



PILATUS AIRCRAFT LTD. CH-6371 STANS, SWITZERLAND

# SERVICE LETTER

**SUBJECT: P&WC SERVICE BULLETIN NUMBER PT6A-72-14254R1**

All Operators

Date: May 01/98

This service letter draws the attention of customers to Vendor information that provides full details on the above topics as follows:

**APPENDIX A:** P&WC Canada Service Bulletin PT6A-72-14254R1 and Commercial Support Program Notification A97010R1 regarding the replacement of the Fuel Control Unit's Py orifice.

The P&WC SB introduces a modified Fuel Control Unit with a larger Py orifice to overcome oscillations when the engine is operating in reverse or in the torque limiting mode. Revision 1 provides an effectivity change to include the PT6A-67B engines with serial numbers before and including PCE-PR0037.

Firstly, contact the vendor for any specific inquiries concerning the subject matter.

Operators requiring further information on this subject, please contact the address given below:

PILATUS AIRCRAFT LTD,  
CUSTOMER LIAISON MANAGER,  
CH 6371 STANS      Tel: +41 41 619 63 19  
SWITZERLAND      Fax:+41 41 610 33 51

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**APPENDIX A**

Pilatus Service Letter No. 032

(P&WC Service Bulletin 14254R1, Fuel Control Unit - Replacement /Modification of, Issued Jan 21/98)  
(P&WC Commercial Support Program Notification A97010R1, Issued May 27/97)

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PRATT & WHITNEY CANADA  
**SERVICE BULLETIN**

P&WC S.B. No. 14254R1

**BULLETIN INDEX LOCATOR**  
**73-20-00**

TURBOPROP ENGINE  
FUEL CONTROL UNIT - REPLACEMENT/MODIFICATION OF

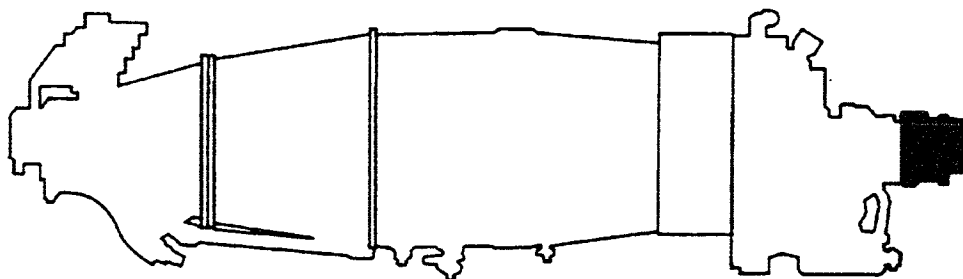
MODEL APPLICATION

PT6A-67B

Commercial Support Program No: A97010

Compliance: CATEGORY 6

Summary: Some engines have been experiencing torque oscillations when operating in the reverse or in the torque limiting mode. A new or modified fuel control unit with a larger Py orifice is introduced. A Commercial Support Notification Program No. A97010 has been defined to assist in the introduction of these parts.



Mar 07/97  
Revision No. 1: Jan 21/98

**PT6A-72-14254**  
Cover Sheet





21 January 1998

P&WC S.B. No. 14254R1

REVISION TRANSMITTAL SHEET  
TURBOPROP ENGINE MODEL PT6A

SUBJECT: Pratt & Whitney Canada Service Bulletin No. PT6A-72-14254, Rev. No. 1, dated Jan 21/98 (P&WC S.B. No. 14254R1) FUEL CONTROL UNIT - REPLACEMENT/ MODIFICATION OF

Replace your existing copy of this service bulletin with the attached revised bulletin. Destroy the superseded copy.

Please retain this Revision Transmittal Sheet with the revised bulletin.

SUMMARY: Para.1.A., Effectivity, revised to update engine serial number information.

EFFECT OF REVISION ON PRIOR ACCOMPLISHMENT: None.

NOTE: A black bar in the left margin indicates a change in that line of text or figure.

