

PRATT & WHITNEY CANADA  
**SERVICE BULLETIN**

P&WC S.B. No. 13001R22

**BULLETIN INDEX LOCATOR**

TURBOPROP ENGINE  
APPROVED LISTING OF (SYNTHETIC) LUBRICATING OILS

MODEL APPLICATION

PT6A-52, PT6A-60A, PT6A-60AG, PT6A-61, PT6A-62, PT6A-65AR, PT6A-65B, PT6A-65AG,  
PT6A-65R

Compliance: Refer to Para. 1.E. in the Service Bulletin

Summary: This service bulletin provides a list of acceptable synthetic lubricating oils.

Apr 16/1982  
Revision No. 22: Feb 24/2021

**PT6A-72-13001**  
Cover Sheet

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24 February 2021

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REVISION TRANSMITTAL SHEET  
TURBOPROP ENGINE MODEL PT6A

SUBJECT: Pratt & Whitney Canada Service Bulletin No. PT6A-72-13001, Rev. No. 22, dated Feb 24/2021 (P&WC S.B. No. 13001R22) APPROVED LISTING OF (SYNTHETIC) LUBRICATING OILS

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 Destroy the superseded copy.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: This revision is issued to:

- add "(5 cSt - Type II)" in Description in Para. 1.D., Planning Information.
- modify step 1 in Para. 3.D., Accomplishment Instructions.
- add Note in step 1 in Para. 3.D., Accomplishment Instructions.
- add Table 4 in Para. 3.D., Accomplishment Instructions.
- modify Para 3.D. (4) and add a note.

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: Apr 16/1982	Revision No. 7: Sep 02/1987	Revision No. 14: Jun 28/2007
Revision No. 1: Jul 15/1982	Revision No. 8: Oct 20/1989	Revision No. 15: Jul 08/2014
Revision No. 2: Apr 15/1983	Revision No. 9: Jan 15/1990	Revision No. 16: Mar 20/2015
Revision No. 3: Oct 17/1983	Revision No. 10: Mar 27/1991	Revision No. 17: Sep 09/2015
Revision No. 4: Jun 28/1984	Revision No. 11: Jun 02/1998	Revision No. 18: Feb 04/2016
Revision No. 5: Oct 25/1984	Revision No. 12: May 12/2005	Revision No. 19: May 11/2016
Revision No. 6: Jan 29/1987	Revision No. 13: May 24/2007	Revision No. 20: Aug 24/2018

Pratt & Whitney Canada Corp.

Revision No. 21: Nov 02/2018

Revision No. 22: Feb 24/2021

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TURBOPROP ENGINE  
APPROVED LISTING OF (SYNTHETIC) LUBRICATING OILS

1. Planning Information

A. Effectivity

PT6A-52, PT6A-60A, PT6A-60AG, PT6A-61, PT6A-62, PT6A-65AR, PT6A-65B,  
PT6A-65AG, PT6A-65R Engines.

B. Concurrent Requirements

None.

C. Reason

To make sure that the use of approved engine lubricants and to recommend an oil change policy.

NOTE: Major factors affecting oil deterioration with time are engine mechanical condition, climatic conditions, dust and sand ingestion during takeoff and landing mode and engine utilization.

D. Description

- (1) To provide a list of acceptable synthetic lubricating oils for the subject model engines.
- (2) Oil to be mixed must be of the same viscosity or specification and must be listed as approved in tables 2 and 3 (5 cSt – Type II) in this service bulletin.
- (3) Occasional or inadvertent adding of different approved type II oil during routine servicing of the oil tank does not require oil drain and flush.

E. Compliance

Pratt & Whitney Canada Inc. recommends that Compliance conforms to the requirements of the Accomplishment Instructions.

F. Approval

Transport Canada has reviewed and approved the technical contents of this Service Bulletin.

G. Manpower

Once you have access to the part, an estimate of 1.5 man-hours is required to include this service bulletin at maintenance.

H. Weight and Balance

None.

P&WC No. DCR26011, DCR32785, DCR32865, DCR34666, DCR35648, EC-0002315, EC-0006618,  
EC-0014466

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1. Planning Information (Cont'd)

I. Electrical Load Data

Not changed.

