
RW0104	3120832-04	16432166		
RW0105	3120832-04	16464741		
RW0106	3120832-04	16459079		
RW0107	3120832-04	16471865		
RW0108	3120832-04	16459060		
RW0110	3120832-04	16480384		
RW0111	3120832-04	16455976		
PT6A-67R Basler Turbo Conversions Inc.				
PY0075	3121490-04	16476474		

- B. If affected contact a Woodward representative to perform the FCU housing wall thickness evaluation in the area detailed (Ref. Woodward SB83212-73-018) using Ultrasonic NDT equipment.
- C. If the FCU Housing wall thickness is outside of the specified range replace the FCU within 500 hours TTSN in accordance with the applicable maintenance manual instructions (Ref. 73-20-00, FUEL CONTROL UNIT MAINTENANCE PRACTICES).

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## TURBOPROP ENGINE FUEL CONTROL UNIT - INSPECTION

- 3. Accomplishment Instructions (Cont'd)
  - D. For all the non conforming units fill in a report including the Engine Serial Number, FCU Part Number and the FCU Serial Number and send it to the local P&WC Field Representative or to Octavian.Mirica@pwc.ca
    - Aircraft S/N:
    - Engine S/N:
    - FCU P/N:
    - FCU S/N:
    - · Time Since New:
  - E. Install a serviceable FCU in accordance with the applicable maintenance manual instructions (Ref. 73-20-00, FUEL CONTROL UNIT MAINTENANCE PRACTICES).
  - F. If the FCU is within limits re-identify with SB18 in any available location on the nameplate.
  - G. Write accomplishment of P&WC S.B. No. 14431 in the applicable engine module log book.
- 4. Appendix



### ENGINE FUEL AND CONTROL - FUEL CONTROL UNIT (FCU) - DOCUMENTATION OF FIELD INSPECTION FOR POSSIBLE CASTING THIN WALL CONDITION

SUMMARY: This service bulletin documents a field inspection for a possible thin wall condition in 8063 series Fuel Control Units (FCUs) manufactured in a specific time period.

#### PLANNING INFORMATION

#### A. Effectivity

8063-014, 8063-016, 8063-028, 8063-044, 8063-063, 8063-098, 8063-630

See Serial Number Table for specific FCUs affected.

#### Serial Number Table

LIST OF AFFECTED SERIAL NUMBERS						
16300654	16361344	16379291	16416789	16444200	16470840	
16302557	16362173	16379307	16418729	16447515	16471865	
16307553	16362507	16386761	16418730	16448750	16473274	
16310053	16363583	16390581	16424374	16454292	16473317	
16312717	16365245	16392119	16426211	16455976	16475219	
16312723	16365458	16394381	16426400	16459010	16476474	
16316761	16365459	16397238	16428487	16459060	16480384	
16323277	16367714	16397395	16428600	16459079	16493980	
16347072	16370149	16402365	16430126	16460419	16505974	
16347084	16372180	16402383	16432166	16462137	16512328	
16349679	16374390	16402386	16432168	16463354	16514107	
16356011	16374466	16404216	16434509	16463502	16516353	
16356121	16374470	16404489	16434651	16464741	16516820	
16357032	16376840	16406373	16436569	16464831		
16359456	16376955	16408403	16436698	16468066	-	
16360073	16377073	16411071	16438056	16469334		
16360700	16377075	16413174	16438288	16469353		



B. Concurrent Requirements

None

#### C. Reason

Problem: A possible thin wall condition exists on 98 field units for the drilled passage between the inlet port and the minimum flow orifice. If not inspected within the first 500 service hours the thin wall condition could cause a high pressure external fuel leak at the aircraft engine.

Cause: Casting tooling was produced to a solid model that did not comply with the casting drawing requirements, resulting in insufficient stock in a specific location.

Solution: Casting tooling was modified to reflect the casting drawing requirements. Inspect field units for wall thickness within the first 500 service hours. Replace unit within the first 500 service hours if reading is less than 0.031 inch (0,79 mm).

#### D. Description

This service bulletin inspects and removes units in the field that have a thin wall condition. Woodward representatives will inspect fuel control housings and disposition them based on measurement readings.

#### E. Compliance

Code 3 - Do within the first 500 service hours.

#### F. Approval

Technical content of the service bulletin have been reviewed by the FAA and are acceptable to FAA regulations.

#### G. Manpower

The time required to accomplish this service bulletin is 20 minutes. This does not include time required to gain access to the affected area of the fuel control see Figure 1.

#### H. Weight Balance

Not affected.

#### I. Electrical Load Data

Issued May 01/2009 Revision 2: May 06/2009 83212-73-018

Not affected.

J. Software Accomplishment Summary

Not affected.

#### K. References

Woodward Governor Company Component Maintenance Manual with Illustrated Parts List, 73-20-04 (WG 60041).

Woodward Governor Company Component Maintenance Manual with Illustrated Parts List, 73-20-05 (WG 60054).

Woodward Governor Company Component Maintenance Manual with Illustrated Parts List, 73-20-09 (WG 60068).

Woodward Governor Company Component Maintenance Manual with Illustrated Parts List, 73-20-11 (WG 60073).

Woodward Governor Company Component Maintenance Manual with Illustrated Parts List, 73-20-13 (WG 60089).

Woodward Governor Company Quality System Standard Operating Procedure 3-09-3592 Ultrasonic Thickness Measurement.