REVISION HISTORY:

Original Issue: Mar 07/97  
Revision No. 1: Jan 21/98





PRATT & WHITNEY CANADA  
**SERVICE BULLETIN**

P&WC S.B. No. 14254R1

TURBOPROP ENGINE  
FUEL CONTROL UNIT - REPLACEMENT/MODIFICATION OF

1. Planning Information

A. Effectivity

PT6A-67B Engines which are before and include Serial No. PCE-PR0037  
PT6A-67B Engines which are before and include Serial No. PCE-110050

B. Concurrent Requirements

This service bulletin must be incorporated in conjunction with or subsequent to the incorporation of P&WC S.B. No. 14242R1 (TURBOPROP FUEL CONTROL UNIT - MODIFICATION/REPLACEMENT OF)

C. Reason

(1) Problem

Some engines are experiencing torque oscillations when operating in the reverse or in the torque limiting mode.

(2) Cause

When operating in reverse and/or in the torque limiting mode, the system governing function Py bleed can be too slow to permit stable operation.

(3) Solution

A new or modified fuel control unit with a larger Py orifice is introduced.

D. Description

Replace the fuel control unit with a similar new or modified fuel control unit that has a larger Py orifice.

NOTE: A Commercial Support Notification Program No. A97010, has been defined to assist in procuring these parts.

E. Compliance

CATEGORY 6 - Do this service bulletin when the subassembly (i.e. module, accessories, components, or build groups) is disassembled and access is available to the necessary part. Do all spare subassemblies.

F. Approval

D.O.T./D.A.A. approved.

G. Weight and Balance

None.

P&WC No. C0249A

Mar 07/97  
Revision No. 1: Jan 21/98

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PRATT & WHITNEY CANADA  
**SERVICE BULLETIN**

P&WC S.B. No. 14254R1

TURBOPROP ENGINE  
FUEL CONTROL UNIT - REPLACEMENT/MODIFICATION OF

1. Planning Information (Cont'd)

H. Electrical Load Data

Not changed.

I. Software Accomplishment Summary

Not applicable.

J. References

Applicable PT6A Technical Manuals  
Commercial Support Notification Program No. A97010  
Commercial Support Notification Program No. A97011  
Woodward Service Bulletin No. 60068-73-4  
P&WC S.B. No. 14242R1

K. Publications Affected

Applicable PT6A Technical Manuals

L. Interchangeability and Intermixability of Parts

Not changed.

2. Material Information

A. Industry Support Information

**A Commercial Support Notification Program No. A97010, will be available to support the purchase of these parts.**

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, 1997).

The new parts are available.

C. Manpower

Once you have access to the part, an estimate of 4.0 man-hours is required to include this service bulletin at maintenance.

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

PRATT & WHITNEY CANADA  
**SERVICE BULLETIN**

P&WC S.B. No. 14254R1

TURBOPROP ENGINE  
FUEL CONTROL UNIT - REPLACEMENT/MODIFICATION OF

2. Material Information (Cont'd)

Estimate of 2.0 man-hours required to modify the old part to the new configuration.

D. Material Necessary for Each Engine

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

<u>New P/N</u>	<u>Keyword</u>	<u>Old P/N</u>	<u>Qty</u>	<u>Est. Unit List Price (\$US,1997)</u>	<u>Instructions Disposition</u>
8063-041	Fuel Control - Hydromechanical, Supplier (V66503), P&WC New P/N 3119892-03, Old P/N 3119892-02	8063-040	1	Quote	(A)(B)(C)
3540-082	. Py Orifice	3540-064			
3045828-01	Mod Kit - Fuel Control Unit			Quote	
3540-082	. Py Orifice				
182558	. O'Ring - Py Orifice				
182559	. O'Ring - P3 Orifice				
218270	. C - Clip				

- (A) ONE WAY INTERCHANGEABLE - (ATA 200 Explanation Code 01):  
The old part can only replace the old part; the new part can replace the old and the new part.
- (B) To get the new part it is possible to make a modification to the old part, or you can get the new part from any Pratt & Whitney Canada Distribution Center.
- (C) Information on modification or new part can be obtain from:

Woodward Governor Company  
One Woodway Way  
P.O. Box 405  
Rockton, Illinois 61072-0405  
USA

TEL: (815) 624 4400  
FAX: (815) 624 4526  
REF: Woodward Service Bulletin No. 60068-73-4

PRATT & WHITNEY CANADA  
**SERVICE BULLETIN**

P&WC S.B. No. 14254R1

TURBOPROP ENGINE  
FUEL CONTROL UNIT - REPLACEMENT/MODIFICATION OF

2. Material Information (Cont'd)

E. Reidentified Parts

The following list of parts can be reworked:

<u>OLD P/N</u>	<u>NEW P/N</u>
8063-040 (P&WC P/N 3119892-02)	8063-041 (P&WC P/N 3119892-03)

F. Tooling - Price and Availability

<u>Tool No.</u>	<u>Nomenclature</u>	<u>Est. Price</u> <u>(\$US, 1997)</u>	<u>Delivery</u>
3045829-01	Py - Orifice Extraction Tool (WT13502 as specified in Woodward Service Bulletin 60068-73-4)		

3. Accomplishment Instructions

A. Refer to the instructions in the applicable maintenance or overhaul manual :

- (1) For engines incorporating P&WC S.B. No. 14242R1:
  - (a) Remove fuel control unit P/N 8063-040 (P&WC P/N 3119892-02)
  - (b) Install new or modified fuel control unit P/N 8063-041 (P&WC P/N 3119892-03).
  - (c) Write "P&WC S.B. No. 14254 Incorporated" in the engine log book.
- (2) For engines not incorporating P&WC S.B. No. 14242R1:

NOTE: Incorporation for these engines must be in conjunction with P&WC S.B. No. 14242R1 (Ref. Commercial Support Notification Program A97011).

- (a) Remove fuel control unit P/N 8063-036 (P&WC P/N 3119892-01) or P/N 8063-036-01 (P&WC P/N 3121467-01).
- (b) Install new or modified fuel control unit P/N 8063-041 (P&WC P/N 3119892-03).
- (c) Write "P&WC S.B. No. 14254 Incorporated" in the engine log book.

B. A modification can be done to the serviceable fuel control unit in accordance with Woodward Governor S.B. No. 60068-73-4, further information can be obtained from:

PRATT & WHITNEY CANADA  
**SERVICE BULLETIN**

P&WC S.B. No. 14254R1

TURBOPROP ENGINE  
FUEL CONTROL UNIT - REPLACEMENT/MODIFICATION OF

3. Accomplishment Instructions (Cont'd)

Woodward Governor Company  
One Woodway Way  
P.O. Box 405  
Rockton, Illinois 61072-0405  
USA

TEL: (815) 624 4400  
FAX: (815) 624 4526  
REF: Woodward Service Bulletin No. 60068-73-4