J. Software Accomplishment Summary

Not applicable.

K. References

Maintenance Manual P/N 3072862 (PT6A-52)  
Maintenance Manual P/N 3034342 (PT6A-60A, PT6A-60AG, PT6A-61)  
Maintenance Manual P/N 3034542 (PT6A-62)  
Maintenance Manual P/N 3032842 (PT6A-65AG/65AR/65B/65R)  
Specification MIL-PRF-23699 latest revision, Type II (5cSt)  
Special Airworthiness Information Bulletin (SAIB) NE-14-30

L. Publications Affected

Maintenance Manual P/N 3072862 (PT6A-52)  
Maintenance Manual P/N 3034342 (PT6A-60A, PT6A-60AG, PT6A-61)  
Maintenance Manual P/N 3034542 (PT6A-62)  
Maintenance Manual P/N 3032842 (PT6A-65AG/65AR/65B/65R)

M. Interchangeability and Intermixability of Parts

Not applicable.

2. Material Information

A. Industry Support Information

Not applicable.

B. Material - Cost and Availability

Not applicable.

C. Material Necessary for Each Engine

Not applicable.

D. Reidentified Parts

None.

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## TURBOPROP ENGINE APPROVED LISTING OF (SYNTHETIC) LUBRICATING OILS

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

#### E. Tooling - Price and Availability

Not applicable.

### 3. Accomplishment Instructions

A. The oils listed in the following tables comply with this contractor's specification MIL-PRF-23699. Tables 2 and 3 list Type II oil (5 centistokes). These oils are fully approved for use in Pratt & Whitney Canada commercially operated engines of the models indicated.

B. No other oils are approved for these models. Should the use of an oil not listed be desired, the intended user should contact Pratt & Whitney Canada, Customer Support Department, for consultation.

C. The limits for the use of Oil additives are as follows:

- (1) Octel Oil Blue B Liquid Dye (previously DuPont Oil Blue dye LCPMC 79922) can be added to new "fresh" (MIL-PRF-23699) synthetic lubricating oil in the strength of: 0.1219–0.1707 ml/ liter of oil or 0.0156–0.0218 oz/U.S. Gallon. The volume of blue dye in fresh synthetic oil is 25–35 ml/205 l (45 Imp. Gallon) of oil and should never exceed 35 milliliters/205 liters. P&WC recommends to add blue dye to engine oil on a one time basis when filling the engine oil system (Refer Table 1). The dye improves sight glass visibility and aids in the detection of oil leaks.

TABLE 1, Lubricating oil, Blue Dye concentration

Oil	Quantity of Blue Dye	
	Volume (ml)	Weight (Oz)
1 liter	0.1219 - 0.1707	0.0041 - 0.0057
1 US gallon	0.4614 - 0.6461	0.0156 - 0.0218
1 Imperial gallon	0.5541 - 0.7760	0.0188 - 0.0262
Drum of 45 US gallon	20 - 29	0.6763 - 0.9806
Drum of 45 Imperial gallon (205 liters)	25 - 35	0.8454 - 1.1835

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3. Accomplishment Instructions (Cont'd)

D. Oil System Servicing

NOTE: P&WC experience, over an extended period of time, has indicated that regular oil changes are no longer necessary for the engine models covered by this service bulletin. However, operators should be aware of the danger of oil contamination from extraneous matter such as hydraulic fluid, sand, etc., which would require the oil system to be drained, flushed and replenished with new oil of an approved brand.

- (1) Should oils of different viscosities become intermixed, if required as per Table 4 below, drain and flush the complete oil system and refill with an approved oil, following the maintenance manual instructions.

NOTE: Type II std (Table 2) is recommended to enable transfer towards Type II HTS oil (Table 3) from original engine Type I oil.

- (2) Should an operator wish to monitor oil quality, it is recommended that a program be established in collaboration with the operator's oil supplier/manufacturer.