L. Other Publications Affected

Pratt & Whitney Canada SB13436

Pratt & Whitney Canada SB14431

2. MATERIAL INFORMATION

Issued May 01/2009 Revision 2: May 06/2009 83212-73-018

A. Material - Price and Availability

Not applicable.

B. Industry Support Information

The completion of this SB and replacement of suspect units will be done at no charge to the operator.

Units that do not meet inspection requirements (see Accomplishment Instructions section) shall be returned to:

Woodward Aircraft Engine Systems One Woodward Way P.O. Box 405 Rockton, IL 61072-0405 USA

Material Necessary for Each Component

None

D. Material Necessary for Spares

None

E. Re-identified Parts

See Accomplishment Instructions section.

F. Tooling - Price and Availability

The following equipment will be used by a Woodward technician to perform the inspection. The equipment is commercially available.

Ultrasonic Test Equipment - Sonatest Masterscan 350 digital flaw detector Ultrasonic probe - Harisonic HC398RDL-L spike transducer

83212-73-018



#### 3. ACCOMPLISHMENT INSTRUCTIONS

#### A. Inspection

- (1) Use Woodward Governor Company Quality System Standard Operating Procedure 3-09-3592 Ultrasonic Thickness Measurement procedure to inspect wall thickness of housing in area specified in Figure 1 with ultrasonic inspection equipment listed in Tooling - Price and Availability section above.
- (2) A reading of less than 0.031 inch (0,79 mm): Replace within the first 500 service hours.
- (3) A reading equal to or greater than 0.031 inch (0,79 mm): Unit may remain in operation indefinitely.

#### B. Re-identification

(1) In any available location on nameplate, use vibrapeen or metal stamp to mark as follows: SB18

83212-73-018

Issued May 01/2009 Revision 2: May 06/2009

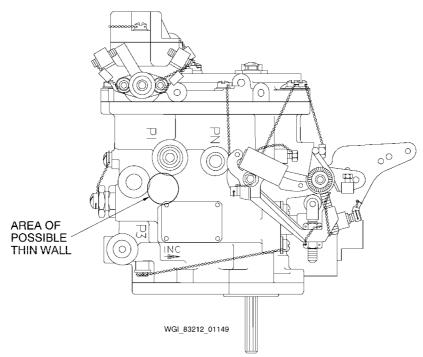


Figure 1 - Thin Wall Inspection Area (Sheet 1 of 1)



### WOODWARD GOVERNOR COMPANY SERVICE INFORMATION LETTER WG64143 PT6A FUEL CONTROL UNIT (FCU) REVISION NEW, ISSUED JUNE 8, 2009

<u>TO:</u> Operators of Woodward Fuel Control Units P/N 8063-014, 8063-016, 8063-028, 8063-044, 8063-063, 8063-098 and 8063-630

**SUBJECT:** Inspection of the Fuel Control Unit (FCU) for a possible casting thin wall

condition.

**APPLICABILITY:** Fuel Control Units P/N 8063-014, 8063-016, 8063-028, 8063-044,

8063-063, 8063-098 and 8063-630

**PURPOSE:** To provide operators and aircraft owners with options to inspect and if required,

remove units from the field that may have a possible casting thin wall condition within the time frame specified in Woodward Service Bulletin (SB) 83212-73-018

(Pratt & Whitney Canada SB 13436 and 14431).

**EFFECTIVITY:** Suspect FCU serial numbers are listed in Woodward Service Bulletin

83212-73-018 (Pratt & Whitney Canada SB 13436 and 14431).

**COMPLIANCE:** As detailed in Woodward Service Bulletin 83212-73-018.

DETAILS: This Service Information Letter is being issued to advise the operators and aircraft owners about the need to comply with the FCU one-time inspection requirement detailed in the Woodward SB 83212-73-018 (Pratt & Whitney Canada SB 13436 and 14431). If determined the engine FCU is on the list of affected units (see Woodward SB 83212-73-018 (Pratt & Whitney Canada SB 13436 and 14431)) and was not inspected previously (SB18 is not marked on the nameplate) the operators and aircraft owners should proceed with one of the following options:

#### Option 1:

- 1. Remove the FCU from the engine and drain all residual fuel from the unit.
- 2. Match –mark the serrated lever and washer to the lever on the FCU. Remove and retain the serrated lever and washer. Remove and retain external fittings. These will not be required by the Woodward Governor Company for the inspection and performance of the ATP.



3. Send the FCU for inspection to the address detailed in the Support Information section.

**Note:** Two days inspection Turn Around Time (TAT) is guaranteed by Woodward (does not include shipping time)

#### Option 2:

1. Contact Woodward (see Support Information) for other options that may be available.

#### OTHER PUBLICATIONS AFFECTED:

Pratt & Whitney Canada Service Bulletin 13436 Pratt & Whitney Canada Service Bulletin 14431

#### **SUPPORT INFORMATION:**

Contact Woodward Governor Company for No-Charge shipping instructions using any of the methods shown below:

Woodward Governor Company

Attention: Aftermarket Customer Support

Phone: 815-639-6796 Fax: 815-639-5395

E-mail: <a href="mmunge@woodward.com">mmunge@woodward.com</a> Reference: SB 83212-73-018

Please provide FCU part number and serial number with your inquiry.

Units requiring an inspection must be shipped to:

Woodward

Aircraft Turbine Systems

Attention: PT6 Operations Group, Reference SB 83212-73-018

One Woodward Way Rockton, IL 61072 USA

This Service Information Letter is valid until all suspect FCU's have been inspected.