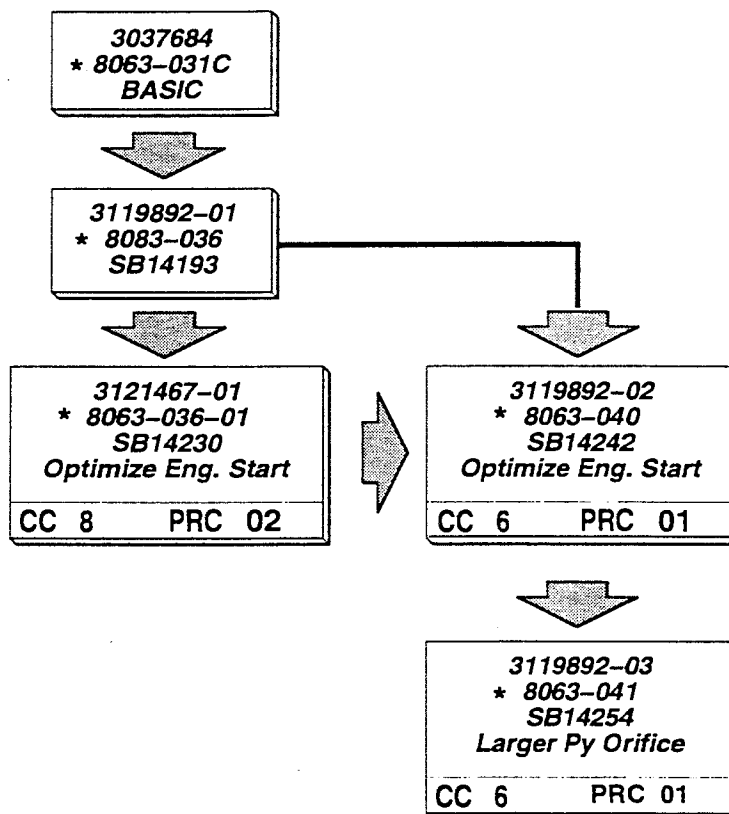
4. Appendix

A. Refer to Figure 1 for Parts Progression.

PRATT & WHITNEY CANADA  
**SERVICE BULLETIN**

P&WC S.B. No. 14254R1

TURBOPROP ENGINE  
FUEL CONTROL UNIT - REPLACEMENT/MODIFICATION OF



PT6A-67B  
\* DENOTES SUPPLIER PART NUMBER

C37190

Progression of the Part  
Figure 1

THE ATTACHED SUPPLIER'S SERVICE BULLETIN IS PROVIDED FOR PLANNING PURPOSES ONLY. P&WC DISCLAIMS ANY LIABILITY RESULTING FROM USE OR COMPLIANCE THEREWITH.

PLEASE MAKE SURE TO OBTAIN THE ORIGINAL COPY AND ALL REVISIONS TO THIS SERVICE BULLETIN DIRECTLY FROM THE SUPPLIER.

ANY QUESTIONS REGARDING THE SUPPLIER SERVICE BULLETIN SHOULD BE DIRECTED TO THE SUPPLIER.







# SERVICE BULLETIN

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ENGINE FUEL AND CONTROL - FUEL CONTROL ASSEMBLY -  
REPLACEMENT OF Py ORIFICE

1. SUMMARY

The purpose of this service bulletin is to introduce Fuel Control Unit (FCU) P/N 8063-041 for PT6A-67B engines. An update of the previous model can be accomplished in the field using the appropriate tooling listed below.

2. PLANNING INFORMATION

A. Effectivity

Fuel Control Unit (FCU) P/N 8063-040.

NOTE: These fuel control assemblies are used on Pilatus aircraft equipped with Pratt & Whitney Canada Inc. PT6A-67B engines.

B. Reason

**Problem:** Engine/propeller system oscillations occur when the Py system is in operation (torque limiter or propeller governor in air-bleed mode).

**Cause:** Part to part variation can cause marginal system stability to depart from stable operation.

**Solution:** Enlarging the Py orifice will improve the system stability margin.

C. Description

Replace the Py orifice plate in the FCU with one with a larger diameter orifice.

D. Compliance

**CODE 6-** You can do this service bulletin when the fuel control assembly is disassembled and access is available to the necessary part. Do all spare 8063-040 FCUs.

E. Approval

The repairs or modifications herein have been reviewed in accordance with DOT/DAA requirements for applicable P&WC part numbers and are approved for installation in model 8063-040.

F. Manpower

No additional man hours required when accomplished at routine assembly/disassembly.

**60068-73-4**

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# SERVICE BULLETIN

WOODWARD GOVERNOR COMPANY  
One Woodward Way  
P.O. Box 405  
Rockton, Illinois 61072-0405  
USA

2. G. Weight and Balance

Not applicable.

H. Electrical Load Data

Not affected.

I. Software Accomplishment Summary

None.

J. References

Woodward Governor Company E/C 1000286 and Manual with Illustrated Parts List (73-20-09) (Woodward Governor Company Manual P/N 60068).

Pratt & Whitney Canada Inc. SB PT6A-72-14254.

K. Other Publications Affected

Woodward Governor Company Manual with Illustrated Parts List (73-20-09) (Woodward Governor Company Manual P/N 60068).

3. MATERIAL INFORMATION

<u>New Part Number</u>	<u>Qty</u>	<u>Est Unit List Price**</u>	<u>Key Word</u>	<u>Old Part Number</u>	<u>Disposition of Old Part</u>
3540-082	1	---	Orifice	3540-064	Discard/Replace
218270	1	---	Ring	218270	Replace as needed
182558	1	---	Packing	182558	Replace as needed
182559	1	---	Packing	182559	Replace as needed
3082-236	1	---	Nameplate*	3082-236	Replace

\*Not needed for units repaired in the field.

\*\*Estimated Unit List Prices are subject to change without notice. For price information, please contact:

Woodward Governor Company  
Aircraft Controls Group  
One Woodward Way  
P.O. Box 405  
Rockton, IL 61072-0405  
USA

Attention: Support Services

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# SERVICE BULLETIN

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## 4. ACCOMPLISHMENT INSTRUCTIONS

CAUTION: REPLACE ALL SEALS AND PACKINGS DAMAGED DURING DISASSEMBLY WITH NEW SEALS AND PACKINGS. UNDISTURBED SEALS AND PACKINGS NEED NOT BE REMOVED SOLELY FOR THE PURPOSE OF REPLACEMENT.