- (3) The term "Third Generation" is one that oil companies have used to describe turbine oils which have been granted the classification of High Thermal Stability (HTS) under MIL-PRF-23699. Any oil designated as a "Third Generation" lubricant is still a Type II (5 centistokes) lubricant. All "Third Generation" lubricants approved for this engine, as described in Table 3, are classified as HTS oils.

- (4) For oil system servicing requirements refer to engine maintenance manual as follows:

- Ref. EMM 72-00-00, ENGINE, TURBOPROP - INSPECTION Para 8. Periodic Inspection.

(a) Oil Quality Requirements:

- The Total Acid Number (TAN) must be less than or equal 2 mg. KOH/g maximum.
- Kinematics viscosity (at 212 Deg. F (100 Deg. C)) changes from -10 to +25 % maximum when compared to brand new oil from the same batch.



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3. Accomplishment Instructions (Cont'd)

- Water content less than 1000 ppm.

NOTE: 1. Maximum: compared to the unused new oil of the same brand.

NOTE: 2. You must drain and replace with original oil (same brand/type currently in use) if one of the above limits is exceeded.

NOTE: 3. Kinematic viscosity testing is not required as part of regular or a periodic oil monitoring program, however, this check may be required for investigation purposes on an unscheduled basis.

- (5) Switching / Change over standard type II with another standard type II, standard type II with HTS or vice versa (Ref. Tables 2 and 3).
- (a) For engines with less than 100 hours since new or since complete overhaul of the entire lubrication system hardware, the top-up method or the drain and fill method are acceptable without any additional oil filter inspection or replacement requirement (Ref. EMM 72-00-00, SERVICING, Lubricating Oil System).
- (b) For engines with more than 100 hours since new or since complete overhaul of the entire lubrication system hardware, the top-up method is required as follows:
- 1 Analyze the original engine oil per Para. 3. D. (4), (a), or alternatively drain and replace with original oil (same brand/type currently in use).  
NOTE: Not require if unacceptable amount of carbon debris is found and flush is performed per step 4, a below.
  - 2 Inspect main oil filter paying special attention to carbon deposits (Ref. EMM 79-20-02, OIL FILTER & CHECK VALVE - MAINTENANCE PRACTICES).
  - 3 If no carbon debris is found (traces are acceptable) (Ref. Fig. 1), the original oil does not need to be drained and engine does not need to be flushed.
    - a Top-up the engine oil with candidate oil in accordance with the oil level check (top-up) procedure (Ref. EMM 72-00-00, SERVICING, Lubricating Oil System).
  - 4 If unacceptable amount of carbon debris is found, do as follows:
    - a Flush engine oil system and refill with original oil (same brand/type currently in use) (Ref. EMM 72-00-00, SERVICING, Lubricating Oil System).

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3. Accomplishment Instructions (Cont'd)

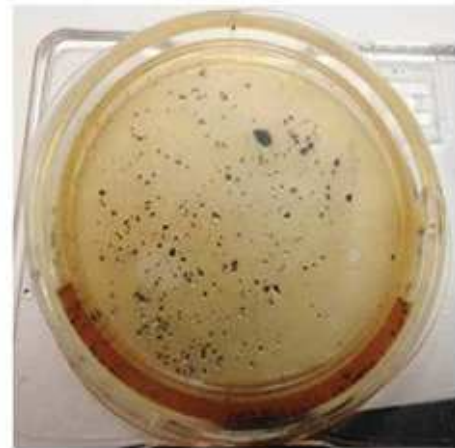
- b Top-up the engine oil with candidate oil in accordance with the oil level check (top-up) procedure (Ref. EMM 72-00-00, SERVICING, Lubricating Oil System).
  - c Inspect main oil filter and clean (Ref. EMM 79-20-02, OIL FILTER & CHECK VALVE - MAINTENANCE PRACTICES) at 50, 100 AND 200 flight hours, paying special attention to carbon accumulation in the filter. If oil filter is clean at 200 hours, reinstate normal periodic inspection intervals (Ref. EMM 72-00-00, ENGINE, TURBOPROP - INSPECTION). If carbon debris is still observed at 200 hours, repeat oil filter inspection and cleaning at 100 hour intervals until no debris is found.
- (c) Add/replace the identification to engine AGB next to the oil filler cap and/or on the aircraft service panel to indicate oil brand/type being used for servicing.