A. Disassemble the P3 drain orifice and Py orifice as follows:

WARNING: RING (5, FIGURE 1) IS SPRING-LOADED.

CAUTION: BE CAREFUL NOT TO DAMAGE PLATE (10) WHEN COMPRESSING SPRING (15).

THE HOOKED STRAPS MUST BE FULLY SEATED ON THE BOSSES OF THE FCU HOUSING BEFORE APPLYING PRESSURE TO COMPRESS THE SPRING. FAILURE TO DO SO MAY RESULT IN DAMAGE TO THE TOOL.

- (1) Using WT-135202, as shown in Figure 2, press on plate (10, Figure 1) until tension on ring (5) is relieved. Depress ring (20) and remove ring (5) from housing assembly (25). Slowly turn screw of WT-135202 until there is no tension on spring (15).
- (2) Remove ring (20), packing (30), plate (10), spring (15), orifice (35), and packing (40) from housing assembly (25).
- (3) Replace Py orifice P/N 3540-064 with P/N 3540-082.

B. Install P3 drain orifice and Py orifice as follows:

CAUTION: THE HOOKED STRAPS MUST BE FULLY SEATED ON THE BOSSES OF THE FCU HOUSING BEFORE APPLYING PRESSURE TO COMPRESS THE SPRING. FAILURE TO DO SO MAY RESULT IN DAMAGE TO THE TOOL.

- (1) Install WT-135202 on housing assembly (25) as shown in Figure 2.
- (2) Install packing (40, Figure 1) in bore of housing assembly (25).
- (3) Install orifice (35), with seat facing packing (40). Install spring (15) and plate (10) in housing assembly (25).
- (4) Install ring (5), ring (20), and packing (30) on WT-135202. Using WT-135202, compress spring (15) past the ring groove in housing assembly (25) and install packing (30), ring (20), and ring (5) in housing assembly (25).

NOTE: Ring (5) must be installed with the flat side facing out.

- (5) Position tang of ring (20) between ends of ring (5). Remove WT-135202 from housing assembly (25).

NOTE: Be sure ring (5) is seated in groove of housing assembly (25).

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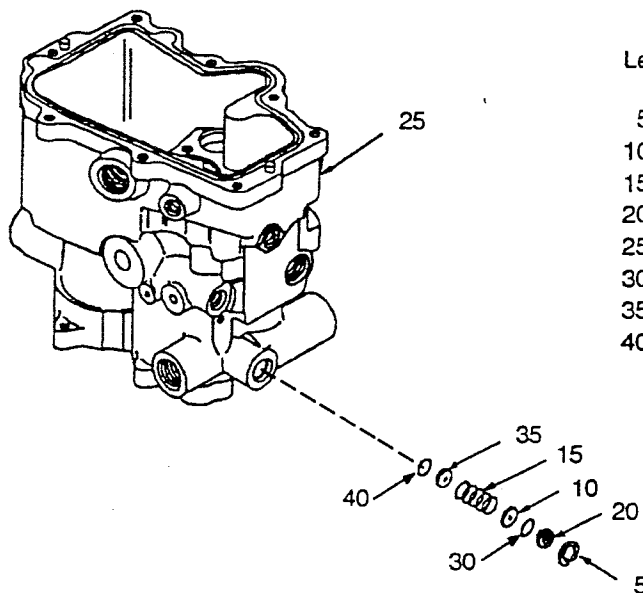
C37441

4. C. Identify modified fuel control assembly as follows:

- (1) Units repaired at an overhaul facility, replace nameplate (P/N 3082-236). Copy Woodward serial number (omit P&WC P/N) from the old nameplate and stamp new nameplate (P/N 3082-236) prior to attachment (refer to REPAIR section of referenced manual for proper nameplate replacement), as follows:

Model 8063-041

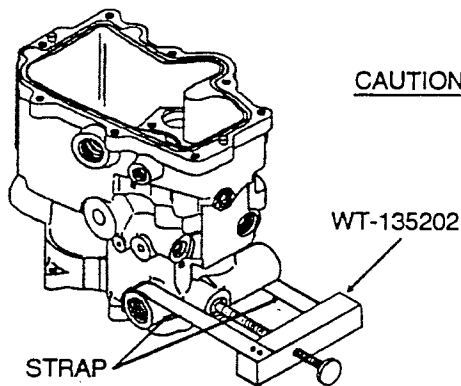
- (2) Units repaired in the field may be identified by stamping or etching out old P&WC P/N and Woodward P/N and stamping or etching new P/N 8063-041.



Legend for Figure 1

- 5 RING (218270)
- 10 PLATE (3205-100)
- 15 SPRING (1523-834)
- 20 RING (3460-054)
- 25 HOUSING ASSEMBLY
- 30 PACKING (182559)
- 35 ORIFICE (3540-082)
- 40 PACKING (182558)

Figure 1



**CAUTION:** THE HOOKED STRAPS MUST BE FULLY SEATED ON THE BOSSES OF THE FCU HOUSING BEFORE APPLYING PRESSURE TO COMPRESS THE SPRING. FAILURE TO DO SO MAY RESULT IN DAMAGE TO THE TOOL.

Figure 2

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# COMMERCIAL SUPPORT PROGRAM NOTIFICATION

## SPECIAL PROGRAM ALLOWANCE

**PROGRAM NAME:**

Fuel Control Unit, Incorporation of New Larger Py Orifice

**APPLICABILITY:**

PT6A-67B Engine Serial Nos. PR0003, PR0007 to PR0023, 110006, 110009, 110011, 110012, 110016, 110022, 110024 to 110026, 110028, 110030, 110032, 110037, 110041, 110045, and 110047

**PROGRAM DESCRIPTION:**

Engine / propeller system oscillations occur when the Py system is in operation (torque limiter or propeller governor in air bleed mode). Part to part variation can cause marginal system stability to depart from a stable condition. P&WC S.B 14254 introduces a new enlarged Py orifice that will improve the system stability margin. . This program provides "free of charge" to applicable customers, the new material, tool and labour hours required to incorporate this modification.

**REASON FOR REVISION:**

Revision 1 is issued to extend the termination date under "PROGRAM DURATION".and revise "CLAIM INSTRUCTIONS"

**PROGRAM DURATION:**

This program will terminate June 30, 1998.

**REFERENCE DOCUMENT:**

P&WC S.B. No. 14254

**PARTS AFFECTED:**

P/N 8063-040 Fuel Control Unit

**COVERAGE:**

This program covers the cost of new material, and labour only.

PER ENGINE (see Note re PY Orifice Extraction Tool)

New Material:

P/N 3045828-01 Mod Kit - Fuel Control Unit ea. 1  
P/N 3045829 -01 Py - Orifice Extraction Tool ea. 1

**NOTE: One P/N 3045829-01 Py - Orifice extraction Tool per operator..**

Date Issued: 06 March 1997  
Revision Date: 27 May, 1997

QUESTIONS OR CONCERNS MAY BE ADDRESSED TO THE:  
MANAGER, CORPORATE WARRANTY &  
MATERIAL CONTROL ADMINISTRATION  
TEL (514) 647-2803, FAX (514) 647-2831

IN THE EVENT OF A CONFLICT BETWEEN THE PROVISIONS  
OF THIS DOCUMENT AND OTHER NOTIFICATIONS,  
THIS NOTIFICATION SHALL PREVAIL.

**COVERAGE: (cont'd)**

Labour:

Kit Installation: 2hrs @ \$62.80 USD per hour.  
R & I: 2hrs. @ \$62.80 USD per hour.

**CLAIM INSTRUCTIONS:**

Material:

To obtain the new parts, submit a No-Charge Purchase Order through your normal P&WC parts distribution network. Ensure that this program number **A97010**, engine model, engine serial number(s), FCU part number and serial number are referenced on the Purchase Order.

Labour & R & I Allowances:

Submit an RSA/SATIN claim to P&WC Warranty Administration to obtain the offered labour and R & I. allowances. Ensure that the engine model number(s), engine serial number(s) and this program number (A97010) are indicated on all documents.

Pratt & Whitney Canada Inc.  
Accessory Centre  
2525 Boul. Fernand Lafontaine  
Longueuil, Quebec  
Canada, J4N 1N7  
Attn: Warranty Administrator (O1RD4)  
Reference CSP A97010

**REMOVED MATERIAL DISPOSITION:**

Scrap.