NOTE: For Qualified Supplier details of the approved oil(s) listed below, refer to QPL-MIL-PRF-23699.

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Examples of acceptable amount of carbon debris  
Figure 1

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3. Accomplishment Instructions (Cont'd)

TABLE 2, Approved Standard Lubricating Oils (Synthetic), MIL-PRF-23699 – Type II (5 Centistokes)

BRAND	SUPPLIER
Aero Shell Turbine Oil 500	Shell Aviation Ltd. Shell Center SE1 7NA London England  TEL: 44 (0) 20 7934 1234 FAX: 44 (0) 20 7934 8060 URL: <a href="http://www.shell.com">http://www.shell.com</a>
BP Turbo Oil 2380 (Original Name) Eastman Turbo oil 2380 (New Name)	Eastman Chemical Company PO Box 431 Kingsport Tennessee 37660 USA  TEL: +1 (423) 229-2000 <a href="http://www.EastmanAviationSolutions.com">www.EastmanAviationSolutions.com</a> EMAIL: <a href="mailto:TurboOil@eastman.com">TurboOil@eastman.com</a>
Castrol 5000	Hatco Corporation 1020 King George Post Road Fords NJ 08863  TEL: (723) 738-1000 FAX: (732) 738-9385 URL: <a href="http://www.hatcocorporation.com">http://www.hatcocorporation.com</a>

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3. Accomplishment Instructions (Cont'd)

TABLE 2, Approved Standard Lubricating Oils (Synthetic), MIL-PRF-23699 – Type II (5 Centistokes) (Cont'd)

BRAND	SUPPLIER
Mobil Jet Oil Type II	<p>Exxon Mobil Lubricants            3225 Gallows Road            Fairfax VA 22037            USA</p> <p>TEL: TEL: 1-800-662-4525            FAX: FAX: (203) 846-3355            www.exxonmobil.com or,</p> <hr/> <p>Exxon Mobil Chemicals Co.            2195 Highway 27            Edison NJ 08818            USA</p>
Royco Turbine Oil 500	<p>Chemtura Corporation Anderol Division            215 Merry Lane East            Hanover NJ 07936            USA</p> <p>TEL: 1-973-887-7410            www.anderol.com            EMAIL: info-anderol@chemtura.com</p>
Turbonycoil 600	<p>NYCO S.A.            66 Ave. Des Champs Elysee            Paris            France 75008</p> <p>TEL: +33 (0) 1 45 61 50 00            www.nyco.fr/            EMAIL: info@nyco.fr</p>

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3. Accomplishment Instructions (Cont'd)

TABLE 3, Approved High Thermal Stability (HTS) Lubricating Oils (Synthetic),  
MIL-PRF-23699 – Type II (5 Centistokes)

BRAND	SUPPLIER
Aero Shell Turbine Oil 560 (ASTO 560)	Shell Canada Products Ltd. 400, 4th Avenue South West P.O. Box 100, Station M Calgary Alberta Canada T2P 2H5  TEL: 1-800-661-1600
	Shell International Petroleum Co. Shell Centre London England SE1 7NA  TEL: 44-171-934-1234 FAX: 44-171-934-8060
Royco Turbine Oil 560	Chemtura Corporation Anderol Division 215 Merry Lane East Hanover, NJ 07936 United States of America  TEL: 1-973-887-7410 www.anderol.com EMAIL: info-anderol@chemtura.com

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3. Accomplishment Instructions (Cont'd)

TABLE 4, Approved Oils

		Added oil			ACTION
		Type I	Type II std	Type II HTS	
Original oil	Type I (7.5 cST)		X		Drain & Flush. Service with Type I or Type II std
				X	Drain & Flush. Service with Type I or Type II std.
	Type II std (5 cST, Table 2)	X			Drain & Flush. Service with Type I or Type II std
				X	No action or continue as per step 5 for oil transition.
	Type II HTS (5 cST, Table 3)	X			Drain & Flush. Service with Type II std or Type I
			X		No action

4. Appendix

Not applicable.